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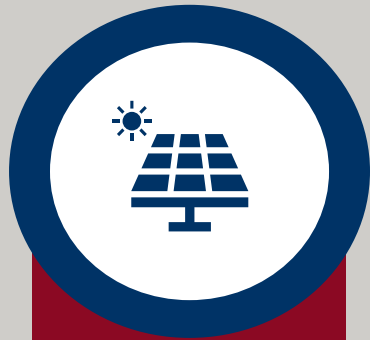


The United States Agency for International Development (USAID) Southeast Asia Smart Power Program (SPP)

3rd GMS Energy Transition Task Force Meeting
4–7 June 2024
Mandaluyong City, Philippines
Grayson Heffner, Director, Utility Modernization and Power Trade

USAID SE Asia Smart Power Program (SPP)

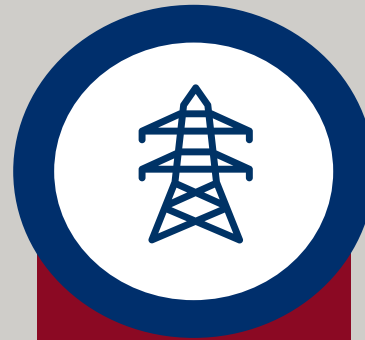
The 5-year program's goal is to help energy sectors in Southeast Asia become more secure and market-driven



Deploy **2 GW**
of Advanced
Energy Systems



\$2 billion of
Advanced
Energy
Financing



5% Increase in
Regional Power
Trade

Expected Results



Geographic Coverage

USAID Cooperation with Other Development Partners

- Japan-US-Mekong Power Partnership (JUMPP)
 - Bilateral cooperation with Lao MEM and EdL on regulatory frameworks for Solar and Wind
 - Support to the Lao ASEAN Chairmanship
- ASEAN Centre for Energy (ACE), HAPUA & AERN
 - ACE-SPP Partnership Agreement
 - Workstreams on ASEAN Power Grid, Wheeling Charges, Renewable Energy Certificates, VRE/Grid Harmonization
- ADB GMS EETF and Net Zero World
 - Energy Efficiency & DSM
 - Subsea interconnector Feasibility Studies



SPP ENGAGEMENT WITH JUMPP

REGIONAL

- Renewable Energy Certificates (REC) Market Strategies
- Advanced transmission technologies (Dynamic Line Rating)
- EV Regional Roadmapping
- VRE Integration & Grid Harmonization

