



# Republic of Marshall Islands

Country Energy Security Indicator Profile 2009







# **RMI Country Energy Security Indicator Profile 2009**

**Prepared by the Energy Programme, Economic Development Division  
Secretariat of the Pacific Community  
Suva, Fiji  
2012**

© Copyright Secretariat of the Pacific Community (SPC), 2012

All rights for commercial / for profit reproduction or translation, in any form, reserved. SPC authorises the partial reproduction or translation of this material for scientific, educational or research purposes, provided that SPC and the source document are properly acknowledged. Permission to reproduce the document and/or translate in whole, in any form, whether for commercial / for profit or non-profit purposes, must be requested in writing. Original SPC artwork may not be altered or separately published without permission.

Original text: English

Secretariat of the Pacific Community Cataloguing-in-publication data

Republic of Marshall Islands [RMI] Country Energy Security Indicator Profile 2009 / prepared by the Energy Programme, Economic Development Division, Secretariat of the Pacific Community

1. Energy policy – Marshall Islands.
2. Power resources – Marshall Islands.
3. Energy security – Marshall Islands.

I. Title. II. Secretariat of the Pacific Community.

333.79099683

AACR2

ISBN: 978-982-00-0583-9



# Table of contents

|  |     |
|--|-----|
| Acknowledgement .....  | v   |
| Foreword .....   | vi  |
| Abbreviations .....  | vii |
| Country profile .....  | 1   |
| Energy context.....  | 3   |
| FAESP key energy security outcome 1 — access to energy .....                                 | 4   |
| FAESP key energy security outcome 2 — affordability .....                                    | 6   |
| FAESP key energy security outcome 3 — efficiency and productivity .....                      | 8   |
| FAESP key energy security outcome 4 — environmental quality.....                             | 10  |
| FAESP action theme 1 — Leadership, governance, coordination and partnership.....             | 11  |
| FAESP action theme 2 — Capacity development, planning, policy and regulatory frameworks..... | 12  |
| FAESP action theme 3 — Energy production and supply .....                                    | 13  |
| 3.1 Petroleum and alternative fuels.....   | 13  |
| 3.2 Renewable energy .....   | 14  |
| FAESP action theme 4 — Energy conversion .....   | 15  |
| 4.1 Electric power.....  | 15  |
| FAESP action theme 5 — End-use energy consumption .....                                      | 16  |
| 5.1 Transport energy use .....   | 16  |
| 5.2 Energy efficiency and conservation.....  | 16  |
| FAESP action theme 6 — Energy data and information.....                                      | 17  |
| FAESP action theme 7 — Financing, monitoring and evaluation .....                            | 18  |

# Acknowledgement

The *Framework for Action on Energy Security in the Pacific* (FAESP) country energy security indicator report 2009 was prepared by the Energy Programme of the Economic Development Division of the Secretariat of the Pacific Community (SPC).

Many special thanks go to the participants of the National Energy Policy and Planning Workshop that was convened in the Republic of the Marshall Islands (RMI) in February 2012 for their presentations and assistance in data collection and follow-ups; the Energy Planning Division; the Marshalls Energy Company; and, in particular, the Secretary of the Ministry of Resources and Development.

SPC would also like to thank the European Union Energy Initiative–Partnership Dialogue Facility (EUEI PDF) for providing the funds to carry out in-country technical activities and collect the data required for the energy security indicators.

The cooperation of the many contributors to this edition is gratefully acknowledged. The source note below each table credits the various government and private sector agencies that have collaborated in furnishing the information for the booklet.



Solomone Fifita  
Deputy Director (Energy)  
Economic Development Division, SPC

In August 2010 at the 41<sup>st</sup> Pacific Islands' Forum in Port Vila, Vanuatu, the Forum Leaders' endorsed the *Framework for Action on Energy Security in the Pacific* (FAESP): 2010–2020 as the regional blueprint for the provision of technical assistance to the energy sectors of Pacific Island countries and territories (PICTs). FAESP encompasses the Leaders' vision for an energy secure Pacific where Pacific people at all times have access to sufficient sustainable sources of clean and affordable energy and services to enhance their social and economic well-being.

The *Implementation Plan for Energy Security in the Pacific* (IPESP) (2011–2015) is a five-year plan for pursuing the vision, goal and outcomes of FAESP. It reflects the priority regional activities that are to be collectively delivered by the participating members of the Council of Regional Organisations in the Pacific (CROP) to support, complement and add value to national efforts on energy security.

In order to better appreciate the impacts of FAESP and its implementation plan on the energy security status of PICTs, baseline energy security indicators must be established, against which performance in future years can be benchmarked.

The energy security indicators in this report derive from a consultative process involving representatives of PICTs, regional organisations, the private sector and development partners. The process culminated in the adoption of IPESP and its monitoring and evaluation framework, the energy security indicators, at the Inaugural Regional Meeting of Ministers for Energy, ICT and Transport in April 2011.

As a first attempt to improve the transparency and accountability in the energy sector, there is obvious room for improvement. Lack of access to reliable and sufficient data is a common problem and this monitoring and evaluation tool can only get better with the kind assistance of the custodians of the energy sector data.

