

***Lessons learned from the
identification of the JCM potential
projects***

Project Development Activities in Asia

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JCM Development cooperation activities by the OECC

Programme of the Ministry of the Environment, Japan (MOEJ)



- Conduct technology needs assessment: Conduct market survey on low carbon technology and product to reduce CO₂/GHG, and design available financial scheme.
- Provide technology diagnosis by experts: In cooperation with energy management solution companies, 1) conduct energy diagnosis for hotels, shopping malls and factories, and 2) provide recommendation for possible improvements. Also 3) Estimate total investment cost of technology including Operation & Maintenance.
- Encourage match-making between technology owners and local enterprises: 1) Listen to the project ideas and support finding the best matching solution depending on the needs. 2) Conduct match-making event and study tour.
- Provide Joint Crediting Mechanism consulting: 1) Disseminate the information on the methodology and the public input on the website. 2) Support preparing for the Financing Programmes for JCM Model projects.

Approach

Technology and
Corporate surveys

Formation support of
JCM projects

Workshop and
Japan study tour

JCM
Project

*OECC also supports for methodology and PDD development in case of necessary.

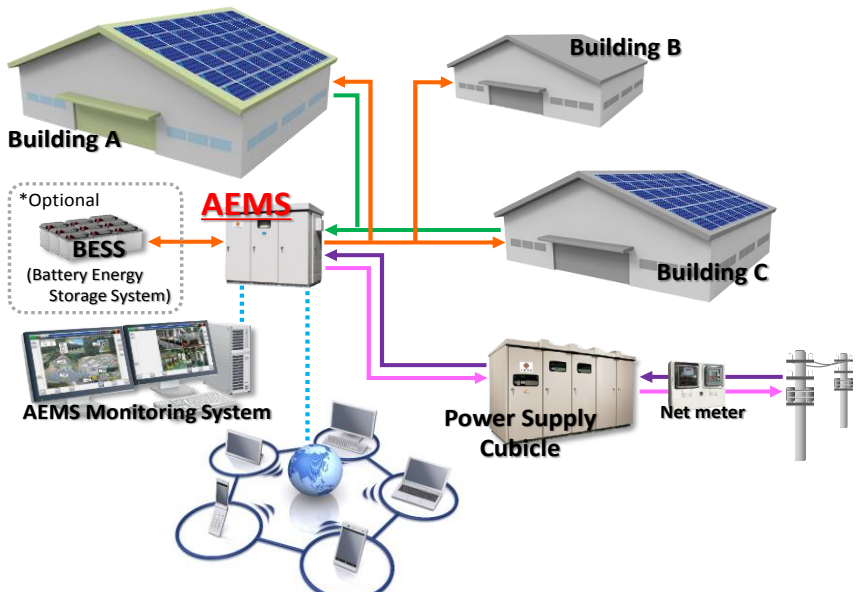



Selected projects under the JCM financing program supported by the OECC (as of 28 Feb. 2017)



Selected year	Partner Country	Project Title
2016	Myanmar	Introduction of Energy Efficient Refrigeration System in Logistics Center
2016	Viet Nam	Introduction of Amorphous High Efficiency Transformer in Northern, Central and Southern Power Grids
2016	Thailand	Introduction of 1.5MW Rooftop Solar Power System and Advanced EMS for Power Supply in Paint Factory
2016	Cambodia	Introduction of 0.8MW Solar Power Generation in International School
2016	Mongolia	Installation of 8.3MW Solar Power Plant in Ulaanbaatar suburb Farm
2015	Viet Nam	Introduction of Amorphous High Efficiency Transformers in Southern and Central Power Grids
2015	Bangladesh	Installation of High Efficiency Loom at Weaving Factory
2015	Mongolia	10MW Solar Power Project in Darkhan City
2015	Mongolia	Installation of 2.1MW Solar Power Plant for Power Supply in Ulaanbaatar Suburb
2015	Bangladesh	Introduction of PV-diesel Hybrid System at Fastening Manufacturing Plant
2014	Viet Nam	Introduction of Amorphous high efficiency transformers in power distribution systems

1) Thailand: Introduction of 2.0 MW Rooftop Solar Power System in Paint Factory

Project participants (Partner country)	Project participants (Japan)
TOA Paint CO., Ltd./ Prime Roof Top Co., Ltd.	FINETECH CO., Ltd.
	
