I. Project Context

Country Context

The Federated States of Micronesia (FSM) include 607 islands (74 of which are inhabited) and have a population of 102,843 inhabitants. FSM is a voluntary federation of four semi-autonomous states (Chuuk, Kosrae, Pohnpei, and Yap), each with its own executive and legislative bodies, and considerable autonomy to manage its domestic affairs. Each State has its own development strategy, while the national government provides an integrated perspective and vision, which is described in the FSM National Development Plan.

Economic growth is constrained by the small size of the FSM economy (Gross Domestic Product (GDP) is US$326 million, remoteness to markets (over 3,700 kilometers from the nearest major market of Japan), and limited transportation links. All petroleum products and a very high proportion of food are imported. FSM’s infrastructure is currently under-developed and cannot meet the demands of the population. It is also insufficiently maintained and in poor condition.

FSM – a former Trust Territory of the Pacific Islands – entered into a Compact of Free Association with the US in 1986. The Compact has provided large external financial transfers to support the operations of the Government of FSM and substantial public sector investment at the State level. The Compact was designed to assist FSM with infrastructure and the development of its economy.
Infrastructure development at the time was successful: roads, electric utilities, harbors, airports, schools, hospitals and public facilities were all constructed during the 15 years of the Compact. However, the development of a self-sustaining economy had only very limited success.

In 2003, the US and FSM entered into an Amended Compact II agreement, wherein FSM receives payments of US$92.7 million per year, with US$76.2 million being in the form of grants, US$16.0 million to be placed in a trust fund, and $500,000 allocated each year for an annual audit. The trust fund is expected to become a permanent interest-bearing fund after Compact II expires in 2023, and provide the same level of income to FSM as Compact II does. However, current financial trends indicate that the FSM Trust Fund will not provide such funding required after 2023, when the current Compact ends.

FSM is highly dependent on imported petroleum fuels making the country highly vulnerable to petroleum price volatility and price shocks. FSM currently spends about US$40 million annually in imported fuels, which represents more than 50 percent of the aggregate sectoral grants that the nation receives from the US under the Compact II agreement, and nearly 20 percent of nominal GDP, making energy a priority need and the most costly sector of its fragile economy. Petroleum fuels are supplied by Mobil Oil Micronesia Inc. (MOMI). In August 2007, an agreement to transfer MOMI assets to the FSM Government and for MOMI to maintain fuel supply for a transitional five-year period was agreed between both parties. FSM Petroleum Corporation (PetroCorp, now trading under the name ‘Vital’) was established by Congress in September 2007 as a wholly government-owned enterprise to operate the nation’s fuel storage and wholesale distribution facilities in the four States. The most recent petroleum supply contract with MOMI came into effect on September 1, 2013 for a period of five years with an option to renew.

**Sectoral and institutional Context**

Like other Pacific Islands Countries (PICs) petroleum fuels are largely used for electricity generation and transportation. Fuel in transportation is mostly used for marine services as vehicle transportation is modest given FSM’s small land mass. At present, electricity generation in the four States is almost completely based on fossil fuels. This contributes to the high average residential expenditure on energy per year as percentage of household income. In 2005, it amounted to 19 percent of household income, higher than both the average of 18.4 percent and median of 17.6 percent when compared with 12 other PICs with available data. Within FSM, this figure ranged from 17 percent (Kosrae) to 21 percent (Yap).

About 55 percent of all households in FSM have some form of electrification, although those rates vary widely between states with Kosrae having a 98 percent electrification rate and Chuuk only 26 percent, as seen in Table 1 below. Electricity use in FSM is divided as follows: residential (39 percent), commercial and industrial (22 percent), government (17 percent), utilities (10 percent) and system losses (12 percent). The largest amount of electricity is used for air conditioning (especially in the government sector) and lighting.

