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Folder ID:	1059559
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Dates:	10/30/1986 – 06/08/1987
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Loan Committee — TURKEY — Energy Sector Adjustment

E-1204

International Bank for Reconstruction and Development

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FOR EXECUTIVE DIRECTORS' MEETING

For consideration on June 25, 1987

R87-140

FROM: Vice President and Secretary

June 8, 1987

TURKEY: Energy Sector Adjustment Loan

1. Attached is the President's Report and Recommendation (P-4513-TU) on a proposed Energy Sector Adjustment Loan to the Republic of Turkey.

2. A report entitled "Turkey: Vth Five-Year Plan in the Context of Structural Adjustment" (5418-TU) was distributed on August 6, 1985.

3. A draft Loan Agreement between the Republic of Turkey and the Bank is available on request from the Secretary's Department Documents Office (X76236).

4. Questions on these documents should be addressed to Mr. Eschenberg (X32854).

Distribution:

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The World Bank

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Report No. P-4513-TU

REPORT AND RECOMMENDATION

OF THE

PRESIDENT OF THE

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

TO THE

EXECUTIVE DIRECTORS

ON AN

ENERGY SECTOR ADJUSTMENT LOAN

IN AN AMOUNT EQUIVALENT TO US$325 MILLION

TO THE REPUBLIC TURKEY

June 1, 1987

TURKEY

ENERGY SECTOR ADJUSTMENT LOAN

CURRENCY EQUIVALENTS

Currency Unit	Jan.1980 a/	Jan. 1982	Jan. 1983	Jan. 1984	Jan. 1985	Jan. 1986	Jan. 1987
US Dollar	TL 70.00	TL 139.60	TL 191.15	TL 309.20	TL 451.00	TL 585.1	752.9
TL 100	US$1.43	US$0.72	US$0.52	US$0.32	US$0.22	US$0.17	US$0.13

a/ Since January 1980, the rate is being adjusted for the differential inflation between Turkey and its major trading partners. In this report it is assumed that this policy will continue.

FISCAL YEAR

Republic of Turkey — January 1 - December 31

WEIGHTS AND MEASURES

kVA	=	kilovolt ampere
kW	=	kilowatt
kWh	=	kilowatt hour
GWh (Gigawatt hour)	=	1,000,000 kWh
kV (kilovolt)	=	1,000 volts
MSCT/day	=	million standard cubic feet/day
MW (Megawatt)	=	1,000 kW
MVA (Megavolt-ampere)	=	1,000 kVA
MVAR (Megavolt-ampere)	=	1,000 KVAR
One meter (m)	=	3.28 feet
One kilometer (km)	=	0.624 mile
One kilogram (kg) (1,000 kg)	=	2.2 pounds
One ton (metric ton) (1,000 kg)	=	2,205 pounds
One kilocalorie (kcal)(1,000 calories)	=	3.968 BTU
toe	=	tons of oil equivalent

TURKEY

ENERGY SECTOR ADJUSTMENT LOAN

List of Abbreviations

BOT	-	Build, Operate, and Turnover
BOTAS	-	Turkish Pipeline Corporation
CEAS	-	Cukurova Electric Company
CHP	-	Combined Heat and Power
DSI	-	State Hydraulics Authority
DYB	-	State Investment Bank
EIE	-	Electricity Survey Administration
GDE	-	General Directorate for the Environment
GDPA	-	General Directorate for Petroleum Affairs
IAEA	-	International Atomic Energy Agency
IGDAS	-	Istanbul Gas Distribution Company
KEPEZ	-	Kepez Electric Company
LRMC	-	Long Run Marginal Cost
MENR	-	Ministry of Energy and Natural Resources
MTA	-	Mineral Research Institute
POAS	-	Petrol Ofisi
PSBR	-	Public Sector Borrowing Requirement
SEE	-	State Economic Enterprise
SPO	-	State Planning Organization
TEK	-	Turkish Electricity Authority
TKI	-	Turkish Coal (Lignite) Enterprises
TTK	-	Turkish Hard Coal Enterprise
TPAO	-	Turkish Petroleum Corporation
TUPRAS	-	Turkish Refineries Corporation

TURKEY
ENERGY SECTOR ADJUSTMENT LOAN

Borrower	:	Republic of Turkey
Beneficiaries	:	Republic of Turkey and Energy Sector Agencies
Amount	:	US$325 million equivalent
Terms	:	17 years including 4 years grace, with interest at the standard variable interest rate.
Description	:	The proposed loan would support the continuation of the Government's reform program in the energy sector. The principal objectives of the program are to improve the efficiency of energy production in the public sector and to assist in Government efforts to facilitate private sector participation in the sector. Government policies are designed to further reduce the constraints that limited energy supplies have imposed on the Turkish economy. The loan in part would support policy measures to achieve these objectives and in part finance priority energy sector investments for the period 1987-1989.
Benefits and Risks	:	Implementation of Government's energy sector adjustment program would result in several significant benefits to the economy. It would: ensure movement towards Government's objectives of liberalization as outlined in the structural adjustment program; increase the stock of trained manpower in the sector; lay the foundation for increasing the flows of private capital to the sector; and, reduce both recurrent and capital public expenditures through improved efficiency. The main risks relate to the uncertainties regarding the level and timing of private investment, volatility of demand forecasts and their impact on investment, and the pace of price adjustments necessary for implementing cost recovery policies. We believe that efforts to reduce these risks to an acceptable level have been taken.
Estimated Disbursements	:	Full disbursement of the loan would take place over a two and a half year period. The loan would include US$175 million in direct support of the policy reform program to be disbursed in two tranches - US$75 million at effectiveness and US$100 million approximately one year after effectiveness. The balance (US$150 million) would be utilized to fund the foreign exchange costs of goods, equipment and technical assistance needed for the 1987-1989 energy investment program.
Staff Appraisal Report	:	Not applicable
Map	:	IBRD: 20412

TURKEY

ENERGY SECTOR ADJUSTMENT LOAN

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INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

REPORT AND RECOMMENDATION OF THE PRESIDENT OF THE IBRD TO THE EXECUTIVE DIRECTORS ON A PROPOSED ENERGY SECTOR ADJUSTMENT LOAN TO THE REPUBLIC OF TURKEY

1. I submit the following report and recommendation on a proposed Energy Sector Adjustment Loan to the Republic of Turkey for the equivalent of US$325 million to support the Government's program of reforms in the energy sector. The loan would have a term of 17 years, including 4 years of grace, at the standard variable rate.

PART I - THE ECONOMY

Background

2. A Bank report reviewing the Government's Fifth Development Plan (1985-89) entitled "Turkey: Vth Five-Year Plan in the Context of Structural Adjustment" (5418-TU) was distributed to the Executive Directors in July 1985. A report entitled "Turkey: Adjusting Public Investment" (6603-TU) as well as a Country Brief were distributed in March 1987.

3. Turkey's population of about 50 million, with a per capita income of $1,130 in 1985, inhabits an area about the size of France and West Germany combined. Population density is low (65 per square kilometer) and about half of the population lives in urban centers. Population growth averaged 2.4 percent per annum between 1980 and 1985. Despite sustained economic growth over the past six years, unemployment remains high. The labor surplus rate, which includes open unemployment, the proportion of unemployed not seeking work and disguised unemployment in agriculture, is estimated at about 15 percent. There is little or no absolute poverty, but considerable differences in income exist between regions and between rural and urban communities. Recent data indicate a probable increase in income inequality since the 1970s. School enrollment at the primary level has become practically universal. Most health indicators, including infant mortality rates, have shown substantial improvement over the past two decades, but here too regional and sectoral disparities remain significant.

4. Turkey's natural resource base, including hydropower and other minerals, and its agricultural and tourist potential are considerable, while its basic infrastructure is already well developed. The present Government sees the country's long-term development based on a competitive trading economy, backed by a more efficient, restrained public sector. Within this framework, sustained economic growth, consistent with domestic and external

financing constraints, will be needed to provide continued employment opportunities for Turkey's growing population and improve economic welfare particularly in the less developed regions. The achievement of these goals will, to a large extent, depend on the appropriate interaction between public and private sectors to identify areas of comparative advantage and allocate resources efficiently.

5. Turkey was successful in generating rapid growth with low inflation through much of the 1960s and 1970s. However, an inadequate adjustment to the first oil shock and subsequent recession in the OECD countries contributed to an unsustainable balance of payments position by 1977. The share of oil imports to merchandise exports had risen from 17 percent in 1972 to 84 percent in 1977 and deteriorated further to 124 percent in 1980, indicating the severe impact which higher oil prices had on the balance of payments. Growing current account deficits in the mid-1970s, financed largely through short-term borrowing, more than tripled external debt between 1974 and 1977. Following the virtual cessation of external financing and accumulation of arrears, comprehensive debt rescheduling agreements were negotiated between 1978 and 1980 with both private and official creditors. Meanwhile, the shortage of foreign exchange and imports led to disruptions in industrial production, declines in real GNP in 1979-80, rising unemployment and a sharp acceleration of inflation.

6. In response to the crisis of the late 1970s, the Turkish authorities initiated a wide ranging program of economic reforms in 1980, supported by the IMF and World Bank adjustment lending, designed to promote allocative efficiency through greater reliance on market forces and the private sector and to achieve an outward orientation of the economy through import liberalization and export promotion. The program represented a major break with past policies, which had favored import substitution, market intervention and reliance on state enterprises. At the same time, an extended stabilization program was implemented to restrain the growth of domestic demand, in order to attain a manageable external payments position and restore international creditworthiness.

Recent Economic Developments

7. The Turkish economy has displayed a creditable overall response to the stabilization and structural adjustment measures. Real GNP grew at an annual average rate of over 5 percent during 1981-86, while the current account deficit was reduced from 6 percent of GNP in 1980 to under 2 percent in 1985 before rising to about 2.6 percent in 1986. Inflation, which accelerated to over 100 percent in 1980, fell to below 30 percent in 1986. While unemployment has remained high, this can in part be attributed to a secular decline in agricultural employment and, since 1984, a decline in the number of Turkish workers abroad.

8. The improvement in the balance of payments between 1980 and 1985 was made possible by the very rapid expansion of exports, which grew at an annual average rate of more than 20 percent, more than tripling their share of GDP from 5 to over 15 percent. Exports of industrial products, composed primarily

of processed foods and textiles, grew particularly rapidly, increasing their share of total exports from 36 percent in 1980 to 75 percent in 1985. This impressive export performance was achieved through the maintenance of a flexible and realistic exchange rate, substantial progress in liberalizing the import regime, as well as direct measures such as tax rebates and preferential credits to enhance the relative profitability of exports and offset the traditional bias towards production for the domestic market.

9. The improvement in the balance of payments was initially aided by a policy of demand restraint facilitated by a significant tightening of fiscal policy. The public sector borrowing requirement (PSBR) consequently declined from about 10 percent of GNP in 1980 to about 6 percent in 1982. However, between 1982 and 1984, fiscal deficits grew in real terms, due mainly to a disappointing revenue performance. The introduction of a value added tax in 1985 was successful in reversing this downward trend. However, further significant reduction of the PSBR, which is estimated at about 6 percent of GNP in 1986, has been constrained by the rapid growth of public investment and the growing share of interest payments on both foreign and domestic public debt.

10. Price trends between 1980 and 1985 closely reflected fiscal performance. Thus, the annual average increase in wholesale prices decelerated from 107 percent in 1980 to 27 percent in 1982 before accelerating to 50 percent by 1984. In 1985, a tighter fiscal policy and higher real interest rates slowed the growth of domestic demand, and inflation fell to 43 percent. In 1986, inflation decelerated to 30 percent despite a sharp rise in the growth of real domestic demand of nearly 11 percent compared with a real GNP growth of 8 percent. The fall in inflation was greatly aided by the decline of world oil prices and a good harvest. In addition, reduced reliance on Central Bank financing of the budget deficit in 1986 permitted a slowing in the growth of broad money to 42 percent.

11. A prominent feature of the reform process has been to focus the public investment program on infrastructure while encouraging the private sector to play the major role in manufacturing. These priorities remain in place. However, since 1985 the growth of public fixed investment has been extremely rapid, estimated at about 16 percent in 1985 and 14 percent in 1986, compared to an annual average rate of growth of only 2 percent during 1982-84. A principal cause appears to be the initiation of a policy of fiscal decentralization in 1985 whereby local governments and extrabudgetary funds[1/] were provided access to increased sources of revenue and financing. This policy has managed to address certain pressing social needs such as low income

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1/ Extrabudgetary funds were created to address specific social objectives and provide funding for priority projects. Although such funds have existed since the 1960s, their number and importance have expanded greatly since 1984. By 1986, extrabudgetary funds accounted for about 14 percent of public sector (excluding State Economic Enterprise) expenditure compared to less than 5 percent in 1983.

housing and improvements in municipal infrastructure in a more effective manner than was possible through the traditional budget process. The funds have also been used to expedite the implementation of high priority public investment projects, particularly in the power subsector. However, recognizing the adverse impact of excessive public investment growth on domestic demand and the balance of payments, the Government took a series of measures during the second half of 1986 to gain greater control of investment outlays and has targeted a sharply slower rate of growth for 1987 (3.5 percent). Nevertheless the rationalization of public investment remains a high priority for Government. Reaching this target will not be easy in light of the momentum toward rapidly rising public investment built up in 1985-86, but overshooting the target could significantly weaken the balance of payments.

12. The combined financing requirement of the SEEs is estimated to have declined as a percentage of GNP in recent years. This improvement to a large extent reflects the increased flexibility granted to the SEEs in setting prices in a more competitive environment, a policy which has resulted in more efficient public sector pricing, including in the energy sector. Real fixed investment by the SEEs is also estimated to have declined in 1986 and a further decline is targeted for 1987. Slower growth in SEE investment reaffirms the Government's broader objective to leave expansion in manufacturing activity largely to the private sector. The Government has also continued to pursue its goal of privatization of a number of SEEs. A series of studies have been completed, and the legal and administrative barriers to privatization have been removed. The intention of the Government is to proceed cautiously with privatization, initially selecting small to medium sized enterprises likely to be attractive to, among others, foreign investors.

13. A persistent constraint in recent years to private investment has been the prevalence of high interest rates for non-preferential credits which remain in the 70-90 percent range. Nominal interest rates for such credits have remained relatively stable despite the sharp deceleration of inflation since 1984. There are several causes. High and variable rates of inflation since the late 1970s appear to have led to a degree of public skepticism regarding the feasibility of a sustained reduction in inflation. The financing requirements generated by fiscal deficits, which are large in relation to the level of available private and foreign savings, also tend to drive up interest rates and crowd out private sector borrowing. In addition, the intermediation costs of financial institutions remain high due to relatively high rates of taxation and the significant level of non-performing assets which banks are currently carrying. The existence of high lending rates has necessitated the use of Government investment incentives and preferential credit for priority sectors such as manufacturing and housing. A recent review of private investment in industry has shown that investment did pick up in 1986, but that a number of factors continue to inhibit the climate i.e. high real interest rates, uncertainty about the economic outlook and about inflation. High interest rates have thus led to a greater reliance on financing out of retained earnings, which itself has not been a major deterrent to private investment in the energy sector, since only firms with large financial resources have the capacity to finance projects in the sector.

14. The current account deficit in 1986 is estimated to have widened to $1.5 billion (a 50 percent increase over 1985), despite savings of about $1.6 billion accruing from lower oil import prices. This deterioration can largely be attributed to a combination of weak external demand, rising domestic demand and higher interest payments. The decline of exports to Turkey's major Middle Eastern trading partners as a result of their loss of purchasing power to a considerable extent offset the beneficial impact of lower imported oil prices. Total exports in 1986 are estimated to have declined by about 6 percent in value terms, in marked contrast to the impressive growth achieved during the 1980-85 period. The value of imports fell by 5 percent although import volume increased by 11 percent due to savings from oil and despite a percent increase in the value of capital goods imports reflecting the rapid growth of investment in 1986.

15. Turkey's improved international creditworthiness since the early 1980s is reflected in the resumption of private capital inflows in the form of trade credits since 1982 and syndicated medium-term financing since 1983. In addition, in 1986 direct foreign investment is estimated to have risen significantly, although it is still small in relation to external borrowing. Short-term foreign borrowing also grew rapidly during 1985-86. In 1986, this growth largely reflected increased Central Bank borrowing to finance the higher than anticipated current account deficit and the need to extend trade credits to those Middle Eastern trading partners suffering from foreign exchange shortages as a result of the fall in oil prices.

16. Turkey's trade regime has since 1980 undergone a fundamental transformation through reductions in quantitative restrictions and tariffs on imports and provision of export incentives which together have substantially reduced the anti-export bias which prevailed prior to 1980. In 1984, the Government shifted its emphasis from granting direct export incentives to relying more heavily on market oriented mechanisms, in particular the exchange rate. Following the disappointing export performance in 1986, however, export tax rebates on average have been raised while a preferential export credit facility operated through the Central Bank was reinstated in January 1987. In addition, to finance the growing expenditures of the extrabudgetary funds, the use of dollar denominated levies on selected imports, the revenues from which are generally earmarked for use by a particular fund, has been greatly expanded. Although the average tariff rate has continued to decline, the overall level of nominal protection is therefore estimated to have risen marginally in 1986. However, quantitative restrictions on imports have continued to be relaxed, offsetting to some extent the increase in nominal protection.

17. Turkey's external debt at end-1986 is estimated at $32 billion, equivalent to about 55 percent of GNP and nearly 260 percent of total exports. Since about half of Turkey's debt is denominated in currencies other than the US dollar, the recent decline of the dollar accounts for much of the rapid growth of debt measured in dollars over the past two years. The proportion of short-term to total debt has also risen from 15 percent in 1984

to 21 percent in 1986.[1/] In addition to the necessity to finance a higher than anticipated current account deficit in 1986, the recent growth of short-term debt also reflects the preference still exhibited by both foreign creditors and private sector borrowers in Turkey for contracting short rather than long-term obligations. For 1987, the Government intends to rely to a greater extent on medium-term external borrowing while limiting the growth of short-term trade financing.

18. Turkey's debt service payments have risen significantly since the expiration in 1984 of the grace periods on payments due under the OECD reschedulings of 1978-80. Principal payments due from the 1979 commercial bank rescheduling (as amended in 1982) have also raised debt service payments, while net repayments to the IMF have risen following the termination of the most recent IMF standby arrangement in early 1985. Total debt service (including IMF repurchases and charges and interest on short-term debt) rose from $3.0 billion in 1984 to about $4.7 billion in 1986. The debt service ratio concurrently rose from 26 percent in 1984 to 37 percent in 1986.

19. Turkey remains creditworthy for Bank lending. The Bank Group's share of Turkey's total external debt grew from 7 percent in 1980 to an estimated 15 percent in 1986. Debt outstanding and disbursed to the Bank at end-1986 amounted to $4,836 million of which $939 million was accounted for by exchange rate adjustments resulting from the recent weakening of the U.S. dollar. The Bank's share of Turkey's total external debt is expected to grow gradually through 1988, after which it is projected to decline to about 16 percent in 1990. Turkey's debt service payments to the Bank in 1986 amounted to $558 million, equivalent to about 12 percent of total debt service in 1986. This share is projected to rise to about 17 percent by 1990.

20. Turkey's economic performance over the past six years compares favorably with that of other middle-income developing countries confronted by external financing difficulties. In large part, this relative success has been the result of the Government's ability to strike an appropriate balance between the objectives of stabilization and growth, while maintaining economic liberalization as the theme of the adjustment program. However, the rapid growth of public investment observed during 1985-86 strained the balance of payments position, forced a partial reversal of the trade liberalization process witnessed through 1985 and prevented a further decline of fiscal deficits. By mid-1986, the Government had begun to take measures to restore more sustainable internal and external balance. However, in view of the need to reduce fiscal deficits to more sustainable levels and given the prospect of heavy external debt servicing requirements, an intensification of the stabilization effort may become necessary, particularly if export performance does not pick up in 1987.

1/ These figures reflect the recent reclassification of Dresdner Bank deposits with maturities of longer than one year from short to medium and long-term debt. (Under the Dresdner scheme, deposits from Turkish workers abroad are collected by the Dresdner Bank and placed at the deposition of the Central Bank of Turkey which guarantees the deposits and pays an attractive interest rate.)

Medium Term Prospects and Policies

21. In order to reverse the recent deterioration in the balance of payments and continue the progress in lowering inflation, the Government's annual economic program for 1987 calls for slower growth and tighter fiscal and monetary policies compared to 1986. The rate of growth of real GNP is targeted to slow to 5 percent, inflation to 20 percent and the fiscal deficit is to be curbed through a reduction in the growth of public fixed investment to 3.5 percent and an increase in the value-added tax from 10 to 12 percent (enacted in December 1986). These targets together with export volume growth of about 11 percent are assumed to be consistent with a reduction of the current account deficit to $1.1 billion, but the attainment of this target might require further restraint in the growth of domestic demand.

22. The strength of the export recovery in 1987 and beyond is likely to be a crucial determinant of the pace and nature of Turkey's development prospects. With merchandise exports in 1986 comprising only 13 percent of GNP, the potential for significant export growth clearly exists. In the short-run, reemphasizing the role of discretionary export incentives may help to revive the export drive. However, these incentives can only be maintained at significant fiscal cost or by generating offsetting revenue through greater reliance on import protection. Therefore, a more sustainable export strategy over the medium-term would place greater emphasis on the exchange rate to maintain competitiveness while constraining the expansion of domestic demand. The impact of the recent expansion in the use of import levies on production and export incentives will also have to be carefully re-examined. Greater emphasis on marketing, quality control and diversification of exports to countries benefiting from lower oil prices will also be necessary. While all these aspects will be important Turkey's efforts to raise exports can only succeed if protectionism in OECD markets does not intensify.

23. The Bank's base case projections assume an export growth rate of 6.4 percent in real terms for the 1987-91 period. Real GNP growth of about 5 percent over this period could then be achieved with a gradual decline in the current account/GNP ratio, permitting a parallel decline in the ratios of debt to both GNP and exports. Debt service obligations in 1987-88 are projected to remain high with the debt service ratio staying at about the same level as in 1986, i.e. 37 percent. However this ratio is projected to decline to about 31 percent by 1991, reflecting the completion of repayments of earlier rescheduled debt and projected growth in exports. Gross capital inflows averaging $4.8 billion a year through 1991, excluding the rollover of short-term debt, would be required to finance annual current account deficits of between $1 and $1.5 billion, moderate reserve increases and amortization payments which are expected to average almost $3.3 billion a year.

24. If export growth were to be slower than projected in the base case, real GNP growth would have to be slowed, while real indebtedness would nonetheless rise. In such a situation, it would be more difficult for the economy to absorb a sufficient share of new labor market entrants to prevent a rise in unemployment. Domestic protectionist pressures would likely be more difficult to contain while other aspects of the Government's program of economic liberalization would also be jeopardized.

PART II - THE ENERGY SECTOR

Sector Profile

25. Turkey's energy sector is a large, diverse and complex sector covering some eleven public and three private sector agencies, and a wide range of indigenous resources. The sector dominates public sector expenditures, and employs over 100,000 people.

Energy Resources

26. Turkey has substantial untapped lignite and hydropower resources, as well as more limited but still important, oil, gas and coal resources, and geothermal potential. Hydropower with potential economic viability is estimated at about 31,000 MW, corresponding to an annual production of about 105,000 Gwh (under average hydrological conditions). Only 15-20 percent has been developed so far, although this is projected to rise to about 30 percent by 1990. Proven recoverable reserves of oil are about 16 million tons, equivalent to one year's consumption; although potential reserves that may become economically recoverable using enhanced oil recovery techniques, could reach 30 million tons. Oil production has been declining over the past decade as few discoveries have been made in recent years. Proven recoverable gas reserves are about 400 billion standard cubic feet, although domestic gas supplies are to be supplemented from 1987 onwards by large scale imports of natural gas from the USSR (para. 65).

27. Total known reserves of hard coal are estimated at about 1 billion tons, all located in Northern Turkey. Coal production has been declining as operations move to deeper, less accessible seams. Production in 1985 was around 4 million tons (2.5 million toe). Lignite reserves are estimated at 8.2 billion tons, but about half of this is of extremely low quality (1,000 kcal/kg). Lignite production in 1985 was about 25 million tons, equivalent to 7 million toe. There is technical potential for geothermal (for space heating and electricity generation) and bituminous shales, however existing international energy prices provide insufficient incentive for major development at present.

Energy Balances

28. Historical growth in final energy consumption has been about 5.5 percent per annum since 1972, with per capita consumption growing at around 3.0 percent per annum over the same period. Total energy consumption in 1985 was about 42 million toe, of which commercial energy consumption amounted to 34 million toe (80 percent). Petroleum made up the most significant share of primary energy (57 percent), with lignite (21 percent), hydropower (11 percent), coal (11 percent) and others making up the balance. Overall about 16 percent of final commercial energy consumption was in the form of electricity. The most notable changes in the pattern of energy consumption over the past two decades have been the decrease in the relative share of hard coal, the increase in petroleum, and the rapid rise in indigenous lignite and hydropower. Approximately 44 percent of total

commercial energy requirements were met from domestically produced resources, the balance (56 percent) imported primarily in the form of liquid petroleum products, electricity from Bulgaria and USSR, and hard coal.

29. Despite the international energy price increases in the 1970s, energy intensity, as measured by energy utilized per $ of GDP, increased by over 12 percent between 1972 and 1980. Energy intensity peaked in 1980 and has, since then, shown a gradual decline - a function possibly of Government's energy pricing policy during the 1980s (para. 85).

30. Electricity, which averaged about 11 percent of total consumption of primary energy grew at an average annual growth rate of 10 percent (KWh) and 11 percent (MW) over the 1972-1985 period. Electricity intensity as measured by electricity (KWh) utilized per $ of GDP, increased by a quite dramatic 4.9 percent per annum and by 1985 Turkey was about 70 percent more electricity intensive than it had been in 1972.

31. The reasons for the relatively high increase in electricity utilization are not clear cut but stem from: a failure early in the period to adjust tariffs to reflect costs with a concomitant failure especially within the industrial sector to adjust technologically to the increased energy costs; changes in economic structure, in particular the rapid growth rates in the industrial sector; and, a relatively low base for the electricity subsector of both per capita consumption (relative to GDP) and penetration of the commercial energy balance.[1/]

32. The data on average energy and electricity intensities masks, however, a considerable range in end use efficiencies. This is amply illustrated in the industrial sector (40 percent of total energy consumption and 64 percent of total electricity consumption) where eight energy intensive industries[2/] account for over 40 percent of total industrial energy consumption. The potential energy savings in these key industries has been estimated at some 620,000 toe per annum, equivalent to US$43 million per annum.[3/]

33. Projected Demand. Trends observed in the growth and pattern of energy consumption during the latter part of the 1970s are expected to continue during the 1980s and 1990s. The most important factor in the growth of energy demand will be the growth rate of the economy as a whole and the

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1/ Electricity per capita for 1983 was 523 kWh for Turkey. This compares with Colombia (837); Jordan (590); Peru (630) - all countries with comparable GDP per capita incomes.

2/ Iron and steel, cement, fertilizer, pulp and paper, glass, bricks, aluminum and copper.

3/ This was undertaken by comparing, on a plant by plant basis, actual average energy consumption per unit of output with a notional achievable efficiency target. Savings ranged from 6 percent to 33 percent and included electricity, fuel oil and coal. The value of energy saved was estimated on the basis of US$70/toe.

growth of the relatively energy-intensive manufacturing and industrial sectors. MENR has recently prepared a set of energy demand forecasts as an input to an ongoing electricity system planning exercise (para. 70). The work program is based upon econometric analysis carried out by SPO, a joint MENR, SPO and TEK study using a simulation model [1/] which tests the effects of economic and technological policy variables on demand, and a World Bank financed technical assistance program within TEK to analyze electricity load data (load curves, price elasticities, etc.) and assess the scope for improved demand management practices. The findings of the work program are:

(a) overall energy consumption will increase at average annual rates of about 5.4 percent;

(b) commercial energy will increasingly substitute non-commercial energy; and

(c) electricity demand will grow at rates greater than total energy demand as a result of:

(i) a shift in development strategy toward export led industrial and manufacturing growth;

(ii) an urban growth rate projected at almost double the rural growth rate; and

(iii) increased substitution of electricity for other energy products.

34. Electricity demand is projected to grow at about 8 percent per annum over the medium term (until the early 1990s) and then gradually decline to around 5 percent per annum by the late 1990s and beyond. Both energy and electricity efficiency are expected to improve over the medium term in response to Government policy measures and the introduction of a vigorous energy conservation program (para. 93). For example, energy efficiency, as measured by the energy/GDP coefficient, is expected to decline to below 1.0 by the mid 1990s. Electricity efficiency as measured by the industry/electricity coefficient is projected to decrease from historical levels of around 1.4 to about 1.1. Per capita consumption of electricity will rise to about 1,600 kWh by the year 2000.[2/]

35. Given the vulnerability of Turkey's economic growth prospects MENR plans to update its demand projections on a regular basis to reflect changes in the internal and external economic environment faced by Turkey. A work program agreed with the Bank and MENR and TEK (para. 71) will support the

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1/ Under an International Atomic Energy Agency (IAEA) and World Bank program of assistance. Both IAEA and the Bank have been actively involved in the work program which forms part of an effort to upgrade skills in electricity planning using established demand and system supply models.

2/ Compared with 1983 data for the following countries: Greece (2,892); Spain (3,000); Portugal (1,929); Yugoslavia (3,177).

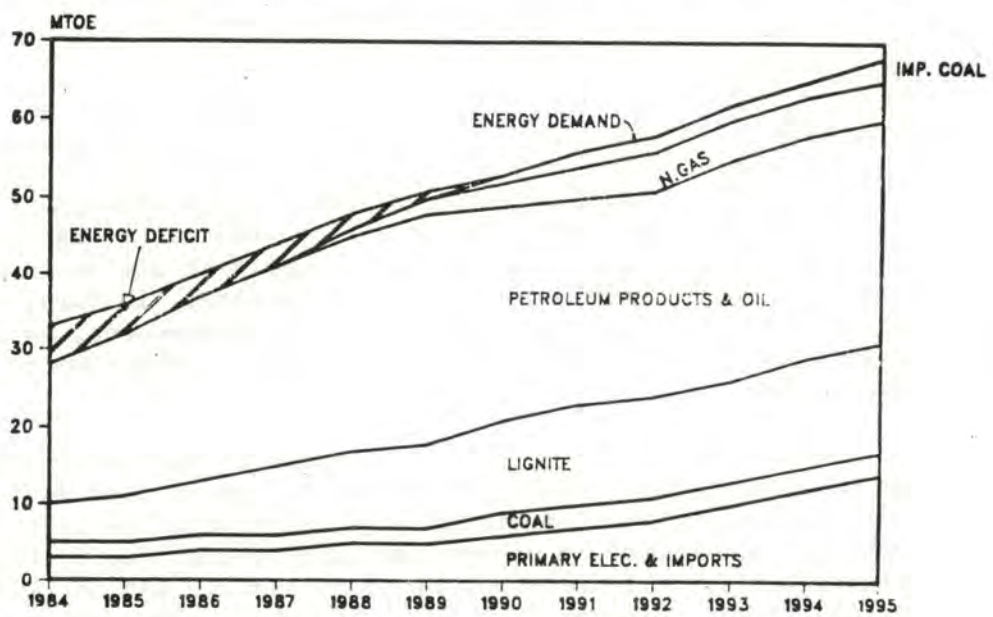
regular updating of these forecasts. Furthermore technical assistance including appropriate computer hardware and software will be funded under the loan (para. 71) to further strengthen MENR's demand forecasting and energy planning capabilities.

36. Primary energy demand will be met by imported petroleum products, natural gas and coal as well as by indigenous lignite, coal and hydro. While petroleum products will dominate, lignite and natural gas will represent the most rapid growth in energy supply. With respect to secondary energy, electricity will be the most important and will be supplied equally by thermal and hydro plants. Nuclear energy is unlikely to play a role until the 1995-2000 period. At present the Government has no firm plans to introduce its first nuclear power plant. The energy deficit (para. 42), which has been a feature of Turkey's economy for more than a decade, should be eliminated by 1990. The key factors in eliminating the deficit will be the rate at which electricity plants are completed, the timeliness of lignite supplies and the ability to control demand through improved efficiency.

37. Figure 1 summarizes the likely supply-demand configurations up to 1995. Annex 7 presents detailed energy balances for 1985, 1990, 1995, 2000 and 2010.

FIGURE 1

COMMERCIAL ENERGY DEMAND AND SUPPLY, 1984-1995
MILLIONS OF TONS OF OIL EQUIVALENT (MTOE)



Institutional Arrangements

38. Energy development in Turkey is dominated by the public sector. The Ministry of Energy and Natural Resources (MENR) is responsible for the planning, coordination and development of energy resources in Turkey. The Turkish Hard Coal Enterprise (TTK), the Turkish Lignite Enterprise (TKI), the Turkish Petroleum Corporation (TPAO) and the Mineral Research Institute (MTA) have responsibility for the extraction of fossil fuels and radioactive materials. Design and construction of public sector hydroelectric projects is entrusted to the State Hydraulics Authority (DSI). The Turkish Electricity Authority (TEK) is responsible for the generation, transmission and distribution of almost all the electricity sold in Turkey. TEK is also responsible for the implementation of the Government's program of rural electrification and the construction of all public sector generating and transmission facilities, with the exception of public sector hydroelectric plants for which DSI has responsibility. The production, transport and marketing of petroleum products are the responsibilities of TUPRAS (four refineries), BOTAS (pipelines) and Petrol Ofisi (marketing and distribution). The Electricity Survey Administration (EIE) is responsible for renewable energy, hydropower surveys and research work. In addition, in 1986 EIE was given full authority to plan and implement the country's energy conservation program (para. 92).

39. Private sector participation in the energy sector has been limited to two small electricity utilities (CEAS and KEPEZ), a limited number of industrial autoproducers, some small coal mines, one refinery, joint ventures in petroleum exploration and some petroleum product marketing and distribution activities.

The Development of Energy Policy in Turkey

Energy Policy in the 1970s

40. During this period the Government's energy policy was almost totally dominated by supply considerations. Pricing policy (with the exception of petroleum products which broadly reflected economic costs throughout the period), demand management and energy conservation were all relegated to low priority. The exigencies of a policy of energy supply at all costs to feed a rapidly growing and largely unconstrained demand resulted, in turn, in the abandonment of systematic maintenance and operations procedures, as well as a tendency to invest in some projects, especially lignite, which were of doubtful economic viability.

41. Until the international oil price increases of the 1970s Turkey's energy economy was largely oil based, almost wholly import dependent and, at least as far as electricity was concerned, at a relatively low level of per capita consumption. Investment in energy was largely confined to thermal oil fired power plants and a small number of hydro projects. The negligible investment in lignite was primarily for local household consumption. As a result investment in energy until the early-1970s ranged from about 1.5 percent to 1.8 percent of GDP, the bulk of which was for electric power.

42. The international oil price increases of the mid-1970s precipitated a dramatic change in energy policy in Turkey. Oil imports, which were only US$200 million in 1970, jumped to US$3.5 billion in each of the years from 1979 to 1984. The response by Turkish policy makers was to attempt to curtail, through substitution, the level of energy imports by embarking on a massive program of indigenous resource development, especially lignite and hydropower and also developing to the maximum extent possible oil, gas and geothermal resources. The program aimed at increasing lignite production 8 fold in 10 years and hydro power capacity was planned to increase by 300 percent between 1980 and 1990. Energy investment showed a dramatic increase in the post 1975 period and by 1984 had peaked at about 40 percent of total public fixed investment and 3.0 percent of GDP. That the program failed to meet its policy makers' ambitious targets is, in retrospect, hardly surprising. Various Bank reports in the early 1980s concluded that "... resources, human and financial, have been spread too thinly over too many projects in the investment program", and this resulted in "... major supply interruptions, project delays, frequent and protracted plant breakdowns and unacceptably high losses". Furthermore the policy of import substitution by indigenous resources proved to be high risk since shortfalls in electricity supply could not be met, for technical reasons related to system stability, by electricity imports. This lack of flexibility had caused, by the early-1980s, a substantial energy deficit. The sector's problems had reached crisis proportions - problems that were deep rooted, and almost all linked to a myriad of inefficient practices in the public sector energy agencies in planning, implementation, financing and operations. The public sector had, by the end of the 1970s, an almost total monopoly in energy supply. The lignite sector had been nationalized in the early-1970s and statutory barriers to private electricity investment assured TEK's monopoly.

Energy Policy since 1984

43. In response to the above problems, the Government in 1984 adopted a set of policy initiatives aimed at adjustment in the sector over the medium term. Government assigned the highest priority to the energy sector and to investments that would reduce the energy deficit and costs of supply. The strategy for the development of the sector was developed during the preparation of the Fifth Five Year Plan (1984-1989). In line with the priorities of the structural adjustment program (import liberalization, investment rationalization and an enhanced role for the private sector) the following were identified in the Development Plan as key areas to be addressed:

(a) priority would be given to domestic sources of energy, especially hydro and lignite, when economically justified;

(b) to lessen the risk of supply failures through diversification of sources, the economic case for projects based on imported energy, especially gas and coal, would be examined;

(c) private sector financing, both local and foreign, would be sought for participation in energy development;

(d) conservation through indirect (pricing) as well as direct (non-pricing) measures would be supported;

(e) energy SEEs would be given greater financial autonomy especially in setting output prices; and

(f) the public investment program for energy would be rationalized by focusing on priority projects and priority subsectors.

44. The Development Plan, however, provided only a broad framework but encompassed no specific actions. In early 1984, following extensive discussions with the energy sector agencies, the Bank prepared an Energy Sector Strategy Paper which was discussed with Government and subsequently agreed upon[1/]. The strategy paper focused upon a number of urgent actions needed in the energy sector including the completion of specific ongoing projects in an advanced stage of construction; the upgrading of existing facilities through improved maintenance, rehabilitation and loss reduction investments; the introduction of economic pricing for energy products; a more vigorous energy conservation program focused initially on the energy intensive industrial sector; and, identification of opportunities for private sector participation in the sector.

45. Government has now embarked upon the implementation of a program to meet the Development Plan's objectives for the sector while retaining consistency with the overall thrust of the structural adjustment program. The Government's energy sector strategy to be supported by the proposed loan is summarized in the Letter of Development Policy (Annex 3) and provides a medium term framework that addresses three interdependent sets of issues. The first focuses upon actions to improve the institutional framework of the sector. The second focuses on actions to ensure that economic investments are made in the sector. The third focuses upon the efficient use of energy resources in particular in pricing policy, efficient energy use in the industrial sector and measures to improve the operational efficiency of the sector. The Government has, in consultation with the Bank, reviewed its overall sectoral strategy in light of the recent reduction in international oil prices and has concluded that it has not affected substantively the strategy or policies for the energy sector (Annex 9). Part III provides more detail on Government's energy sector program. A summary of the program is given in Annex 4.

1/ Turkey - Energy Sector Strategy Paper; Report number 4973-TU, dated September, 1984.

PART III - THE SECTORAL ADJUSTMENT PROGRAM

Background

Energy and the Macro Framework

46. The energy sector occupies a central point in the Government's structural adjustment program:

(a) the cost, timeliness and availability of energy is of critical importance to the competitiveness of the industrial sector and hence to the Government's overall export drive;

(b) energy is the largest sectoral consumer of public funds and absorbs about one third of the resources available for public investment. Improving the quality of investment in the sector is therefore a cornerstone of Government's policy to rationalize public investment;

(c) the energy sector has considerable potential for foreign exchange savings through policies directed at improving the efficiency of energy utilization and through the substitution of imported energy by economically viable indigenous resources;

(d) the energy sector is an important vehicle for domestic resource mobilization through appropriate pricing and fiscal policies. For example in 1985 taxes on petroleum products amounted to 7 percent of central government tax revenues; and

(e) the energy sector has been identified as a priority candidate for implementing Government policies towards private investment. The sector has potential for a wide range of opportunities for both domestic and foreign private sector participation.

The Policy Framework and Government Objectives

47. While the broad policy framework in the sector is largely in place, a number of issues still need to be addressed - further actions need to be taken to make the public energy agencies more independent and accountable, the regulatory framework defining the rules for private investors is embryonic in nature and restrictive in practice; actual investment allocations are sometimes contrary to stated policies; and investment planning, although improved, remains weak. Furthermore, considerable efforts will be needed by Government to maintain progress made thus far in energy pricing policy, and improvements in the structure of prices, especially for electricity, are needed.

48. The Government's strategy provides a medium-term framework that addresses the three interdependent sets of issues (para. 45). Government's long term objectives in implementing its strategy are to:

Institutional Framework

(a) move from the present practice of direct control of the sector to a broader regulatory framework in which the rules of investment and operational behaviour are well defined and agencies, public and private, operate in a relatively independent environment;

(b) provide a policy framework whereby public sector energy agencies would operate efficiently and have access to a broader range of private and public financing;

(c) increase private investment in all aspects of the energy sector's development through direct investment, joint ventures, leasing arrangements and management contracts provided that such activities are complementary to the public sector's efforts and in line with national least cost development objectives;

Economic Investments

(d) develop a strong energy planning and coordination capability within Government;

(e) ensure that, irrespective of sources of finance, future energy requirements are met through investments at least cost to the economy;

(f) ensure that indigenous energy resources are exploited sequentially according to strict economic principles;

Improved Efficiency

(g) ensure maximum operating efficiency in all energy agencies through good operating practices, adequate maintenance and spare parts and highly trained operators;

(h) achieve economic pricing policies while measures will be taken to ensure that the costs of inefficiency will not be passed on to the final consumer; and

(i) implement policies and programs to encourage the maximum effect of economically viable energy conservation and demand management measures, through both pricing and non-pricing means.

The Program

A. The Institutional Framework

49. One of the most difficult issues now faced by the Government is the process of encouraging optimal private investment while stimulating the public sector to achieve greater efficiency and financial viability. While the private sector can contribute a substantive proportion of incremental energy supply, the public sector will, over the medium term, continue to dominate the energy sector. Furthermore, few large scale private sector projects are under implementation and even these will not be completed before 1990. Government's efforts to encourage private investment have focused on the electric power and lignite subsectors. As a consequence neither TEK nor TKI was allowed to include new electric power generation or mine development projects in their respective 1985 and 1986 investment programs. For 1987 this policy has been relaxed since the level of private investment has been lower than anticipated. TEK has had plans approved for extensions to existing plant and is currently preparing a proposal, to be included in its 1988 program, for the construction of a new thermal power plant based on natural gas (para. 65).

Policies for the Public Sector

50. While the public sector will continue to dominate the energy sector the elimination of statutory barriers to competition for electric power and lignite provides opportunities for public enterprise reform. Public enterprise reform is an important component of Government's structural adjustment program. The objectives of the reforms are to permit greater autonomy and improved productivity at the enterprise level and to increase capital flows to the sector. Since 1984 Government efforts have been largely geared to introducing a less restrictive legal framework under which the energy SEEs could operate. A number of far reaching amendments to laws affecting the public energy sector have been put into effect recently.

51. In order to attract private finance, energy SEEs can now share ownership in energy projects (primarily in electric power and mining) through "participations", in which the SEE would hold from 15 percent to 50 percent of the shares; or in "affiliated partnerships", in which the SEE would hold a majority of the shares. The Government is considering several proposals from the private sector to enter into these types of joint ventures (para. 59). Further efforts to mobilize resources for the sector were made in 1984 when Government established the Public Participation Fund (under Law 2983) and allowed it to issue revenue-sharing certificates associated with existing infrastructure facilities. In 1985, it issued its first certificates associated with the Keban and Oymapinar hydropower projects and these were sold within two days. The Fund has used its resources effectively by funding high priority hydroelectric projects under construction (e.g. Karakaya, Kapulkaya, Menzelet, Catalan, Gezende, Adigüzel) to assure a steady flow of local funds to contractors and to advance completion schedules.

52. A generic problem in almost all SEEs has been the difficulty of attracting and retaining skilled manpower. The problem is particularly acute in the energy sector where engineers and technicians have opportunities for employment in the higher paid private sector. Until recently SEE managers had very little room to reward performance and pay competitive salaries for needed skills. However in 1985 Government introduced a new basis of employment within SEEs: the annual renewable contract (ARC) which allows the rates of remuneration to be set at levels significantly above current Government payscales. The new system is designed to build into SEEs personnel performance monitoring (currently non-existent), a capacity to fire (presently virtually impossible) and a capacity to adjust rates of pay to market rates. At present few employees in the energy SEEs have transferred to the ARC system since neither rates of pay nor annual evaluation procedures have yet been determined for most positions, although efforts to do so are underway. It is too early to assess the impact of this new remuneration system although clearly it represents an important departure from past practices. At present however, only about 1,000 staff employed in TEK are retained on an ARC basis although TEK's personnel department believes that by end 1988 90 percent of staff offered the option will opt to be employed on the ARC basis.

53. In connection with the appraisal of the proposed loan, the Bank carried out a review of the institutional framework governing the energy sector. In line with Government policy, the review focused upon the electric subsector. Government has placed high priority on reforms within the electric power subsector in part due to increased public pressure and scrutiny on TEK following a series of large tariff increases over the past eighteen months, and in part because it is by far the largest and most important agency in the energy sector. A report was prepared and discussed with Government. The report concluded that while considerable progress had been made in reforming the energy SEEs there were two areas where further progress was desirable: increased public accountability; and a need to focus on priority tasks to avoid overcommitment of scarce manpower.

54. The major comment of the report related to the fact that the degree of public accountability in the public electric sector was so low that inefficiencies could easily be masked. Furthermore since there is little public confidence in the energy SEEs, the policy objective of mobilizing additional resources through increased access to capital markets, whether local or foreign, was severely constrained. The report identified several internal organizational weaknesses (in TEK) but argued that influencing the external environment under which the agency operates was the key to further organizational reform. Two immediate actions were identified to help TEK achieve a higher degree of acceptability. The first related to the introduction of external financial audits, comparable to those required by private companies registered under the Capital Markets Board. If TEK is to gain financial credibility with lenders both in Turkey or abroad, it will be indispensable to engage auditors of international repute with knowledge and experience of international accounting principles and auditing standards. Government has agreed to implement this recommendation and will recruit auditors by October, 1987 to prepare a full audit of the 1988 accounts. Such audits will subsequently be on a routine annual basis and will be incorporated

into TEK's published annual reports (starting in 1988), to be available to the public. While external audits have recently been introduced for state owned commercially oriented banks, this would be the first external audit conducted in any SEE.

55. The second action to improve public accountability and acceptability relates to the need to strengthen the policy functions of the TEK Board and bring in a wider view to ensure that the Board itself is outward looking. At present the Board operates more as a management committee dealing with day to day issues and does not set broad policy. In order to strengthen the policy-making functions of TEK's board the Government is reconstituting it by appointing more senior Government staff not otherwise involved in the sector. Two appointments have already been announced and another will follow shortly. A new chairman of the Board, with wide experience in both the private sector and other public sector enterprises, has also been appointed. Government will instruct the new Board to undertake a study of the top level structure of TEK including a review of the relationship between the Board and its General Management and between the TEK central organization and other organizational units (e.g. the regional distribution enterprises). It is expected that the Board will make its recommendations to Government by early 1988. During tranche review the Bank will assess the extent to which TEK's Board has made progress towards assuming its role as an effective policy making body.

56. A second general conclusion reached in the report was that public agencies have typically spread their manpower and financial resources over too large an investment portfolio. Considerable gains in efficiency would occur if these agencies focused on a more limited number of higher priority activities and devolved responsibility for some activities to the private sector. Government has made considerable progress in addressing this issue both through rationalizing the energy investment program (para. 75) and in focusing attention upon improved implementation and project management. For example the introduction of turnkey/full management contracts (e.g. Thrace Combined Cycle Plant) has led to speedier project implementation. TKI has been instructed by Government to focus its future efforts on a portfolio of high priority projects and for all other smaller mines not serving power plants (approximately 13) would, to the extent possible, enter into lease agreements with interested private companies. Furthermore, all new mine developments would, where possible, be undertaken either by the private sector or through joint ventures with private partners.

Policies for Private Sector Participation

57. Government policy is concerned with both privatization, that is the transfer of public assets to the private sector, and liberalization, that is the removal of barriers to private sector participation. The policy has a number of objectives:

(a) reduction in public sector spending;

(b) efficiency improvements, through increased competition in the construction and operation of plant;

(c) increased foreign and local capital flows through direct investment; and

(d) resource mobilization through the sale of public assets.

58. Government policy in this regard is supported by two laws (Law 3096 for electric power and Law 3213 for minerals including coal, lignite and uranium). The laws in turn are supported by a series of regulations which provide guidelines for implementation. Since the laws provide only a general framework it is the regulations which provide substance for review, discussion and interpretation. At present, decrees have been issued or are under detailed discussion for regulations governing Law 3096 only. Six potential "institutional models" are emerging:

(a) "Build, Operate and Turnover" (BOT), where private consortia assemble financing, construct and operate for a specified period a limited-recourse enclave electric power generation project. At the end of the contractual period, normally specified as the date of completion of all debt service obligations, the Project would be transferred to the public sector. The main organizing framework would be the electricity sales agreement which would, under agreed levels of plant availability, cover operational costs and debt servicing obligations as well as provide a real return to the equity shareholders;

(b) "Regional Utilities" as fully integrated private regional utilities responsible for generation, transmission and distribution within specified geographical areas;

(c) "Concession Agreements", exemplified by the present arrangements between Government and the Cukurova (CEAS) and Antalya (Kepez) utilities which are permitted, within concession areas, to construct power plants and sell directly to high and medium voltage consumers;

(d) "Autoproducers" in the industrial sector who construct and operate for their own consumption as well as sell surplus electricity and/or heat in the case of Combined Heat and Power (CHP) schemes to TEK, the Regional Utilities, or other purchasers;

(e) "Leasing and Operating Contracts" covering both the lignite and electric power subsectors; and

(f) the privatization, through sale of assets, of one or more public sector energy enterprises. Some enterprises (most notably BOTAS, TUPRAS and POAS) would be suitable candidates for partial or total privatization. However this is likely to occur only over the long term and currently other higher priority sectors and/or public enterprises are receiving Government attention.

59. The laws have only recently come into effect and the present regulations will require modification and refinement. However, over 50

applications to build and operate power plants have been received by SPO/MENR. These range from expressions of interest to a limited number of firm proposals and include three large imported-coal-fired steam plants. Forty seven hydro projects ranging in size from 1 MW to 250 MW, of which five have recently been approved by MENR; and one thermal power plant based on domestic lignite (210 MW), approved in principle by MENR. An additional 15 projects have been submitted by SPO to the private sector for bids, including some projects currently in the public investment program. In addition both CEAS and Kepez (the two established private utilities) are in the process of investing in generating plant. The Government's position is to place greater priority at this stage on actually concluding a number of project deals. This reflects a perceived need to remove bureaucratic inertia and non-commitment as well as provide an unambiguous signal of Government intentions to the private sector.

60. The key issue to be addressed by Government is whether the set of "privatization objectives" is feasible and compatible with the objectives of the development and operation of economic least cost sources of energy supply. The two sets of policy objectives imply a change in the relationship within the sector between the public and private sector. They also imply that the instruments of public policy will need to be broadened to include a greater reliance on fiscal and regulatory frameworks. While the Government's policy changes have introduced an innovative element to energy policy, efforts to ensure that private sector investments are constructed at minimum economic cost and are operated efficiently and on economic grounds, will be needed. As the private sector of the electricity supply industry develops, a matter of growing importance will be the complex interrelations between this and the public sector. There are six main aspects of the private/public sector interface:

(a) The Buyer-Seller Relationship. TEK will buy the output from the privately owned hydro and thermal schemes, while there will be trade between TEK and the regional utilities. Although it is possible that initial contracts, with TEK as co-signatory, could regulate the former two types of transactions, several problems related to the terms and conditions of the transactions could arise. It would therefore be desirable to have a regulatory body with a general monitoring function which could also be used to arbitrate on price changes.

(b) Common interests. Retail tariffs will be regulated by Government and are likely to be equalized across the country. Given cost variations across regions (assuming the emergence of regional utilities), this raises several technical issues. There will presumably be some system of cross-subsidization of high cost areas by low cost areas or a differential taxation. In any event, all producers will have a common interest in the level of the tariff and the design of the redistribution mechanism. This interest may also extend to, for example, the supply of investment funds. The Government will need a means for discussing these issues with the electricity industry.

(c) Competition. Although the private and public sectors will not compete in the output market, they may well be in competition for inputs such as key personnel and capital. Furthermore where the electricity sector is organized on a regional monopoly basis, there may be a tendency for the sum of planned regional capacity expansions to exceed the estimated requirements for the country as a whole. Given the relative scarcity of overall investment funding, a central view will be needed on the consistency of plans of the different regional utilities and private power plant owners, as well as the preparation of contingency plans for public investment in the event of shortfalls in private investment. This places an even greater emphasis on coordination and regulation.

(d) Planning and System Operation. The dynamic nature of the electricity sector, in which flexibility is needed to optimize dispatch both over time and spatially may be jeopardized if contractual arrangements between the public and private sector are inflexible. This places considerable emphasis upon the development of appropriate evaluative criteria and contractual arrangements.

(e) Comparison. An advantage of having a number of different enterprises supplying the same outputs, even if not in competition, is that it provides for comparison of cost levels, operating efficiencies, etc. Although of course allowance may have to be made for factors which could objectively cause differences in costs, for example population densities, raw material transport costs, etc., a central regulatory body would be able to make use of comparative data in monitoring enterprise efficiency.

(f) Equity participation: TEK plans to take an equity share in some private sector projects. It already holds an equity share in both of the regional concessionaires (CEAS, Kepez). This obviously blurs the distinction between the TEK and non-TEK sectors, and may well be the means by which TEK could retain overall control of the electricity supply system. To that extent, a major aim of the privatization program, that of providing a "competitive" or at least a "comparative" stimulus to TEK efficiency, may be weakened. The regulation of existing equity holdings and future acquisitions will therefore require careful consideration by Government.

(g) Asset Valuation. If regional utilities were created, an immediate problem to be resolved would be the valuation of any assets which may be leased or sold by TEK to the non-TEK sector. The current methodology for valuation suffers from a number of deficiencies and regulations are needed to formulate a satisfactory methodology.

61. Further progress in attracting private capital to the sector will require a regulatory climate that is perceived to be stable, consistent, and well defined. At present the regulations are ambiguous, ill-defined and provide little incentive for private sector participation. However to provide a foundation for developing a rational regulatory framework and a focal point

for dealing with the private sector Government established, in 1986, a regulatory body to oversee the electricity subsector. The body is attached to MENR and builds upon an existing department. A three-year work agenda has been prepared which includes: the preparation of regulations for private investors; the preparation of regulations for leasing arrangements; monitoring and evaluation systems; guidelines for dealing with various issues likely to arise between the public and private system including comparable treatment and implementation of an efficiency audit of TEK. Consultants will be hired shortly to provide technical assistance, advisory services and training to MENR.

B. Economic Investment

62. The planning and investment issues center around the adequacy of institutional arrangements for planning; the level and capability of subsectoral planning, and the rationalization of energy investment programs and the development of least cost plans, including the development of indigenous resources.

Institutional Arrangements for Planning

63. The institutional arrangements for planning and implementation in the energy sector are, on the whole, appropriate. Key energy agencies (e.g., TKI, TEK, EIE, DSI) retain independence in day to day management, the Ministry of Energy (MENR) functions as overseer, coordinator and policy planner; and SPO screens, evaluates and approves investments. The quality of planning at the subsectoral level is variable although, in almost all cases, there is room for improvement, and programs to upgrade planning skills are underway in many agencies, most notably TEK, TUPRAS and TKI. Subsectoral planning is however myopic and it is the role of MENR to place subsectoral plans in the broader energy context. MENR has made major efforts in consolidating its role as coordinator; its Planning and Coordinating Department has been strengthened and significant improvements in coordination have resulted for example between TKI and TEK. Nevertheless, some coordination problems still remain, e.g., delays in fuel supply projects (gas, lignite) for power generation, coordination of investments to utilize imported natural gas, etc. Such planning and policy issues are substantive and cannot typically be addressed at the subsector agency level but only at the Ministry level.

64. To ensure that MENR will be able to provide a fully integrated energy planning, strategic and policy formulation service for Government policy makers and to improve sector planning at the national level including the integration of subsectoral plans, the Government plans to strengthen the Energy Planning and Coordination Department of MENR through a program of technical assistance and staff training. MENR has submitted to the Bank for review and funding under the loan terms of reference for technical assistance and training, implementation of appropriate energy planning models and consultancy services. The Bank would monitor progress throughout the implementation of the agreed program which is expected to last approximately three years.

The Oil and Gas Subsector

65. Gas Utilization. Natural gas imports from the Soviet Union are to begin in 1988, beginning at about 150 MSCFT/day and rising to about 600 MSCFT/day in 1992. Some decisions have been taken on gas utilization and a longer term strategy is under preparation. In the short run the Trakya 1 combined cycle plant (600 MW) will be a major consumer in 1988 (80-100 MSCFT/day). Other identified consumers are the Gemlik/IGSAS fertilizer plant (70 MSCFT/day), Istanbul and Ankara distribution (30-70 MSCFT/day), the Eskisehir steel plant (30 MSCFT/day) and an extension of 600 MW at the Trakya power plant. The major consumer capable of absorbing the balance of the gas relatively quickly will be the power sector and TEK is currently preparing plans for construction of a 1,200 MW combined cycle plant to be located near Istanbul.

66. A gas utilization strategy also has downstream investment implications, not yet explicitly included fully in the 1987-1990 indicative plans. In addition to the costs of conversion of existing facilities (e.g., IGSAS, Gemlik, etc.), new investments (e.g., electric power generation and associated transmission, gas distribution) will be required. In the case of urban distribution, key technical and institutional questions are being addressed, especially the choice of a safe and cost efficient system, organizational arrangements for planning, implementing and marketing the gas, and training and recruitment of staff. The Government has however recently established a steering committee to coordinate fully all of these activities and develop a rational gas utilization plan. It is headed by the State Minister for Petroleum Affairs and a detailed utilization plan will be prepared by December 31, 1987. The plan will be sent to the Bank for review and comment.

67. The Refinery Subsector. Natural gas will largely substitute liquid petroleum products - potentially 5 million toe by 1990. This will have important implications on the petroleum products energy balance and refinery configuration. The refinery industry has substantial surplus of primary distillation capacity (about 55 percent of 1986 demand). Despite this overcapacity in primary distillation facilities, the industry is unable to match demand patterns due to the absence of secondary processing facilities to improve the yield of premium value, middle distillate products. The import of natural gas, which is largely to replace fuel oil, will exacerbate these imbalances. The Government now proposes to analyze the impact of gas displacement and to address the severe imbalances and overcapacity problems (22 million toe by 1990, undercapacity for some middle distillates, excess capacity of fuel oil) that exist in the refinery subsector. TUPRAS, the agency created to coordinate and plan the refining subsector, has recognized the need for further detailed planning work in this area and has been receptive to Bank sector work assistance and advice.[1/] Furthermore, TUPRAS is, at the request of SPO, in the process of preparing a refinery masterplan and has requested Bank assistance. As the major input to the masterplan, a

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1/ A Refineries Sector Study prepared by Bank staff in connection with the proposed loan was discussed with Government authorities in February, 1987.

detailed petroleum products supply options study will be undertaken which, in light of the impact of gas penetration in the petroleum product balance, the likely growth scenarios of petroleum demand and future pricing policies, and Government policy on privatization, would:

(a) review the existing and planned refinery configuration and identify policy issues and investment strategies (production as well as marketing and distribution) required for the restructuring of the subsector;

(b) analyze the potential for efficiency improvements (including energy efficiency) in the operation of the subsector;

(c) assess the implications for privatization in the subsector; and

(d) prepare a set of specific actions required over the medium term.

68. The Bank has approved both the terms of reference for the study and the short list of consultants. Completion of the study is expected by December 1987 and the results of the study will lead to the preparation of detailed investment plans for 1988 and beyond. The first phase of the study will focus upon urgently needed investments to improve efficiency and will provide Government with an economic analysis of all key refinery projects committed but not yet implemented. The second phase will focus on the medium to long term investment requirements and on institutional strengthening in TUPRAS in the areas of refinery planning and investment analysis.

The Electricity Subsector

69. Two years ago a Bank sector study[1/] concluded that electricity planning procedures and practices were deficient in a number of areas. The main comments were that demand tended to be over-estimated as a result of unrealistic economic growth assumptions and lack of analysis of the likely impact of demand management and pricing policy on growth in demand, and on the supply side that investment requirements were too high; the construction schedules for major power plant options, were optimistic; and cost data for major power plant options, thermal and especially hydro, were either inadequately prepared or underestimated and not on a comparable basis. Furthermore, the report identified deficiencies in data collection procedures.

70. MENR and TEK have now given emphasis to upgrading electricity planning skills, and a whole series of coordinated technical assistance, training and system development activities are underway:

(a) Demand Management - TEK has hired consultants to assist in (1) developing an improved system for the measurement, collection and analysis of data required for load analysis and demand forecasting;

1/ Turkey - Electricity Planning and Investment, Volume 1, Report No. 5431A-TU, dated June 26, 1985.

(2) establishing models which can simulate the effects of various strategies for load management including pricing; (3) developing a demand management and conservation action program; and (4) training of TEK staff. The first phase of the consultants' work program has been completed, initial training in Germany for about twenty TEK staff has been given, and implementation of the main phase of the work program is expected to be completed by the end of 1987.

(b) Demand Projections - As noted above the joint MENR/TEK team has prepared a set of long-term demand projections and the final report on the team's analysis has been prepared. There has been extensive collaboration between the consultants and the MENR/TEK team in the preparation of the projections.

