



New inequalities and development policy

Carbon, connections, capacity

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UN Committee for Development Policy

Open Session

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25 February 2020

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Energy Access



Renewables



Power Sector



Industrial Sustainability &
Competitiveness



Low-Carbon Pathways



Risks & Adaptation



Technology, Finance & Trade

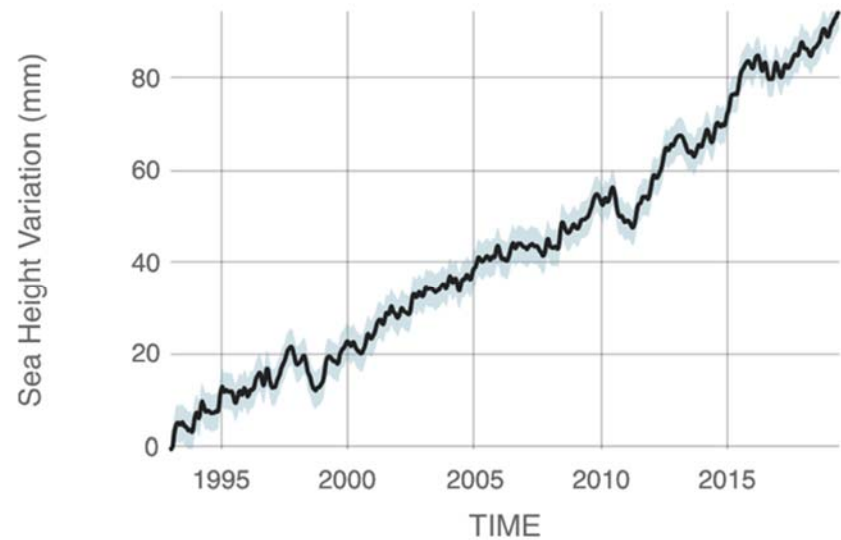
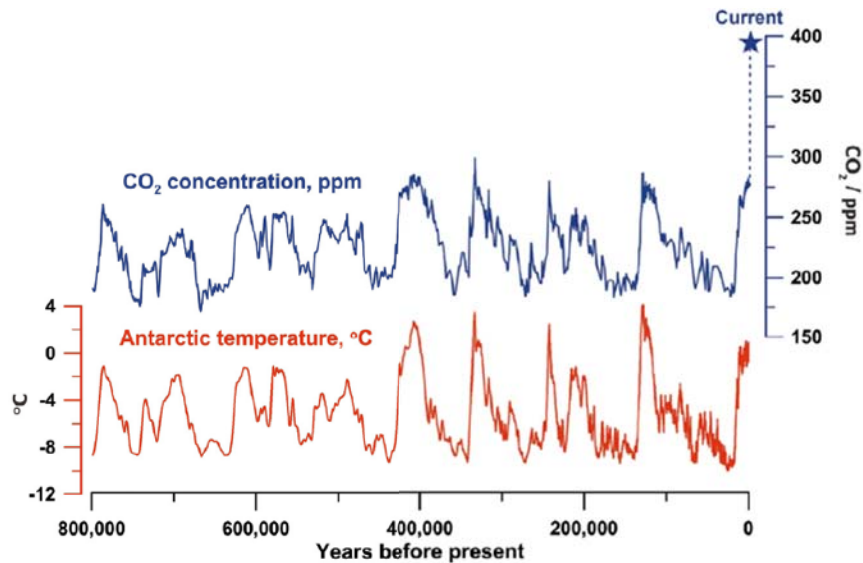


CEEW Centre for Energy Finance

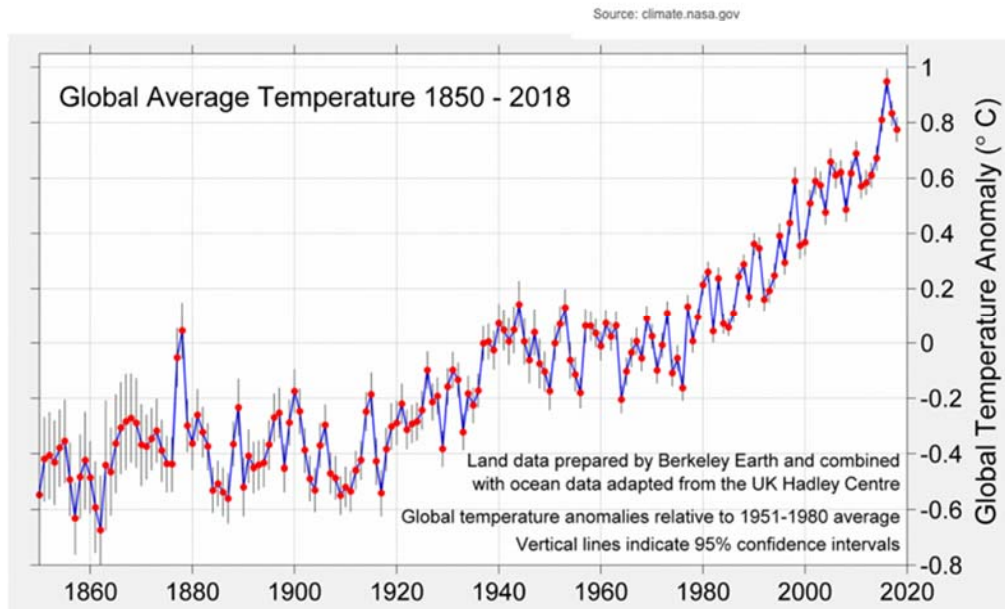


WHAT WILL THE PLANET DO TO US?

A tale in three charts



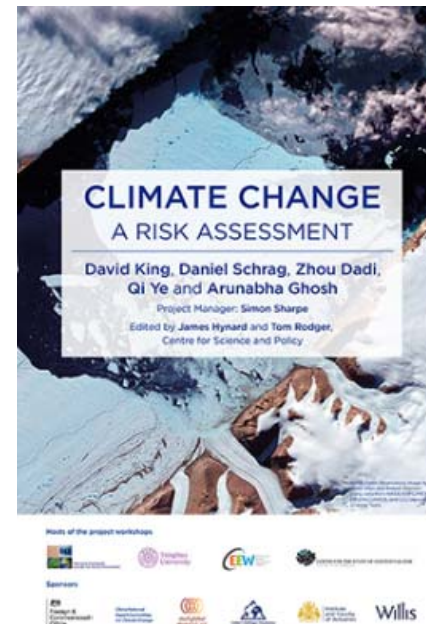
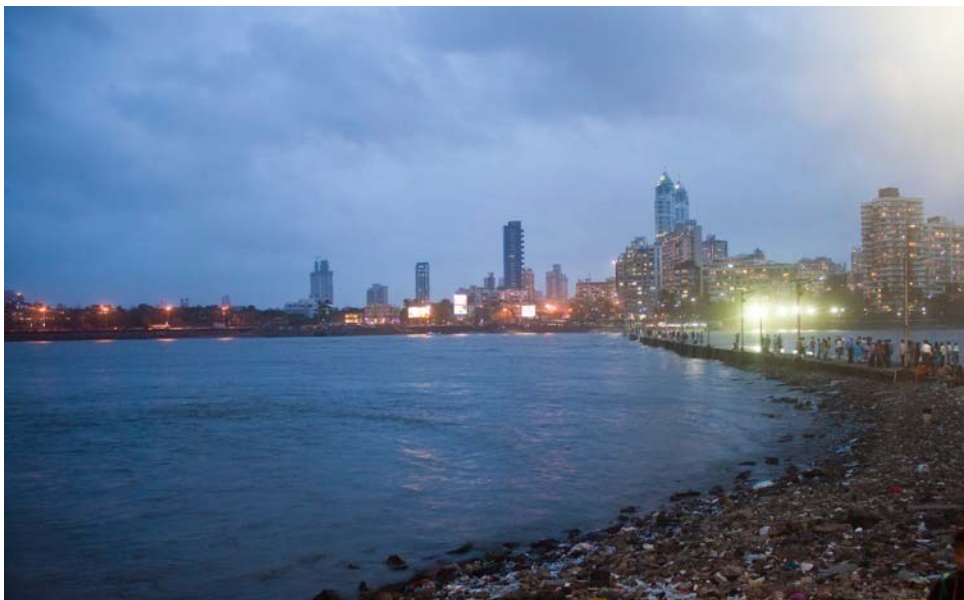
Last 800,000 years changes in Antarctic air temperatures and atmospheric CO₂ concentrations



