

The Institutional Dimension of Regional Power Connectivity

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- In 2019 merge of Policy Alternatives Research Institute (PARI) and Integrated Research System for Sustainability Science (IR3S)
 - policy and social recommendations on future society issues
 - an international network hub integrating university knowledge related to future society
 - a platform for collaborative creation between industry, government, academia, and citizens
- Sustainable Development Goals
 - Sustainability
 - Innovation Systems
 - Technology and Risk Governance
 - Security Studies
 - Universities and social systems
 - Collaborative and sponsored research

Global Energy Policy and East Asia Research Unit

- Sustainable energy policies in the Greater Mekong Sub-region
 - 2017-18: “Shaping energy policies towards the achievement of the SDGs in Myanmar and the Greater Mekong Subregion”

Key findings and policy recommendations

(1) Improved regional interconnectivity

- Power imports can ameliorate power shortage
- Connectivity enables renewable integration & help to expand main grid in the periphery
- Myanmar is a “power bridge” and should strategically consider interconnectivity



(2) Barriers to mini-grids in Myanmar

- Tariff for main grid should be increased to enable equal footing
- Mini-grid fund should be established, modeled after Thailand's gasoline-tax fund
- Clear communication of limitations to villagers could address perception of low quality



(3) Energy for reducing inequalities & supporting peace

- Decentralized renewables are needed to achieve electricity access in conflict-laden region
- The government should work with existing social service providers for cooperative projects



Capacity building

Members of the Parliament
(Aug 17, 2018, Sept 14, 2018,
Feb 18-19, 2019)

International symposium with
Members of Parliament and
government officials (June 5, 2019)



Today Agenda – survey 12:00 – 12:30

- Institutions for regional power connectivity
- Survey on institutions for regional power connectivity
- Examples from Central America (for illustration)
- Next steps: Institutional analysis and the Roadmap
- Open discussion and survey

Institutions for regional power connectivity

- Institutions are fundamental for regional power connectivity
 - “arrangements and organizations, ranging from ad hoc and informal forums that lack an organizational core to formal standing bodies that serve a particular purpose” (ADB, 2010).
 - “important for formulating strategies, defining goals, developing processes, implementing plans, measuring progress, making mid-course corrections, bringing together and managing resources, and building capacity” (ESCAP, 2016).
- Numerous institutions created across Asia’s subregional programs
- Learning from previous experiences is interesting...but
 - transfer of knowledge (learning) is difficult
 - Need to understand context (geographical, cultural, political,...)
 - Most knowledge is tacit, nuance is important
- This working group provides a unique opportunity for sharing knowledge and experiences and to think ahead on the institutional development for the road-map

Survey on institutions for regional power connectivity

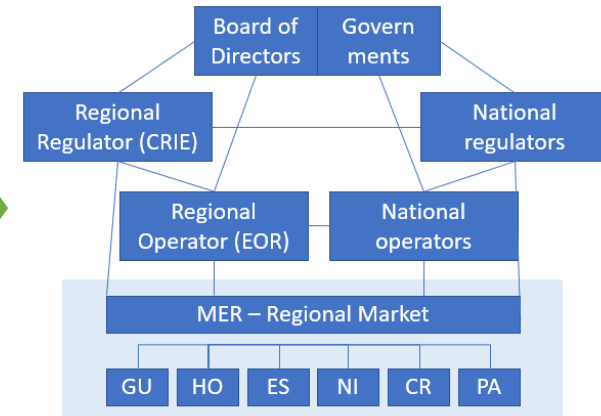
- **To “pool” experience and wisdom on institutional development**
- Two principle questions
- 1. What are institutions needed for? (institutional functions)
 - Barriers analysis
 - What are the most severe barriers that institutions could address?
- 2. How institutions can (or cannot) address the barriers?
 - Sharing of best practices
 - What examples in your region to solve most severe barriers?
 - How can institutions address and what are the current limitations?
- *All the responses will be anonymized and aggregated so to protect your privacy*
- *Final findings will be included into UN-ESCAP report and possible future academic works (always anonymized)*

Example of type of analysis (Central America)

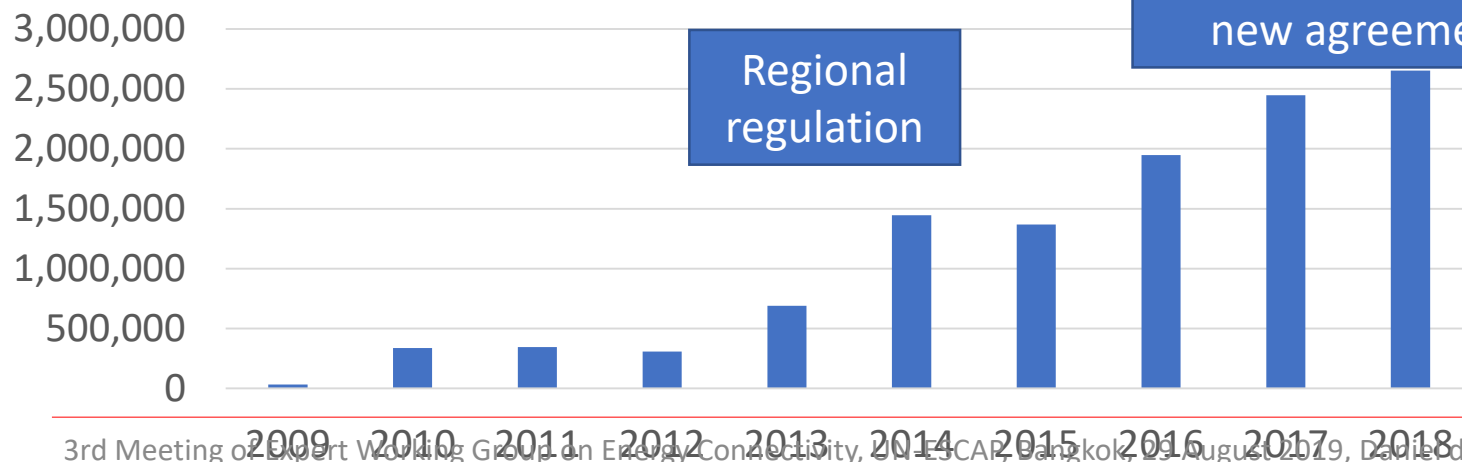
- Central America (SIEPAC Project) has created a “superposed” regional electricity market without “functioning” (at the time) regional political body and low economic integration (*good example but with its own complications*)