 <p>Located 3km south of the Suvarnabhumi Airport</p>	
Sectoral scope: Energy industries	Expected GHG reduction: 1,344 t-CO2/Year

Overview and future development

- TOA Paint is one of the biggest painting company in Thailand.
- PRT is an investment company very active in renewable energy projects.
- Rooftop PV system is the 1st phase of TOA's "smart working place concept".
- Expansion of the PV system to 4MW is planned to be implemented in the future.

1) Thailand:

Introduction of 2.0 MW Rooftop Solar Power System in Paint Factory

Needs finding and Match-making

- ✓ “Feasibility Study on JCM Project by City to City Collaboration” between Bangkok and Yokohama in FY 2015
- ✓ Match-making event in Bangkok and study tour to Japan

Preparation for applying the JCM financing program

Support by the OECC: Schedule, GHG reduction potential, business plan, cost-effectiveness, international consortium, etc.

- ✓ OECC provided broad consulting from the JCM point of view to make the project suitable for the JCM financing program.

E.g. Boundary of the project, cost coverage by the JCM finance

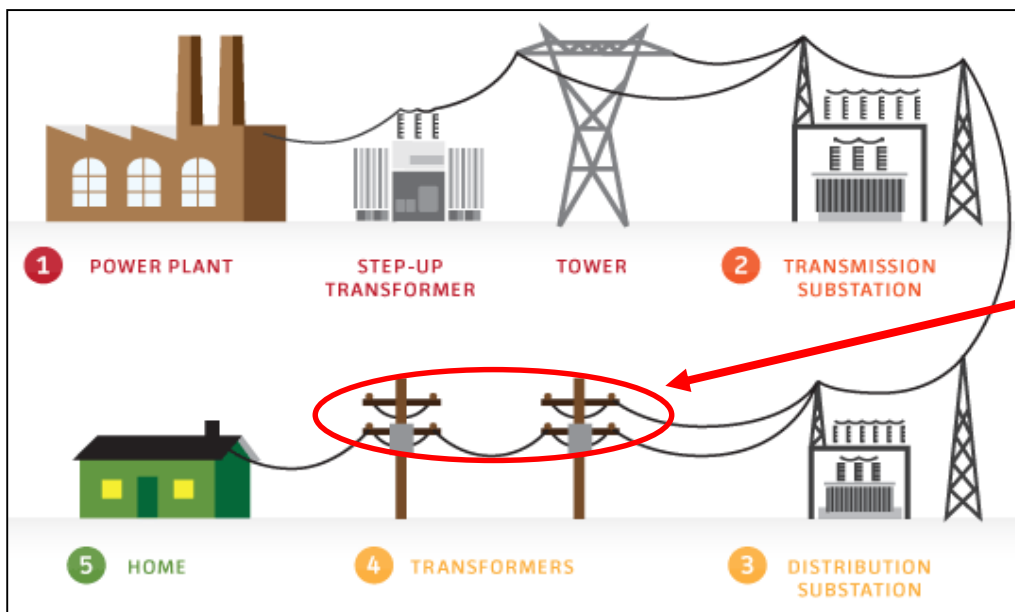
2) Vietnam: Installation of energy efficient transformers with amorphous metal core

Project participants (Partner country)

EVN SPC, EVN HCMC, EVN CPC, EVN Danang

Project participants (Japan)

Yuko Keiso Co., Ltd.



Amorphous Metal Transformer (AMT)

Sectoral scope: Energy distribution

Expected GHG reduction: (Ph.1) 610 tCO₂/year, (Ph.2) 4,402 tCO₂/ year, (Ph.3) 2,098 tCO₂/year

Overview and future development

- Installation of the AMTs to reduce no-load losses by transformers by 60%.
- The similar projects are considered in Laos, Myanmar and Cambodia.
- Phase 4: New project combined with solar power generation system is under consideration.

2) Vietnam:

Installation of energy efficient transformers with amorphous metal core

Needs finding and Match-making

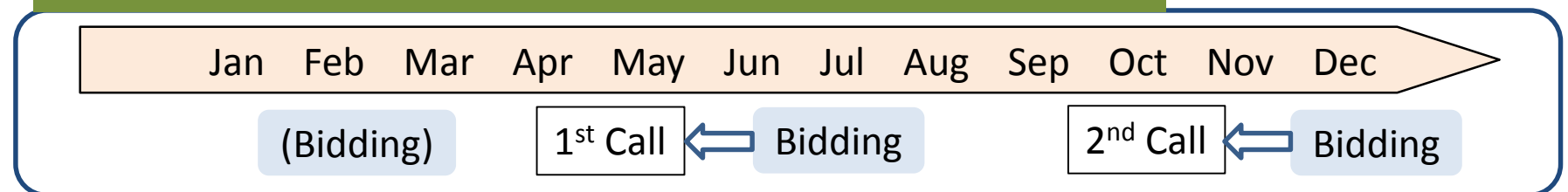
- ✓ GHG reduction potential was surveyed in the past FS.
- ✓ Bottom-up approach to regional power corporations
- ✓ Cooperation with local supplier of the AMT

