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ENERGY, CLIMATE AND SUSTAINABLE DEVELOPMENT

A Newsletter of UNEP Risoe Centre (URC) and UNEP
December 2009

Breaking Down Barriers to Technology Transfer

In October 2009, UNEP and the UNEP Riso Centre (URC) were given the go-ahead to launch a vast **Technology Needs Assessment (TNA)** programme. The programme will help define what kind of clean technologies are best suited for individual countries and what is the best way to get them up and running. 15 countries are expected to participate in the programme's first round, which will begin in November 2009 and continue for around two years. Funded by the Global Environmental Facility (GEF), the programme will not only help country partners identify their technology needs regarding climate change mitigation and adaptation**,** but also help them develop Technology Action Plans (TAPs) designed to enable and facilitate the smooth transfer of the selected technologies.

Figuring out which technologies are most appropriate is only half the battle. "The assessments help us figure out which barriers need to be overcome and how to overcome them," explains Jyoti Painuly, Senior Energy Planner at URC. "Once that is done, we can then take the actions needed." The strategy for surmounting these obstacles is laid out in the TAPs, which take into account what kind of activities need to be undertaken and when, as well as who would be the most appropriate participants. TAPs detail everything from market development measures, institutional regulatory and financial procedures, to human and institutional capacity development requirements. Most importantly, they outline a detailed plan of action for implementing the proposed policy measures in the country, including an estimate of the costs involved.

UNEP will use both bottom-up participatory processes and top-down financial and technical support to look at different technologies' potential contribution to mitigation goals, as well as their cost-effectiveness. The technologies will also be evaluated to see how they match national development goals and priorities. Once that is done, whatever barriers to acquisition, deployment, and diffusion will be identified, as well as the means of overcoming them. A facilitating framework will then be developed, providing information regarding technical issues, access to finance, and other issues, to smooth the road to successful technology transfer.

Back in June 2009, with UNEP support, UNDP and UNFCCC issued a revised version of the TNA Handbook, which will be used as a guideline for carrying out the project. But the handbook is only a starting point: a number of methodological steps will be elaborated during the programme's initial phase, including developing various assessment tools and databases. Workshops will be held to disseminate information, and networks will be set up to ease technology transfer and information sharing. Guidebooks and reports will sum up ongoing efforts and results. Technical support will also be provided throughout the project.

Initial methodology development and capacity building is expected to take place within the first six months of the project, whose total duration is around 30 months. The second round, expected to launch around 12 months into the project, will involve 20 to 30 more countries.

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E+ is Moving to the Web

In an effort to both save paper and reach a wider audience, E+ will henceforth be available exclusively online. Though this issue is the last paper version, you can still continue to receive E+ electronically by simply sending us an email pirh@risoe.dtu.dk confirming your interest. We look forward to sending you our new online version. We thank you for your continued readership and hope that you will enjoy E+ online.

Focus on African Financial Institutions

On October 21, 2009 UNEP launched an innovative public-private partnership that will catalyze "green finance" linked to carbon offset investment projects in Africa. Unveiled at the UNEP Finance Initiative Global Roundtable in Cape Town, the **African Carbon Asset Development** (ACAD) Facility will engage and collaborate with African financial institutions and local project developers to enhance their awareness, expertise, and investment appetite for the potentially rich African carbon market.

Unlike other regions, Africa has still barely tapped its carbon trading potential. Among other obstacles, a general unfamiliarity on the part of African banks and a lack of risk capital and project financing has held back actors from putting the wheels into motion and bankrolling good projects. Local financial institutions are often leery of the unconventional business models associated with these projects, or simply lack the necessary expertise to appraise these projects.

"ACAD addresses a longstanding need," says Glenn Hodes, Sr. Energy Economist at UNEP Risø Centre. "This programme squarely focuses on fully engaging Africa's financial sector in developing the regional carbon market." The strategy draws upon three complementary support lines: risk and transaction cost sharing, technical assistance to project developers, and targeted training and outreach for financial institutions.

