



Webinar on the Joint Crediting Mechanism (JCM) Implementation in Republic of Palau - Innovation for Carbon Neutrality through JCM -

JCM Project Formation Study in Republic of Palau

18 February 2022

Pacific Consultants Co., Ltd.

P R O D U C I N G
T H E F U T U R E

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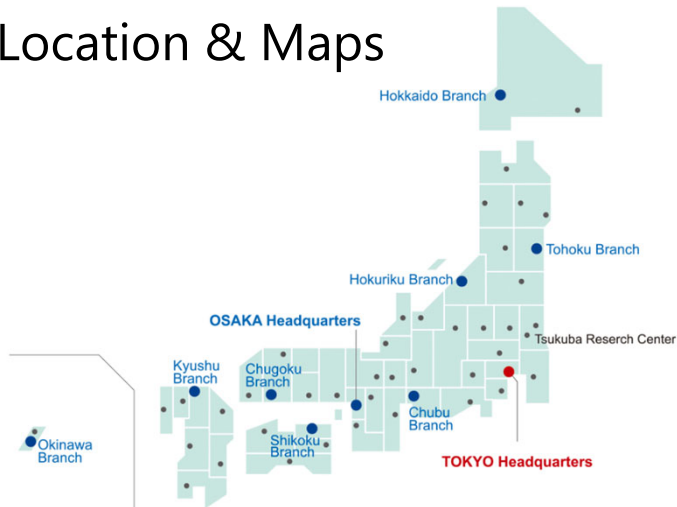
1 . Company Profile

PACIFIC CONSULTANTS CO., LTD. (PCKK)

- ✓ September 4th, 1951 established
- ✓ 2,122 employees (as of 2021.10.01)
- ✓ Civil Engineering Consultant
- ✓ <https://www.pacific.co.jp/e/>



Location & Maps



Global Network



Business Field



Environmental Management
Riverine and Coastal Management, Dams, Ports, Natural Disasters, etc.



Transportation Infrastructure
Roadways, Railways, Airports, Tunnels, Bridges, Structures, etc.



Mechanical and Electrical Design
MEP Planning and Design for Large-Scale Infrastructure and facilities, etc.



Public Sector Management
PPP, PFI, Bidding Support, Public Asset Management, etc.



Information System
GIS and Remote-Sensing, ITS, e-Government, etc.



Urban Development
Transportation Planning, Urban Planning and Design, etc.



Environment and Energy
Water and Sewage, Renewable Energy, Waste Disposal, etc.



Geotechnical
Slope Stabilization, Soil Liquefaction, Soil Analysis, etc.



Overseas Projects
ODA, Foreign Government, Private-Sector Clients, etc.



New Project Development
Smart Community, Wellness, Regional Energy Management, etc.



Research and Development >

Business Facts

<p>Business Field 29</p>	<p>Project Countries 57 Since 2011</p>	<p>Projects 2,894 2019</p>
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Experiences on JCM Financing Programme



Small Scale Solar Power Plants for Commercial Facilities in Island States (Palau)

Introduction of Solar PV System on Factory Rooftop (Thailand)



Introduction of Solar PV System at Salt Factory (Kenya)

2 . Outline of JCM Project Formation Study in Palau

- Commissioned by Ministry of the Environment, Government of Japan (MOEJ)
- Objective : Finding and **forming CO2 emission reduction*1 projects**, which can be applicable to **Financing Programme for JCM Model Projects**.
 - To identify possible project candidates for JCM,
 - To assist the project candidates to develop proposal for JCM Financing Programme,
- Targeted countries: Ethiopia, Kenya, Maldives, Palau, and Saudi Arabia

*1: "CO2 emission reduction" in this regard means reduction of CO2 emission resulting from fossil fuel combustion.

