

## Asia-Pacific: 10 National Workshops

In the period from July to September 2000, the Asian Development Bank (ADB) has jointly with UNEP convened 10 national and sub-regional workshops involving participants from a total of 15 countries in the Asia Pacific region. UCCEE has supported the workshops mainly through research papers and presentations, and by sending resource persons to most of the meetings. Other institutions contributing to the workshops include the Institute for Global Environmental Strategies (IGIS), the Hans Seidel Foundation and Global Energy and Environment for the 21<sup>st</sup> Century (GEE21).

The objective of the meetings was to provide information and raise awareness on key issues for the 6<sup>th</sup> Conference of Parties (COP 6) to the UNFCCC, which takes place in November in The Hague. The participants consisted of a mix of representatives from government agencies, energy utilities, private enterprises, NGOs, research institutions and media. While the size of the individual workshops varied, several hundred people were involved in total.

The meetings discussed issues relating to the Kyoto mechanisms, especially the Clean Development Mechanism (CDM). They covered aspects relating to the global demand for greenhouse gas reduction projects, and the national economic implications of and potential for such projects. Consequences for national, institutional and capacity building requirements for project implementation were also addressed.



*The panel of workshop sponsors at the final workshop in Bangkok. From left to right John Christensen, UCCEE; Prodipto Ghosh, ADB; Nirmal Andrews, UNEP; and Thai Quang Trung, Hans Seidel Foundation.*

At the end of the workshops countries presented recommendations for future action.

The national workshops generated a number of interesting ideas. Participants at the Bangladesh workshop, for example, suggested that instead of waiting for revenues expected to be generated by CDM projects, a sustainable development fund could be created. In the case of Sri Lanka, a one-week training programme on issues relating to the Kyoto mechanisms was proposed. A follow-up action on this has already been initiated by ADB. In Korea, the question of unilateral CDM projects and South-South collaboration was raised, as the country would like to act as a donor in the context of the CDM. For more information please contact John Christensen, Head of UCCEE, under [john.christensen@risoe.dk](mailto:john.christensen@risoe.dk).

## Regional African Programme

### on Sustainable Development and Climate Change Finance

UCCEE is currently collaborating with The Gambia, Ghana and Uganda to explore their capacity of gaining access to sustainable development and climate change financing mechanisms. The focus of the work is thereby on a future Clean Development Mechanism (CDM). The project has two main objectives. The first is to assess the analytical capacity of various interest groups in partner countries with the aim to assist future development, assessment and implementation of CDM projects.

The second main objective of the project is to raise awareness within the three participating countries about the CDM and other financing mechanisms, and to assess the institutional and organisational capacity of their governments to attract future investments in CDM projects and to implement policies and procedures to administer the CDM. This component intends to facilitate the development of an institutional and organisational structure at the national level for effective participation in the future CDM market.

Some of the more specific objectives of this project are to:

- Develop a set of generic project selection criteria that could help governments identify attractive projects for the CDM and for alternative financing;
- Identify a limited number of potential projects that might be capable of attracting international investments under the CDM;

- Develop the requirements for project preparation and planning assessment of project benefits and cost, accreditation, monitoring and verification;
- Assess how, and who could implement the selected projects during the CDM project cycle.

The capacity to implement the CDM in these countries is comparatively limited due to their lack of experience in identifying and assessing the technical and economic feasibility of projects to mitigate greenhouse gas emissions under the enabling activities of the UNFCCC. In order to address the market-driven nature of the CDM, the project participants from the three countries come from a diverse group of organisations, including government agencies, NGOs and the private sector.

The project was initiated in the spring of 2000. In October 2000 all three countries had held national workshops in the initial stage of the project. The countries expect to present possible CDM projects and recommendations for the establishment of an institutional and organisational structure at the national level for effective participation in the future CDM market in a policymaker's workshop to take place in the spring of 2001. For more information please contact John Mac Callaway at [mac.callaway@risoe.dk](mailto:mac.callaway@risoe.dk).

Renewable energies in focus

## SEAF Assists **Photovoltaics** in Botswana

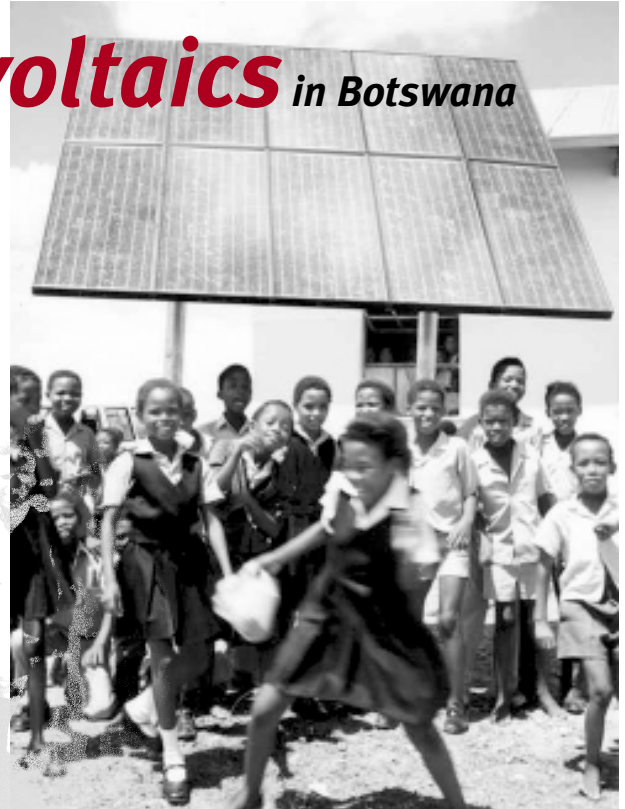
The first activity of the Sustainable Energy Advisory Facility (SEAF) to support the management of the Botswana National Photovoltaic (NPV) rural electrification programme is close to being endorsed. With the current phase of the NPV ending in March 2001, the intention of SEAF is to generate sufficient improvement in the programme to motivate both its extension and expansion.

