ENERGY + SUSTAINABLE DEVELOPMENT

A Newsletter of URC and UNEP
December 2003

Risky Business:
UNEP's New Tools to Manage Risk

The last E+ for 2003 is focused on the realities and perceptions of risk. Although an integral component of life and business, the amount and nature of risk affects what we do and where we invest time and resources. Minimising risk and maximising returns is the most common guiding philosophy of the finance sector and which they also apply to renewable energy investments. Increasingly, UNEP works to help financial institutions and project developers find new tools to assess and manage risks. Through this work, two new tools under development for the renewable energy sector are 'environmental due diligence' and 'portfolio planning'.

A recently commissioned UNEP study is evaluating how risk management is critical to scaling up investments in the renewable energy sector. The study, prepared by a consortium led by commercial risk management experts Marsh, is assessing risk management tools and products currently on the market for the RE sector and new products that could be developed through public private partnerships. The study is due to be released in January and is part of a larger risk management assessment being prepared for the Global Environment Facility (GEF).

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Guidelines for Environmental Due Diligence

Although the energy from a renewable energy plant or power station is generally much cleaner than the fossil fuel alternative, there can still be many – and often serious – environmental and social impacts. Without careful planning, for example, a large-scale windfarm can interfere with avian migration or create unsustainable land use impacts.

Helping investors and financial institutions understand and mitigate these risks is the focus of recent UNEP Energy efforts to develop a set of guidelines for Environmental Due Diligence (EDD) of renewable energy projects. This is the process of collecting and assessing relevant information prior to a financial transaction to identify and quantify environment-related financial and legal risks as well as risks to an institution or company's reputation. This work builds off UNEP's broader efforts to help financial institutions improve their environmental performance.

BASE (Basel Agency for Sustainable Energy – www.energy-base.org), a UNEP Collaborating Centre, is overseeing the development of guidelines for onshore wind, solar PV, solar thermal, biomass, small hydro, and geothermal power. BASE is currently managing a consultation process with representatives of the renewable energy industry, financial institutions and investors to evaluate and improve draft guidelines.

"Many financial institutions have stressed that the lack of environmental due diligence guidelines for renewable energy projects makes them less confident lending to the renewable energy sector," says BASE's Daniel Kaufmann.

The guidelines, he says, are not meant to supplant national or local environmental or permit requirements, but rather to "give lenders and other investors greater confidence in supporting renewable energy projects".

Final guidelines will be presented at the UNEP/BASE SEFI event during the Bonn Renewable Energy Conference next year. The draft guidelines can be found at http://sefi.unep.org/information.htm

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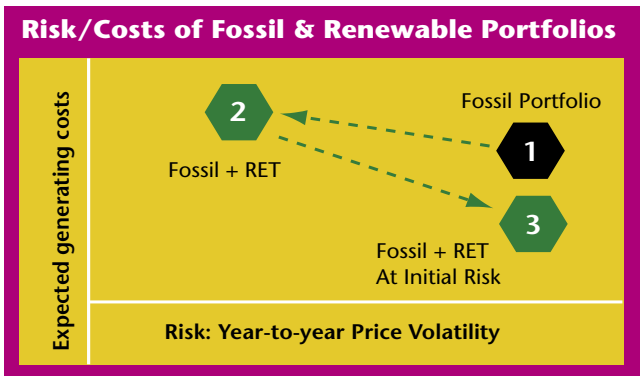
Portfolio Planning:
Eggs in Different Baskets

Financial planners have long promoted the strategy to "never put all your eggs in one basket". They know that having a portfolio of investments – each with a different set of risks – can lower overall risk and increase the average return.

Using portfolio-based methods to quantify how different investments affect overall return or costs has recently entered the energy sector. A UNEP project is helping energy planners in Morocco, India and Mexico to evaluate renewable energy options for additional generating capacity using new portfolio planning tools.



The UNEP project, jointly implemented with the Tyndall Centre at the University of Sussex, the British Foreign Office (BFO) and BASE, is currently working with the Moroccan national energy authority CDER and the ECN of the Netherlands to evaluate Moroccan energy planning to the year 2010.

The Tyndall Centre's Shimon Awerbuch says portfolio theory is an evolving and useful tool that often finds many opportunities for renewable energy technologies that have higher generating costs but lower operating risks from, for example, increasing fuel costs. "Even if you believe that wind costs more on a stand alone basis than gas-fired generation, it can still lower costs in a portfolio of generating assets at any given level of risk," he says.

