



# Collaborative Research Between ERI/PARI

Scope of the Workshop : This year  
and  
Research outcome : Last year

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# Project Overview

<On-Grid>

JICA's Electricity Master Plan

To improve electricity access

<Near Grid>

by expansion of the National grid

<Off-Grid>

by making best use of local resources and enhancing connectivity

<Border>

by building up connectivity with neighboring countries through power trade and FPI.

Bottom-up methodologies for research 2013-2014

1<sup>st</sup> stage Electricity demand forecast

Fieldwork

Possible power options, cost analysis, etc.

Possible small scaled renewable capacity development options, cost analysis, etc.

Myanmar's interest for power trade and FDI from Thailand, cost analysis, etc.

Case Study

(Good practices from GMS and lessons for Myanmar)

Good practices of renewables and IPPs from GMS lessons and conditions for success

Good practices of power trade and FDI from GMS, lessons and conditions for success

Connectivity development simulation among mini-grids

Possible decentralized connectivity options

**TODAY'S FOCUS**

Neighboring perspective  
Thai actors' analysis

Objective view and potential Thai investors' / power traders' analysis

Integrated Energy Strategy

HRD/Capacity Building

"National Energy Management Committee" has already been formed under the Vice President. Following up the success of Lao PDR, we will conduct "scenario-making" and prepare policy recommendations that will lead to an "integrated longer-term energy strategy" of Myanmar.