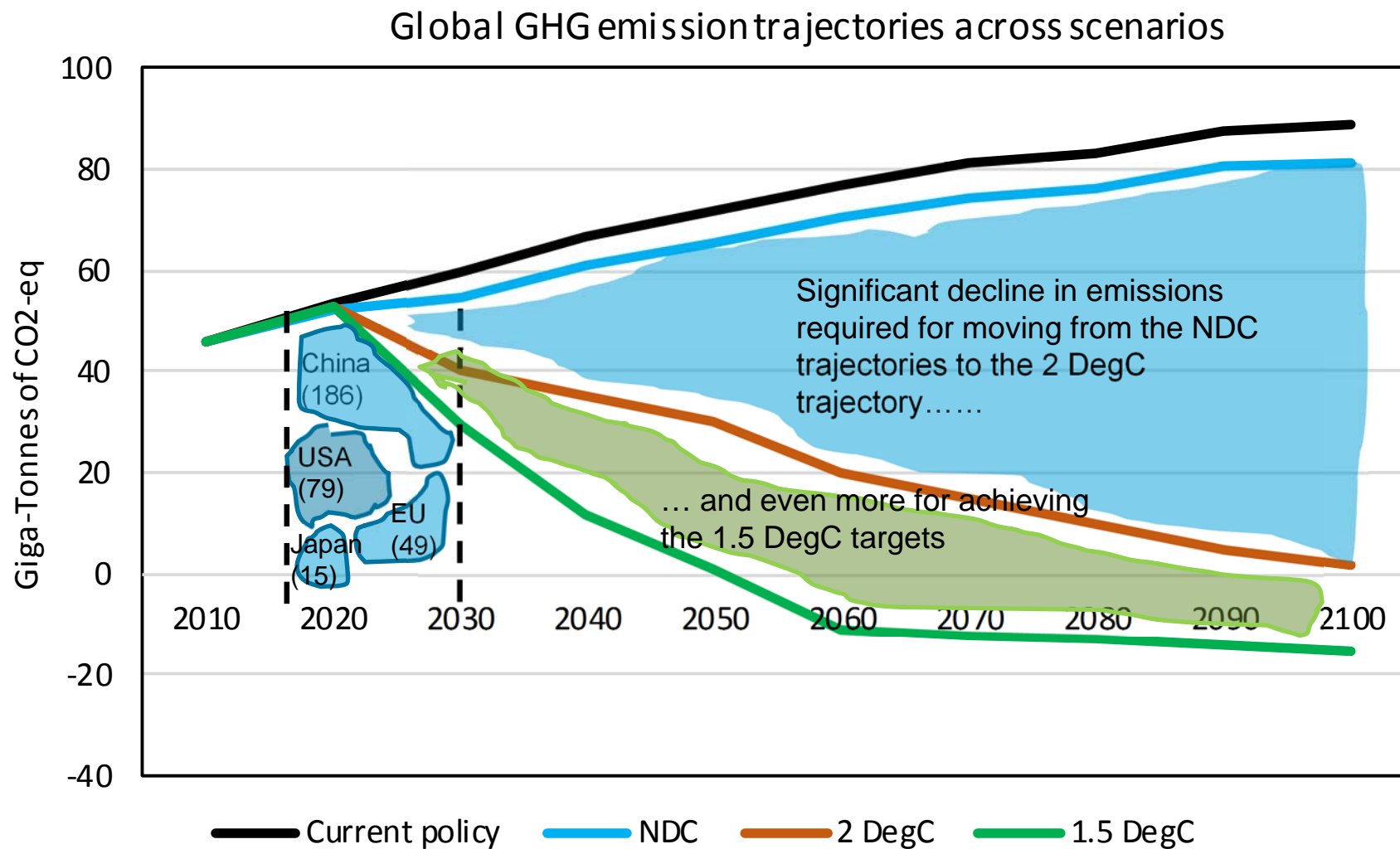
Mean sea levels have risen **3.7 inches in 25 years**; 8 inches since 1880

Average temperatures are **1 degree Celsius** above pre-industrial era

Not everyone's vulnerability looks the same



Carbon budget get consumed by the biggest polluters

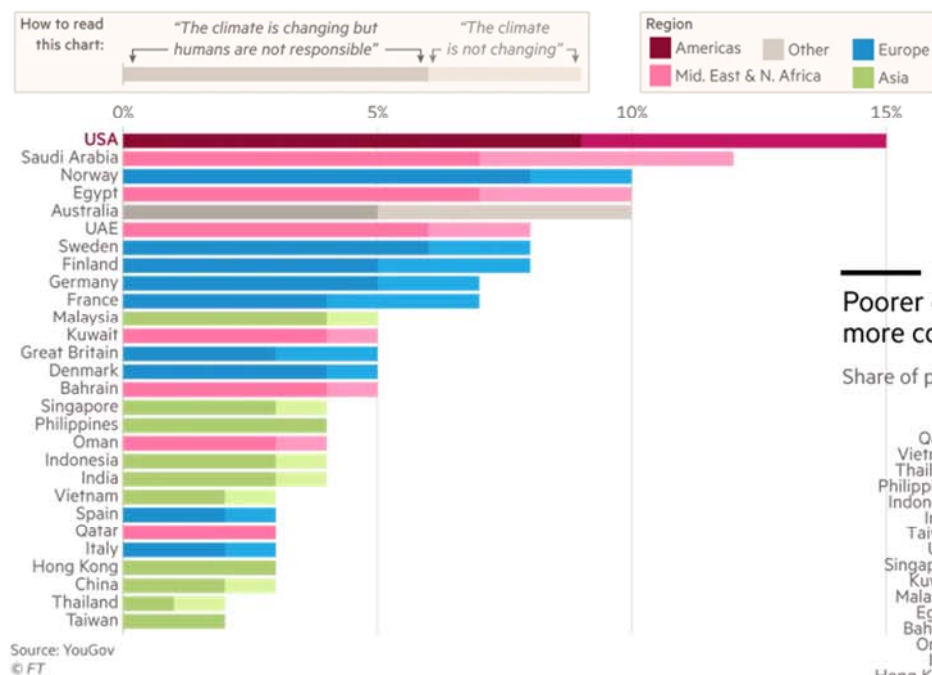


Based on their NDC trajectories, China, USA, EU and Japan will appropriate 49% of global carbon space between 2018 and 2030

Climate sceptics are also climate culprits

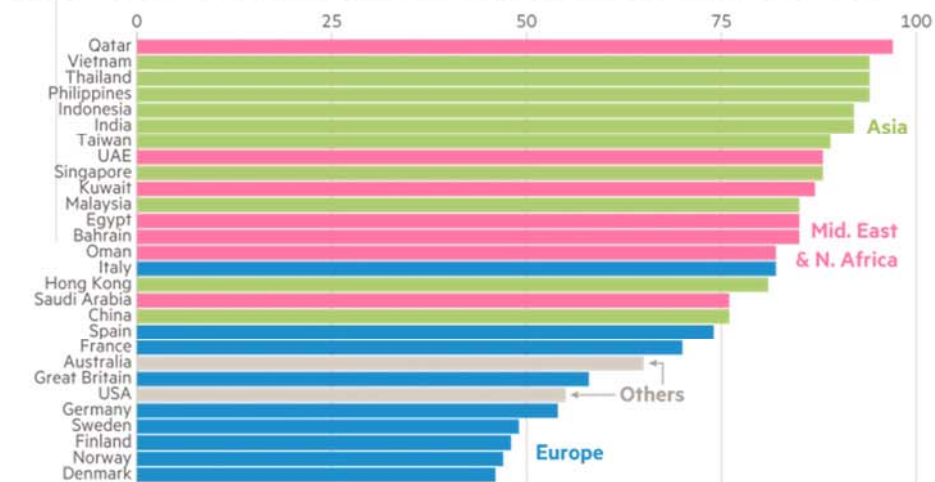
US is most climate-sceptic nation in the world

Share of people who are sceptical of climate change, by level of scepticism (%)



Poorer countries and those more exposed to extreme weather tend to be more concerned about impacts of climate change