The Botswana NPV rural electrification programme combines a dedicated credit facility to households or small businesses for the purchase of small photovoltaic (PV) systems with a system quality control and maintenance programme. Since its inception some 300 systems have been installed under the NPV by a number of private sector companies. The objectives of the NPV are to increase the amount of loans to rural households with the purpose of installing PV systems, to broaden the assistance to residents in rural areas in finding financing for PV systems, and to increase the capacity and enhance the reputation of local PV companies.

With the NPV being the major PV programme in Botswana, it has been dominating the development of the PV market. In order to expand and sustain the PV market, the NPV management agreed with UNEP's AREED (African Rural Energy Enterprise Development) project team that there is a need to improve efficiency of the overall NPV management. The SEAF programme of UNEP was approached to provide input and support to the management component of the NPV. The concrete objectives of the SEAF support are to:

- Improve the efficiency and effectiveness of the NPV programme in its present phase;
- Increase private sector participation in marketing, client selection and screening, installation, maintenance and revenue collection;
- Increase customer satisfaction through improved quality of service, quicker response and lower cost of accessing the NPV;
- Increase the visibility of NPV through increased and focused marketing;
- Improve the financial and technical sustainability of PVs.

UCCEE staff will implement the project in co-operation with Botswanan and South African experts. The project implementation covers both management support and support for the accounting system. For more information you may contact Anton-Louis Olivier under [a.l.olivier@risoe.dk](mailto:a.l.olivier@risoe.dk) or contact Arturo Villavicencio under [arturo.villavicencio@risoe.dk](mailto:arturo.villavicencio@risoe.dk).



## Implementation of **Renewable** Energy Technologies (RETs) – Opportunities & Barriers

In February 1999, UCCEE launched a Danida-sponsored UNEP project aiming to identify barriers to the implementation of renewable energy technologies (RETs) and explore measures to overcome the identified barriers. The project included three country case studies (Egypt, Ghana and Zimbabwe) that were prepared by national institutions in these countries. The New and Renewable Energy Authority at the Ministry of Electricity and Energy in Egypt, the Kumasi Institute of Technology and Environment (KITE) in Ghana, and the Southern Centre For Energy and Environment in Zimbabwe were responsible for the country case studies.

After preliminary identification of relevant RETs for the country concerned, national workshops involving various stakeholders were held between July and September 1999. Based on the discussions, a few RETs were identified for more detailed study. Barriers and opportunities for the dissemination of solar water heaters, PV systems for rural electrification and large-scale biogas systems were analysed for

Egypt. Biomass, solar and small hydropower were explored for Ghana.

Final national workshops were held between June and August 2000 to discuss the study findings. The lessons learnt from the studies point to key concerns on RETs and to the need for stakeholders to promote RETs. For example, in case of Egypt, financial schemes, market incentives, and measures to assure quality of products have been proposed to overcome important barriers.

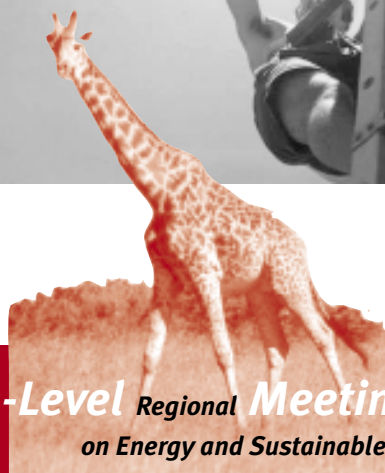
The experiences from the case studies are now being generalised for the dissemination and use in promoting RETs. The national studies are scheduled to be presented at a regional African workshop on energy and sustainable development planned to be held in November/December, 2000. The regional workshop, sponsored by Danida, the United Nations Department of Economic and Social Affairs (UNDESA) and UNEP, will provide input to the Ninth Session of the Commission on Sustainable Development (CSD 9) to be held in 2001. For more information please contact Jyoti Painuly under [j.p.painuly@risoe.dk](mailto:j.p.painuly@risoe.dk).