**Solomone Fifita**  
**Deputy Director (Energy)**  
**Economic Development Division, SPC**

# Abbreviations

|                       |  |
|-----------------------|--|
| <b>ADB</b>            | Asian Development Bank   |
| <b>ADO</b>            | automotive diesel oil  |
| <b>ADMIRE</b>         | Action for the Development of Marshall Islands Renewable Energies (RMI GEF/UNDP) |
| <b>AusAID</b>         | Australian Agency for International Development                                  |
| <b>Ave.</b>           | average  |
| <b>CO<sub>2</sub></b> | carbon dioxide   |
| <b>DPK</b>            | dual purpose kerosene  |
| <b>e.</b>             | estimate   |
| <b>EEZ</b>            | exclusive economic zone  |
| <b>EPD</b>            | Energy Planning Division of MRD  |
| <b>EPPSO</b>          | Economic Policy, Planning and Statistics Office                                  |
| <b>FAESP</b>          | Framework for Action on Energy Security in the Pacific                           |
| <b>FICs</b>           | (The 14) Forum Island countries (SIS and non-SIS)                                |
| <b>GDP</b>            | gross domestic product   |
| <b>GHG</b>            | greenhouse gases   |
| <b>GJ</b>             | gigajoules   |
| <b>GWh</b>            | gigawatt hour  |

|              |  |
|--------------|--|
| <b>HIES</b>  | household income and expenditure survey        |
| <b>IPP</b>   | independent power producer                     |
| <b>IUCN</b>  | International Union for Conservation of Nature |
| <b>KAJUR</b> | Kwajalein Atoll Joint Utility Resource         |
| <b>kWh</b>   | kilowatt hour                                  |
| <b>km</b>    | kilometre                                      |
| <b>LPG</b>   | liquefied petroleum gas                        |
| <b>m</b>     | metre  |
| <b>MJ</b>    | megajoules                                     |
| <b>MEC</b>   | Marshalls Energy Company                       |
| <b>MPW</b>   | Ministry of Public Works                       |
| <b>MRD</b>   | Ministry of Resources and Development          |
| <b>n.a</b>   | (data) not available                           |
| <b>N/A</b>   | (indicator) not applicable                     |
| <b>PICTs</b> | Pacific Island countries and territories       |
| <b>PPA</b>   | Pacific Power Association                      |
| <b>ppm</b>   | parts per million                              |

|               |   |
|---------------|---|
| <b>PRISM</b>  | Pacific Regional Information System (Statistics for Development, Secretariat of the Pacific Community)  |
| <b>PMU</b>    | Project Management Unit   |
| <b>PV</b>     | photovoltaic  |
| <b>RE</b>     | renewable energy  |
| <b>REP-5</b>  | Support to the Energy Sector in Five ACP Pacific Island countries programme funded by the European Union  |
| <b>SIS</b>    | (Forum) smaller island states – Cook Islands, Kiribati, Nauru, Niue, Palau, RMI and Tuvalu. Non-SIS members are Fiji, PNG, Samoa, Solomon Islands, Tonga and Vanuatu. |
| <b>ULP</b>    | unleaded petrol (another name for motor gasoline)   |
| <b>UNDP</b>   | United Nations Development Programme  |
| <b>UNFCCC</b> | United Nations Framework Convention on Climate Change   |
| <b>USD</b>    | United States dollar  |



## Country profile

**The national vision of the RMI, as expressed in “Vision 2018”, the Marshall Islands Strategic Economic Development Plan for 2003–2018 is:**

‘To become a country within an inter-dependent world, with an enhanced socio-economic self-reliance, and an educated, healthy, productive, law-abiding and God-loving people in which individual freedom and fundamental human rights are protected, and culture and traditions are respected, and development and environmental sustainability are in harmony.’

|                                   |  |
|-----------------------------------|--|
| <b>Country</b>                    | Republic of the Marshall Islands (RMI)   |
| <b>Capital</b>                    | Majuro   |
| <b>Population</b>                 | 61,022 (2009 estimate, 51% males)  |
| <b>Land area</b>                  | 181 km <sup>2</sup>  |
| <b>Max height above sea-level</b> | 3 m  |
| <b>Geography</b>                  | Marshall Islands consists of two groups of atolls and islands: Ralik (sunset) Chain in the west and Ratak (sunrise) Chain to the east, within a rectangle extending 1,150 km north-south and 1,300 km east-west. The islands are typically several kilometres long and rarely over 200 metres in width. Of the 34 islands, 26 are inhabited. |
| <b>Location</b>                   | 7° 6' 0" North, 171° 23' 0" East   |
| <b>EEZ</b>                        | 2,131,000 km <sup>2</sup>  |
| <b>Climate</b>                    | Predominant influence is the northeast trade winds; temperature variations are slight with northern islands being slightly cooler than the southern.   |

|                                      |  |
|--------------------------------------|--|
| <b>Rainfall</b>                      | Varies from north to south; Ujelang has an average of 2,030 mm per annum while Jaluit, further south, has twice that amount.   |
| <b>Mean temperature</b>              | 27°C   |
| <b>Economic</b>                      | The leading producers of income in the Marshall Islands rely heavily on outside assistance, principally in the form of grants and lease payments from the USA. Agricultural production is primarily subsistence and is concentrated on small farms. Industrial activities in RMI are limited to handicrafts, tuna processing, copra and tourism. |
| <b>GDP per capita</b>                | USD 2,504  |
| <b>Currency</b>                      | American Dollar — USD  |
| <b>Language</b>                      | Marshallese (Official language), English   |
| <b>Government</b>                    | Republic in a compact of free association with the USA   |
| <b>Country representative to SPC</b> | Secretary for Foreign Affairs<br>Ministry of Foreign Affairs<br>P O Box 1349, Majuro<br>Republic of the Marshall Islands 96960<br>Tel: (692) 625 3181, 625 3012, 625 2699, 625 2763<br>Fax: (692) 625 4974 / 8860<br>Email: <a href="mailto:kino.kabua@ntamar.net">kino.kabua@ntamar.net</a>   |