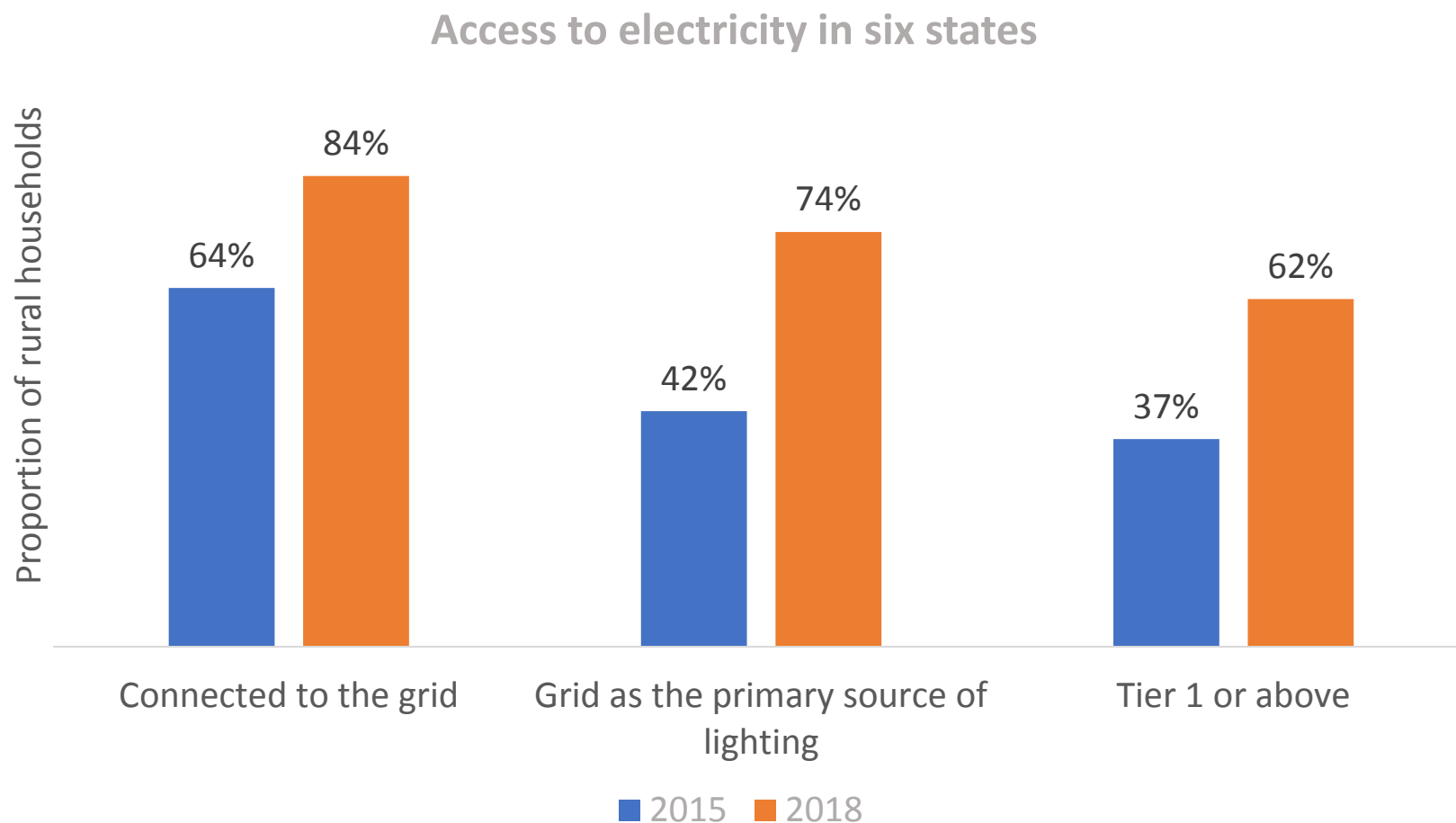
Share of people who believe climate change will have at least a moderate impact on their life (%)





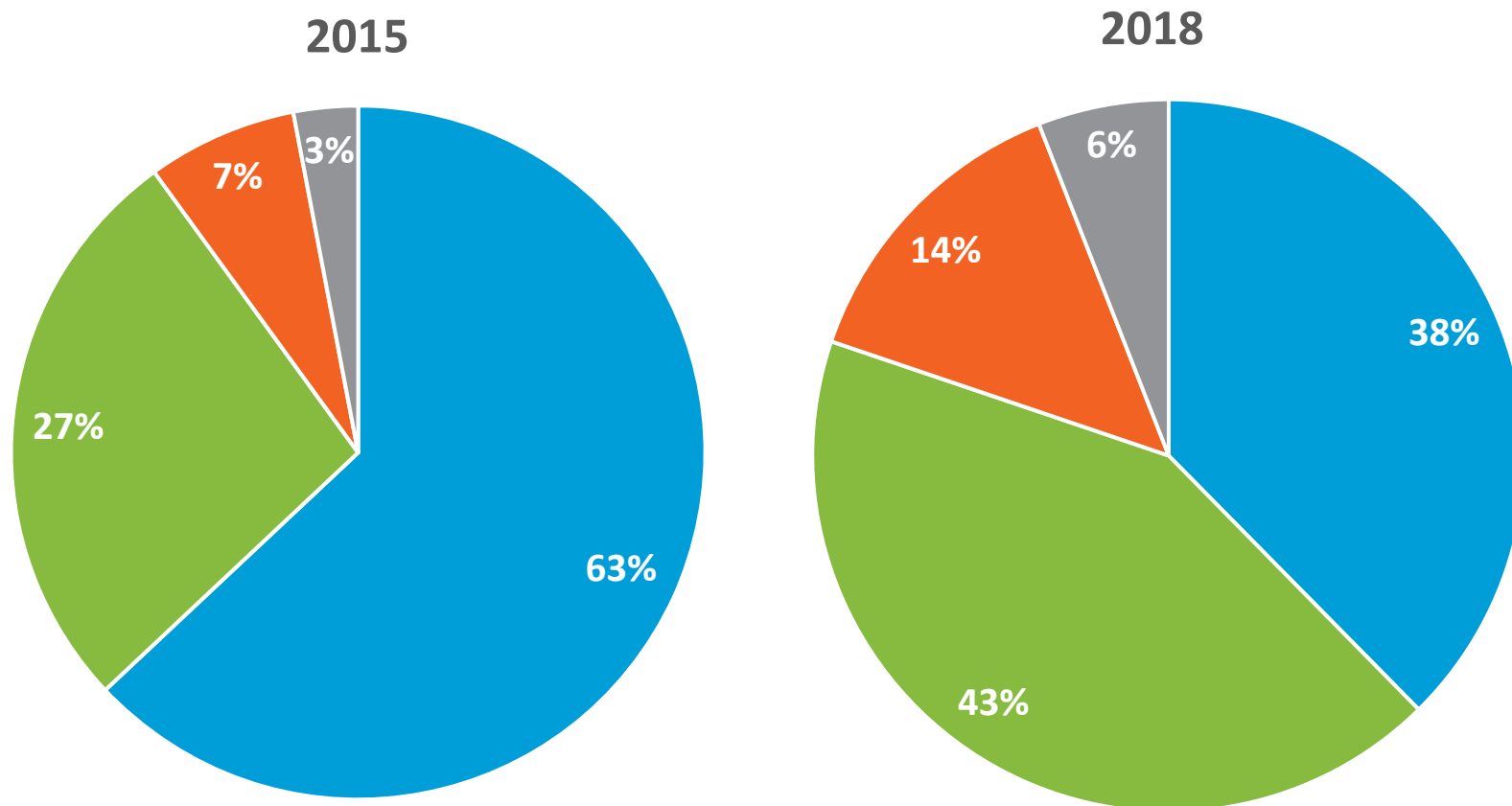
CLEAN ENERGY ACCESS FOR ALL?