Six member countries
3 extra-regional members
1 (+1?) interconnection
232 agents (2017)



Export of electricity (total, MWh)



*In 2018, El Salvador imported up to 26%
Honduras 4%,
Nicaragua 5%*

Example of type of analysis (Central America)

| Aspect | Inst. fun | 1 | 2 | 3 | 4 | 5 |
|------------------------|-----------|---|---|---|---|---|
| Political | P1 | | | | X | |
| | P2 | | X | | | |
| | P3 | | | | | X |
| | P4 | | | | X | |
| | P5 | | | | X | |
| Policy / regulatory | PO1 | | | | X | |
| | PO2 | | | | | X |
| | PO3 | | | X | | |
| | PO4 | | | | X | |
| Technical | T1 | | | | X | |
| | T2 | | | | | X |
| | T3 | | | | X | |
| | T4 | | | | X | |
| | T5 | X | | | | |
| Economic and financial | E1 | | | | | X |
| | E2 | | | | X | |
| | E3 | | | | X | |
| | E4 | | | | | X |
| | E5 | | | | X | |
| | E6 | | | X | | |
| | E7 | | X | | | |
| | E8 | | | | X | |
| Social | S1 | | | X | | |
| | S2 | | X | | | |
| Environmental | E1 | | X | | | |
| | E2 | | X | | | |
| | E3 | X | | | | |
| | E4 | | | X | | |
| Legal | L1 | | | | | X |
| | L2 | | | | | X |
| | L3 | | | | X | |

Institution name and sub-region

Executive Unit (Unidad Ejecutora),
Central America, MER-SIEPAC Project

Membership and structure

A full-time manager and two expert advisors
Funded through Inter-American Development Bank (IADB) technical assistance
Under the CEAC (Council for Electrification of Central America)

Overall role in the process

The main mission was to coordinate the works towards the development of the regional regulation and its implementation

Impact in the process

(P1) Political - Mobilizing and granting long-term political commitment

Being under the umbrella of the CEAC, the Executive Unit was able to be protected from changes in national politics. Being able also to provide the technical and economic incentives for the new governments to maintain their support to the project.

(T3) Technical – Regional harmonization of grid codes and technical standards

The Executive Unit centralized all the studies, both regional and national, ensuring the harmonization would be possible. It also facilitated and coordinated the studies for regional harmonization that were conducted at later stage for every country.

Institutional analysis and the roadmap

Building blocks:

- a. Regional framework: [...] it will enable coordination among various institutions and serve to progressively remove barriers to energy interconnection [...]
- b. Institutional arrangements: [...] Hence the creation of a regional institutional governance is essential to guide the progress of energy connectivity and integration

Roadmap actions

1. Building trust and political support
2. Networking of Sub-regional Intergovernmental Institutions
3. Develop and Implement Intergovernmental Agreements on Energy Cooperation and Interconnection
4. Move from Bilateral to Trilateral and Multilateral Power Trade
5. Coordination, Harmonization and Institutionalization of Policy and Regulatory Frameworks
6. Coordinated Transmission Planning and System operation system and Institutionalization
7. Create a Unified Electricity Market
8. Mobilize Investment in Cross-Border Grid and Generation Infrastructure
9. Ensuring the Financial Viability of Generation, Transmission and Distribution
10. Establish Dispute Resolution Mechanisms
11. Capacity Building, Sharing of Information, Data, Learnings and Best Practices

Survey on institutions for regional power connectivity

- To “pool” experience and wisdom on institutional development
- Two principle questions
- **1. What are institutions needed for? (institutional functions)**
 - Barriers analysis
 - **What are the most severe barriers that institutions could address?**
 - The survey is also on-line: <https://forms.gle/YiJXbHvUmPQfJr4N6>
- **2. How institutions can (or cannot) address the barriers?**
 - Sharing of best practices
 - **What examples in your region to solve most severe barriers?**
 - How can institutions address and what are the current limitations?
- *Due to time limitations we will do only (1.), we would appreciate your collaboration for one-to-one discussion on (2.) (video-conference?)*
- 3. Extracting lessons for the regional roadmap
 - 2 Building blocks and 11 Actions
- For any inquires, you can contact us at:
- Dr. Daniel del Barrio Alvarez, d.delbarrio@ifi.u-tokyo.ac.jp
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