(c) Least Cost Generation Study - A TEK planning team has prepared a revised least cost planning study based upon the demand projections as outlined above. The work program included:

(i) The preparation, in 1986, by TEK of a least cost long-term generation plan which evaluated power generation options over a 25-year plan period and was used in selecting projects for the 1987 investment program;

(ii) The development, over the next two years, of a detailed hydro resource inventory based upon an engineering and economic review of each feasibility and/or prefeasibility study to update and place costs on a comparable basis and rank all hydro projects according to well established economic and engineering criteria. Detailed terms of reference and work plan have been developed for the task, which will be financed under a World Bank loan (2655-TU). The results of the study will be used to update and revise the least cost plan (para. 71); and

(iii) TEK has completed its first masterplan study for the electricity distribution system of a major city (Izmir) and has initiated similar studies for Ankara and Istanbul. Given the high technical losses in the urban networks these studies are critical in providing a basis for the systematic upgrading of the distribution systems, including a loss reduction program. Implementation of the Izmir masterplan is a very high priority as a model for other cities.

(d) Miscellaneous Studies - The implementation, within TEK, of various technical assistance activities to improve manpower planning and human resource development, and management information systems.

71. TEK's work program for the various planning activities is fully coordinated by a task force composed of planning staff from MENR and TEK. It represents a significant improvement compared with the lack of a cohesive work program of a few years ago. In addition to the output of the planning studies and their influence upon investment selection the above technical assistance

detailed petroleum products supply options study will be undertaken which, in light of the impact of gas penetration in the petroleum product balance, the likely growth scenarios of petroleum demand and future pricing policies, and Government policy on privatization, would:

(a) review the existing and planned refinery configuration and identify policy issues and investment strategies (production as well as marketing and distribution) required for the restructuring of the subsector;

(b) analyze the potential for efficiency improvements (including energy efficiency) in the operation of the subsector;

(c) assess the implications for privatization in the subsector; and

(d) prepare a set of specific actions required over the medium term.

68. The Bank has approved both the terms of reference for the study and the short list of consultants. Completion of the study is expected by December 1987 and the results of the study will lead to the preparation of detailed investment plans for 1988 and beyond. The first phase of the study will focus upon urgently needed investments to improve efficiency and will provide Government with an economic analysis of all key refinery projects committed but not yet implemented. The second phase will focus on the medium to long term investment requirements and on institutional strengthening in TUPRAS in the areas of refinery planning and investment analysis.

The Electricity Subsector

69. Two years ago a Bank sector study[1/] concluded that electricity planning procedures and practices were deficient in a number of areas. The main comments were that demand tended to be over-estimated as a result of unrealistic economic growth assumptions and lack of analysis of the likely impact of demand management and pricing policy on growth in demand, and on the supply side that investment requirements were too high; the construction schedules for major power plant options, were optimistic; and cost data for major power plant options, thermal and especially hydro, were either inadequately prepared or underestimated and not on a comparable basis. Furthermore, the report identified deficiencies in data collection procedures.

70. MENR and TEK have now given emphasis to upgrading electricity planning skills, and a whole series of coordinated technical assistance, training and system development activities are underway:

(a) Demand Management - TEK has hired consultants to assist in (1) developing an improved system for the measurement, collection and analysis of data required for load analysis and demand forecasting;

1/ Turkey - Electricity Planning and Investment, Volume 1, Report No. 5431A-TU, dated June 26, 1985.

activities have also provided extensive training opportunities for TEK's staff. The task force, in collaboration with IAEA and the Bank, has reached agreement on a further work program for revising and updating the electricity generation plans, including the development, in Turkey, of a new model to better evaluate and integrate hydro projects into the least cost program. The work program will be supported under the proposed loan. The revised plans will be prepared by December 31, 1987 and 1988 respectively. Any new generation projects proposed to be included in the 1988 and 1989 investment program would need to be demonstrated to be part of these revised plans. With respect to the distribution studies, the annual investment program for 1987 reflects fully the findings of the Izmir masterplan and the masterplan studies for Istanbul and Ankara are progressing satisfactorily. A particular characteristic of the distribution planning efforts has been the progressive shift in task responsibilities from the consultant to TEK staff. It is expected that, for the next set of city masterplans (Adana, Bursa), TEK staff would be largely responsible for their preparation.

Energy Exploration and Development -
Providing a Long Term Foundation for Energy Policy

72. The development of a solid data base of indigenous resources is not only important in terms of overall energy strategy but also provides guidance to the timing and relative economic priority of investments. The key resources are hydro, lignite, and oil and gas. As noted in para. 70, MENR is to implement a national hydro resource inventory.

73. Oil and Gas Exploration. Almost half of Turkey's land area is comprised of sedimentary basins with petroleum potential. In addition, there are some 500,000 sq. km. of offshore sedimentary basins with petroleum prospects. The petroleum geology of Turkey is complex and the main oil producing areas are in the south east. TPAO has been continuously exploring for hydrocarbons since 1954, but the diminishing returns in the recent past have led to the need for new initiatives in exploration. Sophisticated seismic data acquisition and processing combined with exploratory drilling for testing stratigraphic traps have resulted in new finds. Drilling rigs have been reconditioned for deeper depth capabilities. In 1983 the Petroleum Law was amended to provide liberal incentives for joint ventures and TPAO was active in seeking such ventures. By 1985, of 280 licences for exploration, 158 were held by TPAO, 11 by joint ventures with TPAO and 111 by foreign oil companies. In the 1987-1989 period these initiatives will be further pursued by carrying exploration to new areas, namely, all the offshore basins and specific priority onshore basins. A long term perspective exploration plan has been prepared by TPAO outlining these new strategies. It has been reviewed by the Bank and found to be satisfactory. TPAO currently has about 40,000 kms. of seismic profiles for major offshore blocks (Black Sea, Sea of Marmara, Aegean, and Mediterranean) as well as for two priority onshore basins (Salt Lake and North of Adana). TPAO proposes to hire consultants in 1987 to analyze, collate and, if required, reprocess data as well as prepare promotional packages for possible joint ventures.

74. Coal and Lignite Exploration. The lignite development program has slowed down considerably as a result of the re-evaluation and subsequent postponement of several marginally economic mines (para. 75). However MTA and TKI have prepared a medium term (five year) lignite exploration program which has been reviewed by the Bank and found to be satisfactory.

Medium-Term Investment Program

75. In addition to the efforts to upgrade energy planning skills and the development of energy policies reflecting the growth of the energy sector over the longer term, Government has also recognized the need to implement a medium term energy investment program based upon high priority investments and supported by a rational financing plan. The concept of a "core" public investment program[1/] has been highlighted in several Bank supported sector and macro-economic reports. Furthermore, as agreed under Loan 2586-TU, the Bank and Government have held annual consultations since 1984 on the electricity subsector investment program. These discussions have focused on the size and composition of the investment program, the relative economic viability of new power projects and efficiency improvements to existing plant. Particular attention has been given to reviewing those power plants fueled by lignite. Government has taken steps, based upon its own re-evaluation, to postpone several lignite projects that were considered marginal (Beysehir, Saray, Cannakale Can) and to delay the decision regarding the introduction of a nuclear plant at Akkuyu. Furthermore investment in efficiency improvements in generation and distribution has been given priority.

76. In consultation with Government the Bank prepared a detailed review of the energy sector public investment program[2/]. The review covered all subsectors and provided detailed working papers on electric power, lignite and coal, and oil and gas. In addition, as noted above (para. 67) a separate review of the refinery investment program was prepared and discussed with Government in 1987. The work program resulted in an agreed core investment program for the energy sector over the next three years. This was based upon an in-depth review of the physical status of major projects in the program, an economic evaluation of the relative priorities of the projects in the program, and judgements made on the appropriate balance between rehabilitation and modernization of existing plant, loss reduction, efficiency investments and new projects. The financial requirements of the program were estimated on the basis of project by project projections and then compared in total with the estimates of macro resource availability. The result was the development of a priority medium term investment program consistent with overall Government targets of financial resources. The program assumed that no major private sector projects would start in 1987 and that one large new thermal plant based

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1/ Broadly defined as a program that should be defended against any budgetary cuts.

2/ Most recently in: "Turkey: Adjusting Public Investment," Report No. 6603-TU.

on natural gas would start in 1988. However, periodic assessments of the likelihood of private investment in energy are needed to ensure that the public investment program is adjusted accordingly. Annex 5 provides a summary of the medium term program. The total energy investment requirements for the three year period are approximately US$8.0 billion, and represent about 30 percent of total public fixed investment.

77. To monitor progress the Bank would review by October 31 of each year the annual energy investment program and associated financing plans. The Bank is in agreement with the size and composition of the 1987 energy program. Agreement on the 1988 and 1989 programs would be sought by October 31, 1987 and 1988, respectively. Key elements in the discussions of these plans would be realistic assessments of the level and timing of private investment, economic analysis of new projects, a review of project management arrangements for large new projects, and an assurance of funding for continuing ongoing high priority projects.

C. Efficiency in the Supply and Consumption of Energy

78. Improving the efficiency with which energy is both produced and consumed remains a high priority for Government. As noted earlier even the recent precipitous decline in international oil prices has not resulted in any major departures from a strategy of improvement in energy efficiency. The key efficiency issues relate to the need to improve operational efficiency within the public sector; energy pricing policy; and the implementation of an energy conservation program.

Operational Efficiency

79. Electric Power. Improving the efficiency with which existing plant and equipment are operated has been an important theme in the Bank's energy sector dialogue with Government. It has many dimensions ranging from improving human capital through training and manpower development schemes to reducing technical losses and improving financial performance. Primarily as a result of pressure to supply energy at any cost, the key energy supply agencies have, in the past, abandoned systematic maintenance practices with the result that plant has operated at extremely low levels of utilization and this, in turn, has led to high operating costs. Government efforts to address this situation have recently begun and include a Bank financed program (Loan 2602-TU) to upgrade TEK's operations through training, specialized maintenance equipment, improved performance monitoring, and plant rehabilitation; as well as the initiatives mentioned earlier to promote private sector involvement in operations. The Government plans to ensure TEK continues implementation of the agreed program to upgrade its operational practices and procedures. The Bank will monitor progress of the agreed program in connection with supervision of Loan 2602-TU.

80. Lignite. In the lignite sub-sector, Government has recently hired consultants to undertake a comprehensive review of TKI's operating practices and procedures; analyze the level and condition of operating equipment; review capacity utilization, operational efficiencies, and maintenance records; and

identify actions to improve efficiency and meet scheduled demand over the next five years. The study has been completed in draft and is currently under review by Government. The Government will ensure that the appropriate recommendations are implemented from 1988 onwards. The final report will be sent to the Bank for review and comment.

81. Refineries. The operational efficiency of the refinery sub-sector has improved since the creation of TUPRAS in 1984. However much remains to be done before TUPRAS can operate as a truly commercial entity. The first step toward operational autonomy and improved efficiency is the implementation of a revised remuneration formula which provides economic incentive to optimize operating and investment decisions and incorporates clear guidelines on future investment, capital structure and dividend policy. At present, prices paid to the refineries for products delivered to distributors into-depot are set by GDPA. Out of this gross revenue, the refineries are allowed to retain their cost of crude acquisition plus a refinery margin per barrel of crude processed. The refinery margin is set by GDPA and currently varies from refinery to refinery in the range US$5.00-6.50 per metric ton. This margin is intended to cover operating and financing costs and a profit margin, although the basis for setting the margin is unclear and it is often arbitrarily determined by Government. The approach to setting refinery margins is unsatisfactory as a basis for commercial refinery operations. Although increasing throughput or improving plant efficiency would increase profits for a given margin, Government retains the option of eliminating those profits by reducing the margin. A revised remuneration formula is needed that provides an economic incentive to optimize operating and investment decisions.

82. In a fully liberalized system, the refineries would procure the crude oils best suited to meet product demand and petroleum products would be sold at international prices (adjusted for import and excise duties). Marketing companies would have the freedom to import products, if cheaper to do so, than buy from the refineries. Under such a system, profits of refineries would depend on their efficiency and new investment would be driven by relative product prices in the market place. A totally liberalized system, as described, would meet Government's desire to reduce its involvement in the economy and encourage greater private sector involvement. However, there are several considerations which complicate the matter. To ensure security of crude oil supply and to stimulate Turkish exports crude oil procurement is carried on through government-to-government contracts and counter-trade. The refineries are unlikely to be allowed to optimize crude supply as this runs counter to larger policy considerations. Nevertheless, an approximation to the liberalized system is possible, since about 25 percent of crude oil is presently procured in international markets.

83. A revision of the current remuneration formula is a high priority since its introduction is a prerequisite for any major progress toward liberalization of the refinery subsector and subsequent involvement of the private sector. Accordingly the Government established in May, 1987 a steering committee composed of representatives from MENR, GDPA, TUPRAS and Treasury to set out a program to introduce a new formula. The committee will prepare by December 31, 1987 its proposals for implementing the new formula and Government is committed to introduce the formula from 1988 onwards.

Energy Pricing Policy

84. Energy pricing policy has been given prominence by Government especially over the past three years when both lignite and electricity prices have shown real increases. Appropriate energy pricing policies are important not only for improving allocative efficiency (investment, choice of technique and end use), ensuring operational efficiency (e.g., operational dispatch of electric power) and resource mobilization but must also provide an incentive for encouraging private investment in the energy sector. Government is committed to an integrated energy pricing policy based upon the principles of import parity for tradeables and economic costs of production for non-tradeables. Flexibility is however required in the implementation of such a policy since Government objectives of equity (e.g. lifetime tariffs) and resource mobilization (e.g. petroleum product prices) may, at the margin, result in divergencies from strict economic pricing principles.

Electricity Prices

85. In line with Government policy to price energy products closer to their respective economic costs, bulk rates were increased by about 13 percent in real terms from 1982 to 1984 and then by 50 percent in real terms in 1985 and early 1986, through a series of regular increases (January, April, December). By April 1986 the average bulk supply tariff was estimated at about 90 percent of the LRMC of electricity supply at the high voltage level. Retail tariffs had lagged somewhat but nevertheless were estimated to be about 70 percent of their respective LRMC. In terms of the financial viability of the sector TEK either almost achieved or exceeded the financial targets agreed to under Bank loans[1/]. Estimated cash generation in 1985 was 44 percent, and 32 percent in 1986 against annual targets of 35 percent.

86. In February 1987 an 8.9 percent tariff increase was introduced which fell below expected inflation estimates (compared with an increase in wholesale prices of about 30 percent) and is likely to result in internal cash generation falling to 21 percent for 1987. During negotiations Government representatives indicated that further power tariff increases during 1987 would be difficult to implement for political reasons. Nonetheless the Government remained committed to the longer term objectives of achieving economic pricing, and measures to achieve this would recommence probably in early 1988. Thus, given the good performance of the Government in raising power tariffs in 1984, 1985 and early 1986, on a schedule which far exceeded Bank expectations, it was agreed during negotiations to waive for 1987 the cash generation target agreed under previous loans, while requiring adherence to it in 1988 and subsequent years. In the absence of tariff increases over the remainder of 1987, large tariff adjustments will be required in 1988.

1/ See Loan Agreements for: Third and Fourth TEK Transmission Projects (Loans 2322 and 2586-TU), and Power System Operations Assistance Project (Loan 2602-TU).

87. TEK's consultants have prepared a detailed analysis of both bulk and low voltage tariffs, including the level and structure of long run marginal cost (LRMC). The Bank has discussed the study with TEK and an action plan aimed at improving the tariff structure has been prepared. On the basis of this study Government will from 1988 onwards start to introduce a rational electricity tariff policy to include:

(a) periodic tariff adjustments to ensure at least 35 percent internal cash generation targets are met to move towards economic costs;

(b) a new tariff on the basis of voltage level to replace the existing tariff based upon customer categories in order that the tariff may be simplified, and time of day pricing to improve the structure of tariffs and better reflect marginal costs;

(c) the introduction of adequate metering equipment to ensure consumers can respond to the new tariff;

(d) the identification of key industries likely to be seriously affected by electricity costs, especially the iron and steel, ferrochrome and aluminum sectors and ensure such industries are audited as a matter of priority for energy efficiency and follow-up actions implemented as agreed under the proposed conservation program (para. 93); and

(e) a plan to eliminate all electricity tariff subsidies to the aluminium and ferrochrome industries.

Lignite Prices

88. Domestic prices declined significantly between 1982 and 1984 but then rebounded in real terms during 1984 and 1985. The average operating subsidy which had been approximately US$3.2 per ton in 1983 fell to less than US$1.0 per ton in 1985. A further real increase in prices in October, 1986 has now eliminated all operating subsidies. It is now Government policy to maintain prices at levels to mobilize sufficient resources for TKI to become self financing and ensure that operating subsidies (known as "duty losses" in Treasury accounts) continue not to be required.

Petroleum Products

89. Prices of petroleum products are set at levels sufficient to make a net contribution to Government finances. The weighted average price of petroleum products in 1985 was approximately 130 percent of the border price. Almost TL 250 billion in taxes on petroleum products was raised in 1985, equivalent to about 7 percent of total central Government tax revenues for that year (Table 1).

Table 1

Net Financial Contribution of Petroleum Products, 1985
(TL Billion)

Tax	Revenue	Uses
Customs tax	7	General budget
Petroleum consumption tax (6 percent)	98	52 to Petroleum Consumption Fund, 46 to general budget
Petroleum price stabilization tax	68	Price Stabilization Fund
Petroleum Exploration tax	75	Petroleum Exploration Fund
	248	

Source: Government of Turkey

90. There are no major problems with the relative prices of petroleum products, although as part of the petroleum supply options study (para. 67) the consultants will also study improvements in the relative prices of diesel and gasoline. It is Government policy that petroleum product prices will continue to be set at or above the import parity level.

91. Pricing policy for natural gas will be based on the principle of no direct or indirect subsidies, that is, the price charged will reflect fully the import price and costs of internal transportation. However the details of the structure of prices for natural gas have yet to be formulated although, given the imminent importation of gas, a pricing policy is urgently needed. BOTAS and IGDAS are currently preparing natural gas tariff schedules for bulk supply and for retail consumers in Istanbul. The proposed tariff schedules will be submitted to the Bank for review and comment by December 31, 1987.

Energy Conservation

92. The potential for energy conservation, especially in the industrial sector, is considerable and justified even at the current level of international oil prices. However, little effort has been made by Government to mount a sustainable energy conservation program despite the evidence that major savings would accrue to the economy through the implementation of such a program. Achieving Government's targets of reducing energy and electricity intensity (para. 34) cannot be done unless a serious attempt to conserve energy, both through improved pricing policies and non pricing measures, is made. Energy conservation has proceeded on a piecemeal basis with a few ad hoc studies conducted by several departments and agencies. A limited number of energy audits financed by the Bank under Loan 1916-TU have been completed and follow-up investments have been made. A constraint to effectively implementing a cohesive energy conservation program was the fact that the various activities were institutionally fragmented. To provide a focal point for all energy conservation activities Government announced in early 1986 that EIE would be given full authority to design and implement the country's energy

conservation program. Legislation to formally transfer this authority has been prepared and is expected to be submitted to Parliament in 1987. In the meantime EIE has created a small department to deal with energy conservation and has assigned suitable technical staff to that department.

93. During appraisal the Bank and EIE agreed upon a work program to be implemented by EIE over the next three years. Energy efficiency in 21 key energy intensive industries was reviewed and savings in the order of 13-17 percent identified. Payback periods for such investments typically ranged from six to eighteen months. Both the energy audits to be prepared by consultants and the follow up investments to improve energy efficiency are to be financed out of loan proceeds. To strengthen EIEs capabilities in energy conservation planning and implementation, the Bank has approved a detailed terms of reference and work plan for specialized consultants to provide EIE staff with the necessary skills and training. By 1989 EIE should have developed a strong energy conservation unit.

94. Finally the TEK study on demand management (para. 70) will be completed and submitted to MENR and the Bank by December 31, 1987 and, after review, Government plans to implement its findings from 1988 onwards.

Environmental Considerations

95. The rapid growth of the energy sector, including the development of indigenous hydro and lignite resources, has the potential to impose longer term environmental degradation upon Turkey. Furthermore, proximity to Europe and an increasing public awareness of environmental degradation is likely, over the next decade, to lead to a growing public lobby for more stringent environmental controls in Turkey. Low grade lignite burned for both power generation (typically rural locations) and domestic and industrial heating (typically urban locations) is presenting environmental problems of both sulphur and particulate emissions. Major urban areas, especially Ankara and Istanbul, suffer from air pollution during winter months. While lignite fired power stations are equipped with emission controls for dust, the major urban pollution (dust, sulfur dioxide) is caused by the burning of low grade lignite for household space heating. The latter problem will be solved only through a policy of fuel substitution, either to higher grade coal or natural gas in the case of Ankara and Istanbul, and through more stringent regulations. In connection with loan appraisal, a working paper on environmental matters was prepared and subsequently discussed with Government. It focused upon air and water degradation. The report concluded that the Government has taken substantive measures to address its environmental problems including the creation of a Directorate for the Environment (GDE), the passage of an Environmental Law in 1985, and the subsequent passage of detailed regulations, particularly with respect to air pollution, noise, and the establishment of a fund for pollution abatement activities. The report however indicated areas where training, equipment and advisory services were required to assist in the implementation of the regulations. A technical assistance program in the fields of environmental monitoring, environmental planning and institutional

strengthening has been agreed with Government and would be funded from loan proceeds.

96. A working paper was also prepared on involuntary resettlement arising out of the development of hydro sites. It concluded that the existing legal and administrative system governing involuntary resettlement is basically sound, and that practices and procedures for resettlement are satisfactory. The report recommended some areas for improvement, primarily in the collection of socio-economic data and in administration and coordination at site level. These recommendations have been accepted by Government and an implementation plan is under preparation. In order to maintain a continuous dialogue with Government agencies in this field the Bank will continue to include periodically a resettlement expert on project supervision missions and where new hydro investments are proposed to be included in the public investment program the Bank would review and comment upon the related plans for resettlement.

97. The approved 1987-1989 public investment program for energy includes three projects on international rivers which would be carried out by DSI. One project (Dicle) has already full financing secured. Karakaya and Ataturk, both on the Euphrates, have financing gaps of US$60 million and US$45 million respectively and Government is arranging finance for these projects from commercial sources. DSI would not be a beneficiary agency under the loan.

PART IV - THE PROPOSED LOAN

Background

98. The proposed loan is the outcome of a Government/Bank energy sector policy dialogue over the past four years. During this period, extensive sector work in the energy, lignite, electric power and refinery sub-sectors including the preparation and discussion with senior government policy makers of an energy strategy paper, as well as a detailed review of the Government's energy investment program, has taken place. Technical assistance components of project loans have contributed to the dialogue and are expected to continue to do so. A collaborative effort between the Government (MENR, SPO and TEK), the Bank and the International Atomic Energy Agency (IAEA) has resulted in significantly improved energy demand and electricity supply forecasting capabilities. Thus the proposed loan is a continuation and logical extension of this process. A summary of reports, studies and working papers prepared in support of the proposed loan is given in Annex 10.

99. The proposed sector loan provides support to a comprehensive medium to long term policy framework which will serve as a basis for the Bank's continued energy lending program to Turkey, as well as provide an opportunity for more effective coordination of external financing for the sector. The proposed loan was appraised in February, 1987. Negotiations took place in Washington from April 30 to May 15, 1987. The Turkish delegation was led by Mr. Hikmet Ulugbay, Chief Counselor for Financial and Economic Affairs, Embassy of the Republic of Turkey, Washington, D.C. A loan summary is provided at the beginning of this report and Annex 11 contains supplementary loan data.

100. The proposed loan would support actions to be undertaken under the Government's energy policy program (Annex 3), and would finance presently unfunded components for equipment, materials and services that are included in the three year (1987 through 1989) public investment program for the energy sector (para. 76). It would also cover technical assistance activities designed to provide a basis for the longer term development of the sector. The following energy sector agencies and enterprises would be eligible to utilize these funds: MENR, TEK, EIE, TUPRAS, Petrol Ofisi, BOTAS, TPAO, GDPA, TKI, TTK, MTA AND SPO.

Project Cost and Financing Plan

101. The Bank reviewed with each energy agency the lists of goods and services required in support of the agreed priority public energy investment program for 1987 through 1989. Discussions were held on the equipment requirements, timing of procurement in light of realistic implementation schedules, and the scope and timing of technical assistance proposals. A summary of the Project cost, i.e. the existing foreign financing gap in the

1987 through 1989 investment program is given in Table 2 below and in greater detail in Annex 6. Local finance will be provided either through internally generated revenues or Government appropriations. Long-term local borrowing is likely to be minimal given the existing difficulties of access to local long-term funds.

102. In addition to the proceeds of the proposed Bank loan the Republic of Turkey proposes to arrange financing of approximately US$680 million to cover the balance of the foreign exchange financing. The Export Import Bank of Japan is expected to provide untied financing of approximately US$300 million under joint cofinancing arrangements with the Bank. The Bank is presently assisting Government in identifying potential cofinanciers for the balance and discussions have been held with several interested banks and export credit agencies. The level of interest expressed by potential financiers indicates that Turkey will be able to secure the balance of required finance with the involvement of export credit agencies in supplier countries. A tentative financing plan for the Project is shown in Table 3 below.

Table 2

Project Cost Table

Agency	Subsector	Summary Description of Goods	Foreign Finance Gap (US$m) 1987	1988	1989	Total
Ministry of Energy and Natural Resources (MENR)	Energy	Energy planning, training, computer hardware and software.	0.55	0.75	0.40	1.70
Turkish Electricity Authority (TEK)	Electricity	Transmission lines, substations, series capacitors, distribution equipment, machinery.	1.00	17.90	82.50	101.40
Electricity Survey Administration (EIE)	Conservation	Technical assistance, training, energy audits, industrial retrofitting.	4.74	15.69	14.57	35.00
State Refineries Agencies (TUPRAS)	Refineries	Studies hydrocracking units, storage tank, HP vacuum units, Naphtha Sweetening Unit, Dom + Ind Disposal System.	8.50	22.10	34.73	65.33
Petrol Ofisi (POAS)	Petroleum	Machinery, production materials, transportation, materials, various station equipment.	5.52	6.82	6.68	19.02
State Pipelines Agency (BOTAS)	Pipelines	Telecommunication, telecontrol equipment, replacement parts, spares, vehicles, sea pollution preventer.	10.16	5.89	0.18	16.23
Turkish Petroleum Agency (TPAO)	Oil Explor.	Casing, chemicals, well head equipment, rock bits, drilling equipment, other consumables, offshore promotion assistance, other production and construction.	56.70	76.90	76.90	210.50
The General Directorate of Petroleum Affairs (GDPA)	Oil/Gas Policy	Technical assistance, training, hardware, software.	-	0.41	0.50	0.91
Turkish Lignite Authority (TKI)	Lignite	Spare parts, retrofitting and upgrading, rehabilitation and modernization equipment.	124.86	28.00	22.30	175.16
Turkish Coal Agency (TTK)	Coal	Washer replacements.		15.00	5.00	20.00
Minerals Exploration Agency (MTA)	Mineral Exploration	Specialized vehicles, spare parts, chemicals, computers, other equipment, Drilling Dept.	7.00	18.95	18.73	44.68
		Base cost	219.03	208.41	262.49	689.93
		Physical contingencies (10%)	21.90	20.84	26.25	68.99
		Price contingencies (10%)	21.90	20.84	26.25	68.99
		Total Project Cost	262.83	250.09	314.99	827.91

Source: Government of Turkey, World Bank

Table 3

Tentative Financing Plan for the Project
(US$ million)

	1987	1988	1989	Total
World Bank	25	50	75	150
Japan Export-Import Bank	50	100	150	300
Other Commercial Sources	185	100	95	380
Total	260	250	320	830

Source: World Bank Estimates

103. With the funding of the present financing gap assured the total financial requirements of the sector over the 1987-1989 period would be met. Total requirements for the energy sector are approximately US$2.5 billion per annum of which some 60 percent is in the form of foreign exchange. Table 4 presents a summary of the estimated financial requirements for the energy sector over the three year period.

Table 4

Financial Requirements for the 1987-1989 Program
(US$ million)

	1987 1/	1988	1989	Total
Electric Power	1491	1625	1850	4966
Coal and Lignite	347	350	350	1047
Petroleum	222	250	275	747
Pipelines	250	270	260	780
Energy Conservation	5	15	15	35
Others	36	60	120	216
Total Requirements	2351	2570	2870	7791

Source: Government of Turkey, World Bank estimates.

1/ Government approved program for 1987.

Procurement, Disbursement and Administration

104. The proposed loan of US$325 million would be made to the Republic. Full disbursement of the loan would take place over a two and a half year period. Proceeds of the proposed loan would be structured to include US$175 million in support of the energy sector policy reform program. The balance (US$150 million) would be utilized to help fund the foreign exchange costs of goods and equipment for the 1987-1989 energy investment program as well as technical assistance to support Government's program.

105. Funding of SEE's (TEK, TKI, TTK, TPAO, TUPRAS, BOTAS, POAS) would be made either through equity contribution or on-lending arrangements between Government and the enterprises. In the latter case the SEEs would also assume the foreign exchange risk. For other non-revenue agencies in the sector such as MENR, EIE, and MTA, funds would be treated as a budget contribution.

106. The policy based component would be available in two tranches - one of US$75 million at the date of effectiveness and the second twelve months later of US$100 million - and would be available to finance all goods to be imported into Turkey except for goods financed by other sources and a specific list of excluded items such as military or paramilitary items and luxury goods such as tobacco, precious stones and jewelry, gold, nuclear reactors and parts. Procurement and disbursement would be similar to the procedures which were established under the five Structural Adjustment Loans (SALs) to Turkey. To simplify disbursement, only invoices with a minimum value of US$50,000 equivalent would be eligible for disbursement and the loan would be disbursed only against foreign expenditures. Imports would be made directly by actual users, with imports costing US$15 million or more procured through international competitive bidding (ICB) in accordance with Bank guidelines. Certain commonly traded commodities may be purchased through price quotations from organized international commodity markets. All contracts of lesser value would be awarded through normal trade channels on the basis of the normal procurement procedures of the firms concerned. The procurement procedures of public sector firms provide for substantial international bidding or shopping and are satisfactory. Firms in Turkey have an adequate choice of international suppliers to ensure reasonable availability and price.

107. The investment component would be available for purchases of identified equipment and services (Annex 6) as well as intermediate goods in support of Government's 1987 through 1989 public investment program for the energy sector. The goods to be procured for 1988 and 1989 will be reviewed and revised in light of the annual reviews of the public investment program (para. 77). Except for about US$250,000 of computer hardware and software to be used in association with various technical assistance activities and which would be procured through limited international bidding, all goods and equipment would be procured through international competitive bidding (ICB). All bidding packages exceeding US$1 million equivalent would be subject to

prior review by the Bank. Consultants would be recruited and employed in accordance with Bank guidelines. Disbursements would be made on the basis of 100 percent of the CIF cost of imported goods, or in the case of locally manufactured goods procured through ICB, 100 percent of the ex-factory cost; and 100 percent of all expenditures for consultants.

108. In order that Turkey has ready access to foreign exchange, a Special Account would be established in the Central Bank of Turkey to which the Bank would make an initial deposit of US$50 million. The Special Account would cover both the policy and investment components of the loan. Payment requests would be made against standard documentation and statements of expenditures. The Special Account would be replenished against withdrawals at monthly intervals or as appropriate when the undisbursed balance of the account falls below US$30 million. Imports would be made directly by actual users. The Special Account would be audited annually, in line with standard Bank procedures. Retroactive financing of up to US$25 million under the policy component would be allowed for expenditures made after February 1, 1987. The loan is expected to be fully disbursed by December 31, 1989, and the Closing Date has been set at September 30, 1990.

Monitoring and Reporting

109. Qualified staff within each of the main energy agencies have been designated as responsible for the coordination, monitoring and evaluation of their respective subsectoral activities under the sectoral adjustment program. Typically the lead staff are at the level of either Director of Planning and Coordination or General Manager. MENR has responsibility for coordinating the work programs of all the energy agencies and would take lead responsibility in preparing major progress reports including the completion report.

110. In addition to routine supervisory missions to review progress related to policy reform, technical assistance and procurement a major progress review as a condition of the second tranche release will take place approximately twelve months after loan effectiveness (tranche 1). Further disbursement of loan proceeds would be based upon satisfactory progress in implementation of the sectoral adjustment program, with special emphasis on progress on the following issues:

(a) preparation of the independent financial audit of TEK (para. 54);

(b) the strengthening of TEK's Board of Directors (para. 55);

(c) implementation of the work program of the regulatory body (para. 61);

(d) preparation of the medium to long term subsector plans for natural gas (para. 66), refineries (para. 67) and electric power (para. 71);

(e) composition and size of the public investment program for energy (para. 77);
(f) implementation of the new refinery remuneration formula (para. 83);

(g) financial performance of TEK (para. 86) and implementation of the new tariff structure (para. 87); and

(h) implementation of the energy conservation program (para. 93).

111. The Treasury would supervise the maintenance of separate accounts for the loan and would prepare detailed statements of expenditures during each half year period. In addition, an annual audit would be carried out and submitted to the Bank within nine months of the end of each fiscal year.

Benefits and Risks

112. While the broad policy framework for the energy sector is in place, the development and implementation of a cohesive program of actions as defined in the Government's statement of energy policy (Annex 3) will result in several significant benefits to the economy. These actions will:

(a) underpin the reform program and ensure movement towards Government's long term sector objectives of liberalization and rationalization;

(b) significantly increase the stock of trained manpower both in the traditional areas of planning and management and in areas relatively new to Turkey such as energy conservation, regulatory aspects, etc.;

(c) prepare a solid foundation for maximizing the flows of private capital to the sector; and

(d) reduce public expenditures in the sector through improved operational efficiencies, cost recovery policies and investment rationalization as well as through increased flows of private capital.

113. Although no economic rate of return can be computed on the overall sectoral adjustment program, the Bank has, in specific subsectors, reviewed the potential direct benefits of the proposed actions. These include approximately US$40 million per annum of savings to the economy through energy conservation and demand management, and US$30 million through efficiency gains in the electric power subsector alone. Furthermore a reduction of energy and electricity intensity and hence growth in demand has a major impact upon investment needs especially in the capital intensive electricity subsector. A reduction in the energy/GDP coefficient of 21 percent as identified in MENR's most recent demand estimates would result, over a five year period, in the ability to postpone the commissioning of a 1,500 MW power plant.

114. Energy sector policies are mainly designed to improve efficiency and do not have a large direct impact upon poverty. However, there are two policies which will have a direct impact upon poverty. The first concerns the

Government's intention to continue subsidizing electricity for poor households through lifeline tariffs. The second relates to the Government's rural electrification program which is specifically targetted at impoverished Eastern Turkey. As a result of a significant increase in investment in 1985 and 1986 the rural electrification program is now well on course to meeting Government's target of completing electrification of Turkey's main villages by 1990.

115. The main risks in implementing the sector adjustment program arise from:

(a) the uncertainties with respect to the level, scope and timing of private investment in the energy sector and the consequent high costs to the economy in the event of shortfalls in the estimated level of private sector investment. It is proposed that both the longer term sectoral planning assistance and the annual reviews of the public energy investment program include assessments of the likely flows of private capital as well as the status of potential private investments. Risks will be further reduced by the development of contingency plans of high priority standby projects for the public sector to be brought forward in the event of shortfalls in private investment;

(b) volatility in energy demand and supply forecasts as a result of changes in the macro-economy and in external factors such as international energy prices. The technical assistance for energy planning to be provided under the loan will devote considerable effort to incorporating techniques related to risk analysis, uncertainty and the need for greater flexibility in investment planning; and

(c) the pace of cost recovery measures especially in light of any increases in the inflation rate. Considerable efforts will be needed by Government to ensure that energy prices reflect changes in inflation in order that planned cost recovery targets are maintained. The annual reviews of the investment programs and associated financing plans will give the Bank an opportunity to discuss on a regular basis the details of specific cost recovery targets.

PART V - BANK GROUP OPERATIONS IN TURKEY

116. Through March 31, 1987 the Bank and IDA had lent $7,465.4 million[1/] to Turkey, through 96 projects. Agriculture accounted for 21 percent of the funds lent, industry and DFCs for 23 percent, power for 19 percent, structural adjustment and program loans for 23 percent, and urban development, transportation, education, tourism and technical assistance for the remaining 14 percent. Disbursements for all sectors combined averaged 66 percent of appraisal estimates at the end of March 1987, which compares favorably with other countries in the region. As of March 31, 1987, IFC commitments to Turkey totalled about $289 million, of which about $105 million were still held by IFC.

117. Bank lending is aimed at supporting Turkey's medium-term objectives of restructuring the economy by placing greater reliance on market forces and adopting a more outward-oriented strategy. The main vehicle for the Bank's operational discussions with the Government has been the structural adjustment lending (SAL) program, which was completed in June 1984, and more recently the sectoral adjustment lending program. Significant progress has been achieved in the last seven years, but the task of restructuring is by no means over. The current lending program aims at a broadening and deepening of the adjustment process at the sectoral level. Recent economic developments have underlined the need for a continuation of the stabilization program without giving up the goals of sectoral adjustment. Hence the emphasis of Bank lending in the post-SAL period will continue to be on striking an appropriate balance between sector adjustment lending designed in part to be quick disbursing and supportive of policy reforms in the major sectors and project lending. A first sector adjustment loan for agriculture was approved in June 1985. A financial sector adjustment loan approved in June 1986 was the second of the series. A further sector adjustment loan for the transport sector is planned for FY89. It is expected that there would be follow-up loans in agriculture, energy and the financial sector.

118. Project lending, which would continue to make up the majority of Bank lending, would be designed to support and strengthen the adjustment process. Some project lending would be earmarked for the construction or rehabilitation of key projects in the energy sector. Other projects would be guided by the major policy objectives of the Government, which include generation of foreign exchange (including improving productivity in export industries and providing essential infrastructure for exports), improvement of institutional efficiency and reduction of the social costs of adjustment (including provision of social infrastructure and employment generation, with some emphasis on the least developed provinces).

119. IFC has invested in textiles, pulp and paper, glass, aluminum, cement, iron and steel products, food processing and tourism. It has also invested in the Industrial Development Bank of Turkey (TSKB) and provided guarantees for overseas contracting firms. In addition, IFC is currently providing technical assistance to the Government with respect to the development of the capital market and a regulatory framework for leasing.

1/ Net of cancellations and including commitments signed but not yet effective as of March 31, 1987.

PART VI - RECOMMENDATION

120. I am satisfied that the proposed loan would comply with the Articles of Agreement of the Bank and I recommend that the Executive Directors approve the proposed loan.

Barber B. Conable
President

June 1, 1987
Washington, D.C.

TURKEY -- ECONOMIC INDICATORS

TABLE 1

Mid-1985 Population: 49.4 million
1985 Per Capita GNP: US$ 1130

	A. Shares of Gross Domestic Product (from current price data)						B. Growth Rates (% per annum) (from constant price data)				
	1965	1973	1980	1984	1985	1986e	1965-73	1973-80	1980-84	1985	1986e
Gross Domestic Product m.p.	100.0	100.0	100.0	100.0	100.0	100.0	6.7	4.5	4.8	5.1	8.0
Net Indirect Taxes	9.8	10.1	5.7	4.5	7.4	9.5	6.5	0.9	4.5	15.3	18.3
Agriculture	30.9	24.8	21.4	18.7	17.4	16.6	1.9	4.9	2.4	2.4	7.7
Industry a/	22.4	23.1	28.6	31.9	32.7	32.6	8.5	4.6	5.9	6.1	8.9
(of which manufacturing)	14.4	15.6	20.1	23.2	23.3	23.0	10.1	3.4	8.2	5.5	9.8
Services	36.9	42.1	44.3	45.0	42.6	41.3	8.7	4.9	5.1	3.2	6.0
Resource Balance	-1.4	-2.8	-8.1	-4.6	-3.6	-3.8	-	-	-	-	-
Exports of GNFS	6.3	7.3	5.7	17.3	18.9	15.6	8.2	-0.2	37.0	15.3	1.0
Imports of GNFS	7.7	10.1	13.8	21.9	22.4	19.4	9.6	-0.2	15.6	9.1	12.5
Total Expenditures	101.4	102.8	108.1	104.6	103.4	103.8	7.1	4.1	3.7	4.4	10.9
Total Consumption	86.5	83.8	86.2	85.8	83.9	79.0	6.3	4.0	3.7	3.0	9.6
Private Consumption	74.2	71.3	73.6	76.8	73.2	70.2	6.4	3.4	4.0	3.0	9.7
Public Consumption	12.3	12.5	12.6	8.9	8.5	8.8	5.3	7.5	2.4	3.2	8.8
Gross Domestic Investment	14.9	19.0	21.9	18.9	21.1	24.8	11.0	4.8	3.4	9.4	15.2
Fixed Investment	14.5	20.1	20.0	17.4	20.2	23.6	10.8	3.8	3.2	12.5	13.8
Changes in Stocks	0.4	-1.0	1.9	1.5	0.9	1.2	21.2	24.5	5.7	-23.1	51.6
Gross Domestic Saving	13.5	16.2	13.8	14.2	19.1	22.2	9.9	2.1	9.4	12.7	2.8
Net Factor Income b/	0.4	-0.6	-2.0	-2.9	-2.5	-2.8	-	21.1	14.3	n.a.	n.a.
Net Current Transfers	1.2	6.0	3.8	4.3	3.8	3.4	29.2	0.8	7.1	n.a.	n.a.
Gross National Saving	15.1	21.6	15.7	15.6	20.4	22.8	11.7	0.6	8.2	n.a.	n.a.
In billions of TL (At constant 1980 prices)	1965	1973	1980	1984	1985	1986e					
Gross Domestic Product	1884.6	3171.3	4328.0	5211.7	5467.8	5905.2	6.7	4.5	4.8	5.1	8.0
Capacity to Import	237.0	440.5	248.3	842.9	980.1	973.0	8.1	-7.9	35.7	16.3	-0.7
Terms of Trade Adjustment	103.3	189.4	0.0	-33.0	-29.5	10.0	-	-	-	-	-
Gross Domestic Income	1987.9	3360.7	4328.0	5178.7	5438.4	5915.2	6.8	3.7	4.6	5.0	8.8
Gross National Product	1891.3	3148.9	4243.0	5066.3	5333.6	5755.0	6.6	4.4	4.5	5.3	7.9
Gross National Income	1994.6	3338.3	4243.0	5033.3	5304.2	5765.0	6.6	3.5	4.4	5.4	8.7
	(1980=100)						Inflation Rates (% p.a.)				
C. Price Index	1980	1982	1983	1984	1985	1986e	1965-73	1973-80	1980-84	1985	1986e
Consumer Prices (SIS est.)	100.0	178.7	237.5	352.4	510.7	687.4	8.5	38.9	37.0	44.9	34.6
Wholesale Prices (SIS est.)	100.0	173.7	226.7	340.8	488.0	632.4	10.3	40.2	35.9	43.2	29.6
Implicit GDP Deflator	100.0	181.8	234.2	349.4	503.2	660.0	11.1	40.5	36.8	44.0	31.2
Implicit Expenditure Deflator	100.0	185.4	239.7	352.4	506.7	658.0	11.1	41.6	37.7	43.8	29.9

D. Other Indicators:	1965-73	1973-80	1980-85
Growth Rates (% p.a.)			
Population	2.5	2.2	2.4
Labor Force	1.8	2.0	1.5
Gross Nat'l. Income P.C.	4.1	1.3	2.2
Private Consumption P.C.	3.9	1.2	1.4
Import Elasticity:			
Import (G+NFS) / GDP(mp)	1.5	0.1	2.9
Marginal Savings Rates:			
Gross National Saving c/	20.0	12.0	32.2
Gross Domestic Saving c/	11.5	20.0	31.9
ICOR	2.7	5.6	4.0

Share of Total Civilian Employment in:	1965	1973	1980	1985
Agriculture	74.5	67.2	62.5	58.8
Industry	8.7	11.1	11.6	12.9
Services	16.8	21.7	25.9	28.3
Total	100.0	100.0	100.0	100.0

NOTES:
a/ Includes constructions.
b/ Excludes workers remittances.
c/ Refers to 1965-74 and 1974-80 periods.

e = Estimate
Source: Government of Turkey, Bank estimates.

TURKEY -- ECONOMIC INDICATORS

TABLE 2

Annex I
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May 1987

E. Merchandise Exports	Volume Index (1980=100) a/ 1980	1982	1983	1984	1985	1986	Value at Current Prices (million US$) 1980	1982	1983	1984	1985	1986
Crops (Incl. Indust. Crops)	100.0	126.0	105.2	104.5	108.7	126.7	1540.80	1727.50	1498.50	1405.70	1454.30	1560.6
Livestock and Fishery	100.0	355.3	316.1	300.5	233.2	310.7	130.90	413.80	382.40	343.60	265.20	325.0
Mining	100.0	107.7	104.1	118.8	143.5	152.9	191.0	175.3	188.9	239.8	243.8	246.9
Manufacturing	100.0	384.9	421.3	602.9	698.2	652.5	1047.4	3429.4	3658.3	5144.5	5994.8	5324.3
Total Exports (excl. Transit Trade)	100.0	224.8	224.5	289.5	330.0	328.9	2910.1	5746.0	5728.1	7133.6	7958.1	7456.8
Total Exports (FOB)	100.0	230.5	231.4	299.9	342.3	334.5	2910.0	5890.0	5905.0	7389.0	8255.0	7583.0
E. Merchandise Imports												
Agriculture & Livestock	100.0	473.5	335.2	858.5	933.6	1083.7	49.8	176.1	138.0	417.5	375.3	457.4
Mining	100.0	175.0	166.5	232.9	279.7	313.8	142.7	212.3	199.3	270.9	304.9	337.6
Petroleum	100.0	117.5	118.7	126.7	128.5	134.5	2953.2	3526.8	3242.2	3373.2	3321.4	1807.8
Capital Goods	100.0	152.6	170.2	204.7	208.3	286.4	1112.8	1682.7	1829.9	2162.2	2214.0	3195.4
Other Indust. Products	100.0	89.7	108.5	130.9	147.1	145.0	3650.3	3244.8	3825.6	4533.1	5128.0	5306.6
Total Imports (CIF)	100.0	114.1	125.4	147.7	159.2	184.8	7908.8	8842.7	9235.0	10756.9	11343.6	11104.8
Total Imports (FOB)	100.0	115.7	127.1	149.3	165.9	186.6	7513.0	8518.0	8895.0	10331.0	11230.0	10656.0

G. Terms of Trade (1980=100)	1980	1982	1983	1984	1985	1986e
Merc. Exports Price Index	100.0	87.8	87.7	84.7	82.9	77.9
Merc. Imports Price Index	100.0	98.0	93.1	92.1	90.1	76.0
Merchandise Terms of Trade	100.0	89.6	94.2	92.0	92.0	102.5

NOTES:
a/ Price Indexes for export and import categories are EPD estimates.
b/ Includes official grants.
c/ Decrease indicates real devaluation.

H. Balance of Payments	US$ millions (at current prices) 1980	1982	1983	1984	1985	1986e
Exports of Goods & NFS	3266	6980	6889	8590	9958	9168
Merchandise (FOB)	2910	5890	5905	7389	8255	7583
Non-Factor Services	356	1090	984	1201	1703	1585
Imports of Goods & NFS	7854	8886	9221	10886	11839	11262
Merchandise (FOB)	7513	8518	8895	10331	11230	10664
Non-Factor Services	341	368	326	555	609	598
Resource Balance	-4588	-1906	-2332	-2296	-1881	-2094
Net Factor Income	-991	-1323	-1351	-1225	-1130	-1383
(Interest)	-1138	-1565	-1511	-1586	-1753	-2134
Net Current Transfers b/	2171	2294	1785	2114	1998	1949
(Workers Remittances)	2071	2140	1531	1807	1714	1634
Current Account Balance	-3408	-935	-1898	-1407	-1013	-1528
Long-Term Capital Inflow	2047	1084	349	1159	75	650
Direct Investment	18	55	46	113	99	125
Net LT Loans (DRS data)	1949	987	514	1387	392	n.a.
Other LT inflows (Net)	80	42	-211	-341	-416	n.a.
Total Other Items (Net)	1357	-131	1645	373	1213	1664
Net Short-Term Capital	-96	-83	958	36	1650	1478
Errors and Omissions	1453	-48	687	337	-437	186
Change in Net Reserves	4	-18	-96	-125	-275	-786
Net Credit from the IMF	422	133	78	-138	-255	-241
Other Reserve Changes (- indicates increase)	-418	-151	-174	13	-20	-545
As shares of GDP (%):						
Resource Balance	-8.1	-3.6	-4.6	-4.6	-3.6	-3.6
Interest Payments	-2.0	-3.0	-3.0	-3.2	-3.3	-3.7
Current Account Balance	-6.0	-1.8	-3.7	-2.8	-1.9	-2.6
Memorandum Items:						
Int'l. Reserves (Mil. US$)	1307.9	1872.4	2097.9	3098.6	2614.6	3186.7
Reserves Incl. Gold (mil. US$)	1462.5	2027.0	2252.5	3899.0	3654.7	4423.5
Official Exch. Rate (TL/US$)	76.0	162.6	225.5	366.7	522.0	674.5
Index Real Eff. Exch. Rate (Dec. 1982=100) c/	109.1	107.8	103.0	96.7	97.3	87.3
GDP (US$, mill)	56924.4	53032.3	51150.0	49667.5	52783.2	58069.7

TURKEY -- ECONOMIC INDICATORS

TABLE 3

Annex 1
Page 3 of 3
May 1987

I. Budget (Central Government)	Shares of GDP (%)						Growth Rates (% p.a.)			
	1980	1982	1983	1984	1985	1986e	1980-83	1984	1985	1986e
Revenues	19.4	16.5	18.7	15.5	16.2	17.5	37.0	31.2	58.1	53.1
Tax Revenues	17.3	15.1	16.8	13.0	13.9	15.3	37.1	22.5	61.6	56.5
Non-Tax Revenues	2.0	1.4	1.9	2.5	2.3	2.2	36.3	107.2	40.0	32.9
Expenditures	24.8	18.3	22.0	20.5	19.1	20.7	33.2	47.3	41.1	54.1
Current	11.5	8.4	9.2	8.1	7.6	7.7	28.6	39.3	41.7	45.2
Interest Payments	0.6	0.9	1.6	2.1	2.4	3.4	85.9	108.3	79.7	95.1
Investment	3.9	4.0	4.0	3.8	3.6	4.1	39.7	47.5	44.8	63.2
Transfers	8.7	5.0	7.2	6.6	5.5	5.5	30.1	44.2	26.1	42.0
Budget Balance	-5.4	-1.8	-3.3	-4.9	-2.9	-3.2	17.0	139.4	-12.6	59.7
Cash Balance	-5.1	-2.1	-2.1	-5.2	-3.1	-3.6	3.7	290.2	-9.9	65.7
Financing	5.2	1.7	1.8	5.1	2.8	3.9	-2.7	349.3	-15.6	92.2
Foreign Borrowing (net)	1.7	-0.2	0.2	1.8	-0.8	-0.4	-29.4	1126.9	-169.9	-37.2
Domestic Borrowing (net)	0.2	0.6	1.8	0.8	1.8	1.8	195.8	-33.8	263.5	45.4
Short-Term Borrowing	3.3	1.2	-0.2	2.6	1.9	2.4	-	-	7.6	81.4
Other	-0.1	0.4	0.3	0.1	0.3	-0.2	-	-31.6	192.3	-207.9

J. External Capital Flows, Debt and Debt Burden Ratios	Net Disbursements (US$ mil.)						Debt Outstanding and Disbursed (US$ mil.)					
	1980	1982	1983	1984	1985	1986e a/	1980	1982	1983	1984	1985	1986e a/
Public & Publicly Guar. LT	1902.6	973.9	509.0	1361.0	470.7	590.0	15441.1	16627.5	16444.4	17438.5	19679.1	24171.0
Official Creditors	1284.2	805.6	449.9	950.0	423.1	n.a.	10102.6	11057.0	10797.9	11064.8	12370.5	17714.0
Multilateral	414.1	603.5	480.8	670.3	559.1	n.a.	2152.5	3088.7	3464.2	3997.2	4812.8	7527.0
of which IBRD	267.5	416.4	373.9	487.3	469.8	428.0	1157.5	1962.3	2336.1	2823.5	3293.2	4661.0
of which IDA	-0.9	-1.7	-2.6	-2.9	-3.5	-3.2	189.4	186.5	183.9	181.0	177.5	174.0
Bilateral	870.1	202.1	-30.9	279.7	-136.0	n.a	7950.1	7968.2	7333.7	7067.6	7557.7	10187.0
Private Creditors	618.4	168.3	59.2	411.0	47.6	n.a	5338.5	5570.5	5646.5	6373.7	7308.6	6457.0
Suppliers	162.4	-196.1	3.0	-11.9	-65.8	n.a	1144.8	732.9	720.9	683.0	652.3	n.a.
Financial Markets	455.9	364.4	56.2	422.9	113.4	n.a	4193.7	4437.6	4167.6	4364.7	4797.3	n.a.
Dresdner Bank Accounts b/	--	--	--	--	--	--	--	400.0	758.0	1326.0	1858.0	2480.0
Private Non-Guaranteed LT	46.0	13.0	5.0	26.0	-92.0	-75.0	535.0	394.0	399.0	425.0	358.9	n.a.
Total Long-Term	1948.6	986.9	514.0	1387.0	378.7	515.0	15976.1	17021.5	16843.4	17863.5	20038.0	24171.0
IMF Net Credit	484.7	202.6	190.1	-43.1	-251.3	-313.0	1054.2	1455.2	1567.4	1426.2	1326.4	1085.0
Net Short-Term Capital	-1106.0	-30.0	517.0	899.0	1579.0	2152.0	2490.0	1764.0	2281.0	3180.0	4759.0	6911.0
Total Incl. IMF & Net ST	1327.3	1159.5	1221.1	2242.9	1706.4	1981.0	19520.3	20240.7	20691.8	22469.7	26123.4	32167.0

Bank and IDA Ratios (%)	1980	1982	1983	1984	1985	1986e
Share of Total Long-Term DOD c/						
1. IBRD as % of Total	6.8	10.6	12.7	14.6	15.4	18.5
2. IDA as % of Total	1.1	1.0	1.0	0.9	0.8	0.7
3. IBRD+IDA as % of Total	7.9	11.6	13.7	15.6	16.2	19.1
Share of Total LT Debt Service c/						
1. IBRD as % of Total	11.8	8.0	10.1	12.2	10.2	13.5
2. IDA as % of Total	0.2	0.1	0.1	0.2	0.1	0.1
3. IBRD+IDA as % of Total	12.0	8.2	10.3	12.4	10.3	13.6
DOD-to-Export Ratios d/ (%)						
1. Long-Term Debt/Exports	278.2	169.1	178.1	154.5	152.8	193.9
2. IMF Credits/Exports	18.4	14.5	16.6	12.3	10.1	8.7
3. Short-Term Debt/Exports	43.4	17.5	24.1	27.5	36.3	55.4
4. LT+IMF+SH DOD/Exports	339.9	201.0	218.8	194.3	199.2	258.0
DOD-to-GDP Ratios (%)						
1. Long-Term Debt/GDP	28.1	32.1	32.9	36.0	38.0	41.6
2. IMF Credits/GDP	1.9	2.7	3.1	2.9	2.5	1.9
3. Short-Term Debt/GDP	4.4	3.3	4.5	6.4	9.0	11.9
4. LT+IMF+SH DOD/GDP	34.3	38.2	40.5	45.2	49.5	55.4
Debt Service/Exports (%)						
Public & Publicly Guar. LT	15.3	22.4	24.1	19.8	26.7	28.1
Private Non-Guaranteed LT	0.9	0.7	1.0	0.9	1.2	0.9
Total LT Debt Service	16.2	23.1	25.1	20.7	27.9	29.0
IMF Repurchases + Serv. Chgs.	3.6	2.8	3.5	3.4	2.9	4.0
Interest on ST Debt e/	10.8	2.6	1.8	2.1	2.6	4.2
Total (LT+IMF+ST) Debt Service	30.6	28.5	30.3	26.1	33.4	37.2

NOTES:

a/ Estimates for net disbursements are not comparable with DOD estimates since the latter are adjusted for estimated exchange adjustments.

b/ Deposits with 1-2 years maturity are classified as MLT debt.

c/ Long-term debt and debt service include IMF.

d/ Exports include goods, factor and non-factor services plus workers remittances.

e/ Interest on ST debt calculated as the difference between total interest (BOP table) and MLT interest (incl. IMF charges) from the external debt tables produced by EPDED.

e = Estimates

Source: Debt data: EPDED, Government of Turkey
Budget: Government of Turkey

ANNEX II
Page 1 of 2

STATUS OF BANK GROUP OPERATIONS IN TURKEY

A. STATEMENT OF BANK LOANS AND IDA CREDITS /a
(As of March 31, 1987)

Loan Number	Fiscal Year	Borrower	Purpose	Amount ($ millions) /b Bank	IDA	Undisbursed
Fifty-five loans, four B-Loans, and fourteen credits fully disbursed				3447.35	196.15	
1585-TU	1978	Republic of Turkey	Northern Forestry	86.00		25.47
1606-TU	1978	Republic of Turkey	Erdemir Steel Stage II	95.00		2.50
1742-TU	1979	Republic of Turkey	Grain Storage	79.00		64.06
1844-TU	1980	Republic of Turkey	Karakaya Hydropower	120.00		.03
1862-TU	1980	Republic of Turkey	Fifth Livestock Development	51.00		14.34
1917-TU	1981	Republic of Turkey	Oil Recovery	62.00		10.23
1985-TU	1981	Republic of Turkey	Fertilizer Rationalization	110.00		36.71
1998-TU	1981	State Investment	State Industrial Enter. Fin.	70.00		15.77
2093-TU	1982	TSKB	Export-Oriented Industries	100.00		8.25
2094-TU	1982	Republic of Turkey	Erzurum Rural Development	40.00		22.54
2131-TU	1982	Republic of Turkey	Second Fert. Rehabilitation	29.80		3.53
2137-TU	1982	Republic of Turkey	Highway Rehab.	71.10		0.02
2159-TU	1982	ISKI	Istanbul Sewerage	88.10		31.12
2318-TU	1983	TCZB	Second Agricultural Credit	150.40		46.27
2322-TU	1983	TEK	TEK III	163.00		128.35
2327-TU	1983	TPAO	Thrace Gas Exploration	55.20		28.59
2399-TU	1984	Republic of Turkey	Industrial Training	36.80		31.41
2400-TU	1984	Republic of Turkey	Technical Assistance for SEEs	4.65		2.50
2405-TU	1984	Republic of Turkey	Agr.Extension and Research	72.20		56.34
2433-TU	1984	Republic of Turkey	IAEE Irrigation	115.30		103.38
2439-TU	1984	Republic of Turkey	Second Highway	186.40		143.35
2535-TU	1985	Republic of Turkey	Third Ports	134.50		120.81
2536-TU	1985	Republic of Turkey	Industrial Schools	57.70		55.67
2537-TU	1985	Republic of Turkey	Cukurova Reg. Urban Devt.	9.20		1.00
2585-TU	1985	Republic of Turkey	Agric. Sector Adjustment Ln.	300.00		169.68
2586-TU	1985	TEK	Fourth TEK Transmission	142.00		131.79
2602-TU	1986	TEK	Power System Operations Asst.	140.00		132.01
2647-TU	1986	Republic of Turkey	Small & Medium-Scale Industry	100.00		75.09
2650-TU	1986	TEK	Elbistan O and M	10.00		7.42
2655-TU	1986	Republic of Turkey	Kayraktepe Hydropower	200.00		199.32
2663-TU	1986	Republic of Turkey	Drainage & On-Farm Develop. c/	255.00		255.00
2714-TU	1987	Republic of Turkey	Financial Sector Adj. Loan	300.00		74.34
2739-TU	1987	Republic of Turkey	Railways II	197.00		197.00
2750-TU	1987	Republic of Turkey	Sir Hydropower	132.00		127.96
2776-TU	1987	Republic of Turkey	Non-Formal Voc. Training d/	58.50		58.50
		Total		7269.20	196.15	2380.36
		of which has been repaid		1058.36	23.02	
		Total Outstanding and Undisbursed		6210.84	173.13	
		Amount sold	3.55			
		of which has been repaid	3.55			
		Total now held by Bank and IDA e/		6207.29	173.13	
		Total undisbursed		2380.36		

/a The status of the projects listed in Part A is described in a separate report on all Bank/IDA financed projects in execution, which is updated twice yearly and circulated to the Executive Directors on April 30 and October 31.
/b Net of cancellations.
/c Not yet effective.
/d Became effective on April 3, 1987.
/e Prior to exchange adjustments.