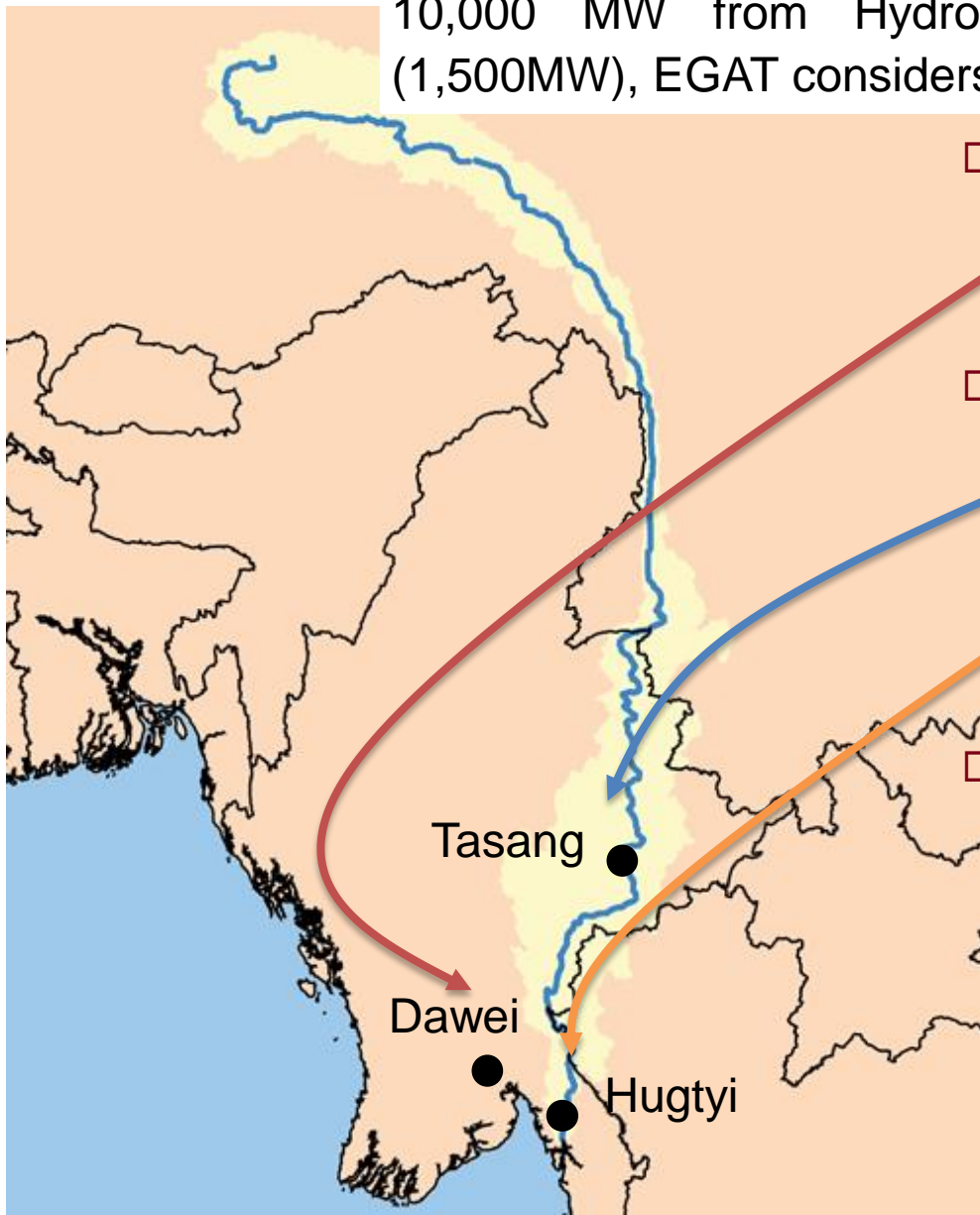
# Overview of our research initiative

- **Research counter-part**
  - Energy Research Institute (ERI), Chulalongkorn University
  - Policy Alternatives Research Institute, Tokyo University
  - ERIA, member of Energy Research Institute Network
- **Research Focus**

“Necessity of power development for enhancing the rural electrification in Myanmar”
- **Research period**
  - 1<sup>st</sup> phase: October 1<sup>st</sup> 2013 – June 30<sup>th</sup> 2014
  - 2<sup>nd</sup> phase: July 1<sup>st</sup> 2014- June 30<sup>th</sup> 2015 (expected)
- **Rationale**
  - Necessity of power development for enhancing the rural electrification in Myanmar
  - How to benefit from “left-over” of capital flows from the neighboring countries who aim to fuel own power demand?
  - 3 -Win-win bilateral trade between Myanmar and Thailand in IPP business?

# IPP investment in Myanmar from Thailand

- EGAT plans power import increase - 10,000 MW from Coal fired, 10,000 MW from Hydropower. Despite of the previous plan (1,500MW), EGAT considers to add up to 10,000 MW from Myanmar.



- **Coal fired;**

- Dawei (ทวาย) ; 7,000MW  
EGCO, Ital-Thai, Mitsubishi Corp.

- **Hydropower (The Salween River)**

- Tasang (ท่าช้าง) ; 6,300MW  
Ratchaburi, Three Gorges (三峡集团)

- Hugtyi (ห้วยตี่) ; 1,190MW  
EGATi, and Sino-Hydro (中国水电)

- **Example scale comparison ...**

- Okutadami Dam (560MW)
- Kurobe Dam (335MW)

**However, the plan remains the “long-sitting” not moving forward.**

## Research questions;

- How can power-trade craft the win-win relationship between Myanmar and Thailand?
  - ① What kind of conditions are expected to be mutually beneficial in bilateral power trade?
  - ② What are the barriers when attempting to achieve the proposed “win-win power trade”? and;
  - ③ What are the policy recommendations in order to remove the identified barriers?

# Why so reluctant?



Investment



Generation Project  
Coal / Hydro

IPPs Investor  
EGATi, EGCO, GPSC

Concerns

Left over

Power Trade

Civil / Local Society

EGAT  
Off-take Purchase

MEPE  
Domestic Supply

Finance

Lender  
Public/Private Bank

# Stakeholder Meeting

2013			2014					
OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
⇒⇒⇒ Literature Surveys		● WS1 BKK	⇒⇒⇒ (Un)Structured Hearing		● WS2 BKK	⇒⇒⇒ Structured Hearing		● WS3 NPT
Step 1: Identify the barriers on each case study			Step 2: Analyse the socio- economic factors in identified barriers			Step 3: Seek for how to remove the identified barriers		

## Framework for barrier analysis

- Current status of literatures
  - Previous study of IPP mostly focuses on the political and institutional barriers
  - Contrary, major literatures on barriers in FDI discusses wider range of barriers including social aspect
  - UN DESA (2005) indicates the typological approach to analyse barriers multi-dimensionally; (1) Technical, (2) Economic, (3) Political, (4) Legal, (5) Social and (6) Environmental aspects

# Findings 1

- Distinct barrier structure based on the fuel types; Hydropower in Tasang, and Hutgy, and Coal-fired power plant in Dawei
- Barrier similarities among all cases are (1) social resistance against the plant development, and (2) economic difficulty to finance the project
- Nevertheless, the distinct barrier in **hydropower** is that while it would be easier to find the financial lenders for large scale dam project as it is more profitable, the coincided fact is the social resistance would also be accelerated due to the anticipated relocation of locals.



## Findings 2

- Contrary, in **coalfired projects**, the social resistance led by environmental activists are often seen; yet, the number of locals due to the forced relocation is relatively small, compared to hydro projects. Rather, the major obstacle appears the lack of international donors like ADB or WB, as the coal fired is less favorable in global IPP trend.
- However, more importantly, the core/common barrier appears to be a lack of Myanmar government's commitment to legally arrange the laws and regulations regarding IPP business.

Thank you

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