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Update on Regional Connectivity Activities in Asia

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UN ESCAP work on energy connectivity

ESCAP's Regional Roadmap on Power System Connectivity

Vision, principles and **nine strategies** to guide sustainable connectivity

Planning	• Coordinate cross-border transmission planning • Develop a regional master plan
Financing and development	• Mobilize investment in cross-border infrastructure
Operations	• Move toward multilateral trading and competitive markets • Co-ordinate cross-border system operations
Cross-cutting	• Build trust and political consensus • Develop intergovernmental agreements • Capacity building and sharing of best practices • Ensure coherence of connectivity with the SDGs

https://www.unescap.org/sites/default/d8files/event-documents/CE_2021_4.pdf

Current ESCAP connectivity projects

Capacity building

- **Trainings for regulators and utilities (AERN, HAPUA, others planned)**
- Developing cross-border interconnectors (NE Asia stakeholders)

Sustainable connectivity

- **“Green Power Corridor” in NE Asia (modelling and roadmap)**
- **Harmonising policies and standards for mini-grid integration in island systems (Pacific)**
- Potential for low- and zero-carbon fuels in energy trade (Pacific)

Summary of connectivity activities in Asia

By UN ESCAP sub-region

Connectivity activities in:

South-East Asia

Greater Mekong Subregion (GMS - ADB)

ASEAN Power Grid

- AIMS III (updated and linked to RE deployment)
- LTMS-PIP
- IEA study on multilateral power trading

Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC)

- MOU on regional grid interconnection between some GMS and South Asian

Australia-Singapore Power Link (AAPL)

- Granted “Major Project Status” by Australian gov

Key takeaways:

- Good level of political support but need for increased political alignment
- Regional insitutions play important role but there is limited technical and market harmonisation
- Despite coordinated planning, limited progress on cross-border infrastructure (financing challenge)
- Need for more alignment across initiatives and targeted capacity building

Connectivity activities in:

South Asia

- **South Asian Association for Regional Cooperation (SAARC)**
  - SAARC Framework Agreement for Energy Cooperation (2014)
  - Participation of Nepal on Indian Energy Exchange (2021)
- **South Asia Regional Initiative for Energy Integration (SARI/EI - USAID)**
  - Phase IV: Policy and reg framework; increased interconnection; regional electricity markets
- **CASA-1000 (World Bank)**
  - Links South Asia to Central Asia

Key takeaways:

- South Asia has made significant technical progress but mainly in the form of bilateral integration or multilateral pilots
- Good level of political support but challenges remain
- Regional insitutions present but have limited authority
- Need for increased technical and market harmonisation

Connectivity activities in:

North and Central Asia

Central Asia Regional Economic Cooperation (CAREC - ADB)

- Fostering Expanded Regional Electricity and Gas Interconnection and Trade under the CAREC Energy Strategy 2030
- Modernization of Coordinating Dispatch Center Energiya
- Regional Infrastructure Projects Enabling Facility

Central Asia Regional Energy Market (CAREM - USAID)

- Technical assistance and capacity building to develop a regional power market

Key takeaways:

- Previously integrated grids now fragmented and suffering from underinvestment in cross-border infrastructure (focus on self-sufficiency)
- Regional institutions (e.g. CDC Energiya, Electric Power Council) present but limited technical capacity
- Most power trading is bilateral; technical harmonisation but limited market integration
- Need for increased inter-sectoral coordination, in particular power and water
- Need to better align connectivity efforts with sustainable development goals

Connectivity activities in:

North-East Asia

- **North-East Asia Power System Integration (NAPSI – ADB)**
  - Phase 1: potential for RE development and export from Mongolia
- **North-East Asia Power Interconnection and Cooperation (NEARPIC, ESCAP)**
  - Phase 1: analysis of potential for, and obstacles to, increased power system integration
  - Phase 2: development of “green power corridor” concept
- **IRENA**
  - Paper on Renewable Energy and Electricity Interconnections in NE Asia

Key takeaways:

- Significant potential for increased integration, but currently limited even at bilateral level
- Differing levels of political support driven in part by energy security concerns
- Many existing integration proposals but limited agreement on direction forward
- Lack of regional institutions and formal agreements is an obstacle to progress

Conclusion

Key takeaways for RPTCC stakeholders

- Many connectivity initiatives across Asia
- Limited coordination between sub-regions – opportunity to share lessons and best practices
- South-East Asia is among the most active and advanced sub-regions
- Need for increased coordination across SE Asia connectivity initiatives.
- **ESCAP trainings for ASEAN regulators free and available online. Training for utilities (through ACE and HAPUA) coming soon**


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ESCAP's Regional Roadmap on Power System Connectivity

Vision, principles and **nine strategies** to guide sustainable connectivity

1. **build trust and political consensus for cross-border electricity trade**
2. **develop a regional cross-border electricity grid master plan**
3. **develop and implement intergovernmental agreements on energy cooperation and interconnection**
4. **coordinate, harmonize and institutionalize policy and regulatory frameworks**
5. **move towards multilateral power trade and create competitive markets for cross-border electricity**
6. **coordinate cross-border transmission planning and system operation**
7. **mobilize investment in cross-border grid and generation infrastructure**
8. **build capacities and share information, data, lessons learned and best practices**
9. **ensure the coherence of energy connectivity initiatives and the Sustainable Development Goals**

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