## Energy context

In 2009, RMI consumed an estimated 2,222 TJ of energy, of which 99.96% came from imported fossil fuels, namely diesel, petrol, kerosene and liquefied petroleum gas (LPG). Petroleum liquid fuel is mainly supplied to RMI by the Marshalls Energy Company (MEC), Mobil, and Pacific International, Inc. (PII), which entered the market in 2010. MEC usually imports fuel from Korea and Singapore, whilst Mobil mainly imports from Guam. Around 37.4 million litres of diesel, 7.2 million litres of petrol, 15.9 million litres of kerosene, and 143 tonnes of LPG were imported in 2009. This totalled USD 40.7 million in fuel import bills with a current gross domestic product (GDP) of USD 152.8 million.

Diesel fuel for electricity production accounted for 67% of total diesel fuel imported in 2009. Of the total petroleum fuel products imported into the country, the land transport sector accounted for roughly 69%, electricity 27% and the remaining 4 % went to the commercial and industrial sector.

In the power sector, around 72% of households in RMI are connected to the electricity grid provided by MEC and Kwajalein Atoll Joint Utilities Resources Inc. — KAJUR (for Ebeye). In 2009, MEC generated 67.7 GWh of electricity, of which 48.17 GWh was sold, recording an estimated 29% in distribution loss. Access to electrification is centred mostly at Majuro and Ebeye, with access recording over 99%. Access to grid electrification in the rural areas is around 32% for RMI.

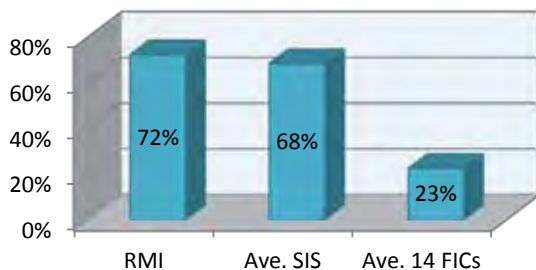
Contributions from renewable energy sources in 2009 were mainly from the solar photovoltaic (PV) units installed by the REP-5 programme (Support to the Energy Sector in Five ACP Pacific Island Countries Programme funded by the European Union), which generated around 0.15G Wh (539 GJ) of electricity, and from the coconut biofuel trials undertaken by Tobolar, which contributed 289 GJ of energy or consumed an estimated 8,300 litres of coconut oil blend with diesel.

*The 2009 baseline energy security indicators in this report for RMI are compiled and structured according to the four key energy security outcomes and the seven action themes of FAESP. Graphical comparison included in the analysis provides a snapshot of RMI's situation compared to other Forum smaller island states and Forum Island countries (FICs).*

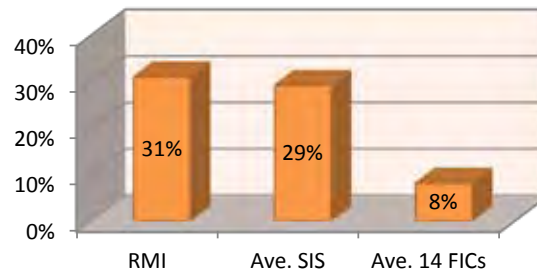
## FAESP key energy security outcome 1 — access to energy

| No. | FAESP indicators                      |     | Explanatory notes  |
|-----|---------------------------------------|-----|--|
| 1   | Electrification rate (%)              | 72  | <i>The indicator tracks the share of households actually connected to a utility grid.</i><br>Based on the 2007 Demographic and Health Survey Report, 72.3% of households in RMI have access to grid-connected electricity. Of this average estimate, 91.6% are grid-connected in urban areas, and 32.1% are grid-connected in rural areas. |
| 2   | Access to small scale power rural (%) | 31  | <i>The indicator tracks the share of rural households with access to basic electrification (solar, pico hydro, small wind, community grid).</i><br>Referenced data sourced from the RMI 2006 Community Survey, EPPSO.  |
| 3   | Access to modern energy rural (%)     | 63  | <i>The indicator tracks the share of rural households with access to modern cooking and lighting, which specifically covers all forms of energy other than traditional biomass.</i><br>Referenced data sourced from the RMI 2006 Community Survey, EPPSO.  |
| 4   | Access to modern energy urban (%)     | 100 | <i>The indicator tracks the share of urban households with access to modern cooking and lighting, which specifically covers all forms of energy other than traditional biomass.</i><br>Referenced data sourced from the RMI 2006 Community Survey, EPPSO.  |