Energy demand in rural areas generally reflects basic needs such as lighting (often with kerosene, oil lamps, flashlights) and cooking (wood or other biomass – coconut-husk – and some kerosene although its consumption has dropped due to cost increases). Problems typically associated with a lack of electricity access are also present in FSM such as health problems caused by indoor air pollution, and environmental problems such as deforestation and land degradation. Women and
children are often responsible for most of the household chores including cooking and fuel collection. This disproportionate domestic work burden puts them at greater health risks due to poor ventilation as well as increased drudgery, time loss, etc. As a consequence, women’s health and time poverty is particularly affected by poor access to electricity and to clean, modern fuels for cooking. No specific statistical study has been conducted on energy use habits and expenditures in rural places in the FSM. However, based on a survey conducted in 2009, the estimated average is between US$15 to US$35 per month and per household (in the outer islands around $15 – depending on availability – while in the rural areas on the main islands the average is $35).

Each of the four island states has a state-owned power utility, which is responsible for generation, transmission and distribution, with its own tariff structure, and is regulated by Board at the state level with exception of Pohnpei state. A board appointed by the Governor and confirmed by the state legislatures governs these utilities. The utility board has the power to approve and adjust tariffs as proposed by the utility’s management upon the presentation of a tariff review proposal. Currently, tariffs cover basic operating and maintenance costs, but at different levels in each state, and some include a fuel price pass-through (See Annex 6 for a detailed description of the electricity sector in each state). None of the utilities is able to generate enough revenue to support large-scale infrastructure rehabilitation or new investments in conventional or renewable energy.

II. Proposed Development Objectives
The Project Development Objectives are to improve the efficiency and reliability of electricity supply, and strengthen the planning and technical capacities at the state power utilities and the national Government.

III. Project Description
Component Name
Improvement in efficiency and reliability of electricity supply
Comments (optional)
This component will support fuel savings through improved fuel efficiency of power generation equipment, loss reduction, reliability increases, and performance improvement activities and maintenance plans for the four utilities, including key investments in equipment needed to increase revenues and reduce energy losses.

Component Name
Technical assistance and project management
Comments (optional)
This component will build the capacity of the Implementing Agency (IA) - the Energy Division at the National Department of Resources and Development (NDRD) - and the Association of Micronesian Utilities (AMU) for: (i) sector data collection, statistics, and the development of an information management system, (ii) utility benchmarking, and (iii) implementing the NEP. It will also support the overall coordination, management and monitoring functions for the project to be carried out by the Energy Division of the NDRD in its role of IA.

Component Name
National and state energy planning
Comments (optional)
This component will finance the preparation of Energy Sector Master Plans for the four FSM states and the development of a National Energy Sector Master Plan. These plans would confirm the
power infrastructure investments needed in the first five years and, as a second phase, develop feasibility studies and environmental and social impact assessments of the top priority projects.

IV. Financing (in USD Million)

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<th>Total Project Cost</th>
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<tbody>
<tr>
<td>Total Bank Financing</td>
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<td>Total</td>
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V. Implementation

The Energy Division at the National Department of Resources and Development (NDRD) will implement the project. The Energy Division has only one staff member, the Assistant Secretary, who will be the project coordinator and focal point. The project will finance five full-time and part-time specialists (a project implementation support officer, an energy technical specialist, a financial officer, a procurement advisor and a safeguards advisor) to strengthen the Division’s technical capacity. A Project Implementation Manual (PIM), describing the arrangements and procedures for the implementation of the project, will set out: (i) institutional arrangements for day to day execution of the project; (ii) the procurement plan and implementation arrangements; (iii) implementation of the safeguard instruments; (iv) budgeting, disbursement and financial management; and (v) project monitoring, reporting and evaluation, including on implementation/compliance with the World Bank’s safeguards policies.

The Association of Micronesian Utilities (AMU) will play a significant role in serving as the Technical Steering Committee for the project to ensure complementarities and coordination among the four states and the national Government, and to provide guidance, technical inputs, and data/information to the consultants hired under the project. The Energy Division currently serves as Secretariat for the AMU. In addition, a technical committee comprising technical delegates from the utilities will be established, as needed, to provide technical guidance and review the different consultant reports.

VI. Safeguard Policies (including public consultation)

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Comments (optional)

VII. Contact point

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