Based on the assumption that concrete success stories can best showcase to the investment community the benefits that carbon finance can bring to Africa, supporting demonstration projects is a cornerstone of ACAD's strategy. The Facility's grants will act as a catalyst to get innovative projects off the ground, complementing existing funds from banks and entrepreneurs. By building a portfolio of projects that is both relevant and easy to replicate elsewhere in Africa, ACAD aims to stimulate similar ventures, eventually decreasing project development finance transaction costs, and mobilizing investment.

One of ACAD's main goals is to help local African financial institutions understand why they should get involved with carbon finance in the first place. The Facility's focus helps raise awareness of the environmental and social benefits of the CDM, including revenue generation, energy access, employment, and technology transfer. "Carbon finance is one of the keys to unlocking the green economy," points out Hodes, "and the finance sector plays a critical role.

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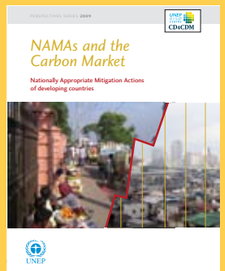
New publications:

CDM Guidebook on Legal Issues

CDM Guidebook on P – CDM

As an advanced modality introduced in 2005, the Programmatic CDM (POA) is expected to address asymmetries of participation, especially of very small-scale project activities in certain areas, key sectors and many countries with considerable potential for greenhouse gas emission reductions, not reached by the traditional single-project-based CDM. Latest experiences with POAs and the recently finalized official guidance governing the Programmatic CDM are the grassroots of this Primer, which has the purpose of supporting the fully understanding of rules and procedures of POAs by interpreting them and analyzing real POA cases.

The overall objective of the CD4CDM is to develop the capacities of host countries to identify, design, approve, finance, implement CDM projects and commercialize CERs in participating countries.



Perspectives:

Perspectives Series 2009 Feature Publication:

'NAMAs and the Carbon Market – Nationally Appropriate Mitigation Actions of developing countries'

The annual CD4CDM Perspectives Series features a topic of pivotal importance to the global carbon market. The series seeks to communicate the diverse insights and visions of leading actors in the emerging global carbon market to better inform the decisions of professionals and policy makers**. NAMAs and the Carbon Market** explores how mitigation actions in developing countries in the context of sustainable development may be supported by technology, financing and capacity development in a measurable, reportable and verifiable manner. The aim is to present new ideas and solutions with a focus on the role of existing and emerging carbon markets to finance NAMAs. Eight authors with a background as negotiators representing developing countries, Designated National Authorities, business and researchers cover two overall issues: 1) national and policy perspectives and 2) the carbon market for sectors including sector approaches in transport, buildings and industry.

Last year's edition of Perspectives in 2008 was titled 'A Reformed CDM – Including new Mechanisms for Sustainable Development' and the first edition was issued in 2007 with the title 'Equal Exchange: Determining a Fair Price for Carbon'. The Perspectives series can be downloaded from www.cd4cdm.org/publications.htm

Biofuels: New Report on a Burning Issue

According to a new report by UNEP's International Panel for Sustainable Resource Management, there are no easy answers when it comes to biofuels. Rather than painting bioenergy as either a hero or a villain on the environmental front, the report councils a more nuanced approach, urging governments to take into account specific energy, climate, land-use, water, and agricultural issues. "Biofuels are neither a panacea nor a pariah," sums up Achim Steiner, UN Under-Secretary General and UNEP's Executive Director, "but like all technologies they represent both opportunities and challenges."

The report, Towards Sustainable Production and Use of Resources: Assessing Biofuels, is based on a detailed review of published research up to mid-2009, as well as input from independent experts from around the world. As a result of amassing and analyzing this vast amount of information, certain trends are becoming clear. For example, the report makes a strong case for generating electricity at local power stations using woods, straw, seed oils and other crop or waste materials, which "is generally more energy efficient that converting biomass to liquid fuels." An assessment of land-use issues reveals that using land for reforestation or solar energy production may be a more efficient way of turning sunlight into energy than planting energy crops.