Outline of JCM Project Formation Study in Palau

■ Current status of JCM Model Project in Palau (as of February 2022)

Partner Country ▼	Type ▼	Selected Year ▼	Sector ▼	Project Title ▼	Entity ▼	Status ▼	JCM Project Cycle ▼	Expected GHG Emission Reductions (tCO ₂ /year)▼	Amounts of Credits Issued (tCO ₂) ▼
Palau	JCM Model Project	2019	Renewable Energy	Introduction of 1MW Solar Power System on Supermarket Rooftop	Sharp Energy Solutions Corporation	Installing	Not registered	843	
Palau	JCM Model Project	2018	Renewable Energy	Introduction of 0.4MW Rooftop Solar Power System in Supermarket	Sharp Energy Solutions Corporation	Active	Registered	285	
Palau	JCM Model Project	2014	Renewable Energy	Solar PV System for Schools Project	Pacific Consultants Co., Ltd.	Active	Registered Credit issued	111	145
Palau	JCM Model Project	2014	Renewable Energy	Small-Scale Solar Power Plants for Commercial Facilities Project II	Pacific Consultants Co., Ltd.	Active	Registered Credit issued	320	440
Palau	JCM Model Project	2013	Renewable Energy	Small Scale Solar Power Plants for Commercial Facilities in Island States	Pacific Consultants Co., Ltd.	Active	Registered Credit issued	259	296
Total:								1,818	881

Source: http://gec.jp/jcm/?country%5B%5D=palau&s=&operator=in#label_result

Outline of JCM Project Formation Study in Palau

■ Current status of energy/electricity in Palau



<Current situation>

- Two diesel power plants, Aimeliik Power Plant (12MW) and Malakal Power Plant (24.45MW).
- Electric demand was 79,311 MWh (2016). **Electric demand in 2025 is estimated around 109,121 MWh (37.6% increase)** .
- Installed solar PV system capacity was 2,356kW (as of June 2017). Annual electric generation was around 735,988kWh (2016).

<Goals setting in the NDC>

- The below goals are set in the NDC (Target year is 2025)
 - ✓ **Reduce CO2 emissions by 22% compared to 2005 in the energy sector** (equivalent to 19,360 tCO2)
 - ✓ **45% of electricity demand will be covered by renewable energy**
 - ✓ Achieve **35% energy saving compared to 2005**



Necessary items (case of PV installation)

- Solar PV (44MW)
- Power conditioner (22MW)
- Power storage 9.4MWh (17.6MW)

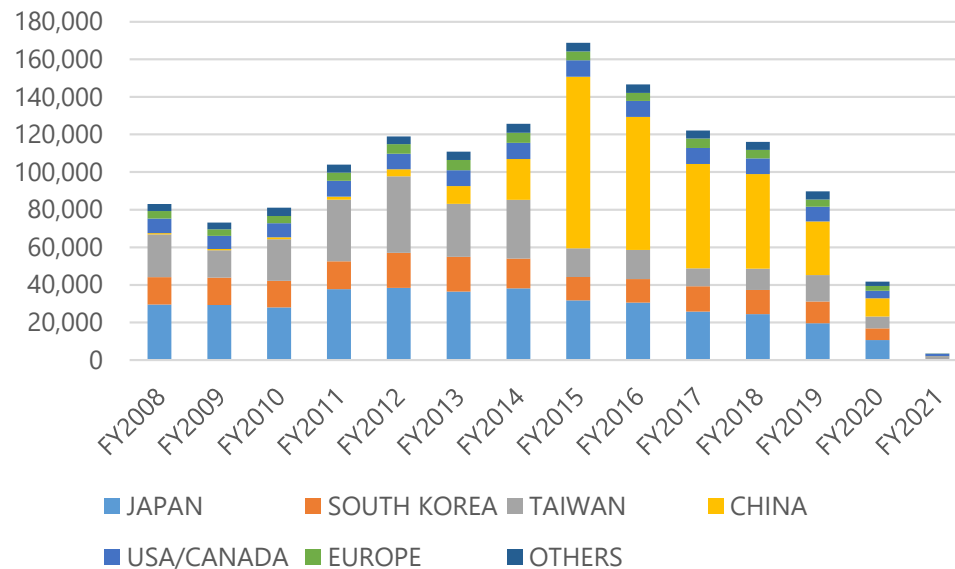
Outline of JCM Project Formation Study in Palau