118 million have moved out of absolute electricity poverty in 3 years (Past decade 350 million)



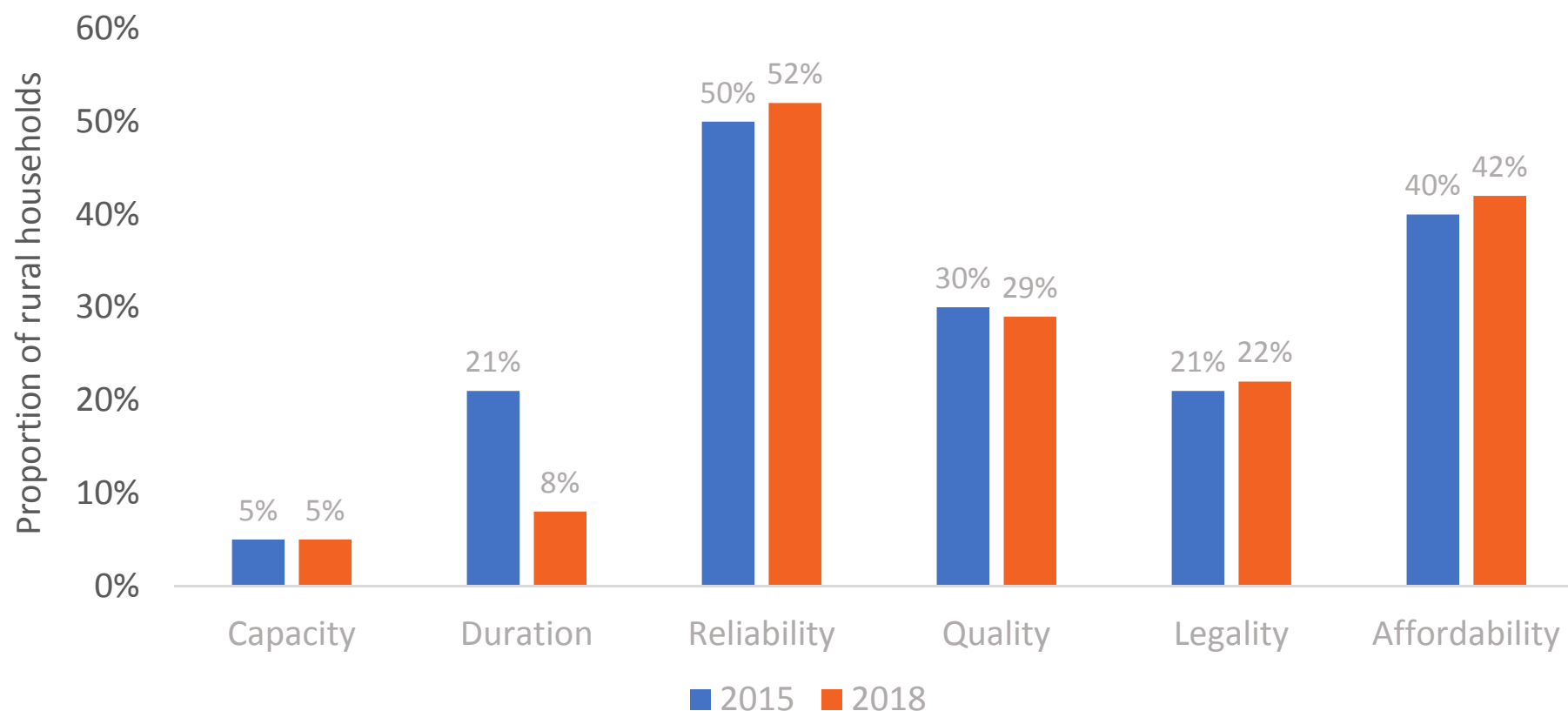
But long way to go; only 20% of rural households in top two tiers

Evolution in Electricity Access

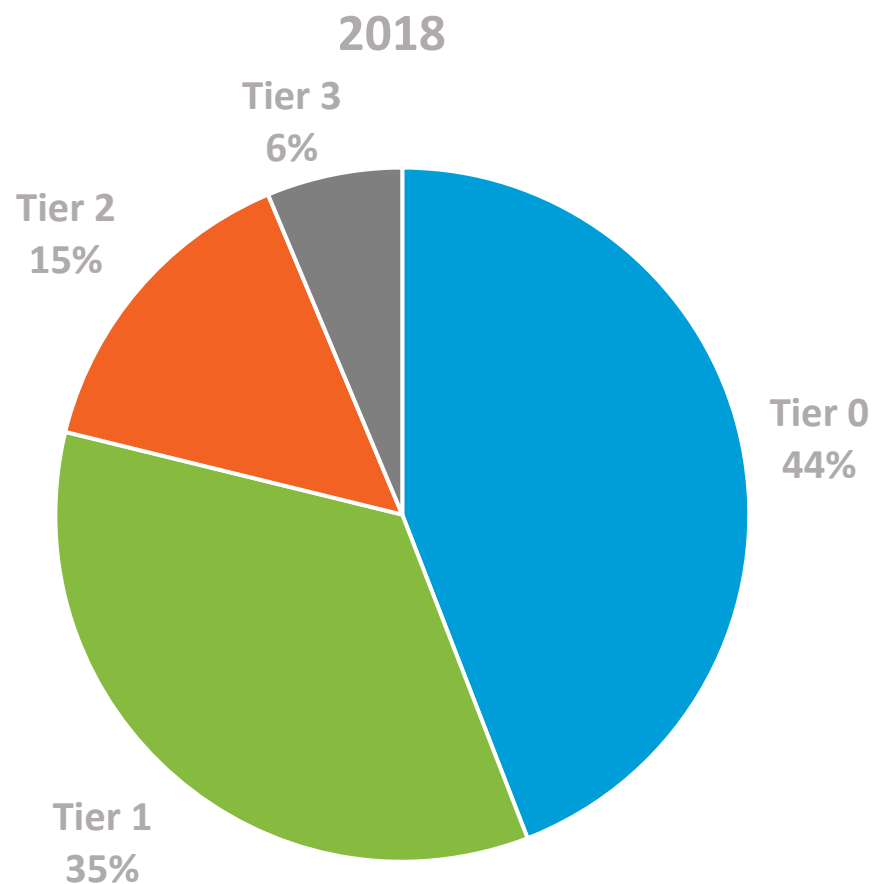
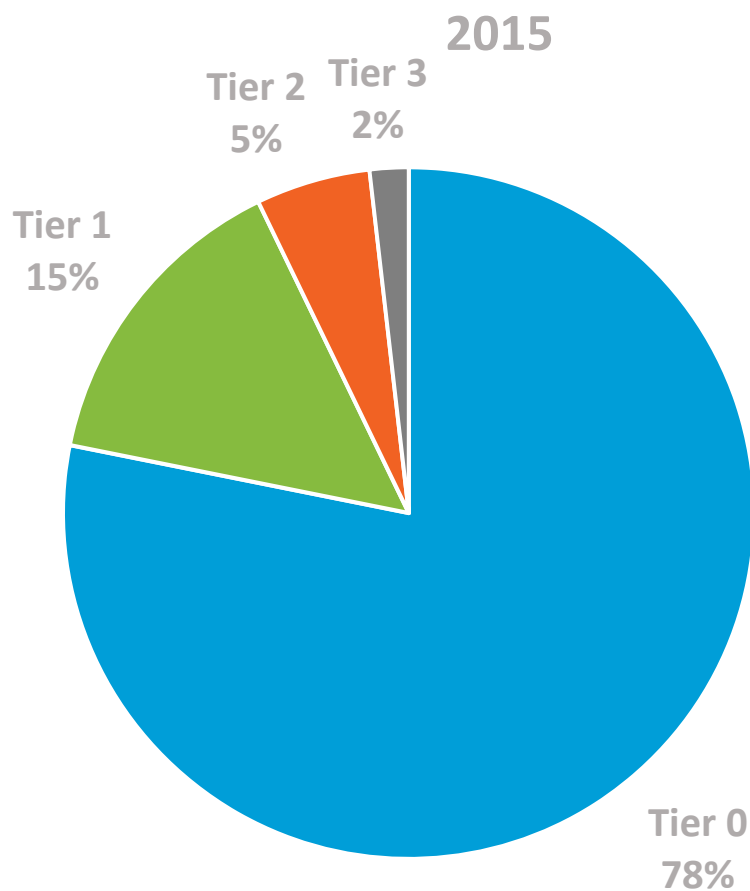


Duration of supply has improved, but reliability remains a concern

Bottlenecks in electricity access faced by Tier 1 households



160 million have gained access to clean cooking energy in 3 years (Past decade, 700 million)

