The outlook for fuels in a net zero pathway

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The world is still far from putting emissions into decisive decline.

There remains significant near-term uncertainty about how emissions evolve in the aftermath of the pandemic, but unless recoveries are sustainable, the world will remain a long way from realising climate targets.
Between 2020 and 2050, demand for coal falls by 90%, oil by 75%, and natural gas by 55%. Some fossil fuels are still used in 2050 in the production of non-energy goods, CCUS, and hard to abate sectors.
New oil and gas fields are no longer required in this pathway…

Once fields under development start production, all upstream oil and gas investment is spent on maintaining production at existing fields.
Increased reliance on OPEC and other producer economies suffering from falling oil and gas revenues could pose a risk to supply security in consuming countries.
Low-carbon fuels play an important role

Increases in low-emissions solids, liquids and gases from bioenergy, hydrogen and hydrogen-based fuels offset some of the declines in coal, oil and natural gas.
CCUS and non-combustion underpins remaining fossil fuel use in 2050

More than 30% of fossil fuel use in 2050 is not combusted and so does not result in direct CO2 emissions, around 50% is paired with CCUS.
Hydrogen sees broad based growth in a net zero pathway

Hydrogen production jumps sixfold by 2050, driven by water electrolysis and natural gas with CCUS, to meet rising demand in shipping, road transport and heavy industry.
The IEA’s NZE in 2050 compared with IPCC net-zero scenarios

The IEA NZE scenario uses more renewables, energy efficiency, and hydrogen – and less CO2 capture, negative emissions and bioenergy – than IPCC scenarios of a comparable ambition.