Current status of Industry in Palau

<Main industries>

- Tourism
- Fisheries

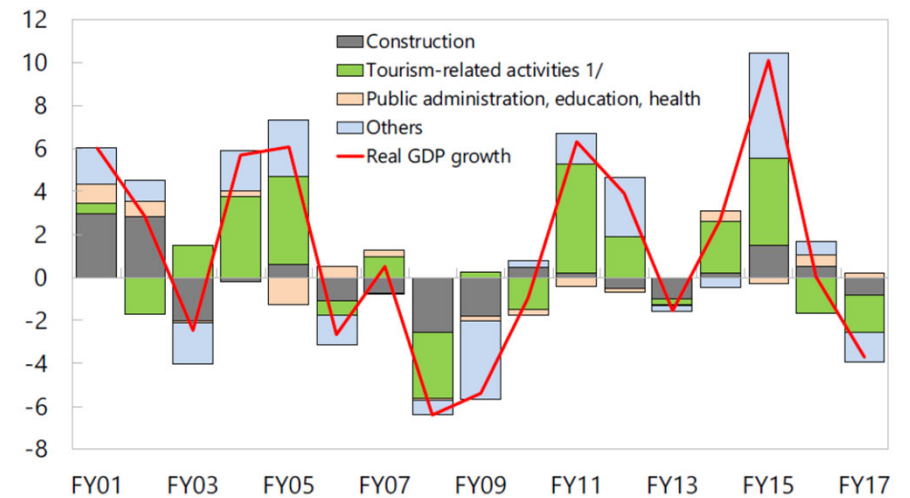
Visitor arrivals by Country Group, FY2008 to FY2021



Source: Bureau of Immigration, MOJ and Bureau of Budget and Planning, MOF, Republic of Palau

Palau: Contribution to GDP growth, FY2001-17

(Percent)



1/ Tourism-related activities includes hotel, restaurant and entertainment sectors

Sources: National Authorities and PITI-VITI

Source: Republic of Palau : 2018 Article IV Consultation-Press Release; Staff Report; and Statement by the Executive Director for the Republic of Palau, IMF country report No.19/43, 2019

3 . Challenges and Possible Solutions for Formulating JCM Projects in Palau

Challenges and Possible Solutions for Formulating JCM Projects in Palau

Challenge 1: Lack of large scale projects suitable for use of JCM Financing Programme

Possible Solution 1:

- ✓ **Bundling multiple projects**
- ✓ **Coordination with other funds such as JICA**
- ✓ Use of JCM eco-lease

Challenge 2: Small number of potential Japanese companies that could participate in the JCM project in Palau

Possible Solution 2:

- ✓ **Conduct public relations activities to promote understanding of the benefits of using JCM in Palau and other countries to Japanese companies**

Challenge 3: Difficulty in raising necessary funds for project implementation

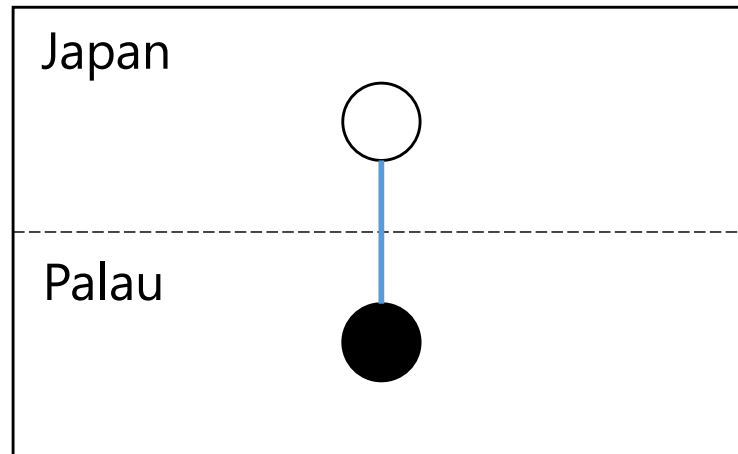
Possible Solution 3:

- ✓ **Coordination with other funds such as JICA**
- ✓ Use of JCM eco-lease

■ Pros and Cons of Bundling Multiple Projects

● : Owner of the installed equipment

International Consortium



1. The simplest case

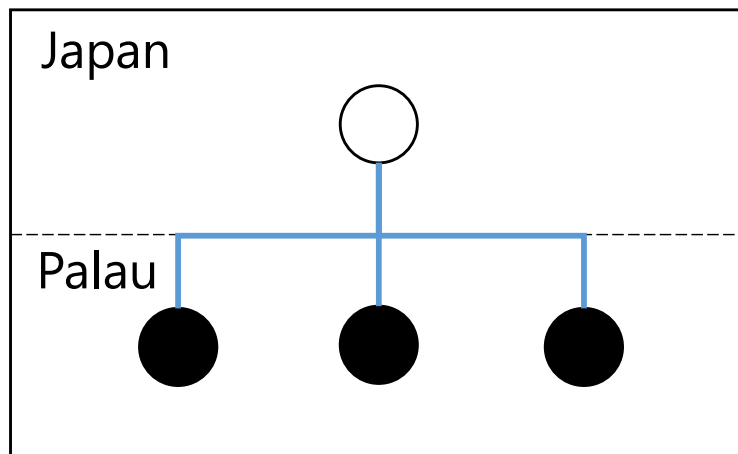
Pros:

- ✓ Relatively easy to form international consortium and manage the project.

Cons:

- ✓ Difficult to secure the scale to utilize JCM Financing Programme in Palau.

International Consortium



2. Bundling multiple projects into one

Pros:

- ✓ The scale of the project can be secured.

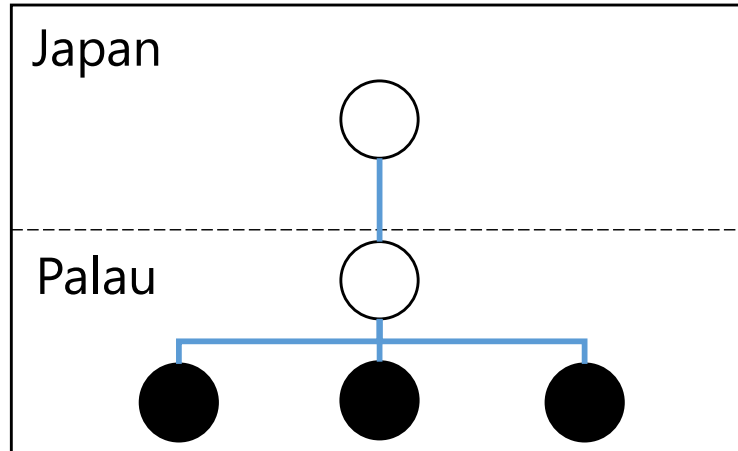
Cons:

- ✓ Forming an international consortium and project management are difficult.

■ Pros and Cons of Bundling Multiple Projects

● : Owner of the installed equipment

International Consortium



3. A case where multiple projects are managed by one Palauan company

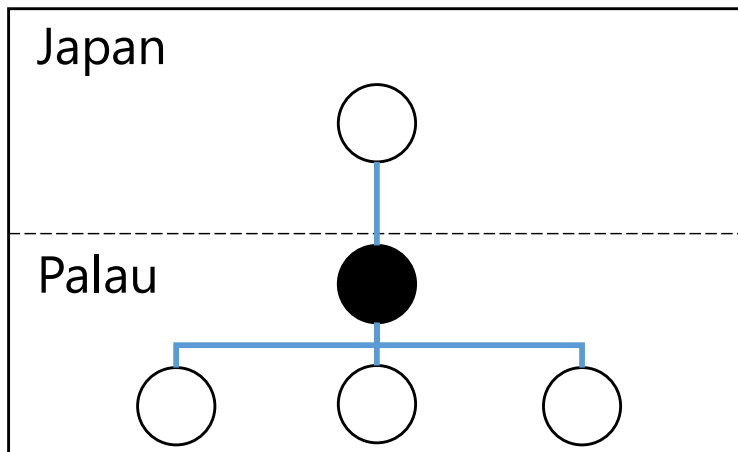
Pros:

- ✓ The scale of the project can be secured.
- ✓ Project management can be done smoothly.

Cons:

- ✓ The number of Palauan companies that can provide project management is limited.

International Consortium



4. A case where the equipment is owned by one Palauan company but installed in multiple locations

Pros:

- ✓ The scale of the project can be secured.
- ✓ Project management is easier than case 3.

Cons:

- ✓ The number of Palauan companies that can take on the role of “●” is limited.

Please contact PCKK at any time;

- ✓ when you have any ideas about implementing low-carbon and decarbonization projects; and/or
- ✓ when you have any questions or concerns about the JCM Financing Programme.

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Thank you so much for
allowing us to make a presentation.

 Pacific Consultants

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