Capacity Building Program 2024-2026

3rd Meeting of the GMS Energy Transition Task Force
Manila: 5-7 June 2024

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Capacity Building Proposed Approach for 2024-2026

2022/2023

Provided tools to support clean energy transition with webinars and study tour to S. Korea on

i. RE and EE practices

ii. Emerging green energy technologies and applications

iii. green finance

2024/2025

To support gaining core knowledge to support accelerated energy transition focused on regional power trade:

i. Integration of VRE with ESS

ii. Accelerated RE through regional power trade

iii. Technical and regulatory requirements to join regional power market

2026-

Continuous support with knowledge and training for accelerated clean energy transition through regional power market

Objectives of the Regional Power Trade CB Program

Progress (until 2023)

1. Political commitments to develop regional interconnections: GMS ETTF/APG
2. Studies on Regional Grid Code, and on technical and regulatory requirements to support RPT/RPM
3. Project-based bilateral trade with dedicated cross-border transmission lines

Programs to Support RPM Development (2024 / 2025)

Shadow Trading

- To assess feasibility and adequate RPM model

Capacity Building

- To support participating countries in fulfilling the **Minimum Technical and Regulatory Requirements** for RPM

Goal (2026 -)

Start Pilot RPM in GMS/ASEAN

2024/2025 Capacity Building Activity Plan

Date	CB Activity	Partner
Q2, 2024	**Workshop on technical, regulatory and commercial frameworks to expand MPT of renewable energy** (ACEF 2024, June)	USAID
	E-modules and in person training on electricity market principles for policymakers and utilities (June, Concurrent with 3rd GMS ETTF Member)	PESD, Stanford University & ADB Institute
Q3/Q4, 2024	**Study tour and master class on green energy transition (July):** "*Toward 100% green energy transition: Technology, Market, and Policy"* 1. *Latest Green technologies and applications (RE, BESS and PSH, Hydrogen)* 2. *Higher RE through interstate power trades: Meeting with AEMO to discuss and learn about interstate power trades and RE integration* 3. *Master class with ANU on Australia's Energy Transition*	DFAT, Government of Australia & Australian National University
	Workshop(s) on key technical and regulatory tasks to support RPM development (August and November - TBD)	ACE/USAID
2025	**Demand-driven workshops on key technical and regulatory tasks to support RPM development**	ESCAP/Florence School of Regulation/ Other DPs

Approach of RPT CB Program Design for 2024 and 2025

2024	• Participation of GMS ETTF members to ACE/USAID workshop(s)
2025	• Co-organize demand-driven workshops with ESCAP and other partners
2026	• Asia School of Regulation?- As an on-going platform for training and knowledge sharing

ADB GMS ETTF Study tour to Australia:

“*Toward 100% green energy transition: Technology, Market, and Policy*”

Program Concept and Activity Outline

- **Theme: "*Toward 100% green energy transition: Technology, Market, and Policy*"**
- **Key learning concept;**
  1. How does the Australian electricity market go through energy transition process: how the electricity market evolved; and how the role of public and private changed
  2. What emerging technologies are utilized for RE integration and expansion
  3. What policy frameworks were introduced to facilitate RE and emerging technology for energy transition
  4. How inter-state power trades supported energy transition
- **Date: July 16 (Tue) ~ 23 (Tue)**
- **Activity: 8 days** (excluding international travel)
  1. Australia Clean Energy Summit (2 days)
  2. Site visits in Sydney and Canberra (3 days)
  3. Master class at ANU including case study and discussion (1 day)
  4. Domestic travel and weekend break (2 days)

Study Tour to Australia

- ✓ A developed power market and an advanced power system
- ✓ **Successful transition from coal-based power system** to **RE based power system**