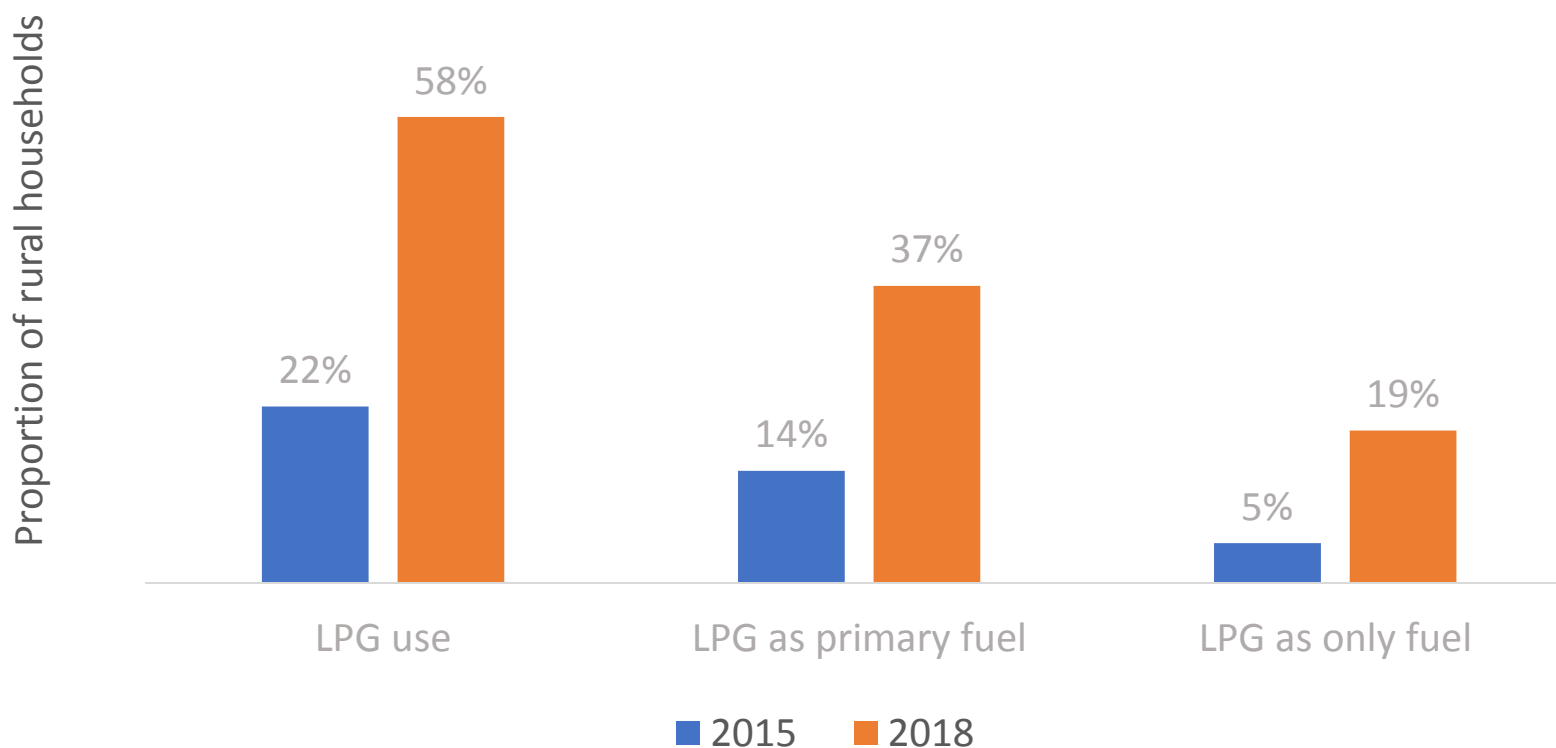


■ Tier 0 ■ Tier 1 ■ Tier 2 ■ Tier 3

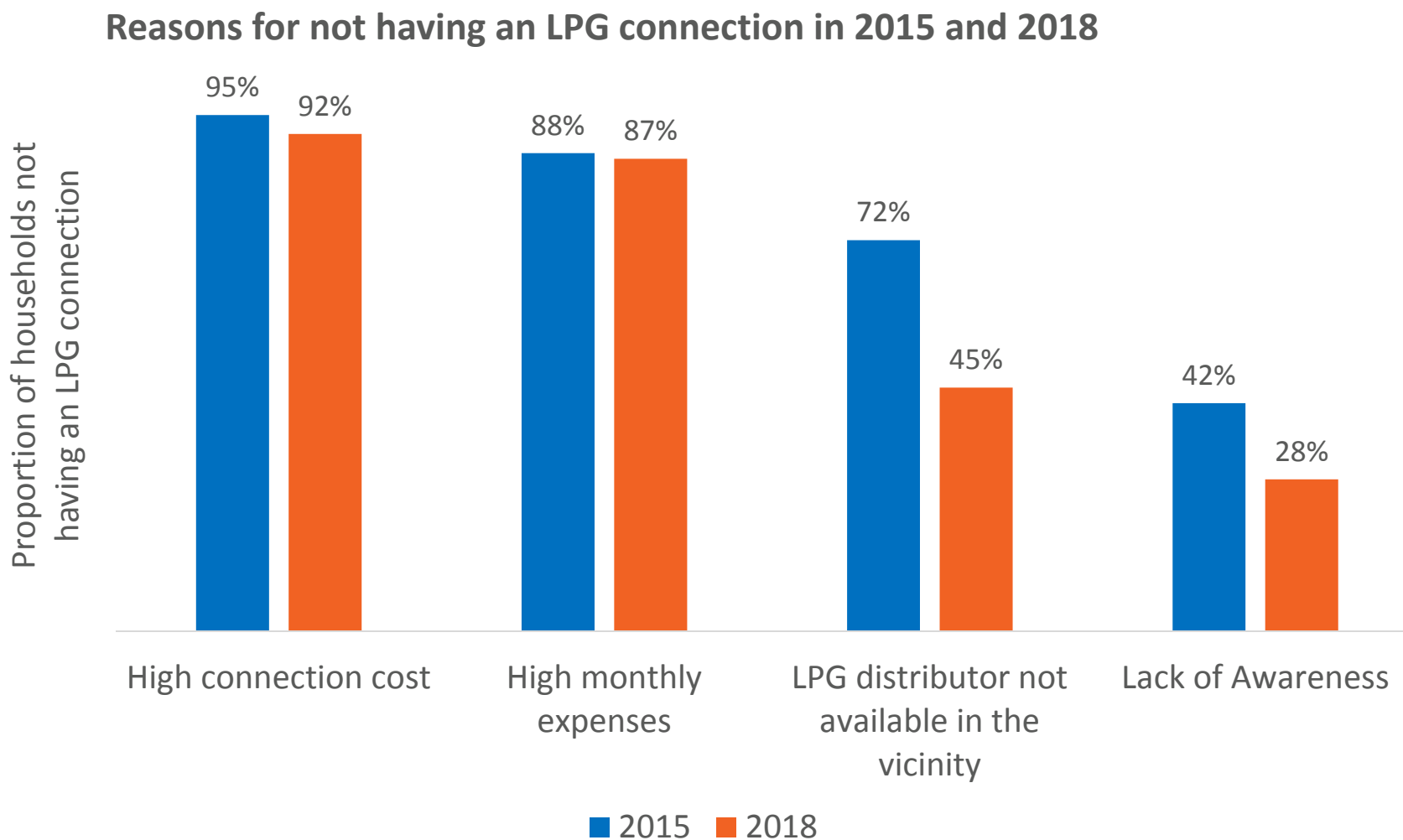
LPG is the driver for all the change, but a long way to go

