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Implementing the Clean Development Mechanism in Fiji: Opportunities and Barriers in the Energy Sector

By Rowena Maguire•

Clean Development Mechanism Background

The Clean Development Mechanism (CDM) has been praised for its ingenuity in mobilising finance to implement sustainable development practices in non-industrialised countries (known as Non-Annex 1 parties under the Kyoto Protocol). During the first commitment period of the Kyoto Protocol (2008-2012), a large number of clean development mechanism projects have been registered with the CDM board.¹ In addition to the large number of registered CDM projects, there are significant numbers of proposed projects stalled in implementation due to the cumbersome and lengthy CDM approval process.²

Despite this regulatory criticism it is recognised that the role performed by the CDM is essential for achieving a significant reduction in global green house gas emissions. This is because the CDM funds sustainable development in countries that lack capacity to do so on their own. It is anticipated that some form of CDM instrument will continue post the 2012 timeframe and that reform of the mechanism will be focused around making the mechanism's approval and implementation processes faster and more efficient.³

The objectives of the CDM are stated to be two-fold:⁴

- a) to achieve a reduction of greenhouse gas emissions; and
- b) to contribute to the implementation of sustainable development.

The CDM seeks to achieve these objectives by providing incentives for both investor and host countries. Investor countries (Annex 1 parties) are able to meet their international emission reduction targets by investing in sustainable development projects in host countries (Non-Annex 1 parties). This provides investor countries with a fiscal benefit as the cost of implementing projects in Non-Annex 1 countries will often lead to reduced transaction costs. After CDM registration of the project the

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¹ There are currently 1363 registered projects. United Nations Conference on Climate Change, *Project Activities* (2009) United Nations Conference on Climate Change <http://cdm.unfccc.int/Projects/index.html> at 28 January 2009.

² There are currently 91 projects awaiting registration and 128 proposed projects under review. United Nations Conference on Climate Change, *Project Activities* (2009) United Nations Conference on Climate Change <http://cdm.unfccc.int/Projects/index.html> at 28 January 2009.

³ Environmental Defence, *CDM and post 2012 framework* (2007) http://www.edf.org/documents/6838_ED_Vienna_CDM%20Paper_8_22_07.pdf at 28 January 2009.

⁴ *United Nations Conference on Trade and Development: An Implementation Guide to the Clean Development Mechanism* UNCTAD/DITC/TED/2003/1 (2003).

investor country receives certified emission reduction credits, which can be used for accounting purposes under the Kyoto Protocol. The host country in return receives an externally funded sustainable development project. CDM projects assist the host country in the implementation of their national development strategies.

Therefore the CDM provides a win- win scenario. It allows Annex 1 parties to lower emissions at reduced transactional costs. While Non-Annex 1 countries are assisted in implementing sustainable development practices which lead to improved environmental, economic and social outcomes. The majority of registered CDM projects are in the energy sector⁵, with a wide variety of renewable energy technologies in use.

Climate Change and Fiji

Pacific Island Countries have not shared in the potential benefits and opportunities offered by the CDM.⁶ The focus of this article will be an analysis of CDM opportunities and CDM barriers in the energy sector of Fiji. Climate change presents a significant threat for all small low-lying islands. Fiji is comprised of 320 islands of which one-third are inhabited.⁷ Predicted sea level rises as a result of climate change therefore presents a very real threat to the future security of Fiji. A brief examination of the political arrangements in Fiji reveals a history of unstable governance and coup activity.⁸ Fiji is now being placed under pressure by the Pacific Island Forum to host democratic elections. The onset of climate change in Fiji could undermine the expected political advances causing wide spread chaos and damage.

In order to address climate change nations must adopt policies that support the principles of sustainable development. This concept involves consideration of the three pillars of sustainable development: environmental considerations; social considerations; and economic considerations. Renewable energy projects are aligned with sustainable development principles as they decrease dependence on fossil fuels, lower environmental impacts and can improve energy supply. Improving energy efficiency is also crucial as this prevents wastage of electricity resources and lowers green house gas emissions.⁹

⁵ Other sectors in which projects can be implemented are: industrial processes, solvents and other products, waste and land-use, land use change and forestry. *United Nations Conference on Trade and Development: An Implementation Guide to the Clean Development Mechanism* UNCTAD/DITC/TED/2003/1 (2003), 4.

⁶ *United Nations Conference on Trade and Development: An Implementation Guide to the Clean Development Mechanism* UNCTAD/DITC/TED/2003/1 (2003)

⁷ Peter Johnson et al, Pacific Regional Energy Assessment 2004: An Assessment of the Key energy issues, barriers to the development of renewable energy to mitigate climate change, and capacity development needs for removing the barriers. Fiji National Report, GEF, UNDP, SREP, 2004.

⁸ Ibid.

⁹ *United Nations Conference on Trade and Development: An Implementation Guide to the Clean Development Mechanism* UNCTAD/DITC/TED/2003/1 (2003)

CDM Opportunities in Fiji

There is significant potential for renewable energy production in Fiji. Electricity generated from hydro sources makes a significant contribution to Fiji electricity sources. In 2003 electricity from hydro sources accounted for 53% of the Fiji Electricity Authority's power generation. Since 2003, this percentage has been decreasing due to the ongoing drought in the region.¹⁰ The very recent flooding in Fiji will increase dam levels; however the unpredictability of future rain fall means that other renewable energy options need to be explored in Fiji.