"There are wider life cycle issues that need to be factored into government policy decisions," explains Professor Ernst Ulrich von Weizsacker, who headed the panel. "Growing energy crops can involve increased use of fertilizers, which in turn have implications for water quality. Fertilizer use also increases emissions of N20 which is a powerful greenhouse gas in its own right."

According to the report, the processes involved in growing and converting biomass to fuel determine its overall environmental performance. For example, palm oil biodiesel can reduce emissions by 80 per cent, compared to fossil fuels. But if the palm is grown on cropland from cleared tropical forests, the resulting greenhouse gas emissions can be up to 800 per cent higher. If crops are grown on cleared peat forests, that figure can rise to 2,000 per cent.

Statistics from the report make it clear that bioenergy is already an important part of the world's energy mix. Traditional biomass, mostly for cooking and heating, currently supplies 13 per cent of global final energy demand, far more than nuclear energy (3 per cent). Meanwhile world ethanol production for transport fuels tripled between 2000 and 2007, and biodiesel expanded 11-fold during the same period.

"The report makes it clear that biofuels have a future role," says Steiner, "but also underlines that there may be other options for combating climate change, improving rural livelihoods, and achieving sustainable development that may, or may not involve turning ever more crops and crop wastes into liquid fuels."

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A Power Boost for the EU–Africa Energy Connection

Europe and Africa's energy needs are closely linked: Europe benefits from African energy exports, and Africa benefits from European technical and financial support in the energy sector. Increasing global concerns about energy security and access and climate change have reinforced these links, and made it clear that the two continents must work together to ensure dependable energy access in the future.

Strengthening this connection is the goal of a new programme run by UNEP and the EU Energy Initiative. **Capacity Enhancement and Mobilisation of Action for Energy in Africa**, or CEMA, is designed to boost the effectiveness of the already existing Africa-EU Energy Partnership (AEEP) by laying the groundwork for productive dialogue with decision-makers, as well as follow-up activities that will help bring sustainable energy resources to underserved populations.

Identifying and implementing best practices related to energy access and security is a top priority for the programme. "Many African countries and regional authorities lack up-to-date knowledge and capacity to fully utilise the potential of the various instruments that the AEEP embodies," points out Gordon Mackenzie, Senior Energy Planner at URC. He also stresses that while a significant amount of expertise on energy solutions exists in African countries, built up through the years based on many projects and programmes, this knowledge is under-utilised by national and regional authorities. The programme, which officially began in January 2009, has already begun to bear fruit. The first workshop, held in conjunction with Global Network on Environment and Sustainable Development (GNESD) in Cape Town last June, brought together energy-sector stakeholders from 10 countries in Eastern and Southern Africa, along with international energy experts from Senegal, Argentina, Brazil, India, Thailand and Denmark. The workshop focused on increasing access to clean, sustainable, affordable, and secure sources of energy in urban and peri-urban areas in Africa.

Needs assessment and awareness-raising were the two main goals of this first CEMA event, where topics included energy access for the poor, energy security, new technologies, and funding possibilities. Presentations ranged from thematic studies on urban and peri-urban areas in Africa, the role of the private sector and small and medium enterprises (SMEs) in providing energy access, to the importance of traditional biomass energy and how to move towards modern applications. Group sessions featured role-playing exercises simulating energy planning in a fictitious sub-Saharan African country. The workshop also included an excursion to the community of Imizamo Yethu, where participants got a close look at the realities of peri-urban settlement.

At press time, a second workshop in Dakar was scheduled to take place in November, covering the North, West, and Central African sub-regions.