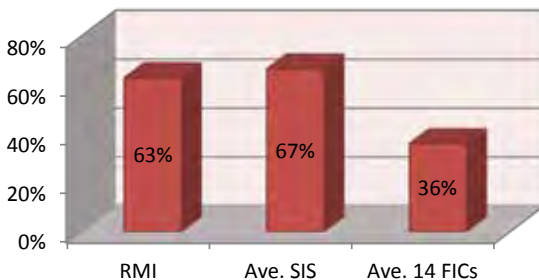
### Electrification rate



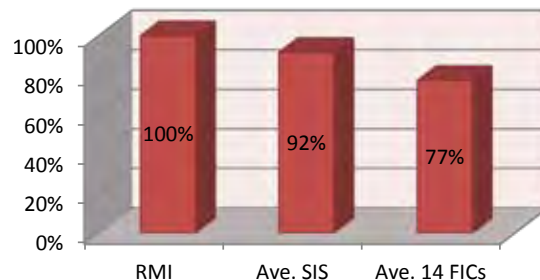
### Access to small scale power rural



### Access to modern energy rural



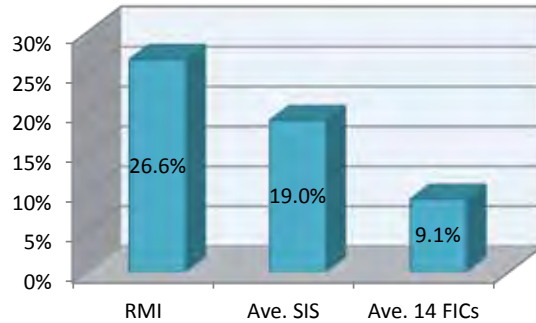
### Access to modern energy urban



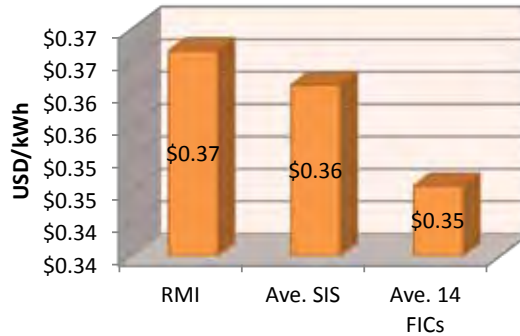
## FAESP key energy security outcome 2 — affordability

| No.                | FAESP indicators                      |       | Explanatory notes   |                    |  |  |                  |         |      |                  |         |      |                   |         |      |           |         |      |          |         |      |          |   |       |
|--------------------|---------------------------------------|-------|---|--------------------|--|--|------------------|---------|------|------------------|---------|------|-------------------|---------|------|-----------|---------|------|----------|---------|------|----------|---|-------|
| 5                  | Macro-economic affordability (%)      | 26.6  | <p><i>The indicator tracks fuel imports as a percentage of GDP. The higher the figure, the more vulnerable an economy is to world market price volatility.</i></p> <p>The macro-economic affordability was calculated from reference World Bank data for total GDP in 2009 against estimated fuel imports (USD 40,653,356 / USD 152,800,000).</p>   |                    |  |  |                  |         |      |                  |         |      |                   |         |      |           |         |      |          |         |      |          |   |       |
| 6                  | Electricity tariff (USD/kWh)          | 0.37  | <p><i>The indicator tracks average tariffs for the year (all tariff categories, i.e. residential, commercial and industrial). Requires averaging throughout the year as tariffs in most PICTs are adjusted several times a year.</i></p> <p>Refer to the table on the right for reference calculation of the average tariff.</p> <table border="1" data-bbox="1045 344 1444 546"> <thead> <tr> <th colspan="3">Electricity tariff</th> </tr> </thead> <tbody> <tr> <td>Commercial block</td> <td>USD/kWh</td> <td>0.39</td> </tr> <tr> <td>Industrial block</td> <td>USD/kWh</td> <td>0.39</td> </tr> <tr> <td>Residential block</td> <td>USD/kWh</td> <td>0.32</td> </tr> <tr> <td>1–500 kWh</td> <td>USD/kWh</td> <td>0.31</td> </tr> <tr> <td>&gt;500 kWh</td> <td>USD/kWh</td> <td>0.33</td> </tr> <tr> <td>Lifeline</td> <td>%</td> <td>84.6%</td> </tr> </tbody> </table> <p><i>Referenced electricity tariff calculation based on MEC data</i></p> | Electricity tariff |  |  | Commercial block | USD/kWh | 0.39 | Industrial block | USD/kWh | 0.39 | Residential block | USD/kWh | 0.32 | 1–500 kWh | USD/kWh | 0.31 | >500 kWh | USD/kWh | 0.33 | Lifeline | % | 84.6% |
| Electricity tariff |                                       |       |   |                    |  |  |                  |         |      |                  |         |      |                   |         |      |           |         |      |          |         |      |          |   |       |
| Commercial block   | USD/kWh                               | 0.39  |   |                    |  |  |                  |         |      |                  |         |      |                   |         |      |           |         |      |          |         |      |          |   |       |
| Industrial block   | USD/kWh                               | 0.39  |   |                    |  |  |                  |         |      |                  |         |      |                   |         |      |           |         |      |          |         |      |          |   |       |
| Residential block  | USD/kWh                               | 0.32  |   |                    |  |  |                  |         |      |                  |         |      |                   |         |      |           |         |      |          |         |      |          |   |       |
| 1–500 kWh          | USD/kWh                               | 0.31  |   |                    |  |  |                  |         |      |                  |         |      |                   |         |      |           |         |      |          |         |      |          |   |       |
| >500 kWh           | USD/kWh                               | 0.33  |   |                    |  |  |                  |         |      |                  |         |      |                   |         |      |           |         |      |          |         |      |          |   |       |
| Lifeline           | %                                     | 84.6% |   |                    |  |  |                  |         |      |                  |         |      |                   |         |      |           |         |      |          |         |      |          |   |       |
| 7                  | Electricity lifeline (%)              | 84.6  | <p><i>Relation between average tariff and lifeline tariff if a lifeline tariff exists.</i></p> <p>Refer to the table on the right for the reference calculation of the lifeline percentage.</p>   |                    |  |  |                  |         |      |                  |         |      |                   |         |      |           |         |      |          |         |      |          |   |       |
| 8                  | Household energy expenditure load (%) | 17.6  | <p><i>The indicator tracks average household expenditure for energy per year as a percentage of average household income.</i></p> <p>Analysis was based on the 2002 HIES. Reporting gives a breakdown of the annual household operation expenditure and annual transport expenditure. Associated energy expenditure load cost is calculated from these two reference categories.</p>  |                    |  |  |                  |         |      |                  |         |      |                   |         |      |           |         |      |          |         |      |          |   |       |