Studies have been carried out to determine the availability of renewable energy production in Fiji. These renewable energy options have the potential to increase energy supply while limiting the impact upon the environment. These studies have found that there is¹¹:

- Significant potential for biomass plantations on a large scale;
- Potential for solar production dependant upon decreasing materials costs for wider take-up;
- Potential for wind production on small scale, need to balance low start-up costs against nominal electricity supply; and
- Potential for small hydro production, taking into account environmental flow on effects of hydro and increasing unpredictability of rainfall.

The Fiji energy sector faces a number of challenges. The demand for energy provision exceeds current energy supply. The latest information concerning energy use comes from the 1996 Census. This found that only 67% of households have access to electricity. In rural areas this figure plummets to 49% and this access is often only for several hours of the day.¹² Renewable energy therefore has the ability to increase the amount of energy available in Fiji, whilst ensuring that the environmental impact of energy production is sustainable.

In 2000 Fiji emitted 900 Gg (gigagrammes) of green house gas emissions. It is predicated that by 2010 Fiji's green house gas emission will reach 1500 Gg if no new investments are made in renewable energy production. A study has found that there is potential to reduce green house gas emissions by 500Gg per year through substantial investment in renewable energy and by improving energy efficiency.¹³

Two independent CDM studies carried out by the New Zealand Government and the Pacific Islands Forum Secretariat¹⁴ found that they are significant opportunities for renewable energy projects in Fiji. Currently there is one CDM project in Fiji. This project extended a hydro dam and has resulted in lowering Fiji national emissions

¹⁰ Johnson, above n 7, 23.

¹¹ Ibid 39-42.

¹² Ibid 30-32.

¹³ Ibid x.

¹⁴ SPREP, SOPAC, UNDP, *Clean Development Mechanism (CDM) Capacity Building in the Pacific Island Countries*, Secretariat of the Pacific Regional Environment Programme, Secretariat of the Pacific Islands Applied Geoscience Commission and United Nations Development Programme, 2007, 4.

level.¹⁵ The existence of this project is positive as it provides an impetus for further investment in energy-related projects in Fiji.

The Department of Energy together with the Fiji Electricity Authority regulate energy supply and use in Fiji. The Fiji National Plan provides that the overall goal of the energy sector is to be efficient, cost effective and environmentally sustainable. Furthermore the Fiji Electricity Authority has a goal of using 100% renewable energy by 2011. This demonstrates in principle support by the government for renewable energy expansion in Fiji. At the international level there are a number of reform programs working towards implementation of the CDM and renewable energy production in Fiji. These include the United Nations Development Program's Pacific Centre, the World Bank's Sustainable Energy Financing Project and The Asian Development Bank's Renewable Power Sector Development Project.

Barriers to CDM investment in Fiji

The study conducted by the New Zealand government¹⁶ on the viability of CDM investment in Fiji found that while there are significant opportunities for renewable energy production, there is also the lack of CDM infrastructure and capacity. In order to take advantage of the CDM investment, local CDM infrastructure must be established.¹⁷ This requires the creation of a Designated National Authority; this body is required by Kyoto modalities and is responsible for accounting to the CDM board. In addition, a formal CDM approval process at the Fiji level also needs to be established. Fiji will require initiatives aimed at improving capacity in Fiji which improve:¹⁸

- Governmental CDM capacity
- Increase CDM awareness
- Increase opportunities for CDM coordination across government bodies

At the domestic regulatory level there are a number of policy considerations that need to be addressed in order to advance renewable energy production and CDM investment. It has been suggested that addressing the following issues will assist in meeting existing renewable energy targets and in increasing CDM projects in Fiji.¹⁹

- Introducing incentives to promote renewable energy investment;
- Creating preferential import duties which favour energy efficient appliances;
- Increasing the Departments of Energy's budget in order to ensure more equitable energy production in rural areas;
- Reverse the current trend of Fiji becoming more reliant on diesel for energy production;

¹⁵ There is an estimated avoided emissions of 25 Gg (gigagrammes) per year see Ibid 5.

¹⁶ Ibid, 4.

¹⁷ Ibid, 6.

¹⁸ Ibid.

¹⁹ This report makes a number of recommendations; please see report for full list of recommendations see Johnson, above n 7, xv-xviii.

- Re-examining the policy of a single national tariff for grid based electrification and heavily subsidising village electrification. These policies have made it virtually impossible for private energy investment to become profitably involved in the production and sale of energy.

This article has identified that there is domestic and international support for increasing renewable energy production in Fiji. Furthermore there is an established need for increased energy supply that avoids further environmental degradation. The CDM has the potential to mobilise finance for the introduction of such renewable energy initiatives. In order to increase the level of CDM investment within Fiji, capacity building aid programmes would be of assistance in educating and adapting Fiji's domestic capacity. Following on from capacity building programmes reform of the domestic energy regulatory regime should be contemplated to ensure that incentives are created to support renewable energy production expansion. It is anticipated that the CDM mechanism will continue in operation post the first commitment period of the Kyoto Protocol and hopefully Pacific Island Countries will in the future share in the benefits and opportunities provided by such instruments.