Awerbuch adds that estimating the generating costs for a mix of technologies without saying something about their risk is not very useful. "It's sort of like watching Hamlet with the sound turned off, you miss important parts of the story".

If, for example, an investor is told to buy Stock X because it has a higher return than Y, the investor should ask about the relative risks before buying X or Y. Likewise, if policy makers are being told that one generating option costs more than another, that estimate, even if correct, is not very helpful unless policy makers quantify the relative risks.

In the case of energy planning, the risks of conventional power projects are sometimes understated when compared with renewable energy projects - mainly because planners often use a "cost plus" regulatory model where fluctuations in the price of fossil fuels are passed on to the consumer. In energy markets increasingly open to competition, power producers that are forced to assume the fossil fuel pricing risk usually lock in future fuel supplies with 'futures' contracts.

A growing body of research is finding that diversifying an energy producer's energy portfolio away from fossil fuels, by using renewable energy projects with little or no fuel costs, can effectively hedge the risk of increasing fossil fuel costs. In the case of Morocco, the UNEP/BFO study is already showing that significant wind generation can be added to the country's generation portfolio without increasing overall risk-adjusted costs. The preliminary results from Mexico and India are also similar and show that wind and other non-thermal technologies can improve national generation mixes and lower risk.

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Indian Solar Loans Become Popular

UNEP's Indian Solar Home Systems Loan Programme (www.uneptie.org/energy/act/fin/india/index.htm), funded by UN Foundation and Shell Foundation, is on track to provide 5,000 solar loans in the first year of the programme, according to initial assessments. The Programme is aimed mainly at rural areas and uses an interest rate subsidy to 'buy-down' the cost of credit to poor households for solar home systems (SHS). UNEP has set a target of 18,000 loans over the next four years.

"Considering the performance of other initiatives in the Indian solar market, we know this is a very ambitious target but we are also buoyed by initial results," says URC's Jyoti Painuly. For the period April-September 2003, solar vendors reported total sales of 1672 SHS using the solar loans.

"These are good results, but we are particularly encouraged by the enthusiasm and optimism of the vendors, " he says, adding that the two Indian banking partners, Canara Bank and Syndicate Bank, have also set very ambitious targets for themselves and are keen to improve their performance.

Other banks, such as Vijaya Bank and Corporation Bank, are now planning similar initiatives – which is the type of replication (and innovation) that UNEP seeks. "We hope and believe that our partner banks will be able to use this experience to launch similar loan products in other areas and eventually to the entire country," says Painuly.

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NESTLAC

Launched in Panama City

The Network for Environmentally Sustainable Transportation for Latin America and the Caribbean (NESTLAC) was launched in November in Panama City. NESTLAC is an internet-based network to promote and facilitate the implementation of environmentally sustainable transport options in the region, including non-motorised transport modes (such as biking and walking), and public transport. The establishment of the network was the first phase of a project funded by the Global Environment Facility (GEF), URC and UNEP.

The NESTLAC launch, organised by URC in collaboration with the Panamanian National Authority for the Environment (ANAM), was attended by transport ministers of Panama, Guatemala, and El Salvador, as well as representatives of municipal institutions participating in the project (Panama City, Guatemala City, San Salvador and Concepción, Chile). Representatives of Transmilenio S.A. of Bogotá, and of the Trolleybus System of Ecuador, two of the most known best transport practices of the region, also attended the meeting.

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Courtesy: Shell Solar Homes

Export Credit Agencies – the $100 Billion Opportunity

One little known fact about finance for international development is that government support to provide credit via insurance or guarantees against different types of risk was US$ 80 - 100 billion/year during the 1990s - roughly twice the official development assistance during the same period. However, a growing list of social and environmental impacts resulting from the activities of government-supported export credit agencies (or ECAs) has led to a call for change and uncovered substantial opportunities where ECA assistance can help meet the goals of sustainable development.

UNEP Energy has been assisting ECAs in these tasks for the past three years, particularly in ways that promote the development of sustainable energy markets. Together with the UNEP Finance Initiative (FI), UNEP Energy conducts two main activities:

- Supporting the OECD's Export Credits Group to strengthen common approaches of ECAs; and
- Providing a platform where ECA staff and other stakeholders can exchange information on the implementation of environmental initiatives and develop new products and processes that promote renewable energy.