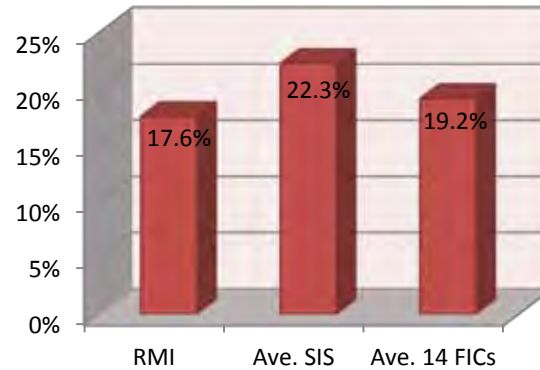
**Macro-economic affordability**



**Electricity tariff**

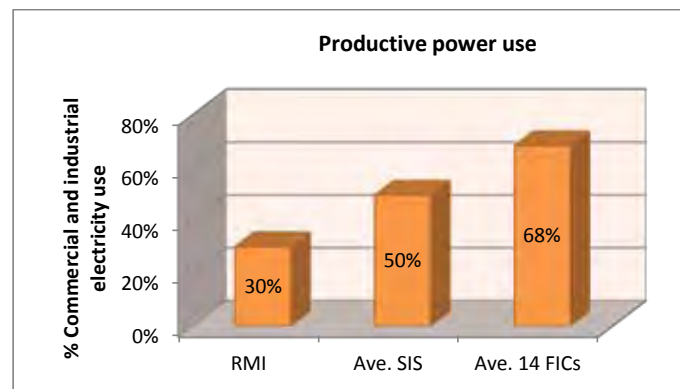
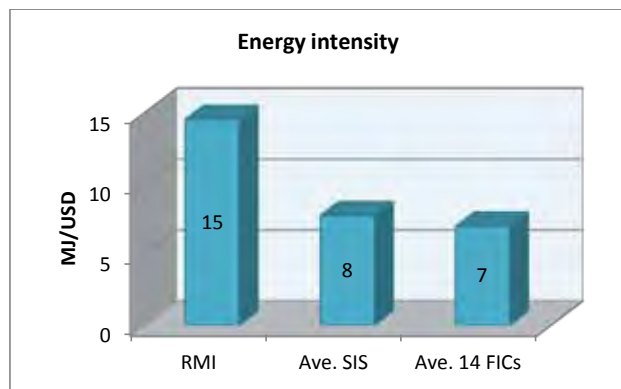


**Household energy expenditure Load**



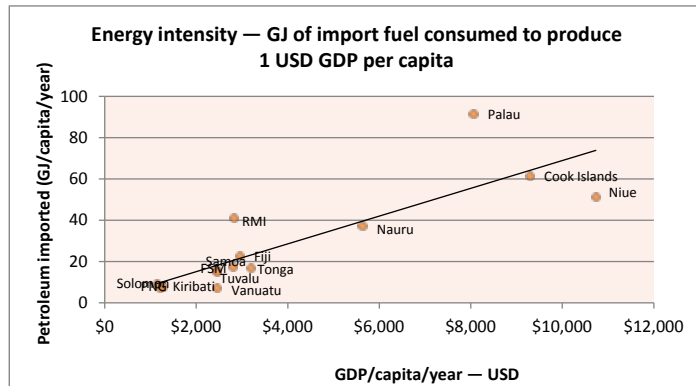
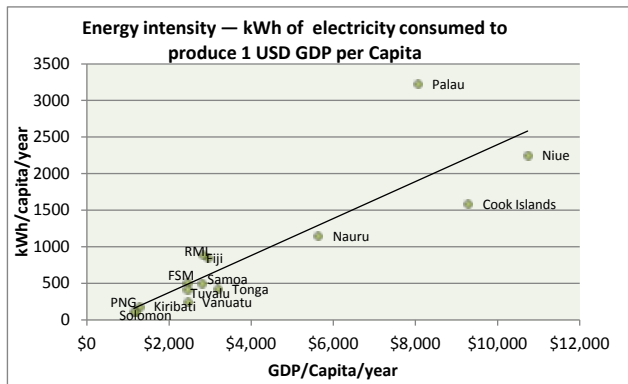
## FAESP key energy security outcome 3 — efficiency and productivity

| No. | FAESP indicators          |      | Explanatory notes  |
|-----|---------------------------|------|--|
| 9   | Energy intensity (MJ/USD) | 14.5 | <i>The indicator tracks the amount of energy utilised to produce 1 USD of GDP.</i><br>Calculation based on total petroleum fuel consumed over total GDP generated in 2009 (USD 40, 653,356 /USD 152, 800,000). |
| 10  | Productive power use (%)  | 30   | <i>The indicator tracks the share of commercial and industrial use of electricity in total supply.</i><br>Figure provided is estimated for RMI in 2009.  |