April 23, 1987
(0982I)

STATUS OF BANK GROUP OPERATIONS IN TURKEY

B. STATEMENT OF IFC INVESTMENTS
(As of March 31, 1987)

Fiscal Year	Obligor	Type of Business	Amount $ Millions Loan	Equity	Total
1964/67/69/ 72/73/75/76/ 77/80/83	TSKB	DFC	60.00	4.77	64.77
1966/69/ 71/72	SIFAS I	Nylon Yarn	3.15	1.42	4.57
1970/71/ 82/83	Viking I	Pulp and Paper	2.50	0.82	3.32
1970/86/87	ACS	Glass	20.75	1.68	22.43
1971/76/ 83/84	NASAS	Aluminum	8.58	1.46	10.04
1973	Akdeniz	Tourism	0.33	0.27	0.60
1974/77	Borusan	Steel Pipes	3.60	0.49	4.09
1974	AKSA	Textiles	10.00	-	10.00
1975	Kartaltepe	Textiles	1.30	-	1.30
1975	Sasa	Nylon Yarn	15.00	-	15.00
1975	Aslan	Cement	10.60	-	10.60
1975/78/83	DOKTAS	Steel	7.50	1.53	9.03
1976/79	Asil Celik	Steel	12.00	4.00	16.00
1979	Ege Mosan	Engines for Mopeds	2.15	-	2.15
1979/80/82/84/85	ISAS	Motor Vehicles & Access.	8.85	2.34	11.19
1986	Cam Elyaf	Fiber Glass	7.94	-	7.94
1979/81/ 83/84	Trakya Cam	Glass	33.15	3.23	36.38
1980	MENSA	Textiles and Fibers	4.00	-	4.00
1981	Kirklareli Cam Sanayii A.S.	Glass Tableware	12.95	-	12.95
1982	M.A.N. Motors	Motor Vehicles & Access.	7.88	-	7.88
1984	Pinar	Food and Food Processing	3.90	-	3.90
1985	MANAS	Motor Vehicles & Access.	6.47		6.47
1986	Silkar Turizm Yatirim ve Isletmelari A.S.	Tourism	5.80	-	5.80
1986	Eska Turizm ve Ticaret A.S.	Tourism	2.38	-	2.38
1987	Guney Sanayi ve Ticaret Isletmeleri A.S.	Textiles	16.51	-	16.51
	Total Gross Commitments		267.29	22.01	289.30
	Less Cancellations, Terminations, Exchange Adjustments, Repayments and Sales		174.72	9.78	184.50
	Total Commitments now held by IFC		92.57	12.23	104.80
	Total Undisbursed		8.51	-	8.51

April 23, 1987
(0982I)

T.C.
BAŞBAKANLIK
HAZİNE ve DIŞ TİCARET MÜSTEŞARLIĞI

Sayı : DEİ-IV-1-126
Konu : 48910 May 22, 1987

Mr. B. B. CONABLE
President
International Bank for
Reconstruction and Development
1818 H Street, N.W.
Washington, D.C. 20433
U.S.A.

Dear Mr. Conable,

The Turkish Government has now completed the seventh year of the Government's program for restructuring the economy. The adjustment program has helped Turkey to expand exports and to improve its external balance. Under the Fifth Five-Year Development Plan, the Government is continuing to encourage liberalization of the economy , promote improved productivity in areas of comparative advantage and further progress in increasing export earnings. We also emphasize policy and institutional reforms at the sectoral level.

Within this framework, the attached Statement of Energy Sector Policies shows the Government's decisivenes in assigning a high priority to reforms in the energy sector and sets forth the main elements in the Government's program relating to sector policies. It encompasses policy and institutional measures underway or to be undertaken from 1987 to 1989 and the Government has committed itself to carry out the energy sector reform program as described in the attachment.

I am writing to you at this time to request an Energy Sector Adjustment Loan in the amount of $325 million to assist in the financing of the Government's program for structural change in the sector.

Sincerely Yours,

İ. Kaya ERDEM
Minister of State and
Deputy Prime Minister

Attachment

ENERGY SECTOR ADJUSTMENT LOAN

STATEMENT OF ENERGY POLICY

I. INTRODUCTION

1. The energy sector remains critical to the Government's medium-term policy of reducing imports and providing energy at the lowest economic cost to sustain the Government's export-led growth targets.

2. The Government's energy policy stems from:

(a) concern with the cost, availability and security of energy supplies over the medium to long term;

(b) a desire to improve the efficiency of energy production and use; and

(c) a drive to involve the private sector more deeply in the energy sector, partly to control public expenditure, but partly also to increase efficiency and stimulate growth.

3. The Government has assigned the highest priority to energy policies which will result in a secure, timely and low cost supply of energy. Investment in the sector represents about 31% of total public fixed investment during the Fifth Five-Year Plan Period (1985-1989) compared with 20% for the previous plan. The plan gives priority to:

(a) increasing the efficiency of the public sector energy agencies and allowing them greater financial autonomy;

(b) increasing the opportunities for private sector participation;

(c) improving energy conservation through appropriate pricing policies as well as the introduction of an energy conservation program;

(d) diversifying the sources of energy, giving priority to indigenous sources, especially hydro and lignite, and including imported sources, especially coal and gas; and

(e) ensuring that priority investments are fully funded.

4. The proposed program has three broad themes. The first concerns the development of an appropriate institutional framework to respond to the recent policy changes. The second concerns the implementation of a priority investment program combined with a longer-term effort to upgrade investment planning capacity. The third focuses upon specific actions to increase the efficiency of the existing energy supply system and to ensure the economic utilization of energy. The next section outlines government policies and intentions in these areas.

II. Program for Action

Institutional Development

5. The Government's objective is to develop an effective and financially sound energy sector, in which the private and public sectors will work together to meet Turkey's energy needs in the most efficient manner. The Government proposes to introduce a broader regulatory framework within which government efforts will be directed towards emphasizing accountability and the independence of the public sector, and maximizing opportunities for private investment. The Government will start with the electric power subsector.

6. The goal is to establish a comprehensive regulatory framework for licensing and operating within the electricity subsector. The Government building upon an existing department, has established a regulatory body in the Ministry of Energy and Natural Resources (MENR), to, over the next three years:

(a) establish guidelines for leasing arrangements with interested private parties;

(b) document criteria and procedures for evaluating and approving private sector proposals for thermal and hydro power projects;

(c) establish procedures for settling disputes especially between the TEK and non-TEK systems;

(d) establish guidelines for the establishment of regional utilities; and

(e) review public sector efficiency.

After two years, Government will assess the work of the regulatory body to determine whether it should become a separate commission.

7. In the medium term the Turkish Electricity Authority (TEK) will remain responsible for power subsector planning, subject to the approval of the State Planning Organization (SPO). The Government intends to take actions to make TEK a more efficient institution and potentially of more interest to private investors by:

(a) subjecting TEK to publicly-available independent audits from 1988;

(b) strengthening TEK's Board of Directors to enable it to assume its role as an effective policy making body and overseer of TEK's management; and

(c) requesting the TEK Board to commission a study to review the relationship between the Board and its General Management and between the TEK central organization and other organizational units such as the TEK's Regional Distribution Enterprises and the recently formed

production and transmission company. We expect that the Board would make recommendations for review by Government in 1988.

8. TEK's management has already instituted a program to improve planning and financial management. In 1984 TEK commissioned consultants to assist in developing a Management Information System. To accelerate the work program TEK has established a special systems and methods group to design and implement new financial planning and control systems as well as to ensure that TEK's accounts fully reflect its financial obligations. The Government anticipates that by 1990 TEK will have in place a modern financial management system.

9. Law number 3096 enabling private sector participation in the energy sector, was passed in 1984. Regulations prepared by the new regulatory body can be approved under the law. Law number 3291 has liberalized private investment in the sector and allows for joint venture activities. A contract bringing private sector management to Elbistan has been signed. Two private utilities are constructing hydropower plants. Discussions are under way with private parties to create integrated regional utilities. A private Turkish company has signed a contract to build and operate a small hydropower scheme. The Government is currently in negotiation with international consortia to employ the Build, Operate and Turnover (BOT) scheme for thermal power plants utilizing imported coal. TKI has signed contracts with private operators for about 13 mines.

10. At present over fifty applications to build and operate power plants are pending with the Ministry. These range from expressions of interest to a limited number of firm proposals, and in size from 15 MW to 250 MW thus establishing that there is potential for private investment. Further progress will require a regulatory climate that is perceived by the private sector to be stable, consistent, and well defined.

Investment and Development

11. Government's objective is to ensure the maximum efficiency of energy investment and to ensure that public and private investments are coordinated, form part of a least cost program, and are compatible with longer-term strategic plans. Several factors have been taken into account in designing a program to upgrade investment planning and management skills in the energy sector. For example:

(a) the energy sector will consume about 30% of total public fixed investment;

(b) there is an urgent need to rationalize public investment and focus on high priority investments;

(c) public expenditures should be deployed to ensure that private and public sector efforts are fully complementary; and

(d) the need to diversify energy supplies has placed greater emphasis upon intersectoral coordination.

12. The first priority in improving the management of energy investment is to give emphasis to improvements in national energy planning and the preparation of an energy sector program of high priority energy investments, fully funded and compatible with public expenditure rationalization objectives. Secondly, within a national energy planning framework, attention will be given to the development of longer-term technical and economic planning in subsector agencies.

Medium-Term Investment Program

13. The investment program to 1990 includes high priority projects designed to expand energy supply as rapidly as possible through efficiency improvement and the reduction of losses to existing plant as well as to bring on stream plant currently under construction. Each agency has been instructed to focus on the high priority projects and that no new projects should enter the program unless the following criteria are met:

(a) demonstrated high economic returns;

(b) adequate project management is in place; and

(c) full funding is assured.

At the same time Government will allow agencies to set prices in accordance with agreed targets for revenue generation; and ensure that financing for the balance of the investment program is provided on a timely basis. Both MENR and SPO will monitor progress in implementing the investment program, and will exchange views with the World Bank annually.

Long-Term Energy Development

14. The Government's long-term policy is to meet energy demand at least cost through the appropriate development of indigenous resources as far as possible. To this end planning at the national level will be strengthened and detailed long-term plans for individual subsectors will be prepared. Moreover the data base for indigenous resource development is to be improved. A program to deal with these issues has been prepared.

National Sector Planning

15. In 1982 a research, planning and coordination Board was established in MENR to oversee the coordination of subsectoral plans. The Board is to be strengthened through a program of technical assistance and staff development. A work program has been approved for the preparation of a national energy plan and the development of appropriate energy planning models.

Long-Term Subsectoral Development Plans

16. Major investments are to be undertaken in the electric power, natural gas and refinery subsectors:

(a) the electric power subsector accounts for around 60% of investment in the energy sector. TEK has prepared a least cost generation planning study to the year 2010 which provides a foundation for investment decisions for 1987. However, the study will need to be updated every year, in particular to incorporate the findings of the hydro inventory and lignite exploration program. Given the poor condition of the urban networks and the high technical losses a masterplan for the electricity system of Izmir was completed in 1986 and provided the basis for including in the 1987 investment program a comprehensive upgrading of the Izmir network. This has now been followed by similar studies for Istanbul and Ankara which, together with Izmir, account for about 65% of total low voltage consumption. The results of these studies will be reflected in the 1988 and 1989 investment programs. Further studies will be undertaken in the next three years for other cities with populations over 100,000;

(b) natural gas imports from the Soviet Union will begin in 1987, starting at 700 million cubic meters and rising by 1993 to 5 billion cubic meters. A broad gas utilization strategy is in place whereby natural gas will be used to displace LPG, lignite and heating oil in urban areas, and naphtha, diesel and fuel oil in the industrial sector. A gas utilization and investment plan for imported gas is under preparation and will be completed within 1987. A special steering group, headed by a Minister of State, has been established for the task; and

(c) the major imbalances and overcapacity problems that exist in the refinery sector will be exacerbated by the import of natural gas. TUPRAS is to prepare a refineries sector masterplan based upon a detailed petroleum products supply study. The Government will review the plan's recommendations with a view to developing an implementation schedule from 1988 onwards.

Indigenous Resource Development

17. Turkey is well endowed with energy resources. Hydropower is estimated at about 31,000 MW corresponding to an annual generation of 105,000 gWh per annum. In addition, there is a large number of smaller scale hydro sites which may total 5,000 MW. If all Turkey's technical hydro potential were exploited it would represent about 70% of total electricity generation by 2010. However a detailed inventory to rank the various hydro sites according to economic and technical criteria has not yet been compiled. A consultant was hired in 1985 to prepare plans for developing a national water resource systems analysis to provide information for such an inventory. MENR has established a small working group to oversee the work program and consultants will be hired in 1987 to complete the inventory.

18. Total lignite reserves are about 8.2 billion tons, of which only 50% has been explored. Exploration of existing reserves would improve the optimal location, size and technical configuration of individual mine developments. MTA has developed a five-year lignite and coal exploration program, which the Government has approved.

19. With respect to oil and natural gas resources TPAO will continue to implement its exploration program. In addition from 1987 TPAO will implement a three-year program of exploration with special emphasis on priority offshore and onshore areas with the objective of reviewing, analyzing and reprocessing existing geological and seismic data and packaging it for joint venture promotions.

20. Other indigenous resources, including bituminous shales, uranium, thorium and geothermal are considered economically less attractive, and there are presently no major plans to develop them.

Improving Efficiency in the Use of Energy

21. A threefold approach is being taken to improve energy efficiency as set out below:

Technical and Operating Efficiency of Public Sector Energy Agencies

22. A major effort to upgrade TEK's operations was begun in 1985. A TEK working group has been established to oversee the upgrading of the generating and distribution systems and to monitor key performance criteria, including maintenance. MENR proposes to review the work of this group at the end of 1988 and will then consider whether similar approaches should be adopted for other energy agencies.

23. In 1985 the Government hired consultants to undertake a comprehensive review of TKI's operating practices. The study has been completed and Government is currently reviewing its recommendations in order to develop an implementation program.

24. The refineries masterplan undertaken by TUPRAS will also focus upon operational efficiency with particular attention paid to refinery balance and configuration. A review of the present formula for refinery remuneration is being undertaken with a view to replacing it by an arrangement which will ensure higher refinery processing efficiency and a better product mix. A steering committee, headed by MENR, is to be set-up for this task.

Energy Pricing Policy

25. Since 1984 the Government has adjusted energy prices on a regular basis. Both electricity and lignite prices have increased in real terms with the result that prices have moved closer to economic costs and financial resources for the sector have increased. Prices of petroleum products have for several years been above economic levels. A pricing formula is being developed for imported natural gas. The Government intends to implement a policy whereby energy products will be priced at economic levels as follows:

(a) for electricity prices:

(i) a study of the structure of tariffs has recently been completed and is under review. A new and simplified tariff structure will

be introduced starting in 1987, to include time of day pricing. To facilitate this TEK will introduce new metering equipment over the next three years;

(ii) the Government will ensure that priority energy audits are undertaken for those industries most affected by electricity costs; and

(iii) while making allowances for poor households, tariff levels will be adjusted periodically to ensure a minimum of 35% internal cash generation.

(b) lignite prices will continue to be set to eliminate operating subsidies.

(c) petroleum prices will continue to be set at a level at least equivalent to the CIF price plus internal transportation costs;

(d) natural gas prices will be set at the border price plus the costs of transmission and distribution.

Energy Conservation and Demand Management

26. In 1984 energy audits in selected industries were undertaken and follow-up investments have been made. TEK is currently implementing a demand management study which will provide the basis for implementing a program to conserve electricity. To provide a focal point for energy conservation activities, the Electricity Survey Administration (EIE) was given responsibility to develop a comprehensive energy conservation program. A law outlining EIE's responsibilities in this field will be presented to Parliament during 1987. The energy conservation program will include the following:

(a) Consultants will be hired in 1987 to provide training; to upgrade the skills of EIE's staff; and

(b) over 1987-1989 period EIE will manage approximately 21 energy audits in key energy intensive industries

27. The Government will ensure that arrangements will be made, including financing, to implement actions recommended under the energy conservation program.

TURKEY

SCHEDULE OF ACTIONS

Issue	Action	Timing
Institutional Framework		
Regulatory Framework	1. Establish Regulatory Body within MENR.	1. Body established in 1986.
	2. Prepare regulations for private investors and operators.	2. Program prepared and consultants selected.
Public Accountability	1. Restructure TEK Board.	1(a) Senior officials and chairman appointed.
	2. Hire independent auditors to audit TEK.	2(a) Short list of firms prepared. 2(b) Hire auditors by October 1, 1987.
Economic Investment		
Energy Planning.	1. Strengthen Planning Department of MENR.	1. Work agenda for 1987 through 1989 prepared by MENR. TORs agreed.
	2. Prepare national energy plan.	2. Plan prepared and submitted to Minister of Energy by December 31, 1989.
Medium-Term Investment Program	1. Implement and fully fund high priority investment program.	1. Joint review with Government and Bank by October 31 of 1987 and 1988 of the public investment program and associated financing plan for the energy sector.
Long-Term Investment Program	1. Revise least-cost electricity plan.	1(a) First revision incorporating Valor Agua to be completed by March 1, 1988. 1(b) Second revision to be agreed by December 31, 1988 and completed by December 31, 1989.
	2. Complete and implement refinery masterplan.	2(a) Findings of refineries sector study discussed with Government. 2(b) Complete Petroleum Products Supply Options study on or before December 31, 1987 and discuss with Bank. On basis of study TUPRAS to prepare by June 1988 masterplan for refineries subsector.
	3. Implement Izmir distribution masterplan. Complete Ankara and Istanbul masterplans.	3(a) Investments for Izmir included in 1987 Public Investment program. 3(b) Masterplans to be prepared by December 31, 1987 and investments included in 1988 Public Investment Program.
	4. Natural Gas Utilization Plan.	4(a) Steering Committee under Minister of Petroleum Affairs established. 4(b) Prepare gas plan by December 1987.

TURKEY

SCHEDULE OF ACTIONS

Issue	Action	Timing
Institutional Framework Efficiency Improvements		
Electricity	1. Implement the Systems Operations Project.	1. As per schedules in Systems Operations Project.
Lignite	2. Complete study of TKI. Implement findings.	2. Study to be sent to Bank on or before May, 1988.
Refineries	1. Introduce new remuneration formula.	1(a) Establish Steering Committee under MENR by June 1987. 1(b) Prepare action plan for implementation by December 1987.
	2. Implement findings of refinery masterplan.	2. To be reflected in 1988 investment program.
Energy Pricing:		
(a) Principles	(a) Principle of economic pricing established.	(a) Established in policy statement.
(b) Lignite	(b) Eliminate subsidies.	(b) Operating subsidies to be eliminated from 1987 onwards.
(c) Electricity	(c) Implement plan to establish new tariff structure.	(c)(i) New structure to be introduced starting in 1988. (c)(ii) Minimum 35% internal cash generation ratio to be met in 1988, 1989.
(d) Gas	(d) Set gas price equivalent to border price plus cost of distribution and transmission.	(d) Reflected in policy statement.
(e) Petroleum Products	(e) Prices not to fall below landed CIF Istanbul price plus internal transportation.	(e) Continue existing policies and reflect in policy statement.
Energy Conservation	1. Prepare EIE Law for passage through Parliament.	1. To be presented during 1987.
	2. Implement energy audits in about 21 key industrial plants.	2. Set against agreed timetable.
	3. Train EIE staff.	3. Program and agenda prepared on other sources.
	4. Provide finance for implementing recommendations of audits.	4. Through DYB.
	5. Implement electricity demand management study.	5. Study to be completed by December 1987.

Annex 5

TURKEY
ENERGY SECTOR ADJUSTMENT LOAN

The Priority Energy Investment Program (1987-1989)

ELECTRIC POWER (TEK, DSI)

Thermal Generation. (a) Complete: Elbistan A; Trakya 1-6; Soma B 3-4; Yeniköy 1-2; Cayirhan 1-2; Kangal 1-2; Yeni Catalagzi, Orhaneli, Seyitomer; (b) Continue Kemerköy.
Hydro Generation. (a) Complete Tercan; Karacaören; Karakaya; Kapulkaya; Kokluce; Altinkaya; Menzelet; Adiguzel; Gezende; Kilickaya; (b) Continue Ataturk; Kayraktepe; Boyabat.
Transmission - 380 KV lines: Osmanca - Bogazatla; Sincan-Oswanca; Elbistan-Sincan; Kayabasi-Cankin; Karakaya-Keban; Yatagan-Izikler; Cankin-Osmanca; Karakaya-Erzin; Karakaya-Diyakbakir.
Distribution - Ankara, Istanbul, Izmir to receive at least 30 percent of allocation for distribution. Level of expenditures at least TL 100 billion (1985 prices).
Village Electrification - no real increase in expenditures for Village Electrification. Focus on completion of ongoing projects in Eastern provinces.
Other Investment - priority for maintenance and rehabilitation, specialized vehicles, new headquarters building.

LIGNITE (TKI)

Ongoing Projects: Elbistan A; Beypazari (Cayirhan); Bursa (Orhaneli); Tuncbilek; Sivas (Kangal); Soma Isiklar; Soma Denis; Seyitomer 4; Milas Sekkoy (Yenikoy); Tinaz Bagyakar (Yatagan 3); Mugla-Husanslar (Kemerköy). New Projects: no new discrete projects but continued funding for rehabilitation and maintenance of existing ongoing mines (exact requirements to be determined by ESAL mission). Note: name of associated power plant is given in parentheses.

OIL AND GAS (TPAO, TUPRAS, BOTAS)

Refineries - TUPRAS to undertake a petroleum products supply options study to ascertain costs of correcting current and projected refinery configuration imbalances. Options include: (a) increased throughput under existing refinery operation; (ii) installation of secondary conversion; (iii) offshore processing.
Pipelines - Yarmutalik - Kirikkale crude oil line; Iraq-Turkey 2nd. crude oil line; Thrace gas pipeline (Phase 1 to Istanbul/Gemlik; Phase 2 Genlik to Ankara).
Exploration - Bati Raman; equipment renewal; geological/geophysical surveys; well drilling and well services.

CONSERVATION (EIE, MENR)

Industry - key industries such as ferrochrome, aluminium, copper, glass, fertilizer, cement to be audited for energy efficiency and investment requirements assessed.

TURKEY

ENERGY SECTOR ADJUSTMENT LOAN

Financing Gaps and Goods and Services to be Procured

Summary of Foreign Finance Gaps

		US$ million
1.	MENR	2
2.	TEK 1/	101
3.	EIE	35
4.	TUPRAS	65
5.	Petrol Ofisi (POAS)	19
6.	BOTAS 2/	16
7.	TPAO	210
8.	GDPA	1
9.	TKI 3/	175
10.	TTK	20
11.	MTA	45
	Total	689
	Physical cont. (10%)	69
	Price cont (10%)	69
	TOTAL	827

1/ Excludes Kemerköy (US$53 million) for which Polish credits are likely to be available.

2/ Excludes Central Anatolia-Samsun product line (US$100 million) which needs to be confirmed.

3/ May increase following results of TUSTAS study.

TECHNICAL ASSISTANCE

	US$ million 1/
MENR - energy planning (inc. computers - hardware/software)	1
- regulatory framework (inc. computers - hardware/software)	1
EIE - energy conservation (inc. audits)	5
TUPRAS - Supply Options Study	1
TPAO - offshore promotion	5
GDPA - training, software	1
Environment (SPO; TEK University of Istanbul)	1
	15

1/ All rounded to nearest million.

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TURKEY

ENERGY SECTOR ADJUSTMENT LOAN

Nos.	Agency	Description of Goods/Services	Foreign Finance (US$m) 1987	1988	1989	Total
1.	Ministry of Energy and Natural Resources (MENR)	(a) Energy Planning, training, seminars (T.A.)	0.1	0.2	0.1	0.4
		(b) Regulatory framework, training	0.3	0.4	0.3	1.0
		(c) Computer hardware and software	0.15	0.15	-	0.3
		Agency subtotal	0.55	0.75	0.4	1.7
2.	Turkish Electricity Authority (TEK)	(a) 380 kV transmission lines (conductors, towers, fittings)	-	3.0	23.0	26.0
		(b) 380 kV substations (switchgear, protection)	-	0.5	2.2	2.7
		(c) 380 kV series capacitors	-	0.4	2.1	2.5
		(d) 154 kV conductors	-	-	7.0	7.0
		(e) 154 kV substation feeders (Ankara, Istanbul)	-	-	15.0	15.0
		(f) Distribution equipment (Ankara, Istanbul)	-	-	8.2	8.2
		(g) Distribution equipment (Izmir)	-	1.0	1.0	2.0
		(h) Distribution equipment (others)	1.0	4.0	5.0	10.0
		(i) Machinery (cranes, dosers, etc.)	-	4.0	4.0	8.0
		(j) Power Plant Rehabilitation	-	5.0	15.0	20.0
		Agency subtotal	1.0	17.7	82.5	101.4
3.	Electricity Survey Administration (EIE)	(a) Technical Assistance, training	0.240	0.569	0.256	1.065
		(b) Energy audits for industries	2.000	2.123	2.312	6.435
		(c) Retrofitting equipment to improve energy efficiency	2.500	13.000	12.000	27.500
		Agency subtotal	4.740	15.692	14.568	35.000
4.	State Refineries Agency (TUPRAS)	(a) Petrol. Prod. Supply Options Study	0.500	0.500	-	1.000
		(b) Mid Anatolia hydrocracking unit	8.000	20.667	26.667	55.334
		(c) Izmit - 135,000 HP Tank	-	-	0.667	0.667
		(d) Izmit - HP Vacuum units	-	0.667	2.667	3.334
		(e) Izmit - hydrocracking unit	-	-	1.333	1.333
		(f) Batman - HP unit	-	-	2.667	2.667
		(g) Batman - Naphtha Sweetening Unit	-	0.267	0.400	0.667
		(h) Batman - Dom + Ind Disposal System	-	-	0.333	0.333
		Agency subtotal	8.500	22.101	34.734	65.335
5.	Petrol Ofisi (POAS)	(a) Automatic filling machinery	1.333	1.333	-	2.666
		(b) Production materials	0.010	0.005	0.007	0.022
		(c) Transportation materials	1.077	1.465	2.007	4.549
		(d) Various station equipment	0.266	0.352	0.468	1.086
		(e) Various office equipment	0.467	0.583	0.146	1.196
		(f) Other expenditures (listed as "overhead" in Treasury list)	2.372	3.085	4.051	9.508
		Agency subtotal	5.525	6.823	6.679	19.027
6.	State Pipelines Agency (BOTAS)	(a) Telecommunication, telecontrol equipment for Yumurtalik-Kirikkale HPPL	6.267	4.000	-	10.267
		(b) Telecommunication, telecontrol modernization for Batman-Dortyol HPPL	1.067	0.912	0.021	2.000
		(c) Replacement of four units of propeller systems	0.160	0.320	0.160	0.640
		(d) Loading arms and spares	0.933	-	-	0.933
		(e) Telecommunication vehicles	0.467	-	-	0.467
		(f) Snow vehicles	0.187	-	-	0.187

TURKEY

ENERGY SECTOR ADJUSTMENT LOAN (Cont.)

Nos.	Agency	Description of Goods/Services	Foreign Finance (US$m) 1987	1988	1989	Total
		(g) Sea pollution preventer	0.280	0.653	-	0.933
		(h) Helicopter	0.800	-	-	0.800
		Agency subtotal	10.161	5.885	0.181	16.227
7.	Turkish Petroleum Agency (TPAO)	(a) Casing - tubing	8.0	8.0	8.0	24.0
		(b) Chemicals	2.0	2.0	2.0	6.0
		(c) Well head equipment	1.0	1.0	1.0	3.0
		(d) Rock bits	0.6	0.6	0.6	1.8
		(e) Drilling equipment (consumables)	1.4	1.4	1.4	4.2
		(f) Production equipment (consumables)	1.0	1.0	1.0	3.0
		(g) Offshore promotion assistance	-	5.0	-	5.0
		(h) Other production costs, services and materials 1/	42.7	57.9	62.9	163.5
		Agency subtotal	56.7	76.9	76.9	210.5
8.	The General Directorate of Petroleum Affairs (GDPA)	(a) Technical assistance, training, hardware, software	-	0.410	0.500	0.910
		Agency subtotal	-	0.410	0.500	0.910
9.	Turkish Lignite Authority (TKI)	(a) Elbistan - various spare parts	12.500	12.500	12.500	37.500
		(b) Beypazari - spare parts	33.435	-	-	33.435
		(c) Milas - Serkoy - spare parts	5.000	-	-	5.000
		(d) Sivas Kangal - spare parts	3.750	8.500	-	12.250
		(e) Soma Isiklar - spare parts	7.238	-	-	7.238
		(f) Mugla Hasamlar - spare parts	5.000	7.000	9.800	21.800
		(g) Tuncbilek - retrofitting and upgrading	29.188	-	-	29.188
		(h) Other rehabilitation and modernization equipment	28.750	-	-	28.750
		Agency subtotal	124.861	28.000	22.300	175.161
10.	Turkish Coal Agency (TTK)	(a) Washer replacements for Catalagzi	-	15.0	5.0	20.0
		Agency subtotal	-	15.0	5.0	20.0
11.	Minerals Exploration Agency (MTA)	(a) Specialized vehicles	0.307	0.556	0.603	1.466
		(b) Geophysics Dept. - spare parts	1.957	1.220	0.977	4.154
		(c) Mine Analyses Dept. - chemicals, spare parts, materials	0.062	-	-	0.062
		(d) Geological Dept. - computers, microscopes, other equipment	0.121	-	-	0.121
		(e) Drilling Dept. - chemicals, spares, equipment	4.550	17.173	17.173	38.896
		Agency subtotal	6.997	18.949	18.753	44.699
		GRAND TOTAL	219.034	208.410	262.515	689.959

1/ Includes construction, services, technical assistance, training and miscellaneous materials and equipment.

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TURKEY
Energy Balances. 1985-2010

NATIONAL ENERGY BALANCE .TURKEY. 1 9 8 5
(MTOE:Millions of Metric Tons Oil Equivalent)

	I	SOLID FUELS	COAL&PRODS.	OIL	GAS	NUCLEAR	HYDRO & GEO	OTHER	ELECTRICITY	HEAT	TOTAL
INDIGENOUS PROD.	I	18.970	10.522	2.291	0.061	0.000	2.692	0.000			24.014
IMPORTS (+)	I	1.624	1.624	17.574	0.000				0.184		19.381
EXPORTS (-)	I	0.000	0.000	1.773	0.000				0.000		1.774
MARINE BUNKERS (-)	I	0.000	0.000	0.309							0.309
STOCK CHANGES (+/-)	I	-0.218	-0.218	0.382	0.000						0.164
TOTAL PRIMARY ENERGY REQUIREMENT	I	20.376	11.927	18.165	0.061	0.000	2.692	0.000	0.184	0.000	41.477
TRANSFORMATION AND ENERGY SECTOR	I	4.099	4.099	3.311	-0.031	0.000	2.692		2.434		7.636
ELECTRIC GENERATION	I	3.886	3.886	1.747	0.016	0.000	2.692		2.942		5.399
GAS MANUFACTURE	I	0.112	0.112	0.014	0.047						0.078
OIL REFINERIES	I	0.000	0.000	1.066					0.000		1.066
LIQUEFACTION	I										
OWN USE AND LOSSES	I	0.101	0.101	0.484					0.509		1.094
TOTAL FINAL CONSUMPTION	I	16.276	7.828	14.854	0.092	0.000	0.000	0.000	2.617	0.000	33.840
	I	16.277	7.828	14.854	0.092	0.000	0.000	0.000	2.617	0.000	33.841
INDUSTRY TOTAL	I	4.223	4.223	3.512	0.045				1.665		9.445
IRON AND STEEL	I	2.260	2.260	0.246	0.000				0.233		2.739
NON FERROUS METALS	I	0.008	0.008	0.187					0.220		0.415
PETROCHEM AND CHEM	I	0.010	0.010	0.640					0.300		0.950
PETROCHEM FEEDSTOCKS	I										0.000
OTHER INDUSTRIES	I	1.945	1.945	2.440	0.045				0.912		5.341
TRANSPORTATION TOTAL	I	0.127	0.127	6.114	0.000				0.016		6.257
ROAD	I			5.502							5.502
OTHER SECTORS TOTAL	I	11.927	3.478	3.708	0.047			0.000	0.936		16.618
RESIDENTIAL	I										0.000
NON-ENERGY USE	I			1.520							1.520
ELECTRICITY GENERATED (Twh):			15.028	7.079	0.058	0.000	12.049				34.213
CAPACITY (GW)		:	3.106	2.023	0.100	0.000	3.890	0.000	0.000		9.119
GDP Growth Rate Between Years			1984-1985	4.8 %					POPULATION(In Millions):		49.282

Source: MENR/RPCB, dated June, 1986 .

TURKEY
Energy Balances. 1985-2010

NATIONAL ENERGY BALANCE .TURKEY. 1990
(MTOE:Millions of Metric Tons Oil Equivalent)

	SOLID FUELS	COAL&PRODS.	OIL	GAS	NUCLEAR	HYDRO & GEO	OTHER	ELECTRICITY	HEAT	TOTAL
INDIGENOUS PROD.	25.282	16.842	2.394	0.641	0.000	6.913	0.036			35.266
IMPORTS (+)	4.182	4.182	18.480	2.670				0.000		25.332
EXPORTS (-)	0.000	0.000	0.000	0.000				0.000		0.000
MARINE BUNKERS (-)	0.000	0.000	0.000							0.000
STOCK CHANGES (+/-)	0.000	0.000	0.000	-0.334						-0.334
TOTAL PRIMARY ENERGY REQUIREMENT	29.464	21.024	20.874	2.977	0.000	6.913	0.036	0.000	0.000	60.264
TRANSFORMATION AND ENERGY SECTOR	8.750	8.750	3.714	0.889	0.000	6.913		4.752		15.515
ELECTRIC GENERATION	8.414	8.414	1.639	0.988	0.000	6.913		6.558		11.396
GAS MANUFACTURE	0.201	0.201	0.017	0.099						0.119
OIL REFINERIES	0.000	0.000	1.493					0.07		1.493
LIQUEFACTION										
OWN USE AND LOSSES	0.135	0.135	0.565					1.807		2.507
TOTAL FINAL CONSUMPTION	20.714	12.274	17.160	1.427	0.000	0.000	0.036	4.752	0.000	44.088
INDUSTRY TOTAL	7.718	7.718	2.305	1.079			0.011	2.907		14.020
IRON AND STEEL	4.395	4.395	0.305	0.000				0.346		5.045
NON FERROUS METALS	0.011	0.011	0.158					0.321		0.490
PETROCHEM AND CHEM	0.013	0.013	0.980					0.670		1.663
PETROCHEM FEEDSTOCKS										0.000
OTHER INDUSTRIES	3.299	3.299	0.862	1.079			0.011	1.571		6.822
TRANSPORTATION TOTAL	0.000	0.000	8.042	0.000				0.042		8.084
ROAD			7.063							7.063
OTHER SECTORS TOTAL	12.996	4.556	4.884	0.348			0.025	1.802		20.054
RESIDENTIAL	12.996	4.556	2.767	0.348			0.025	1.765		17.901
NON-ENERGY USE			1.930							1.930
ELECTRICITY GENERATED (Twh):		32.559	8.424	4.330	0.000	30.945				76.258
CAPACITY (GW)		5.646	1.913	0.710	0.000	8.126	0.000	0.000		16.395

GDP Growth Rate Between Years 1984-1990: 5.8 % POPULATION(In Millions): 54.6

Source: MENR/RPCB, dated June, 1986 .

TURKEY
Energy Balances. 1985-2010

NATIONAL ENERGY BALANCE .TURKEY. 1995
(MTOE:Millions of Metric Tons Oil Equivalent)

	I	SOLID FUELS	COAL&PRODS.	OIL	GAS	NUCLEAR	HYDRO & GEO	OTHER	ELECTRICITY	HEAT	TOTAL
INDIGENOUS PROD.	I	26.592	18.241	2.484	0.641	0.436	14.689	0.336			45.178
IMPORTS (+)	I	8.118	8.118	24.136	4.895				0.000		37.149
EXPORTS (-)	I	0.000	0.000	0.000	0.000				0.000		0.000
MARINE BUNKERS (-)	I	0.000	0.000	0.000							0.000
STOCK CHANGES (+/-)	I	0.000	0.000	0.000	-0.067						-0.067
TOTAL PRIMARY ENERGY REQUIREMENT	I	34.710	26.359	26.621	5.469	0.436	14.689	0.336	0.000	0.000	82.260
TRANSFORMATION AND ENERGY SECTOR	I	9.043	9.043	4.248	1.493	0.436	14.689		8.007		21.902
ELECTRIC GENERATION	I	8.595	8.595	1.639	1.633	0.436	14.689		9.785		17.207
GAS MANUFACTURE	I	0.285	0.285	0.017	0.140						0.162
OIL REFINERIES	I	0.000	0.000	1.874					0.09		1.874
LIQUEFACTION	I										
OWN USE AND LOSSES	I	0.163	0.163	0.718					1.778		2.659
TOTAL FINAL CONSUMPTION	I	25.667	17.316	22.372	2.303	0.000	0.000	0.336	8.007	0.000	58.685
INDUSTRY TOTAL	I	10.922	10.922	3.549	1.273			0.205	4.949		20.898
IRON AND STEEL	I	6.669	6.669	0.635	0.000				0.460		7.764
NON FERROUS METALS	I	0.011	0.011	0.209					0.317		0.537
PETROCHEM AND CHEM	I	0.013	0.013	1.088					0.725		1.826
PETROCHEM FEEDSTOCKS	I										0.000
OTHER INDUSTRIES	I	4.230	4.230	1.617	1.273			0.205	3.447		10.771
TRANSPORTATION TOTAL	I	0.000	0.000	10.430	0.000				0.083		10.512
ROAD	I			9.861							9.861
OTHER SECTORS TOTAL	I	14.745	6.393	5.886	1.030			0.131	2.975		24.767
RESIDENTIAL	I	14.745	6.393	2.850	1.030			0.131	2.915		21.670
NON-ENERGY USE	I			2.507							2.507
ELECTRICITY GENERATED (Twh):			33.316	4.954	7.800	1.950	65.753				113.773
CAPACITY (GW)	:		5.772	1.393	1.230	0.325	17.025	0.000	0.000		25.745
GDP Growth Rate Between Years 1990-1995: 7.0 %									POPULATION(In Millions):		60.6

Source: MENR/RPCB, dated June, 1986.

TURKEY
Energy Balances. 1985-2010

NATIONAL ENERGY BALANCE .TURKEY. 2 0 0 0
(MTOE:Millions of Metric Tons Oil Equivalent)

	SOLID FUELS	COAL&PRODS.	OIL	GAS	NUCLEAR	HYDRO & GEO	OTHER	ELECTRICITY	HEAT	TOTAL
INDIGENOUS PROD.	29.123	20.858	2.625	0.641	0.871	22.370	0.714			56.345
IMPORTS (+)	15.041	15.041	34.837	5.340				0.000		55.218
EXPORTS (-)	0.000	0.000	0.000	0.000				0.000		0.000
MARINE BUNKERS (-)	0.000	0.000	0.000							0.000
STOCK CHANGES (+/-)	0.000	0.000	0.000	0.000						0.000
TOTAL PRIMARY ENERGY REQUIREMENT	44.165	35.900	37.462	5.981	0.871	22.370	0.714	0.000	0.000	111.563
TRANSFORMATION AND ENERGY SECTOR	13.477	13.477	4.823	1.467	0.871	22.370		12.507		30.501
ELECTRIC GENERATION	12.920	12.920	1.639	1.633	0.871	22.370		14.449		24.985
GAS MANUFACTURE	0.338	0.338	0.001	0.166						0.173
OIL REFINERIES	0.000	0.000	2.171					0.40		2.171
LIQUEFACTION										
OWN USE AND LOSSES	0.219	0.219	1.011					1.943		3.173
TOTAL FINAL CONSUMPTION	30.688	22.423	32.639	2.841	0.000	0.000	0.714	12.507	0.000	79.389
INDUSTRY TOTAL	14.468	14.468	6.383	1.533			0.473	7.829		30.686
IRON AND STEEL	10.034	10.034	0.966	0.000				0.516		11.516
NON FERROUS METALS	0.011	0.011	0.363					0.372		0.747
PETROCHEM AND CHEM	0.013	0.013	2.074					0.974		3.060
PETROCHEM FEEDSTOCKS										0.000
OTHER INDUSTRIES	4.410	4.410	2.980	1.533			0.473	5.967		15.362
TRANSPORTATION TOTAL	0.000	0.000	14.025	0.000				0.142		14.167
ROAD			11.562							11.562
OTHER SECTORS TOTAL	16.220	7.955	7.370	1.308			0.241	4.536		29.675
RESIDENTIAL	16.220	7.955	2.933	1.308			0.241	4.450		25.151
NON-ENERGY USE			4.862							4.862
ELECTRICITY GENERATED (Twh):		51.226	4.954	7.800	3.900	100.136				168.016
CAPACITY (GW)	:	8.757	1.393	1.230	0.650	26.823	0.000	0.000		38.853
GDP Growth Rate Between Years 1995-2000 : 7 %.								POPULATION(In Millions):		67.3

Source: MENR/RPCB, dated June, 1986.

TURKEY
Energy Balances. 1985-2010

NATIONAL ENERGY BALANCE .TURKEY. 2 0 1 0
(MTOE:Millions of Metric Tons Oil Equivalent)

	I	SOLID FUELS	COAL&PRODS.	OIL	GAS	NUCLEAR	HYDRO & GEO	OTHER	ELECTRICITY	HEAT	TOTAL
INDIGENOUS PROD.	I	40.957	33.126	2.625	0.641	7.707	29.231	2.566			83.727
IMPORTS (+)	I	35.913	35.913	61.385	14.240				0.000		111.538
EXPORTS (-)	I	0.000	0.000	0.000	0.000				0.000		0.000
MARINE BUNKERS (-)	I	0.000	0.000	0.000							0.000
STOCK CHANGES (+/-)	I	0.000	0.000	0.000	-1.335						-1.335
TOTAL PRIMARY ENERGY REQUIREMENT	I	76.869	69.039	64.010	13.546	7.707	29.231	2.566	0.000	0.000	193.929
TRANSFORMATION AND ENERGY SECTOR	I	31.437	31.437	8.717	3.980	7.707	29.231		24.608		56.465
ELECTRIC GENERATION	I	30.414	30.414	4.247	4.196	7.707	29.231		27.384		48.411
GAS MANUFACTURE	I	0.570	0.570	0.001	0.216						0.355
OIL REFINERIES	I	0.000	0.000	2.741					0.000		2.741
LIQUEFACTION	I										
OWN USE AND LOSSES	I	0.454	0.454	1.728					2.776		4.958
TOTAL FINAL CONSUMPTION	I	45.432	37.601	55.293	7.892	0.000	0.000	2.566	24.608	0.000	135.791
INDUSTRY TOTAL	I	25.922	25.922	9.500	4.714			1.649	16.928		58.714
IRON AND STEEL	I	19.358	19.358	1.439	0.000				1.116		21.913
NON FERROUS METALS	I	0.020	0.020	0.540					0.397		0.957
PETROCHEM AND CHEM	I	0.023	0.023	3.090					2.100		5.213
PETROCHEM FEEDSTOCKS	I										0.000
OTHER INDUSTRIES	I	6.521	6.521	4.432	4.714			1.649	13.314		30.631
TRANSPORTATION TOTAL	I	0.000	0.000	23.953	0.000				0.366		24.318
ROAD	I			18.771							18.771
OTHER SECTORS TOTAL	I	19.510	11.679	9.446	3.178			0.917	7.314		40.365
RESIDENTIAL	I	19.510	11.679	3.108	3.178			0.917	7.171		33.883
NON-ENERGY USE	I			12.394							12.394
ELECTRICITY GENERATED (Twh):			115.126	15.754	22.200	34.500	130.844				318.424
CAPACITY (GW)	:		19.407	3.193	3.630	5.750	32.469	0.000	0.000		64.449
GDP Growth Rate Between Years 2000-2010: 6.5 %									POPULATION(In Millions):		83.1

Source: MENR/RPCB, dated June, 1986.

Annex 8

TURKEY

ENERGY SECTOR ADJUSTMENT LOAN

ENERGY RESERVES

Energy Source				
Hydropower	105,000 GWh p.a.	90-250	105,000 GWh p.a.	90-250 a/
Lignite	4,140 m tons	902	7,343 m tons	1,610
Hard Coal	186 m tons	112	1,366 m tons	820
Petroleum	17 m tons	17	..	..
Natural Gas	8 m SCF/day	..	..	..
Bituminous Shale	340 m tons	41	2,000 m tons	240
Asphaltite	0.55 m tons	0.2	53 m tons	22
Uranium	2,300 tons U 0	4-11	4,600 tons U 0	8-22 a/
Thorium	380,000 tons ThO	..	380,000 tons ThO	..

Calorific values assumed

	10 kcal/ton
Petroleum	10
Lignite - Elbistan	1.16
- Other (average)	3
Hard Coal	6
Bituminous Shale	1.2
Asphaltite	4.3

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a/ Present values of electricity outputs at 10% discount rate. Lower end of ranges based on heat equivalent (1 kWh - 860 kcal), upper end on amount of fossil fuel that would be required to generate the same quantity of electricity in conventional steam power stations, assuming specific fuel consumption of 2,400 kcal/kWh (the approximate average for new lignite-fueled stations in Turkey).

Notes (1) Hydropower figure is latest estimate of economically exploitable potential with current technology. Theoretical potential is 430,000 GWh.

(2) Bituminous shale figures relate to shale with heat value exceeding 850 kcal/kg (average 1,200 kcal/kg).

Source: MENR, TEK, TKI, TPAO

TURKEY

ENERGY SECTOR ADJUSTMENT LOAN

TURKEY'S ENERGY POLICY AND DECLINING OIL PRICES

1. The Macro Impact. The recent decline in international oil prices is likely to have a favorable direct impact upon the balance of payments - every US$1 fall in oil prices results in a gross saving to Turkey of some US$120 million. In the 1986-1990 period savings would amount to US$1.0 billion, if Turkey could capture all the savings from spot market purchases. However, the favorable direct impact will be offset, to some extent, by lower export growth to oil exporting countries (40% of Turkey's exports) as well as by a reduction in workers' remittances from these countries. On the other hand an increase in Turkish exports to, and workers remittances from OECD countries on account of a more favorable OECD growth outlook is possible. Considering all these factors, estimates of the net positive impact of the oil price decline on Turkey's balance of payments are about US$200 - 300 million per annum. An improvement in the balance of payments would give the Government the option of repaying its external debt sooner, thus improving Turkey's debt service ratio in coming years, or alternatively utilizing the incremental resources to support a more rapid growth strategy. The economic growth implications of declining oil prices would in turn lead to an increased domestic demand for energy in general and electricity in particular.

2. The Micro Impact. Declining oil prices may have an impact upon choice of technique especially in the electric power and industry sectors. However, given the present oil price projections which do not fall below pre-1974 levels, it is likely that Turkey's basic energy strategy will remain unchanged. Nevertheless:

(a) Given lead times of four-six years for capital intensive projects in the industry and power sectors, the reference comparator for use in project analysis is anticipated prices in 1991; when oil prices are expected to have rebounded to around US$14/barrel (1984 prices) equivalent in real terms to oil prices in 1978. Furthermore oil prices would need to fall to about US$10/bbl (1984 prices) and remain at that level before competing, on a comparative energy basis, with coal.[1/]

(b) Dual firing (e.g., oil/coal) may gain greater prominence especially where its incremental cost is low and is an option worth evaluating, for example, in the case of the proposed imported coal fueled power stations.

1/ On the basis of the Bank's latest oil and coal price projections.

(c) Marginal capital intensive energy conservation activities such as industrial retrofitting may need reevaluation - a relatively simple project analysis - on both grounds of scheduling and viability. Preliminary analysis of selected energy audits in Turkey indicate however that energy conservation remains economically viable even under continued low oil prices.

(d) The timing and costs of investments in the exploration and development of indigenous oil and gas reserves may be affected.

(e) Given the considerable uncertainty of future price movements, risk and uncertainty should become recognized explicitly as an issue in the context of subsectoral planning.

3. The impact of oil price declines on end users will remain a function of Government domestic petroleum product pricing policy. For energy intensive users such as TEK the new prices, had they occurred in 1985 and been passed on to TEK, would have resulted in a decrease in overall operating expenses of about 10%, equivalent to 8% of the investment program for that year.[1/] The Government is reviewing its future domestic petroleum product pricing policy taking into account future expected international price movements, impact of energy prices on comparative advantage of the industrial sector, and fiscal policy.

1/ Despite the fact that TEK has commissioned no new fuel oil fired plants in the last seven years fuel oil still represents in value 54% of TEK's total fuel bill and 20% of real operating costs. Internal cash generation as a proportion of total investment would have improved from 32% to 38%.

TURKEY - ENERGY SECTOR ADJUSTMENT LOAN

SUMMARY OF STUDIES, WORKING PAPERS AND TECHNICAL NOTES IN SUPPORT OF ENERGY SECTOR ADJUSTMENT LOAN (ESAL)

Sector/ Field of Investigation	Title	Type of Study	Source	Brief Synopsis	Objectives for ESAL	Summary of Actions Proposed
1. GENERAL BACKGROUND	(a) Energy Sector Adjustment Loan Working Paper.	Working paper	Bank (EMPPE)	o Provides background working paper for mission members and other interested parties. o Outlines the issues agenda. o Outlines other operational issues relating to procurement, scheduling, etc.	o Summarizes issues and provides guidance for mission members	1. Covers the three issues areas: - Institutions - Investment - Efficiency
	(b) Letter to Deputy Under Secretary, Treasury, Govt. of Turkey	Letter	Bank (EMPPE & EM2A)	o Provides summary for senior Govt. policymakers of policy issues to be addressed under ESAL1.	o Background	1. Background
	(c) Energy Sector Adjustment Loan Mission -- Aide Memoire.	Aide Memoire	Bank	o Summarizes findings of preparation mission. o Identifies steps to be taken by preappraisal.	o Not applicable.	1. Background
	(d) Energy Sector Strategy Paper	SRA	Bank	o Summarizes key issues in energy sector. o Outlines broad strategy for dealing with issues.	o Background	1. Background
	(e) Turkiye 'Nin re Selecktekı Enerji Durumu; and Enerji Istatistikleri		MENR, Govt. of Turkey	o Provides overview of Turkey's energy policy o Provides detailed strategical annexes on the energy sector.	o Background	1. Background

SUMMARY OF STUDIES, WORKING PAPERS AND TECHNICAL NOTES IN SUPPORT OF ENERGY SECTOR ADJUSTMENT LOAN (ESAL)

Sector/ Field of Investigation	Title	Type of Study	Source	Brief Synopsis	Objectives for ESAL	Summary of Actions Proposed
2. INSTITUTIONAL FRAMEWORK	(a) Institutional framework governing the energy sector.	Policy briefing for senior policymakers.	Bank (Con & EMPPE)	o Reviews policy constraints to GOT objectives for involving private investment and for improving public sector efficiency and accountability. o Identifies actions to be taken by GOT to establish an appropriate regulatory framework for both public and private sector. o Focuses on TEK (largest agency) but would be applicable to other revenue-earning energy agencies.	o Agree on the set of substantive issues to be addressed. o Agree on actions to be undertaken by GOT.	1. Establish regulatory body. 2. Redefine "rule of game" for private investors to ensure adequate incentives in place. 3. Redefine "rules of game" for leasing arrangements to encourage private involvement. 4. Train staff and develop manpower to cater to new skills. 5. TEK to have external financial audits by 1987. 6. TEK to change Board composition. 7. TEK to reflect full financial obligations.
	(b) TEK'S financial policies.	Policy briefing for senior policymakers.	Government financed study. (Lazard Frères hired by MENR).	o Analyses of TEK's financial situation. o Proposes policy changes to improve financial autonomy and allow access to foreign and local capital markets. o Govt. to undertake similar effort for TKI once TEK study is complete.	o Agree actions to be taken to lay foundations for improving TEK's financial management and external financing arrangements.	As per 4 through 7 in (a) above.

SUMMARY OF STUDIES, WORKING PAPERS AND TECHNICAL NOTES IN SUPPORT OF ENERGY SECTOR ADJUSTMENT LOAN (ESAL)

Sector/ Field of Investigation	Title	Type of Study	Source	Brief Synopsis	Objectives for ESAL	Summary of Actions Proposed
	(c) Manpower requirements for the Energy Sector (tentative).	SRA	Bank (EMPED)	o Comprehensive review of technical, financial and administrative staffing requirements in support of Govt's energy policies. o Identification of manpower deficiencies. o Identification of adequacy of training facilities. o Recommendations for action.	o To be determined.	1. To be determined. Work in progress.
3. INVESTMENT	(a) Turkey Public Investment Review. See esp volume 4 "Energy Overview, Electric Power, Lignite and Oil and Gas Working Papers".	ERA	Bank	o Reviews sectoral planning and investment across all sectors. o Recommends improvements to existing planning, budgeting and monitoring systems. o Identifies key investment programs within estimated financial constraints.	Agree upon a "core" investment and financing program for the 1987 through 1990 period.	1. Agreed "core" investment program in electricity, lignite, oil, gas sectors. 2. Review on annual basis with Govt. the investment budget and project by project allocations for forthcoming year. 3. No new projects over $50 million to be included in public investment budget without prior discussion with Bank.

SUMMARY OF STUDIES, WORKING PAPERS AND TECHNICAL NOTES IN SUPPORT OF ENERGY SECTOR ADJUSTMENT LOAN (ESAL)

Sector/ Field of Investigation	Title	Type of Study	Source	Brief Synopsis	Objectives for ESAL	Summary of Actions Proposed
	(b) Lignite Sector Study (Green Cover).	SRA	Bank	o Reviews planning institutional, investment issues in the lignite sector. o Concludes that there are a number of deficiencies in sector and outlines recommend-ations. o Identifies uneconomic investments. o Identifies a series of studies focusing on pricing policy, operations and maintenance, etc.	o Agree upon key investments in public investment program for lignite.	1. Agree high priority investments (as above). 2. No uneconomic lignite mines as identified in the report to be included in the public program.
	(c) Elec. Planning & Investment (Green Cover).	SRA	Bank	o Reviews planning procedures and identifies weaknesses. o Illustrates present planning deviates from strict least-cost solutions. o Recommends an action plan to upgrade planning skills. o Identifies key investments, especially in improving operational efficiency.	o Improve planning procedures and practices. o Continue on agreed work program to develop dynamic least-cost program. o Continue efforts to improve operational planning.	1. Govt. prepared revised demand forecast by end 1986. 2. Govt. prepared revised least-cost plan at end 1986. 3. Govt. agrees all new investments should be demonstrated to be part of least-cost plan. 4. Further revisions to least-cost plan by end 1987 and end 1988, respectively have been agreed.

SUMMARY OF STUDIES, WORKING PAPERS AND TECHNICAL NOTES IN SUPPORT OF ENERGY SECTOR ADJUSTMENT LOAN (ESAL)

Sector/ Field of Investigation	Title	Type of Study	Source	Brief Synopsis	Objectives for ESAL	Summary of Actions Proposed
	(d) Energy demand and electricity supply to 2010.	Technical working paper	Ministry of Energy, State Planning Organization, and TEK in collaboration with Bank and Int'l Atomic Energy Agency.	o Detailed energy demand forecast by sector to 2010. o Electricity system planning scenarios designed to identify least-cost paths.	o Agree on growth in energy demand through set of realistic demand projections. o Identify a least cost electricity expansion program to ensure optimal investment program.	1. Agree "core" investment program as identified in (a)(1) above. 2. See (c)(3), (4) above.
	(e) Refinery sector study and master plan.	SRA and Govt. policy paper.	Bank/TUPRAS/ Ministry of Energy.	o Major refinery configuration imbalances now occurring and will be exacerbated by import of natural gas and changes in future demand. o Investments and policy changes needed to ensure that refinery sector is balanced by early 1990. o Operational inefficiencies identified and recommendations made to improve efficiency. o SRA study to feed into Govt. refinery master plan.	o Least-Cost long-term refinery master plan. o Improved operational efficiency.	1. Preparation by TUPRAS of Petroleum Products Supply Options Study. 2. Revise remuneration formula.

SUMMARY OF STUDIES, WORKING PAPERS AND TECHNICAL NOTES IN SUPPORT OF ENERGY SECTOR ADJUSTMENT LOAN (ESAL)

Sector/ Field of Investigation	Title	Type of Study	Source	Brief Synopsis	Objectives for ESAL	Summary of Actions Proposed
	(f) Elec. master-plans for cities (Izmir, Ankara, Istanbul.	Technical studies.	Cons. (EdF) to TEK. Bank financed.	o Masterplan for urban distribution, including investment requirements, staff's technical stdrs.,etc. o Izmir completed as pilot. Ankara, Istanbul underway.	o Least cost investment at distribution land.	1. Implement Izmir study. 2. Complete Istanbul, Ankara.
4. EFFICIENCY	(a) Systems Operations Assistance Project. Staff Appraisal Report.	Staff Appraisal Report	Bank (EMPPE)	o SAR for loan to upgrade operational efficiency in electric power sector. o Identifies equipment for operations and maintenance as well as technical assistance. o Summarizes major technical inefficiencies. o Recommends performance monitoring unit be established in TEK.	o Continue Bank efforts towards improving efficiency in electric power.	1. Continue covenants and agreements under existing loan.

SUMMARY OF STUDIES, WORKING PAPERS AND TECHNICAL NOTES IN SUPPORT OF ENERGY SECTOR ADJUSTMENT LOAN (ESAL)

Sector/ Field of Investigation	Title	Type of Study	Source	Brief Synopsis	Objectives for ESAL	Summary of Actions Proposed
	(b) Study of lignite sector (TKI and MTA).	Comprehensive technical and managerial study.	Consultants (TUSTAS) to Govt. Consultants hired and financed by State Planning Organization.	o Comprehensive inventory of equipment in TKI and its condition. o Review production schedules to ensure timing of demand by power plants is realistic. o Review capacity utilization, operational efficiencies and maintenance records. o Identify actions to improve efficiency and meet demand targets over medium term. o Review management and organization (TKI, MTA) of sector. o Identify equipment needs.	o Identify actions to ensure timely delivery of lignite according to realistic demand schedule. o Identify actions designed to improve operational efficiency and reduce costs of supply. o Identify maintenance and operations equipment.	1. To be determined. Study to be sent to Bank for review and comment.

SUMMARY OF STUDIES, WORKING PAPERS AND TECHNICAL NOTES IN SUPPORT OF ENERGY SECTOR ADJUSTMENT LOAN (ESAL)

Sector/ Field of Investigation	Title	Type of Study	Source	Brief Synopsis	Objectives for ESAL	Summary of Actions Proposed
	(c) Electricity Pricing Study	Technical study with executive summary on pricing policy	Consultants (EdF, France) to TEK. Bank financed.	o Analyses existing tariffs in Turkey. o Recommends new tariffs based on LRMC. o Provides an implementation schedule for reaching LRMC over a 5-year period including pricing changes, metering, etc.	o Identify level and structure of LRMC. o Identify complementary actions to ensure LRMC pricing policy can be implemented.	1. Govt. agrees with principle of pricing at LRMC. 2. Phased program of tariffs to improve structure. 3. Investment program for complementary metering, etc.
	(d) Demand mgt. & conservation study.	Technical rpt.	Consultants (Gopa, Germany) to TEK. Bank financed.	o Identifies actions to improve load analyses. o Identifies actions to improve load curves and save energy and capital. o Integrates studies of pricing and non-pricing effects on demand. o Trains TEK's staff.	o Action plan to implement a demand management program for the electric power subsector.	1. To be determined. Study to be sent to Bank for review and comment.
	(e) National Water Resource Planning.	Technical rpt.	Consultant to MENR. Bank financed.	o Identifies weaknesses in hydro resource analysis and in hydro planning generally.	o Hydro inventory to ensure that most economic schemes are taken up sequentially.	1. Complete hydro inventory by December 1988. 2. Complete Valor Agua program (hydro optimization program) by December 1987.

SUMMARY OF STUDIES, WORKING PAPERS AND TECHNICAL NOTES IN SUPPORT OF ENERGY SECTOR ADJUSTMENT LOAN (ESAL)

Sector/ Field of Investigation	Title	Type of Study	Source	Brief Synopsis	Objectives for ESAL	Summary of Actions Proposed
				o Establishes system for developing a hydro inventory with detailed priorities for investment. o Outlines actions for improved hydro operations in mixed thermal/ hydro system. o Identifies sequence of programs to improve hydro planning and operations.	o Improved hydro operational planning.	3. Integrate results into least cost program.
ENVIRONMENT	(a) Working papers on environment.	Working paper	Bank (PPDES)	o Reviews activities underway and/or planned to improve environment. o Focuses primarily on air quality. o Outlines TA, studies, training, etc.	o Policy discussions with Government. o Identifies equipment, studies and training.	1. Improve emission monitoring in TEK. 2. Integrate environmental planning in development plans. 3. Undertake air quality study in Istanbul: pre and post gas penetration.
	(b) Working paper on resettlement	Working paper	Bank (EMPPE)	o Reviews activities and policies on resettlement. o Focuses on Bank Financed projects.	Assess adequacy of resettlement plans, procedures and policies.	o Review adequacy of resettlement plans on large hydro projects during annual public investment review.

Annex 11

TURKEY

ENERGY SECTOR ADJUSTMENT LOAN

Supplementary Loan Data Sheet

Section 1: Timetable of Key Events

(a)	Date of first presentation to Bank	January, 1986
(b)	Appraisal Mission	February, 1987
(c)	Completion of Negotiations	May, 1987
(d)	Planned Date of Effectiveness	August, 1987

Section II: Special Bank Implementation Actions

None.

Section III: Special Conditions

Disbursement of the second tranche of US$100 million is dependent upon satisfactory progress in the:

(a) preparation of the independent financial audit of TEK (para. 54);

(b) the strengthening of TEK's Board of Directors (para. 55);

(c) implementation of the work program of the regulatory body (para. 61);

(d) preparation of the medium to long term subsector plans for natural gas (para. 66), refineries (para. 67) and electric power (para. 71);

(e) composition and size of the public investment program for energy (para. 77);

(f) implementation of the new refinery remuneration formula (para. 83);

(g) implementation of the new tariff structure (para. 87); and

(h) implementation of the energy conservation program (para. 93).