CEMA's main role in Dakar will be to present and discuss Needs Assessments, as well as to introduce the KIBESA knowledge tool (see article on page 5) and give a hands-on demonstration. Participants will include energy sector stakeholders from the three sub-regions.

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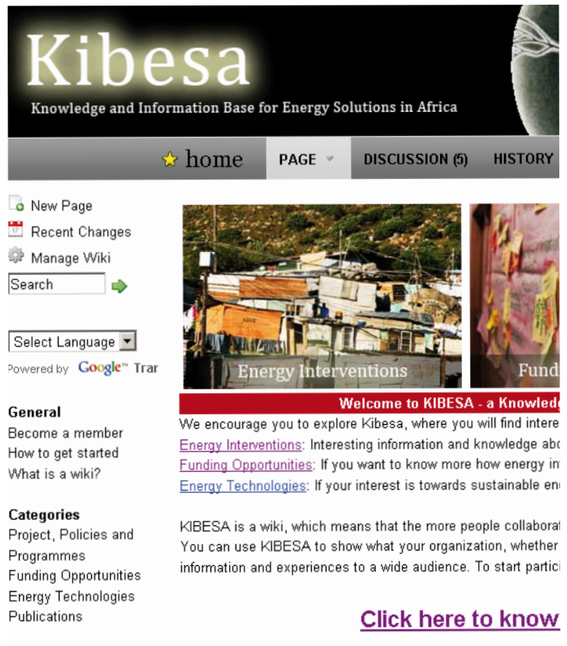
Kibesa: Sharing Knowledge the Wiki Way

A knowledge and information base located on the Internet, **Kibesa** functions as a support for Capacity Enhancement and Mobilisation Action for Energy in Africa (CEMA), a new UNEP/EU Energy Initiative programme (see article on page 4) that seeks to enhance dialogue and cooperation between Africa and the EU on energy issues. The Kibesa website, which is constructed around a "wiki" platform, will help CEMA with its work in policy engagement, studies and assessments, information dissemination and targeted capacity building.

Wiki is a modern system of knowledge management, born on the Internet, which offers a more intuitive way of accessing information than the traditional knowledge base. Another unique aspect is the fact that registered users can contribute and edit content themselves. This "wisdom of crowds" effect ensures that information on the site is continuously updated. "It's a little like a closed Wikipedia on energy solutions in Africa," explains Gordon Mackenzie, Senior Energy Planner at URC, referring to the popular Internet-based encyclopaedia. Though the site is managed by URC, who creates much of its content, participating stakeholders receive a password that gives them access to the site so that they can contribute as well. "In this way, Kibesa is a self-perpetuating, self-correcting knowledge base," says Mackenzie.

Visit Kibesa at http://kibesa.wikispaces.com



The CDM Bazaar

Online Access to the Carbon Market

After two years online, the CDM Bazaar is now a solid presence on the Internet. Recent figures show significant growth in registered users, particularly among buyers, whose number increased almost 150% between January 2008 and February 2009. The number of sellers and service providers also jumped during this period, registering increases of 58 and 78 percent, respectively.

Launched by UNEP Risøe Centre in September 2007, this user-friendly web portal allows carbon market players to buy and sell Certified Emissions Reductions (CERs) online and to exchange information and services related to Clean Development Mechanism (CDM) projects. The site operates as a cyber-marketplace, making it possible for carbon market players from all over the world to meet and conduct CDM transactions online, at their convenience. And like any marketplace, it is also a place where information is exchanged, opportunities are found, and contacts are made. Several CER sellers and project developers have been contacted by potential investors through the CDM Bazaar. The Tara Jatropha biofuels project, for example, attracted financial partners through their profile on the site.

The site's webmaster, who has considerable knowledge of CDM issues, is in contact on a daily basis with CDM Bazaar users, via e-mail and phone. Questions range from simple login problems to detailed advice and discussion focusing on project ideas, project cycles, methodologies, and other issues. In some instances, the webmaster has guided project developers through several steps of the CDM cycle. In others, he has offered detailed advice on project proposals, both at the PIN and PDD stage. Users from Least Developed Countries, where lack of expertise in finance and the carbon market restrains growth in CDM activity, have particularly requested this kind of aid.