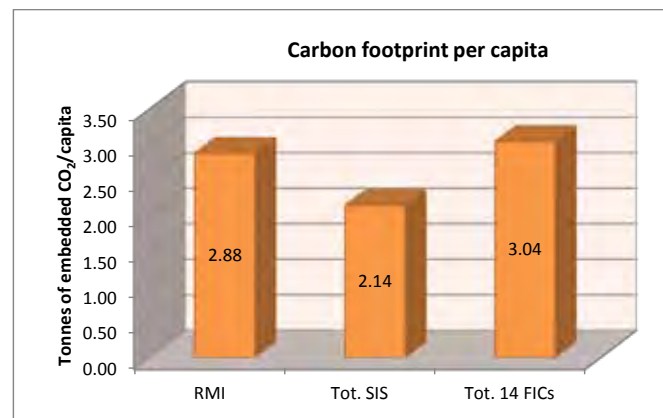
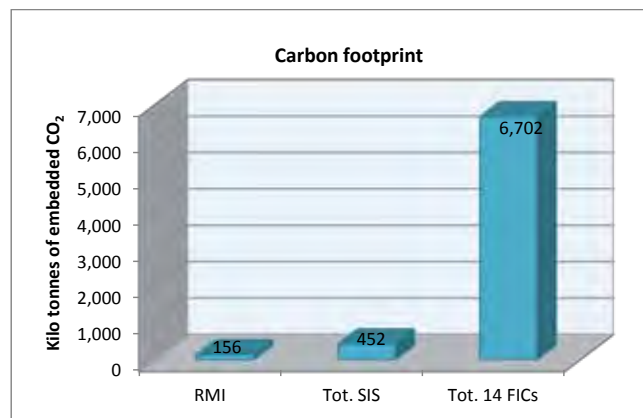


Provided below are energy intensity graphs that are presented in terms of electricity and fuel consumption against GDP when seen on a per capita comparison. Countries identified above the trend line are perceived to be having higher than average energy consumption levels per person when compared to its corresponding economic wealth (GDP per capita). That is, countries above the trend line are considered to be relatively energy inefficient compared to countries below the trend line.



## FAESP key energy security outcome 4 — environmental quality

| No. | FAESP indicators                                 |               | Explanatory notes   |
|-----|--|---------------|---|
| 11  | Carbon footprint<br>(tonnes of CO <sub>2</sub> ) | 155,561       | <i>The indicator tracks total GHG emissions using embedded carbon as a measure (not UNFCCC method).</i> Referenced calculation used is based on quantity of petroleum products imported into the country in 2009.   |
| 12  | Diesel fuel<br>quality (ppm S)                   | 5,000 &<br>50 | <i>The indicator assesses the standard for sulphur content of diesel fuel in parts per million (ppm) sulphur.</i> Fuel that is mainly for electricity generation is imported by MEC from South Korea and contains 5,000 ppm sulphur. Fuel that is mainly sold at gas stations is imported by Mobil from Guam and contains 50 ppm sulphur content. LPG gas is also imported from Guam. |



## FAESP action theme 1 — Leadership, governance, coordination and partnership

| No. | FAESP indicators                        | Explanatory notes   |
|-----|---|---|
| 13  | Status of energy administration (score) | <p>1 <i>The indicator assesses the status of the energy administration in the country. (Score system: Energy ministry = 3; Energy department = 2; Energy office = 1)</i></p> <p>RMI has an Energy Planning Division under the Ministry of Resource and Development. In 2009, there were two established officers and a national energy adviser under the Pacific Technical Assistance Mechanism (PACTAM-AusAID) funding from Australia. EPD has the overall responsibility for energy policy, coordination and implementation work. MEC is the sole utility responsible for electric power generation and distribution on Majuro, Jaluit and Wotje, and works in close collaboration with the EPD in the installation, operation and maintenance of RE installations in remote areas. In Ebeye, KAJUR is co-managed with the local government for power generation and distribution. KAJUR is part of MEC as well.</p>                              |
| 14  | Energy legislation (score)              | <p>2 <i>The indicator assesses the status of the energy sector legislation in the country. (Score system: Updated energy act = 3; Adopted energy policy = 2; Subsector act or policy = 1)</i></p> <p>There is no specific energy act or legislation for RMI. However, RMI developed a National Energy Policy and Strategic Action Plan in 2008, which were endorsed by cabinet in 2009. The following are a number of existing acts that relate to RMI's energy sector: The Emergencies Act 1979 (Section 1102) during a national energy crisis; the Retail Price Monitoring Act of 1992, which provides powers to the Marshall Islands Price Monitoring Board to monitor and regulate retail prices, although currently there is no price control over petroleum fuels; the Import Duties Act, which specifies tax rates on all commodity imports; and the Environment Protection Act, which covers land use, pollution control and emissions.</p> |
| 15  | Co-ordination and consultation (score)  | <p>1 <i>The indicator aims to measure how decisions and directions given at regional or subregional events translate into practical action at national level. (Score system: Meetings lead to relevant national action = 1; No action = 0)</i></p> <p>RMI actively participates in regional activities. Marshalls Energy Company is a utility member of the Pacific Power Association. Within RMI, there is close coordination among the key energy sectors.</p>  |