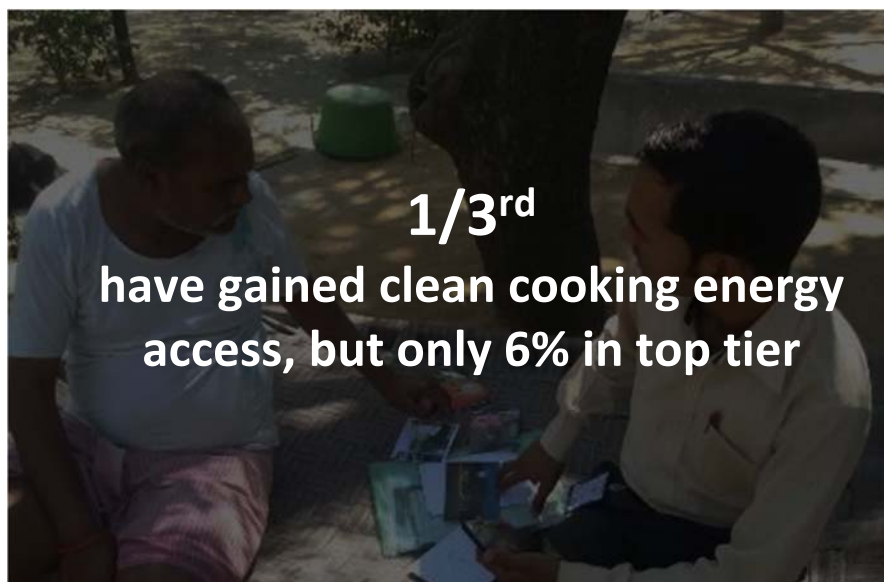
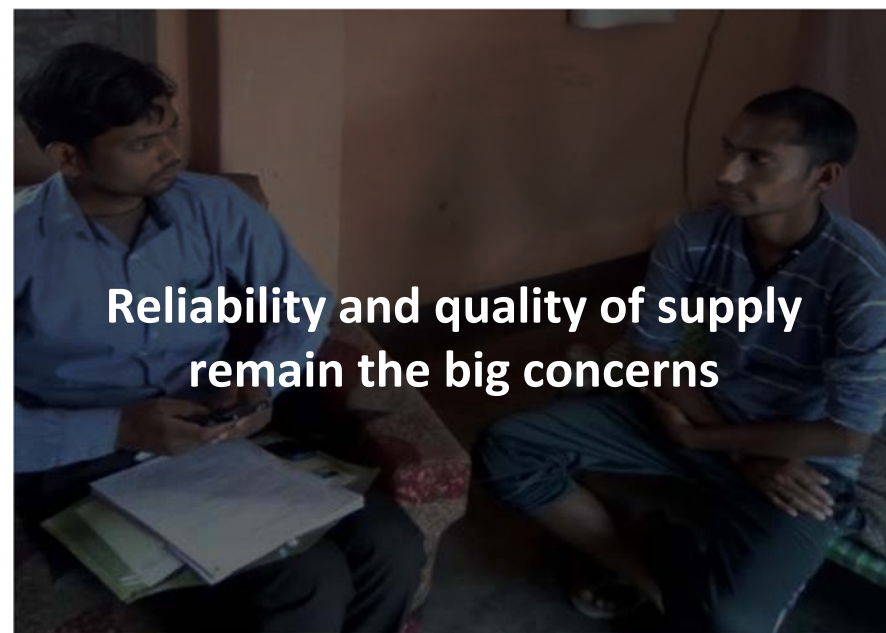
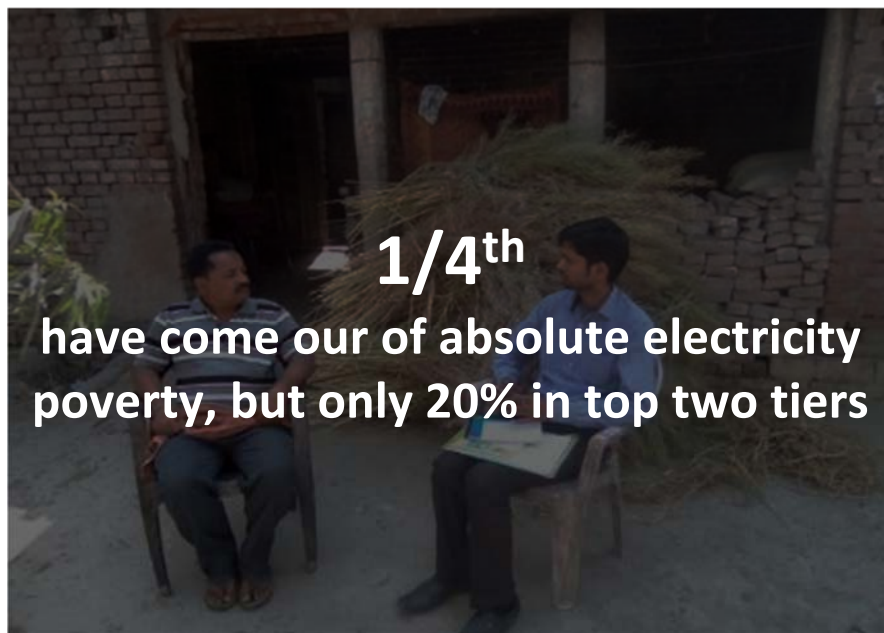
LPG connection and its use as a primary fuel has increased two-fold

LPG adoption and use in rural areas of six major states



Affordability remains the biggest challenge to adopt and use LPG





Clean energy access for livelihoods: a \$50 billion opportunity



Solar-powered paddle loom, Gondal, Gujarat



Solar-powered amber charkha, Gondal, Gujarat



Solar-powered sewing machine, Chitradurga, Karnataka



Solar-powered refrigerator, Chitradurga, Karnataka



Solar-powered milking machine, Chitradurga, Karnataka



Energy-efficient sugarcane juicer, Rajkot, Gujarat



Solar-powered flour mill, Jawhar, Maharashtra



Energy-efficient dal mill, Wardha, Maharashtra

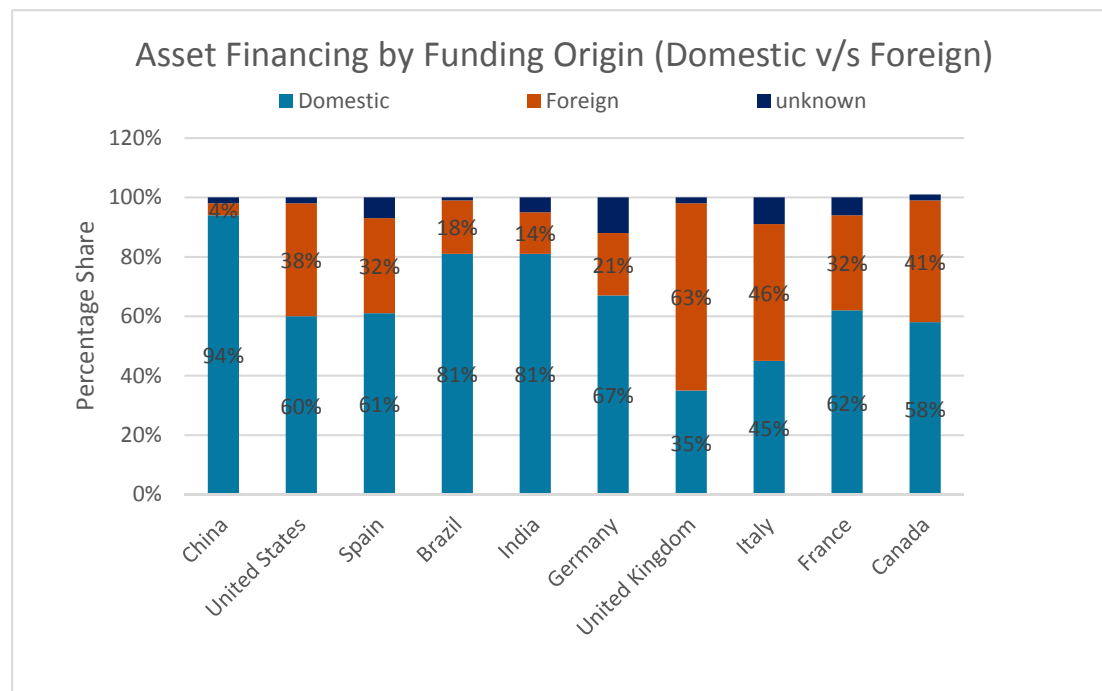
Powering Livelihoods: Clean energy access for productive uses



