

Policy Alternatives Research Institute

Research on Rural Electrification in Myanmar and its Implications & Implementation

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Energy situation of Southeast Asia from a global perspective

Road to universal access to modern energy

- Universal energy access is one of the three pillars of the UN's Sustainable Energy for All (SE4ALL)
- Some countries like <u>Myanmar</u> exhibit energy poverty on par with sub-Saharan Africa; studies are being conducted by JICA, WB, ADB
- Evaluating two options of electrification (grid extension vs mirco-grid) is academically challenging

Need for energy subsidy phase-out

- Some countries have large energy subsidies, causing large fiscal burden & disincentives for energy efficiency
- Because of large subsidies, <u>Myanmar</u> has difficulty with financing power capacity development and rural electrification program

Energy Development Index (EDI) by International Energy Agency (IEA) (2011)



Myanmar is placed 60th out of 64

<u>countries</u>, although it is a resource rich country particularly in terms of natural gas hydropower resources.

Research on Rural Electrification in Myanmar and Social Implementations (1)

(1) Technical Issues:Is the 100% goal appropriate?Extension of transmissions vsIndependent micro-grids?Sufficient power capacity?

[Target] electrification rate 100% by 2030

(2) Social/Econ Issues:
Obstacles in power supply
development--environmental
problems, local protest, legal, etc?
Cost burden--ODA? Private?
China? Electricity tariff increase?

[Present] Electrification rate below 30%*

(3) Improved Environment forPolicy Making and Implementation:Sufficient HR andtechnology/expertise?

*The national census was conducted last year for the first time in more than 30 years and the accurate figure is unknown at this point.

Research on Rural Electrification in Myanmar and Social Implementations (2)

(1) Quantitative scenario analysis such as costs required for rural electrification

- Total power generation in 2030 would be insufficient.
- Achieving a 70% electrification rate in 2030 would require not only investment for transmission lines but also for approximately 430 MW micro-grids (\$7.6 billion) (tentative estimation).

(2) Analysis of obstacles in power development

- Social agreement for hydropower
- Bankability for coal thermal power

(3) HRD in policy making/implementation and dialogues with stakeholders

 Since September, 2014, "The Energy Policy Workshop" has been held for 50 mid-career public servants, researchers and NGO experts.



Research on Rural Electrification in Myanmar and Social Implementations (4)

Next Step

1. Improvement of analytical accuracy:

Organizing the concepts and categorizing of centralized electrification and distributed electrification

2. Field study:

Analysis of the trend of Chinese capitals regarding hydropower development of the Salween River and collaboration with other countries

3. HRD and dialogues:

Development of policy proposals to be reported to the National Energy Management Committee (NEMC) in May-June 2015

4. Institutional framework for collaboration:

Discussion for MOU with responsible ministers and agencies has begun.

International Symposium Energy Policy Development in Myanmar

- Current Situation, Prospect and Policy Proposals

Feb 6, 2015 Nay Pyi

Organized by:

The Government of Myanmar METI, PARI/UT, ERIA, HIDA

Participants include:

Energy Minister of Myanmar and Deputy Ministers of the energy related ministries Prof. Nobuo Tanaka, GraSPP, UT, Prof. S K Chou, Executive Director Energy Study Institute, NUS, Dr. Venkatachalam Anbumozhi, Senior Energy Economist, ERIA, Prof. Hisashi Yoshikawa, PARI, UT, Prof. Masahiro Sugiyama, PARI, UT50 participants of Energy Policy Workshop

Policy Proposals on:

HRD Flect

Electricity Policy

Energy Efficiency

Subsidy

Rural Electrification

International Symposium Energy Policy Development in Myanmar

- Current Situation, Prospect and Policy Proposals Feb 6, 2015 Nay Pyi Taw















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Future Plan: Further Enhancement of HRD and Policy Research Using International and Intra-school Networks



International Energy Analysis and Policy Research Unit of PARI The University of Tokyo

Missions

- To analyze the energy supply-demand structure and policies focusing on Asia, and to present challenges and problems by facilitating debates from international viewpoints
- To provide policy recommendations based on the updated energy policies and their accomplishments

Activities

- Report on "Energy Efficiency Roadmapping Project in Lao PDR" (2011-13)
- "Energy Policy Roundtable" (2012-), joint workshops and symposium such as with IEA, OECD, IFRI, etc.
- Joint research with Energy Research Institute, Chulalongkorn University, Thailand (2013-)
- Research on Rural Electrification in Myanmar (2013-)
- Providing policy recommendations



Thank you!

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Way Forward

Interim achievements to date

434 MW of off-grid power required by 2030

\$7.6b required

Different barriers for different power sources

Various activities for HRD e.g. Energy Policy Workshop (Sept. 2014-)

A series of stakeholder's meetings and workshops

2014-2015

More detailed examination/study, categorization, etc.

Focus to move to the Chinese border, e.g. Salween River

Successful completion and policy proposals, and next step

To be steadily continued

Additional area/focus of research

Further analysis of the interaction between near grid (grid expansion) and off-grid (independent mini grids)

Scenario development Policy recommendation