## FAESP action theme 2 — Capacity development, planning, policy and regulatory frameworks

| No. | FAESP indicators  | Explanatory notes   |
|-----|---|---|
| 16  | Energy planning status (score)                              | <p>2 <i>The indicator assesses the state/quality of energy planning. Distinguishes between integrated planning and subsector (i.e. power, petroleum) planning. (Score system: Whole of energy sector plan/roadmap operational with M&amp;E framework = 3; Subsector plan operational with M&amp;E framework = 2; Energy sector plans under preparation = 1)</i></p> <p>National Energy Policy and Strategic Action Plan endorsed in 2009. No long term development plan for power utility. No M&amp;E framework for the strategic action plan.</p>          |
| 17  | Energy sector regulation (score)                            | <p>0 <i>The indicator assesses the state of energy sector regulation. It measures the progress towards a regulator independent from government or regulated entities. (Score system: Independent whole of energy sector regulator established = 3; Whole of energy sector regulator established = 2; Subsector regulator established = 1)</i></p> <p>Electricity tariff regulation is undertaken through cabinet and currently is not independently regulated. Electricity tariff and fuel price adjustments are also undertaken on an irregular basis.</p> |
| 18  | Enabling framework for private sector participation (score) | <p>0 <i>The indicator assesses progress towards an enabling framework for private sector participation in selling electricity to the grid. (Score system: Standard power purchase and petroleum supply agreements operational = 3; Standard agreements for subsector operational = 2; Standard agreements under preparation = 1)</i></p> <p>There is no enabling framework for the private sector to sell electricity as an independent power producer (IPP) in RMI in 2009.</p>  |
| 19  | Private sector contribution (%)                             | <p>0 <i>The indicator tracks the share of electricity produced by independent power producers under a power purchase agreement.</i></p>   |

## FAESP action theme 3 — Energy production and supply

### 3.1 Petroleum and alternative fuels

| No. | FAESP indicators                       |      | Explanatory notes   |
|-----|--|------|---|
| 20  | Fuel supply security (days)            | 168  | <p><i>The indicator measures the number of days a country can keep operating in case of a petroleum product supply interruption. Calculation used if actual data are not available (size of total petroleum storage (m<sup>3</sup>)/average petroleum product consumption per day).</i></p> <p>Calculated, based on actual available data.</p>  |
| 21  | Fuel supply diversity (%)              | 0.05 | <p><i>The indicator measures the share of locally produced fuel (biofuel and fossil fuel) as a percentage of total supply.</i></p> <p>The estimate of coconut oil bio-fuel blend trials used by Tobolar in 2009 was 0.05%.</p>  |
| 22  | Fuel supply chain arrangements (score) | 1    | <p><i>The indicator assesses control of countries over fuel supply chain. (Score system: Joint procurement scheme operational = 2; Participation in preparation of joint procurement arrangements = 1)</i></p> <p>There are two separate petroleum supply routes. MEC imports diesel from Korea for use in power generation and for sale to commercial businesses, marine bunkers and retail service stations. About half its diesel demand is for power generation. Mobil imports products on local coastal tankers (LCTs) from Guam. Pacific International is a more recent entrant to the petroleum market in RMI. It was established in 2010. Reef Bulk Fuels (RBF), using isotainers delivered on the Reef Shipping cargo vessels, is supplying Pacific International. RMI together with Palau and FSM were part of the first group of countries that pursued bulk purchasing of petroleum from 2005 to 2007. However, a joint procurement scheme did not eventuate as each of the countries had their own fuel supply contracts and arrangements which have yet come to an end.</p> |

## 3.2 Renewable energy

| No. | FAESP indicators                       |      | Explanatory notes   |
|-----|--|------|---|
| 23  | Renewable energy share (%)             | 0.02 | <i>The indicator measures the share of renewable energy as a percentage of total supply for a given year.</i> The analysis considers only the contribution from solar PV home systems that have been installed through the REP-5 Programme and an estimate of the contribution from coconut biofuel blend trials by Tobolar. Contributions from biomass, other solar homes systems and solar water heaters is not included in the analysis due to data not being available. The solar PV home system contribution is calculated from installed solar capacity at 12% capacity factor. |
| 24  | Renewable resource knowledge (score)   | 1    | <i>The indicator assesses the quality of knowledge of national renewable energy potential. (Score system: Comprehensive assessment of all RE resources including cost for each source = 3; Comprehensive physical assessment of all RE resources = 2; Resource assessments fragmentary, under way = 1)</i> Resource empirical data on physical and economic performance of PV systems available, coconut oil bio-fuel sample testing, no other reliable resource data available.  |
| 25  | Least-cost RE development plan (score) | 0    | <i>The indicator assesses if data and information on RE have been translated into a least-cost development plan that gives priority to the most economical RE resource or application. (Score system: Least-cost development plan operational = 2; Least-cost development plan under preparation = 1)</i> No least-cost development plan in place for RMI, but the Energy Policy and Strategic Action Plan include eight priority projects.   |