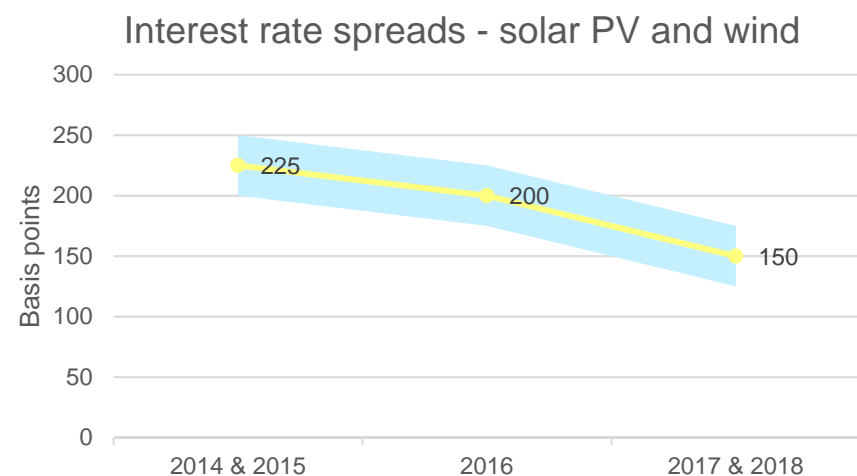
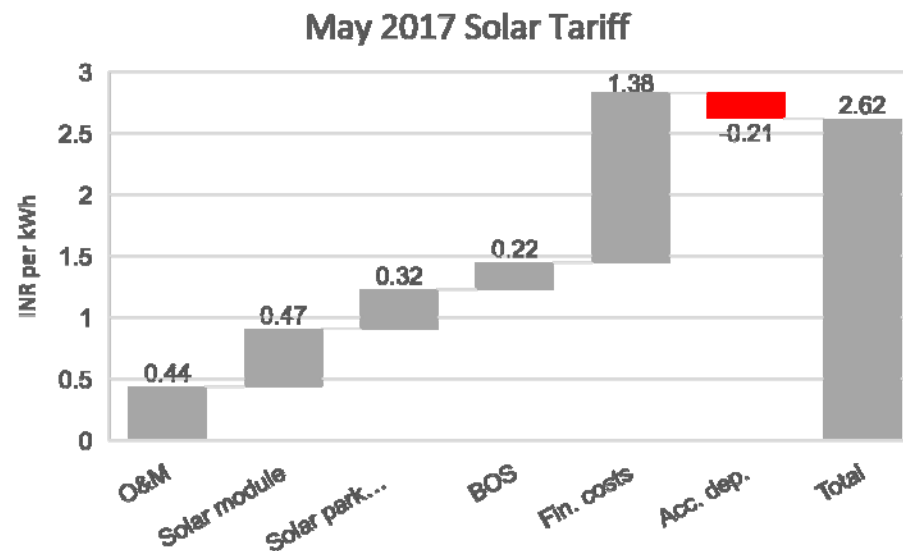
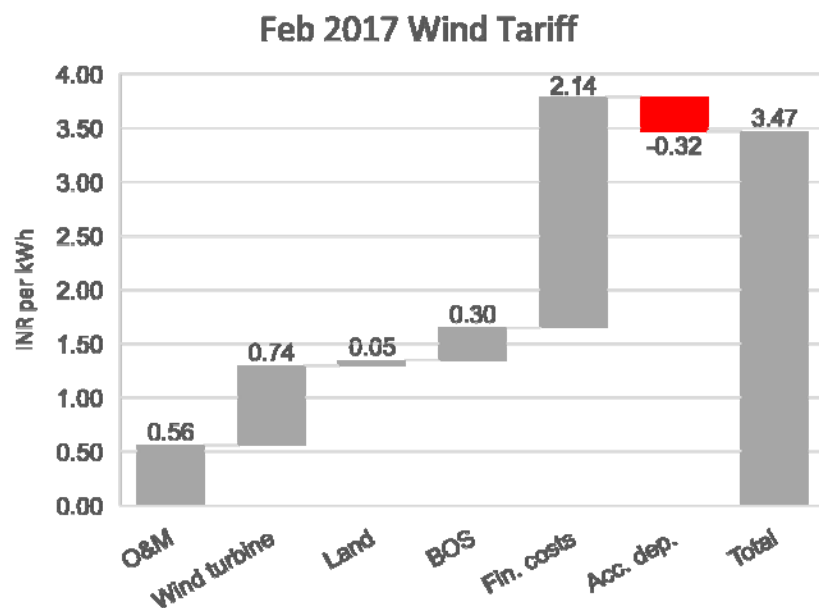


Establishing the mismatch: Capital circulating in capital-rich regions

- In 2018, global energy investment stood at more than USD 1.8 trillion
- Only a third of that, USD 620 billion, was invested in low carbon energy
- 15% of the world's population, got 40% of the world's energy investment in 2018 – in high-income countries
- Energy consumption in developing countries has doubled in the last 15 years, and will grow another 30% in the next fifteen years



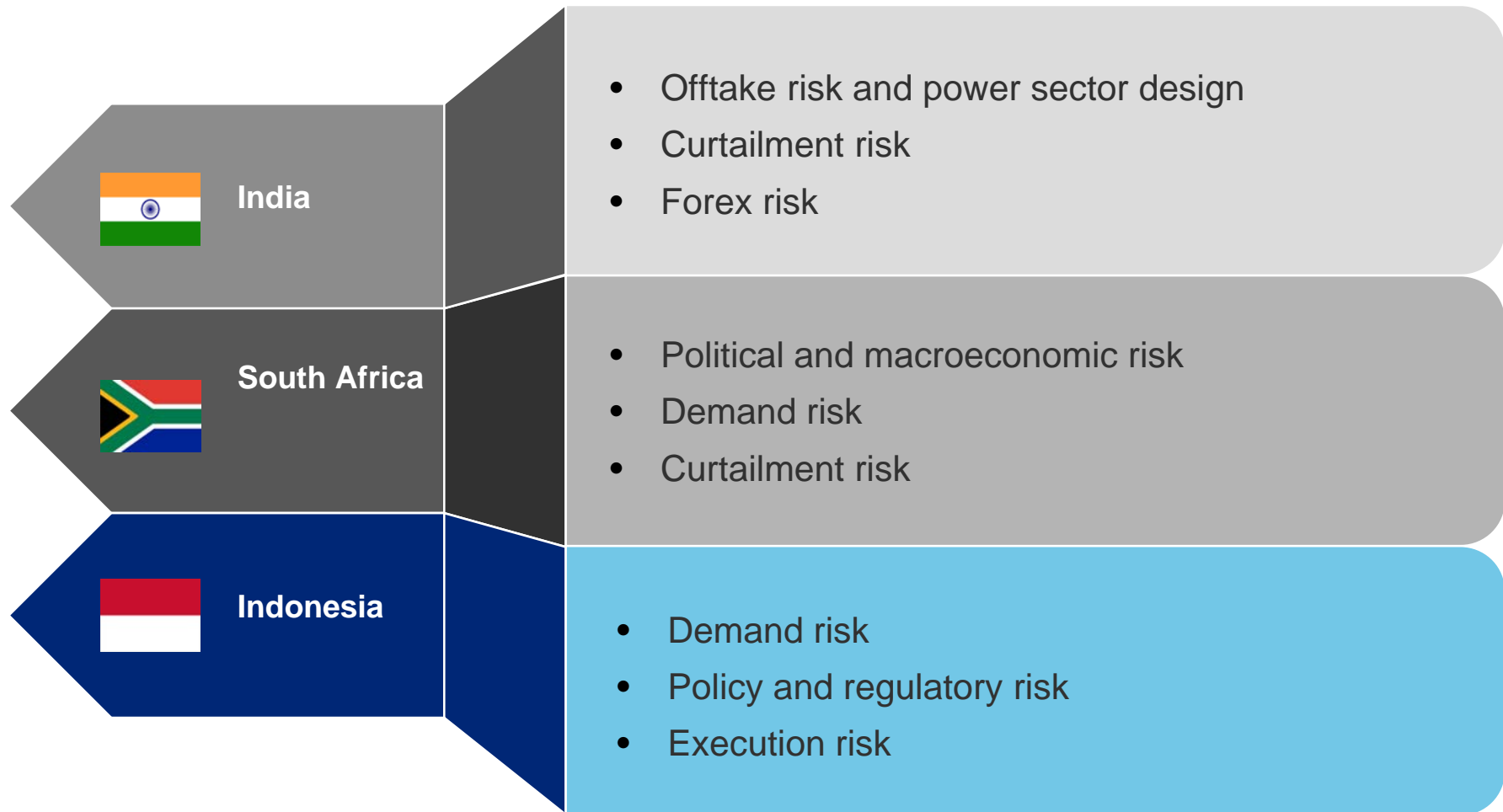
Understanding the mismatch: evidence from India