(Highlights)

i. Optimized power system operation with high share of solar, wind and hydro generation sources
   - number 1 in the world in deployment of small home solar systems

i. Utilization of new technologies, BESS, PSH, and demand side resources, for power system optimization

ii. Increased power system efficiency through interstates power trades

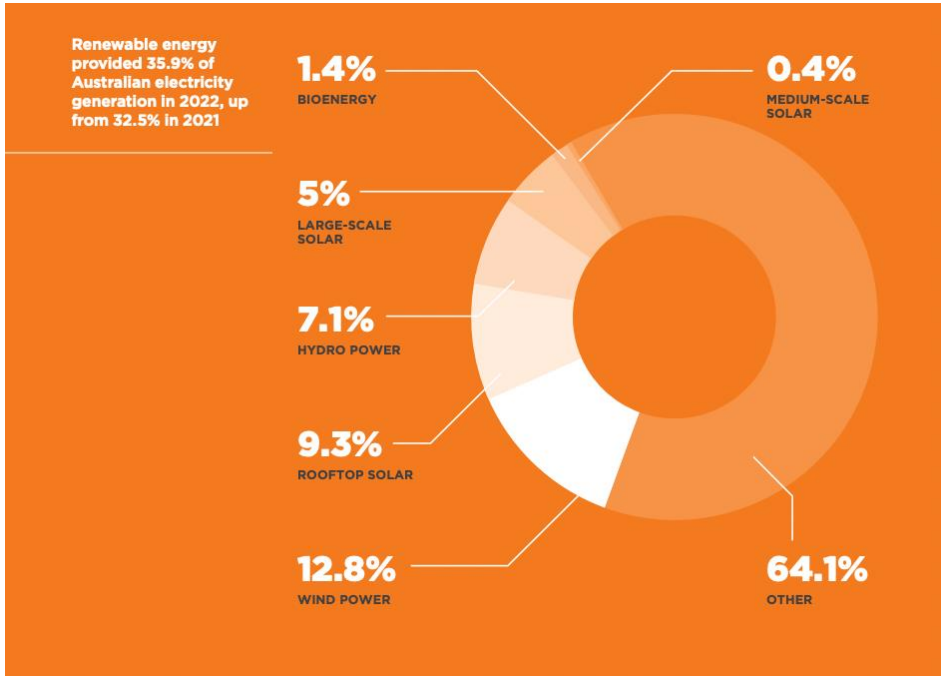
- ✓ Due to the vastness of its territory, Australian started with the separate power market of each state

- ✓ Until 1990s, each state power system was separated and isolated, governed by a public monopoly: Power market reform in 1990s facilitated green energy transition by opening a door to the competitive market and interstates trades

Study Tour to Australia

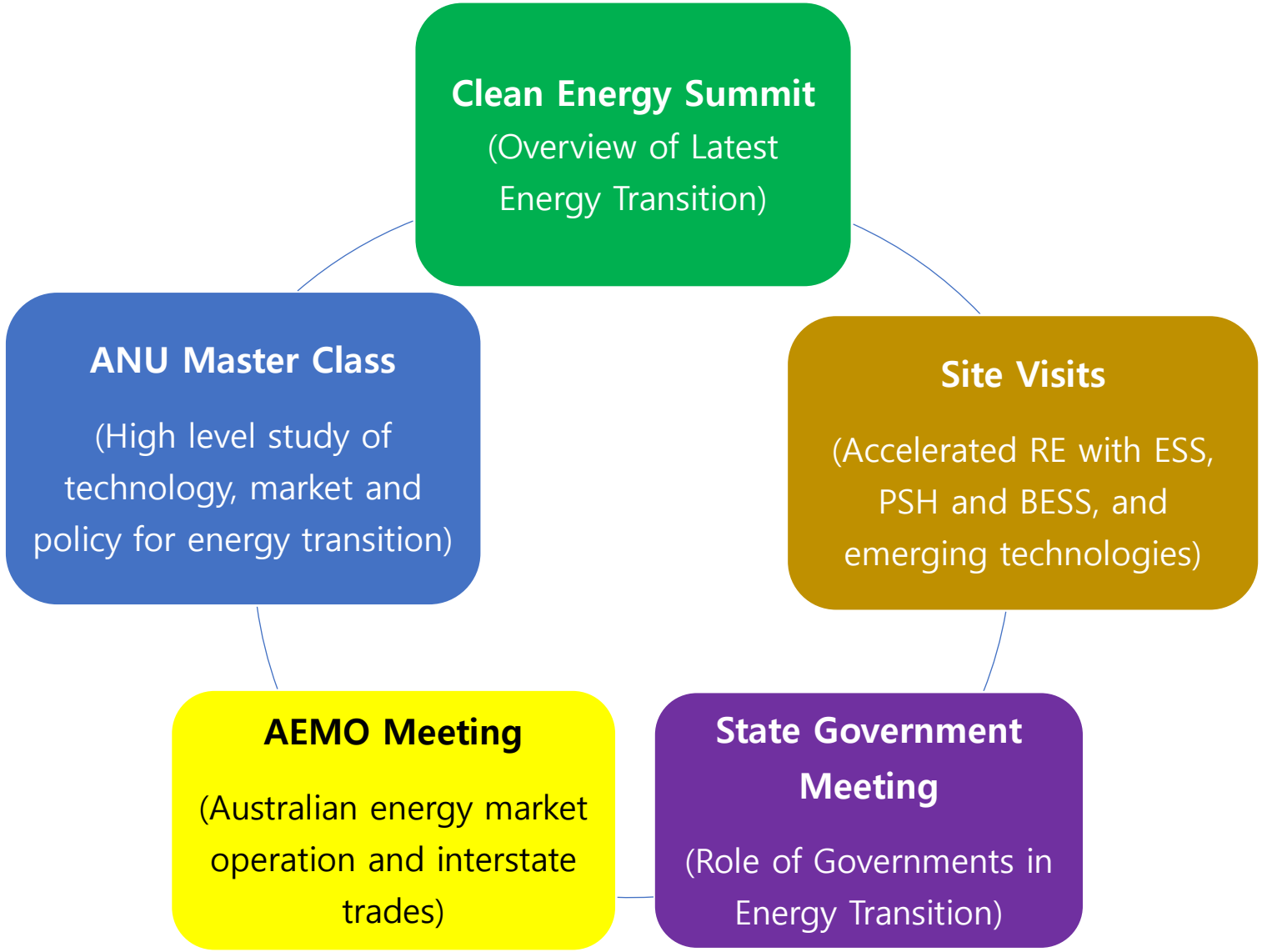
- Share of renewable energy in electricity generation reached 35.9% in 2022, and 39.6% in 2023; the renewable energy penetration as high as 80%
- Interstate power trades and RE developments based on different RE profiles of states support each other and contribute to the clean energy transition of Australia