As part of these activities, UNEP recently organised the third annual workshop on the environment, hosted by the British Government's Export Credits Guarantee Department. Previous workshops were hosted by similar agencies in France and Germany with the next event to be hosted by Italy's ECA (SACE).

UNEP Energy's Martina Otto says that ECAs can actively support sustainable energy finance. "Despite a huge potential in developing countries, exports of sustainable energy products and services are currently directed towards developed countries where ECA coverage is not available".

Renewable energy projects also face other hurdles for ECAs: they are generally small and not able to support the relatively higher transaction costs, the companies are small and less familiar with exports to higher risk countries, and there are insufficient incentives in potential buyer countries. However, ECAs now have new opportunities to develop products under the Kyoto Mechanisms of Emission Trading and the Clean Development Mechanism (CDM). There are also new financial products, such as those that bundle smaller sustainable energy projects into one larger project for finance.

Otto says that UNEP is working to establish a working group of representatives from ECAs, sustainable energy industry associations and NGOs to investigate these opportunities. UNEP Energy has also proposed a series of regional workshops in developing countries to help create policy frameworks to promote their sustainable energy markets.

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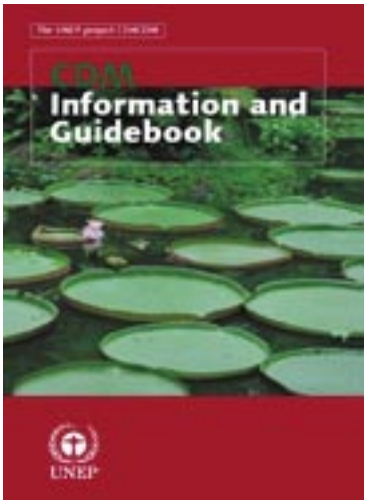

New CDM Information and Guidebook distributed at COP9 in Milan, Italy

The UNEP Risoe project *Capacity Development for the Clean Development Mechanism* funded by the Netherlands, has produced a new *CDM Information and Guidebook* and started distribution at COP9 in Milan, Italy, December 2003.

Following introduction, chapter 2 provides an overview of the CDM. It summarizes the national values and benefits of participation in the CDM with a brief background of the CDM.

Chapter 3 visits the issue of sustainable development (SD) from the perspective of a CDM project. The Kyoto Protocol clearly states that one of the purposes of the CDM is to assist Non-Annex I parties in achieving SD. The selection of the SD criteria and the assessment of the SD impacts in the current operationalisation of the Kyoto Protocol are subject to a sovereign decision by the host countries. The chapter presents an example of SD Indicators and major steps of an SD evaluation of CDM projects.

Chapter 4 explains the project cycle of the CDM. Each step of the cycle is explained from project design & formulation to the issuance of Certified Emmision Reductions (CERs). With informative tables and numbers, chapter 5 shows how to fill out the PDD (Project Design Document). These two chapters will help project developers who want to know how to make a PDD to develop CDM projects.

CDM projects generate both conventional project outputs and CERs. CERs, as a nascent commodity, have important impact on project finance. Chapter 6 provides an overview of the impact of CERs on project viability, sources of funds and risk management. The last chapter, Chapter 7, reviews recent CER market transactions and price trends.

Lastly, the appendices present frequently asked questions and answers, a short overview of existing guidelines, and a possible future list of eligible CDM projects categories.

The guidebook gives a comprehensive overview of the CDM, its project cycle and related issues. Each country is expected to take into account its own local circumstances in utilizing the guidebook. The pdf file of the guidebook is available on the website http://www.cd4cdm.org.

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New Staff

Myriem Touhami has joined UNEP Energy in Paris. Myriem comes to UNEP from Morocco, where she has been working for the Photovoltaic Market Transformation Initiative and the Solar Development Group, two solar investment funds managed by the IFC. At UNEP Myriam will be working on sustainable energy finance activities, initially focusing on the MEDREP Finance programme funded by the Italian Government.

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E+ provides information on the activities at URC and UNEP. The views expressed here do not necessarily represent those of UNEP, Risø National Laboratory or Danida. Back issues can be found at www.uneprisoe.org/newsletters.htm. To receive an electronic or printed copy of E+, please register on our website www.uneprisoe.org or contact Maria Andreasen (maria.andreasen @risoe.dk) at the URC number below. For all other information or comment, please contact the editor, Anne Marie J Jensen (amj.jensen@risoe.dk).

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E+ is printed on 100% recycled, chlorine-free paper.
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