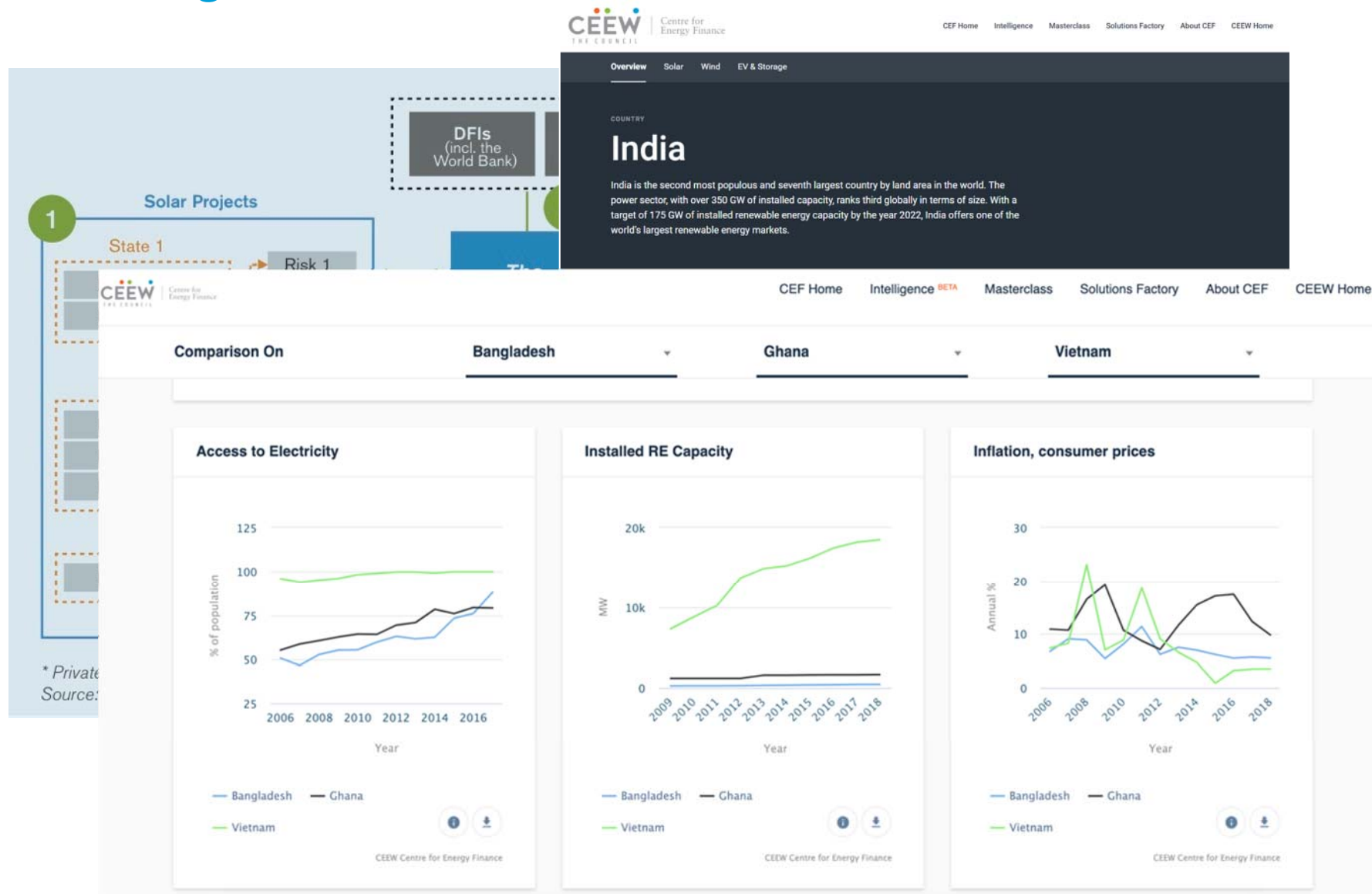
- Financing costs constitute 50-65% of Indian RE tariffs
- PV module/wind turbine costs account for only around 20% of RE tariffs
- Interest rate spreads for lending to RE projects have declined by 75-125 bps from 2014-2018, tariffs from USD 9 cents to 4 cents/kWh

SOURCE: Chawla et al, 2019

Understanding the mismatch: perceived and real risks



Correcting the mismatch: Innovation and information



(In)effective tech partnerships

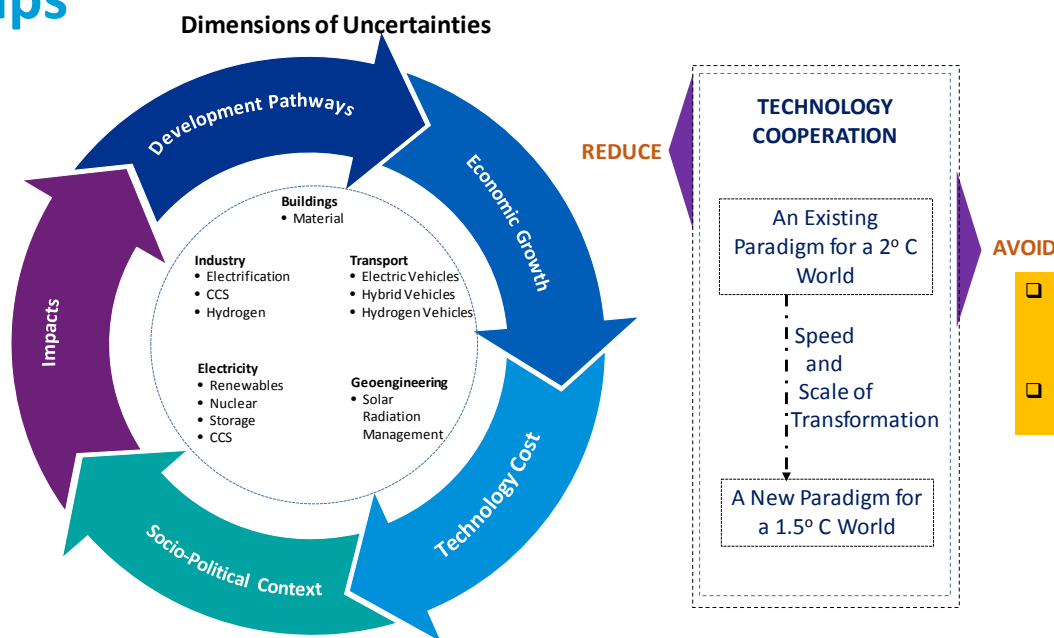
Partnership	Knowledge sharing and coordination	Research, development and demonstration	Technology transfer
Forums for research and policies			
Asia-Pacific Partnership on Clean Development and Climate	✓	X	✓ (Project implementation)
Climate Technology Initiative under the International Energy Agency	✓	✓	✓ (Soft transfer)
Economic Community of West African States Centre for Renewable Energy and Energy Efficiency	✓	X	✓ (Soft transfer)
Global Green Growth Institute	✓	X	X
International Renewable Energy Agency	✓	X	✓ (Soft transfer)
Renewable Energy Policy Network for the 21st Century	✓	X	✓ (Soft transfer)
Forums with a regional focus			
Asia-Pacific Economic Cooperation Energy Ministerial	✓	X	X
Baltic Sea Region Energy Cooperation	✓	X	✓
European Green Cities Network	✓	X	✓ (Demonstration)
Latin American Energy Organisation	✓	X	X
Regional Centre for Renewable Energy and Energy Efficiency	✓	✓	X

Partnership	Knowledge sharing and coordination	Research, development and demonstration	Technology transfer	Deployment mandates, standards and incentives
Renewable Energy Support Program for ASEAN	✓	X	X	X
US-Asia Pacific Comprehensive Energy Partnership	✓	✓	✓ (Soft transfer)	X
Forums for city-level action				
C40	✓	X	✓ (Soft transfer)	X
Cities Development Initiative for Asia	✓	X	X	X
Local Governments for Sustainability	✓	X	X	X
Forums with specific focus				
Carbon Sequestration Leadership Forum	✓	X	✓ (Soft transfer)	X
Clean Technology Fund of the World Bank	X	X	✓	X
Climate and Clean Air Coalition	✓	X	✓ (Soft transfer)	
Climate Technology Centres and Networks	✓	✓	✓ (Soft transfer)	X
EC-ASEAN COGEN Programme	X	X	✓ (Demonstration)	
Global Bio-energy Partnership	✓	X	✓ (Soft transfer)	X
International Framework on Nuclear Energy Partnership	✓	✓	X	X
International Low Carbon Energy Technology Platform	X	✓	X	X
International Partnership for Energy Efficiency Cooperation	✓	X	X	✓
Renewable Energy and Energy Efficiency Partnership	✓	X	X	✓

Effective tech partnerships

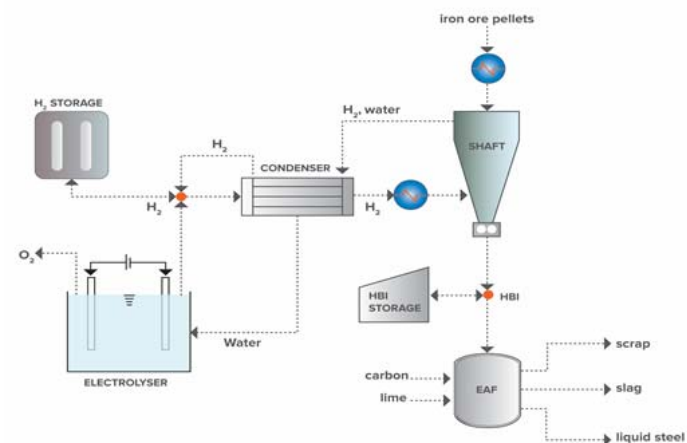
Guiding principles

- Objectives matter
- Prices matter
- Pooling resources
- Innovative finance
- Risk and responsibility
- Voice in governance



Alternative modalities

- Enterprise-driven R&D for tech applications
- Innovation Fund for Low-Carbon Tech
- G20 Platform for Horizon Tech



Thank you
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