IBRD 20412

TURKEY
ENERGY SECTOR

BULGARIA
GREECE
U. S. S. R.
ISLAMIC REP. OF IRAN
IRAQ
CYPRUS
Black Sea
Mediterranean Sea
Sea of Marmara

EDİRNE, Kapikule, KIRKLARELİ, Pinarhisar, HAMITABAT, Babaeski, Lüleburgaz, Tekirdag, TEKIRDAG, Keşan, Sarkoy, İSTANBUL, Gebze, IZMIT, APADAZARI, Eceabat, ÇANAKKALE, Can, Bandirma, BURSA, Bursa Orhaneli, Bursa Kelés, BILECIK, Orhaneli, Ayvacik, BALIKESIR, Seka, Seyitomer, Tunçbilek, Ayvalik, Soma Central, Soma Denis, Bergama, Soma, Soma Işiklar, Aliaga, Akhisar, MANISA, Bornova, IZMIR, Çeşme, Simav, KÜTAHYA, ESKISEHIR, Adigüzel, Geothermal, AYDIN, Söke, DENİZLİ, Kemer, Yatagan, Yenikoy, Mugla, Kale, MUGLA, Kemerkoy, Tinaz Boğyaka, Milas Sekköy, Dacta, Dalaman, Fethiye, Korkuteli, Finike, Kepez, ANTALYA, Egridir, İSPARTA, BURDUR, Kovada I, Kovada II, Karacaören, Seydişehir, Konya Beyşehir, KONYA, Ilgin, AFYON, Seka, UŞAK, Emirdağ, Goynuk, Cayirhan, Beypazari, Sariyar, Gökçekaya, Cayirhan, ANKARA, Polatli, Kirikkale, YOZGAT, Yerköy, Kesikköpru, Hirfanli, Kuku, Serefli Kochisar, KIRSEHIR, NEVŞEHIR, Aksaray, NİGDE, Ulukişla, Eregli, Ivriz, Pozanti, Karaman, Yerköprü, Ermenek, Anamur, Gezende, Zeyne, Kayraktepe, Taşucu, Silifke, MERSIN, Tarsus, Kadincik I, Kadincik II, ADANA, Yumurtalik, Isdemir, Karafas, Iskenderun, HATAY, Defne, Samanda, Reyhanli, Vayladagi, Inebolu, SINOP, Karadon, Amasra, Bartin, ZONGULDAK, Catalagzi, Uzulmez, Kozlu, Caycuma, Armutcuk, Ereğli, Karabük, KASTAMONU, Mengen, Ilgaz, Cankiri Orta, CANKIRI, Kizilirmak R., Merzifon, Durucasu, AMASYA, ÇORUM, Alpagut-Dodurga, Almus, TOKAT, Niksar, Kokluce, Koyulhisar, Kilickaya, Zara, SIVAS, Sivas Kangal, Divriği, Refahiye, ERZINCAN, Birlevik, Kangal, Bogazliyan, Sizir, Bünyan, KAYSERİ, Altinkaya, Boyabat, SAMSUN, S. Uğurlu, H. Uğurlu, Hopa, Cakmakkaya, ARTVIN, Artvin, TRABZON, Visera, ORDU, GIRESUN, Doğankent, RİZE, Ikizdere, Tortum, Çoruh R., Oltu, GÜMÜŞHANE, Bayburt, Askale, ERZURUM, Tercan, Horasan, Göle, KARS, Cildir, Kiti, AĞRI, Doğubayazat, Gurbulak, Bingöl Karlıova, Murat R., Bulancak, Ercis, Lake Van, VAN, Engil, TUNCELI, BİNGÖL, Hekimhan, ELAZIG, Kebon, Hazar II, Hazar I, Maden, Karakaya, MALATYA, Perme, Doğanşehir, MUS, BITLIS, Tatvan, Selmo, SIIRT, Batman, Kurtalah, Batan, DİYARBAKIR, Dicle, Dicle R., Ilisu, HAKKÂRI, Cizre, Silopi, Habur, Elbistan, Afsin Elbistan, Menzelet, ADIYAMAN, Siverek, Ceyhan, KAHRAMANMARAS, Sir, Atatürk, Duzkesme - Berke, Ceyhan R., Komorler, Slantas, Taprakkale, GAZIANTEP, Findikli Korkamis, Birecik, URFA, Viransehir, MARDIN, Kiziltepe, Akinci, Cag Cag, Sakhlan, Nusaybin

POPULATION & MAIN INDUSTRIAL CENTERS:
2.5 Million
1.5 Million
500,000
300,000
200,000

National Capital
Provincial Capitals
Rivers
International Boundaries

PROPOSED	EXISTING		UNDER CONST./ FUTURE	IN OPERATION
		Hard Coal		
		Lignite Mines: over 4 million tons/yr.		
		under 4 million tons/yr.		
		Area of Gas Reserves		
		Area of Oil Reserves		
		Refineries		
		Product Pipelines		
		Crude Oil Pipelines		
		Gas Pipelines		
		Thermal Power Plants: under 1000 MW		
		Thermal Power Plants: over 1000 MW		
		Hydro Power Plants: under 1000 MW		
		Hydro Power Plants: over 1000 MW		

Major Energy Resources of Turkey (70% of hydro, 60% of lignite, 100% of oil)

0 20 40 60 80 100 KILOMETERS

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MAY 1987

THE WORLD BANK INTERNATIONAL FINANCE CORPORATION

OFFICE MEMORANDUM

4/24
430

4-217
4/23/87

DATE: April 23, 1987

TO: Messrs. Stern, Qureshi, Husain, Shihata, King and Wapenhans

FROM: Vinod Dubey, Director, CPD

EXT: 60061

SUBJECT: TURKEY: Proposed Energy Sector Adjustment Loan (Green Cover Package)
Loan Committee Meeting Agenda

1. The Loan Committee will meet on Friday, April 24, 1987, at 4:30 p.m. in Room E-1208 to discuss a $300 million Energy Sector Adjustment Loan for Turkey. The Committee may wish to take up the following issues.

Background

2. The Loan Committee had considered the Initiating Memorandum for this operation on November 7, 1986 and given sanction to its appraisal. On January 22, 1987 the Operations Policy Committee discussed a Country Assistance Strategy Brief (DCB) for Turkey and approved an expanded lending program averaging $1,100 million a year in the period FY87-91. In the lending program energy sector lending has been set at about a quarter of all lending, covering nine operations over the 5-year period, including this Energy Sector Loan (at $250 million in both the Initiating Memorandum and the DCB) to be followed by a second Energy Sector Loan in FY89. Half the amount of the current loan would support the Government's energy investment program in 1987-89, and the other half would support policy and institutional reforms, disbursing quickly in equal tranches approximately twelve months apart.

3. The draft President's Report lists the various sector investments to be financed by this loan in the three-year period 1987-89, and these add up to $1200 million, including contingencies. The investments span electricity transmission, power plants, technical assistance and training, telecommunications for pipelines, oil exploration, etc. Over the same period total "requirements" for the energy sector are put at $2.5 billion a year, of which 60% in foreign exchange so that the Bank would be financing a little over a quarter of the foreign exchange cost of the program. The agenda for policy and institutional reforms is also wide-ranging and includes the conversion of existing direct public controls of this sector to a regulatory framework under which efficient public as well as private operators could work; ensuring that future energy investments would be made at least cost to the economy; encouraging energy conservation and development, and engendering good operating practices throughout.

Should this be an Adjustment Operation?

4. At the Initiating Memorandum stage the Committee showed concern over the large number of tasks and activities that have to be accomplished before the loan could be made effective, and directed that as many of these as possible should be secured before Board presentation. The Committee also

thought that the one tranche initially proposed would not be appropriate in view of the multiplicity of institutional and policy changes that remains to be completed, and the need to monitor progress [Minutes of the Loan Committee, LC/M/86-36, dated November 13, 1986, para. 6.]. In the present design two tranches replace one, but several tasks remain to be pursued. Listed in Table 2, p. 36 of the draft President's Report under "Actions in Support of Government Energy Sector Program" are five actions to be completed by 6/30/87 before the loan could become effective, including major steps without which much of these reforms will not be possible. These cover preparation of legislation for restructuring TEK to be submitted to the Bank for comment; provision of a short list of financial auditors for TEK; completion of a study of TKI to be submitted to the Bank for comment; establishing a steering committee and naming its members under the Ministry of Energy and Natural Resources (MENR) to prepare for a "new refinery remuneration formula"; preparation of a work program and selection of consultants for the MENR regulatory body for electricity. Three additional tasks are to be completed within four months after effectiveness and embodied in dated covenants. The covering memorandum of Mr. Stoutjesdijk, dated April 16, furthermore draws attention to the lack of progress over TEK management reform and in particular the reluctance of the Government to change the composition of its Board in line with the proposed reforms. The same memorandum also draws attention to violation of financial convenants under existing loans, especially under TEK IV Transmission, and the Region is suggesting that observance of these covenants be a condition of Board presentation.

- o In view of the above, and considering that Bank participation in the investment program would be of sufficient weight to induce policy change without recourse to quick disbursement, the Committee may wish to consider either that the "quick disbursing" half of the loan be back-loaded to the second tranche release, or alternatively that this operation should proceed not as an adjustment loan, but as a sector investment one with policy conditions formulated as dated convenants.

A B-Loan Operation

5. In light of increased Bank and preferred creditor exposure as discussed by the OPC January meeting on Turkey, the Region has been exploring alternatives to a B-loan operation -- alternatives that would not further increase Bank exposure. Country reaction has been sharp against the notion of suspending the B-loan instrument and using instead a guarantee option for raising finances from commercial sources. While the subject is being further explored, the Region has requested permission (Mr. Lari's memorandum of April 17 to the Loan Commitee) to launch one final B-loan for Turkey in connection with this loan. Being proposed is appropriate Bank participation in both a yen-funding of about $150 million, together with a eurodollar operation (using either funding or guarantee) to yield about $100 million in readily available foreign exchange. The inclusion of one or more B-loan operation of $300 million in the projections, according to Mr. Lari's memorandum, would raise preferred creditor exposure in Turkey to 34% and Bank exposure to 21.7%.

- o The Committee may wish to discuss the appropriateness of this proposal considering the exposure levels mentioned.

Riparian Rights -

6. The Bank's support for the energy sector 1987-89 investment program as explicitly set out in the President's report, implies endorsement of three hydro projects on international rivers (Dicle, Karakaya and Ataturk). The President's report (para. 100) gives details of finance for these projects already secured or in the process of being mobilized.

- o The Committee might enquire about the international legal ramifications of the Bank's involvement in the sector's investments, of which these three projects form an important part.

cc: Messrs. Dervis, Rajagopalan, Stoutjesdijk, Pranich, Asfour, Reekie, Chaffey, Liebenthal, Eschenberg

Messrs. Hasan, Kopp, Michalopoulos, Roger, Jansen
Clements, El Maaroufi, Sam, Ms. Donovan
Choksi (o/r), Huang, El Serafy

THE WORLD BANK INTERNATIONAL FINANCE CORPORATION

OFFICE MEMORANDUM

DATE April 16, 1987

TO Mr. Eugenio F. Lari, Acting Vice President, EMENA

FROM Ardy Stoutjesdijk, Director, EM2DR

EXTENSION 3-2440

SUBJECT TURKEY - Proposed Energy Sector Adjustment Loan

1. Attached for your approval and subsequent distribution to the Loan Committee are drafts of the President's Report and Loan Document for the above proposed loan of US$300 million to the Republic of Turkey. A copy of the latest five year lending program is also attached.

2. The President's Report reflects the Initiating Memorandum, dated October 30, 1986, as well as the recommendations of the Loan Committee as reflected in Loan Committee minutes, dated November 13, 1986. There are two issues to which I would like to draw your attention.

3. The first concerns the status of legal obligations under existing loans. Under several loans, but most recently under loan 2586-TU (TEK IV Transmission), TEK was to reach a level of 35% internal cash generation and maintain a current ratio of at least one. In 1986 internal cash generation (adjusted to meet the current ratio covenant) reached a level of 32%. For 1987 internal cash generation is estimated to be only 21%. To meet the 35% target for 1987 through tariff adjustments alone would require about a 26% tariff increase effective July 1, 1987. The President's Report assumes that such an increase, which would also put tariffs in real terms up to the levels reached in early 1986 when tariffs were roughly at economic costs, will be introduced. However, the Government has informed us that immediate tariff increases of this magnitude are unlikely. Actions other than tariff increases could be taken to meet the required financial covenants; however, such actions would imply an erosion in real tariff levels and hence a move away from economic costs. We have asked the Government to bring to negotiations an action plan demonstrating how the financial covenants will be met. We propose that implementation of an action plan, satisfactory to the Bank, be a condition of Board presentation.

4. The second issue concerns the size and composition of the TEK Board. The Government has agreed to implement actions to make TEK a more efficient institution including, inter alia, "strengthening TEK's Board of Directors to enable it to assume its role as an effective policy making body and overseer of TEK's management". However we have not, as yet, been able to agree upon the specific actions to be implemented. The Government has

indicated its reluctance to allow representatives external to Government to sit on TEK's Board. Our position, is to seek the introduction of a Board with a non-majority of TEK management and to separate the duties and functions of General Manager and Board Chairman. However we anticipate difficulties in reaching agreement with the Government during negotiations.

Distribution

Messrs. Chaffey (EM2DA), Reekie (EMP), Mills (LOA)
Ms. Santos (LEG)

HEschenberg:ds

ES

THE WORLD BANK/INTERNATIONAL FINANCE CORPORATION

OFFICE MEMORANDUM

very much

Received 4/17/87

Circulated 4/22/87

DATE: April 17, 1987

TO: The Loan Committee

FROM: Eugenio F. Lari, Acting Vice President, EMENA

EXTENSION: 3-2445

SUBJECT: TURKEY - Proposed Loan to the Republic of Turkey for the Energy Sector Adjustment Operation

1. The Committee is requested to consider the attached President's Report and loan document which were submitted under cover of the attached memorandum with which I concur. The Initiating Memorandum for this loan is dated October 30, 1986. Questions should be directed to Mr. Horst Eschenberg. (Ext. 3-2854).

2. In accordance with the decision of the OPC of January 22, 1987, suspending the use of the B-loan instrument in Turkey due to exposure concerns, we have explored with the Turkish authorities the possibility of using the guarantee option for the proposed financing from commercial sources referred to in para. 106 of the President's Report. We did this in order to explore whether a Bank umbrella over the commercial funding could offer some benefit to the Turkish authorities through, for example, better terms. We have been informed that the Government is not, however, interested as it is feared that the use of this instrument at this time would give an undesired signal to the market. We have also informally sought a reaction to the use of the guarantee option from commercial banks in Japan. Their view is, however that a successful syndication in the near future would require a direct funding participation by the Bank.

3. The Turkish authorities have reacted rather sharply to the suspension of the B-loan instrument on three grounds:

(i) with the agreement of the Bank they had planned on the quick disbursing benefits to be derived from a funding operation in connection with ESAL at the time when their 1987 program was prepared;

(ii) although they were making progress with the development of a medium-term borrowing program, the international environment was not propitious and net disbursements of medium and long-term loans from commercial sources have averaged zero over the past two years; and

(iii) provisioning on loans for Turkey will continue in the Tokyo market through 1988, thereby underlining the value of the B-loan instrument for Turkey in gaining access to the Japanese market.

4. The preferred creditor ratio for 1986 for Turkey stands at 34.4 percent. It has recently risen to this level because of exchange rate adjustments and growth of certain debts such as from the European Settlement Fund. The IBRD exposure ratio was 19.2 percent in 1986. Our projections for 1987 show that the preferred creditor ratio will decline to 33 percent. However, the IBRD exposure ratio will rise to about 21.4 percent. Inclusion of one more B-loan operation of $300 million in the projections would result in an IBRD exposure ratio in 1987 of 21.7 percent while the preferred creditor ratio would be about 34 percent. The marginal rise in both ratios would reflects the small proportion that such a B-loan would represent in Turkey's total multi-lateral debt.

5. In view of this situation, we hereby request authority to launch one final B-loan operation for Turkey in connection with this loan. The precise dimensions of the operation would have to respond to the market. But we would propose a yen funding in the order of $150 million coupled with an eurodollar operation using either the funding or the guarantee option (with supplier credits), designed to yield about $100 million in readily-available foreign exchange, with appropriate Bank participation in both market deals.

Distribution

Messrs. Stern (3)(SVPOP), Husain (OPSVP), Qureshi (2)(SVPFI), Shihata (VPG), King (VPERS), Wapenhans, Dervis, Dhanji (EMNVP), Köpp (PPD), Dubey (3)(CPD), Churchill, Golan (EIS), Reitmaier (IMF). Rajagopalan, Pranich, Reekie, Liebenthal, Jones (EMP), Baneth (EPD), Jansen (PBD), Goldberg (LEG), Stoutjesdijk, Chaffey, Asfour Suzuki, Eschenberg, Balkind (EM2), Mills (LOA)

Mesdames Santos (LEG), O'Donnell (EM2)
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HEschenberg/JChaffey:jed

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REPORT AND RECOMMENDATION

OF THE

PRESIDENT OF THE

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

TO THE

EXECUTIVE DIRECTORS

ON AN

ENERGY SECTOR ADJUSTMENT LOAN

IN AN AMOUNT EQUIVALENT TO US$300 MILLION

TO THE REPUBLIC OF TURKEY

April 10, 1987

TURKEY

ENERGY SECTOR ADJUSTMENT LOAN

CURRENCY EQUIVALENTS

Currency Unit	Jan.1980 a/	Jan. 1982	Jan. 1983	Jan. 1984	Jan. 1985	Jan. 1986	Jan. 1987
USDollar	TL 70.00	TL 139.60	TL 191.15	TL 309.20	TL 451.00	TL 585.1	752.9
TL 100	US$1.43	US$0.72	US$0.52	US$0.32	US$0.22	US$0.17	US$0.131

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a/ Since January 1980, the rate is being adjusted for the differential inflation between Turkey and its major trading partners. In this report it is assumed that this policy will continue.

FISCAL YEAR

Republic of Turkey — January 1 - December 31

WEIGHTS AND MEASURES

kVA	=	kilovolt ampere
kW	=	kilowatt
kWh	=	kilowatt hour
GWh (Gigawatt hour)	=	1,000,000 kWh
kV (kilovolt)	=	1,000 volts
MSCT/day	=	million standard cubic feet/day
MW (Megawatt)	=	1,000 kW
MVA (Megavolt-ampere)	=	1,000 kVA
MVAR (Megavolt-ampere)	=	1,000 KVAR
One meter (m)	=	3.28 feet
One kilometer (km)	=	0.624 mile
One kilogram (kg) (1,000 kg)	=	2.2 pounds
One ton (metric ton) (1,000 kg)	=	2,205 pounds
One kilocalorie (kcal)(1,000 calories)	=	3.968 BTU
toe	=	tons of oil equivalent

TURKEY

ENERGY SECTOR ADJUSTMENT LOAN

List of Abbreviations

BOT	-	Build, Operate, and Turnover
BOTAS	-	Turkish Pipeline Corporation
CEAS	-	Cukurova Electric Company
CHP	-	Combined Heat and Power
DSI	-	State Hydraulics Authority
DYB	-	State Investment Bank
EIE	-	Electricity Survey Administration
GDE	-	General Directorate for the Environment
GDPA	-	General Directorate for Petroleum Affairs
IAEA	-	International Atomic Energy Agency
IGDAS	-	Istanbul Gas Distribution Company
KEPEZ	-	Kepez Electric Company
LRMC	-	Long Run Marginal Cost
MENR	-	Ministry of Energy and Natural Resources
MTA	-	Mineral Research Institute
POAS	-	Petrol Ofisi
PSBR	-	Public Sector Borrowing Requirement
SEE	-	State Economic Enterprise
SPO	-	State Planning Organization
TEK	-	Turkish Electricity Authority
TKI	-	Turkish Coal (Lignite) Enterprises
TTK	-	Turkish Hard Coal Enterprise
TPAO	-	Turkish Petroleum Corporation
TUPRAS	-	Turkish Refineries Corporation

TURKEY
ENERGY SECTOR ADJUSTMENT LOAN

Borrower	:	Republic of Turkey
Beneficiaries	:	Energy Sector Agencies
Amount	:	US$300 million equivalent
Terms	:	17 years including 4 years grace, with interest at the standard variable interest rate.
Description	:	The proposed loan would support the Government's reform program in the energy sector, designed to make the sector more efficient and provide a better base for industrial and economic growth. The loan would also support the Government's energy investment program for the period 1987 through 1989.
Benefits and Risks	:	Implementation of Government's energy sector adjustment program would result in several significant benefits to the economy. It would: ensure movement towards Government's objectives of liberalization as outlined in the structural adjustment program; increase the stock of trained manpower in the sector; lay the foundation for increasing the flows of private capital to the sector; and, reduce both recurrent and capital public expenditures through improved efficiency. The main risks relate to the uncertainties regarding the level and timing of private investment, volatility of demand forecasts and their impact on investment, and the pace of price adjustments necessary for implementing cost recovery policies. We believe that efforts to reduce these risks to an acceptable level have been taken.
Estimated Disbursements	:	Full disbursement of the loan would take place over a two and a half year period. The loan would include US$150 million in direct support of the policy reform program to be disbursed in two tranches - US$75 million at effectiveness and US$75 million approximately one year after effectiveness. The balance (US$150 million) would be utilized to fund the foreign exchange costs of goods, equipment and technical assistance needed for the 1987-1989 energy investment program.
Staff Appraisal Report	:	Not applicable
Map	:	IBRD: _____

TURKEY

ENERGY SECTOR ADJUSTMENT LOAN

TABLE OF CONTENTS

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INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

REPORT AND RECOMMENDATION OF THE PRESIDENT OF THE IBRD TO THE EXECUTIVE DIRECTORS ON A PROPOSED ENERGY SECTOR ADJUSTMENT LOAN TO THE REPUBLIC OF TURKEY

1. I submit the following report and recommendation on a proposed Energy Sector Adjustment Loan to the Republic of Turkey for the equivalent of US$300 million to support the Government's program of reforms in the energy sector. The loan would have a term of 17 years, including 4 years of grace, at the standard variable rate.

PART I - THE ECONOMY

Background

2. A Bank report reviewing the Government's Fifth Development Plan (1985-89) entitled, "Turkey: Vth Five-Year Plan in the Context of Structural Adjustment" (5418-TU) was distributed to the Executive Directors in July 1985. A report entitled, "Turkey: Adjusting Public Investment" (6603-TU) was distributed in March 1987.

3. Turkey's population of about 50 million, with a per capita income of $1,130 in 1985, inhabits an area about the size of France and West Germany combined. Population density is low (65 per square kilometer) and about half of the population lives in urban centers. Population growth averaged 2.4 percent per annum between 1980 and 1985. Despite sustained economic growth over the past six years, unemployment remains high. The labor surplus rate, which includes open unemployment, the proportion of unemployed not seeking work and disguised unemployment in agriculture, is estimated at about 15.5 percent. There is little absolute poverty but considerable differences in income exist between regions and between rural and urban communities. Recent data indicate a probable increase in income inequality since the 1970s. Educational enrollment at the primary level has become practically universal. Most health indicators, including infant mortality rates, have shown substantial improvement over the past two decades, but here too regional and sectoral disparities remain significant.

4. Turkey's natural resource base, including hydropower, lignite and other minerals, and its agricultural and tourist potential are considerable, while its basic infrastructure is already well developed. The present Government sees the country's long-term development based on a competitive

trading economy, backed by a more efficient, restrained public sector. Within this framework, sustained economic growth, consistent with domestic and external financing constraints, will be needed to provide continued employment opportunities for Turkey's growing population and improve economic welfare particularly in the less developed regions. The achievement of these goals will, to a large extent, depend on the appropriate interaction between public and private sectors to identify areas of comparative advantage and allocate resources efficiently.

5. Turkey was successful in generating rapid growth with low inflation through much of the 1960s and 1970s. However, an inadequate adjustment to the first oil shock and subsequent recession in the OECD countries contributed to an unsustainable balance of payments position by 1977. Growing current account deficits in the mid-1970s, financed largely through short-term borrowing, more than tripled external debt between 1974 and 1977. Following the virtual cessation of external financing and accumulation of arrears, comprehensive debt rescheduling agreements were negotiated between 1978 and 1980 with both private and official creditors. Meanwhile, the shortage of foreign exchange and imports led to disruptions in industrial production, declines in real GNP in 1979-80, rising unemployment and a sharp acceleration of inflation.

6. In response to the crisis of the late 1970s, the Turkish authorities initiated a wide ranging program of economic reforms in 1980, supported by the IMF and World Bank adjustment lending, designed to promote allocative efficiency through greater reliance on market forces and the private sector and to achieve an outward orientation of the economy through trade liberalization and export promotion. The program represented a major break with past policies, which had favored import substitution, market intervention and reliance on state enterprises. At the same time, an extended stabilization program was implemented to restrain the growth of domestic demand, in order to attain a manageable external payments position and restore international creditworthiness.

Recent Economic Developments

7. The Turkish economy has displayed a creditable overall response to the stabilization and structural adjustment measures. Real GNP grew at an annual average rate of over 5 percent during 1981-86, while the current account deficit was reduced from 6 percent of GNP in 1980 to under 2 percent in 1985 before rising to about 2.6 percent in 1986. Inflation, which accelerated to over 100 percent in 1980, fell to below 30 percent in 1986. While unemployment has remained high, this can in part be attributed to a secular decline in agricultural employment and, since 1984, a decline in the number of Turkish workers abroad.

8. Improvement in the balance of payments between 1980 and 1985 was made possible by the very rapid expansion of exports, which grew at an annual average rate of more than 20 percent, more than tripling their share of GDP from 5 to over 15 percent. Exports of industrial products, composed primarily

of processed foods and textiles, grew particularly rapidly, increasing their share of total exports from 36 percent in 1980 to 75 percent in 1985. This impressive export performance was achieved through the maintenance of a flexible and realistic exchange rate, substantial progress in liberalizing the import regime, as well as direct measures such as tax rebates and preferential credits to enhance the relative profitability of exports and offset the traditional bias towards production for the domestic market.

9. The improvement in the balance of payments was initially aided by a stringent policy of demand restraint facilitated by a significant tightening of fiscal policy. The public sector borrowing requirement (PSBR) consequently declined from about 10 percent of GNP in 1980 to about 6 percent in 1982. However, between 1982 and 1984, fiscal deficits grew in real terms, due mainly to disappointing revenue performance. The introduction of a value added tax in 1985 was successful in reversing this downward trend. However, further significant reduction of the PSBR, which is estimated at about 6 percent of GNP in 1986, has been constrained by the rapid growth of public investment and the growing share of interest payments on both foreign and domestic public debt.

10. Price trends between 1980 and 1985 closely reflected fiscal performance. Thus, the annual average increase in wholesale prices decelerated from 107 percent in 1980 to 27 percent in 1982 before accelerating to 50 percent by 1984. In 1985, tighter fiscal policy and higher real interest rates, which helped to channel liquidity towards savings rather than consumption, slowed the growth of domestic demand, and inflation fell to 43 percent. In 1986, inflation decelerated to 30 percent (25 percent measured on a December-over-December basis) despite a sharp rise in the growth of real domestic demand of nearly 9 percent and real GNP growth of nearly 8 percent. This improved inflation performance was greatly aided by the decline of world oil prices and a good harvest. In addition, reduced reliance on Central Bank financing of the budget deficit in 1986 permitted a slowing in the growth of broad money, although by year-end the Government's target for M2 had been slightly exceeded.

11. A prominent feature of the reform process has been to focus the public investment program on infrastructure while encouraging the private sector to play the major role in manufacturing. These priorities remain in place. However, since 1985 the growth of public fixed investment has been extremely rapid, estimated at about 13 percent in 1985 and 10 percent in 1986, compared to an annual average rate of growth of only 2 percent during 1982-84. A principal cause appears to be the initiation of a policy of fiscal decentralization in 1985 whereby local governments and extrabudgetary funds[1/]

1/ Extrabudgetary funds were created to address specific social objectives and provide funding for priority projects. Although such funds have existed since the 1960s their number and importance have expanded greatly since 1984. By 1986, extrabudgetary funds accounted for about 14 percent of public sector (excluding State Economic Enterprise) expenditure compared to less than 5 percent in 1983.

pressing social needs such as low income housing and improvements in municipal infrastructure in a more effective manner than was possible through the traditional budget process. The funds were also used to expedite the implementation of high priority public investment projects, particularly in the hydropower subsector. However, the fragmentation of public sector resource management appears, in some cases, to have weakened project selection. Recognizing the adverse impact of excessive public investment growth on domestic demand and the balance of payments, the Government took a series of measures during the second half of 1986 to gain greater control of investment outlays and has targeted a slower rate of growth for 1987. Nevertheless the rationalization of public investment remains a high priority for Government.

12. A persistent constraint in recent years to private investment has been the prevalence of high interest rates for non-preferential credits which remain in the 70-90 percent range. Nominal interest rates for such credits have remained relatively stable despite the sharp deceleration of inflation since 1984. There are several causes. High and variable rates of inflation since the late 1970s appear to have led to a degree of public skepticism regarding the feasibility of a sustained reduction in inflation. The financing requirements generated by fiscal deficits, which are large in relation to the level of available private and foreign savings, also tend to drive up interest rates and crowd out private sector borrowing. In addition, the intermediation costs of financial institutions remain high due to relatively high rates of taxation and the significant level of non-performing assets which banks are currently carrying. The existence of high lending rates has necessitated the use of Government investment incentives and preferential credit for priority sectors such as manufacturing and housing. The use of preferential instruments will persist until there is a substantial reduction of real lending rates. A recent review of private investment in industry has shown that investment did pick up in 1986, but that a number of factors continue to inhibit the climate i.e. high real interest rates, uncertainty about the economic outlook and about inflation. High interest rates have thus led to greater reliance on financing out of retained earnings, which itself has not been a major deterrent to private investment in the energy sector, since only firms with large financial resources have the capacity to finance projects in the sector.

13. The current account deficit in 1986 is estimated to have widened to $1.5 billion (a 50 percent increase over 1985), despite savings of about $1.4 billion accruing from lower oil import prices. This deterioration can largely be attributed to a combination of weak external demand, rising domestic demand and a weakening of the U.S. dollar. The decline of exports to Turkey's major Middle Eastern trading partners as a result of their loss of purchasing power to a considerable extent offset the beneficial impact of lower imported oil prices. Through most of 1986 Turkey's exports to the OECD countries also declined compared to 1985. Total exports in 1986 are estimated to have declined by about 9 percent in value terms, in marked contrast to the impressive growth achieved during the 1980-85 period. The growth of domestic demand, especially investment, generated a large increase in non-oil imports, thus limiting the decline of total imports resulting from lower oil prices.

Compounding the difficulties experienced in the trade account, receipts from workers' remittances and tourism also declined in 1986. The decline of workers' remittances was in part caused by the economic downturn in the Middle East and the drop in the number of Turkish workers in Europe, but also reflected their continuing substitution by transfers to the capital account in the form of non-resident foreign exchange deposits.

14. Turkey's improved international creditworthiness since the early 1980s is reflected in the resumption of private capital inflows in the form of trade credits since 1982 and syndicated medium-term financing since 1983. In addition, in 1986 direct foreign investment is estimated to have risen significantly, although it is still small in relation to external borrowing. Short-term foreign borrowing also grew rapidly during 1985-86. In 1986, this growth largely reflected increased Central Bank borrowing to finance the higher than anticipated current account deficit and the need to extend trade credits to those Middle Eastern trading partners suffering from foreign exchange shortages as a result of the fall in oil prices.

15. Turkey's trade regime since 1980 has undergone a fundamental transformation through reductions in quantitative restrictions and tariffs on imports and provision of export incentives which together have substantially reduced the anti-export bias which prevailed prior to 1980. In 1984, the Government shifted its emphasis from granting direct export incentives to relying more heavily on market oriented mechanisms, in particular the exchange rate. However, this trend appears recently to have been halted following the disappointing export performance in 1986. Export tax rebates on average have been raised while a preferential export credit facility operated through the Central Bank was reinstated in January 1987. In addition, to finance the growing expenditures of the extrabudgetary funds, the use of dollar denominated levies on selected imports, the revenues from which are generally earmarked for use by a particular fund, has been greatly expanded. Although the average tariff rate has continued to decline, the overall level of nominal protection is therefore estimated to have risen marginally in 1986. However, quantitative restrictions on imports have continued to be relaxed, offsetting to some extent the increase in nominal protection.

16. Turkey's external debt at end-1986 is estimated at $30 billion, equivalent to about 52 percent of GNP and 240 percent of total exports. Since about half of Turkey's debt is denominated in currencies other than the US dollar, the recent decline of the dollar accounts for much of the rapid growth of debt measured in dollars over the past two years. The proportion of short-term to total debt has also risen from 20 percent in 1984 to over 30 percent in 1986. In addition to the necessity to finance a higher than anticipated current account deficit in 1986, the recent growth of short-term debt also reflects the preference still exhibited by both foreign creditors and private sector borrowers in Turkey for contracting short rather than long-term obligations. For 1987, the Government intends to rely to a greater extent on medium-term external borrowing while sharply limiting the growth of short-term trade financing. It should also be noted that about half of the reported short-term debt at end-1986 consisted of Turkish non-residents'

claims on both the Central Bank (through the Dresdner Bank scheme)[1/] and commercial banks. These capital inflows have traditionally been stable. Indeed the bulk of Dresdner Bank deposits have maturities of longer than one-year, and therefore could technically be classified under medium and long-term debt. On the other hand, the largely short-term foreign exchange liabilities of commercial banks to domestic residents, estimated at about $2 billion at end-1986, are not included in the external debt statistics.

17. Turkey's debt service payments have risen sharply since the expiration in 1984 of the grace periods on payments due under the OECD reschedulings of 1978-80. Principal payments due from the 1979 commercial bank rescheduling (as amended in 1982) have also raised debt servicing requirements, while net repayments to the IMF have risen following the termination of the most recent IMF standby arrangement in early 1985. Total debt service (including IMF repurchases and charges and interest on short-term debt) rose from $3.0 billion in 1984 to about $4.7 billion in 1986. The debt service ratio thus rose from 26 percent in 1984 to an estimated 37 percent in 1986, reflecting also the decline of exports last year.

18. Turkey remains creditworthy for Bank lending. The Bank Group's share of Turkey's total external debt grew from 7 percent in 1980 to an estimated 16 percent in 1986. Debt outstanding and disbursed to the Bank at end-1986 amounted to $4,838 million of which $939 million was accounted for by exchange rate adjustments resulting from the recent weakening of the U.S. dollar. The Bank's share of Turkey's total external debt is expected to grow gradually through 1988, after which it is projected to decline, regaining the 1986 level of about 16 percent in 1990. Turkey's debt service payments to the Bank in 1986 amounted to $558 million, equivalent to about 12 percent of total debt service in 1986. This share is projected to rise to about 17 percent by 1990.

19. Turkey's economic performance over the past six years compares favorably with that of other middle-income developing countries confronted by external financing difficulties. In large part, this relative success has been the result of the Government's ability to strike an appropriate balance between the objectives of stabilization and growth, while maintaining economic liberalization as the theme of the adjustment program. However, the rapid growth of public investment observed during 1985-86 strained the balance of payments position, forced a reversal of aspects of the trade liberalization process witnessed through 1985 and prevented a further decline of fiscal deficits. By mid-1986, the Government had begun to take measures to regain internal and external balance. However, in view of the need to reduce fiscal deficits to more sustainable levels and given the prospect of heavy external debt servicing requirements, an intensification of the stabilization effort may become necessary, particularly if export performance does not pick up in 1987.

1/ Whereby deposits from Turkish workers abroad are collected by the Dresdner Bank and placed at the deposition of the Central Bank of Turkey, which guarantees the deposits and pays an attractive interest rate.

Medium Term Prospects and Policies

20. In order to reverse the recent deterioration in the balance of payments and continue the progress in lowering inflation, the Government's annual economic program for 1987 calls for slower growth and tighter fiscal and monetary policies vis-a-vis 1986. Thus real GNP is targeted to slow to 5 percent, inflation to 20 percent and the fiscal deficit is to be curbed through a reduction in the growth of public fixed investment to 6.4 percent and an increase in the value-added tax from 10 to 12 percent (enacted in December 1986). These targets together with export volume growth of about 10 percent are assumed to be consistent with a reduction of the current account deficit to $1 billion, but the attainment of this target might require further restraint in the growth of domestic demand.

21. The strength of the export recovery in 1987 and beyond is likely to be a crucial determinant of the pace and nature of Turkey's development prospects. With merchandise exports in 1986 comprising only 13 percent of GNP, the potential for significant export growth clearly exists. In the short-run, reemphasizing the role of discretionary export incentives may help to revive the export drive. However, these incentives can only be maintained at significant fiscal cost or by generating offsetting revenue through greater reliance on import protection. Therefore, a more sustainable export strategy over the medium-term would place greater emphasis on the exchange rate to maintain competitiveness while constraining the expansion of domestic demand. The impact of the recent expansion in the use of import levies on production and export incentives will also have to be carefully re-examined. Greater emphasis on marketing, quality control and diversification of exports to countries benefiting from lower oil prices will also be necessary. While all these aspects will be important, it is worthwhile to emphasize that Turkey's efforts to raise exports can only succeed if protectionism in OECD markets does not intensify.

22. The Bank's base case projections assume an export growth rate of 6.4 percent in real terms for the 1987-91 period. Real GNP growth of about 5 percent over this period could then be achieved with a gradual decline in the current account/GNP ratio, permitting a parallel decline in the ratios of debt to both GNP and exports. Debt service obligations in 1987-88 are projected to remain high with the debt service ratio staying at about the same level as in 1986, i.e. 37 percent. However this ratio is projected to decline to about 32 percent by 1991, reflecting the completion of repayments of earlier rescheduled debt and projected growth in exports. Gross capital inflows averaging $4.8 billion a year through 1991, excluding the rollover of short-term debt, would be required to finance annual current account deficits of between $1 and $1.5 billion, moderate reserve increases and amortization payments which are expected to average almost $3.3 billion a year.

23. If export growth were to be significantly slower than projected in the base case, real GNP growth would have to be slowed considerably, while real indebtedness would nonetheless rise. In such a situation, it would be more difficult for the economy to absorb a sufficient share of new labor market entrants to prevent a rise in unemployment. Domestic protectionist pressures would likely be more difficult to contain while other aspects of the Government's program of economic liberalization would also be jeopardized.

PART II - THE ENERGY SECTOR

Sector Profile

24. Turkey's energy sector is a large, diverse and complex sector covering some eleven public and three private sector agencies, and a wide range of indigenous resources. The sector dominates public sector expenditures, and employs over 100,000 people.

Energy Resources

25. Turkey has substantial untapped lignite and hydropower resources, as well as more limited but still important, oil, gas and coal resources, and geothermal potential. Hydropower with potential economic viability is estimated at about 31,000 MW, corresponding to an annual production of about 105,000 Gwh (under average hydrological conditions). Only 15-20 percent has been developed so far, although this is projected to rise to about 30 percent by 1990. Proven recoverable reserves of oil are about 16 million tons, equivalent to one year's consumption; although potential reserves that may become economically recoverable using enhanced oil recovery techniques, could reach 30 million tons. Oil production has been declining over the past decade as few discoveries have been made in recent years. Proven recoverable gas reserves are about 400 billion standard cubic feet, although domestic gas supplies are to be supplemented from 1987 onwards by large scale imports of natural gas from the USSR (para. 72).

26. Total known reserves of hard coal are estimated at about 1 billion tons, all located in Northern Turkey. Coal production has been declining as operations move to deeper, less accessible seams. Production in 1985 was around 4 million tons (2.5 million toe). Lignite reserves are estimated at 8.2 billion tons, but about half of this is of extremely low quality (1,000 kcal/kg). Lignite production in 1985 was about 25 million tons, equivalent to 7 million toe. There is technical potential for geothermal (for space heating and electricity generation) and bituminous shales, however existing international energy prices provide insufficient incentive for major development at present.

Energy Balances

27. Historical growth in final energy consumption has been about 5.5 percent per annum since 1972, with per capita consumption growing at around 3.0 percent per annum over the same period. Total energy consumption in 1985 was about 42 million toe, of which commercial energy consumption amounted to 34 million toe (80 percent). Petroleum made up the most significant share of primary energy (57 percent), with lignite (21 percent), hydropower (11 percent), coal (11 percent) and others making up the balance. Overall about 16 percent of final commercial energy consumption was in the form of electricity. The most notable changes in the pattern of energy consumption over the past two decades have been the decrease in the relative share of hard coal, the increase in petroleum, and the rapid rise in indigenous lignite and hydropower. Approximately 44 percent of total

commercial energy requirements were met from domestically produced resources, the balance (56 percent) imported primarily in the form of liquid petroleum products, electricity from Bulgaria and USSR, and hard coal.

28. Despite the international energy price increases in the 1970's, energy intensity, as measured by energy utilized per $ of GDP, increased by over 12 percent between 1972 and 1980. Energy intensity peaked in 1980 and has, since then, shown a gradual decline - a function possibly of Government's energy pricing policy during the 1980s (para. 89).

29. Electricity, which averaged about 11 percent of total consumption of primary energy grew at an average annual growth rate of 10 percent (KWh) and 11 percent (MW) over the 1972-1985 period. Electricity intensity as measured by electricity (KWh) utilized per $ of GDP, increased by a quite dramatic 4.9 percent per annum and by 1985 Turkey was about 70 percent more electricity intensive than it had been in 1972.

30. The reasons for the relatively high increase in electricity utilization are not clear cut but stem from: a failure early in the period to adjust tariffs to reflect costs with a concomitant failure especially within the industrial sector to adjust technologically to the increased energy costs; changes in economic structure, in particular the rapid growth rates in the industrial and manufacturing sectors; and, a relatively low base for the electricity subsector of both per capita consumption (relative to GDP) and penetration of the commercial energy balance.[1/]

31. The data on average energy and electricity intensities masks, however, a considerable range in end use efficiencies. This is amply illustrated in the industrial sector (40 percent of total energy consumption and 64 percent of total electricity consumption) where eight energy intensive industries[2/] account for over 40 percent of total industrial energy consumption. The potential energy savings in these key industries has been estimated at some 620,000 toe per annum, equivalent to US$43 million per annum.[3/]

32. Projected Demand. Trends observed in the growth and pattern of energy consumption during the latter part of the 1970s are expected to continue during the 1980s and 1990s. The most important factor in the growth of energy demand will be the growth rate of the economy as a whole and the

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1/ Electricity per capita for 1983 was 523 kWh for Turkey. This compares with Colombia (837); Jordan (590); Peru (630) - all countries with comparable GDP per capita incomes.

2/ Iron and steel, cement, fertilizer, pulp and paper, glass, bricks, aluminum, copper.

3/ This was undertaken by comparing, on a plant by plant basis, actual average energy consumption per unit of output with a notional achievable efficiency target. Savings ranged from 6 percent to 33 percent and included electricity, fuel oil and coal. The value of energy saved was estimated on the basis of US$70/toe.

growth of the relatively energy-intensive manufacturing and industrial sectors. MENR has recently prepared a set of energy demand forecasts as an input to an ongoing electricity system planning exercise (para. 76). The work program is based upon econometric analysis carried out by SPO, a joint MENR, SPO and TEK study using a simulation model [1/] which tests the effects of economic and technological policy variables on demand, and a World Bank financed technical assistance program within TEK to analyze electricity load data (load curves, price elasticities, etc.) and assess the scope for improved demand management practices. The findings of the work program are:

(a) overall energy consumption will increase at average annual rates of about 5.4%;

(b) commercial energy will increasingly substitute non-commercial energy; and

(c) electricity demand will grow at rates greater than total energy demand as a result of:

(i) a shift in development strategy toward export led industrial and manufacturing growth;

(ii) an urban growth rate projected at almost double the rural growth rate; and

(iii) increased substitution of electricity for other energy products.

33. Electricity demand is projected to grow at about 8 percent per annum over the medium term (until the early 1990s) and then gradually decline to around 5 percent per annum by the late 1990s and beyond. Both energy and electricity efficiency are expected to improve over the medium term in response to Government policy measures and the introduction of a vigorous energy conservation program (para. 96). For example, energy efficiency, as measured by the energy/GDP coefficient, is expected to decline to below 1.0 by the mid 1990s. Electricity efficiency as measured by the industry/electricity coefficient is projected to decrease from historical levels of around 1.4 to about 1.1. Per capita consumption of electricity will rise to about 1,600 kWh by the year 2000.[2/]

34. Given the vulnerability of Turkey's economic growth prospects MENR plans to update its demand projections on a regular basis to reflect changes in the internal and external economic environment faced by Turkey. A work program agreed with the Bank and MENR and TEK (para. 76) will support the

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1/ Under an International Atomic Energy Agency (IAEA) and World Bank program of assistance. Both IAEA and the Bank have been actively involved in the work program which forms part of an effort to upgrade skills in electricity planning using established demand and system supply models.

2/ Compared with 1983 data for the following countries: Greece (2,892); Spain (3,000); Portugal (1,929); Yugoslavia (3,177).

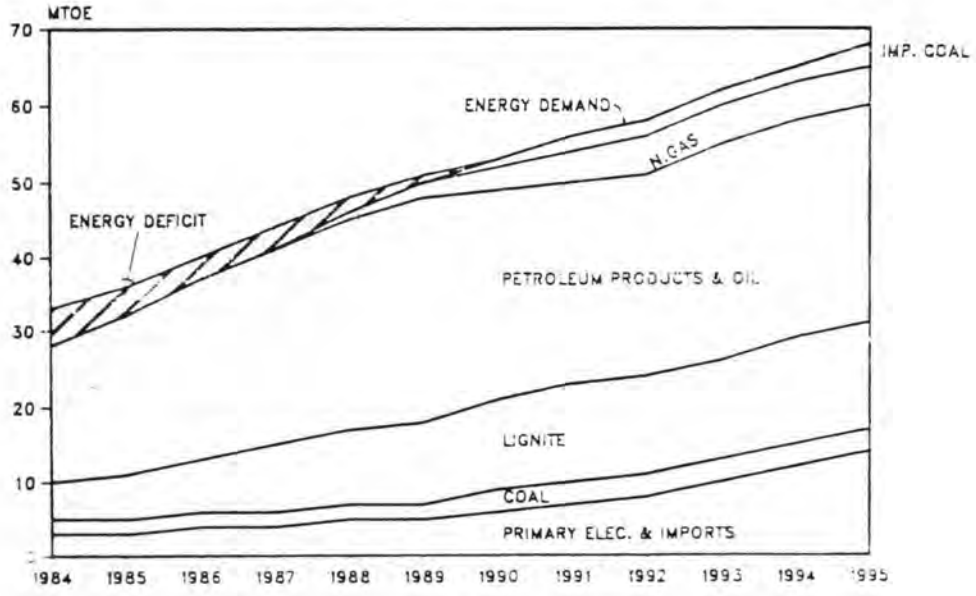
regular updating of these forecasts. Furthermore technical assistance including appropriate computer hardware and software will be funded under the loan (para. 70) to further strengthen MENR's demand forecasting and energy planning capabilities.

35. Primary energy demand will be met by imported petroleum products, natural gas and coal as well as by indigenous lignite, coal and hydro. While petroleum products will dominate, lignite and natural gas will represent the most rapid growth in energy supply. With respect to secondary energy, electricity will be the most important and will be supplied equally by thermal and hydro plants. Nuclear energy is unlikely to play a role until the 1995-2000 period. At present the Government has no firm plans to introduce its first nuclear power plant. The energy deficit (para. 41), which has been a feature of Turkey's economy for more than a decade, should be eliminated by 1990. The key factors in eliminating the deficit will be the rate at which electricity plants are completed, the timeliness of lignite supplies and the ability to control demand through improved efficiency.

36. Figure 1 summarizes the likely supply-demand configurations up to 1995. Annex 7 presents detailed energy balances for 1985, 1990, 1995, 2000 and 2010.

FIGURE 1

COMMERCIAL ENERGY DEMAND AND SUPPLY,1984-1995
MILLIONS OF TONS OF OIL EQUIVALENT (MTOE)



Institutional Arrangements

37. Energy development in Turkey is dominated by the public sector. The Ministry of Energy and Natural Resources (MENR) is responsible for the planning, coordination and development of energy resources in Turkey. The Turkish Hard Coal Enterprise (TTK), the Turkish Lignite Enterprise (TKI), the Turkish Petroleum Company (TPAO) and the Mineral Research Institute (MTA) have responsibility for the extraction of fossil fuels and radioactive materials. Design and construction of public sector hydroelectric projects is entrusted to the State Hydraulics Authority (DSI). The Turkish Electricity Authority (TEK) is responsible for the generation, transmission and distribution of almost all the electricity sold in Turkey. TEK is also responsible for the implementation of the Government's program of rural electrification and the construction of all public sector generating and transmission facilities, with the exception of public sector hydroelectric plants for which DSI has responsibility. The production, transport and marketing of petroleum products are the responsibilities of TUPRAS (four refineries), BOTAS (pipelines) and Petrol Ofisi (marketing and distribution). The Electricity Survey Administration (EIE) is responsible for renewable energy, hydropower surveys and research work. In addition, in 1986 EIE was given full authority to plan and implement the country's energy conservation program.

38. Private sector participation in the energy sector has been limited to two small electricity utilities (CEAS and KEPEZ), a limited number of industrial autoproducers, some small coal mines, one refinery, joint ventures in petroleum exploration and some petroleum product marketing and distribution activities. However, recent changes in Government energy policy give considerably greater encouragement to private sector participation in the development and production of energy (para. 61). The Government is currently actively seeking ways to encourage and increase local and foreign private capital in lignite mining, electricity generation and distribution, and natural gas distribution (para. 62).

The Development of Energy Policy in Turkey

Energy Policy in the 1970's

39. Government energy policy was, during this period, almost totally dominated by supply considerations. Pricing policy (with the exception of petroleum products which broadly reflected economic costs throughout the period), demand management and energy conservation were all relegated to low priority. The exigencies of a policy of energy supply at all costs to feed a rapidly growing and largely unconstrained demand resulted, in turn, in the abandonment of systematic maintenance and operations procedures, as well as a tendency to invest in some projects, especially lignite, which were of doubtful economic viability.

40. Until the international oil price increases of the 1970s Turkey's energy economy was largely oil based, almost wholly import dependent and, at least as far as electricity was concerned, at a relatively low level of per capita consumption. Investment in energy was largely confined to thermal oil fired power plants and a small number of hydro projects. The negligible

investment in lignite was primarily for local household consumption. As a result investment in energy until the early-1970s ranged from about 1.5 percent to 1.8 percent of GDP, the bulk of which was for electric power.

41. The international oil price hikes of the mid-1970s precipitated a dramatic change in energy policy in Turkey. Oil imports, which were only US$200 million in 1970, jumped to US$3.5 billion in each of the years from 1979 to 1984. The response by Turkish policy makers was to attempt to curtail, through substitution, the level of energy imports by embarking on a massive program of indigenous resource development, especially lignite and hydropower and also developing to the maximum extent possible oil, gas and geothermal resources. The program aimed at increasing lignite production 8 fold in 10 years and hydro power capacity was planned to increase by 300 percent between 1980 and 1990. Energy investment showed a dramatic increase in the post 1975 period and by 1984 had peaked at about 40 percent of total public fixed investment and 3.0 percent of GDP. That the program failed to meet its policy makers' ambitious targets is, in retrospect, hardly surprising. Various Bank reports in the early 1980s concluded that "... resources, human and financial, have been spread too thinly over too many projects in the investment program", and this resulted in "... major supply interruptions, project delays, frequent and protracted plant breakdowns and unacceptably high losses". Furthermore the policy of import substitution by indigenous resources proved to be high risk since shortfalls in electricity supply could not be met, for technical reasons related to system stability, by electricity imports. This lack of flexibility had caused, by the early-1980s, a substantial energy deficit. The sectors' problems had reached crisis proportions - problems that were deep rooted, and almost all linked to a myriad of inefficient practices in the public sector energy agencies in planning, implementation, financing and operations. The public sector had, by the end of the 1970s, an almost total monopoly in energy supply. The lignite sector had been nationalized in the early-1970s and statutory barriers to private electricity investment assured TEK's monopoly.

Energy Policy since 1984

42. In response to the above problems the Government in 1984 adopted a set of policy initiatives aimed at adjustment in the sector over the medium term. Government assigned the highest priority to the energy sector and to investments that would reduce the energy deficit and costs of supply. Annex 3 presents the Government's statement of energy policy which is consistent with the current Development Plan and contains the following broad objectives:

(a) priority is to be given to domestic sources of energy, especially hydro and lignite, provided they are economically justified;

(b) the economic case for projects based on imported energy sources, especially gas and coal, would be examined;

(c) private sector financing, both local and foreign, would be sought for participation in energy development;

(d) conservation through indirect (pricing) as well as direct (non-pricing) measures would be supported; and

(e) energy SEEs would be given greater financial autonomy especially in setting output prices.

43. While no detailed actions are proposed in the Development Plan, policy initiatives in support of the Plan have been implemented:

(a) energy prices did increase in real terms for both lignite and power and have been continued at or above economic costs for petroleum products;

(b) the development of extra budgetary sources of local finance, especially the Public Participation Fund, has resulted in an improved flow of local funds (once considered a major impediment to implementation) to key energy projects, most notably in the hydropower sector;

(c) efforts to mobilize domestic resources through the sale of revenue sharing bonds for infrastructure, including electric power, have been successful;

(d) efforts to rationalize the investment program and curtail new investments have been made;

(e) a series of laws and regulations which enable private sector investment either directly or in joint ventures with the public sector have been introduced; and

(f) new civil service personnel regulations including the introduction in some energy SEEs of optional fixed-term staff appointments at salaries comparable to the private sector have been introduced.

The Longer Term Policy Outlook

44. Formulation of government policy towards the energy sector, over the next decade, stems from a concern with the cost and availability of energy supplies over the medium to long term, combined with an attempt to control public deficits, including deficits of SEEs which, in the absence of efficiency improvements, result in significantly higher output prices. It also stems from a general drive towards involving the private sector, partly as an instrument to control public expenditure, but partly also as an attempt to increase managerial and technological efficiency and to stimulate enterprise, innovation and growth. The Government's vision of the development of the energy sector is one in which there would be substantive private sector participation in all subsectors while public energy agencies would be commercially oriented and publicly accountable. The liberalization of energy imports would define the framework for the economic viability of domestic energy resources, especially lignite; and pricing policies would be set in accordance with economic principles. The liberalization of the sector would,

it is believed, result in lower cost and more timely energy supplies for the country as well as enhance the flow of financial resources to the sector.

The Impact of International Oil Prices on Energy Policy

45. An assessment has been made by the Bank of the impact of declining oil prices on Government's energy policy. At the macro level the recent decline in international oil prices is likely to have a favorable direct impact upon Turkey's balance of payments. However the direct impact would need to be adjusted by a lower export growth to oil exporting countries, and potentially an increase in exports to, and workers remittances from, OECD countries. Bank estimates place the net positive impact of the oil price decline on Turkey's balance of payments at about US$200-300 million per year during the 1986-1990 period. Since this could stimulate a more rapid economic growth strategy, one implication is that domestic demand for energy and especially electricity could increase. At the micro level declining oil prices may have an impact on choice of technique and investment strategy. However, given that the present oil price projections do not fall below pre-1974 levels, Turkey's basic energy strategy will remain unchanged. Annex 9 provides a more detailed summary of the impact of declining oil prices on Turkey's energy sector strategy.

An Overview of the Policy Issues

46. The sectoral adjustment program to be implemented represents a shift in Government policies with respect to energy import liberalization, the increased emphasis on improved efficiency, and the role of the private sector. The main issues faced by energy policy makers are as follows:

(a) Institutional Reform, in particular providing a rational and cohesive framework to encourage the maximum rate desirable of private investment in the energy sector while also providing appropriate incentives to ensure the efficient development and operation of the public sector.

(b) Economic Investments, in particular ensuring that optimal investments are made irrespective of sources of finance, that coordination is ensured especially between subsectors (e.g. lignite and power) and between subsectors and end users (e.g. natural gas), and ensuring that adequate mechanisms are in place to deal with the planning, operation and investment issues of both public and private investment in the energy sector. In addition Government will need to give particular attention to the implementation of a medium term public investment program with identified priorities and rational financing plans, and the development of contingency plans to ensure that shortfalls in private investment do not adversely affect the supply of energy.

(c) The efficient use of energy resources in particular: the need to price energy at economic levels; the effective implementation of demand management and energy conservation activities; measures to improve the managerial and operational efficiency of the sector; and the efficient exploration and development of indigenous resources.

PART III - THE SECTORAL ADJUSTMENT PROGRAM

Background

Energy and the Macro Framework

47. The energy sector occupies a central point in the Government's structural adjustment program. The role of the sector in the macro framework is of considerable importance:

(a) the cost, timeliness and availability of energy is of critical importance to the competitiveness of the industrial sector and hence to the Government's overall export drive;

(b) energy is the largest sectoral consumer of public funds and absorbs about 30-40 percent of the resources available for public investment. Improving the quality of investment in the sector is therefore a major cornerstone of Government's policy to rationalize public investment;

(c) the energy sector has considerable potential for foreign exchange savings to the energy import bill through policies directed at improving the efficiency of energy utilization and through the substitution of imported energy by economically viable indigenous resources;

(d) the energy sector is an important vehicle for domestic resource mobilization through appropriate pricing and fiscal policies. For example in 1985 taxes on petroleum products amounted to 7 percent of total budget tax revenues; and

(e) the energy sector has been identified as a priority candidate for implementing Government policies towards private investment. The sector has potential for a wide range of opportunities for both domestic and foreign private sector participation.

The Policy Framework and Government Objectives

48. The broad policy framework in the sector is largely in place through a series of recent laws and the political will to follow through on specific actions in support of Government's energy policy objectives appears high. However, a number of issues still need to be addressed - further actions should be taken to make the public energy agencies more independent and accountable, the regulatory framework defining the rules for private investors is embryonic in nature and restrictive in practice; incentives are not in place for energy exploration; practices in investment allocation are sometimes contrary to stated policies and investment planning, although improved, remains weak. Furthermore, considerable efforts will be needed by Government to maintain progress made thus far in energy pricing policy, and improvements

in the structure of prices, especially electricity, are needed. Finally, as noted in Annex 9, the impact of the reduction in international oil prices is not likely to affect substantively the Government's strategy and policies for the energy sector.

49. Energy sector policies are mainly designed to improve efficiency. They do not have a large direct impact upon poverty. However, there are two policies which will have a direct impact upon poverty. The first concerns the Government's intention to continue subsidizing electricity for poor households through lifeline tariffs. The second relates to the Government's rural electrification program which is specifically targetted at impoverished Eastern Turkey. As a result of a significant increase in investment in 1985 and 1986 the rural electrification program is now well on course to meeting Government's target of completing electrification of Turkey's primary villages by 1990.

50. The Government's strategy, supported by the Bank, provides a medium-term framework that addresses the three interdependent sets of issues outlined earlier, namely: institutional framework, economic investments and improved efficiency in the supply and consumption of energy.

51. Government's long term objectives in implementing its strategy are:

Institutional Framework

(a) to move from the present practice of direct control of the sector to a broader regulatory framework in which the rules of investment and operational behaviour are well defined and agencies, public and private, operate under a relatively independent environment;

(b) to provide a policy framework whereby public sector energy agencies would operate efficiently and where public sector agencies could have access to a broader range of private and public financing;

(c) to increase private investment in all aspects of the energy sector's development through direct investment, joint ventures, leasing arrangements and management contracts provided that such activities are complementary to the public sector's efforts and in line with national least cost development objectives;

Economic Investments

(d) to develop a strong energy planning and coordination capability within Government;

(e) to ensure that, irrespective of sources of finance, future energy requirements are met through investments at least cost to the economy;

(f) to ensure that indigenous energy resources are exploited sequentially according to strict economic principles;

Improved Efficiency

(g) to ensure the maximum operating efficiency in all energy agencies through good operating practices, adequate maintenance and spare parts and highly trained operators;

(h) to achieve economic pricing policies while measures will be taken to ensure that the costs of inefficiency will not be passed on to the final consumer; and

(i) to implement policies and programs to encourage the maximum effect of economically viable energy conservation and demand management measures, through both pricing and non-pricing means.

The Program

52. The following issues and actions planned by Government are to be supported under the proposed loan.

A. The Institutional Framework

53. One of the most difficult set of issues faced by the Government in transforming the energy sector will be the process of encouraging optimal private investment while stimulating the public sector to achieve greater efficiency and financial viability. While the private sector can contribute substantively as a proportion of incremental supply the public sector will, over the medium term, continue to dominate the energy sector. Furthermore few large scale private sector projects are under implementation and even these will not be completed before 1990. Government's efforts to encourage private investment have focused on the electric power and lignite subsectors. As a consequence neither TEK nor TKI were allowed to include new electric power generation or mine development projects in their respective 1985 and 1986 investment programs. For 1987 this policy has been relaxed since the level of private investment has been lower than anticipated. TEK has had plans approved for extensions to existing plant and is currently preparing a proposal, to be included in its 1988 program, for the construction of a new thermal power plant based on natural gas (para. 72).

Policies for the Public Sector

54. While the public sector will continue to dominate the energy sector a less restrictive policy framework including the elimination of statutory barriers to competition for electric power and lignite paves the way for public sector reform. Government policies on public sector reform include:

(a) some viable public agencies (e.g. BOTAS, TUPRAS in the energy sector) may be suitable for privatization although investments to restructure the agencies may be required in the medium term;

(b) recent legislative changes to permit a greater role for joint ventures between energy sector SEEs and the private sector; and

(c) other public agencies (e.g. TEK, TKI) will remain in the public sector but will be subjected increasingly to commercial forces and greater public scrutiny.