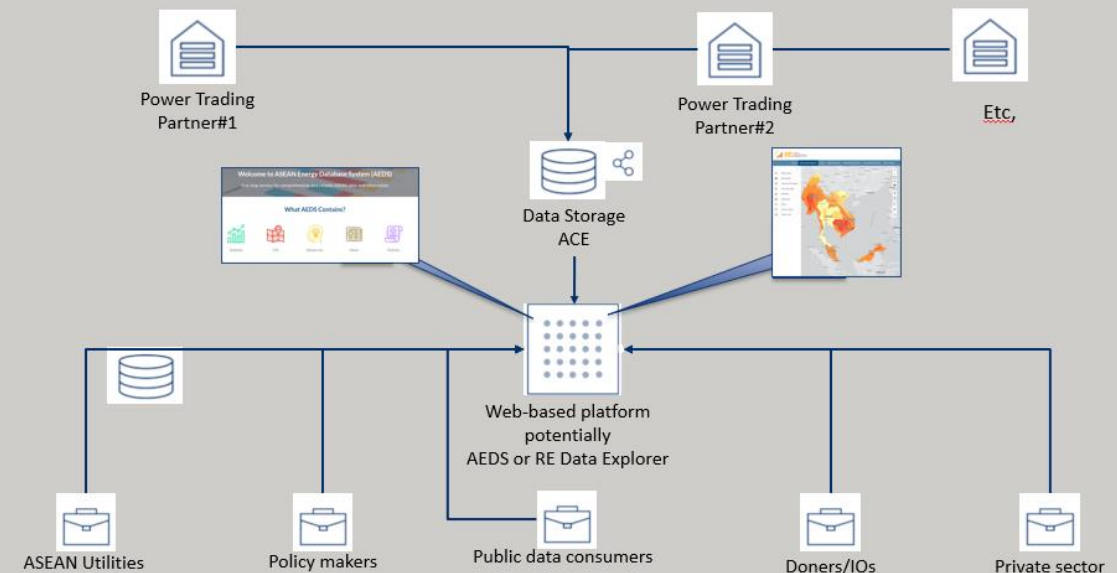
BILATERAL

- RE Regulatory Frameworks for Lao PDR
- REC Market Strategy for Lao PDR



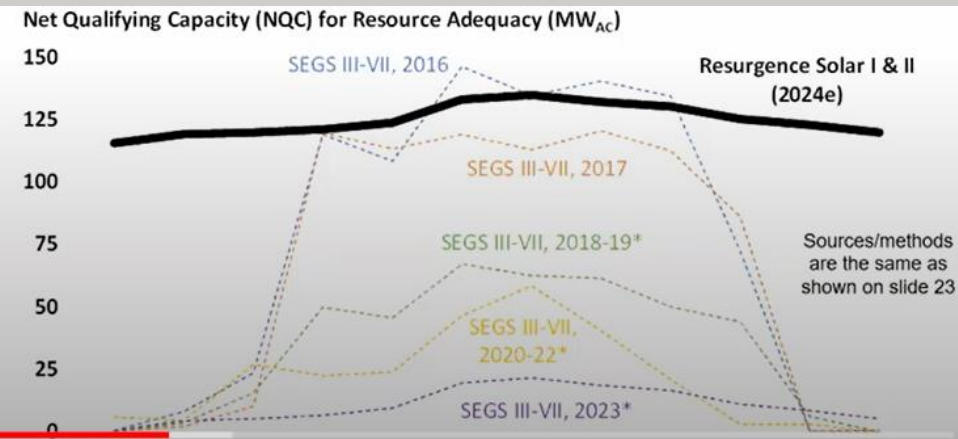
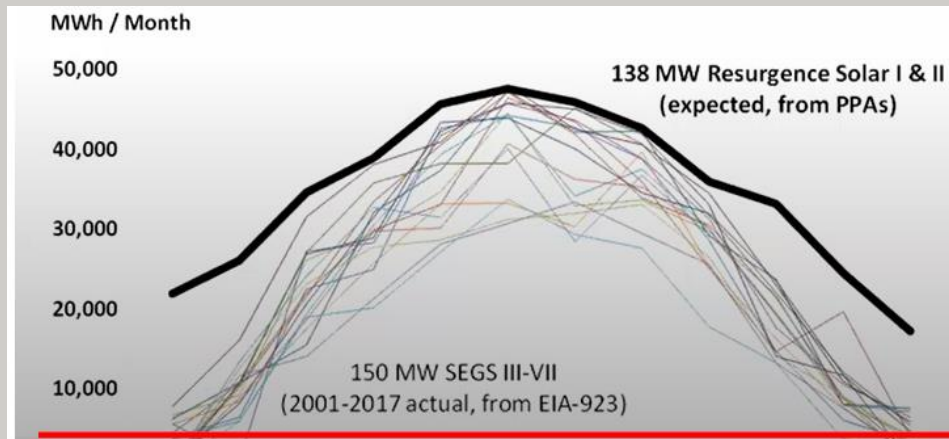
Power Exchange Data Sharing Platform and Cooperation Framework

Activity	Details
<ul style="list-style-type: none"> UNESCAP and ACE have delivered data sharing guidelines to HAPUA and AERN SPP has developed a Concept Note on sharing monthly power exchange data ACE and SPP hope for 2024 buy-in from utilities, ministries and regulators on sharing power exchange data 	<ul style="list-style-type: none"> SPP is supporting ACE on a <i>pioneer project</i> for power exchange data sharing <ul style="list-style-type: none"> Power exchange data sharing policy brief and Workshop (June SOME) Consultations with utilities on power exchange data sharing modalities Development of an IT platform to reside on the ASEAN Energy Data System



Grid Harmonization/VRE Integration Workshops

Activity	Details
<ul style="list-style-type: none"> • Grid harmonization a growing concern as more Variable Renewable Energy (VRE) is developed for domestic use and export • Several utilities – EGAT, EVN, EdL – are developing “firming” strategies for VRE • SPP and ACE will co-deliver a regional workshop on grid harmonization and VRE Integration 	<ul style="list-style-type: none"> • Manila mid August 2024 • SPP will bring leading practices on grid harmonization and VRE integration from the region and from the US • Case studies from EGAT, EdL, EVN, TNB



Increasing Power Exchange Across Existing Interconnectors

SPP is supporting EGAT to consider Dynamic Line Rating (DLR) to increase Available Transfer Capacity (ATC)

SPP will conduct a case study of DLR potential on an EGAT transmission line

Potential applications in the GMS:

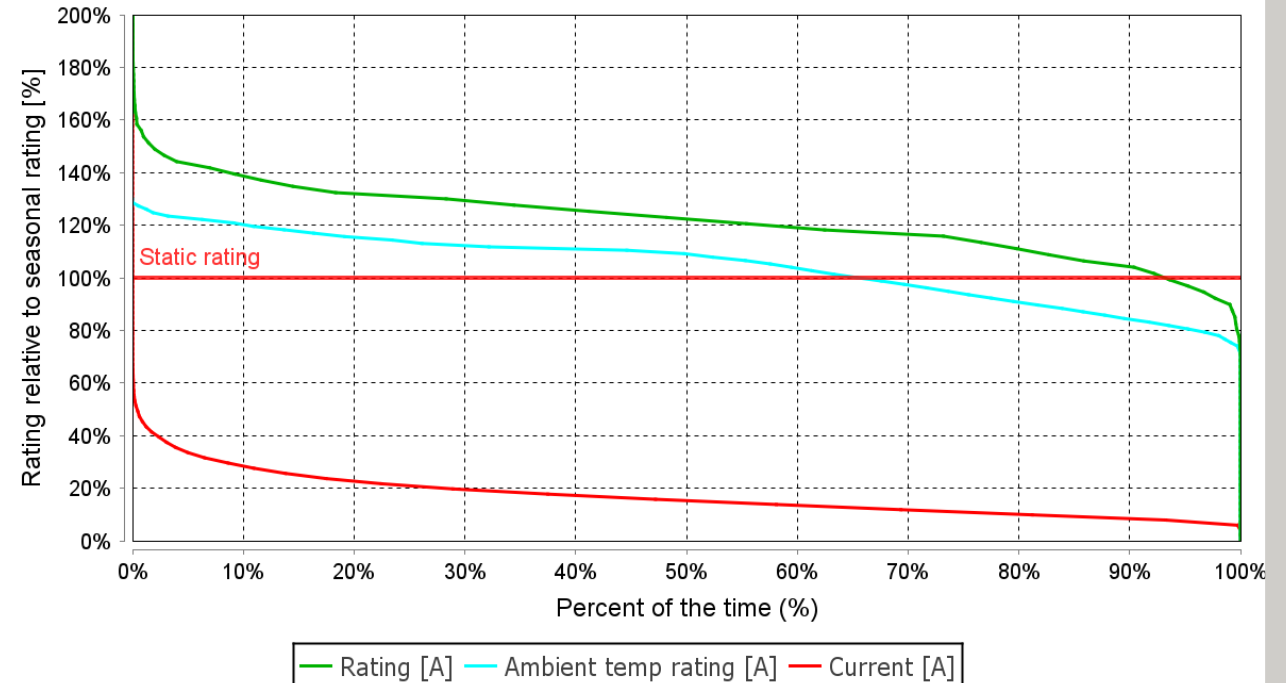
- Increase power flow on existing lines
- Facilitate supplemental generation (Floating SPV)
- Grid Modernization/Digitalization



6/14/2024

Ampacity gain - line EVNNPT_272E1.23_274E1.6

Period: from 2021-10-24T00:00:00.000Z to 2023-10-24T00:00:00.000Z



Transmission Interconnector Feasibility Study Playbook

Activity	Details
<ul style="list-style-type: none">• USTDA-financed PLN-TN FS project now underway• Additional donors (JICA, AfD, P4I, World Bank, ADB) have expressed interest in support additional FS• Multiple FS supported by multiple donors and conducted by multiple consultancies may create consistency issues	<ul style="list-style-type: none">• SPP will work with ACE & GGI/UNESCAP to develop an FS Playbook• The Playbook will incorporate SE Asia examples• The Playbook will inform Ministries, Utilities and Regulators regarding leading FS practices• This will help ensure compatible and comprehensive FS results• Playbook due date: Sept. 30 2024• Capacity building workshops to follow



Wheeling Charges Capacity Building and Technical Assistance

Activity	Details
<ul style="list-style-type: none">• Wheeling charges recover the transmission costs of multi-lateral power trade (MPT)• Wheeling charges should:<ul style="list-style-type: none">• Reflect the costs of providing wheeling services• Provide incentives for investment• Be transparent, fair, and predictable• SPP will work with HAPUA and AERN to deliver capacity building and technical assistance on wheeling charge principles and calculations	<ul style="list-style-type: none">• AERN Wheeling Charges training May 29 in KL• HAPUA training in Q4 2024• Outreach to LTMS PIP practitioners and APGCC

Subsea Interconnector Capacity Building Workshop

Activity	Details
<ul style="list-style-type: none">SPP and ACE will co-deliver a HAPUA-sponsored workshop on subsea interconnectorsThe workshop will:<ul style="list-style-type: none">Build awareness of opportunities and issues associated with subsea power transmissionBuild capacity of Ministries, Regulators, and Utilities to evaluate subsea projectsProvide updates on planned and ongoing subsea connector feasibility studies	<ul style="list-style-type: none">October 2024 in JakartaTopics:<ul style="list-style-type: none">UNCLOS Law of the Sea expertsSiting, Routing, Permitting, ApprovalsEnvironmental & Impact AssessmentSubsea connector risk assessmentSubsea project FS requirementsTechnology requirementsSupply chain issues



Kontek (600 MW HVDC)
NEMO Link (1 GW HVDC)
Hansa Power Link (700 MW HVDC)



- Operating temperature is **around 55°C**
- Can be used for **LCC and VSC**
- Voltage up to **800kV**
- Water depth up to **2500 m**
- Limited availability
- Can join cable from different OEMs
- Track Record more than **50years**

Renewable Energy Certificates (REC)

Activity	Details
<ul style="list-style-type: none">• Most attribution frameworks (e.g., i-REC) are country-specific• Several AMS (Thailand, Malaysia, Singapore) have already adopted single-market REC frameworks• New MPT opportunities –driven by RE demand - require a regional REC market• Key issues:<ul style="list-style-type: none">– Harmonizing REC registries to accommodate cross-border attribution– Tagging RE power flows over multiple grids	<ul style="list-style-type: none">• Studies for new multilateral power flows (Borneo-Indonesia-Malaysia-Philippines) are underway• SPP and JICA are supporting Laos to develop their national REC market• SPP ready to support REC market development across the Mekong subregion

Thank you!

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