❖ Share of RE in electricity generation, Australia, 2022



Clean Energy Australia Report, 2023

Program Components



Program Activity Plan

Date	Place	Activity	Collaborating Institution
Day 1 & 2 (July 16&17)	Sydney	(Full day) Clean Energy Summit, Australia	DFAT, Australia
Day 3 (July 18, Thur)	Sydney	(AM) Presentations and Discussion with i) AEMO on Australian power market and system operation; and ii) NSW government on NSW RE Zone Program (PM) Transgid Wallgrove BESS or Jamensa Western Sydney Hydrogen Hub	AEMO (Australia Energy Market Operator) and New South Wales Government
Day 4 (July 19, Fri)	Sydney Canberra	(AM) Transgrid Wallgrove BESS or Jamensa Western Sydney Hydrogen Hub (PM) 220MW Wind Farm on way from Sydney to Canberra at Town of Goulburn	 Ratch Australia
Day 5 (July 20, Sat)	Canberra	(09:00-10:00) Tour to the Parliamentary House (10:30-11:30) National Arboretum for a short trail walk (14:00-15:00) Internal workshop	
Day 6 (July 21, Sun)	Canberra	Free time	
Day 7 (July 22, Mon)	Canberra	(Full day) ANU Master Class	Australian National University
Day 8 (July 23, Tue)	Canberra	(AM) Big Canberra Battery program, ACT government: Visit to solar farm(s), or Capital Battery site (on way to Snowy hydro) (PM) Snowy Hydro Discovery Center to see the operation of PSH	Australia Capital Territory Government Snowy Hydro
Day 9 (July 24, Wed)	Canberra Return to Syd.	Return to Sydney and/or back to home	

Expected Outcome of Study Tour for GMS/ASEAN Participants

- **In-depth understanding and practical knowledge of key energy transition tasks and tools in power market**
  - Technologies and applications to be utilized for RE integration and expansion
  - Policy frameworks to support energy transition
  - Power market changes including interstate trades to support energy transition

- **Improved the effectiveness of learning for participants by inviting participants into**
  - Coordination of program components
  - pre-design of discussion topics during site visits including AEMO and state-government

Thank you for the attention