55. Government has placed high priority on reforms within the electric power subsector in part due to increased public pressure and scrutiny on TEK following a series of large tariff increases over the past eighteen months, and in part because it is by far the largest and most important agency in the energy sector. However, the reform of TEK will be achieved only over the long term.

56. TEK's institutional problems include lack of experienced staff, high staff turnover, the need for improved planning in all spheres of its activities, little consumer accountability, the need for greater financial autonomy and financial discipline, and implementation and project management capabilities. Government and TEK management have made progress in addressing some of these issues. Pricing policies have alleviated the financial problems of a few years ago. Improved project management remains largely untested as TEK has not had a major expansion in its construction program. Nevertheless the introduction of turnkey/full management contracts (e.g., Thrace Combined Cycle Plant), improved transmission line construction and the potential for an improved flow of local funds to key projects from the various extra-budgetary sources of finance, are all examples of implementation problems being addressed. Finally, technical assistance (Bank financed and otherwise) in areas as diverse as manpower planning, demand management, tariffs, computer policy, management information systems, accounting, and system operations will all provide a firm base for upgrading technological capabilities within the sector.

57. In connection with the appraisal of the proposed loan the Bank carried out a review of the institutional framework governing the energy sector, focusing on the key electricity subsector. A working paper was prepared and discussed with Government. It was agreed with Government that:

(a) the present institutional framework is too restrictive to meet Government's long-term objectives. The degree of public accountability in the public sector is so low that inefficiencies are easily masked. There is little confidence in the energy SEEs so that gaining access to capital markets, whether local or foreign, is impossible. This is compounded by poor financial management and planning, as well as outdated accounting systems. The report identified several internal organizational weaknesses but argued that influencing the external environment under which the agencies operate was the key to further organizational reform. In particular the report recommended actions to promote greater public accountability and strengthened financial planning; and

(b) public sector energy agencies have typically spread their manpower and financial resources over too large an investment portfolio. Considerable gains in efficiency would occur if these agencies focused on a more limited number of higher priority activities and devolved responsibility for some activities to the private sector.

58. To improve public sector accountability and credibility, establish managerial autonomy, and provide a basis for ensuring greater financial independence, Government is initially focusing on the largest and most important subsector - electric power. Government proposes to:

(a) strengthen policy-making in TEK by restructuring the Board of Directors, to ensure that: (i) the duties and functions of General Manager and Chairman are separated; and (ii) members other than from TEK management are in the majority. The Government will prepare the legislative amendments required to implement this action. It is expected that the new Board would be appointed before December 1987. In addition Government has given the Board a clear mandate to operate the agency on a commercial basis. In addition the new Board will address an agreed set of specific internal organizational issues and objectives and prepare recommendations for government approval by December 31, 1988;

(b) ensure that external financial audits, comparable to those at present required by private companies registered under the Capital Markets Board, are undertaken in TEK with effect from 1988. A well established audit firm will be hired by October, 1987 to prepare audits on an annual basis, including a full audit of TEK's 1988 accounts. The auditor's report and comments would appear in TEK's published annual report for 1988; and

(c) ensure that a comprehensive program to improve and upgrade TEK's financial planning, accounting and financial management is implemented. The Bank has discussed the financial policies of TEK with Government, and agreed upon the key actions to be taken by TEK.

59. During 1988 the Bank would review with Government the impact of the above actions with a view to assessing the merits of introducing a similar approach to other revenue earning energy agencies, notably TKI, TPAO and TTK.

60. To ensure that public agencies focus on key tasks over the medium term, Government proposes to ensure that:

(a) TEK establishes adequate project management arrangements for all large projects (para. 80);

(b) TKI focuses its future efforts on a portfolio of agreed high priority projects and for all other smaller mines not serving power plants (approximately 13) would, to the extent possible, enter into lease agreements with interested private companies. Furthermore, all new

mine developments would, where feasible, be undertaken either by the private sector or through joint ventures with private partners;

(c) EIE devolves all energy auditing functions to private consultants while retaining in EIE a small group of professional level task managers; and

(d) TPAO (oil and gas) continues its existing policies towards joint ventures in exploration and development.

Policies for Private Sector Participation

61. The new policy is concerned with both privatization, that is the transfer of public assets to the private sector, and liberalization, that is the removal of barriers to private sector participation. The policy has a number of objectives:

(a) reduction in public sector spending;

(b) efficiency improvements, through increased competition in the construction and operation of assets;

(c) increased foreign and local capital flows through direct investment; and

(d) resource mobilization through the sale of public assets.

62. Government policy in this regard is supported by two laws (Law 3096 for electric power and Law 3213 for minerals including coal, lignite and uranium). The laws in turn are supported by a series of regulations which provide guidelines for implementation. Since the laws provide only a general framework it is the regulations which provide substance for review, discussion and interpretation. At present, decrees have been issued or are under detailed discussion for regulations governing Law 3096 only. Five potential "institutional models" are likely to emerge:

(a) "Build, Operate and Turnover" (BOT), where private consortia will assemble financing, construct and operate for a specified period a limited-recourse enclave electric power generation project. At the end of the contractual period, normally specified as the date of completion of all debt service obligations, the Project would be transferred to the public sector. The main organizing framework would be the electricity sales agreement which would, under agreed levels of plant availability, cover operational costs and debt servicing obligations as well as provide a real return to the equity shareholders;

(b) "Regional Utilities" relates to the creation of fully integrated regional utilities which would be responsible for generation, transmission and distribution within specified geographical areas;

(c) "Concession Agreement", exemplified by the present arrangements between Government and the Cukurova (CEAS) and Antalya (KEPEZ) utilities which are permitted, within concession areas, to construct power plants and sell directly to high and medium voltage consumers;

(d) "Autoproducers" in the industrial sector who could construct and operate for their own consumption as well as sell surplus electricity and/or heat in the case of Combined Heat and Power (CHP) schemes to TEK, the Regional Utilities, or other purchasers; and

(e) "Leasing and Operating Contracts" covering both the lignite and electric power subsectors.

63. The laws and associated regulations have only recently come into effect and will require modification and refinement, but over 50 applications to build and operate power plants have been received by SPO/MENR. These range from expressions of interest to a limited number of firm proposals and include three large imported coal fired steam plants, of which the Saray project (1,000 MW) appears to be the most advanced; forty seven hydro projects ranging in size from 1 MW to 250 MW, of which five have recently been approved in principle by MENR; and one thermal power plant based on domestic lignite (210 MW), also approved in principle by MENR. An additional 15 projects have been submitted by SPO to the private sector for bids, including some projects currently in the public investment program. In addition both CEAS and Kepez (the two established private utilities) are in the process of investing in generating plant.

64. The Government's position is to place greater priority at this stage on actually concluding a number of project deals. This reflects a perceived need to remove bureaucratic inertia and non-commitment as well as provide an unambiguous signal of Government intentions to the private sector.

65. The key issue to be addressed by Government is whether the set of "privatization objectives" is feasible and fully compatible with the objectives of the development and operation of economic least cost sources of energy supply. The two sets of policy objectives imply a change in the relationship within the sector, between the public and private sector. They also imply that the instruments of public policy will need to be broadened to include a greater reliance on fiscal and regulatory frameworks. While the Government's policy changes have introduced an innovative element to energy policy, efforts to ensure that private sector investments are constructed at minimum economic cost and are operated efficiently and on strict economic grounds, will be needed. As the private sector of the electricity supply industry develops, a matter of growing importance will be the complex interrelations between this and the public sector. There are six main aspects of the private/public sector interface:

(a) The Buyer-Seller Relationship. TEK will buy the output from the privately owned hydro and thermal schemes, while there will be trade between TEK and the regional utilities. Although it is possible that initial contracts, with TEK as co-signatory, could regulate the

former two types of transactions, several problems related to the terms and conditions of the transactions could arise. It would therefore be desirable to have a regulatory body with a general monitoring function which could also be used to arbitrate on price changes.

(b) Common interests. Retail tariffs will be regulated by Government and may be equalized across the country. Given cost variations across regions (assuming the emergence of regional utilities), this raises difficult technical issues. There will presumably be some system of cross-subsidization of high cost areas by low cost areas or a differential taxation. In any event, all producers will have a common interest in the level of the tariff and the design of the redistribution mechanism, if any exists. This interest may also extend to, for example, the supply of investment funds. The Government will need a means for discussing these issues with the electricity industry.

(c) Competition. Although the private and public sectors will not compete in the output market, they may well be in competition for inputs such as key personnel and capital. Furthermore where the electricity sector is organized on a regional monopoly basis, there may be a tendency for the sum of planned regional capacity expansion to exceed the estimated requirements for the country as a whole. Given the relative scarcity of overall investment funding, a central view will be needed on the consistency of plans of the different regional utilities and private power plant owners, as well as the preparation of contingency plans for public investment in the event of shortfalls in private investment. This places an even greater emphasis on coordination and regulation.

(d) Planning and System Operation. The dynamic nature of the electricity sector, in which flexibility is needed to optimize dispatch over time and spatially may be jeopardized if contractual arrangements between the public and private sector are inflexible. This places a considerable emphasis upon the development of appropriate evaluative criteria and contractual arrangements.

(e) Comparison. An advantage of having a number of different enterprises supplying the same outputs, even if not in competition, is that it provides for comparison of cost levels, operating efficiencies, etc. Although of course allowance may have to be made for factors which could objectively cause differences in costs, for example population densities, raw material transport costs, etc., a central regulatory body would be able to make use of comparative data in monitoring enterprise efficiency.

(f) Equity participation: TEK plans to take an equity share in some private sector projects. It already holds an equity share in both of the regional concessionaires (CEAS, KEPEZ). This obviously blurs the distinction between the TEK and non-TEK sectors, and may well be the

means by which TEK could retain overall control of the electricity supply system. To that extent, a major aim of the privatization program, that of providing a "competitive" or at least a "comparative" stimulus to TEK efficiency, may be weakened. The regulation of existing equity holdings and future acquisitions will therefore require careful consideration by Government.

(g) Asset Valuation. If regional utilities were created an immediate problem to be resolved would be the valuation of any assets which may be leased or sold by TEK to the non-TEK sector. The current methodology for valuation suffers from a number of deficiencies and regulations are needed to formulate a satisfactory methodology.

66. Clearly the development of an appropriate legal and regulatory framework, supported by adequately trained and experienced manpower in the energy related institutions, requires a long term effort. However, several intermediate solutions between public monopoly and privatization may be more realistic in the short term to provide for a greater role for the private sector. Turnkey management, operations and maintenance contracts, increased shareholding, partial equity in public assets and leasing arrangements could all involve the private sector. In fact Government has introduced turnkey/full project management contracts for key power plants and an operations contract has recently been signed for a large lignite mine. Furthermore the legal framework governing the energy SEEs provides for greater flexibility in allowing joint ventures with the private sector.

67. Further progress in attracting private capital to the sector will require a regulatory climate that is perceived to be stable, consistent, and well defined. At present the regulations are ambiguous, ill-defined and provide little incentive for private sector participation. However to provide a foundation for developing a rational regulatory framework in the electricity subsector in which public and private elements will work together effectively to meet Turkey's energy needs at minimum cost, Government recently established a small regulatory body. The body is attached to MENR and builds upon an existing department. A three-year agenda has been agreed with the Bank which includes the development, inter alia, of: regulations for leasing arrangements; regulations applicable to the sector including rules for private investors; monitoring and evaluation systems; guidelines for dealing with various issues likely to arise between the public and private system including comparable treatment and implementation of an efficiency audit of TEK. Consultants are to be hired by June 1987 to provide technical assistance, advisory services and training to MENR.

B. Economic Investment

68. The planning and investment issues center around the adequacy of institutional arrangements for planning, the level and capability of subsectoral planning, and the rationalization of energy investment programs and the development of least cost plans; including the development of indigenous resources.

Institutional Arrangements for Planning

69. The institutional arrangements for planning and implementation in the energy sector are logical. Key energy agencies (e.g., TKI, TEK, EIE, DSI) retain independence in day to day management and executive decisions, the Ministry of Energy (MENR) functions as overseer, coordinator and policy planner; and SPO screens, evaluates and approves investments. The quality of planning at the subsectoral level is variable although, in almost all cases, there is room for improvement, and programs to upgrade planning skills are underway in many agencies, most notably TEK, TUPRAS and TKI. Subsectoral planning is however myopic and it is the role of MENR to place subsectoral plans in the broader energy context. MENR has made major efforts in consolidating its role as coordinator; its Planning and Coordinating Department has been strengthened and significant improvements in coordination have resulted for example between TKI and TEK. Nevertheless, some coordination problems still remain, e.g., delays in fuel supply projects (gas, lignite) for power generation, investment linkages to interfuel substitution arising from the import of natural gas, etc. Such planning and policy issues are substantive and cannot typically be addressed at the subsector agency level but only at the Ministry level. Furthermore. the recent policy initiatives aimed at increasing the role of the private sector (para. 65) add further weight to the need for a strengthened Ministry. The challenges of planning, evaluating and monitoring the interface of the public and private sectors in the development of the energy sector are considerable and will require over the long term a new mix of staff skills in the Ministry.

70. To ensure that MENR will be able to provide a fully integrated energy planning, strategic and policy formulation service for Government policy makers and to improve national level planning of the sector including the integration of subsectoral plans, the Government plans to strengthen the Energy Planning and Coordination Department of MENR through a program of technical assistance and staff training. MENR has submitted to the Bank for review and funding under the loan terms of reference for technical assistance and training, implementation of appropriate energy planning models and consultancy services. The Bank would monitor progress throughout the implementation of the agreed program which is expected to last approximately three years.

Sub-sectoral Planning

71. The specific subsectoral planning issues to be addressed are summarized below.

(a) The Oil and Gas Subsector

72. Gas Utilization. Natural gas imports from the Soviet Union are to begin in 1987, beginning at about 150 MSCFT/day rising in 1992 to about 600 MSCFT/day. However no decision has yet been taken on a gas utilization strategy despite the considerable lead time required for potential takers to convert to gas. In the short run it is clear that the Trakya 1 combined cycle plant (600 MW) will be a major consumer in 1987 (80-100 MSCFT/day). Other

identified consumers are the Gemlik/IGSAS fertilizer plant (70 MSCFT/day), Istanbul and Ankara distribution (30-70 MSCFT/day), the Eskisehir steel plant (30 MSCFT/day) and an extension of 600 MW at the Trakya power plant. The major consumer able to take the balance of the gas relatively quickly will be the power sector and TEK is currently preparing plans for construction of a 1,200 MW combined cycle plant to be located near Istanbul.

73. A gas utilization strategy also has downstream investment implications, not yet explicitly included fully in either the 1987 budget or in the 1987-1990 indicative plans. In addition to the costs of conversion of existing facilities (e.g., IGSAS, Gemlik, etc.), new investments (e.g., electric power generation and associated transmission, gas distribution) will be required. In the case of urban distribution key technical and institutional questions are being addressed, especially the choice of a safe and cost efficient system, organizational arrangements for planning, implementing and marketing the gas and training and recruitment of staff. The Government has however recently established a steering committee to develop a rational gas utilization plan. It is headed by the State Minister for Petroleum Affairs and it is expected that a detailed utilization plan will be prepared by December, 1987. The plan will be sent to the Bank for review and comment.

74. Impact on the Refinery Subsector. Natural gas will largely substitute liquid petroleum products - potentially 5 million toe by 1990. This will have important implications on the petroleum products energy balance and refinery configuration, especially given the large potential for displacement of fuel oil. The Government has now committed considerable resources to analyzing the impact of gas displacement in particular to address the severe imbalances and overcapacity problems (22 million toe by 1990 undercapacity for some middle distillates, excess capacity of fuel oil) that exist in the refinery subsector. TUPRAS, the agency created to coordinate and plan the refining subsector, has recognized the need for further detailed planning work in this area and has been receptive to Bank sector work assistance and advice.[1/] Furthermore, TUPRAS is, at the request of SPO, in the process of preparing a refinery masterplan and has requested Bank assistance. As the major input to the masterplan terms of reference for a petroleum products supply options study have been agreed which, in light of the impact of gas penetration in the petroleum product balance, the likely growth scenarios of petroleum demand and future pricing policies, and Government policy on privatization, would:

a study

(a) review the existing and planned refinery configuration and identify policy issues and investment strategies (production as well as marketing and distribution) required for the restructuring of the subsector;

1/ A draft Refineries Sector Study prepared by Bank staff in connection with the proposed loan was discussed with Government authorities in February, 1987.

(b) analyze the potential for efficiency improvements (including energy) in the operation of the subsector;

(c) assess the implications for privatization in the subsector; and

(d) prepare a set of specific actions required over the medium term.

(b) The Electricity Subsector

75. Two years ago a Bank sector study[1/] concluded that electricity planning procedures and practices were deficient in a number of areas. The main comments were that demand tended to be over estimated as a result of unrealistic economic growth assumptions and lack of analysis of the likely impact of demand management and pricing policy on growth in demand, and on the supply side that investment requirements were too high; the construction schedules for major power plant options, were optimistic; and cost data for major power plant options, thermal and especially hydro, were either inadequately prepared or underestimated and not on a comparable basis. Furthermore, the report identified deficiencies in data collection procedures and practices

76. MENR and TEK have however given considerable emphasis to upgrading electricity planning skills, and a whole series of coordinated technical assistance, training and system development activities are underway:

(a) Demand Management - TEK has hired consultants (GOPA, Germany) to assist in (1) developing an improved system for the measurement, collection and analysis of data required for load analysis and demand forecasting; (2) establishing models which can simulate the effects of various strategies for load management including pricing; (3) developing a demand management and conservation action program; and (4) training of TEK staff. The first phase of the consultants' work program (diagnostic study) has been completed, initial training in Germany for about twenty TEK staff has been given, and implementation of the main phase of the work program is expected to be completed by the end of 1987.

(b) Demand Projections - As noted (para. 32) the joint MENR/TEK team has prepared a set of long-term demand projections and the final report on the team's analysis has been prepared. There has been extensive collaboration between GOPA and the MENR/TEK team in the preparation of the projections.

(c) Least Cost Generation Study - A TEK planning team has prepared a revised least cost planning study based upon the demand projections as outlined above. The work program included:

1/ Turkey - Electricity Planning and Investment, Volume 1, Report No. 5431A-TU, dated June 26, 1985.

(i) The preparation in 1986 by TEK of a least cost long-term generation plan which has evaluated power generation options over a 25-year plan period. The study and associated training program is sponsored by the IAEA and a final draft of the study has been prepared;

(ii) The development, over the next two years, of a detailed hydro resource inventory based upon an engineering and economic review of each feasibility and/or prefeasibility study to update and place costs on a comparable basis and rank the hydro projects according to well established economic and engineering criteria. Detailed terms of reference and work plan have been developed for the task, which will be financed under a World Bank loan (2655-TU). The results of the study will be used to update and revise the least cost plan (para. 77); and

(iii) TEK has completed a masterplan study for the electricity distribution system of Izmir and has initiated similar studies for Ankara and Istanbul. Given the extremely high technical losses of urban networks these studies are critical in providing a basis for the systematic upgrading of the distribution systems. Implementation of the Izmir masterplan is considered to be of very high priority as a model.

(d) Miscellaneous Studies - The implementation, within TEK, of various technical assistance activities to improve manpower planning and human resource development, and management information systems.

Long-Term Sub-Sectoral Development Plans

77. To ensure that effective medium-to long-term plans for key subsectors are completed and implementation initiated, the Government will:

(a) implement an economic utilization plan for imported natural gas (para. 72);

(b) implement the findings of the refineries sector masterplan (para. 74);

(c) revise and update in 1987 and 1988, under a work program agreed with the Bank, the least cost program for electricity generation (para. 76); and

(d) implement, from 1987 onwards, the recommendations of the electricity distribution masterplan for Izmir; complete the masterplans for Ankara and Istanbul; and initiate other important urban distribution masterplan studies (para. 76).

78. The above studies are at various stages of preparation. TUPRAS as noted earlier, has prepared the terms of reference for a comprehensive

petroleum products supply options study which will form the basis for the refineries masterplan. The Bank has approved the terms of reference and consultants will be hired by June 1987. Completion of the study is expected by December 1987 and the results of the study will lead to the preparation of detailed investment plans for 1988 and beyond. The steering committee to develop a rational gas utilization plan has recently been established and the detailed gas utilization plan will be prepared by December, 1987. The joint MENR and TEK task force, under the guidance of IAEA and World Bank, has reached agreement on the work program for revising and updating the electricity generation plans, including the development within Turkey of a new IAEA model to better evaluate and integrate hydro projects into the least cost program. The Bank has agreed that the revised plans be prepared by December 31, 1987 and 1988, respectively. Any new generation projects proposed to be included in the 1988 and 1989 investment program would need to be demonstrated to be part of these revised plans. With respect to the distribution studies the annual investment program for 1987 reflects fully the findings of the Izmir masterplan and the masterplan studies for Istanbul and Ankara are progressing satisfactorily.

Medium-Term Investment Program

79. In addition to the efforts to upgrade energy planning skills and the development of energy policies reflecting the growth of the energy sector over the longer term, Government has also recognized the need to implement a medium term energy investment program based upon high priority investments and supported by a rational financing plan. The concept of a "core" public investment program[1/] has been highlighted in several Bank supported sector and macro-economic reports.

80. In consultation with Government the Bank prepared a detailed review of the energy sector public investment program[2/]. The review covered all subsectors and provided detailed working papers on electric power, lignite and coal, and oil and gas. In addition as noted (para. 74) a separate review of the refinery investment program was prepared and discussed with Government in 1987. The work program resulted in an agreed core investment program for the energy sector over the next three years. This was based upon an in-depth review of the physical status of major projects in the program, an economic evaluation of the relative priorities of the projects in the program, and judgements made on the appropriate balance between rehabilitation and modernization of existing plant, loss reduction, efficiency investments and new projects. The financial requirements of the program were estimated on the basis of project by project projections and then compared in total with the estimates of macro resource availability. The result was the development of a priority medium term investment program consistent with overall Government

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1/ Broadly defined as a program that should be defended against any budgetary cuts.

2/ Most recently in: "Turkey: Adjusting Public Investment," Report No. 6603-TU.

targets of financial resources. The program assumed that no major private sector projects would start in 1987 and that one large new thermal plant based on natural gas would start in 1988. However, periodic assessments of the likelihood of private investment in energy are needed to ensure that the public investment program is adjusted accordingly. Annex 5 provides a summary of the medium term program. The total investment requirements for the three year period are approximately US$8.0 billion. The Government proposes that:

(a) the energy sector's share of total public fixed investment would be maintained at about 30 percent;

(b) the medium term program includes an agreed list of high priority projects and programs as outlined in Annex 5;

(c) a complete financing plan for the energy sector be prepared annually; and

(d) no new projects over a total cost of US$50 million be included unless all of the following criteria are met: (i) demonstrated high returns; (ii) adequate project management is in place (para. 81); and (iii) full funding is assured provided such funding neither jeopardizes the existing program nor Government established targets for overall investment expenditures. The Government would consult with the Bank on the inclusion of such projects.

81. To monitor progress the Bank would review by October 31 of each year the annual energy investment program and associated financing plans. The Bank is in agreement with the size and composition of the 1987 energy program. Agreement on the 1988 and 1989 programs would be sought by October 31, 1987 and 1988, respectively. Key elements in the discussions of these plans would be realistic assessments of the level and timing of private investment, economic analysis of new projects, a review of project management arrangements for large new projects, and an assurance of funding for continuing ongoing high priority projects.

Energy Exploration and Development - Providing a Long Term Foundation for Energy Policy

82. The development of a solid data base of indigenous resources is not only important in terms of overall energy strategy but also provides guidance to the timing and relative economic priority of investments. The key resources are hydro, lignite, and oil and gas.

83. To provide an adequate data base of indigenous resources in order that the exploitation and development of such resources proceeds optimally, Government will ensure that:

(a) MENR completes by December, 1988 a national hydro resource inventory. The Bank has agreed the terms of reference and the work program will be implemented from June 1987 onwards;

(b) TPAO implements a program of agreed exploration promotion including the review of existing geological and seismic data to package it for possible joint venture promotions. The Bank has reached agreement with TPAO on a detailed work program and schedule for the next three years; and

(c) MTA and TKI implement a rational five-year lignite and coal exploration program. The Bank has reached agreement with MENR, TKI and TTK on a medium term lignite and coal exploration program.

C. Efficiency in the Supply and Consumption of Energy

84. Improving the efficiency with which energy is both produced and consumed remains a high priority for Government. As noted earlier even the recent precipitous decline in international oil prices has not resulted in any major departures from a strategy of improvement in energy efficiency. The key efficiency issues relate to the need to improve operational efficiency within the public sector; energy pricing policy; and the implementation of an energy conservation program.

Operational Efficiency - Large Potential Economies to be Realized

85. Improving the efficiency with which existing assets are operated has been an important theme in the Bank's energy sector dialogue with Government. It has many dimensions ranging from improving human capital stock through training and manpower development schemes to reducing technical losses and improving financial performance. Primarily as a result of pressure to supply energy at any cost, the key energy supply agencies have, in the past, abandoned systematic maintenance practices with the result that plant has operated at extremely low levels of utilization and this, in turn, has led to high operating costs. Government efforts to address this situation have recently begun and include a Bank financed program (Loan 2602-TU) to upgrade TEK's operations through training, specialized maintenance equipment, improved performance monitoring, and plant rehabilitation; as well as the initiatives mentioned earlier to promote private sector involvement in operations. The Government plans to ensure TEK continues implementation of the agreed program to upgrade its operational practices and procedures. The Bank will monitor progress of the agreed program in connection with supervision of Loan 2602-TU.

86. In the lignite sector, Government has recently hired consultants to undertake a comprehensive review of TKI's operating practices and procedures; analyze the level and condition of operating equipment; review capacity utilization, operational efficiencies, and maintenance records; and identify actions to improve efficiency and meet scheduled demand over the next five years. The study has been completed in draft. The Government will ensure that the appropriate recommendations of the present comprehensive review of TKI's operating practices are implemented from 1988 onwards. The draft report will be sent to the Bank by May 1987 for review and comment.

87. A preliminary study of operational efficiency in the refinery sector indicates considerable scope for improvements, particularly with respect to the present inadequate cost plus system of establishing refinery remuneration. To address this issue the Government will ensure TUPRAS implement a new refinery remuneration formula with the objective of linking ex-refinery prices to import parity prices to encourage improvements in refinery operation including increasing of distillate products yields. MENR proposes to establish and head a steering committee to set out a program to study the introduction of a new formula. The steering committee will be established by June, 1987 and the proposed course of actions, including a time schedule, will be prepared for Government approval by December, 1987 in order that the new formula can be introduced during 1988.

Energy Pricing Policy

88. Energy pricing policy has been given prominence by Government especially over the past two years when both lignite and electricity prices have shown real increases. Appropriate energy pricing policies are important not only for improving allocative efficiency (investment, choice of technique and end use), ensuring operational efficiency (e.g., operational dispatch of electric power) and resource mobilization but also should provide an incentive framework for encouraging private investment in the energy sector. Government is committed to an integrated energy pricing policy based upon the principles of import parity for tradeables and economic costs of production for non-tradeables. Flexibility is however required in the implementation of such a policy since Government objectives of equity (e.g. lifetime tariffs) and resource mobilization (e.g. petroleum product prices) may, at the margin, result in divergencies from strict economic pricing principles. The main pricing issues are reviewed below.

Electricity Prices

89. Electricity prices increased significantly between 1983 and 1986 and by early 1986 it was estimated that tariffs at the high voltage level were roughly at economic costs. However no further tariff increases were introduced between February 1986 and February 1987 when tariffs were increased a further 8.9 percent. Thus tariffs have suffered some erosion in real terms. As a consequence the cash generation targets, covenanted under Bank loan 2586-TU, of 35 percent of total public electricity subsector investment expenditures was not met.[1/] For 1987 tariff increases of about _____ percent will be introduced by _____ to meet the 35 percent cash generation target. Such increases would also be fully in line with moving tariffs back-up towards economic costs.

1/ When adjusted to also meet a current ratio (current assets: current liabilities) of 1:1, as agreed under Bank Loan 2586-TU.

90. TEK's consultants (EdF, France) have prepared a detailed analysis of both bulk and low voltage tariffs, including estimates of the level and structure of long run marginal cost (LRMC). The Bank has discussed the study with TEK and an action plan aimed at improving the tariff structure has been prepared. On the basis of this study Government will from 1987 onwards start to introduce a rational electricity tariff policy to include:

(a) periodic tariff adjustments to ensure at least 35 percent internal cash generation targets are met to move towards economic costs;

(b) a new tariff on the basis of voltage level to replace the existing tariff based upon customer categories in order that the tariff may be simplified, and time of day pricing to improve the structure of tariffs and better reflect marginal costs;

(c) the introduction of adequate metering equipment to ensure consumers can respond to the new tariff;

(d) the identification of key industries likely to be seriously affected by electricity costs, especially the iron and steel, ferrochrome and aluminum sectors and ensure such industries are audited as a matter of priority for energy efficiency and follow-up actions implemented as agreed under the proposed conservation program (para. 96); and

(e) a plan to eliminate all electricity tariff subsidies to the aluminium and ferrochrome industries.

Lignite Prices

91. Domestic prices declined in real terms in 1982 and 1983 but then rebounded during 1984 and 1985 following a series of biannual increases. Operating subsidies, while declining, were required for TKI in 1986. However, Government plans to phase out, by 1987, operating subsidies to TKI through price increases to ensure progress toward economic prices, and implement price adjustments to bring lignite prices for industrial users in line with prices for power station use.

Petroleum Products

92. Prices of petroleum products are set at levels sufficient to make a net contribution to Government financial resources. The weighted average price of petroleum products in 1985 was approximately 130 percent of the border price. Almost TL 250 billion in taxes on petroleum products was raised in 1985, equivalent to about 7 percent of total central Government budget tax revenues for that year (Table 1).

Table 1

Net Financial Contribution of Petroleum Products, 1985
(TL Billion)

Tax	Revenue	Uses
Customs tax	7	General budget
Petroleum consumption tax (6 percent)	98	52 to Petroleum Consumption Fund, 46 to general budget
Petroleum price stabilization tax	68	Price Stabilization Fund
Petroleum Exploration tax	75	Petroleum Exploration Fund
	248	

Source: Government of Turkey

93. There are no major problems with the relative prices of petroleum products, although as part of the petroleum supply options study (para. 74) Government proposes to hire consultants to study improvements in the relative prices of diesel and gasoline. It is Government policy that petroleum product prices will continue to be set at or above the import parity level.

94. Pricing policy for natural gas will be based on the principle of no direct or indirect subsidies, that is, the price charged will reflect fully the import price and costs of internal transportation. However the details of the structure of prices for natural gas have yet to be formulated and, given the imminent importation of gas, a pricing policy is urgently needed. BOTAS and IGDAS are currently preparing natural gas tariff schedules for bulk supply and for retail consumers in Istanbul. The proposed tariff schedules will be submitted to the Bank for review and comment by December 31, 1987.

Energy Conservation

95. The potential for energy conservation, especially in the industrial sector, is considerable and justified even in the light of the recent international oil price movements. However, little effort has been made by Government to mount a sustainable energy conservation program despite the evidence that major savings would accrue to the economy through the implementation of such a program. Achieving Government's targets of reducing energy and electricity intensity (para. 33) cannot be done unless a serious attempt to conserve energy, both through improved pricing policies and non pricing measures, is made. As a first step Government announced in 1986 that EIE would be given full authority to design and implement the country's energy conservation program, although the legal status of EIE has not yet been changed to reflect this new responsibility. A limited number of energy audits financed by the Bank under Loan 1916-TU have been completed and follow-up investments have been made. The appraisal mission reviewed energy efficiency in 21 key energy intensive industries and concluded that savings in the order of 13 - 17 percent could be made through appropriate investments. Payback

periods for such investments typically ranged from six to eighteen months. However, several factors have constrained the Government's efforts to develop an effective energy conservation program, including lack of a legal framework governing the activities of EIE, lack of trained staff and technical skills, and lack of finance.

96. To support the development of a sustainable energy conservation program Government will:

(a) implement an action plan to include: (i) the preparation during 1987 of legislation to give authority for energy conservation activities to EIE; (ii) the implementation of key energy audits especially those most affected by electricity costs and follow up; (iii) the implementation of the recommendations of the completed energy audits; and (iv) the training and upgrading of technical skills. The Government has agreed with the Bank: (i) on a timetable for the preparation of the required legislation; (ii) on the terms of reference and work plan for specialized consultants to provide EIE with the necessary skills and training; (iii) to provide full financing to EIE over the 1987-1989 period for undertaking approximately 21 energy audits in specific key industrial plants; and (iv) to provide finance to fund energy conservation investments in the private and public industrial sector; and

(b) ensure that TEK completes the demand management study by end-1987 and implements its findings from 1988 onwards. TEK will submit the draft final report to MENR and the Bank no later than December 1987 and, after review, Government will implement its findings from 1988 onwards.

The Action Program - A Summary

97. The actions presented thus far (paras. 53 - 96) cover a comprehensive set of policy issues. These have been summarized into an action program which will form the basis for effectiveness and tranche review and release, as well as provide a benchmark for monitoring and assessing performance over the next three years. The action program is shown in Table 2 and in greater detail in Annex 4. The plan is also supported by a broader statement of Government policies and intentions (Annex 3).

Environmental Considerations

98. The rapid growth of the energy sector, including the development of indigenous hydro and lignite resources, has the potential to impose longer term environmental degradation upon Turkey. Furthermore, proximity to Europe and an increasing public awareness of environmental degradation is likely, over the next decade, to lead to a growing public lobby for more stringent

Table 2

Actions in Support of Government Energy Sector Program

Action	Timing	Monitoring Criteria
Institutional Framework		
1. MENR: Regulatory Body - to prepare and Implement Work Program	1(a) Work program prepared and consultants selected by June 30, 1987.	1(a) Effectiveness
2. Restructure TEK Board	2(a) Prepare legislation by 6/30/87. Send to Bank for review and comment.	2(a) Effectiveness
	2(b) Submit to Parliament and appoint new Board within two months of passage of law. Likely date on or before 12/31/87.	2(b) Second tranche
3. Independent Financial Audits of TEK	3(a) Short list for Bank review by 6/30/87	3(a) Effectiveness
	3(b) Hire auditors by October 1987.	3(b) Dated covenant
Economic Investment		
4. Preparation of high priority medium-term public investment program and associated financing plans for 1988 and 1989	4(a) Review by October 31, 1987 with Bank the proposed 1988 program.	4(a) Dated covenant
	4(b) Review by October 31, 1988 the proposed 1989 program.	4(b) Dated covenant
5. Prepare long term optimal development programs	5(a) Electricity. (i) implement Valor Agua model from June 1987 onwards. (ii) Complete revision of least cost program by 3/1/88. (iii) prepare master-plans for Istanbul and Ankara by December 1987 and reflect in 1988 investment program.	5(a) Second tranche
	5(b) Refineries. (i) selection of consultants by 6/30/87 to prepare petroleum products supply options study; (ii) TUPRAS to prepare refineries masterplan by 6/30/88.	5(b) Second tranche
	5(c) Natural Gas. (i) Steering Committee to prepare gas utilization strategy by 12/31/87.	5(c)(i) Second tranche
Efficiency Improvements		
6. Operational efficiency to be improved in key subsector agencies	6(a) Lignite. (i) Complete study of TKI and submit to Bank for review and comment by 6/30/87;	6(a)(i) Effectiveness
	(ii) implement findings of study.	6(a)(ii) Second tranche
	6(b) Refineries. (i) Establish Steering Committee under MENR to prepare for introduction of new refinery remuneration formula. Send names of members to Bank by 6/30/87;	6(b)(i) Effectiveness
	(ii) introduce new remuneration formula from 1988 onwards	6(b)(ii) Second tranche
7. Improve Structure of Energy Prices	7(a) Lignite. (i) Eliminate operating subsidies in 1987 and beyond	7(a)(i) Second tranche
	7(b) Electricity. (i) Implement plan to introduce new tariff structure;	7(b)(i) Second tranche
	(ii) eliminate by December 1988 all subsidies on electricity to industrial consumers;	7(b)(ii) Second tranche
	7(c) Natural Gas. (i) No economic subsidies on bulk and retail gas prices.	7(c)(i) Second tranche
	7(d) Petroleum Products. (i) No economic subsidies. Price not to fall below landed CIF Istanbul price.	7(d)(i) Second tranche
8. Introduce Major Energy Conservation Program	8(a)(i) Submit EIE law to Parliament by December 31, 1987;	8(a)(i) Second tranche
	(ii) Implement agreed energy conservation program.	8(a)(ii) Second tranche

environmental controls in Turkey. Low grade lignite burned for both power generation (typically rural locations) and domestic and industrial heating (typically urban locations) is presenting environmental problems of both sulphur and particulate emissions. Major urban areas, especially Ankara and Istanbul, suffer from air pollution during winter months. While lignite fired power stations are equipped with emission controls for dust the major urban pollution (dust, sulfur dioxide) is caused by the burning of low grade lignite for household space heating. The latter problem will be solved only through a policy of fuel substitution, either to higher grade coal or natural gas in the case of Ankara and Istanbul, and through more stringent regulations.

99. In connection with loan appraisal two working papers on environmental matters were prepared and subsequently discussed with Government. The first deals with involuntary resettlement arising out of the development of hydro sites. The report concludes that the existing legal and administrative system governing involuntary resettlement is basically sound, and that practices and procedures for resettlement are satisfactory. The report has recommended some areas for improvement, primarily in the collection of socio-economic data and in administration and coordination at site level. These recommendations have been accepted fully by Government and an implementation plan is under preparation. In order to maintain a continuous dialogue with Government agencies in this field the Bank will continue to include periodically a resettlement expert on project supervision missions and where new hydro investments are proposed to be included in the public investment program the Bank would review and comment upon the related plans for resettlement. The second working paper focused upon air and water degradation. The report concluded that the Government has taken substantive measures to address its environmental problems including the creation of a Directorate for the Environment (GDE), the passage of an Environmental Law in 1985, and the subsequent passage of detailed regulations, particularly with respect to air pollution, noise, and the establishment of a fund for pollution abatement activities. The report however indicated areas where training, equipment and advisory services were required to assist in the implementation of the regulations. A technical assistance program in the fields of environmental monitoring, environmental planning and institutional strengthening has been agreed with Government and would be funded from loan proceeds.

100. The approved 1987-1989 public investment program for energy includes three projects on international rivers. One project (Dicle) has already full financing secured. Karakaya and Ataturk, both on the Euphrates, have financing gaps of US$60 million and US$45 million respectively which would not be financed by the World Bank. Government is currently arranging finance for these projects from commercial sources.

PART IV - THE PROPOSED LOAN

Background

101. The proposed loan is the outcome of Bank efforts over the past three to four years in developing and sustaining a policy dialogue with government authorities. The Bank has undertaken, during this period, extensive sector work in the energy, lignite, electric power and refinery sub-sectors including the preparation and discussion with senior government policy makers of an energy strategy paper as well as a detailed review of the Government's energy investment program. Several technical assistance components (pricing policy studies, demand management, human resource development, etc.) of project loans have contributed in the past or will contribute in the future to our policy dialogue with Government. Finally a collaborative effort between the Bank, the International Atomic Energy Agency (IAEA) and Government (Ministry of Energy, State Planning Organization and TEK) has resulted in the development of significantly improved energy demand and electricity supply forecasting capabilities. Thus the ESAL is a continuation of these efforts, providing a basis for developing and implementing, within Government's overall energy policy objectives, a rational medium-term energy program. A summary of the various reports, studies and working papers prepared in support of the proposed loan is given in Annex 10 for information.

102. The sectoral adjustment program under implementation by the Government, particularly with respect to liberalizing the energy sector in Turkey, will be a long-term effort. The proposed sector loan provides support to a comprehensive medium to long term policy framework which will serve as a basis for the Bank's continued energy lending program to Turkey, as well as provide an opportunity for more effective coordination of external financing for the sector. The Bank's energy policy dialogue with Government has continued to be open and constructive and in particular has played a key role in focusing attention upon critical issues of coordination and interlinkages across and among energy subsectors. This will be further strengthened by the financing of the agreed priority public investment program for the energy sector. The proposed loan was appraised in February, 1987. Negotiations took place in Washington from _____ to _____. The Turkish delegation was led by Mr. Hikmet Ulugbay, Chief Counselor for Financial and Economic Affairs, Embassy of the Republic of Turkey, Washington, D.C.

Project Objectives

103. The proposed loan would support the rational development of the energy sector as outlined in the Government's statement of energy policy (Annex 3). It will also assist Government in implementing the energy investment program to ensure that agreed implementation schedules are met and maximum benefits to the economy are realized.

Project Description

104. The Project consists of the actions to be undertaken in support of the Government's energy policy program (Annex 3), and the presently unfunded components for equipment, materials and services that are included in the three year (FY87, FY88, and FY89) public investment program for the energy sector (para. 80). It would also cover technical assistance activities designed to provide a basis for the longer term development of the sector. The project would cover the following public sector agencies: MENR, TEK, DSI, EIE, TUPRAS, Petrol Ofisi, BOTAS, TPAO, GDPA, TKI, TTK, MTA, GDE, AND SPO.

Project Cost and Financing Plan

105. The Bank reviewed with each energy agency the lists of goods and services required in support of the agreed priority public energy investment program for 1987 through 1989. Discussions were held on the equipment requirements, timing of procurement in light of realistic implementation schedules, and the scope and timing of technical assistance proposals. A summary of the Project cost, i.e. the existing foreign finance gap in the 1987 through 1989 investment program is given in Table 3 below and in greater detail in Annex 7. Local finance will be provided either through internally generated revenues or Government appropriations. Long-term local borrowing is likely to be minimal given the existing difficulties of access to local long-term funds.

106. In addition to the proceeds of the proposed Bank loan the Government of Turkey proposes to arrange financing of approximately US$1,100 million to cover the balance of the foreign exchange financing. The Export Import Bank of Japan would provide untied financing of approximately US$300 million for the project under cofinancing arrangements with the Bank. The Bank is presently assisting Government in identifying potential cofinanciers and discussions have been held with several interested banks and export credit agencies. The level of interest expressed by potential financiers indicates that Turkey will be able to secure the balance of required finance with the involvement of export credit agencies in supplier countries. A tentative financing plan for the Project is shown in Table 4 below.

Table 3

Project Cost Table

Agency	Subsector	Summary Description of Goods	Foreign Finance Gap (US$m) 1987	1988	1989	Total
Ministry of Energy and Natural Resources (MENR)	Energy	Energy planning, training, computer hardware and software.	0.55	0.75	0.40	1.70
Turkish Electricity Authority (TEK)	Electricity	Transmission lines, substations, series capacitors, distribution equipment, machinery, power plant	61.00	97.90	122.00	280.90
State Hydraulics Agency (DSI)	Hydro-electricity	Civil works and electro mechanical equipment.	63.20	46.00	21.00	130.20
Electricity Survey Administration (EIE)	Conservation	Technical assistance, training, energy audits, industrial retrofitting.	4.74	15.69	14.57	35.00
State Refineries Agencies (TUPRAS)	Refineries	Studies hydrocracking units, storage tank, HP vacuum units, Naphtha Sweetening Unit, Dom + Ind Disposal System.	8.50	22.10	34.73	65.33
Petrol Ofisi (POAS)	Petroleum	Machinery, production materials, transportation, materials, various station equipment.	5.52	6.82	6.68	19.02
State Pipelines Agency (BOTAS)	Pipelines	Telecommunication, telecontrol equipment, replacement parts, spares, vehicles, sea pollution preventer.	10.16	5.89	0.18	16.23
Turkish Petroleum Agency (TPAO)	Oil Explor.	Casing, chemicals, well head equipment, rock bits, drilling equipment, other consumables, offshore promotion assistance, other production and construction.	56.70	76.90	76.90	210.50
The General Directorate of Petroleum Affairs (GDPA)	Oil/Gas Policy	Technical assistance, training, hardware, software.	-	0.41	0.50	0.91
Turkish Lignite Authority (TKI)	Lignite	Spare parts, retrofitting and upgrading, rehabilitation and modernization equipment.	124.86	28.00	22.30	175.16
Turkish Coal Agency (TTK)	Coal	Washer replacements.		15.00	5.00	20.00
Minerals Exploration Agency (MTA)	Mineral Exploration	Specialized vehicles, spare parts, chemicals, computers, other equipment, Drilling Dept.	7.00	18.95	18.73	44.68
		Base cost	342.23	334.41	322.99	999.63
		Physical contingencies (10%)	34.22	33.44	32.29	99.96
		Price contingencies (10%)	34.22	33.44	32.29	99.96
		Total Project Cost	410.67	401.29	387.57	1199.55

Source: Government of Turkey, World Bank

Table 4

Tentative Financing Plan for the Project
(US$ million)

	1987	1988	1989	Total
World Bank	20	80	50	150
Japan Export-Import Bank	150	100	50	300
Other Commercial Sources	241	221	288	750
Total	411	401	388	1200

Source: World Bank Estimates

107. With the funding of the present financing gap assured the total financial requirements of the sector over the 1987-1989 period would be met. Total requirements for the energy sector are approximately US$2.5 billion per annum of which some 60 percent is in the form of foreign exchange. Table 5 presents a summary of the estimated financial requirements for the energy sector over the three year period.

Table 5

Financial Requirements for the 1987-1989 Program
(US$ million)

	1987 1/	1988	1989	Total
Electric Power	1491	1625	1850	4966
Coal and Lignite	347	350	350	1047
Petroleum	222	250	275	747
Pipelines	250	270	260	780
Energy Conservation	5	15	15	35
Others	36	60	120	216
Total Requirements	2351	2570	2870	7791

Source: Government of Turkey, World Bank estimates.

1/ Government approved program for 1987.

Procurement, Disbursement and Administration

108. The proposed loan of US$300 million would be made to the Government. Full disbursement of the loan would take place over a two and a half year period. Proceeds of the proposed loan would be structured to include 50 percent (US$150 million) set against actions taken in support of the policy reform program. The balance (US$150 million) would be utilized to help fund the foreign exchange costs of goods and equipment for the 1987-1989 energy investment program as well as technical assistance to support Government's program.

109. Funding of SEE's (TEK, TKI, TTK, TPAO, TUPRAS, BOTAS, POAS) would be made through on-lending arrangements between Government and the agencies. SEEs would also assume the foreign exchange risk. For other non-revenue agencies in the sector such as MENR, EIE, MTA and DSI, funds would be treated as a Government contribution.

110. The policy based component would be available in two tranches each of US$75 million - one at the date of effectiveness and a second twelve months later - and would be available to finance all goods to be imported into Turkey except for goods financed by other sources and a specific list of excluded items such as military or paramilitary items and luxury goods such as tobacco, precious stones and jewelry, gold, nuclear reactors and parts. Procurement and disbursement would be similar to the satisfactory procedures which were established under the Structural Adjustment Loan (SALs) to Turkey. To simplify disbursement, only invoices with a minimum value of US$50,000 equivalent would be eligible for disbursement and the loan would be disbursed only against foreign expenditures. Imports would be made directly by actual users, with imports costing US$15 million or more procured through international competitive bidding (ICB) in accordance with Bank guidelines. Certain commonly traded commodities may be purchased through price quotations from organized international commodity markets. All contracts of lesser value would be awarded through normal trade channels on the basis of the normal procurement procedures of the firms concerned. The procurement procedures of public sector firms provide for substantial international bidding or shopping and are satisfactory. Firms in Turkey have an adequate choice of international suppliers to ensure reasonable availability and price.

111. The investment component would be available for purchases of identified equipment and services (Annex 6) as well as intermediate goods in support of Government's 1987 through 1989 public investment program for the energy sector. The goods to be procured for 1988 and 1989 will be reviewed and revised in light of the annual reviews of the public investment program (para. 81). Except for about US$250,000 of computer hardware and software to be used in association with various technical assistance activities and which would be procured through limited international bidding, all goods and equipment would be procured through international competitive bidding (ICB). All bidding packages exceeding US$10 million equivalent would be subject to

prior review by the Bank. Consultants would be recruited and employed in accordance with Bank guidelines. Disbursements would be made on the basis of 100 percent of the CIF cost of imported goods, or in the case of locally manufactured goods procured through ICB, 100 percent of the ex-factory cost; and 100 percent of all expenditures for consultants.

112. In order that Turkey has ready access to foreign exchange, a Special Account would be established in the Central Bank of Turkey to which the World Bank would make an initial revolving deposit of US$50 million. The Special Account would cover both the policy and investment components of the loan. The Special Account would be replenished against withdrawals at monthly intervals or as appropriate when the undisbursed balance of the account falls below US$30 million. Imports would be made directly by actual users. The Special Account would be audited annually, in line with standard Bank procedures. Retroactive financing of up to US$20 million under the policy component would be allowed for expenditures made after February 4, 1987. The loan is expected to be fully disbursed by December 31, 1989, and the Closing Date has been set at September 30, 1990.

Monitoring and Reporting

113. Qualified staff within each of the main energy agencies have been designated as responsible for the coordination, monitoring and evaluation of their respective subsectoral activities under the sectoral adjustment program. Typically the lead staff are at the level of either Director of Planning and Coordination or General Manager. MENR has responsibility for coordinating the work programs of all the energy agencies and would take lead responsibility in preparing major progress reports including the completion report.

114. The conditions of effectiveness for the release of the first tranche of funds for the loan are:

(a) preparation and submission to the Bank for review and comment of the legislation to enable the restructuring of the TEK Board (para. 58);

(b) submission to the Bank for review and comment the short list of auditors for TEK (para. 58);

(c) employment of consultants to assist the regulatory body in MENR (para. 67);

(d) employment of consultants to prepare the petroleum products supply options study (para. 74);

(e) submission of the TKI study to the Bank for review and comment (para. 86); and

(f) establishment of the steering committee formed to introduce the new refinery remuneration formula (para. 87).

115. In addition to routine supervisory missions to review progress related to policy reform, technical assistance and procurement a major progress review as a condition of the second tranche release will take place approximately twelve months after loan effectiveness (tranche 1). Further disbursement of loan proceeds would be based upon satisfactory progress in implementation of the sectoral adjustment program, with special emphasis on progress on the following issues:

(a) the strengthening of TEK's Board of Directors (para. 58);

(b) preparation of the independent financial audit of TEK (para. 58);

(c) implementation of the work program of the regulatory body (para. 67);

(d) preparation of the medium to long term subsector plans for natural gas (para. 73), refineries (para. 74) and electric power (para. 76);

(e) composition and size of the public investment program for energy (para. 81);

(f) implementation of the new refinery remuneration formula (para. 87);

(g) implementation of the new tariff structure (para. 89); and

(h) implementation of the energy conservation program (para. 96).

116. The Treasury would supervise the maintenance of separate accounts for the loan and would prepare detailed statements of expenditures during each half year period. In addition, an annual audit would be carried out and submitted to the Bank within nine months of the end of each fiscal year.

Benefits and Risks

117. While the broad policy framework for the energy sector is in place, the development and implementation of a cohesive program of actions as defined in the Government's statement of energy policy (Annex 3) will result in several significant benefits to the economy. These actions will:

(a) underpin the reform program and ensure movement towards Government's long term objectives for the sector of liberalization and rationalization;

(b) significantly increase the stock of trained manpower both in the traditional areas of planning and management and in areas relatively new to Turkey such as energy conservation, regulatory aspects, etc.;

(c) prepare a solid foundation for maximizing the flows of private capital to the sector; and

(d) reduce public expenditures in the sector through improved operational efficiencies, cost recovery policies and investment rationalization as well as through increased flows of private capital.

118. Although no economic rate of return can be computed on the overall sectoral adjustment program, the Bank has, in specific subsectors, reviewed the potential direct benefits of the proposed actions. These include approximately US$40 million per annum of savings to the economy through energy conservation and demand management, and US$30 million through efficiency gains in the electric power subsector alone. Furthermore a reduction of energy and electricity intensity and hence growth in demand has a major impact upon investment savings especially in the capital intensive electricity subsector. A reduction in the energy/GDP coefficient of 21 percent as identified in MENR's most recent demand estimates would result, over a five year period, in the ability to postpone the commissioning of a 1,500 MW power plant.

119. The main risks in implementing the sectoral adjustment program arise from:

(a) the uncertainties with respect to the level, scope and timing of private investment in the energy sector and the consequent high costs to the economy of non-supply in the event of shortfalls in the estimated level of private sector investment. It is proposed that both the longer term sectoral planning assistance (para. 77) and the annual reviews of the public energy investment program (para. 81) include assessments of the likely flows of private capital as well as the status of potential private investments. Risks will be further reduced by the development of contingency plans of high priority standby projects for the public sector to be brought forward in the event of shortfalls in private investment;

(b) volatility in energy demand and supply forecasts as a result of changes in the macro-economy and in external factors such as international energy prices. The technical assistance for energy planning to be provided under the loan will devote considerable effort to incorporating techniques related to risk analysis, uncertainty and the need for greater flexibility in investment planning; and

(c) the pace of cost recovery measures especially in light of any increases in the inflation rate. Considerable efforts will be needed by Government to ensure that energy prices reflect changes in inflation in order that planned cost recovery targets are maintained. The annual reviews of the investment programs and associated financing plans will give the Bank an opportunity to discuss on a regular basis the details of specific cost recovery targets.

PART V - BANK GROUP OPERATIONS IN TURKEY

120. Through December 31, 1986 the Bank and IDA had lent $7,398.5 million[1/] to Turkey, through 95 projects. Agriculture accounted for 21 percent of the funds lent, industry and DFCs for 23 percent, power for 19 percent, structural adjustment and program loans for 23 percent, and urban development, trans- portation, education, tourism and technical assistance for the remaining 14 percent. Disbursements for all sectors combined averaged 65 percent of appraisal estimates at the end of December 1986, which compares favorably with other countries in the region. As of December 31, 1986, IFC commitments to Turkey totalled about $289 million, of which about $102 million were still held by IFC.

121. Bank lending is aimed at supporting Turkey's medium-term objectives of restructuring the economy by placing greater reliance on market forces and adopting a more outward-oriented strategy. The main vehicle for the Bank's operational discussions with the Government has been the structural adjustment lending (SAL) program, which was completed in June 1984, and more recently the sectoral adjustment lending program. Significant progress has been achieved in the last seven years, but the task of restructuring is by no means over. The current lending program aims at a broadening and deepening of the adjustment process at the sectoral level. Recent economic developments have underlined the need for a continuation of the stabilization program without giving up the goals of sectoral adjustment. Hence the emphasis of Bank lending in the post-SAL period will continue to be on striking an appropriate balance between sector adjustment lending designed in part to be quick disbursing and supportive of policy reforms in the major sectors and project lending. A first sector adjustment loan for agriculture was approved in June 1985. A financial sector adjustment loan approved in June 1986 was the second of the series. Another sector adjustment loan is planned for the transport sector. It is expected that there would be follow-up loans in agriculture, energy and the financial sector.

122. Project lending, which would continue to make up the majority of Bank lending, would be designed to support and strengthen the adjustment process. Some project lending would be earmarked for the construction or rehabilitation of key projects in the energy sector. Other projects would be guided by the major policy objectives of the Government, which include generation of foreign exchange (including improving productivity in export industries and providing essential infrastructure for exports), improvement of institutional efficiency and reduction of the social costs of adjustment (including provision of social infrastructure and employment generation, with some emphasis on the least developed provinces).

123. IFC has invested in textiles, pulp and paper, glass, aluminum, cement, iron and steel products, food processing and tourism. It has also invested in the Industrial Development Bank of Turkey (TSKB) and provided guarantees for overseas contracting firms. In addition, IFC is currently providing technical assistance to the Government with respect to the development of the capital market and a regulatory framework for leasing.

1/ Net of cancellations and including commitments signed but not yet effective as of December 31, 1986.

PART VI - RECOMMENDATION

124. I am satisfied that the proposed loan would comply with the Articles of Agreement of the Bank and I recommend that the Executive Directors approve the proposed loan.

Barber B. Conable

TURKEY - ECONOMIC INDICATORS

Country Brief
Annex I
Page 1 of 3
March 1987

Mid-1985 Population: 49.4 million
1985 Per Capita GNP: US$ 1130

	A. Shares of Gross Domestic Product (from current price data)						B. Growth Rates (% per annum) (from constant price data)				
	1965	1973	1980	1984	1985	1986e	1965-73	1973-80	1980-84	1985	1986e
Gross Domestic Product m.p.	100.0	100.0	100.0	100.0	100.0	100.0	6.7	4.5	4.8	5.1	7.9
Net Indirect Taxes	9.8	10.1	5.7	4.5	6.3	8.9	6.5	0.9	4.5	15.3	16.4
Agriculture	30.9	24.8	21.4	18.7	17.3	16.3	1.9	4.9	2.4	2.4	7.4
Industry a/	22.4	23.1	28.6	31.9	32.4	33.7	8.5	4.6	5.9	6.1	8.6
(of which manufacturing)	14.4	15.6	20.1	23.2	22.2	24.0	10.1	3.4	8.2	5.5	9.9
Services	36.9	42.1	44.3	45.0	44.0	41.0	8.7	4.9	5.1	3.2	6.0
Resource Balance	-1.4	-2.8	-8.1	-4.6	-3.6	-3.9	-	-	-	-	-
Exports of GNFS	6.3	7.3	5.7	17.3	18.9	15.8	8.2	-0.2	37.0	15.3	-6.0
Imports of GNFS	7.7	10.1	13.8	21.9	22.5	19.6	9.6	-0.2	15.6	9.1	5.0
Total Expenditures	101.4	102.8	108.1	104.6	103.6	103.9	7.1	4.1	3.7	4.5	8.9
Total Consumption	86.5	83.8	86.2	85.8	84.0	80.2	6.3	4.0	3.7	3.5	7.7
Private Consumption	74.2	71.3	73.6	76.8	74.5	71.5	6.4	3.4	4.0	3.6	7.8
Public Consumption	12.3	12.5	12.6	8.9	9.5	8.7	5.3	7.5	2.4	3.2	7.4
Gross Domestic Investment	14.9	19.0	21.9	18.9	19.5	23.6	11.0	4.8	3.4	7.8	12.8
Fixed Investment	14.5	20.1	20.0	17.4	19.1	22.5	10.8	3.8	3.2	10.9	11.6
Changes in Stocks	0.4	-1.0	1.9	1.5	0.4	1.2	21.2	24.5	5.7	-36.3	43.6
Gross Domestic Saving	13.5	16.2	13.8	14.2	16.0	19.8	9.9	2.1	9.4	11.2	7.8
Net Factor Income b/	0.4	-0.6	-2.0	-2.9	-2.5	-2.0	-	21.1	14.3	7.6	n.a.
Net Current Transfers	1.2	6.0	3.8	4.3	3.8	3.3	29.2	0.8	7.1	-7.4	n.a.
Gross National Saving	15.1	21.6	15.7	15.6	17.2	21.0	11.7	0.6	8.2	11.0	n.a.

In billions of TL (At constant 1980 prices)	1965	1973	1980	1984	1985	1986e					
Gross Domestic Product	1884.6	3171.3	4328.0	5211.7	5467.8	5899.8	6.7	4.5	4.8	5.1	7.9
Capacity to Import	237.0	440.5	248.3	842.9	980.1	973.0	8.1	-7.9	35.7	16.3	-0.7
Terms of Trade Adjustment	103.3	189.4	0.0	-33.0	-29.5	10.0	-	-	-	-	-
Gross Domestic Income	1987.9	3360.7	4328.0	5178.7	5438.4	5909.8	6.8	3.7	4.6	5.0	8.7
Gross National Product	1891.3	3148.9	4243.0	5066.3	5333.6	5755.0	6.6	4.4	4.5	5.3	7.9
Gross National Income	1994.6	3338.3	4243.0	5033.3	5304.2	5765.0	6.6	3.5	4.4	5.4	8.7

C. Price Inices	(1980=100)						Inflation Rates (% p.a.)				
	1980	1982	1983	1984	1985	1986e	1965-73	1973-80	1980-84	1985	1986e
Consumer Prices (SIS est.)	100.0	178.7	237.5	352.4	510.7	687.4	8.5	38.9	37.0	44.9	34.6
Wholesale Prices (SIS est.)	100.0	173.7	226.7	340.8	488.0	632.4	10.3	40.2	35.9	43.2	29.6
Implicit GDP Deflator	100.0	181.8	234.2	349.4	503.2	660.0	11.1	40.5	36.8	44.0	31.2
Implicit Expenditure Deflator	100.0	185.4	239.7	352.4	506.7	658.0	11.1	41.6	37.7	43.8	29.9

D. Other Indicators:	1965-73	1973-80	1980-85
Growth Rates (% p.a.)			
Population	2.5	2.2	2.4
Labor Force	1.8	2.0	1.5
Gross Nat'l. Income P.C.	4.1	1.3	2.2
Private Consumption P.C.	3.9	1.2	1.4
Import Elasticity:			
Import (G+NFS) / GDP(mp)	1.5	0.1	2.9
Marginal Savings Rates:			
Gross National Saving c/	20.0	12.0	32.2
Gross Domestic Saving c/	11.5	20.0	31.9
ICOR	2.7	5.6	4.0

Share of Total Civilian Employment in:	1965	1973	1980	1985
Agriculture	74.5	67.2	62.5	58.8
Industry	8.7	11.1	11.6	12.9
Services	16.8	21.7	25.9	28.3
Total	100.0	100.0	100.0	100.0

NOTES:
a/ Includes constructions.
b/ Excludes workers remittances.
c/ Refers to 1965-74 and 1974-80 periods.

e = Estimate
Source: Government of Turkey, Bank estimates.