Preparation for applying the JCM financing program

Support by the OECC: Consensus building, methodology


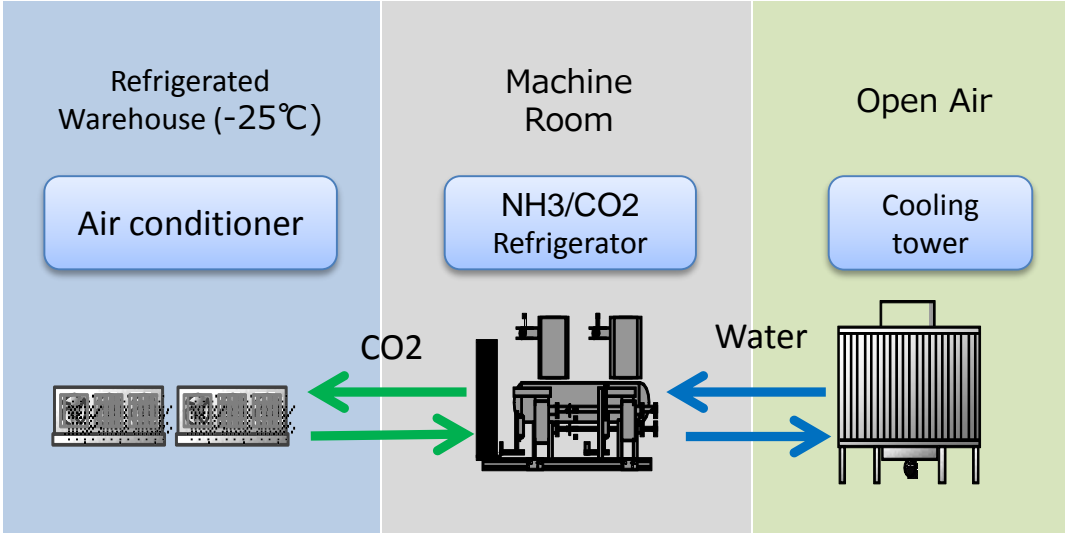
- ✓ Advantages of the AMT was well recognized by EVNs through the survey/sales activities with local supplier. (Entire system efficiency, total cost with using the JCM finance)
- ✓ Supported methodology development

Bidding schedule and application for the JCM financing program



3) Myanmar:

Introduction of Energy Efficient Refrigeration System in Logistics Center

Project participants (Partner country)	Project participants (Japan)
Ryobi Myanmar Distribution Service Co., Ltd	Ryobi Holdings Co., Ltd.
<p>The Logistics center will be built in the Thilawa SEZ located southeast of Yangon</p>  <p>Completion Image of the center</p>	 <p>The diagram illustrates the refrigeration system components and their interactions. It is divided into three vertical zones: 1. Refrigerated Warehouse (-25°C) containing an Air conditioner. 2. Machine Room containing an NH3/CO2 Refrigerator. 3. Open Air containing a Cooling tower. Green arrows show CO2 flowing from the Machine Room to the Air conditioner. Blue arrows show Water flowing from the Machine Room to the Cooling tower.</p>
Sectoral scope: Energy demand	Expected GHG reduction: 125 t-CO2/Year

Overview and future development

- Ryobi will build new logistic center in the Thilawa SEZ in 2018.
- High efficient refrigerator using NH3 and CO2 as refrigerants will be installed.
- Ryobi is now providing their service in Vietnam and plans to expand the cold chain in other ASEAN countries in the future.

3) Myanmar:

Introduction of Energy Efficient Refrigeration System in Logistics Center

Needs finding and Match-making

- ✓ Hearing survey from relevant organizations
(Ministries, embassy, JICA, economic groups, companies, etc.)
- ✓ Suggestion for suitable low-carbon technology

Preparation for applying the JCM financing program

Support by the OECC: Consensus building, GHG reduction potential, selection of low carbon technology

- ✓ OECC provided broad consulting from the JCM point of view to make the project suitable for the JCM financing program.



Thank you for your attention!