Another feature of the CDM Baazar is the announcements section, which has proved very popular with users from all categories. Users flock to the job postings in this section, as well as the agenda of CDM-related events. Moreover, hosts are increasingly contacting CDM Bazaar to post notices about their carbon events on the site.

Further Information visit www.cdmbazaar.net

Mapping Renewable Energy Resources in Mali Reveals Interesting Options

Mali may be at the edge of the Sahara Desert, but its landscapes vary from arid dessert, to fragile woodlands, to dense forest. This geographically diverse environment is the setting for a new UNEP Risoe Centre study that both maps Mali's energy resources, and assesses the economic and environmental impact of using them. After an in-depth scoping phase, the project was launched on October 6, 2009 at a meeting with stakeholders in Bamako.

While solar energy is expected to be abundant, Mali's inland location makes wind energy seemingly less attractive. However, with current oil prices, wind used in hybrid systems with diesel generators may be economically feasible even at relatively low wind speeds, and as Mali has various smaller and even bigger towns, which are powered by diesel generators, such options have already been explored. To help weigh these kind of options, the project provides Malian energy authorities with a detailed atlas of wind resources, which, when linked to Risoe's WaSP software, can estimate the potential production of a wind turbine at a given position.

The project will also examine the possibility of using rice straw, a waste product of Mali's considerable rice harvest, to produce electricity. An important, but so far unknown fraction of rice straw is today burned in the field and if proved environmentally and economically feasible, this fraction could be used as fuel in small to medium-sized thermal power plants. Finally the project will analyse socioeconomic and environmental effects of establishing a large scale bioethanol production based on cassava as feed stock. This analysis will supplement ongoing research, development and commercial activities in producing biofuel from Jatropha and from sugarcane, and provide valuable input to the formulation of policy in a contested area.

The project's partners include URC, GRAS at the University of Copenhagen, Mali Folkecenter Nyeata, and Ecole Nationale d'Ingenieurs at the University of Bamako. The scoping phase report and more details on the project is available at www.frsemali.org

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Powering up the Clean Development Mechanism in Africa, the Caribbean, and the Pacific

After a successful six-month inception period, a new capacity building programme is up and running in countries in Africa, the Caribbean and the Pacific (ACP). Funded by the European Community, the project is the CDM sub-component of a larger programme known as Capacity Building Related to Multilateral Environmental Agreements in African, Caribbean and Pacific Countries.

The 4-year project, headed by UNEP Risøe Centre, aims to enable targeted countries to fully participate in the global carbon market. According to Miriam Hinostroza, Energy and Carbon Finance Manager at URC, by the end of the project, host countries will be able to identify, design, approve, finance, implement, and monitor CDM projects in a way that is both sustainable and cost-effective. Special emphasis will be given to developing national portfolios of CDM projects that could be marketed through international carbon events like the Carbon Expo, as well as each country's Designated National Authority website.

After preliminary studies, 12 countries were selected: Angola, Burundi, Côte d'Ivoire, Malawi, Nigeria, Rwanda, and São Tomé and Príncipe in Africa; Belize, Cuba, and Trinidad and Tobago in the Caribbean; and Fiji and Papua New Guinea in the Pacific. What these countries have in common is a desire to become a player in the global carbon market, as well as a lack of institutional and project development expertise that is keeping them from achieving that goal. URC especially targeted countries that have not yet profited from UN capacity building programmes, and presented their case at a series of awareness-raising workshops in each region.

Three organizations will be serving as regional hubs that will help coordinate activities and outreach for the programme: the Africa Union Commission for Africa, CARICOM for the Caribbean, and SPREP for the Pacific.