## FAESP action theme 4 — Energy conversion

### 4.1 Electric power

| No. | FAESP indicators                   |      | Explanatory notes  |
|-----|------------------------------------|------|--|
| 26  | Generation efficiency (kWh/l)      | 4.08 | <i>The indicator measures the annual average fuel conversion efficiency for diesel generation in power utilities.</i><br>Referenced figure was calculated from the total electricity generated in 2009 divided by the total litres of ADO used by the power utility. Source: MEC |
| 27  | Distribution losses (%)            | 29   | <i>The indicator compares the amount of kWh sold with the amount of kWh sent out from the power station.</i><br>Source: MEC  |
| 28  | Lost supply (SAIDI) – (hours)      | n.a  | <i>The indicator tracks electricity outage time (hours of lost supply per customer per year)</i><br>Data not available.  |
| 29  | Clean electricity contribution (%) | 0.22 | <i>The indicator measures the share of renewable energies as a percentage of total electricity supply.</i><br>Calculated from installed solar capacity at 12% capacity factor.   |

## FAESP action theme 5 — End-use energy consumption

### 5.1 Transport energy use | 5.2 Energy efficiency and conservation

| No. | FAESP indicators              | Explanatory notes   |  |      |                  |
|-----|-------------------------------|---|--|------|------------------|
| 30  | Retail fuel prices            | <i>The indicator tracks retail and wholesale fuel prices for petroleum products (diesel, petrol, MPK, LPG).</i> |  |      |                  |
|     |                               | Retail price  | Wholesale price  |      |                  |
|     |                               | ADO (USD/l)   | 1.48   | 0.47 | Sourced from MEC |
|     |                               | ULP (USD/l)   | 1.39   | 1.00 | Sourced from MEC |
|     |                               | DPK (USD/l)   | n.a.   | 1.00 | Sourced from MEC |
|     |                               | LPG (USD/kg)  | 4.5  | n.a  | Sourced from MEC |
| 31  | Legislative framework (score) | 1   | <p><i>The indicator assesses progress towards a comprehensive legislative framework for import of end-use devices. (Score system: Comprehensive framework covering transport, appliances, buildings = 3; Legislative for one subsector operational = 2; Preparation of frameworks under way = 1)</i></p> <p>No legislative framework in place that promotes the importation of energy-efficient end-use devices in 2009. However, priority activities listed in the National Energy Policy look at importation of energy efficient appliances: 'Revision of Import duties and taxes to encourage the purchase of energy efficient appliances and equipment (e.g. refrigeration, air conditioning, major appliances, lighting)'. Target activities in the RMI energy action plan look at amending taxes on the importation of energy-efficient appliances and this was implemented in 2010.</p> |      |                  |
| 32  | Appliance labelling (score)   | 0   | <p><i>The indicator assesses the state of appliance labelling. (Score system: Compulsory appliance labelling operational = 2; Appliance labelling under preparation = 1)</i></p> <p>No compulsory appliance labelling programme is in place for RMI. Appliance products available mostly carry US labelled products.</p>   |      |                  |



## FAESP action theme 6 — Energy data and information

| No. | FAESP indicators                                |   | Explanatory notes  |
|-----|---|---|--|
| 33  | Availability of national energy balance (score) | 1 | <i>The indicator assesses availability of national key energy data to SPC data management unit and other regional stakeholders. (Score system: Comprehensive data sets covering energy input conversion and end use available 6 months after end of reporting year = 3; Partial data set available within 6 months = 2; Partial data set available within 12 months = 1)</i><br>Energy datasets available are fragmented with irregular reporting. |

## FAESP action theme 7 — Financing, monitoring & evaluation

| No. | FAESP indicators                              |            | Explanatory notes   |
|-----|---|------------|---|
| 34  | Energy portfolio (USD)                        | 10,741,100 | <p><i>The indicator tracks the flow of funding into the region's energy sector. Grant aid commitments + loan commitments</i></p> <p>Snapshot of donor portfolio as of 2011 (not 2009 baseline). Listed donor and development organisations or projects involved in the energy sector in RMI include: AusAID funding, EU/EDF 10; North-REP (North Pacific ACP Renewable Energy and Energy Efficiency) Project; the International Union for Conservation of Nature – an Italian/Austrian RE project; and the Asian Development Bank with MEC.</p>                       |
| 35  | Availability of financing information (score) | 2          | <p><i>The indicator assesses availability of national energy financing information to SPC and other regional stakeholders. (Score system: Comprehensive set of information covering petroleum, utility and government financing = 3; Partial information set available within six months = 2; Partial information set available within 12 months = 1)</i></p> <p>Comprehensive set of information on funding activities available within Energy Planning Division. Detailed financial acquittals from the Ministry of Finance will, however, take a month or two.</p> |
| 36  | Monitoring framework (score)                  | 1          | <p><i>The indicator assesses if there is a national energy sector M&amp;E framework in place. (Score system: M&amp;E framework in place = 1, No M&amp;E framework = 0)</i></p> <p>No specific monitoring and evaluation framework in place for RMI. Selected monitoring and evaluation activities available on funded projects. Systematic monitoring of EU/EDF 9 activities; reports available.</p>  |

## RMI energy contacts

---

**Angeline Heine**

Tel: (692) 625 3206

Fax: (692) 625 7471

Email: [gelineh@hotmail.com](mailto:gelineh@hotmail.com)

**Director**

National Energy Planner

Ministry of Resources &

Development

---

**David Paul**

Tel: (692) 625 3828 / 3507

Fax: (692) 625 3397 / 5886

Email: [meccorp@ntamar.net](mailto:meccorp@ntamar.net)

**General Manager**

Marshalls Energy Company

Website: [www.mecrmi.net](http://www.mecrmi.net)

---

