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PROMOTING SUSTAINABLE ENERGY

This paper, prepared by the Pacific Island Forum Secretariat, discusses the role of economic incentives and sanctions that are important for energy decision making. For discussion.

Ministerial Retreat Session

Promoting Sustainable Energy

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Purpose

The purpose of this paper is to discuss some of the issues associated with the incentives and sanctions underlying efficient energy usage and the development of renewable energy and energy efficiency in Forum Island Countries (IFICs).

Background

2. About seven million people, mostly from the Melanesian countries, out of the region's ten million, still do not have access to electricity. While the average for the Small Island States (SIS) is 68%, access to grid-connected electricity in the larger and more populated islands of Papua New Guinea (PNG), Solomon Islands and Vanuatu is only 12%, 14% and 28% respectively.

3. The key challenge to the energy sector in FICs is the heavy reliance on fossil fuel with its detrimental economic and environment impacts. Fossil fuel accounted for 95% of the total Pacific energy supply in 2006 — almost 99% if we exclude Fiji and PNG.

4. In the Pacific, more than 95% of the commercial energy needs of the region are met from fossil fuels. This heavy dependency exposes the economic vulnerability of FICs to the volatility of the prices of petroleum products. The increase in the price of petroleum impacts disproportionately on the low income countries. On average, SIS oil imports are equivalent to 19% of their Gross Domestic Product compared to an average of 9.1% for all the FICs. Average household energy expenditure is about 20% of total average household income for the FICs and slightly higher at 22% for the SIS. Generally, the costs of electricity and petroleum in the region are among the highest in the world.

5. Currently, most attention is largely focused on promoting renewable energy. A holistic approach to sustainable energy would also be addressing supply-side efficiency and productivity of power utilities – the total energy losses for some utilities are as high as 25%. More importantly, in the transportation sector, there is little focus on efficiency or losses despite the sector accounting for about 75% of the region's fuel imports.

Framework for Action on Energy Security in the Pacific

6. In May 2010, a Special Forum Energy Ministers Meeting was held in Brisbane where the Framework for Action on Energy Security in the Pacific (FAESP) was adopted. The framework was subsequently endorsed at the 41st Pacific Islands Forum in Vanuatu, in August 2010.

7. The FAESP has a vision of an energy secure Pacific and is based on the premise of 'many-partners-one-team' in recognition of the need for more effective coordination in the promotion of energy security. It is also based on the 'whole-of-sector approach' which recognises that the promotion of renewable energy and energy efficiency in the region has been heavily weighted towards the electricity sector while very little effort has been on reducing fossil fuel in the transport sector, where most of the fossil fuel is consumed. In noting the efforts to reduce the dependence on petroleum imports through renewable energy and energy efficiency, the FAESP recognised the importance of:

i. making electricity accessible to the 70% of the FICs' population that still do not have access to it;

ii. reducing the high costs of the region's electricity supply which is more than US 50 cents per unit in some countries;

iii. reducing total losses and wastage in the region's power utilities which are as high as 25% in some countries; and

iv. improving the cleanliness of the energy sector with some countries still using low quality diesel oil.

8. The first half of 2013 has seen a focus on energy issues in the Pacific.[1] In March 2013, there were two meetings that involved the participation of Leaders and Energy Ministers. The Pacific Leaders Energy Summit (hosted by the Government of Tonga) and the Pacific Energy Summit (jointly hosted by the Government of New Zealand and the European Commission) were timely interventions that helped to bring clarity as FICs were able to discuss their national plans and blueprints on the way forward to energy security. The meetings also highlighted the role of sectoral plans (such as the Tonga Energy Roadmap and the Cook Islands Energy Charter) in coordinating donor engagement and the development of renewable energy and energy efficiency as a national development priority. In early May, a Pacific Regional meeting of the Small Islands Developing States DOCK initiative occurred in Nadi, Fiji. All of these meetings focused on financing initiatives and on how best FICs can work with the development partners involved in energy.

