

Energy connectivity

The importance of increased energy integration

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Strengthening Subregional Connectivity in East and Northeast Asia
through Effective Economic Corridor Management

7 October 2020



Impact of COVID-19 on energy systems has been dramatic

Every day is Sunday:

- Demand is down in offices, restaurants, public transport...
- For how long depends on infection waves, vaccine development.

Disproportionate impact on fossil fuel generators:

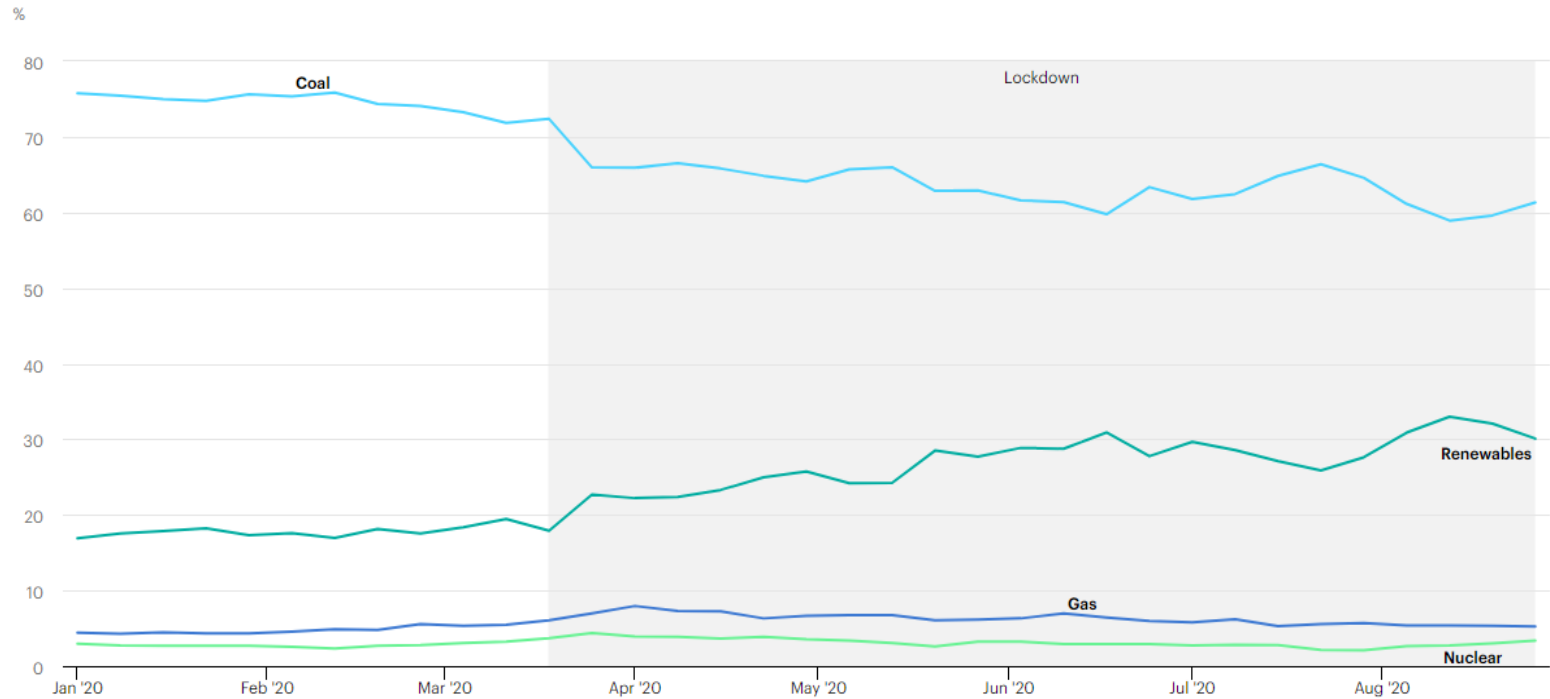
- Renewables output is steady, fossil fuel units absorb the “delta”.
- Profitability declines and older coal units may be facing shutdown/mothballing.

“Postcard from the future” for **high renewables penetration system**:

- Demonstrates how power systems manage sudden increase in variable RE share.



