Solutions to Closing the Electricity Access Gap: Mini Grids

Despite significant progress, 840 million people live without electricity today. Hundreds of millions more live without reliable or affordable power.

Without more sustained action, 650 million people will be left without electricity in 2030.

Mini grids have the potential to connect half a billion people:

- **500 million** people mostly in Africa and Asia
- **80%** decrease in upfront cost
- **66%** decrease in electricity cost by 2030
- **20c/kWh** unsubsidized electricity cost by 2030
- **97%** uptime year-long electricity
- **Efficient** Built in less than 6 weeks

Mini grids can bring long-term benefits:

- **Combat Climate Change**: 1.5 billion tons of CO2 emissions avoided through
  - 10-15 GW of solar PV installed and energy efficiency gains
  - 50-110 GWh batteries mostly lithium-ion

- **Promote Inclusive Growth and Human Development**: Through income-generating uses of electricity, micro-finance, and reliable supply for schools and clinics

- **Built to Inter-Connect with the Main Grid**: Easier and more financially viable future grid expansion

Scaling up mini grids will require:

- Access to Finance
- Innovative Technology
- Income-generating use of electricity
- Workable Regulations
- Training and Skill Development
- Community Engagement
- Geospatial & Portfolio Planning
- Private Sector Participation
- Enabling Business Environment
- Private Sector Participation

Financing for mini-grids needs to scale up:

- **Current Investment**
- **Current Pace of Deployment**
- **$5 billion** in Africa and Asia
- **10-50 mini grids built annually per country**
- **$230 billion** needed to build around 225,000 mini grids in high deficit countries
- **1600+ mini grids need to be deployed annually per country**

Source: Mini Grids for Half a Billion People: Market Outlook and Handbook for Decision Makers 2019