TURKEY - ECONOMIC INDICATORS

E. Merchandise Exports	Volume Index (1980=100) a/						Value at Current Prices (million US$)					
	1980	1982	1983	1984	1985	1986e	1980	1982	1983	1984	1985	1986e
Agricultural Products	100.0	147.6	137.0	135.0	114.5	129.1	1065.9	1399.6	1349.1	1256.7	1060.1	1100.0
Industrial Crops (non-food)	100.0	136.0	94.3	93.8	149.4	82.5	605.9	741.6	531.5	492.5	659.3	340.0
Mining	100.0	107.7	104.1	118.8	143.5	154.8	191.0	175.3	188.9	239.8	243.8	250.0
Manufacturing	100.0	384.9	421.3	602.9	698.2	686.3	1047.4	3429.4	3658.3	5144.5	5994.8	5600.0
Total Exports (excl. Transit Trade)	100.0	224.8	224.5	289.5	330.0	321.6	2910.2	5745.9	5727.8	7133.5	7958.0	7290.0
Total Exports (FOB)	100.0	230.5	231.4	299.9	342.3	331.3	2910.0	5890.0	5905.0	7389.0	8255.0	7510.0
E. Merchandise Imports												
Agriculture & Livestock	100.0	473.5	335.2	858.5	933.6	947.7	49.8	176.1	138.0	417.5	375.3	400.0
Oil & Oil Products	100.0	95.5	102.6	104.4	106.8	119.4	3863.0	3747.7	3665.1	3637.0	3611.6	2100.0
Capital Goods	100.0	172.1	178.9	207.6	237.4	313.7	1335.2	2276.8	2307.8	2630.2	3026.9	4200.0
Other Manufactures	100.0	100.2	121.5	161.3	170.4	168.7	2660.8	2642.1	3124.1	4072.2	4329.8	4500.0
Total Imports (CIF)	100.0	114.1	125.4	147.7	159.2	172.5	7908.8	8842.7	9235.0	10756.9	11343.6	11200.0
Total Imports (FOB)	100.0	115.7	127.1	149.3	165.9	172.7	7513.0	8518.0	8895.0	10331.0	11230.0	10650.0

G. Terms of Trade (1980=100)	1980	1982	1983	1984	1985	1986e
Merc. Exports Price Index	100.0	87.8	87.7	84.7	82.9	77.9
Merc. Imports Price Index	100.0	98.0	93.1	92.1	90.1	81.5
Merchandise Terms of Trade	100.0	89.6	94.2	92.0	92.0	95.6

NOTES:
a/ Price Indexes for export and import categories are EPDCA estimates.
b/ Includes official grants.
c/ Decrease indicates real devaluation.

H. Balance of Payments	US$ millions (at current prices)					
	1980	1982	1983	1984	1985	1986e
Exports of Goods & NFS	3266	6980	6889	8590	9958	9095
Merchandise (FOB)	2910	5890	5905	7389	8255	7510
Non-Factor Services	356	1090	984	1201	1703	1585
Imports of Goods & NFS	7854	8886	9221	10886	11839	11330
Merchandise (FOB)	7513	8518	8895	10331	11230	10650
Non-Factor Services	341	368	326	555	609	680
Resource Balance	-4588	-1906	-2332	-2296	-1881	-2235
Net Factor Income	-991	-1323	-1351	-1225	-1130	-1160
(Interest)	-1138	-1565	-1511	-1586	-1753	-1850
Net Current Transfers b/	2171	2294	1785	2114	1998	1895
(Workers Remittances)	2071	2140	1531	1807	1714	1600
Current Account Balance	-3408	-935	-1898	-1407	-1013	-1500
Long-Term Capital Inflow	2047	1084	349	1159	75	665
Direct Investment	18	55	46	113	99	150
Net LT Loans (DRS data)	1949	987	514	1387	392	n.a.
Other LT inflows (Net)	80	42	-211	-341	-416	n.a.
Total Other Items (Net)	1357	-131	1645	373	1213	1434
Net Short-Term Capital	-96	-83	958	36	1650	1434
Errors and Omissions	1453	-48	687	337	-437	0
Change in Net Reserves	4	-18	-96	-125	-275	-599
Net Credit from the IMF	422	133	78	-138	-255	-313
Other Reserve Changes (- indicates increase)	-418	-151	-174	13	-20	-286
As shares of GDP (%):						
Resource Balance	-8.1	-3.6	-4.6	-4.6	-3.6	-3.9
Interest Payments	-2.0	-3.0	-3.0	-3.2	-3.3	-3.2
Current Account Balance	-6.0	-1.8	-3.7	-2.8	-1.9	-2.6
Memorandum Items:						
Int'l. Reserves (Mil. US$)	1307.9	1872.4	2097.9	3098.6	2614.6	2980.9
Reserves Incl. Gold (mil. US$)	1462.5	2027.0	2252.5	3899.0	3654.7	4015.5
Official Exch. Rate (TL/US$)	76.0	162.6	225.5	366.7	522.0	674.5
Index Real Eff. Exch. Rate (Dec. 1982=100) c/	109.1	107.8	103.0	96.7	97.3	87.3
GDP (US$, mill)	56924.4	53032.3	51150.0	49667.5	52710.0	57727.7

TURKEY - ECONOMIC INDICATORS

I. Budget (Central Government)	Shares of GDP (%)						Growth Rates (% p.a.)			
	1980	1982	1983	1984	1985	1986e	1980-83	1984	1985	1986e
Revenues	19.4	16.5	18.7	15.5	16.3	18.3	37.0	31.2	58.1	59.0
Tax Revenues	17.3	15.1	16.8	13.0	13.9	15.3	37.1	22.5	61.6	56.0
Non-Tax Revenues	2.0	1.4	1.9	2.5	2.4	2.9	36.3	107.2	40.0	76.4
Expenditures	24.8	18.3	22.0	20.5	19.1	21.2	33.2	47.3	41.1	56.6
Current	11.5	8.4	9.2	8.1	7.6	7.8	28.6	39.3	41.7	45.2
Interest Payments	0.6	0.9	1.6	2.1	2.5	3.4	85.9	108.3	79.7	95.1
Investment	3.9	4.0	4.0	3.8	3.6	4.5	39.7	47.5	44.8	76.7
Transfers	8.7	5.0	7.2	6.6	5.5	5.5	30.1	44.2	26.1	42.0
Budget Balance	-5.4	-1.8	-3.3	-4.9	-2.9	-2.9	17.0	139.4	-12.6	43.2
Cash Balance	-5.1	-2.1	-2.1	-5.3	-3.1	n.a.	3.7	293.9	-10.8	n.a.
Financing	5.2	1.7	1.8	5.1	2.9	n.a.	-2.7	349.3	-15.6	n.a.
Foreign Borrowing (net)	1.7	-0.2	0.2	1.8	-0.8	n.a.	-29.4	1126.9	-169.9	n.a.
Domestic Borrowing (net)	0.2	0.6	1.8	0.8	1.8	n.a.	195.8	-33.8	263.5	n.a.
Short-Term Borrowing	3.3	1.2	-0.2	2.6	1.9	n.a.	-	-	7.6	n.a.
Other	-0.1	0.4	0.3	0.1	0.3	n.a.	-	-31.6	192.3	n.a.

J. External Capital Flows, Debt and Debt Burden Ratios	Net Disbursements (US$ mil.)						Debt Outstanding and Disbursed (US$ mil.)					
	1980	1982	1983	1984	1985	1986e a/	1980	1982	1983	1984	1985	1986e a/
Public & Publicly Guar. LT	1902.6	973.9	509.0	1361.0	470.7	590.0	15441.1	16227.5	15686.5	16112.5	17821.1	19200.0
Official Creditors	1284.2	805.6	449.9	950.0	423.1	n.a.	10102.6	11057.0	10797.9	11064.8	12370.5	13000.0
Multilateral	414.1	603.5	480.8	670.3	559.1	n.a.	2152.5	3088.7	3464.2	3997.2	4812.8	n.a.
of which IBRD	267.5	416.4	373.9	487.3	469.8	428.0	1157.5	1962.3	2336.1	2823.5	3293.2	4664.0
of which IDA	-0.9	-1.7	-2.6	-2.9	-3.5	-3.2	189.4	186.5	183.9	181.0	177.5	174.0
Bilateral	870.1	202.1	-30.9	279.7	-136.0	n.a	7950.1	7968.2	7333.7	7067.6	7557.7	n.a.
Private Creditors	618.4	168.3	59.2	411.0	47.6	n.a	5338.5	5170.5	4888.5	5047.7	5450.6	6190.0
Suppliers	162.4	-196.1	3.0	-11.9	-65.8	n.a	1144.8	732.9	720.9	683.0	652.3	690.0
Financial Markets	455.9	364.4	56.2	422.9	113.4	n.a	4193.7	4437.6	4167.6	4364.7	4797.3	5500.0
Private Non-Guaranteed LT	46.0	13.0	5.0	26.0	-92.0	-75.0	535.0	394.0	399.0	425.0	358.9	350.0
Total Long-Term	1948.6	986.9	514.0	1387.0	378.7	515.0	15976.1	16621.5	16085.5	16537.5	18180.0	19550.0
IMF Net Credit	484.7	202.6	190.1	-43.1	-251.3	-313.0	1054.2	1455.2	1567.4	1426.2	1326.4	1050.0
Net Short-Term Capital	-1106.0	-30.0	875.0	1467.0	2111.0	1779.0	2490.0	2164.0	3039.0	4506.0	6617.0	9400.0
Total Incl. IMF & Net ST	1327.3	1159.5	1579.1	2810.9	2238.4	1981.0	19520.3	20240.7	20691.9	22469.7	26123.4	30000.0

Bank and IDA Ratios (%)	1980	1982	1983	1984	1985	1986e
Share of Total Long-Term DOD b/						
1. IBRD as % of Total	6.8	10.9	13.2	15.7	16.9	22.6
2. IDA as % of Total	1.1	1.0	1.0	1.0	0.9	0.8
3. IBRD+IDA as % of Total	7.9	11.9	14.3	16.7	17.8	23.5
Share of Total LT Debt Service b/						
1. IBRD as % of Total	11.8	8.0	10.1	12.2	10.2	13.3
2. IDA as % of Total	0.2	0.1	0.1	0.2	0.1	0.1
3. IBRD+IDA as % of Total	12.0	8.2	10.3	12.4	10.3	13.4
DOD-to-Export Ratios c/ (%)						
1. Long-Term Debt/Exports	278.2	165.1	170.1	143.0	138.6	157.9
2. IMF Credits/Exports	18.4	14.5	16.6	12.3	10.1	8.5
3. Short-Term Debt/Exports	43.4	21.5	32.1	39.0	50.4	75.9
4. LT+IMF+SH DOD/Exports	339.9	201.0	218.8	194.3	199.2	242.2
DOD-to-GDP Ratios (%)						
1. Long-Term Debt/GDP	28.1	31.3	31.4	33.3	34.5	33.9
2. IMF Credits/GDP	1.9	2.7	3.1	2.9	2.5	1.8
3. Short-Term Debt/GDP	4.4	4.1	5.9	9.1	12.6	16.3
4. LT+IMF+SH DOD/GDP	34.3	38.2	40.5	45.2	49.6	52.0
Debt Service/Exports (%)						
Public & Publicly Guar. LT	15.3	22.4	24.1	19.8	26.7	29.0
Private Non-Guaranteed LT	0.9	0.7	1.0	0.9	1.2	0.9
Total LT Debt Service	16.2	23.1	25.1	20.7	27.9	29.9
IMF Repurchases + Serv. Chgs.	3.6	2.8	3.5	3.4	2.9	3.7
Interest on ST Debt d/	10.8	2.6	1.8	2.1	2.6	2.9
Total (LT+IMF+ST) Debt Service	30.6	28.5	30.3	26.1	33.4	36.6

NOTES:
a/ Estimates for net disbursements are not comparable with DOD estimates since the latter are adjusted for estimated exchange adjustments.
b/ Long-term debt and debt service include IMF.
c/ Exports include goods, factor and non-factor services plus workers remittances.
d/ Interest on ST debt calculated as the difference between total interest (BOP table) and MLT interest (incl. IMF charges) from the external debt tables produced by EPDED.
e = Estimates

Source: Debt data: EPDED, Government of Turkey
Budget: Government of Turkey

STATUS OF BANK GROUP OPERATIONS IN TURKEY

A. STATEMENT OF BANK LOANS AND IDA CREDITS a/
(As of September 30, 1986)

Loan/ Credit Number	Fiscal Year	Borrower	Purpose	Amount ($ millions) b/ Bank	IDA	Undisbursed	
Fifty-three loans, three B-Loans, and fourteen credits fully disbursed:				3358.70	196.15		
1585 -TU	1978	Republic of Turkey	Northern Forestry	86.00		26.00	
1606 -TU	1978	Republic of Turkey	Erdemir Stage Steel II	95.00		6.14	
1742 -TU	1979	Republic of Turkey	Grain Storage	79.00		73.47	
1844 -TU	1980	Republic of Turkey	Karakaya Hydropower	120.00		1.09	
1862 -TU	1980	Republic of Turkey	Fifth Livestock Development	51.00		16.84	
1917 -TU	1981	Republic of Turkey	Oil Recovery	62.00		11.56	
1952 -TU	1981	Republic of Turkey	Labor Intensive Industries	40.00		0.55	
1967 -TU	1981	Republic of Turkey	Second Fruit & Vegetable	32.00		7.37	
1985 -TU	1981	Republic of Turkey	Fertilizer Rationalization	110.00		40.84	
1998 -TU	1981	State Investment Bank	State Industrial Enter.Fin.	70.00		18.39	
2093 -TU	1982	TSKB	Export-Orient. Industries	100.00		12.52	
2094 -TU	1982	Republic of Turkey	Erzurum Rural Development	40.00		24.45	
2131 -TU	1982	Republic of Turkey	Second Fert. Rationalization	38.00		20.03	
2137 -TU	1982	Republic of Turkey	Highway Rehab	71.10		0.52	
2159 -TU	1982	ISKI	Istanbul Sewerage	88.10		60.58	
2318 -TU	1983	TCZB	Second Agricultural Credit	150.40		95.40	
2322 -TU	1983	TEK	TEK III	163.00		133.84	
2327 -TU	1983	TPAO	Thrace Gas Expl.	55.20		40.18	
2399 -TU	1984	Republic of Turkey	Industrial Training	36.80		32.71	
2400 -TU	1984	Republic of Turkey	Technical Assistance to SEEs	4.65		3.09	
2405 -TU	1984	Republic of Turkey	Agricultural Ext. & Appl. Res.	72.20		66.59	
2433 -TU	1984	Republic of Turkey	IAEE Irrigation	115.30		105.46	
2439 -TU	1984	Republic of Turkey	Second Highways	186.40		150.98	
2535 -TU	1985	Republic of Turkey	Third Ports	134.50		126.57	
2536 -TU	1985	Republic of Turkey	Industrial Schools	57.70		55.67	
2537 -TU	1985	Republic of Turkey	Cukurova	9.20		2.71	
2585 -TU	1985	Republic of Turkey	ASAL	300.00		175.16	
2586 -TU	1985	TEK	TEK IV	142.00		132.76	
2602 -TU	1986	TEK	Power System Operations.Asst.	140.00		132.01	
2647 -TU	1986	Republic of Turkey	Small & Medium Scale Industry	100.00		91.26	
2650 -TU	1986	TEK	Elbistan O & M	10.00		9.59	
2655 -TU	1986	Republic of Turkey	Kayraktepe	200.00		200.00	
2663 -TU	1986	Republic of Turkey	Drainage Onfarm Dev.	256.00		0.00	c/
2714 -TU	1986	Republic of Turkey	Financial Sector Adj. Loan	300.00		177.26	
2750 -TU	1987	Republic of Turkey	Sir Hydropower	132.00		0.00	c/
2739 -TU	1987	Republic of Turkey	Railways II	197.00		0.00	c/
Total				7202 25	196.15	2051.59	
of which has been repaid				938.10	20.84		
Total now outstanding				6264.15	175.51		
Amount sold			3.55				
of which has been repaid			3.55				
Total now held by Bank and IDA d/				6259.82			
Total undisbursed				2051.59			

a/ The status of the projects listed in Part A is described in a separate report on all Bank/IDA financed projects in execution, which is updated twice yearly and circulated to the Executive Directors on April 30 and October 31.
b/ Net of cancellations.
c/ Not yet effective.
d/ Prior to exchange adjustments.
November 18, 1986
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STATUS OF BANK GROUP OPERATIONS IN TURKEY

B. STATEMENT OF IFC INVESTMENTS
(As of September 30, 1986)

Fiscal Year	Obligor	Type of Business	Amount $ Millions Loan	Equity	Total
1964/67/69/ 72/73/75/76/ 77/80/83	TSKB	DFC	60.00	4.77	64.77
1966/69/ 71/72	SIFAS I	Nylon Yarn	3.15	1.42	4.57
1970/71/ 82/83	Viking I	Pulp and Paper	2.50	0.82	3.32
1970/86	ACS	Glass	10.00	1.68	11.68
1971/76/ 83/84	NASAS	Aluminum	8.58	1.46	10.04
1973	Akdeniz	Tourism	0.33	0.27	0.60
1974/77	Borusan	Steel Pipes	3.60	0.49	4.09
1974	AKSA	Textiles	10.00	-	10.00
1975	Kartaltepe	Textiles	1.30	-	1.30
1975	Sasa	Nylon Yarn	15.00	-	15.00
1975	Aslan	Cement	10.60	-	10.60
1975/78/83	DOKTAS	Steel	7.50	1.53	9.03
1976/79	Asil Celik	Steel	12.00	4.00	16.00
1979	Ege Mosan	Engines for Mopeds	2.15	-	2.15
1979/80/82/84/85	ISAS	Motor Vehicles & Access.	8.85	2.34	11.19
1986	Cam Elyaf	Fiber Glass	7.98	-	7.98
1979/81/ 83/84	Trakya Cam	Glass	33.15	3.23	36.38
1980	MENSA	Textiles and Fibers	4.00	-	4.00
1981	Kirklareli Cam Sanayii A.S.	Glass Tableware	12.95	-	12.95
1982	M.A.N. Motors	Motor Vehicles & Access.	7.88	-	7.88
1984	Pinar	Food and Food Processing	3.90	-	3.90
1985	MANAS	Motor Vehicles & Access.	6.47		6.47
1986	Silkar Turizm Yatirim ve Isletmelari A.S.	Tourism	5.77	-	5.77
1986	Eska Turizm ve Ticaret A.S.	Tourism	2.38	-	2.38
1987	Guney Sanayi ve Ticaret Isletmeleri A.S.	Textiles	16.05	-	16.05
	Total Gross Commitments		256.09	22.01	278.10
	Less Cancellations, Terminations, Exchange Adjustments, Repayments and Sales		174.86	9.78	184.64
	Total Commitments now held by IFC		81.23	12.23	93.46
	Total Undisbursed		19.41	-	19.41

ENERGY SECTOR ADJUSTMENT LOAN

DRAFT STATEMENT OF ENERGY POLICY

I. INTRODUCTION

1. The energy sector remains critical to the Government's medium-term policy of reducing imports and providing energy at the lowest economic cost to sustain the Government's export-led growth targets.

2. The Government's energy policy stems from:

(a) concern with the cost, availability and security of energy supplies over the medium to long term;

(b) a desire to improve the efficiency of energy production and use; and

(c) a drive to involve the private sector more deeply in the energy sector, partly to control public expenditure, but partly also to increase efficiency and stimulate growth.

3. The Government has assigned the highest priority to energy policies which will result in a secure, timely and low cost supply of energy. Investment in the sector represents about 31% of total public fixed investment during the Fifth Five-Year Plan Period (1985-1989) compared with 20% for the previous plan. The plan gives priority to:

(a) increasing the efficiency of the public sector energy agencies and allowing them greater financial autonomy;

(b) increasing the opportunities for private sector participation;

(c) improving energy conservation through appropriate pricing policies as well as the introduction of an energy conservation program;

(d) diversifying the sources of energy, giving priority to indigenous sources when economically justified, especially hydro and lignite, and including imported sources, especially coal and gas; and

(e) ensuring that priority investments are fully funded.

4. The proposed program has three broad themes. The first concerns the development of an appropriate institutional framework to respond to the recent policy changes. The second concerns the implementation of a priority investment program combined with a longer-term effort to upgrade investment planning capacity. The third focuses upon specific actions to increase the efficiency of the existing energy supply system and to ensure the economic utilization of energy. The next section outlines government policies and intentions in these areas.

II. Program for Action

Institutional Development

5. The Government's objective is to develop an effective and financially sound energy sector, in which the private and public sectors will work together to meet Turkey's energy needs in the most efficient manner. The Government proposes to introduce a broader regulatory framework within which government efforts will be directed towards emphasizing accountability and the independence of the public sector, and maximizing opportunities for private investment. The Government will start with the electric power subsector.

6. The goal is to establish a comprehensive regulatory framework for licensing and operating within the electricity subsector. The Government building upon an existing department, has established a regulatory body in the Ministry of Energy and Natural Resources (MENR), to, over the next three years:

(a) establish guidelines for leasing arrangements with interested private parties;

(b) document criteria and procedures for evaluating and approving private sector proposals for thermal and hydro power projects;

(c) establish procedures for settling disputes especially between the TEK and non-TEK systems;

(d) establish guidelines for the establishment of regional utilities; and

(e) review public sector efficiency.

After two years, Government will assess the work of the regulatory body to determine whether it should become a separate commission.

7. In the medium term the Turkish Electricity Authority (TEK) will remain responsible for power subsector planning, subject to the approval of the State Planning Organization (SPO). The Government intends to take actions to make TEK a more efficient institution and potentially of more interest to private investors by:

(a) subjecting TEK to publicly-available independent audits from 1988;

(b) strengthening TEK's Board of Directors to enable it to assume its role as an effective policy making body and overseer of TEK's management; and

(c) requesting the TEK Board to commission a study to review the relationship between the Board and its General Management and between the TEK central organization and other organizational units such as the TEK's Regional Distribution Enterprises and the recently formed

production and transmission company. We expect that the Board would make recommendations for review by Government by early 1988.

8. TEK's management has already instituted a program to improve planning and financial management. In 1984 TEK commissioned consultants to assist in developing a Management Information System. To accelerate the work program TEK has established a special systems and methods group to design and implement new financial planning and control systems as well as to ensure that TEK's accounts fully reflect its financial obligations. The Government anticipates that by 1990 TEK will have in place a modern financial management system.

9. Law number 3096 enabling private sector participation in the energy sector, was passed in 1984. Regulations prepared by the new regulatory body can be approved under the law. Law number 3291 has liberalized private investment in the sector and allows for joint venture activities. A contract bringing private sector management to Elbistan has been signed. Two private utilities are constructing hydropower plants. Discussions are under way with private parties to create integrated regional utilities. A private Turkish company has signed a contract to build and operate a small hydropower scheme. The Government is currently in negotiation with international consortia to employ the Build, Operate and Turnover (BOT) scheme for thermal power plants utilizing imported coal. TKI has signed contracts with private operators for about 13 mines.

10. At present over fifty applications to build and operate power plants are pending with the Ministry. These range from expressions of interest to a limited number of firm proposals, and in size from 15 MW to 250 MW thus establishing that there is potential for private investment. Further progress will require a regulatory climate that is perceived by the private sector to be stable, consistent, and well defined.

Investment and Development

11. Government's objective is to ensure the maximum efficiency of energy investment and to ensure that public and private investments are coordinated, form part of a least cost program, and are compatible with longer-term strategic plans. Several factors have been taken into account in designing a program to upgrade investment planning and management skills in the energy sector. For example:

(a) the energy sector will consume about 30% of total public fixed investment;

(b) there is an urgent need to rationalize public investment and focus on high priority investments;

(c) public expenditures should be deployed to ensure that private and public sector efforts are fully complementary; and

(d) the need to diversify energy supplies has placed greater emphasis upon intersectoral coordination.

12. The first priority in improving the management of energy investment is to give emphasis to improvements in national energy planning and the preparation of an energy sector program of high priority energy investments, fully funded and compatible with public expenditure rationalization objectives. Secondly, within a national energy planning framework, attention will be given to the development of longer-term technical and economic planning in subsector agencies.

Medium-Term Investment Program

13. The investment program to 1990 includes high priority projects designed to expand energy supply as rapidly as possible through efficiency improvement and the reduction of losses to existing plant as well as to bring on stream plant currently under construction. Each agency has been instructed to focus on the high priority projects and that no new projects should enter the program unless the following criteria are met:

(a) demonstrated high economic returns;

(b) adequate project management is in place; and

(c) full funding is assured.

At the same time Government will allow agencies to set prices in accordance with agreed targets for revenue generation; and ensure that financing for the balance of the investment program is provided on a timely basis. Both MENR and SPO will monitor progress in implementing the investment program, and will exchange views with the World Bank annually.

Long-Term Energy Development

14. The Government's long-term policy is to meet energy demand at least cost through the appropriate development of indigenous resources as far as possible. To this end planning at the national level will be strengthened and detailed long-term plans for individual subsectors will be prepared. Moreover the data base for indigenous resource development is to be improved. A program to deal with these issues has been prepared.

National Sector Planning

15. In 1982 a research, planning and coordination Board was established in MENR to oversee the coordination of subsectoral plans. The Board is to be strengthened through a program of technical assistance and staff development. A work program has been approved for the preparation of a national energy plan and the development of appropriate energy planning models.

Long-Term Subsectoral Development Plans

16. Major investments are to be undertaken in the electric power, natural gas and refinery subsectors:

(a) the electric power subsector accounts for around 60% of investment in the energy sector. TEK has prepared a least cost generation planning study to the year 2010 which provides a foundation for investment decisions for 1987. However, the study will need to be updated every year, in particular to incorporate the findings of the hydro inventory and lignite exploration program. Given the poor condition of the urban networks and the high technical losses a masterplan for the electricity system of Izmir was completed in 1986 and provided the basis for including in the 1987 investment program a comprehensive upgrading of the Izmir network. This has now been followed by similar studies for Istanbul and Ankara which, together with Izmir, account for about 65% of total low voltage consumption. The results of these studies will be reflected in the 1988 and 1989 investment programs. Further studies will be undertaken in the next three years for other cities with populations over 100,000;

(b) natural gas imports from the Soviet Union will begin in 1987, starting at 700 million cubic meters and rising by 1993 to 5 billion cubic meters. A broad gas utilization strategy is in place whereby natural gas will be used to displace LPG, lignite and heating oil in urban areas, and naphtha, diesel and fuel oil in the industrial sector. A gas utilization and investment plan for imported gas is under preparation and will be completed within 1987. A special steering group, headed by a Minister of State, has been established for the task; and

(c) the major imbalances and overcapacity problems that exist in the refinery sector will be exacerbated by the import of natural gas. TUPRAS is to prepare a refineries sector masterplan based upon a detailed petroleum products supply study. The Government will review the plan's recommendations with a view to developing an implementation schedule from 1988 onwards.

Indigenous Resource Development

17. Turkey is well endowed with energy resources. Hydropower is estimated at about 31,000 MW corresponding to an annual generation of 105,000 gWh per annum. In addition, there is a large number of smaller scale hydro sites which may total 5,000 MW. If all Turkey's technical hydro potential were exploited it would represent about 70% of total electricity generation by 2010. However a detailed inventory to rank the various hydro sites according to economic and technical criteria has not yet been compiled. A consultant was hired in 1985 to prepare plans for developing a national water resource systems analysis to provide information for such an inventory. MENR has established a small working group to oversee the work program and consultants will be hired in 1987 to complete the inventory.

18. Total lignite reserves are about 8.2 billion tons, of which only 50% has been explored. Exploration of existing reserves would improve the optimal location, size and technical configuration of individual mine developments. MTA has developed a five-year lignite and coal exploration program, which the Government has approved.

19. With respect to oil and natural gas resources TPAO will continue to implement its exploration program. In addition from 1987 TPAO will implement a three-year program of exploration with special emphasis on priority offshore and onshore areas with the objective of reviewing, analyzing and reprocessing existing geological and seismic data and packaging it for joint venture promotions.

20. Other indigenous resources, including bituminous shales, uranium, thorium and geothermal are considered economically less attractive, and there are presently no major plans to develop them.

Improving Efficiency in the Use of Energy

21. A threefold approach is being taken to improve energy efficiency as set out below:

Technical and Operating Efficiency of Public Sector Energy Agencies

22. A major effort to upgrade TEK's operations was begun in 1985. A TEK working group has been established to oversee the upgrading of the generating and distribution systems and to monitor key performance criteria, including maintenance. MENR proposes to review the work of this group at the end of 1988 and will then consider whether similar approaches should be adopted for other energy agencies.

23. In 1985 the Government hired consultants to undertake a comprehensive review of TKI's operating practices. The study has been completed and Government is currently reviewing its recommendations in order to develop an implementation program.

24. The refineries masterplan undertaken by TUPRAS will also focus upon operational efficiency with particular attention paid to refinery balance and configuration. A review of the present formula for refinery remuneration is being undertaken with a view to replacing it by an arrangement which will ensure higher refinery processing efficiency and a better product mix. A steering committee, headed by MENR, is to be set-up for this task.

Pricing Policy of Energy Products

25. Since 1984 the Government has adjusted energy prices on a regular basis. Both electricity and lignite prices have increased in real terms with the result that prices have moved closer to economic costs and financial resources for the sector have increased. Prices of petroleum products have for several years been above economic levels. A pricing formula is being developed for imported natural gas. The Government intends to implement a policy whereby energy products will be priced at economic levels as follows:

(a) for electricity prices:

(i) a study of the structure of tariffs has recently been completed and is under review. A new and simplified tariff structure will

be introduced starting in 1987, to include time of day pricing. To facilitate this TEK will introduce new metering equipment over the next three years;

(ii) the Government will ensure that priority energy audits are undertaken for those industries most affected by electricity costs; and

(iii) while making allowances for poor households, tariff levels will be adjusted periodically to ensure a minimum of 35% internal cash generation.

(b) lignite prices will continue to be set to avoid the need for operating subsidies.

(c) petroleum prices will continue to be set at a level at least equivalent to the CIF price plus internal transportation costs;

(d) natural gas prices will be set at the border price plus the costs of transmission and distribution.

Energy Conservation and Demand Management

26. In 1984 energy audits in selected industries were undertaken and follow-up investments have been made. TEK is currently implementing a demand management study which will provide the basis for implementing a program to conserve electricity. To provide a focal point for energy conservation activities, the Electricity Survey Administration (EIE) was given responsibility to develop a comprehensive energy conservation program. A law outlining EIE's responsibilities in this field will be presented to Parliament during 1987. The energy conservation program will include the following:

(a) Consultants will be hired by June 1987 to provide training; to upgrade the skills of EIE's staff; and

(b) over 1987-1989 period EIE will manage approximately 21 energy audits in key energy intensive industries

27. The Government will ensure that arrangements will be made, including financing, to implement actions recommended under the energy conservation program.

TURKEY

DRAFT STATEMENT OF ENERGY POLICY

SCHEDULE OF ACTIONS

Issue	Action	Timing
Institutional Framework		
Regulatory Framework	1. Establish Regulatory Body within MENR.	1. Body established.
	2. Prepare regulations for private investors and operators.	2. Two year program prepared and consultants selected by end June 1987.
Public Accountability	1. Restructure and expand TEK Board.	1(a) Prepare and submit enabling law to Parliament by end June 1987. 1(b) Appoint Board within 2 months of passage of law.
	2. Hire independent auditors to audit TEK.	2(a) Short list of firms and invitations to submit proposals by end June 1987 2(b) Hire auditors by October 1, 1987.
Economic Investment		
Energy Planning.	1. Strengthen Planning Department of MENR.	1. Work agenda for 1987 through 1988 prepared by MENR. TORs agreed.
	2. Prepare national energy plan.	2. Plan prepared and submitted to Minister of Energy by December 31, 1989.
Medium-Term Investment Program	1. Implement and fully fund high priority investment program.	1. Joint review with Government and Bank by October 31 of 1987 and 1988 the public investment program and associated financing plan for the energy sector.
Long-Term Investment Program	1. Revise least-cost electricity plan.	1(a) First revision incorporating Valor Agua to be completed by March 1, 1988. 1(b) Second revision to be agreed by December 31, 1988 and completed by December 31, 1989.
	2. Complete and implement refinery masterplan.	2(a) Findings of refineries sector study discussed with Government. 2(b) Complete Petroleum Products Supply Options study on or before December 31, 1987 and discuss with Bank. On basis of study TUPRAS to prepare by June 1988 masterplan for refineries subsector.
	3. Implement Izmir distribution masterplan. Complete Ankara and Istanbul masterplans.	3(a) Investments for Izmir included in 1987 Public Investment program. 3(b) Masterplans to be prepared by December 31, 1987 and investments included in 1988 Public Investment Program.
	4. Natural Gas Utilization Plan.	4(a) Steering Committee under Minister of Petroleum Affairs established. 4(b) Prepare gas plan by December 1987.

TURKEY

DRAFT STATEMENT OF ENERGY POLICY

SCHEDULE OF ACTIONS

Issue	Action	Timing
Institutional Framework Efficiency Improvements		
Electricity	1. Implement the Systems Operations Project.	1. As per schedules in Systems Operations Project.
Lignite	2. Complete study of TKI. Implement findings.	2. Study to be sent to Bank by June 30, 1987.
Refineries	1. Introduce new remuneration formula.	1(a) Establish Steering Committee under MENR by June 1987. 1(b) Prepare action plan for implementation by December 1987.
	2. Implement findings of refinery masterplan.	2. To be reflected in 1988 investment program.
Energy Pricing:		
(a) Principles	(a) Principle of economic pricing established.	(a) Established in policy statement.
(b) Lignite	(b) Eliminate subsidies.	(b) Operating subsidies to be eliminated from 1987 onwards.
(c) Electricity	(c) Implement plan to establish new tariff structure.	(c)(i) New structure to be introduced starting in 1987. (c)(ii) Minimum 35% internal cash generation ratio to be met in 1987, 1988, 1989.
(d) Gas	(d) Set gas price equivalent to border price plus cost of distribution and transmission.	(d) Reflected in policy statement.
(e) Petroleum Products	(e) Prices not to fall below landed CIF Istanbul price plus internal transportation.	(e) Continue existing policies and reflect in policy statement.
Energy Conservation	1. Prepare EIE Law for passage through Parliament.	1. To be presented during 1987.
	2. Implement energy audits in about 21 key industrial plants.	2. Set against agreed timetable.
	3. Train EIE staff.	3. Program agreed.
	4. Provide finance for implementing recommendations of audits.	4. Through DYB.
	5. Implement electricity demand management study.	5. Study to be completed by December 1987.

Annex 5

TURKEY
ENERGY SECTOR ADJUSTMENT LOAN

The Priority Energy Investment Program (1987-1989)

ELECTRIC POWER (TEK, DSI)

Thermal Generation. (a) Complete: Elbistan A; Trakya 1-6; Soma B 3-4; Yeniköy 1-2; Cayirhan 1-2; Kangal 1-2; Yeni Catalagzi, Orhaneli, Seyitomer; (b) Continue Kemerköy.
Hydro Generation. (a) Complete Tercan; Karacaören; Karakaya; Kapulkaya; Kokluce; Altinkaya; Menzelet; Adiguzel; Gezende; Kilickaya; (b) Continue Ataturk; Kayraktepe; Boyabat.
Transmission - 380 KV lines: Osmanca - Bogazatla; Sincan-Oswanca; Elbistan-Sincan; Kayabasi-Cankin; Karakaya-Keban; Yatagan-Izikler; Cankin-Osmanca; Karakaya-Erzin; Karakaya-Diyakbakir.
Distribution - Ankara, Istanbul, Izmir to receive at least 30 percent of allocation for distribution. Level of expenditures at least TL 100 billion (1985 prices).
Village Electrification - no real increase in expenditures for Village Electrification. Focus on completion of ongoing projects in Eastern provinces.
Other Investment - priority for maintenance and rehabilitation, specialized vehicles, new headquarters building.

LIGNITE (TKI)

Ongoing Projects: Elbistan A; Beypazari (Cayirhan); Bursa (Orhaneli); Tuncbilek; Sivas (Kangal); Soma Isiklar; Soma Denis; Seyitomer 4; Milas Sekkoy (Yenikoy); Tinaz Bagyakar (Yatagan 3); Mugla-Husanslar (Kemerköy). New Projects: no new discrete projects but continued funding for rehabilitation and maintenance of existing ongoing mines (exact requirements to be determined by ESAL mission). Note: name of associated power plant is given in parentheses.

OIL AND GAS (TPAO, TUPRAS, BOTAS)

Refineries - TUPRAS to undertake a petroleum products supply options study to ascertain costs of correcting current and projected refinery configuration imbalances. Options include: (a) increased throughput under existing refinery operation; (ii) installation of secondary conversion; (iii) offshore processing.
Pipelines - Yarmutalik - Kirikkale crude oil line; Iraq-Turkey 2nd. crude oil line; Thrace gas pipeline (Phase 1 to Istanbul/Gemlik; Phase 2 Genlik to Ankara).
Exploration - Bati Raman; equipment renewal; geological/geophysical surveys; well drilling and well services.

CONSERVATION (EIE, MENR)

Industry - key industries such as ferrochrome, aluminium, copper, glass, fertilizer, cement to be audited for energy efficiency and investment requirements assessed.

TURKEY

ENERGY SECTOR ADJUSTMENT LOAN

Financing Gaps and Goods and Services to be Procured

Summary of Foreign Finance Gaps

		US$ million
1.	MENR	2
2.	TEK 1/	281
3.	DSI	130
4.	EIE	35
5.	TUPRAS	65
6.	Petrol Ofisi	19
7.	BOTAS 2/	16
8.	TPAO	210
9.	GDPA	1
10.	TKI 3/	175
11.	TTK 4/	20
12.	MTA	45
	Total	999
	Physical cont. (10%)	100
	Price cont (10%)	100
	TOTAL	1,199

1/ Includes Trakya extension (US$180 million) but excludes Kemerköy (US$53 million) for which Polish credits are likely to be available.
2/ Excludes Central Anatolia-Samsun product line (US$100 million) which needs to be confirmed.
3/ May increase following results of TUSTAS study.
4/ Estimate to be confirmed (washer replacements for Catalagzi).

TECHNICAL ASSISTANCE

	US$ million 1/
MENR - energy planning (inc. computers - hardware/software)	1
- regulatory framework (inc. computers - hardware/software)	1
EIE - energy conservation (inc. audits)	5
TUPRAS - Supply Options Study	1
TPAO - offshore promotion	5
GDPA - training, software	1
Environment (SPO; TEK University of Istanbul)	1
	15

1/ All rounded to nearest million.

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ENERGY SECTOR ADJUSTMENT LOAN

Nos.	Agency	Description of Goods/Services	Foreign Finance (US$m) 1987	1988	1989	Total	Suitable for ICB
1.	Ministry of Energy and Natural Resources (MENR)	(a) Energy Planning, training, seminars (T.A.)	0.1	0.2	0.1	0.4	Y
		(b) Regulatory framework, training	0.3	0.4	0.3	1.0	Y
		(c) Computer hardware and software	0.15	0.15	-	0.3	N
		Agency subtotal	0.55	0.75	0.4	1.7	
2.	Turkish Electricity Authority (TEK)	(a) 380 kV transmission lines (conductors, towers, fittings)	-	3.0	23.0	26.0	Y
		(b) 380 kV substations (switchgear, protection)	-	0.5	2.2	2.7	Y
		(c) 380 kV series capacitors	-	0.4	2.1	2.5	Y
		(d) 154 kV conductors	-	-	7.0	7.0	Y
		(e) 154 kV substation feeders (Ankara, Istanbul)	-	-	15.0	15.0	Y
		(f) Distribution equipment (Ankara, Istanbul)	-	-	8.2	8.2	Y
		(g) Distribution equipment (Izmir)	-	1.0	1.0	2.0	Y
		(h) Distribution equipment (others)	1.0	4.0	5.0	10.0	Y
		(i) Machinery (cranes, dosers, etc.)	-	4.0	4.0	8.0	Y
		(j) Power Plant Rehabilitation	-	5.0	15.0	20.0	Y
		(k) Trakya 600 MW, extension combined cycle plant	60.0	80.0	40.0	180.0	N
		Agency subtotal	61.0	97.9	122.5	281.4	
3.	State Hydraulics Agency (DSI)	(a) Karakaya civil works (finance only)	36.0	24.0	-	60.0	N
		(b) Menzelet electro mechanical equipment (finance only)	4.0	4.0	-	8.0	N
		(c) Adiguzel electro mechanical equipment (finance only)	3.2	0.5	0.5	4.2	N
		(d) Gezende electro mechanical equipment (finance only)	1.0	2.0	5.0	8.0	N
		(e) Kilickaya electro mechanical equipment (finance only)	4.0	0.5	0.5	5.0	N
		(f) Ataturk electro mechanical equipment (finance only)	15.0	15.0	15.0	45.0	N
		Agency subtotal	63.2	46.0	21.0	130.2	
4.	Electricity Survey Administration (EIE)	(a) Technical Assistance, training	0.240	0.569	0.256	1.065	Y
		(b) Energy audits for industries	2.000	2.123	2.312	6.435	Y
		(c) Retrofitting equipment to improve energy efficiency	2.500	13.000	12.000	27.500	Y
		Agency subtotal	4.740	15.692	14.568	35.000	
5.	State Refineries Agency (TUPRAS)	(a) Petrol. Prod. Supply Options Study	0.500	0.500	-	1.000	Y
		(b) Mid Anatolia hydrocracking unit	8.000	20.667	26.667	55.334	Y
		(c) Izmit - 135,000 HP Tank	-	-	0.667	0.667	Y
		(d) Izmit - HP Vacuum units	-	0.667	2.667	3.334	Y
		(e) Izmit - hydrocracking unit	-	-	1.333	1.333	Y
		(f) Batman - HP unit	-	-	2.667	2.667	Y
		(g) Batman - Naphtha Sweetening Unit	-	0.267	0.400	0.667	Y
		(h) Batman - Dom + Ind Disposal System	-	-	0.333	0.333	Y
		Agency subtotal	8.500	22.101	34.734	65.335	

TURKEY

ENERGY SECTOR ADJUSTMENT LOAN (Cont.)

Nos.	Agency	Description of Goods/Services	Foreign Finance (US$m) 1987	1988	1989	Total	Suitable for ICB
6.	Petrol Ofisi (POAS)	(a) Automatic filling machinery	1.333	1.333	-	2.666	Y
		(b) Production materials	0.010	0.005	0.007	0.022	Y
		(c) Transportation materials	1.077	1.465	2.007	4.549	Y
		(d) Various station equipment	0.266	0.352	0.468	1.086	Y
		(e) Various office equipment	0.467	0.583	0.146	1.196	Y
		(f) Other expenditures (listed as "overhead" in Treasury list)	2.372	3.085	4.051	9.508	Y
		Agency subtotal	5.525	6.823	6.679	19.027	
7.	State Pipelines Agency (BOTAS)	(a) Telecommunication, telecontrol equipment for Yumurtalik-Kirikkale HPPL	6.267	4.000	-	10.267	Y
		(b) Telecommunication, telecontrol modernization for Batman-Dortyol HPPL	1.067	0.912	0.021	2.000	Y
		(c) Replacement of four units of propeller systems	0.160	0.320	0.160	0.640	Y
		(d) Loading arms and spares	0.933	-	-	0.933	Y
		(e) Telecommunication vehicles	0.467	-	-	0.467	Y
		(f) Snow vehicles	0.187	-	-	0.187	Y
		(g) Sea pollution preventer	0.280	0.653	-	0.933	Y
		(h) Helicopter	0.800	-	-	0.800	Y
		Agency subtotal	10.161	5.885	0.181	16.227	
8.	Turkish Petroleum Agency (TPAO)	(a) Casing - tubing	16.0	16.0	16.0	48.0	Y
		(b) Chemicals	4.0	4.0	4.0	12.0	Y
		(c) Well head equipment	2.0	2.0	2.0	6.0	Y
		(d) Rock bits	1.0	1.0	1.0	3.0	Y
		(e) Drilling equipment (consumables)	2.8	2.8	2.8	8.4	Y
		(f) Production equipment (consumables)	2.0	2.0	2.0	6.0	Y
		(g) Offshore promotion assistance	-	5.0	-	5.0	Y
		(h) Other production and construction	28.9	44.1	49.1	122.1	Y
		Agency subtotal	56.7	76.9	76.9	210.5	
9.	The General Directorate of Petroleum Affairs (GDPA)	(a) Technical assistance, training, hardware, software	-	0.410	0.500	0.910	Y
		Agency subtotal	-	0.410	0.500	0.910	
10.	Turkish Lignite Authority (TKI)	(a) Elbistan - various spare parts	12.500	12.500	12.500	37.500	?
		(b) Beypazari - spare parts	33.435	-	-	33.435	?
		(c) Milas - Serkoy - spare parts	5.000	-	-	5.000	?
		(d) Sivas Kangal - spare parts	3.750	8.500	-	12.250	?
		(e) Soma Isiklar - spare parts	7.238	-	-	7.238	?
		(f) Mugla Hasamlar - spare parts	5.000	7.000	9.800	21.800	?
		(g) Tuncbilek - retrofitting and upgrading	29.188	-	-	29.188	?
		(h) Other rehabilitation and modernization equipment	28.750	-	-	28.750	?
		Agency subtotal	124.861	28.000	22.300	175.161	

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ENERGY SECTOR ADJUSTMENT LOAN (Cont.)

Nos.	Agency	Description of Goods/Services	Foreign Finance (OSCM) 1987	1988	1989	Total	Suitable for ICB
11.	Turkish Coal Agency (TTK)	(a) Washer replacements for Catalagzi	-	15.0	5.0	20.0	?
		Agency subtotal	-	15.0	5.0	20.0	?
12.	Minerals Exploration Agency (MTA)	(a) Specialized vehicles	0.307	0.556	0.603	1.466	Y
		(b) Geophysics Dept. - spare parts	1.957	1.220	0.977	4.154	
		(c) Mine Analyses Dept. - chemicals, spare parts, materials	0.062	-	-	0.062	
		(d) Geological Dept. - computers, microscopes, other equipment	0.121	-	-	0.121	
		(e) Drilling Dept. - chemicals, spares, equipment	4.550	17.173	17.173	38.896	
		Agency subtotal	6.997	18.949	18.753	44.699	
		GRAND TOTAL	342.234	334.410	323.515	1,000.159	

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TURKEY
Energy Balances. 1985-2010

NATIONAL ENERGY BALANCE .TURKEY. 1 9 8 5
(MTOE:Millions of Metric Tons Oil Equivalent)

	I	SOLID FUELS	COAL&PRODS.	OIL	GAS	NUCLEAR	HYDRO & GEO	OTHER	ELECTRICITY	HEAT	TOTAL
INDIGENOUS PROD.	I	18.770	10.522	2.291	0.061	0.000	2.692	0.000			24.014
IMPORTS (+)	I	1.624	1.624	17.574	0.000				0.184		19.381
EXPORTS (-)	I	0.000	0.000	1.773	0.000				0.000		1.774
MARINE BUNKERS (-)	I	0.000	0.000	0.309							0.309
STOCK CHANGES (+/-)	I	-0.218	-0.218	0.382	0.000						0.164
TOTAL PRIMARY ENERGY REQUIREMENT	I	20.376	11.927	18.165	0.061	0.000	2.692	0.000	0.184	0.000	41.477
TRANSFORMATION AND ENERGY SECTOR	I	4.099	4.099	3.311	-0.031	0.000	2.692		2.434		7.636
ELECTRIC GENERATION	I	3.886	3.886	1.747	0.016	0.000	2.692		2.742		5.339
GAS MANUFACTURE	I	0.112	0.112	0.014	0.047						0.078
OIL REFINERIES	I	0.000	0.000	1.066					0.000		1.066
LIQUEFACTION	I										
OWN USE AND LOSSES	I	0.101	0.101	0.484					0.509		1.094
TOTAL FINAL CONSUMPTION	I	16.276 16.277	7.828 7.828	14.854 14.854	0.092 0.092	0.000 0.000	0.000 0.000	0.000 0.000	2.617 2.617	0.000 0.000	33.840 33.841
INDUSTRY TOTAL	I	4.223	4.223	3.512	0.045				1.665		9.445
IRON AND STEEL	I	2.260	2.260	0.246	0.000				0.233		2.739
NON FERROUS METALS	I	0.008	0.008	0.187					0.220		0.415
PETROCHEM AND CHEM	I	0.010	0.010	0.640					0.300		0.950
PETROCHEM FEEDSTOCKS	I										0.000
OTHER INDUSTRIES	I	1.945	1.945	2.440	0.045				0.912		5.341
TRANSPORTATION TOTAL	I	0.127	0.127	6.114	0.000				0.016		6.257
ROAD	I			5.502							5.502
OTHER SECTORS TOTAL	I	11.927	3.478	3.708	0.047			0.000	0.936		16.618
RESIDENTIAL	I										0.000
NON-ENERGY USE	I			1.520							1.520
ELECTRICITY GENERATED (Twh):			15.028	7.079	0.058	0.000	12.049				34.213
CAPACITY (GW)			3.106	2.023	0.100	0.000	3.890	0.000	0.000		9.119
GDP Growth Rate Between Years			1984-1985	4.8 %					POPULATION(In Millions):		49.232

Source: MENR/RPCB, dated June, 1986 .

TURKEY
Energy Balances. 1985-2010

NATIONAL ENERGY BALANCE .TURKEY. 1990
(TOE:Millions of Metric Tons Oil Equivalent)

	I	SOLID FUELS	COAL&PRODS.	OIL	GAS	NUCLEAR	HYDRO & GEO	OTHER	ELECTRICITY	HEAT	TOTAL
INDIGENOUS PROD.	I	25.282	16.842	2.394	0.641	0.000	6.913	0.036			35.266
IMPORTS (+)	I	4.182	4.182	18.480	2.670				0.000		25.332
EXPORTS (-)	I	0.000	0.000	0.000	0.000				0.000		0.000
MARINE BUNKERS (-)	I	0.000	0.000	0.000							0.000
STOCK CHANGES (+/-)	I	0.000	0.000	0.000	-0.334						-0.334
TOTAL PRIMARY ENERGY REQUIREMENT	I	29.464	21.024	20.874	2.977	0.000	6.913	0.036	0.000	0.000	60.264
TRANSFORMATION AND ENERGY SECTOR	I	8.750	8.750	3.714	0.889	0.000	6.913		4.752		15.515
ELECTRIC GENERATION	I	8.414	8.414	1.639	0.788	0.000	6.913		0.558		11.576
GAS MANUFACTURE	I	0.201	0.201	0.017	0.099						0.119
OIL REFINERIES	I	0.000	0.000	1.493					0.07		1.493
LIQUEFACTION	I										
OWN USE AND LOSSES	I	0.135	0.135	0.565					1.807		2.507
TOTAL FINAL CONSUMPTION	I	20.714	12.274	17.160	1.427	0.000	0.000	0.036	4.752	0.000	44.088
INDUSTRY TOTAL	I	7.718	7.718	2.305	1.079			0.011	2.907		14.020
IRON AND STEEL	I	4.375	4.375	0.305	0.009				0.346		5.045
NON FERROUS METALS	I	0.011	0.011	0.158					0.321		0.490
PETROCHEM AND CHEM	I	0.013	0.013	0.980					0.670		1.663
PETROCHEM FEEDSTOCKS	I										0.000
OTHER INDUSTRIES	I	3.299	3.299	0.862	1.079			0.011	1.571		6.822
TRANSPORTATION TOTAL	I	0.000	0.000	8.042	0.000				0.042		8.084
ROAD	I			7.983							7.983
OTHER SECTORS TOTAL	I	12.996	4.556	4.884	0.548			0.025	1.802		20.054
RESIDENTIAL	I	12.996	4.556	2.757	0.548			0.025	1.765		17.301
NON-ENERGY USE	I			1.930							1.930
ELECTRICITY GENERATED (Twh):			32.559	8.424	4.330	0.000	30.945				76.258
CAPACITY (GW)		:	5.646	1.913	0.710	0.000	8.126	0.000	0.000		16.395
GDP Growth Rate Between Years 1984-1990: 5.8 %									POPULATION(In Millions):		54.6

Source: MENR/RPCB, dated June, 1986 .

TURKEY
Energy Balances. 1985-2010

NATIONAL ENERGY BALANCE .TURKEY. 1995
(MTOE:Millions of Metric Tons Oil Equivalent)

	I	SOLID FUELS	COAL&PRODS.	OIL	GAS	NUCLEAR	HYDRO & GEO	OTHER	ELECTRICITY	HEAT	TOTAL
INDIGENOUS PROD.	I	26.592	18.241	2.484	0.641	0.436	14.689	0.336			45.178
IMPORTS (+)	I	8.118	8.118	24.136	4.895				0.000		37.149
EXPORTS (-)	I	0.000	0.000	0.000	0.000				0.000		0.000
MARINE BUNKERS (-)	I	0.000	0.000	0.000							0.000
STOCK CHANGES (+/-)	I	0.000	0.000	0.000	-0.067						-0.067
TOTAL PRIMARY ENERGY REQUIREMENT	I	34.710	26.359	26.621	5.469	0.436	14.689	0.336	0.000	0.000	82.260
TRANSFORMATION AND ENERGY SECTOR	I	9.043	9.043	4.248	1.493	0.436	14.689		8.007		21.902
ELECTRIC GENERATION	I	8.595	8.595	1.639	1.633	0.436	14.689		9.785		17.297
GAS MANUFACTURE	I	0.285	0.285	0.017	0.140						0.162
OIL REFINERIES	I	0.000	0.000	1.874					0.09		1.874
LIQUEFACTION	I										
OWN USE AND LOSSES	I	0.163	0.163	0.718					1.778		2.659
TOTAL FINAL CONSUMPTION	I	25.667	17.316	22.372	2.303	0.000	0.000	0.336	8.007	0.000	58.685
INDUSTRY TOTAL	I	10.922	10.922	3.549	1.273			0.205	4.949		20.898
IRON AND STEEL	I	6.669	6.669	0.635	0.000				0.460		7.764
NON FERROUS METALS	I	0.011	0.011	0.209					0.317		0.537
PETROCHEM AND CHEM	I	0.013	0.013	1.088					0.725		1.826
PETROCHEM FEEDSTOCKS	I										0.000
OTHER INDUSTRIES	I	4.230	4.230	1.617	1.273			0.205	3.447		10.771
TRANSPORTATION TOTAL	I	0.000	0.000	10.430	0.000				0.083		10.512
ROAD	I			9.861							9.861
OTHER SECTORS TOTAL	I	14.745	6.393	5.886	1.030			0.131	2.975		24.767
RESIDENTIAL	I	14.745	6.393	2.850	1.030			0.131	2.915		21.670
NON-ENERGY USE	I			2.507							2.507
ELECTRICITY GENERATED (Twh):			33.316	4.954	7.800	1.950	65.753				113.773
CAPACITY (GW)			5.772	1.393	1.230	0.325	17.025	0.000	0.000		25.745
GDP Growth Rate Between Years 1990-1995: 7.0 %									POPULATION(In Millions):		60.6

Source: MENR/RPCB, dated June, 1986.

TURKEY
Energy Balances. 1985-2010

NATIONAL ENERGY BALANCE .TURKEY. 2 0 0 0
(MTOE:Millions of Metric Tons Oil Equivalent)

	SOLID FUELS	COAL&PRODS.	OIL	GAS	NUCLEAR	HYDRO & GEO	OTHER	ELECTRICITY	HEAT	TOTAL
INDIGENOUS PROD.	29.123	20.858	2.625	0.641	0.871	22.370	0.714			56.345
IMPORTS (+)	15.041	15.041	34.837	5.340				0.000		55.218
EXPORTS (-)	0.000	0.000	0.000	0.000				0.000		0.000
MARINE BUNKERS (-)	0.000	0.000	0.000							0.000
STOCK CHANGES (+/-)	0.000	0.000	0.000	0.000						0.000
TOTAL PRIMARY ENERGY REQUIREMENT	44.165	35.900	37.462	5.981	0.871	22.370	0.714	0.000	0.000	111.563
TRANSFORMATION AND ENERGY SECTOR -	13.477	13.477	4.823	1.467	0.871	22.370		12.507		30.501
ELECTRIC GENERATION	12.920	12.920	1.639	1.633	0.871	22.370		14.449		24.985
GAS MANUFACTURE	0.338	0.338	0.001	0.166						0.173
OIL REFINERIES	0.000	0.000	2.171					0.40		2.171
LIQUEFACTION										
OWN USE AND LOSSES	0.219	0.219	1.011					1.943		3.173
TOTAL FINAL CONSUMPTION	30.688	22.423	32.639	2.841	0.000	0.000	0.714	12.507	0.000	77.389
INDUSTRY TOTAL	14.468	14.468	6.383	1.533			0.473	7.829		30.686
IRON AND STEEL	10.934	10.934	0.986	0.000				0.516		11.516
NON FERROUS METALS	0.011	0.011	0.363					0.372		0.747
PETROCHEM AND CHEM	0.913	0.913	2.074					0.974		3.960
PETROCHEM FEEDSTOCKS										0.000
OTHER INDUSTRIES	4.410	4.410	2.980	1.533			0.473	5.967		15.362
TRANSPORTATION TOTAL	0.000	0.000	14.025	0.000				0.142		14.167
ROAD			11.582							11.582
OTHER SECTORS TOTAL	16.220	7.955	7.370	1.308			0.241	4.536		29.675
RESIDENTIAL	16.220	7.955	2.933	1.308			0.241	4.450		25.151
NON-ENERGY USE			4.862							4.862
ELECTRICITY GENERATED (Twh):		51.226	4.954	7.900	3.900	100.136				168.016
CAPACITY (GW)		8.757	1.393	1.230	0.650	26.823	0.000	0.000		38.853
GDP Growth Rate Between Years 1995-2000 : 7 %.								POPULATION(In Millions):		67.3

Source: MENR/RPCB, dated June, 1986.

TURKEY
Energy Balances. 1985-2010

NATIONAL ENERGY BALANCE .TURKEY. 2 0 1 0
(MTOE:Millions of Metric Tons Oil Equivalent)

	SOLID FUELS	COAL&PRODS.	OIL	GAS	NUCLEAR	HYDRO & GEO	OTHER	ELECTRICITY	HEAT	TOTAL
INDIGENOUS PROD.	40.957	33.126	2.625	0.641	7.707	29.231	2.566			83.727
IMPORTS (+)	35.913	35.913	61.385	14.240				0.000		111.538
EXPORTS (-)	0.000	0.000	0.000	0.000				0.000		0.000
MARINE BUNKERS (-)	0.000	0.000	0.000							0.000
STOCK CHANGES (+/-)	0.000	0.000	0.000	-1.335						-1.335
TOTAL PRIMARY ENERGY REQUIREMENT	76.869	69.039	64.010	13.546	7.707	29.231	2.566	0.000	0.000	193.929
TRANSFORMATION AND ENERGY SECTOR	31.437	31.437	8.717	3.980	7.707	29.231		24.608		55.465
ELECTRIC GENERATION	30.414	30.414	4.247	4.196	7.707	29.231		27.384		48.411
GAS MANUFACTURE	0.570	0.570	0.001	0.216				13		0.355
OIL REFINERIES	0.000	0.000	2.741					0.~~000~~		2.741
LIQUEFACTION										
OWN USE AND LOSSES	0.454	0.454	1.728					2.776		4.958
TOTAL FINAL CONSUMPTION	45.432	37.601	55.293	7.892	0.000	0.000	2.566	24.608	0.000	135.791
INDUSTRY TOTAL	25.922	25.922	9.500	4.714			1.649	16.928		58.714
IRON AND STEEL	19.358	19.358	1.439	0.000				1.116		21.913
NON FERROUS METALS	0.020	0.020	0.540					0.397		0.957
PETROCHEM AND CHEM	0.023	0.0~~23~~	3.090					2.100		5.213
PETROCHEM FEEDSTOCKS										0.000
OTHER INDUSTRIES	6.521	6.521	4.432	4.714			1.649	13.314		30.631
TRANSPORTATION TOTAL	0.000	0.000	23.955	0.000				0.~~3~~6		24.319
ROAD			18.771							18.771
OTHER SECTORS TOTAL	19.510	11.679	9.446	3.178			0.917	7.314		40.365
RESIDENTIAL	19.510	11.679	3.108	3.178			0.917	7.171		33.883
NON-ENERGY USE			12.394							12.394
ELECTRICITY GENERATED (Twh):		115.126	15.754	22.200	34.500	130.844				318.424
CAPACITY (GW)		19.407	3.193	3.630	5.750	32.469	0.000	0.000		64.449
GDP Growth Rate Between Years 2000-2010: 6.5 %								POPULATION(In Millions):		83.1

Source: MENR/RPCB, dated June, 1986.

Annex 8

TURKEY

ENERGY SECTOR ADJUSTMENT LOAN

ENERGY RESERVES

Energy Source				
Hydropower	105,000 GWh p.a.	90-250	105,000 GWh p.a.	90-250 a/
Lignite	4,140 m tons	902	7,343 m tons	1,610
Hard Coal	186 m tons	112	1,366 m tons	820
Petroleum	17 m tons	17	..	..
Natural Gas	8 m SCF/day	..	..	..
Bituminous Shale	340 m tons	41	2,000 m tons	240
Asphaltite	0.55 m tons	0.2	53 m tons	22
Uranium	2,300 tons U 0	4-11	4,600 tons U 0	8-22 a/
Thorium	380,000 tons ThO	..	380,000 tons ThO	..

Calorific values assumed

	10 kcal/ton
Petroleum	10
Lignite - Elbistan	1.16
- Other (average)	3
Hard Coal	6
Bituminous Shale	1.2
Asphaltite	4.3

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a/ Present values of electricity outputs at 10% discount rate. Lower end of ranges based on heat equivalent (1 kWh - 860 kcal), upper end on amount of fossil fuel that would be required to generate the same quantity of electricity in conventional steam power stations, assuming specific fuel consumption of 2,400 kcal/kWh (the approximate average for new lignite-fueled stations in Turkey).