Generation mix before and during lockdown period, India



● Coal ● Gas ● Nuclear ● Renewables

IEA, Electricity mix in India, January-August 2020, IEA, Paris
<https://www.iea.org/data-and-statistics/charts/electricity-mix-in-india-january-august-2020>

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Connectivity: a tool for managing our energy future

Meeting our sustainability objectives means:

- More renewables in our power systems (increased variability)
- Changing shape of demand (efficiency, electrification, demand response)
- Changing fuel mix (natural gas as bridge fuel, renewable gas, “green” hydrogen)

This transformation has implications for:

- Sustainability
 - Cost
 - Security
- The energy trilemma**

Connectivity helps resolve the energy trilemma

Sustainability:

- Connect load centres to regions with high renewable resource potential (often remote)

Cost

- Import lower cost electricity
- Earn revenues through exports

Security

- Increase diversity of supply



Connectivity properly guided: draft ESCAP roadmap for power system integration in Asia

To create a pan-Asian interconnected grid that offers a more reliable, affordable and sustainable electricity supply



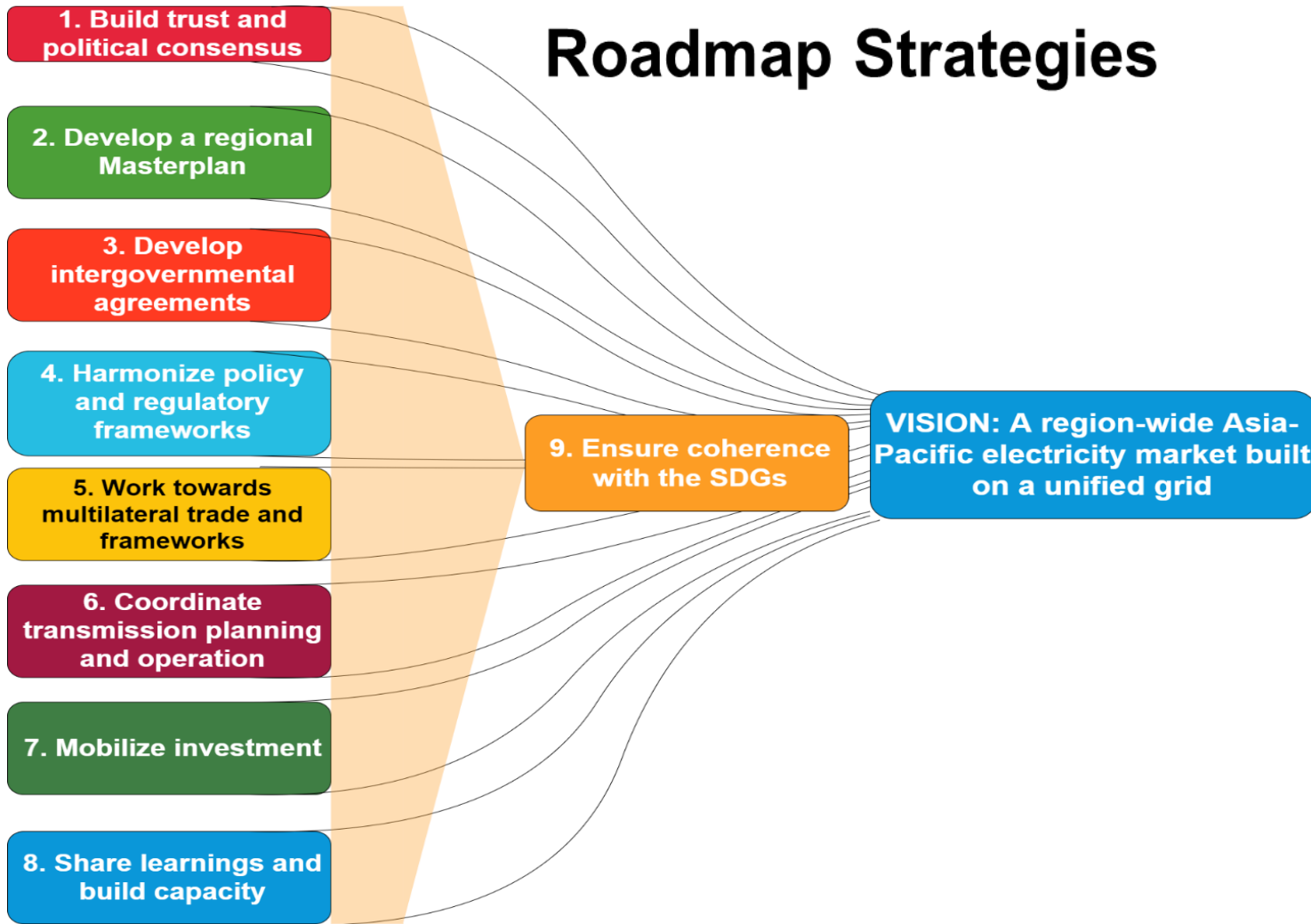
Underpin social and economic development



Assist the move to a low-carbon energy system

- 9 strategies outlined which, together, can support sustainable integration in the region
- Cover issues related to planning, development, and operations

Roadmap Strategies



Final thoughts

- Connectivity is a **tool**, not a goal.
- "Properly guided" means thinking and working **holistically**.
- Connectivity requires **cooperation**.



THANK YOU

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