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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, Risoe National Laboratory - DTU 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 Pia Riis at pirh@risoe.dtu.dk. For all other information or comment, please contact the editor, Mette Annelie Rasmussen (meta@risoe.dtu.dk).

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From 1 January 2007, Risø National Laboratory, the Danish Institute for Food and Veterinary Research, the Danish Institute for Fisheries Research, the Danish National Space Center and the Danish Transport Research Institute have been merged with the Technical University of Denmark (DTU) with DTU as the continuing unit.

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Upcoming Events – COP 15

Ask the Experts live

7 December, 12 (noon) – 8:00 pm
The UNEP Risoe Centre, UNEP and UN agencies based on Copenhagen will host a booth at the City Hall Square as part of the City Hall's COP 15 programme. The booth will feature sessions on Ask the Experts live and a Seal the deal stamping station will also be included in the booth.
Venue: Rådhuspladsen, City Hall Square, Copenhagen K

UNEP Risø Centre Side Event: The role of Programme of Activities and NAMAs

9 December, 4:30 pm. – 6:00 pm
The Event is a joint event with the UNFCCC Sec., World Bank and UNDP
Venue: The Crown Plaza Copenhagen Towers Hotel meeting room Mount Everest 3 Orestads Blvd 114-118 , Copenhagen K

UNEP Risoe Centre Carbon Finance Event and Reception

10 December, 7:00 pm. – 10:00 pm.
The UNEP Risoe Centre is organizing a carbon finance event and reception in the City Centre launching a new Perspectives report on NAMAs and a new CDM programmatic Guide,
Venue: Store Kannikestræde 19, 1st floor, Copenhagen K

Nairobi Framework - Status and Future Impacts in Africa

11 December, 1:00 pm. – 2:00 pm
In 2006 during the COP12/CMP2, The Nairobi Framework was launched by then Secretary-General Kofi Annan. Since then, significant steps have been undertaken to enhance the participation by Africa in the flexible mechanisms. Still, Africa accounts for less than 2% of the more than 1,890 plus CDM projects registered in 58 countries. During this session, the Framework Partners and IETA will bring an update on the developments and goal achieved, as well as the activities foreseen for 2010.
Venue: IETA COP15 Side Event grounds -
The Crowne Plaza Copenhagen Towers Hotel Meeting room
"Mount Everest 2" 3 Orestads Blvd 114-118 , Copenhagen K

Low Carbon – Resilient Development - Improving access to clean and efficient energy services

The GNESD Expert meeting + Annual Assembly 2009
15 December 9:00 am. – 4:00 pm.
Venue: European Environment Agency, Kongens Nytorv 6, Copenhagen K

Presentation at Arctic Venue

15 December 4:00 pm. – 5:00 pm.
Venue: The Arctic Venue , Danish Energy Agency
Strandgade, Copenhagen K

Removing barriers and facilitating mainstreaming climate change adaptation

10 December, 8:00 pm. – 9:30 pm. (Side Event)
Venue: COP 15 Conference Centre

Bringing forest carbon projects to the market:

12 December, 6:00 pm. – 8:00 pm. (Side Event)
What is the place of forestry in carbon markets? What are the trends to anticipate? How to finance projects and sell credits? The event will present a guidebook for project developers and investors
Venue: COP 15 Conference Centre, The European Union pavilion

Demonstrations and latest news CDM Bazaar and CDM Pipeline in the iSeeT CC kiosk UNFCCC

7, 8, 9, 14, 15 December
Demonstration in one of the demo areas (SCREEN 3/4)
Venue: COP 15 Conference Centre

Energy Access and Poverty Alleviation: Reducing vulnerabilities and increasing resilience

16 December, 9:00 am. – 10:30 am. (Side event)
Regional perspectives from Africa, Latin America and the EU. Climate impacts on food, health and energy and its effect on poverty will be presented.
Organized with Helio International
Venue: COP 15 Conference Centre

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