Notes (1) Hydropower figure is latest estimate of economically exploitable potential with current technology. Theoretical potential is 430,000 GWh.

(2) Bituminous shale figures relate to shale with heat value exceeding 850 kcal/kg (average 1,200 kcal/kg).

Source: MENR, TEK, TKI, TPAO

TURKEY

ENERGY SECTOR ADJUSTMENT LOAN

TURKEY'S ENERGY POLICY AND DECLINING OIL PRICES

1. The Macro Impact. The recent decline in international oil prices is likely to have a favorable direct impact upon the balance of payments - every US$1 fall in oil prices results in a gross saving to Turkey of some US$120 million. In the 1986-1990 period savings would amount to US$1.0 billion, if Turkey could capture all the savings from spot market purchases. However, the favorable direct impact will be offset, to some extent, by lower export growth to oil exporting countries (40% of Turkey's exports) as well as by a reduction in workers' remittances from these countries. On the other hand an increase in Turkish exports to, and workers remittances from OECD countries on account of a more favorable OECD growth outlook is possible. Considering all these factors, estimates of the net positive impact of the oil price decline on Turkey's balance of payments are about US$200 - 300 million per annum. An improvement in the balance of payments would give the Government the option of repaying its external debt sooner, thus improving Turkey's debt service ratio in coming years, or alternatively utilizing the incremental resources to support a more rapid growth strategy. The economic growth implications of declining oil prices would in turn lead to an increased domestic demand for energy in general and electricity in particular.

2. The Micro Impact. Declining oil prices may have an impact upon choice of technique especially in the electric power and industry sectors. However, given the present oil price projections which do not fall below pre-1974 levels, it is likely that Turkey's basic energy strategy will remain unchanged. Nevertheless:

(a) Given lead times of four-six years for capital intensive projects in the industry and power sectors, the reference comparator for use in project analysis is anticipated prices in 1991; when oil prices are expected to have rebounded to around US$14/barrel (1984 prices) equivalent in real terms to oil prices in 1978. Furthermore oil prices would need to fall to about US$10/bbl (1984 prices) and remain at that level before competing, on a comparative energy basis, with coal.[1/]

(b) Dual firing (e.g., oil/coal) may gain greater prominence especially where its incremental cost is low and is an option worth evaluating, for example, in the case of the proposed imported coal fueled power stations.

1/ On the basis of the Bank's latest oil and coal price projections.

(c) Marginal capital intensive energy conservation activities such as industrial retrofitting may need reevaluation - a relatively simple project analysis - on both grounds of scheduling and viability. Preliminary analysis of selected energy audits in Turkey indicate however that energy conservation remains economically viable even under continued low oil prices.

(d) The timing and costs of investments in the exploration and development of indigenous oil and gas reserves may be affected.

(e) Given the considerable uncertainty of future price movements, risk and uncertainty should become recognized explicitly as an issue in the context of subsectoral planning.

3. The impact of oil price declines on end users will remain a function of Government domestic petroleum product pricing policy. For energy intensive users such as TEK the new prices, had they occurred in 1985 and been passed on to TEK, would have resulted in a decrease in overall operating expenses of about 10%, equivalent to 8% of the investment program for that year.[1/] The Government is reviewing its future domestic petroleum product pricing policy taking into account future expected international price movements, impact of energy prices on comparative advantage of the industrial sector, and fiscal policy.

1/ Despite the fact that TEK has commissioned no new fuel oil fired plants in the last seven years fuel oil still represents in value 54% of TEK's total fuel bill and 20% of real operating costs. Internal cash generation as a proportion of total investment would have improved from 32% to 38%.

TURKEY - ENERGY SECTOR ADJUSTMENT LOAN

SUMMARY OF STUDIES, WORKING PAPERS AND TECHNICAL NOTES IN SUPPORT OF ENERGY SECTOR ADJUSTMENT LOAN (ESAL)

Sector/ Field of Investigation	Title	Type of Study	Source	Brief Synopsis	Objectives for ESAL	Summary of Actions Proposed
1. GENERAL BACKGROUND	(a) Energy Sector Adjustment Loan Working Paper	Working paper	Bank (EMPPE)	o Provides background working paper for mission members and other interested parties. o Outlines the issues agenda. o Outlines other operational issues relating to procurement, scheduling, etc.	o Summarizes issues and provides guidance for mission members	1. Covers the three issues areas: - Institutions - Investment - Efficiency
	(b) Letter to Deputy Under Secretary, Treasury, Govt. of Turkey	Letter	Bank (EMPPE & EM2A)	o Provides summary for senior Govt. policymakers of policy issues to be addressed under ESAL1.	o Background	1. Background
	(c) Energy Sector Adjustment Loan Mission -- Aide Memoire.	Aide Memoire	Bank	o Summarizes findings of preparation mission. o Identifies steps to be taken by preappraisal.	o Not applicable.	1. Background
	(d) Energy Sector Strategy Paper	SRA	Bank	o Summarizes key issues in energy sector. o Outlines broad strategy for dealing with issues.	o Background	1. Background
	(e) Turkiye 'Nin re Seleckteki Enerji Durumu; and Enerji Istatistikleri		MENR, Govt. of Turkey	o Provides overview of Turkey's energy policy. o Provides detailed strategical annexes on the energy sector.	o Background	1. Background

SUMMARY OF STUDIES, WORKING PAPERS AND TECHNICAL NOTES IN SUPPORT OF ENERGY SECTOR ADJUSTMENT LOAN (ESAL)

Sector/ Field of Investigation	Title	Type of Study	Source	Brief Synopsis	Objectives for ESAL	Summary of Actions Proposed
2. INSTITUTIONAL FRAMEWORK	(a) Institutional framework governing the energy sector.	Policy briefing for senior policymakers.	Bank (Con & EMPPE)	o Reviews policy constraints to GOT objectives for involving private investment and for improving public sector efficiency and accountability. o Identifies actions to be taken by GOT to establish an appropriate regulatory framework for both public and private sector. o Focuses on TEK (largest agency) but would be applicable to other revenue-earning energy agencies.	o Agree on the set of substantive issues to be addressed. o Agree on actions to be undertaken by GOT.	1. Establish regulatory body. 2. Redefine "rule of game" for private investors to ensure adequate incentives in place. 3. Redefine "rules of game" for leasing arrangements to encourage private involvement. 4. Train staff and develop manpower to cater to new skills. 5. TEK to have external financial audits by 1987. 6. TEK to change Board composition. 7. TEK to reflect full financial obligations.
	(b) TEK'S financial policies.	Policy briefing for senior policymakers.	Government financed study. (Lazard Frères hired by MENR).	o Analyses of TEK's financial situation. o Proposes policy changes to improve financial autonomy and allow access to foreign and local capital markets. o Govt. to undertake similar effort for TKI once TEK study is complete.	o Agree actions to be taken to lay foundations for improving TEK's financial management and external financing arrangements.	As per 4 through 7 in (a) above.

SUMMARY OF STUDIES, WORKING PAPERS AND TECHNICAL NOTES IN SUPPORT OF ENERGY SECTOR ADJUSTMENT LOAN (ESAL)

Sector/ Field of Investigation	Title	Type of Study	Source	Brief Synopsis	Objectives for ESAL	Summary of Actions Proposed
	(c) Manpower requirements for the Energy Sector (tentative).	SRA	Bank (EMPED)	o Comprehensive review of technical, financial and administrative staffing requirements in support of Govt's energy policies. o Identification of manpower deficiencies. o Identification of adequacy of training facilities. o Recommendations for action.	o To be determined.	1. To be determined. Work in progress.
3. INVESTMENT	(a) Turkey Public Investment Review. See esp volume 4 "Energy Overview, Electric Power, Lignite and Oil and Gas Working Papers".	ERA	Bank	o Reviews sectoral planning and investment across all sectors. o Recommends improvements to existing planning, budgeting and monitoring systems. o Identifies key investment programs within estimated financial constraints.	Agree upon a "core" investment and financing program for the 1987 through 1990 period.	1. Agreed "core" investment program in electricity, lignite, oil, gas sectors. 2. Review on annual basis with Govt. the investment budget and project by project allocations for forthcoming year. 3. No new projects over $50 million to be included in public investment budget without prior discussion with Bank.

SUMMARY OF STUDIES, WORKING PAPERS AND TECHNICAL NOTES IN SUPPORT OF ENERGY SECTOR ADJUSTMENT LOAN (ESAL)

Sector/ Field of Investigation	Title	Type of Study	Source	Brief Synopsis	Objectives for ESAL	Summary of Actions Proposed
	(b) Lignite Sector Study (Green Cover).	SRA	Bank	o Reviews planning institutional, investment issues in the lignite sector. o Concludes that there are a number of deficiencies in sector and outlines recommend-ations. o Identifies uneconomic investments. o Identifies a series of studies focusing on pricing policy, operations and maintenance, etc.	o Agree upon key investments in public investment program for lignite.	1. Agree high priority investments (as above). 2. No uneconomic lignite mines as identified in the report to be included in the public program.
	(c) Elec. Planning & Investment (Green Cover).	SRA	Bank	o Reviews planning procedures and identifies weaknesses. o Illustrates present planning deviates from strict least-cost solutions. o Recommends an action plan to upgrade planning skills. o Identifies key investments, especially in improving operational efficiency.	o Improve planning procedures and practices. o Continue on agreed work program to develop dynamic least-cost program. o Continue efforts to improve operational planning.	1. Govt. prepared revised demand forecast by end 1986. 2. Govt. prepared revised least-cost plan at end 1986. 3. Govt. agrees all new investments should be demonstrated to be part of least-cost plan. 4. Further revisions to least-cost plan by end 1987 and end 1988, respectively have been agreed.

SUMMARY OF STUDIES, WORKING PAPERS AND TECHNICAL NOTES IN SUPPORT OF ENERGY SECTOR ADJUSTMENT LOAN (ESAL)

Sector/ Field of Investigation	Title	Type of Study	Source	Brief Synopsis	Objectives for ESAL	Summary of Actions Proposed
	(d) Energy demand and electricity supply to 2010.	Technical working paper	Ministry of Energy, State Planning Organization, and TEK in collaboration with Bank and Int'l Atomic Energy Agency.	o Detailed energy demand forecast by sector to 2010. o Electricity system planning scenarios designed to identify least-cost paths.	o Agree on growth in energy demand through set of realistic demand projections. o Identify a least cost electricity expansion program to ensure optimal investment program.	1. Agree "core" investment program as identified in (a)(1) above. 2. See (c)(3), (4) above.
	(e) Refinery sector study and master plan.	SRA and Govt. policy paper.	Bank/TUPRAS/ Ministry of Energy.	o Major refinery configuration imbalances now occurring and will be exacerbated by import of natural gas and changes in future demand. o Investments and policy changes needed to ensure that refinery sector is balanced by early 1990. o Operational ineffitiencies identified and recommendations made to improve efficiency. o SRA study to feed into Govt. refinery master plan.	o Least-Cost long-term refinery master plan. o Improved operational efficiency.	1. Preparation by TUPRAS of Petroleum Products Supply Options Study. 2. Revise remuneration formula.

SUMMARY OF STUDIES, WORKING PAPERS AND TECHNICAL NOTES IN SUPPORT OF ENERGY SECTOR ADJUSTMENT LOAN (ESAL)

Sector/ Field of Investigation	Title	Type of Study	Source	Brief Synopsis	Objectives for ESAL	Summary of Actions Proposed
	(f) Elec. master-plans for cities (Izmir, Ankara, Istanbul.	Technical studies.	Cons. (EdF) to TEK. Bank financed.	o Masterplan for urban distribution, including investment requirements, staff's technical stdrs.,etc. o Izmir completed as pilot. Ankara, Istanbul underway.	o Least cost investment at distribution land.	1. Implement Izmir study. 2. Complete Istanbul, Ankara.
4. EFFICIENCY	(a) Systems Operations Assistance Project. Staff Appraisal Report.	Staff Appraisal Report	Bank (EMPPE)	o SAR for loan to upgrade operational efficiency in electric power sector. o Identifies equipment for operations and maintenance as well as technical assistance. o Summarizes major technical inefficiencies. o Recommends performance monitoring unit be established in TEK.	o Continue Bank efforts towards improving efficiency in electric power.	1. Continue covenants and agreements under existing loan.

SUMMARY OF STUDIES, WORKING PAPERS AND TECHNICAL NOTES IN SUPPORT OF ENERGY SECTOR ADJUSTMENT LOAN (ESAL)

Sector/ Field of Investigation	Title	Type of Study	Source	Brief Synopsis	Objectives for ESAL	Summary of Actions Proposed
	(b) Study of lignite sector (TKI and MTA).	Comprehensive technical and managerial study.	Consultants (TUSTAS) to Govt. Consultants hired and financed by State Planning Organization.	o Comprehensive inventory of equipment in TKI and its condition. o Review production schedules to ensure timing of demand by power plants is realistic. o Review capacity utilization, operational efficiencies and maintenance records. o Identify actions to improve efficiency and meet demand targets over medium term. o Review management and organization (TKI, MTA) of sector. o Identify equipment needs.	o Identify actions to ensure timely delivery of lignite according to realistic demand schedule. o Identify actions designed to improve operational efficiency and reduce costs of supply. o Identify maintenance and operations equipment.	1. To be determined. Study to be sent to Bank for review and comment.

SUMMARY OF STUDIES, WORKING PAPERS AND TECHNICAL NOTES IN SUPPORT OF ENERGY SECTOR ADJUSTMENT LOAN (ESAL)

Sector/ Field of Investigation	Title	Type of Study	Source	Brief Synopsis	Objectives for ESAL	Summary of Actions Proposed
	(c) Electricity Pricing Study	Technical study with executive summary on pricing policy	Consultants (EdF, France) to TEK. Bank financed.	o Analyses existing tariffs in Turkey. o Recommends new tariffs based on LRMC. o Provides an implementation schedule for reaching LRMC over a 5-year period including pricing changes, metering, etc.	o Identify level and structure of LRMC. o Identify complementary actions to ensure LRMC pricing policy can be implemented.	1. Govt. agrees with principle of pricing at LRMC. 2. Phased program of tariffs to improve structure. 3. Investment program for complementary metering, etc.
	(d) Demand mgt. & conservation study.	Technical rpt.	Consultants (Gopa, Germany) to TEK. Bank financed.	o Identifies actions to improve load analyses. o Identifies actions to improve load curves and save energy and capital. o Integrates studies of pricing and non-pricing effects on demand. o Trains TEK's staff.	o Action plan to implement a demand management program for the electric power subsector.	1. To be determined. Study to be sent to Bank for review and comment.
	(e) National Water Resource Planning.	Technical rpt.	Consultant to MENR. Bank financed.	o Identifies weaknesses in hydro resource analysis and in hydro planning generally.	o Hydro inventory to ensure that most economic schemes are taken up sequentially.	1. Complete hydro inventory by December 1988. 2. Complete Valor Agua program (hydro optimization program) by December 1987.

SUMMARY OF STUDIES, WORKING PAPERS AND TECHNICAL NOTES IN SUPPORT OF ENERGY SECTOR ADJUSTMENT LOAN (ESAL)

Sector/ Field of Investigation	Title	Type of Study	Source	Brief Synopsis	Objectives for ESAL	Summary of Actions Proposed
				o Establishes system for developing a hydro inventory with detailed priorities for investment. o Outlines actions for improved hydro operations in mixed thermal/ hydro system. o Identifies sequence of programs to improve hydro planning and operations.	o Improved hydro operational planning.	3. Integrate results into least cost program.
ENVIRONMENT	(a) Working papers on environment.	Working paper	Bank (PPDES)	o Reviews activities underway and/or planned to improve environment. o Focuses primarily on air quality. o Outlines TA, studies, training, etc.	o Policy discussions with Government. o Identifies equipment, studies and training.	1. Improve emission monitoring in TEK. 2. Integrate environmental planning in development plans. 3. Undertake air quality study in Istanbul: pre and post gas penetration.
	(b) Working paper on resettlement	Working paper	Bank (EMPPE)	o Reviews activities and policies on resettlement. o Focuses on Bank Financed projects.	Assess adequacy of resettlement plans, procedures and policies.	o Review adequacy of resettlement plans on large hydro projects during annual public investment review.

TURKEY

ENERGY SECTOR ADJUSTMENT LOAN

Supplementary Loan Data Sheet

Section 1: Timetable of Key Events

(a)	Date of first presentation to Bank	January, 1986
(b)	Appraisal Mission	February, 1987
(c)	Completion of Negotiations	April, 1987
(d)	Planned Date of Effectiveness	August, 1987

Section II: Special Bank Implementation Actions

None.

Section III: Special Conditions

(a) preparation of legislation to enable the restructuring of the TEK Board (para. 58);

(b) submission to the Bank for review and comment the short list of auditors for TEK (para. 58);

(c) Selection of consultants to assist the regulatory body in MENR (para. 67);

(d) selection of consultants to prepare the petroleum products supply options study (para. 74);

(e) submission of the TKI study to the Bank for review and comment (para. 86); and

(f) establishment of the steering committee formed to introduce the new refinery remuneration formula (para. 87).

B. Other Main Conditions

Disbursement of the second tranche of US$75 million is dependent upon satisfactory progress in the:

(a) the strengthening of TEK's Board of Directors (para. 58);

(b) preparation of the independent financial audit of TEK (para. 58);

(c) implementation of the work program of the regulatory body (para. 67);

(d) preparation of the medium to long term subsector plans for natural gas (para. 73), refineries (para. 74);

(e) composition and size of the public investment program for energy (para. 81);

(f) implementation of the new refinery remuneration formula (para. 87);

(g) implementation of the new tariff structure including the maintenance of an internal cash generation ratio, as defined under Loan Agreement 2586-TU, of 35 percent (para. 89); and

(h) implementation of the energy conservation program (para. 96).

THE WORLD BANK

CONFIDENTIAL

LOAN COMMITTEE

LC/M/87-18

April 30, 1987

Minutes of the Loan Committee Meeting to consider
TURKEY - Proposed Energy Sector Adjustment Loan
held on April 24, 1987, in Conference Room E-1208

A. Present

Committee:

Chairman:	Mr. Stern
Finance:	Mr. Wood
Legal:	Mr. Shihata
OPS:	Mr. Husain
ERS:	Mr. Michalopoulos
Region:	Mr. Wapenhans

Others:

Messrs./Mmes. Chaffey
Clements
Dubey
El Maaroufi
El Serafy
Eschenberg
Goldberg
Hadler
Johnson
Rajagopalan
Reekie
Santos
Stoutjesdijk

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Vice President, Operations Policy
Regional Vice President concerned*
Vice President, Energy & Industry (for lending in these sectors and SALs)
Vice President, Economics and Research (for non-project lending)

*Copy to all other Regional Vice Presidents

OTHERS
Standard (see OMS 9.25 page 7)

B. Issues

1. The meeting was called to discuss the proposals in Mr. Lari's memorandum of April 17, 1987, and its attachments for an Energy Sector Adjustment Loan to Turkey. The discussion focussed on the main issue raised in the Country Policy Department's memorandum of April 23, 1987, namely whether there was sufficient policy adjustment in the proposed operation to justify a quick-disbursing component or whether the operation should be presented as an investment loan with policy conditions formulated as dated covenants.

C. Conclusions

2. The Committee concluded that the verbal presentation by Regional staff differed in many significant respects from the material presented in the documentation. While the policy changes already made by the Government were important, the proposed steps in the draft President's Report were inadequate to justify a sector adjustment operation which included a quick-disbursing component. After extended clarification by Regional staff, it was agreed that several of the measures listed in actions to be taken would be implemented prior to Board presentation and that if the oral description of Government actions could be incorporated in the document, and agreement reached with the Government on their continuation, negotiations could be initiated. It was decided that:

(i) The draft President's Report should be amended to highlight the energy sector reforms which have already been adopted;

(ii) The proposed conditionality should be carefully reviewed and the timing of a number of identified actions should be accelerated. In particular, most, if not all, proposed conditions of effectiveness should be fulfilled before Board presentation;

(iii) While improvements in the effectiveness of the Board of Directors of the Electricity Authority (TEK) were necessary and should be vigorously pursued, a specific requirement to separate the positions of Chairman and Managing Director would be inappropriate; and

(iv) The riparian issue could be adequately dealt with through the proposed Supplemental Letter.

International Bank for Reconstruction and Development

SecM87-445

FROM: Vice President and Secretary

April 28, 1987

NOTICE OF INVITATION TO NEGOTIATE

TURKEY - ENERGY SECTOR ADJUSTMENT LOAN

The Bank is inviting the Goverment of Turkey to send representatives to Washington, D.C. to negotiate a proposed loan of US$300 million for an Energy Sector Adjustment Operation.

The proposed loan would support the Government's reform program in the energy sector, designed to make the sector more efficient and provide a better base for industrial and economic growth. The loan would also support the Government's energy investment program for the period 1987 through 1989.

- Distribution:

Executive Directors and Alternates
President
Senior Vice Presidents
Senior Management Council
Vice Presidents, IFC
Directors and Department Heads, Bank and IFC

THE WORLD BANK

CONFIDENTIAL

LOAN COMMITTEE

LC/M/86-36
November 13, 1986

Minutes of Loan Committee Meeting to consider
TURKEY - Proposed Energy Sector Adjustment Loan
held on November 7, 1986 in Conference Room E-1208

A. Present

Committee:

Chairman:	E. Stern
Finance:	S. Asanuma
Legal:	I. Shihata
OPS:	P. Hasan
Region:	E. Lari

Others:

Messrs./Mesdames Stoutjesdijk
Rajagopalan
Chaffey
Reekie
Dubey
El Serafy
El Maaroufi
Harrison
Balkind
Dally
Hadler
Donovan
O'Donnell

DISTRIBUTION

COMMITTEE
Senior Vice President, Operations (Chairman)
Senior Vice President, Finance
Vice President & General Counsel
Vice President, Operations Policy
Regional Vice President concerned*
Vice President, Energy & Industry (for lending in these sectors and SALs)
Vice President, Economics and Research (for non-project lending)

*Copy to all other Regional Vice Presidents

OTHERS
Standard (see OMS 9.25 page 7)

B. Issues

1. The meeting was called to consider the proposals set forth in the Initiating Memorandum (IM) from Mr. Stoutjesdijk, dated October 30, 1986. The discussion focussed on the main issues raised in the Country Policy Department's memorandum of November 5, 1986.

C. Discussion

2. Economic Management. The Region briefed the Committee on the slippages in Turkey's economic performance in 1986 and the medium-term outlook. Excessive fiscal spending, accommodated by monetary expansion, led to a deterioration in the balance of payments and in the debt service ratios. Other factors over which Turkey had little control - such as a slow-down in exports to the Middle East and to a lesser extent the EEC markets - also contributed to a widening of the current account deficit. Nevertheless, there was continued progress in reducing inflation. The Region briefed the Committee on the interim measures the Government had taken to slow growth and spending.

3. With respect to the medium-term, while there was some difference of view regarding projected growth rates for exports and workers' remittances, the general feeling was that the macro-framework remained in order, although the 1987 program would warrant close monitoring. The Region's Quarterly Economic Assessments were providing this. In this context, the Chairman agreed that the Region was correct not to focus on particular indicators. However, he suggested that the Region should routinely, in letters of Sectoral Development Policy, seek reconfirmation that the Government's basic economic policies would remain in force and that the trade regime will continue to be liberalized.

4. Country Program. The Chairman noted that the last time a Country Program Paper for Turkey had been discussed by the Operations Policy Committee was in 1983 and requested the Region to submit a revised CPP to the OPC for discussion no later than January 1987.

5. Energy Investment Program. The Committee noted that agreement on the size and composition of the energy investment program was required, including contingency planning in the event of shortfalls in private investment. This was thought to be adequate involvement in the formulation of the investment program, making superfluous the condition that no less than 35 percent of total public fixed investment be in energy.

6. Phasing of Actions/Disbursements. The Chairman suggested that every effort should be made to complete as many of the actions as possible prior to Board presentation. The Region indicated that the actions proposed in the IM for completion prior to June 1987 were expected to be completed prior to Board presentation. Furthermore, a timetable would be agreed for the key actions for the remainder of 1987 (e.g., restructuring of the Board of Directors of the Turkish Electricity Authority (TEK) and establishment of the regulatory body within the Ministry of Energy and Natural Resources). Every effort would be made to accelerate such actions, which could form a basis for tranche release. The remaining activities would be set out in an Action Plan (e.g.,

preparation of the regulatory body's work program). The Chairman, noting that the Region was proposing not to tranche the policy component of the project, suggested that the Region should consider timing its disbursement in relation to the completion of an agreed set of measures, not necessarily immediately upon effectiveness.

D. Conclusion

7. Subject to the comments noted above, the Committee approved the recommendation to proceed with the appraisal of a proposed ESAL, as set forth in the IM.

THE WORLD BANK/INTERNATIONAL FINANCE CORPORATION

OFFICE MEMORANDUM

DATE: November 5, 1986

TO: Messrs. Stern, Qureshi, Husain, Shihata, Wapenhans
Mrs. Krueger

FROM: Vinod Dubey, Director, CPD

EXT: 60061

SUBJECT: TURKEY: Energy Sector Adjustment Loan: Initiating Memorandum

1. The Loan Committee will meet on Friday, November 7, 1986 at 4:30 p.m. in Room E-1208 to discuss the Initiating Memorandum for an Energy Sector Adjustment Loan for Turkey in the amount of $250 million. This would combine sector policy adjustment measures with investment financing. Support for cofinancing is being sought from a group of European/American banks to arrange for export credits worth $150 million and lead a syndication of a B-Loan of $170 million to include an additional $20 million from the World Bank. The operation rests on considerable familiarity with the sector which has to date received 22 Bank loans and IDA credits and a total of $1.44 billion. The 5-volume Public Investment Adjustment study, issued June 1986, contains a volume devoted to power, coal, lignite, oil and gas, and this provides a foundation for many of the proposed reforms.

The Operation

2. The loan would be in support of a medium-term sectoral program which addresses institutional reforms, investments and improved efficiency in the supply and consumption of energy. The objective is to build up for the sector a rational regulatory framework in which public and private elements would work harmoniously. Considerable institutional improvement is to be pursued within the Ministry of Energy and Natural Resources (MENR), including setting up a regulatory body to oversee the electricity subsector, and preparing a 3-year agenda for key regulations and guidelines. A focus of the operation is to develop accountability, managerial autonomy, and greater financial independence for the electricity subsector. This would cover strengthening the Turkish Electricity Authority (TEK) and giving it a mandate for operating on a commercial basis. It would also necessitate the application of public company auditing regulations to TEK, leading to the publication of accounts that would reveal its true financial position. TEK would further establish adequate project management arrangements for larger projects and adopt an already identified financial action plan. The coal enterprise (TKI) would enter into lease arrangements with private companies; TPAO would continue to use joint ventures for petroleum exploration and development. Throughout there would be a government commitment to rationalize investment as detailed in the medium term investment program, and to adopt a flexible and economic pricing policy for energy. Salutary aspects of this operation include coverage of environmental issues (not just confined to energy) and stress on energy conservation in the adjustment process.

The Macroeconomy

3. The IM indicates that in the statement of sectoral policy, confirmation will be sought of Government intentions to implement an energy pricing policy based on the economic cost of supply (para. 5.22) details of which will be ascertained during preappraisal. An objective would be to phase out by 1988 all operating subsidies to TKI and adjust lignite prices and implement a rational electricity and gas pricing policy. Such pricing, which involves subsidy adjustment, and the whole investment program have to be placed within a viable macroeconomic framework which is a prerequisite for all adjustment programs.

- The Region may wish to bring the Committee up to date on recent macroeconomic developments. The statement (para. 2.06) that "We have presently no reason to feel that the Government is not addressing the current problem to preserve the soundness of the basic macro-framework" does not seem adequate, considering the recent deterioration of the macroeconomic situation?

The Impact of Lower Oil Prices

4. Attachment 2 argues that the impact is favorable of lower oil prices on the Turkish economy. Because of uncertainty about future prices and the long lead time needed for investment, however, the IM is rightly cautious on energy sector investments, particularly as lower power prices would stimulate demand. The impact on the macroeconomy, however, needs clarification. The IM (para. 4.02) states that Turkey's oil imports cost $200 million in 1970 and "jumped to US $3.5 billion in each of the years from 1979 to 1984". Attachment 2 estimates that Turkey's gross savings on oil imports in 1986-1990 "would amount to US $1.0 billion" i.e., at the rate of $200 million per annum. The export side of the balance of payments, however, is not sufficiently analyzed. Turkey's earnings from exports are derived in roughly equal parts from the industrialized countries and the oil exporters, where considerable markets have since 1980 been developed both for merchandize as well as migrant workers. The conclusion is reached that the negative impact of oil price declines on the oil exporters' demand for Turkey's products would be offset, or more than offset, by the positive impact on the industrialized countries' markets which would benefit from the price decline. "Considering all these factors, estimates of the net positive impact of the oil price decline on Turkey's balance of payments are about US $200-300 million per annum". (Attachment 2, para. 1.)

- The Region may wish to clarify how such an assessment is tenable considering the much greater direct impact of the decline of oil prices on the economies of the oil exporters and in view of the evident stagnation of Turkey's exports in 1986.

- Whether it is realistic to expect a 7 percent real growth of exports over the projection period in view of the probable stagnation or even decline of Turkey's exports to its oil exporting neighbors.

- Whether we should not expect some decline in workers' remittances over the medium term instead of their projected growth.

Actions and Studies in Support of the Adjustment

5. Various tasks to be supported by the Loan involve studies and analyses at various stages of completion. The operation provides for the initiation of medium and long term plans for key subsectors under an agreed timetable (including an oil refinery program); implementation of a rational plan for utilization of imported gas, and revising and implementing a least cost program for electricity generation. The MENR will have to complete by December 1988 a national hydro resource inventory whose terms of reference have been agreed. Reappraisal will seek to reach agreement with the petroleum entity TPAO on a detailed work program covering the next three years; and a five-year lignite and coal exploration program has to be worked out with MTA (the geological and survey entity) and TKI (the coal enterprise). Thus a medium-term lignite and coal exploration program has yet to be agreed. For the implementation of these tasks and initiating the various institutional reforms, several actions are yet to be taken including hiring consultants for TEK's financial planning by April 1987 and establishing the regulatory mechanisms within MENR by December 1987. Overall there seems to be an excessive number of conditions that have to be satisfied before Board presentation and immediately afterwards.

- o The Committee may wish to enquire whether these measures are too numerous and complex for smooth implementation; and whether they could not be advanced in time so that the operation would have a better chance of affecting sectoral development.

Sector Investments

6. Thanks to good preparation, the study "Turkey: Adjusting Public Investment" contains a detailed analysis of the sector's investments, including a "core" energy investment program (1986-89). The IM extends the period to 1990 and lists the projects in electric power, lignite, and oil and gas, considered as priority investments. (Also included as priority, conservation investments in energy-intensive industries.) An objective is to reach agreement in November (Attachment I, p. 3) on a core investment program for 1987-1990, and subsequently review the program on an annual basis for the investment budget, with the condition that Bank approval be necessary for inclusion of any project over $50 million.

- o In view of these detailed arrangements, and considering that the sector would be open to private sector participation, would the Region clarify the rationale behind requiring "that the energy sector's share of total public fixed investments would be maintained at no less than 35%" (IM, para. 5.13)?

Loan Amount and Tranching

7. The Region proposes that at least half of the loan amount ($125 million) be made available at effectiveness in quick-disbursing funds against policy adjustment. Aside from a technical assistance component the remainder would finance the foreign exchange cost of equipment for the medium-term energy investment program over a period of two and half years. No tranching is envisaged for the quick disbursing funds. The Committee may wish to enquire:

- o whether the half and half division of funds to support adjustment and investment is the right proportion.

- o whether the quick-disbursing portion may not be tranched to help implementation since it may not be advisable to use disbursement for investments as a controlling mechanism for compliance with loan conditions.

Macroeconomic Tables

8. Attached is a set of tables prepared by the EMENA Region showing key macroeconomic variables and projections thereof to 1991.

Attachment

cc: Messrs. Stoutjesdijk, Harrison, Patel, Chaffey, Asfour, Suzuki, Eschenberg, Pranich, Jones, Liebenthal, Reekie

Messrs. Hasan, Kopp, Michalopoulos, Roger, Jansen
Clements, Ms. Donovan
Choksi (o/r), Huang, El Serafy

TURKEY - BALANCE OF PAYMENTS, EXTERNAL CAPITAL, AND DEBT /a
(million US$ at current prices)

Population: 49.4 million (1985)
GNP Per Capita: US$1130 (1985)

	Actual					Estimate	Projected				
	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
BALANCE OF PAYMENTS											
Net exports of goods & NFS	-3491	-1906	-2332	-2296	-1881	-2239	-2047	-2068	-1833	-1591	-1728
Exports of goods & NFS	5366	6980	6889	8590	9958	9731	10835	11998	13258	14645	16318
Imports of goods & NFS	8857	8886	9221	10886	11839	11970	12882	14066	15091	16236	18046
Workers' remittances	2490	2140	1513	1807	1714	1500	1538	1584	1631	1680	1764
Net transfers	16	105	236	229	236	250	250	250	250	250	200
Current account balance	-1919	-935	-1898	-1407	-1013	-1594	-1532	-1556	-1394	-1148	-1452
Direct private investment	95	55	46	113	99	150	160	170	185	200	200
Public M&LT (gross) /b	1645	1833	1792	1794	783	3340	3776	4121	4187	4370	4572
Amortization on M&LT /b	-1220	-1603	-1928	-1549	-1563	-2175	-2261	-2843	-3140	-3630	3362
Public M&LT (net) /b	425	230	-136	245	-780	1165	1515	1278	1047	740	1210
Other capital /c	1394	818	2140	983	1969	48	222	348	396	460	400
Change in reserves (- = increase)	5	-168	-152	66	-275	231	-364	-240	-234	-252	-358
International reserves	1726	2027	2253	3899	3655	3610	3974	4214	4447	4699	5057
Reserves as months of imports	2	2	2	4	3	3	3	3	3	3	3

	Actual					
	1980	1981	1982	1983	1984	1985
GROSS DISBURSEMENTS						
Gross disbursements	2335	2203	2309	1788	2527	2713
Official grants	-	300	200	150	-	-
Concessional	807	612	437	380	331	292
Bilateral	747	586	408	354	308	258
IDA	0.3	-	-	-	-	-
Other multilateral	60	26	29	26	23	34
Non-concessional	1528	1291	1672	1258	2196	2421
Official export credits	294	274	255	152	560	545
IBRD	313	454	500	486	628	616
Other multilateral	141	161	190	130	191	98
Private	780	402	727	490	817	1162
EXTERNAL DEBT						
Debt outstanding and disbursed	15439	15710	16226	15685	16112	17831
Official	10101	10591	11055	10796	11064	12542
IBRD	1158	1546	1962	2336	2823	3293
IDA	189	188	187	184	181	177
Other	8754	8857	8906	8276	8060	9072
Private	5338	5119	5171	4889	5048	5289
Debt outstanding including undisbursed	19014	19490	19199	19400	20516	23379
DEBT SERVICE						
Total debt service /d	881	1699	2253	2281	2286	3503
Payments	434	734	1135	1130	1164	2249
Interest	447	955	1118	1151	1122	1254
Total debt service as % exports of GNFS + workers' remittances	16.5	21.5	24.7	27.1	22.0	30.0
Average interest rate on new loans (%)	8.4	7.5	10.1	8.4	9.5	8.7
Official	6.0	6.4	9.1	7.9	8.2	7.9
Private	16.8	13.0	13.4	9.4	11.1	9.3
Average maturity of new loans (years)	15.9	15.3	13.6	14.0	12.3	11.1
Official	18.9	16.7	15.6	17.5	14.7	16.0
Private	5.5	7.6	6.7	6.5	9.3	6.9
BANK GROUP EXPOSURE (%)						
IBRD DOD/total DOD	7.5	9.9	12.1	14.9	17.5	18.5
IBRD disbursements/total gross disbursements	13.4	20.6	21.7	27.2	24.9	22.7
IBRD debt service/total debt service /d	15.1	9.7	9.3	12.0	14.9	11.7
IDA DOD/total DOD	1.2	1.2	1.2	1.2	1.1	1.0
IDA disbursements/total gross disbursements	-	-	-	-	-	-
IDA debt service/total debt service /d	0.3	0.2	0.2	0.2	0.2	0.2

	As % of Debt Outstanding at End of Most Recent Year (1985)
TERMS STRUCTURE	
Maturity structure of debt outstanding (%)	
Maturities due within 5 years	53.8
Maturities due within 10 years	80.5
Interest structure of debt outstanding (%)	
Interest due within first year	5.8

/a All entries on external capital debt section are defined as in the Bank's Debtor Reporting System (only public and private guaranteed M&LT debt).
/b Includes private guaranteed and non-guaranteed debt and grants. For 1981-84, includes rescheduled debt.
/c Includes errors and omissions, other long-term capital, short-term and unidentified capital inflows for historical period. For the projected period, includes short-term and net IMF only.
/d Takes account of debt relief due to debt rescheduling, and excludes interest on short-term debt and private non-guaranteed debt.

Table 3.1: PROJECTION ASSUMPTIONS (BASE CASE A), 1986-95

	1985	Projection 1986	1987	1988	1989	1990	1991-95
	(Real Growth Rates, at 1985 Constant Prices)						
GDP at market prices	5.1	7.7	4.0	4.6	5.4	5.7	6.0
Agriculture	2.8	7.1	2.5	2.5	3.0	3.0	3.5
Industry	5.5	10.8	4.5	5.1	6.4	6.8	7.6
Other	4.3	6.3	4.3	5.0	5.6	6.0	5.7
Fixed Investment	10.6	10.2	5.6	5.9	6.4	6.7	7.3
Public	13.3	11.0	3.5	3.5	4.0	4.0	4.0
Private	7.8	9.0	9.0	9.5	10.0	10.5	11.0
Exports of goods	10.1	-5.6	6.6	6.9	7.0	7.0	7.4
Imports of goods	7.2	10.5	5.2	5.3	5.8	6.1	6.6
Import elasticity 1/	1.5	1.4	1.2	1.1	1.1	1.1	1.1
Oil prices (US$/bbl)	26.7	15.5	16.0	18.0	18.0	18.0	22.0
LIBOR (%)	8.6	7.3	8.2	8.5	8.5	8.5	7.0
Fixed investment/GNP (%)	19.0	19.5	19.8	20.0	20.2	20.4	20.6

1/ Growth of imports of goods and non-factor services with respect to GDP growth.

Source: Government of Turkey, Bank projections.

Table 3.2: BALANCE OF PAYMENTS AND EXTERNAL DEBT PROJECTIONS-BASE CASE "A", 1986-95
(Billions of US$)

	1986	1987	1988	1989	1990	1995
Exports (FOB)	7.9	8.8	9.6	10.6	11.6	20.0
Imports (FOB)	11.0	11.9	13.0	13.9	15.0	25.7
Trade balance	-3.1	-3.1	-3.4	-3.3	-3.4	-5.7
Interest payments	1.9	2.2	2.4	2.5	2.7	3.4
Workers'remittances	1.5	1.5	1.6	1.6	1.7	2.1
Current account balance	-1.6	-1.5	-1.6	-1.4	-1.1	-2.0
Total debt outstanding and disbursed	27.9	30.0	31.7	33.1	34.3	44.1
Reserves (Excl. gold)	2.5	2.8	3.0	3.2	3.5	5.7
Net debt/GNP (%) 1/	43.2	43.9	43.4	42.2	40.0	32.0
Net debt/Exports (%)	216.4	210.7	202.1	192.5	181.4	134.5
Debt service ratio 2/	40.0	39.3	40.9	39.3	38.6	27.6
Interest /Exports (%)	16.5	17.9	17.4	16.8	16.1	12.4
Current account /GNP (%)	-2.8	-2.6	-2.5	-2.1	-1.6	-1.7

1/ Net debt defined as total debt minus foreign exchange reserves of the Central Bank and commercial banks.
2/ Numerator includes interest on short-term debt and denominator includes exports of goods, non-factor services and workers remittances.
Source: Bank projections.

Key Assumptions for Base Case A

1. Export volume growth averages 6.5-7% during 1987-90, 7-7.5% during 1991-95, assuming export recovery in 1987 from its poor performance this year.

   - Embodied in this assumption are further assumptions of:

      a) Constant real effective exchange rate for exporters, i.e. if export studies are reduced, the real exchange rate would depreciate sufficiently to fully compensate exporters (about 2% per annum).

      b) Sustained OECD economic growth at about 3.0% through the projections period. A slow recovery of exports to the Middle East.

2. Lower growth path is assumed through stabilization period (i.e. through 1988). Real GNP growth of 4% in 1987, increasing to 5.7 percent in 1990.

3. Workers remittances to grow by about 4.1% in nominal dollar terms.

4. Import elasticity of 1.1 to 1.2, assuming continuation of import liberalization.

5. LIBOR and oil prices as in Table 3.1.

THE WORLD BANK INTERNATIONAL ...ANCE CORPORATION

OFFICE MEMORANDUM

LC 11/7
430

DATE: October 31, 1986

TO: Messrs. Stern, Qureshi, Shihata, Husain, Wapenhans
Mrs. Krueger

FROM: Abdallah El Maaroufi, SVPOP

SUBJECT: TURKEY - Energy Sector Loan

This is to confirm that there will be a Loan Committee Meeting on Friday, November 7, at 4:30 p.m. in Conference Room E-1208 to discuss the Initiating Memorandum on the above operation. An agenda for the meeting will be issued by CPD shortly.

cc: Messrs/Mmes. Dubey, Rajagopalan, Stoutjesdijk, Reekie, Chaffey, Clements, Donovan

ES

Received: 10/31/86

Comments by c.o.b.:

THE WORLD BANK/INTERNATIONAL FINANCE CORPORATION

OFFICE MEMORANDUM

Meeting on Friday November 7 at 4:30 pm

DATE : October 30, 1986

TO : Mr. Ernest Stern, Senior Vice President, Operations

FROM : Everardus J. Stoutjesdijk, Acting Vice President, EMN ES

EXT. : 3-2676

SUBJECT: TURKEY - Energy Sector Loan - Initiating Memorandum

1. Attached is the Initiating Memorandum for the proposed Energy Sector Adjustment Loan. We seek the Loan Committee's approval to proceed with appraisal.

Cl.w/cc: Messrs. Rajagopalan, Chaffey, Reekie.

cc: Messrs. Wapenhans (o/r), Asfour, Eschenberg, Balkind, Pranich, Liebenthal, Grosdidier de Matons, Johnson, Decaux.

I.JOHNSON/nml

TURKEY

ENERGY SECTOR ADJUSTMENT LOAN

INITIATING MEMORANDUM

TURKEY

ENERGY SECTOR ADJUSTMENT LOAN

INITIATING MEMORANDUM

Contents

Main Text

Attachments

Glossary and Abbreviations

DSI - State Hydro Works
EIE - Electricity Survey Administration (Responsible for Energy Conservation)
LRMC - Long-Run Marginal Cost
MENR - Ministry of Energy and Natural Resources
MTA - Mineral Research Institute
SEE - State Economic Enterprise
SPO - State Planning Organization
TEK - Turkish Electricity Authority
TKI - Turkish Coal (Lignite) Enterprises
TTK - Turkish Hard Coal Enterprise
TPAO - Turkish Petroleum Corporation
TUPRAS - Turkish Refineries Corporation

ENERGY SECTOR ADJUSTMENT LOAN

INITIATING MEMORANDUM

I. INTRODUCTION

1.01 An Energy Sector Adjustment Loan (ESAL) is proposed for presentation to the Board in FY87. A preparatory mission was mounted in June 1986 and preappraisal and appraisal are planned for November 1986 and January 1987, respectively.

1.02 The proposed loan is the outcome of Bank efforts over the past three to four years in developing and sustaining a coherent policy dialogue with government authorities. The Bank has undertaken, during this period, extensive sector work in the energy, lignite, electric power and refinery sectors including the preparation and discussion with senior government policy makers of an energy strategy paper. Several technical assistance components (pricing policy studies, demand management, human resource development, etc.) of project loans have and or will contribute to our policy dialogue with Government. Finally a collaborative effort between the Bank, the International Atomic Energy Agency (IAEA) and Government (Ministry of Energy, State Planning Organization and TEK) has resulted in the development of significantly improved energy demand and electricity supply forecasting capabilities. Thus the ESAL is a continuation of these efforts, providing a basis for developing and implementing, within Government's overall energy policy objectives, a rational medium-term energy program. A summary of the various reports, studies and working papers prepared in support of the ESAL is given in Attachment 1 for information. These reports are available in the project file for those interested.

II. MACRO-ECONOMIC FRAMEWORK

2.01 The economic strategy launched in 1980 included: (i) a greater reliance on market forces rather than on quantitative controls; and (ii) policies designed to encourage exports and to achieve high export growth rates that could be sustained over the medium term. The strategy continues to have four major themes - monetary stability, export promotion, an enhanced role for the private sector especially in industry and energy, and an increased reliance on market forces as opposed to direct control. This has given the economy an outward orientation and helped to lessen the dependence on import substitution and production for the domestic market.

2.02 In the current development plan (5th Five-Year Plan, 1985-1989) the key issues of control of inflation and the sustainability of export growth remain. Plan targets of growth rates of 6.3% per annum for GDP, 10.6% per annum for merchandise exports and 6.8% per annum for public fixed investment

are ambitious, particularly given that the realization of the plan is dependent upon the performance of a few major exporting subsectors. The industrial subsectors underpinning the export drive are all energy and especially electricity intensive and hence the cost and availability of energy is of critical importance to Turkey's medium- to long-term growth prospects.

2.03 The Bank's latest projections of economic growth allow for a more moderate growth in GDP than the latest Five-Year Plan, although industry, mining, and manufacturing, are expected to grow in excess of 7% per annum over the long term. Based on data for the first half of 1986, the official estimate is that GDP growth could be 7.8% in 1986. However, the Government expects this estimate to be revised downward to between 6%-7% to take into account the effects of recent measures to contain the growth in aggregate demand. Of particular concern is that public investment, after experiencing an average growth of 2% per annum during 1981-84, grew by 17% in real terms in 1985. The Government estimates that in 1986 public investment will grow by 8%. At the sectoral level, there remains full consensus that energy sector investments remain of the highest priority.

2.04 Excessive growth in the first half of 1986 has had several negative effects. In particular, through its impact on the fiscal deficit, it raises the potential for inflation to increase again. It has also contributed through an upsurge in capital goods imports mostly by the public sector, to a widening current account deficit, which reached US$1.1 billion during the first half of 1986, triple the level at the same period of 1985, and a worsening term-structure of external debt (the share of short term debt having risen from 25% in 1985 to an estimated 30% as of June 1986). The Government's target of a current account deficit of US$800 million for 1986 is no longer within reach, given the sluggishness of exports (zero growth in 1986 to date) and the disappointing performance of workers remittances and tourism (down by 17% and 20%, respectively in the first half of 1986 as compared to 1985). The consolidated budget deficit through the first half of 1986 was also more than triple (in nominal terms) the first half figure of 1985. As a result, the budget deficit target of 1.6 of GNP for 1986 is also unlikely to be met.

2.05 There seems little doubt that the high growth rates of the last 12-18 months are unsustainable from the point of view of maintaining a macro-balance compatible with the goals of the structural adjustment program. Moreover, the effects of such growth before the stabilization program has been completed could endanger Turkey's creditworthiness. The Bank conveyed its concerns about these developments to the Government at a high level in August 1986. At the Annual Meetings, the Turkish delegation briefed the Bank about measures that the Government has taken to stem these slippages. Briefly, the measures involve the raising of cash deposit requirements on imports, the tightening of the process for granting investment incentives, and a reduction of 8% on budgetary appropriations for 1986 compared with original allocations. The Government has indicated that it is determined not to undermine the stabilization program. Hence it is aiming for lower GNP growth in 1987 (about 5%). It has also indicated that no new projects will be

included in the 1987 Public Investment Program. The Government recognizes that the high growth of public investment in 1985 was a cause of much of the import growth in the first half of 1986, leading to erosion of the balance of payments, and in pressures to expand the money supply. Consequently, the Government has indicated that it will reduce significantly the rate of growth of public investment in 1987.

2.06 The Bank is monitoring closely the performance of Turkey's economy through the Quarterly Economic Monitoring Assessments (QEMs) which were designed specifically for this task. We have presently no reason to feel that the Government is not addressing the current problem to preserve the soundness of the basic macro-framework. In the next QEM we will analyze the key targets and assumptions contained in the 1987 economic program and assess their consistency with current economic performance, as well as with the medium-term goals of the structural adjustment program. As a normal part of that review, we will assess whether the macro-framework warrants the completion of the FY87 lending program as scheduled.

III. FUTURE OUTLOOK: ENERGY DEMAND AND SUPPLY PROJECTIONS

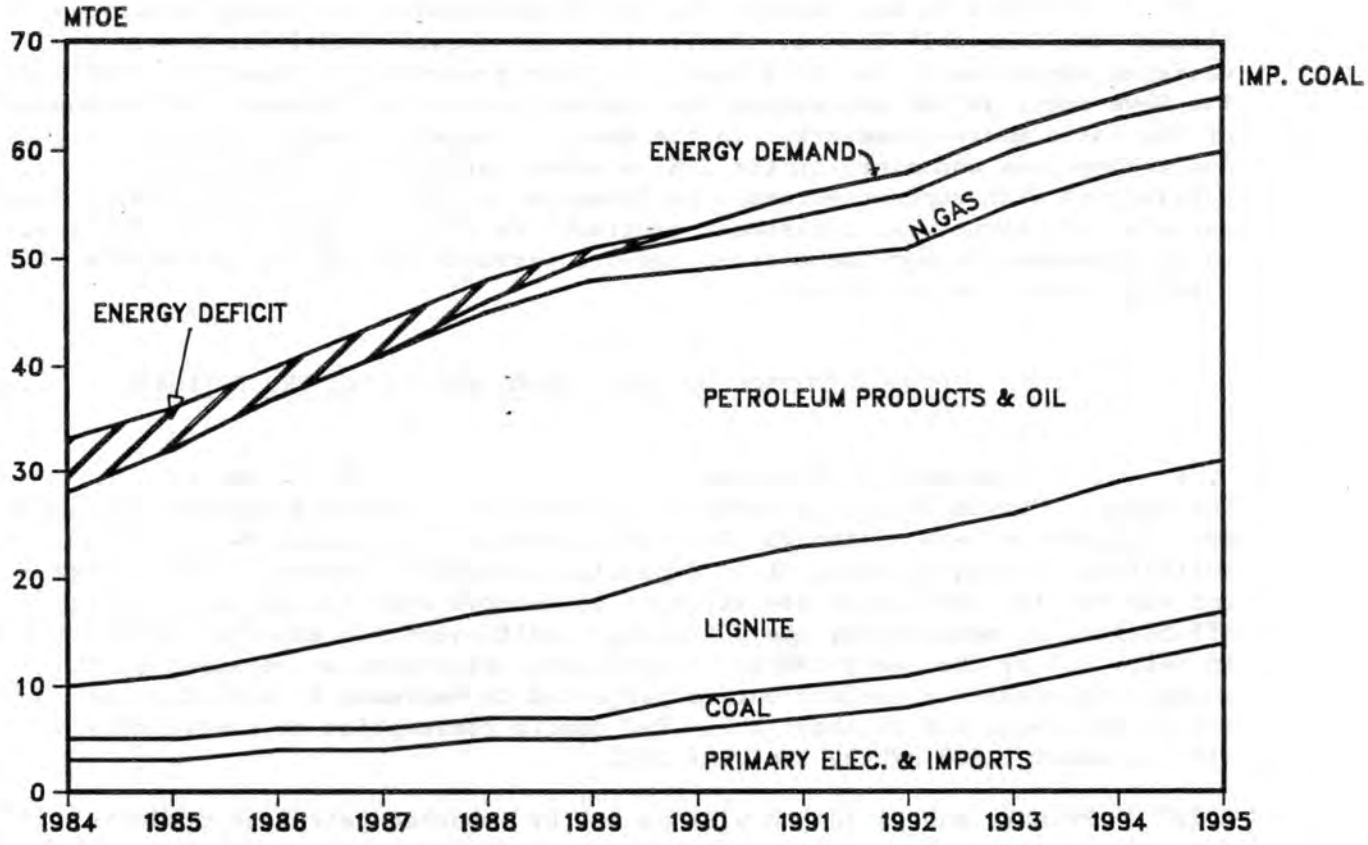
3.01 The Government has recently prepared a set of energy demand forecasts. Growth in energy demand is expected to average around 6% per annum over the medium term, although electricity will grow at about 8% per annum, reflecting the requirements of an expanding industrial sector. Both energy and electricity efficiency are expected to improve over the period. Energy efficiency, as measured by the GDP/energy coefficient, is expected to decline to below 1.0 by the early 1990s. Electricity efficiency as measured by the industry/electricity coefficient is projected to decrease from historical levels of around 1.4 to about 1.1. Per capita consumption of electricity will rise to about 1,600 kWh by the year 2000.[1/]

3.02 Primary energy demand will be met by imported petroleum products, natural gas and coal as well as by indigenous lignite, coal and hydro. While petroleum products will dominate, lignite will represent the most rapid growth in energy supply. With respect to secondary energy, electricity will be the most important and will be supplied equally by thermal and hydro plants. The energy deficit, which has been a feature of Turkey's economy for more than a decade, should be eliminated by 1990. The key factors in eliminating the deficit will be the rate at which electricity plants are completed, the timeliness of lignite supplies and the ability to control demand through improved efficiency.

1/ Compared with 1983 data for the following countries: Greece (2,892); Spain (3,000); Portugal (1,929); Yugoslavia (3,177).

Table 1

COMMERCIAL ENERGY DEMAND AND SUPPLY,1984–1995
MILLIONS OF TONS OF OIL EQUIVALENT (MTOE)



IV. GOVERNMENT ENERGY POLICY

A. Energy Policy in the 1970s

4.01 Until the international oil price increases of the 1970s Turkey's energy economy was largely oil based; almost wholly import dependent and, at least as far as electricity was concerned, at a relatively low level of per capita consumption. Investment in energy was largely confined to thermal oil fired power plants, a small number of hydro developments and the negligible investment in lignite was primarily for local household consumption. As a result investment in energy until the early-1970s ranged from about 1.5% to 1.8% of GDP, the bulk of which was for electric power.

4.02 The international oil price hikes of the mid-1970s precipitated a dramatic change in energy policy in Turkey. Oil imports, which were only US$200 million in 1970, jumped to US$3.5 billion in each of the years from 1979 to 1984. The response by Turkish policy makers was to attempt to curtail, through substitution, the level of energy imports by embarking on a massive program of indigenous resource development, especially lignite and hydropower and also developing to the maximum extent possible oil, gas and geothermal resources. The program aimed at increasing lignite production by 8 fold in 10 years and hydro power capacity was planned to increase by 300% between 1980 and 1990. Energy investment showed a dramatic increase in the post 1975 period and by 1984 had peaked at about 40% of total public fixed investment and 3.0% of GDP. That the program failed totally to meet its policy makers' ambitious targets is, in retrospect, hardly surprising. Various Bank reports in the early 1980s concluded that "... resources, human and financial, have been spread too thinly over too many projects in the investment program", and this resulted in "... major supply interruptions, project delays, frequent and protracted plant breakdowns and unacceptably high losses". Furthermore the policy of import substitution by indigenous resources proved to be high risk since shortfalls in electricity supply could not be met, for technical reasons related to system stability, by electricity imports. This lack of flexibility had caused, by the early-1980s, a substantial energy deficit. In summary, the sectors' problems had reached crisis proportions - problems that were deep rooted, and almost all linked to a myriad of inefficient practices in the public sector energy agencies in planning, implementation, financing and operation. The public sector had, by the end of the 1970s, an almost total monopoly in energy supply. The lignite sector had been nationalized in the early-1970s and statutory barriers to private electricity investment assured TEK's monopoly.

4.03 Government energy policy was, during this period, almost totally dominated by supply considerations. Pricing policy (with the exception of petroleum products which broadly reflected economic costs throughout the period), demand management and energy conservation were all relegated to low priority. The exigencies of a policy of energy supply at all costs to feed a rapidly growing and largely unconstrained demand resulted, in turn, in the abandonment of systematic maintenance and operations procedures, as well as a tendency to invest in some projects, especially lignite, which were of doubtful economic viability.

B. Energy Policy since 1984 - The Beginning of Sector Adjustment

4.04 Perceptible changes in government policies and attitudes by 1984 towards the energy sector resulted in a set of policy initiatives aimed at adjustment in the sector. Government assigned the highest priority to the energy sector and to investments that will reduce the energy deficit and costs of supply. No detailed energy plan has been developed although the current Development Plan contains the following objectives:

(a) priority would be given to domestic sources of energy, especially hydro and lignite, provided they are economically justified;

(b) the economic case for projects based on imported energy sources, especially gas and coal, would be examined;

(c) private sector financing, both local and foreign, would be sought for participation in energy development;

(d) conservation through indirect (pricing) as well as direct (non-pricing) measures would be supported; and

(e) energy SEEs would be given greater financial autonomy especially in setting output prices.

4.05 In particular the Government's decision to open the energy sector to private investment appears to represent a fundamental change in direction in the sector. The new policy is concerned with both privatization through the transfer of public assets to the private sector and liberalization through the removal of barriers to private sector investment.

4.06 Other policy initiatives in support of Government's Five-Year Plan have also been introduced:

(a) energy prices have increased in real terms for both lignite and power and have been continued at or above economic costs for petroleum products;

(b) the development of extra budgetary sources of local finance, especially the Public Participation Fund, has resulted in an improved flow of local funds (once considered a major impediment to implementation) to key energy projects, most notably in the hydropower sector;

(c) efforts to mobilize domestic resources through the sale of revenue sharing bonds for infrastructure, including electric power, have been successful;

(d) efforts to rationalize the investment program and curtail new investments have been made; and

(e) a series of laws and regulations which enable private sector investment either directly or in joint ventures with the public sector have been introduced.

C. The Future Policy Outlook

4.07 Formulation of government policy towards the energy sector stems from a concern with the cost and availability of energy supplies over the medium to long term, combined with an attempt to control public deficits, including deficits of SEEs which, in the absence of efficiency improvements, result in significantly higher prices. It also stems from a general drive towards involving the private sector, partly as an instrument to control public

expenditure, but partly also as an attempt to increase managerial and technological efficiency and to stimulate enterprise, innovation and growth. The Government's vision of the development of the energy sector is one in which there would be substantive private sector participation in all subsectors while public energy agencies would be commercially oriented and publicly accountable. The liberalization of energy imports would define the framework for the economic viability of domestic energy resources, especially lignite; and pricing policies would be set in accordance with economic principles but modified, where necessary, to ensure adequate incentives for private investment. The liberalization of the sector would, it is believed, result in lower cost and more timely energy supplies for the country as well as enhance the flow of financial resources to the sector.

V. SECTOR ADJUSTMENT STRATEGY

A. Introduction

5.01 The broad policy framework in the sector is largely in place through a series of recent enabling laws and the political will to follow through on specific actions in support of Government's energy policy objectives appears high. However, many loose ends remain - no actions have yet been taken to make the public energy agencies more independent and accountable, the regulatory framework defining the rules for private investors is embryonic in nature and restrictive in practice; incentives are not in place for energy exploration; practices in investment allocation are often contrary to stated policies and investment planning, although improved, remains weak. Furthermore, considerable efforts will be needed by Government to maintain progress made thus far in energy pricing policy, and improvements in the structure of prices, especially electricity, are needed. Finally, the impact of declining oil prices is not likely to affect substantively the Government's strategy and policies for the energy sector although, through its impact on economic growth, demand for electricity is likely to grow at a more rapid rate. Attachment 2 presents a summary of the Bank's projections on the impact of oil prices on Turkey's economy.

5.02 The Government's strategy, developed in conjunction with the Bank,[1/] provides a medium-term framework (to 1989) which addresses three interdependent considerations: institutional framework, economic investments; and improved efficiency in the supply and consumption of energy. The next section provides a summary of the actions planned by Government which would be supported under the proposed loan.

1/ See "Turkey - Energy Sector Strategy Paper"; Report No. 4973-TU, dated February 29, 1984.

B. The Institutional Framework

Present Situation

5.03 Two short policy papers on the institutional framework governing the energy sector but focusing on the key electricity subsector have been prepared by the Bank and were discussed with senior government officials in September 1986. Their findings are:

(a) the present institutional framework is too restrictive to meet Government's long-term objectives. The degree of public accountability in the public sector is so low that inefficiencies are easily masked. There is little credibility in the energy SEEs so that gaining access to capital markets, whether local or foreign, is impossible. This is compounded by poor financial management and planning, as well as outdated accounting systems. The reports identified several internal organizational weaknesses but argued that influencing the external environment under which the agencies operate was the key to further organizational reform. In particular the reports recommended actions to promote greater public accountability and strengthened financial planning;

(b) public sector energy agencies have typically spread their manpower and financial resources too thinly over too large an investment portfolio. Considerable gains in efficiency would occur if these agencies focused on a more limited number of higher priority activities and devolved responsibility for some activities to the private sector; and

(c) the regulations for involving the private sector are ambiguous, ill-defined and provide little incentive for private sector participation, either through leasing or ownership.

Government's Long-Term Objectives

5.04 The Government's long-term objectives are:

(a) to move from the present practice of direct control of the sector to a broader regulatory framework in which the rules of investment and operational behaviour are well defined and agencies, public and private, operate under a relatively independent environment;

(b) to provide a policy framework whereby public sector energy agencies would operate efficiently and where public sector agencies could have access to a broader range of private and public financing; and

(c) to maximize private investment in all aspects of the energy sector's development through direct investment, joint ventures, leasing arrangements and management contracts provided that such activities are complementary to the public sector's efforts and in line with national least cost development objectives.