Key Issues

9. The heavy reliance on fossil fuel has detrimental economic and environmental implications. Across the region, approximately 1.3 billion litres of fossil fuels are imported annually at a total cost of US$873 million.

10. While a lot of work has been, and is currently being carried out to reduce fossil fuel reliance, the heavy reliance on fossil fuel will continue for some years to come. It is therefore very important that ways and means of setting and enforcing fair and reasonable fossil fuel prices are immediately and continuously looked at, such as regular updates of fuel pricing templates. In addition, improved supply logistics through joint shipping and storage and through better negotiated supply contracts are a possible priority.

11. Despite the effort in the last three decades to reduce reliance on fossil fuel and make modern energy services accessible and affordable through the widespread utilisation of renewable energy technologies and improved energy efficiency, the progress has been slow (Table 1 presents the energy targets of respective countries). Weak project management capacity, inappropriate project designs and technologies, absence of adapted products and installation standards, and lack of funds to cover maintenance are some of the challenges encountered.

12. Apart from Tokelau which has 100% renewable energy, only Fiji, PNG, Samoa, and Vanuatu have significant shares of renewable energy, mostly hydro, in the total electricity supply (60%, 66%, 37%, and 15%, respectively).

[1] A regional event, The Asian and Pacific Energy Forum, organized by UNESCAP was held in late May, 2013 in Vladivostok that involved the Pacific.

13. In line with the call by Forum Leaders, a renewed commitment is needed to increase the share of renewable energy and to improve energy efficiency. Ambitious national renewable energy targets ranging from 10% to 100% have been adopted and are being pursued. These are being supported and guided by regional and national energy frameworks, roadmaps, and plans which emphasise the need for more effective coordination and a whole-of-sector approach to addressing the region's energy security issues. There are increasing numbers of partnerships being executed jointly by FICs and development partners under the UN-adopted sustainable Energy for All initiative.

Table 1: National Renewable Energy and Energy Efficiency Targets by FICs

Country	Energy Target for Electricity	Timeframe
Cook Islands	50% of energy demand provided by renewable energy and 100% by 2020	2015/2020
Fiji	90% renewable	2015
Nauru	50% renewable	2015
Palau	20% renewable and a 30% reduction in energy consumption	2020
Samoa	10% renewable	2016
Tonga	50% renewable and the overall energy cost reduced by 50%	2015
Vanuatu	33% renewable (set by the private company UNELCO)	2013

14. On supply side management, aging generators, transformers, networks and costly maintenance schedules are very common and directly contribute to the total technical transmission, non-technical and distribution losses being above 20% in some utilities. On the demand side, improving efficiency of electricity consumption is challenging given the lack of awareness and consumer education programmes and the absence of adopted minimum energy performance standards (MEPS) and labelling for appliances, including MEPS components of national building codes.

Discussion Points

15. Energy underpins all aspects of socio-economic development, ranging from production, storage and transport to health, education and the sustenance of livelihoods.

- To achieve energy security, FICs with comprehensive energy plans might wish to discuss how they are going to be supported by national budgets and planning. What is the enabling environment for private investment?

16. Remoteness and the absence of economies of scale have largely contributed to the high fossil fuel costs and power tariffs. Furthermore, losses in some power utilities are quite high and contribute directly to the high power tariff. Ongoing maintenance and new investment in transmission are necessary and an ongoing challenge.

- Ministers could discuss the types of ownership and the role of regulation and benchmarking to improve the financial and technical performance of energy utilities and the long-term operation of equipment.

17. Despite the effort to reduce reliance on fossil fuel in the power sector, the fact remains that most of the fuel imported into the region – over 75% – is consumed in the transport sector. This is an area that needs greater focus if reductions in fossil fuel reliance are to be achieved.

- What initiatives are being implemented at the national level to address the transport sector's efficiency?

Pacific Islands Forum Secretariat
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