Medium-Term Targets

5.05 To provide a foundation for ensuring that Government's policy towards developing a rational regulatory framework in which public and private elements will work together effectively to meet Turkey's energy needs at minimum cost, Government will establish during 1987 a small regulatory body to oversee the electricity subsector. The body will initially be attached to MENR and will build upon an existing department. It will have a defined three-year work agenda which would include the development of: leasing arrangements for private sector regional electric utilities; regulations applicable to the sector including established rules for private investors; monitoring and evaluation systems; guidelines for dealing with various issues likely to arise between the TEK and non-TEK system including comparable treatment of both systems and implementation of an efficiency audit of TEK. The Bank would seek agreement that by December 1987: (i) the regulatory body would be established within MENR; and (ii) a three-year work agenda and timetable for preparation of key regulations and guidelines would be prepared.

5.06 To improve public sector accountability and credibility, establish managerial autonomy, and to provide a basis for ensuring greater financial independence, Government would focus initially on the largest and most important subsector (electric power) and would:

(a) strengthen policy-making in TEK by restructuring the Board of Directors to include representatives from private banking and industry. In addition Government would need to provide the Board with a clear mandate to operate the agency on a commercial basis. The Bank would seek agreement with the Government that the proposed changes in TEK's board, including size and composition be made during 1987. To provide a clear mandate to the Board, we also would seek agreement in the Statement of Sectoral Policy that the Government instruct the new Board to address an agreed set of specific internal organizational issues and objectives and prepare recommendations for government approval by December 31, 1988;

(b) ensure that external financial audits comparable to those at present required by private companies registered under the Capital Markets Board, are undertaken in TEK with effect from 1987. The Bank would seek agreement that a well established audit firm be hired during 1987 to prepare audits on an annual basis, including a full audit of TEK's 1988 accounts. The auditor's report and comments would appear in TEK's published annual report for 1988;

(c) ensure that a comprehensive program to improve and upgrade TEK's financial planning, accounting and financial management is implemented, including actions to ensure that TEK's financial obligations are fully reflected in its accounts. The Bank has prepared and discussed with Government a report on the financial policies of TEK and identified key actions to be taken by TEK. The Bank would, on the basis of this report, seek agreement on a work plan and terms of reference to include, where necessary, the recruitment of external consultants before April 1987 to provide the

necessary expertise. Agreement to implement the financial action plan would be a condition of Board presentation.

5.07 During 1988 the Bank would review with Government the impact of the above actions with a view to assessing the merits of introducing a similar approach to other revenue earning energy agencies, notably TKI, TPAO and TTK. Such actions could be supported under a second energy sector loan.

5.08 To ensure that public agencies focus on key tasks over the medium term, Government would require that:

(a) TEK establish adequate project management arrangements for large projects (greater than US$50 million);

(b) TKI focus its future efforts on a portfolio of agreed high priority projects and for all other smaller mines not serving power plants (approximately 16) would, to the extent possible, enter into lease agreements with interested private companies. Furthermore, agreement would be reached that all new mine developments would be undertaken either by the private sector or through joint ventures with private partners;

(c) EIE devolve all energy auditing functions to private consultants while retaining in EIE a small group of professional level task managers; and

(d) TPAO (oil and gas) continue its existing policies towards joint ventures in exploration and development.

5.09 The Bank would seek, in the Government's Statement of Sectoral Policy, confirmation that Government will instruct public agencies to focus their efforts on priority tasks as detailed in the medium term investment program (para. 5.14) and as outlined above.

C. Energy Investment and Planning

Present Situation

5.10 The Bank's analysis indicates that:

(a) significant weaknesses exist in coordinating and integrating subsectoral plans into a cohesive and rational energy plan;

(b) manpower development and training in planning is needed in almost all subsectors;

(c) public investment planning across all sectors has shown a tendency towards overprogramming. The 1986-1990 public investment program for energy has been reviewed with Government and a rational medium term energy investment program of high priority projects has been

developed (see Attachment 3). This program focuses on high priority ongoing projects as well as imbalances in investment, especially in those areas currently underfunded (e.g., electricity distribution). The Bank has also made several recommendations relating to improvements in sectoral planning, budgeting, and monitoring of public expenditures;[1/]

(d) recent technical cooperation in demand forecasting between Government, Bank, and the International Atomic Energy Agency has resulted in a series of energy demand forecasts which are realistic, as well as an upgrading of forecasting skills;

(e) similar cooperation will also result by end-1986 in an updated least cost electricity plan for generation and main transmission although there is a need to continue the process of annual updating of these studies (e.g., new cost and demand data);

(f) TEK has completed a masterplan study for the electricity system of Izmir and has initiated similar studies for Ankara and Istanbul. Given the extremely high technical losses of urban networks these studies will provide a basis for systematic upgrading of the distribution systems. Implementation of the Izmir masterplan is considered to be of very high priority as a model;

(g) despite the fact that large scale natural gas imports from the Soviet Union are to begin in 1987, starting at 150 MSCFT/day and rising in 1992 to 600 MSCFT/day, no detailed gas utilization and investment plan has been developed although such a plan is required at least before the end of 1987;

(h) major imbalances and overcapacity problems exist in the refinery sector and these will be exacerbated by the import of natural gas. Government has requested TUPRAS (the refineries agency) to prepare a refineries sector masterplan to identify actions to address these issues and the Bank, through a joint Government-Bank effort, is providing assistance. The work program has focused on investments to redress the imbalances and structural problems in the industry; and, actions to improve the system of refinery margins, operational efficiency and managerial autonomy; and

(i) exploitation of indigenous energy resources does not always proceed along a least cost path especially for hydro, lignite, and oil resources although recent efforts by TPAO and MENR to develop resource data bases for oil and hydro are encouraging and should be supported.

1/ Discussions of the Bank's report with Government will take place in November 1986.

Government's Long-Term Objectives

5.11 The long-term objectives of the Government are:

(a) a strong energy planning and coordination capability within Government;

(b) to ensure that, irrespective of sources of finance, future energy requirements are met through investments at least cost to the economy; and

(c) that indigenous energy resources are exploited sequentially according to strict economic principles.

Medium-Term Targets

5.12 To improve national level planning of the sector including the integration of subsectoral plans the Government will need to strengthen the Energy Planning and Coordination Department of MENR through a program of technical assistance and staff training. MENR has submitted to the Bank for review draft terms of reference for technical assistance to address this issue. The pre-appraisal mission will reach agreement with MENR on detailed terms of reference and a schedule for the technical assistance which will include in-service and external training, implementation of appropriate energy planning models and consultancy services. The Bank would monitor progress throughout the implementation of the agreed program which is expected to last approximately three years.

5.13 As reflected in para. 5.10(c) the Bank would need to be satisfied with the size and composition of the overall public investment program. With respect to the energy investment program the Bank would seek the following agreements:

(a) that the energy sector's share of total public fixed investment would be maintained at no less than 35%;[1/]

(b) that the medium term program would include an agreed list of high priority projects and programs as outlined in Attachment 3;

(c) that a complete financing plan be prepared annually; and

(d) that no new projects over a total cost of US$50 million be included unless all of the following criteria are met: (i) demonstrated high returns; (ii) adequate project management is in place; and (iii) full funding is assured provided such funding neither jeopardizes the existing program nor Government established targets for overall

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1/ During discussions with Government in connection with the Public Investment Review the Bank would review the size and composition of the 1987 program for energy.

investment expenditures. The Government would consult with the Bank on the inclusion of such projects.

5.14 To monitor progress the Bank would review by October 31 of each year the annual energy investment program and associated financing plans. The Bank would need to be satisfied with the size and composition of the 1987 energy program in order to present the loan to the Board. Agreement on the 1988 and 1989 programs would be sought by October 31, 1987 and 1988, respectively. Government would, in the Statement of Sectoral Policy, commit itself to the implementation and funding of the agreed investment program.

5.15 To ensure that effective medium-to long-term plans for key subsectors are completed and implementation initiated, the Government should:

(a) implement the findings of the refinery masterplan, under an agreed timetable and in light of agreed monitorable targets;

(b) implement an economic utilization plan for imported natural gas, under agreed schedules and investment and financing plans and set against monitorable targets;

(c) revise and update in 1987 and 1988, under an agreed work program, the least cost program for electricity generation; and

(d) implement, from 1987 onwards, the recommendations of the electricity distribution masterplan for Izmir; complete the masterplans for Ankara and Istanbul; and initiate other urban distribution masterplan studies under an agreed and specified timetable.

5.16 The above studies are at various stages of preparation. In connection with loan preparation a refinery sector study has been completed in draft. The study, which has been a joint effort between TUPRAS and the Bank, will be a major input to the refinery masterplan. The study will be reviewed with Government in November, 1986 at the time of the preappraisal mission and key actions will be identified and agreed upon at that time. Similarly, an objective of the preappraisal mission will be to agree upon a rational plan for gas utilization, including the timing of key actions to be taken. The joint MENR and TEK task force, under the guidance of IAEA and World Bank, has reached agreement on the work program for revising and updating the electricity generation plans, including the development within Turkey of a new IAEA model to better evaluate and integrate hydro projects into the least cost program. The Bank will seek agreement that the revised plans be prepared by December 31, 1987 and 1988, respectively. Any new generation projects proposed to be included in the 1988 and 1989 investment program would need to be demonstrated to be part of these revised plans. With respect to the distribution studies the Bank will seek agreement that the annual investment programs reflect fully the findings of the Izmir masterplan; that the masterplan studies for Istanbul and Ankara are implemented according to an agreed timetable; and, during preappraisal, agreement will be reached on the next set of priority cities to be studied.

5.17 To provide Government with an adequate data base of indigenous resources in order that the exploitation and development of such resources proceeds optimally, Government will need to ensure that:

(a) MENR completes by December, 1988 a national hydro resource inventory. The Bank has agreed the terms of reference and the work program will be implemented from April 1987 onwards;

(b) TPAO implements a program of agreed exploration promotion including the review of existing geological and seismic data to package it for possible joint venture promotions. The Bank proposes, during preappraisal, to reach agreement with TPAO on a detailed work program and schedule for the next three years; and

(c) MTA and TKI implement an agreed five-year lignite and coal exploration program. The Bank proposes, during preappraisal, to reach agreement with MENR, TKI and TTK on a medium term lignite and coal exploration program, to be prepared and implemented by MTA.

D. Efficiency in Supply and Consumption of Energy

Present Situation

5.18 The Bank's diagnosis of the present situation is:

(a) primarily as a result of pressure to supply energy at any cost, the key energy supply agencies have, in the past, abandoned systematic maintenance practices with the result that plant has operated at extremely low levels of utilization and this, in turn, has led to high operating costs. Government efforts to address this situation have recently begun and include a program (Bank-financed), to upgrade TEK's operations as well as the initiatives mentioned earlier to promote private sector involvement in operations. In the lignite sector, Government has recently hired consultants to undertake a comprehensive review of TKI's operating practices and procedures; analyze the level and condition of operating equipment; review capacity utilization, operational efficiencies, and maintenance records; and identify actions to improve efficiency and meet scheduled demand over the next five years. The study will be completed by end-1986. Operational efficiency in the refinery sector is currently under study by the Bank: the initial analysis indicates considerable scope for improvements. The draft study including recommendations will be discussed with Government in November 1986;

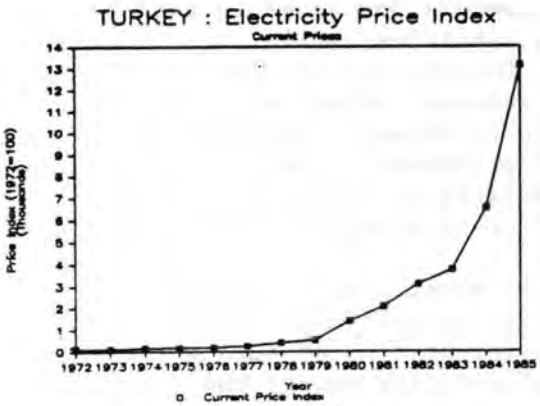
(b) despite considerable efforts to increase energy prices (Table 2), both electricity and lignite remain below their respective economic costs and, in the case of electricity, improvements to the structure of tariffs are needed. For example in February, 1986 it was estimated that tariffs at the high voltage level were roughly at economic costs. However, as no further tariff adjustments have taken

Table 2

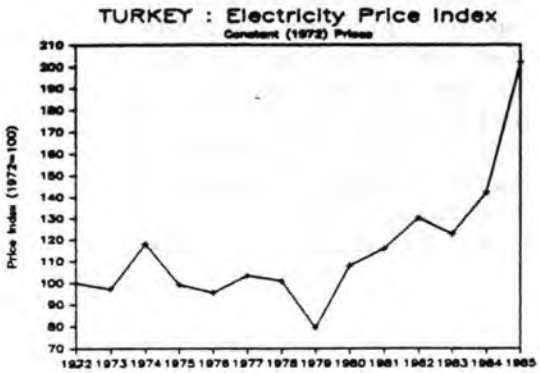
Energy Prices (Electricity and Lignite)

Electricity

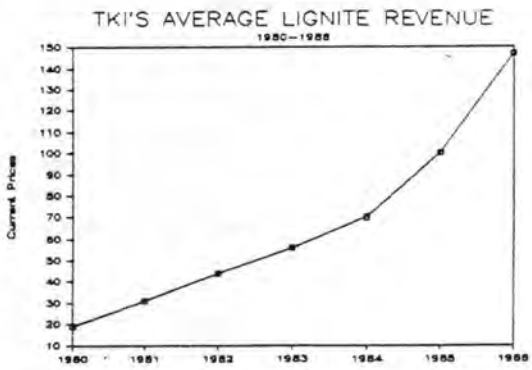
Current Prices

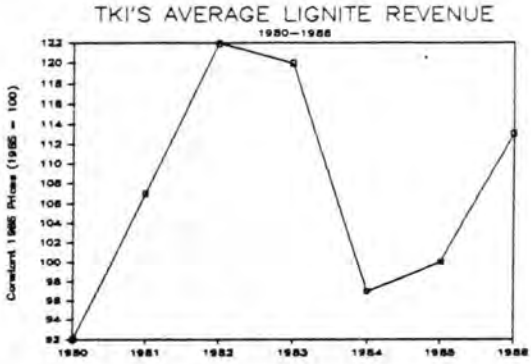


Constant Prices

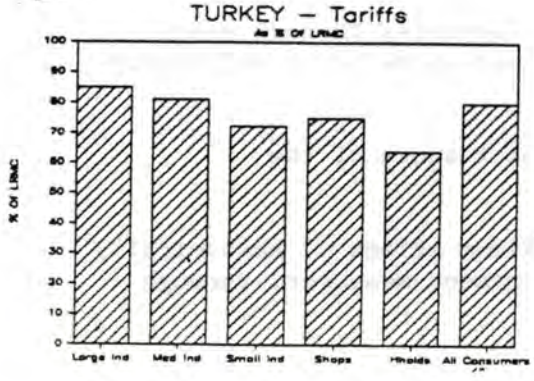


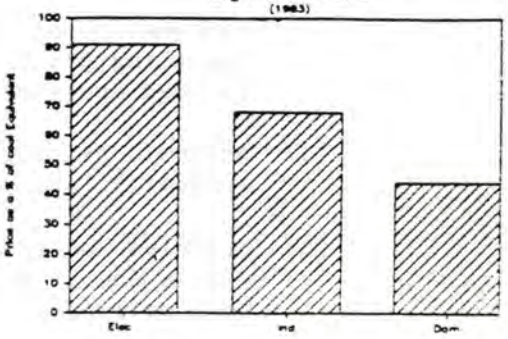
Lignite



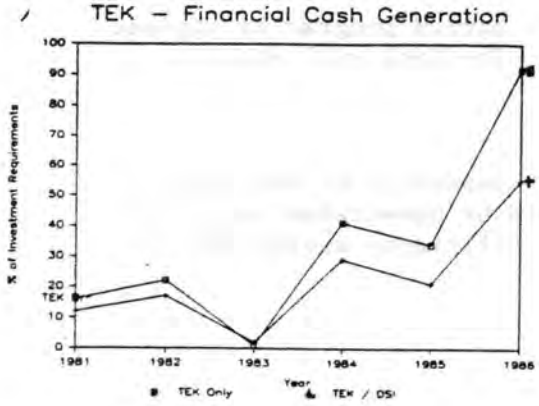


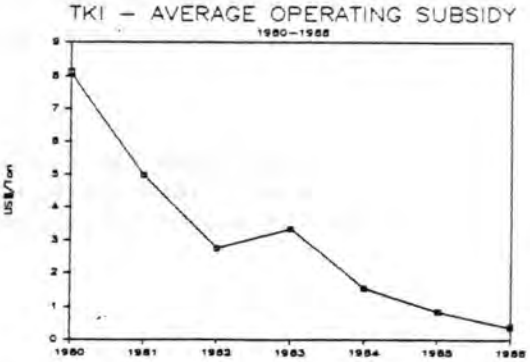
Prices Compared with Economic Costs





Impact on Financial Position





place this year this position has been eroded. Consultants hired by TEK have prepared a detailed study and implementation schedule for electricity tariff adjustments. Operating subsidies, while declining, were required for TKI in 1986. Domestic prices for petroleum products are considerably above economic levels and contribute some TL 250 billion per annum in revenues. There are no major problems with the relative prices of petroleum products. Prices for natural gas have yet to be formulated although, given the imminent importation of gas, a pricing policy is urgently needed; and

(c) little effort has been made by Government to mount a sustainable energy conservation program despite the evidence that major savings would accrue to the economy through the implementation of such a program. Achieving Government's targets of reducing energy and electricity intensity (para. 3.01) cannot be done unless a serious attempt to conserve energy, both through improved pricing policies and non pricing measures, is made. A limited number of energy audits financed under Bank Loan have been completed and follow-up investments have been made. However, several factors have constrained the Government's efforts to develop an effective energy conservation program, including lack of a legal framework governing the activities of EIE (the agency responsible for energy conservation); lack of trained staff and technical skills; and lack of finance.

Government's Long-Term Objectives

5.19 The Government's long-term objectives are:

(a) maximum operating efficiency in all energy agencies through good operating practices, adequate maintenance and spare parts and highly trained operators;

(b) economic pricing policies to be a permanent feature of the economy;[1/] and

(c) policies and programs to encourage the maximum effect of economically viable energy conservation and demand management measures, through both pricing and non-pricing means.

Medium-Term Targets

5.20 To support improved operational efficiency, Government will need to:

(a) ensure TEK continues implementation of the agreed program to upgrade its operational practices and procedures. The Bank will monitor

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1/ Provided that the costs of inefficiency are not passed on to the final consumer; identification of inefficiencies would be undertaken regularly by the proposed regulatory body (e.g., through efficiency audits, etc.).

progress of the agreed program in connection with supervision of Loan 2602-TU (System Operations Assistance Project); and

(b) ensure TKI and TUPRAS implement an agreed plan of action to improve their respective operational practices and procedures. The preappraisal mission will identify with Government the plan of action to be agreed upon.

5.21 To implement an economic pricing policy Government would need to:

(a) phase out, by 1988, operating subsidies to TKI through real price increases to ensure progress toward economic prices, and implement price adjustments to bring lignite prices for industrial users in line with prices for power station use;

(b) implement a rational electricity tariff policy to include:

(i) increases to tariffs to reflect economic costs including allowances for equity (lifeline) considerations while also ensuring adequate financial targets are met;[1/]

(ii) introduce a new tariff on the basis of voltage level to replace the existing tariff based upon customer categories in order that the tariff may be simplified, and introduce time of day pricing to improve the structure of tariffs and better reflect marginal costs;

(iii) introduce adequate metering equipment to ensure consumers can respond to the new tariff;

(iv) identify key industries likely to be seriously affected by increases in tariffs, especially the iron and steel, ferrochrome and aluminum sectors and ensure such industries are audited for energy efficiency and follow-up actions implemented as agreed under the proposed conservation program; and

(v) implement a plan to transfer implicit tariff subsidies for these industries from TEK to explicit subsidies to the industries; and

(c) develop and implement a natural gas pricing policy based upon the costs of importation and delivery of the gas.

5.22 The Bank will seek, in the Statement of Sectoral Policy, confirmation of Government's intentions to implement an energy pricing policy based upon the economic costs of supply. Agreements on the level and timing of price increases, consistent with measures outlined earlier to improve efficiency for lignite and electricity, will be sought, the details of which will be

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1/ At least 35% internal cash generation as agreed under existing obligations with the Bank.

identified during the preappraisal mission. An agreed implementation schedule to undertake the required complementary actions on electricity tariffs including changes in structure, metering, energy audits, etc. would be sought. The preappraisal mission will identify whether specific tariff increases would be required as a condition of Board presentation. The Bank would also seek agreement on the principles of a consumer gas pricing formula to reflect costs of purchase and internal distribution. Finally, agreement will be sought that Government continue its policy of pricing petroleum products at a level at least equivalent to the landed, Istanbul CIF price plus internal distribution costs.

5.23 To support the development of a sustainable energy conservation program Government will need to:

(a) implement an action plan to include: (i) passage of the legislation to give authority for energy conservation activities to EIE; (ii) ensure full financing is available for audits and follow up; (iii) implement the recommendations of completed energy audits; (iv) undertake audits in key industries especially those severely affected by electricity tariff adjustments; and (v) train and upgrade skills of staff. The Bank would seek the following agreements with Government: (i) provide a timetable for the passage of the required legislation; (ii) under agreed terms of reference and work plan hire, by June 1987, specialized consultants to provide EIE with the necessary skills and training; (iii) provide full financing to EIE over the 1987-1989 period for undertaking approximately 30 energy audits in agreed key industrial plants; and (iv) provide finance either through TSKB and DYB to fund energy conservation investments in the industrial sector; and

(b) ensure that TEK completes the demand management study by end-1987 and implements its findings from 1988 onwards. TEK will submit the draft final report to MENR and the Bank no later than December 1987 and, after review, agreement would be sought with Government to implement its findings from 1988 onwards.

VI. THE PROPOSED LOAN

Key Actions

6.01 The actions identified in Section V cover a relatively comprehensive set of policy issues to be addressed by the Government. This, in large part, stems from the extensive preparatory work of the past two years and the development of several detailed action programs through various technical assistance activities and studies as summarized in Attachment 1. However to retain consistency with the policy issues framework developed jointly with Government as outlined in Section V we have identified a series of key policy priorities for early action by Government and have included them in a "core" action plan. Table 3 at the end of the text summarizes the "core" program

which, in addition, would be supported by a broader statement of government policies and intentions.

Loan Size and Disbursement

6.02 The loan, currently at US$250 million, would be made to the Government. Full disbursement would take place over a two and a half year period.

6.03 In light of recent macro-economic performance, Government has placed considerable emphasis on the need for fast disbursing funds preferably set against negative procurement lists. Turkey's external debt at the end of 1985 stood at US$25.4 billion. This represented a rather high 48% of GDP and 217% of exports of goods and non-factor services and workers' remittances. Of particular concern has been the rise in short-term debt, whose total increased from US$4.5 billion at the end of 1984 to US$8 billion in mid-1986, the bulk of which was in the form of short-term liabilities to foreign banks and non-resident foreign currency accounts in Turkish banks. The debt service ratio is high at 35% in 1985 and is not expected to fall below 30% over the next three to four years. Due to Turkey's debt service obligations, its foreign exchange reserves have declined to their lowest level in the last two years (about US$1 billion Central Bank's reserves and US$1.2 billion commercial banks' reserves, equivalent to one month of imports). This decline was to be expected, considering that in 1986 Turkey will pay US$4.6 billion in debt service. Therefore, Turkey's efforts to increase its medium and long-term borrowings, particularly of quick-disbursing funds is sound.[1/]

6.04 While such emphasis is justified on grounds of external debt and foreign reserves, it is also preferable, given the capital intensive nature of the energy sector and the crucial need to maintain a rational and controlled energy investment program, to link some funds under the proposed loan to specific investment expenditure streams. Furthermore, subsectoral agencies are more likely to be receptive to initiating studies and/or policy actions if they perceive material gains through the proceeds of the loan. We recommend that, in view of the relatively stringent policy conditions outlined above, consideration be given to a loan which includes at least 50% of total loan proceeds set against policy adjustment. The balance would be utilized to fund the foreign exchange costs of equipment for the medium-term investment program as well as technical assistance to support Government's program. It is proposed that the policy adjustment component be available for disbursement at effectiveness (US$125 million). The balance would be disbursed against goods and services required for the 1987 through 1989 investment program. A comprehensive progress review of the agreed actions would take place in June 1988.

1/ The information and viewpoint contained in para. 6.03 was communicated to the Government by letter from the RVP on August 14, 1986.

Allocation of Loan Proceeds and Cofinancing

6.05 The loan would effectively underwrite the energy investment program by supporting the presently unfunded components of the energy sector investment program over a period of two and half years (1987 to mid-1989). It is estimated that the foreign exchange cost of the investment program is in the order of 60%. Thus the two and a half year investment program of about US$5 billion beginning in mid-1987 includes foreign exchange requirements of about US$3 billion. Subject to confirmation by the preappraisal mission, it is estimated that financing has not yet been arranged for 20%-30% of this amount. In addition to loan proceeds the Bank will identify possible cofinancing sources to fill the financing gap.

6.06 Since Japanese and Middle Eastern banks have taken the lead in providing commercial cofinancing on the last two occasions it would be a good marketing strategy for Turkey to tap the European and possibly North American markets for leading the proposed operation. A group of European/American banks would be selected who would:

(a) arrange export credits in the order of US$150 million to finance the procurement of capital goods from selected countries in Europe/North America. It will be necessary to agree with the borrower on the items to be procured in this way so as to ensure that this is fully compatible with the requirements of the investment program; and

(b) undertake to lead a syndication of a B-loan of US$170 million (inclusive of US$20 million from the World Bank).

6.07 The amount of US$150 million provided by commercial banks in the B-loan would finance imports (US$75 million) and part of the local costs (US$475 million) related to the agreed investment program and would follow procurement procedures which ensure economy. The Bank's share in the B-loan would be used to procure capital goods imports for the sector, in accordance with Bank's guidelines. The optimal timing of the syndication would be planned with the Turkish authorities.

6.08 The export credit component of the proposed financing plan would keep the size of the commercial syndication comparatively modest. At the same time the close ties of major commercial banks, especially in Europe and Japan, with their supplier clients would ensure the success of the syndication. In addition, the Export Import Bank of Japan has expressed an interest in participating in the operation with an amount of about US$80 million from its untied loan window. Staff of the Export Import Bank of Japan are expected to participate in the forthcoming preappraisal mission.

6.09 The proposed financing plan to fund the financing gap referred to in para. 6.05 is as follows:

IBRD	A loan	US$250 million
IBRD	B loan participation	US$ 20 million
Export Credits		US$150 million
Eurodollar B loan		US$150 million
Export Import Bank of Japan (untied financing)		US$ 80 million
	TOTAL	US$650 million

It is proposed that US$125 million of the A loan would finance general imports except for specified items (i.e., military and paramilitary items, luxury goods, nuclear reactors). The balance of the A loan (US$125 million) would be disbursed against intermediate and capital goods imports for the energy sector investment program under standard Bank procurement guidelines.

Loan Justification

6.10 The loan is justified on the basis that:

(a) a rational medium-term framework for the sector consistent with the macro framework has been developed by Government;

(b) the actions proposed will underpin the medium-term framework and will ensure movement towards Government's long-term objectives for the sector;

(c) the actions proposed are substantive and we believe that the provision of a loan would provide the Government with an added incentive to move more quickly than otherwise;

(d) the macro-economic case for a policy based loan is persuasive;

(e) the loan would be used to attract substantial cofinancing, which together with the agreements reached on tariff policy and internal resource mobilization, provides an assurance of full funding of the agreed investment program;

(f) the loan has been used as a forum for placing policy issues not yet addressed by Government on the policy agenda (such as environmental issues); and

(g) the economic benefits of the actions proposed are considerable.[1/]

VII. ENVIRONMENTAL ISSUES

7.01 While the Bank has been generally satisfied by the attention given to environmental issues at the project level under Bank financed projects, there is a need to review the broader framework covering environmental issues and to identify ways in which the Bank could strengthen the institutions involved in

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1/ Benefits would include approximately US$40 million per annum of savings to the economy through conservation and demand management, US$(to be determined) million in local revenues through timely completion of projects; and US$30 million per annum in efficiency gains. All 1986 prices and estimates. In addition, there will be non-quantifiable longer-term gains through improved pricing and planning procedures, and through increased private capital flows.

environmental regulation and control. In the context of the loan we do not foresee any specific conditionalities emerging. However the loan would provide a suitable vehicle for the Bank to initiate with Government more detailed work in this field. Specifically we propose to include a PPDES expert as part of the preappraisal mission to review thoroughly the existing legislative, regulatory and administrative framework concerning environmental policies, existing standards and investigative procedures and practices, and technical and policy formulation capabilities within Government, with a view to identifying any technical assistance, studies and training requirements that might be included in the loan. The results of such studies would be used to support future policy actions in the second energy policy loan proposed for FY89.

VIII. NEXT STEPS

8.01 The first preparatory mission completed its work in June 1986. A second preparatory mission to discuss the institutional issues and agree on an action program visited Turkey in September 1986. Preappraisal and appraisal are scheduled for November 1986 and January 1987, respectively although every effort will be made to advance the appraisal date to provide some contingency for processing. Board presentation is scheduled for May 1987.

Table 3

TURKEY - Energy Sector Adjustment Loan

Key Actions Supported Under the Loan

A. Institutional Framework

Objective	Action	Timing
Redirect existing controls towards a less restrictive regulatory system for both public and private investors.	1. Establish regulatory body in MENR.	1. Establish by December 1987 (para. 5.06).
	2. Prepare 3-year work program.	2. Prepare agreed work program and timetable by December 1987 (para.5.06).
	3. Implement above work program.	
Within the above framework: increase public sector accountability, effectiveness of agencies and financial and managerial accountability. Focus on largest agency in sector as model.	1. Restructure TEK Board.	1. Board restructured by December 1987 (para. 5.07a).
	2. Govt. to give mandate to new Board to prepare and recommend internal organizational change.	2. Govt. instructions to Board to be reflected in Statement of Sectoral Policy (para. 5.07a).
	3. Independent audits of TEK's accounts.	3(a) Hire auditors by December 1987. (para. 5.07b).
		3(b) Auditors reports on 1988 accounts to be reflected in TEK's published annual report for 1988 (para. 5.07b).
	4. Implement plan to improve TEK's financial planning and accounting.	4(a) Implement financial action plan including transfer of hydro debt obligations to TEK (para. 5.07c).
		4(b) Hire consultants under agreed terms of reference by April 1987. (para. 5.07c).

B. Energy Investment and Planning

Improved sectoral planning through a strengthened planning department MENR.	1. Hire consultants under agreed terms of reference and work plan to upgrade skills in MENR.	1. Terms of reference agreed by June 1987; consultants hired by December 1987 (para. 5.13).
Rational and fully financed medium-term investment program.	1. Implement agreed energy investment program, including list of high priority projects.	1(a) Satisfactory 1987 program (condition of Board presentation) (para. 5.15).
		1(b) 1988 program to be reviewed with Bank by October 31, 1987 (para. 5.15).
		1(c) 1989 program to be reviewed with Bank by October 31, 1988 (para. 5.15).

Table 3 (Cont.)

TURKEY - Energy Sector Adjustment Loan

Objective	Action	Timing
	2. Government to ensure full funding of investment program through agreed financing plan.	2(a) Satisfactory financing plan for 1987 (condition of Board presentation) (para. 5.14).
		2(b) Submit to Bank by October 31, of each year financing plans for 1988 and 1989 (para. 5.14).
	3. Ensure no new projects over US$50 million included an investment program unless agreed criteria are met.	3. Consultation with Bank prior to inclusion of new projects over US$50 million (para. 5.14).
Prepare optimal subsectoral long-term plans.	1. Prepare and implement refinery sector master plan.	1(a) Prepare plan by June 1987 (para. 5.17).
		1(b) Implement findings and include required investments in 1988 and 1989 investment programs (para. 5.17).
	2. Prepare and implement gas utilization plan.	2(a) Prepare plan by June 1987 (para. 5.17).
		2(b) Required investments to be included in 1988 program (para. 5.17).
	3. Prepare and implement agreed number of high priority urban electricity distribution master plans.	3(a) Implementation of Izmir master plan to be fully reflected in 1987 investment program (para. 5.17).
		3(b) Completion of Ankara and Istanbul master plans by December 31, 1987 (para. 5.17).
	4. Prepare least-cost electricity generation plans and ensure all new generation projects are part of such a plan.	4(a) Least-cost plan prepared by April 1987 (para. 5.17).
		4(b) Revisions and updated plans submitted by December 31, 1987 and 1988, respectively (para. 5.17).
	C. Efficiency in the Supply and Consumption of Energy	
Improve operational efficiency in lignite, refineries and electric power sectors.	1. Complete study of TKI's operations and implement findings.	1(a) Complete study and discuss with Bank by February, 1987 (para. 5.21b).
		1(b) Implement findings and include required investments in 1988 and 1989 investment program (para. 5.21b).

Table 3 (Cont.)

TURKEY - Energy Sector Adjustment Loan

Objective	Action	Timing
	2. Complete refinery master plan and implement findings.	2. Actions to be defined after preappraisal (para. 5.21b).
	3. Implement efficiency improvements in TEK.	3. Actions agreed to under Loan 2602-TU (para. 5.21a).
Economic Prices	1. Implement agreed tariff policy action program.	1. Specific adjustments to tariff levels to be defined for Board presentation; and monitor changes in tariff structure against action program (para. 5.23).
	2. Phase out in 1987 all operating subsidies for TKI.	2. No operating subsidy by December 1987 (para. 5.23).
	3. Economic pricing policy for gas and petroleum products.	3. Monitor throughout loan. To be reflected in Statement of Sector Policy (para. 5.23).
Comprehensive energy conservation program.	1. Government to provide timetable to pass law establishing EIE as agency with full responsibilities for conservation.	1. Timetable to be provided by June 1987 (para. 5.24).
	2. Implement agreed program to upgrade EIE.	2. Monitor progress of agreed program. (para. 5.24).

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TURKEY - ENERGY SECTOR ADJUSTMENT LOAN

SUMMARY OF STUDIES, WORKING PAPERS AND TECHNICAL NOTES IN SUPPORT OF ENERGY SECTOR ADJUSTMENT LOAN (ESAL)

Sector/ Field of Investigation	Title	Type of Study	Source	Brief Synopsis	Objectives for ESAL	Summary of Actions Proposed	Next Steps
1. GENERAL BACKGROUND	(a) Energy Sector Adjustment Loan Working Paper.	Working paper	Bank (EMPPE)	o Provides background working paper for mission members and other interested parties. o Outlines the issues agenda. o Outlines other operational issues relating to procurement, scheduling, etc.	o Summarizes issues and provides guidance for mission members	1. Covers the three issues areas: - Institutions - Investment - Efficiency	o Not applicable.
	(b) Letter to Deputy Under Secretary, Treasury, Govt. of Turkey	Letter	Bank (EMPPE & EM2A)	o Provides summary for senior Govt. policymakers of policy issues to be addressed under ESAL1.	o Background	1. Background	o Discussed with Govt. during preparation mission.
	(c) Energy Sector Adjustment Loan Mission -- Aide Memoire.	Aide Memoire	Bank	o Summarizes findings of preparation mission. o Identifies steps to be taken by preappraisal.	o Not applicable.	1. Background	o Draft with Govt. in June 1986.
	(d) Energy Sector Strategy Paper	SRA	Bank	o Summarizes key issues in energy sector. o Outlines broad strategy for dealing with issues.	o Background	1. Background	o Not applicable.

SUMMARY OF STUDIES, WORKING PAPERS AND TECHNICAL NOTES IN SUPPORT OF ENERGY SECTOR ADJUSTMENT LOAN (ESAL)

Sector/ Field of Investigation	Title	Type of Study	Source	Brief Synopsis	Objectives for ESAL	Summary of Actions Proposed	Next Steps
2. INSTITUTIONAL FRAMEWORK	(a) Institutional framework governing the energy sector.	Policy briefing for senior policymakers.	Bank (Con & EMPPE)	o Reviews policy constraints to GOT objectives for involving private investment and for improving public sector efficiency and accountability. o Identifies actions to be taken by GOT to establish an appropriate regulatory framework for both public and private sector. o Focuses on TEK (largest agency) but would be applicable to other revenue-earning energy agencies.	o Agree on the set of substantive issues to be addressed. o Agree on actions to be undertaken by GOT.	1. Establish regulatory body. 2. Redefine "rule of game" for private investors to ensure adequate incentives in place. 3. Redefine "rules of game" for leasing arrangements to encourage private involvement. 4. Train staff and develop manpower to cater to new skills. 5. TEK to have external financial audits by 1987. 6. TEK to change Board composition. 7. TEK to reflect full financial obligations.	o Paper discussed in September 1986 with senior GOT officials. o More detailed work to be undertaken at preappraisal.
	(b) TEK'S financial policies.	Policy briefing for senior policymakers.	Government financed study. (Lazard Fréres hired by MENR).	o Analyses of TEK's financial situation. o Proposes policy changes to improve financial autonomy and allow access to foreign and local capital markets. o Govt. to undertake similar effort for TKI once TEK study is complete.	o Agree actions to be taken to lay foundations for improving TEK's financial management and external financing arrangements.	As per 4 through 7 in (a) above.	o Study will be in draft for Bank/Govt. review in November. o Preliminary results discussed with Lazards. o Study finalized in 1987.

SUMMARY OF STUDIES, WORKING PAPERS AND TECHNICAL NOTES IN SUPPORT OF ENERGY SECTOR ADJUSTMENT LOAN (ESAL)

Sector/ Field of Investigation	Title	Type of Study	Source	Brief Synopsis	Objectives for ESAL	Summary of Actions Proposed	Next Steps
	(c) Manpower requirements for the Energy Sector (tentative).	SRA	Bank (EMPED)	o Comprehensive review of technical, financial and administrative staffing requirements in support of Govt's energy policies. o Identification of manpower deficiencies. o Identification of adequacy of training facilities. o Recommendations for action.	o To be determined.	1. To be determined	o First EMPED mission to go to field in November 1986.
3. INVESTMENT	(a) Turkey Public Investment Review. See esp volume 4 "Energy Overview, Electric Power, Lignite and Oil and Gas Working Papers".	ERA	Bank	o Reviews sectoral planning and investment across all sectors. o Recommends improvements to existing planning, budgeting and monitoring systems. o Identifies key investment programs within estimated financial constraints.	Agree upon a "core" investment and financing program for the 1987 through 1990 period.	1. Agreed "core" investment program in electricity, lignite, oil, gas sectors. 2. Review on annual basis with Govt. the investment budget and project by project allocations for forthcoming year. 3. No new projects over $50 million to be included in public investment budget without prior discussion with Bank.	o Discuss Report November 1986. o Agree actions during preappraisal.

SUMMARY OF STUDIES, WORKING PAPERS AND TECHNICAL NOTES IN SUPPORT OF ENERGY SECTOR ADJUSTMENT LOAN (ESAL)

Sector/ Field of Investigation	Title	Type of Study	Source	Brief Synopsis	Objectives for ESAL	Summary of Actions Proposed	Next Steps
	(b) Lignite Sector Study (Green Cover).	SRA	Bank	o Reviews planning institutional, investment issues in the lignite sector. o Concludes that there are a number of deficiencies in sector and outlines recommend-ations. o Identifies uneconomic investments. o Identifies a series of studies focusing on pricing policy, operations and maintenance, etc.	o Agree upon key investments in public investment program for lignite.	1. Agree high priority investments (as above). 2. No uneconomic lignite mines as identified in the report to be included in the public program.	o Recommendations of report will be discussed in light of the more recent public investment report.
	(c) Elec. Planning & Investment (Green Cover).	SRA	Bank	o Reviews planning procedures and identifies weaknesses. o Illustrates present planning deviates from strict least-cost solutions. o Recommends an action plan to upgrade planning skills. o Identifies key investments, especially in improving operational efficiency.	o Improve planning procedures and practices. o Continue on agreed work program to develop dynamic least-cost program. o Continue efforts to improve operational planning.	1. Govt. to present revised demand forecast to Bank by end 1986. 2. Govt. to present revised least-cost plan to Bank by end 1986. 3. Govt. to agree that all new investments should be demonstrated to be part of least-cost plan. 4. Agreements to undertake further revisions to least-cost plan by end 1987 and end 1988, respectively.	o Draft report on demand analysis sent to Bank for review.

SUMMARY OF STUDIES, WORKING PAPERS AND TECHNICAL NOTES IN SUPPORT OF ENERGY SECTOR ADJUSTMENT LOAN (ESAL)

Sector/ Field of Investigation	Title	Type of Study	Source	Brief Synopsis	Objectives for ESAL	Summary of Actions Proposed	Next Steps
(d)	Energy demand and electricity supply to 2010.	Technical working paper	Ministry of Energy, State Planning Organization, and TEK in collaboration with Bank and Int'l Atomic Energy Agency.	o Detailed energy demand forecast by sector to 2010. o Electricity system planning scenarios designed to identify least-cost paths.	o Agree on growth in energy demand through set of realistic demand projections. o Identify a least cost electricity expansion program to ensure optimal investment program.	1. Agree "core" investment program as identified in (a)(1) above. 2. See (c)(3), (4) above.	o Draft reports sent to Bank for comment. o Final reports by end 1986.
(e)	Refinery sector study and master plan.	SRA and Govt. policy paper.	Bank/TUPRAS/ Ministry of Energy.	o Major refinery configuration imbalances now occurring and will be exacerbated by import of natural gas and changes in future demand. o Investments and policy changes needed to ensure that refinery sector is balanced by early 1990. o Operational inefficiencies identified and recommendations made to improve efficiency. o SRA study to feed into Govt. refinery master plan.	o Least-Cost long-term refinery master plan. o Improved operational efficiency.	1. TBD. 2. TBD.	o SRA study prepared in draft with assistance from key staff members of TUPRAS. o SRA study to be finalized by December 1986. o Govt. master plan to be finalized by mid 1987.

SUMMARY OF STUDIES, WORKING PAPERS AND TECHNICAL NOTES IN SUPPORT OF ENERGY SECTOR ADJUSTMENT LOAN (ESAL)

Sector/ Field of Investigation		Title	Type of Study	Source	Brief Synopsis	Objectives for ESAL	Summary of Actions Proposed	Next Steps
	(f)	Elec. master-plans for cities (Izmir, Ankara, Istanbul.	Technical studies.	Cons. (EdF) to TEK. Bank financed.	o Masterplan for urban distribution, including investment requirements, staff's technical stdrs.,etc. o Izmir completed as pilot. Ankara, Istanbul underway.	o Least cost investment at distribution land.	1. Implement Izmir study. 2. Complete Istanbul, Ankara. 3. Initiate other key cities.	o Discuss implementation schedule for Izmir with TEK. o Monitor studies of Ankara, Istanbul. o Agree other cities to be studied.
4. EFFICIENCY	(a)	Systems Operations Assistance Project. Staff Appraisal Report.	Staff Appraisal Report	Bank (EMPPE)	o SAR for loan to upgrade operational efficiency in electric power sector. o Identifies equipment for operations and maintenance as well as technical assistance. o Summarizes major technical inefficiencies. o Recommends performance monitoring unit be established in TEK.	o Continue Bank efforts towards improving efficiency in electric power.	1. Continue covenants and agreements under existing loan. 2. Reinforce importance of the Performance Monitoring Unit in TEK by requiring its full establishment as agreed under the existing loan.	0 Not applicable.

SUMMARY OF STUDIES, WORKING PAPERS AND TECHNICAL NOTES IN SUPPORT OF ENERGY SECTOR ADJUSTMENT LOAN (ESAL)

Sector/ Field of Investigation	Title	Type of Study	Source	Brief Synopsis	Objectives for ESAL	Summary of Actions Proposed	Next Steps
	(b) Study of lignite sector (TKI and MTA).	Comprehensive technical and managerial study.	Consultants (TUSTAS) to Govt. Consultants hired and financed by State Planning Organization.	o Comprehensive inventory of equipment in TKI and its condition. o Review production schedules to ensure timing of demand by power plants is realistic. o Review capacity utilization, operational efficiencies and maintenance records. o Identify actions to improve efficiency and meet demand targets over medium term. o Review management and organization (TKI, MTA) of sector. o Identify equipment needs.	o Identify actions to ensure timely delivery of lignite according to realistic demand schedule. o Identify actions designed to improve operational efficiency and reduce costs of supply. o Identify maintenance and operations equipment.	1. To be determined.	o Draft report to be prepared by September 1986 and reviewed by Govt. and Bank. o Final report due end 1986.

SUMMARY OF STUDIES, WORKING PAPERS AND TECHNICAL NOTES IN SUPPORT OF ENERGY SECTOR ADJUSTMENT LOAN (ESAL)

Sector/ Field of Investigation	Title	Type of Study	Source	Brief Synopsis	Objectives for ESAL	Summary of Actions Proposed	Next Steps
(c)	Electricity Pricing Study	Technical study with executive summary on pricing policy	Consultants (EdF, France) to TEK. Bank financed.	o Analyses existing tariffs in Turkey. o Recommends new tariffs based on LRMC. o Provides an implementation schedule for reaching LRMC over a 5-year period including pricing changes, metering, etc.	o Identify level and structure of LRMC. o Identify complementary actions to ensure LRMC pricing policy can be implemented.	1. Govt. to agree to principle of pricing at LRMC. 2. Phased program of tariff adjustments to level and structure. 3. Investment program for complementary metering, etc.	o Agree with Govt. at time of preappraisal.
(d)	Demand mgt. & conservation study.	Technical rpt.	Consultants (Gopa, Germany) to TEK. Bank financed.	o Identifies actions to improve load analyses. o Identifies actions to improve load curves and save energy and capital. o Integrates studies of pricing and non-pricing effects on demand. o Trains TEK's staff.	o Action plan to implement a demand management program for the electric power subsector.	1. To be determined.	o Phase 1 (diagnostic): complete and reviewed with Bank. o Phase 2 (development): underway. o Phase 3 (recommended actions): in 1987.

SUMMARY OF STUDIES, WORKING PAPERS AND TECHNICAL NOTES IN SUPPORT OF ENERGY SECTOR ADJUSTMENT LOAN (ESAL)

Sector/ Field of Investigation	Title	Type of Study	Source	Brief Synopsis	Objectives for ESAL	Summary of Actions Proposed	Next Steps
(e)	National Water Resource Planning.	Technical rpt.	Consultant to MENR. Bank financed.	o Identifies weaknesses in hydro resource analysis and in hydro planning generally. o Establishes system for developing a hydro inventory with detailed priorities for investment. o Outlines actions for improved hydro operations in mixed thermal/hydro system. o Identifies sequence of programs to improve hydro planning and operations.	o Hydro inventory to ensure that most economic schemes are taken up sequentially. o Improved hydro operational planning.	1. Complete hydro inventory by December 1988. 2. Complete Valor Agua program (hydro optimization program) by December 1987. 3. Integrate results into least cost program.	o Diagnostic study completed and discussed with Govt. o TOR for implementing hydro inventory under development. o Agree program to implement Valor Agua.

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TURKEY'S ENERGY POLICY AND DECLINING OIL PRICES

1. The Macro Impact. The recent decline in international oil prices is likely to have a favorable direct impact upon the balance of payments - every US$1 fall in oil prices results in a gross saving to Turkey of some US$120 million. In the 1986-1990 period savings would amount to US$1.0 billion, if Turkey could capture all the savings from spot market purchases. However, the favorable direct impact will be offset, to some extent, by lower export growth to oil exporting countries (40% of Turkey's exports) as well as by a reduction in workers' remittances from these countries. On the other hand an increase in Turkish exports to, and workers remittances from OECD countries on account of a more favorable OECD growth outlook is possible. Considering all these factors, estimates of the net positive impact of the oil price decline on Turkey's balance of payments are about US$200 - 300 million per annum. An improvement in the balance of payments would give the Government the option of repaying its external debt sooner, thus improving Turkey's debt service ratio in coming years, or alternatively utilizing the incremental resources to support a more rapid growth strategy. The economic growth implications of declining oil prices would in turn lead to an increased domestic demand for energy in general and electricity in particular.

2. The Micro Impact. Declining oil prices may have an impact upon choice of technique especially in the electric power and industry sectors. However, given the present oil price projections which do not fall below pre-1974 levels, it is likely that Turkey's basic energy strategy will remain unchanged. Nevertheless:

(a) Given lead times of four-six years for capital intensive projects in the industry and power sectors, the reference comparator for use in project analysis is anticipated prices in 1991; when oil prices are expected to have rebounded to around US$14/barrel (1984 prices) equivalent in real terms to oil prices in 1978. Furthermore oil prices would need to fall to about US$10/bbl (1984 prices) and remain at that level before competing, on a comparative energy basis, with coal.[1/]

(b) Dual firing (e.g., oil/coal) may gain greater prominence especially where its incremental cost is low and is an option worth evaluating, for example, in the case of the proposed imported coal fueled power stations.

1/ On the basis of the Bank's latest oil and coal price projections.

(c) Marginal capital intensive energy conservation activities such as industrial retrofitting may need reevaluation - a relatively simple project analysis - on both grounds of scheduling and viability. Preliminary analysis of selected energy audits in Turkey indicate however that energy conservation remains economically viable even under continued low oil prices.

(d) The timing and costs of investments in the exploration and development of indigenous oil and gas reserves may be affected.

(e) Given the considerable uncertainty of future price movements, risk and uncertainty should become recognized explicitly as an issue in the context of subsectoral planning.

3. The impact of oil price declines on end users will remain a function of Government domestic petroleum product pricing policy. For energy intensive users such as TEK the new prices, had they occurred in 1985 and been passed on to TEK, would have resulted in a decrease in overall operating expenses of about 10%, equivalent to 8% of the investment program for that year.[1/] The Government is reviewing its future domestic petroleum product pricing policy taking into account future expected international price movements, impact of energy prices on comparative advantage of the industrial sector, and fiscal policy.

1/ Despite the fact that TEK has commissioned no new fuel oil fired plants in the last seven years fuel oil still represents in value 54% of TEK's total fuel bill and 20% of real operating costs. Internal cash generation as a proportion of total investment would have improved from 32% to 38%.

Attachment 3

The Priority Energy Investment Program 1986-1990

ELECTRIC POWER (TEK, DSI)

Thermal Generation: (a) Complete: Elbistan A; Trakya 1-6; Soma B 3-4; Yeniköy 1-2; Cayirhan 1-2; Kangal 1-2, Yeni Catalagzi, Orhaneli, Seyitomer; (b) Continue Kemerkoy; (c) Drop: Beysehir, Saray..
Hydro Generation. (a) Complete: Tercan, Karacaören, Karakaya, Kapulkaya, Kokluce, Altinkaya, Menzelet, Adiguzel, Gezende, Kilickaya; (b) Continue: Ataturk, Kayraktepe, Boyabat; Drop: Dogu Karademiz.
Transmission - 380 KV lines: Osmanca - Bogazatla; Sincan-Oswanca; Elbistan-Sincan; Kayabasi-Cankin; Karakaya-Keban; Yatagan-Izikler; Cankin-Osmanca; Karakaya-Erzin; Karakaya-Diyakbakir.
Distribution - Ankara, Istanbul, Izmir to receive at least 30% of allocation for distribution. Level of expenditures at least TL 100 billion (1985 prices).
Village Electrification - no real increase in expenditures for Village Electrification. Focus on completion of ongoing projects in Eastern provinces.
Other Investment - priority for maintenance and rehabilitation, specialized vehicles, new headquarters building.

LIGNITE (TKI)

Ongoing Projects: Elbistan A; Beypazari (Cayirhan); Bursa (Orhaneli); Tuncbilek; Sivas (Kangal); Soma Isiklar; Soma Denis; Seyitomer 4; Milas Sekkoy (Yenikoy); Tinaz Bagyakar (Yatagan 3); Mugla-Husanslar (Kemerköy).
New Projects: no new projects but continued funding for rehabilitation and maintenance of existing ongoing mines (exact requirements to be determined by ongoing study). Note: name of associated power plant is given in parentheses.

OIL AND GAS (TPAO, TUPRAS, BOTAS)

Refineries - TUPRAS to undertake investment analysis to ascertain costs of correcting current and projected refinery configuration imbalances. Options include: (a) increased throughput under existing refinery operation; (b) installation of secondary conversion; (c) offshore processing.
Pipelines - Yarmutalik - Kirikkale crude oil line; Iraq-Turkey 2nd. crude oil line; Thrace gas pipeline (Phase 1 Istanbul/Gemlik).
Exploration - Bati Raman; equipment renewal; geological/geophysical surveys; well drilling and well services.

CONSERVATION (EIE, MENR)

Industry - key industries such as ferrochrome, aluminium, copper, glass, fertilizer, cement to be audited for energy efficiency and investment requirements assessed.

TUR BALANCE OF PAYMENTS, EXTERNAL CAPITAL, AND DEBT /a
(million US$ at current prices)

MR Stern
TURKEY
for HC Meeting
RC 11/4

Population: 49.4 million (1985)
GNP Per Capita: US$1130 (1985)

	Actual					Estimate	Projected				
	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
BALANCE OF PAYMENTS											
Net exports of goods & NFS	-3491	-1906	-2332	-2296	-1881	-2239	-2047	-2068	-1833	-1591	-1728
Exports of goods & NFS	5366	6980	6889	8590	9958	9731	10835	11998	13258	14645	16318
Imports of goods & NFS	8857	8886	9221	10886	11839	11970	12882	14066	15091	16236	18046
Workers' remittances	2490	2140	1513	1807	1714	1500	1538	1584	1631	1680	1764
Net transfers	16	105	236	229	236	250	250	250	250	250	200
Current account balance	-1919	-935	-1898	-1407	-1013	-1594	-1532	-1556	-1394	-1148	-1452
Direct private investment	95	55	46	113	99	150	160	170	185	200	200
Public M&LT (gross) /b	1645	1833	1792	1794	783	3340	3776	4121	4187	4370	4572
Amortization on M&LT /b	-1220	-1603	-1928	-1549	-1563	-2175	-2261	-2843	-3140	-3630	3362
Public M&LT (net) /b	425	230	-136	245	-780	1165	1515	1278	1047	740	1210
Other capital /c	1394	818	2140	983	1969	48	222	348	396	460	400
Change in reserves (- = increase)	5	-168	-152	66	-275	231	-364	-240	-234	-252	-358
International reserves	1726	2027	2253	3899	3655	3610	3974	4214	4447	4699	5057
Reserves as months of imports	2	2	2	4	3	3	3	3	3	3	3

	Actual					
	1980	1981	1982	1983	1984	1985
GROSS DISBURSEMENTS						
Gross disbursements	2335	2203	2309	1788	2527	2713
Official grants	-	300	200	150	-	-
Concessional	807	612	437	380	331	292
Bilateral	747	586	408	354	308	258
IDA	0.3	-	-	-	-	-
Other multilateral	60	26	29	26	23	34
Non-concessional	1528	1291	1672	1258	2196	2421
Official export credits	294	274	255	152	560	545
IBRD	313	454	500	486	628	616
Other multilateral	141	161	190	130	191	98
Private	780	402	727	490	817	1162
EXTERNAL DEBT						
Debt outstanding and disbursed	15439	15710	16226	15685	16112	17831
Official	10101	10591	11055	10796	11064	12542
IBRD	1158	1546	1962	2336	2823	3293
IDA	189	188	187	184	181	177
Other	8754	8857	8906	8276	8060	9072
Private	5338	5119	5171	4889	5048	5289
Debt outstanding including undisbursed	19014	19490	19199	19400	20516	23379
DEBT SERVICE						
Total debt service /d	881	1689	2253	2281	2286	3503
Payments	434	734	1135	1130	1164	2249
Interest	447	955	1118	1151	1122	1254
Total debt service as % exports of GNFS + workers' remittances	16.5	21.5	24.7	27.1	22.0	30.0
Average interest rate on new loans (%)	8.4	7.5	10.1	8.4	9.5	8.7
Official	6.0	6.4	9.1	7.9	8.2	7.9
Private	16.8	13.0	13.4	9.4	11.1	9.3
Average maturity of new loans (years)	15.9	15.3	13.6	14.0	12.3	11.1
Official	18.9	16.7	15.6	17.5	14.7	16.0
Private	5.5	7.6	6.7	6.5	9.3	6.9
BANK GROUP EXPOSURE (%)						
IBRD DOD/total DOD	7.5	9.9	12.1	14.9	17.5	18.5
IBRD disbursements/total gross disbursements	13.4	20.6	21.7	27.2	24.9	22.7
IBRD debt service/total debt service /d	15.1	9.7	9.3	12.0	14.9	11.7
IDA DOD/total DOD	1.2	1.2	1.2	1.2	1.1	1.0
IDA disbursements/total gross disbursements	-	-	-	-	-	-
IDA debt service/total debt service /d	0.3	0.2	0.2	0.2	0.2	0.2

	As % of Debt Outstanding at End of Most Recent Year (1985)
TERMS STRUCTURE	
Maturity structure of debt outstanding (%)	
Maturities due within 5 years	53.8
Maturities due within 10 years	80.5
Interest structure of debt outstanding (%)	
Interest due within first year	5.8

/a All entries on external capital debt section are defined as in the Bank's Debtor Reporting System (only public and private guaranteed M&LT debt).
/b Includes private guaranteed and non-guaranteed debt and grants. For 1981-84, includes rescheduled debt.
/c Includes errors and omissions, other long-term capital, short-term and unidentified capital inflows for historical period. For the projected period, includes short-term and net IMF only.
/d Takes account of debt relief due to debt rescheduling, and excludes interest on short-term debt and private non-guaranteed debt.

Table 3.1: PROJECTION ASSUMPTIONS (BASE CASE A), 1986-95

	1985	Projection 1986	1987	1988	1989	1990	1991-95
	(Real Growth Rates, at 1985 Constant Prices)						
GDP at market prices	5.1	7.7	4.0	4.6	5.4	5.7	6.0
Agriculture	2.8	7.1	2.5	2.5	3.0	3.0	3.5
Industry	5.5	10.8	4.5	5.1	6.4	6.8	7.6
Other	4.3	6.3	4.3	5.0	5.6	6.0	5.7
Fixed Investment	10.6	10.2	5.6	5.9	6.4	6.7	7.3
Public	13.3	11.0	3.5	3.5	4.0	4.0	4.0
Private	7.8	9.0	9.0	9.5	10.0	10.5	11.0
Exports of goods	10.1	-5.6	6.6	6.9	7.0	7.0	7.4
Imports of goods	7.2	10.5	5.2	5.3	5.8	6.1	6.6
Import elasticity 1/	1.5	1.4	1.2	1.1	1.1	1.1	1.1
Oil prices (US$/bbl)	26.7	15.5	16.0	18.0	18.0	18.0	22.0
LIBOR (%)	8.6	7.3	8.2	8.5	8.5	8.5	7.0
Fixed investment/GNP (%)	19.0	19.5	19.8	20.0	20.2	20.4	20.6

1/ Growth of imports of goods and non-factor services with respect to GDP growth.

Source: Government of Turkey, Bank projections.

Table 3.2: BALANCE OF PAYMENTS AND EXTERNAL DEBT PROJECTIONS-BASE CASE "A", 1986-95
(Billions of US$)

	1986	1987	1988	1989	1990	1995
Exports (FOB)	7.9	8.8	9.6	10.6	11.6	20.0
Imports (FOB)	11.0	11.9	13.0	13.9	15.0	25.7
Trade balance	-3.1	-3.1	-3.4	-3.3	-3.4	-5.7
Interest payments	1.9	2.2	2.4	2.5	2.7	3.4
Workers'remittances	1.5	1.5	1.6	1.6	1.7	2.1
Current account balance	-1.6	-1.5	-1.6	-1.4	-1.1	-2.0
Total debt outstanding and disbursed	27.9	30.0	31.7	33.1	34.3	44.1
Reserves (Excl. gold)	2.5	2.8	3.0	3.2	3.5	5.7
Net debt/GNP (%) 1/	43.2	43.9	43.4	42.2	40.0	32.0
Net debt/Exports (%)	216.4	210.7	202.1	192.5	181.4	134.5
Debt service ratio 2/	40.0	39.3	40.9	39.3	38.6	27.6
Interest /Exports (%)	16.5	17.9	17.4	16.8	16.1	12.4
Current account /GNP (%)	-2.8	-2.6	-2.5	-2.1	-1.6	-1.7

1/ Net debt defined as total debt minus foreign exchange reserves of the Central Bank and commercial banks.
2/ Numerator includes interest on short-term debt and denominator includes exports of goods, non-factor services and workers remittances.
Source: Bank projections.

Key Assumptions for Base Case A

1. Export volume growth averages 6.5-7% during 1987-90, 7-7.5% during 1991-95, assuming export recovery in 1987 from its poor performance this year.

   - Embodied in this assumption are further assumptions of:

      a) Constant real effective exchange rate for exporters, i.e. if export studies are reduced, the real exchange rate would depreciate sufficiently to fully compensate exporters (about 2% per annum).

      b) Sustained OECD economic growth at about 3.0% through the projections period. A slow recovery of exports to the Middle East.

2. Lower growth path is assumed through stabilization period (i.e. through 1988). Real GNP growth of 4% in 1987, increasing to 5.7 percent in 1990.

3. Workers remittances to grow by about 4.1% in nominal dollar terms.

4. Import elasticity of 1.1 to 1.2, assuming continuation of import liberalization.

5. LIBOR and oil prices as in Table 3.1.