## Faster Market Penetration for Renewables in **South Africa**

The Government of South Africa is in the process of formulating specific policies on renewable energy. Its aim is to ensure that economically feasible technologies are implemented, to guarantee that an equitable level of national resources is invested in renewable energies, and to address barriers to the development of the renewable industry in the country.

In March 2000 a project was launched to contribute to this process, namely in the development of a strategy to accelerate the market penetration of suitable technologies. The project is implemented by the Dutch Energy Research Foundation (ECN), CSIR from South Africa, Richard Morris and Associates (RMA) from the UK, and Risø National Laboratory through UCCEE. The project is financed jointly by the above partners and the SYNERGY Programme of the Directorate General for Energy in the European Commission.

The aim is to issue recommendations on sound government policy for the implementation of renewable energies, and to design an action programme for European - South African co-operation to increase investments in renewable energy technologies in the country. The study results will be presented and discussed at a workshop to take place in South Africa in February 2001. The final report is to be issued in March 2001. For more information contact Juan Zak (juan.zak@risoe.dk) at UCCEE.



### UN African **High-Level Regional Meeting** on Energy and Sustainable Development

As part of the preparations for CSD-9 the United Nations Department of Economic and Social Affairs (UNDESA) and UNEP are jointly convening an African High-Level Regional Meeting to facilitate a broader cross-section of sub-regional interests in Africa to develop a co-ordinated view. UCCEE will help organise the technical programme and provide resource persons. The meeting will among others discuss accessibility to energy for the poor and rural energy and renewable energy. It will consist of a Technical Segment for energy experts (from November 29 to December 1) followed by a High Level Segment for Ministers and their representatives (from December 1 to December 2) and will take place at the UNEP Headquarters in Nairobi.

#### News from UNEP Energy



## **Booklet** on Renewable Energy

The Energy Unit with UNEP's Division of Technology, Industry and Economics (DTIE) is in the final production stage of a 36-page booklet on renewable energy technologies (RET). With a working title of "Renewable Energy: Clean Energy Technology and Policy for the 21st Century", the document is intended to aid decision-makers in government and private organisations. The aim of the booklet is to assist informed energy decisions that could lead to increasing the use of RETs.

The booklet is divided into two sections: a summary of the technical advances of RETs and their potential; and an outline of the policy frameworks that can overcome technical and market barriers to a sustainable energy future. If you would like to receive a copy of the booklet when it is published (scheduled for December 2000), please send an e-mail to Mark Radka at mark.radka@unep.fr.

## Co-operation on **Software** for Using Renewables

UNEP Energy and the Canadian CANMET Energy Diversification Research Laboratory (CEDRL) are co-operating to enhance RETScreen, a free software that can be used to do pre-feasibility studies of renewable energy projects. RETScreen models are currently available for wind, small hydro, photovoltaics, solar air heating, biomass heating, solar water heating, passive solar heating and ground-source heat pump projects.

The partners have concluded that one way to bring about an increase in RET investments is to help project promoters and their financial backers better analyse the technical and financial viability of possible projects. As part of this collaboration, UNEP/DTIE and CEDRL have developed a new greenhouse gas (GHG) emissions mitigation model for RETScreen with funding from the Global Environment Facility. UCCEE supported this work.

The new GHG model allows users to calculate the estimated GHG emissions avoided and the corresponding financial impact, as formulated by the Clean Development Mechanism (CDM) and Joint Implementation (JI), for the proposed RET project. The use of this model simplifies the calculation of GHG emissions and results in substantial cost savings for users and increased opportunities for CDM and JI projects for government and industry. For more information on this contact Eric Usher under eric.usher@unep.fr. The software may be downloaded under <http://retscreen.gc.ca>.

## Social Costs and Benefits of GHG Emission Reduction Policies in Developing Countries

A study by Halsnæs and Markandya (2000) assesses the potential financial and social costs of 22 greenhouse gas (GHG) emission reduction projects for Zimbabwe, Botswana, Mauritius, and Thailand. These projects were identified as part of the national mitigation costing studies conducted by UNEP and the Asian Development Bank. The national studies focused on financial costs of GHG emission reduction policies. The current study extends the cost-based evaluation to include a number of social indicators in order to reflect local air pollution impacts, employment generation, and health impacts in the coal-mining sector.

The results indicate that the magnitude of the GHG emission reduction costs and the cost effectiveness ranking of projects critically depends on the cost accounting framework. Projects that are selected on the basis of financial costs are not the same as the ones that provide the largest development benefits. It can very well be argued that the sustainable development impacts of CDM projects will range beyond the actual employment, local air pollution and coal mining impact indicators included in this study, and an assessment of CDM projects therefore might include more indicators that can be assessed quantitatively as well as qualitatively. Kirsten Halsnæs (kirsten.halsnaes@risoe.dk) may provide more information.

## Work on Baselines for the CDM

In 1999 UCCEE initiated a programme that focuses on developing and strengthening CDM analytical and methodological capacity on baselines in developing countries. The programme is offering technical advice, Internet access to documentation and data to developing country experts in order to enable an independent formulation of views on baselines from a Southern perspective. Technical assistance has been provided to the Peruvian National Environmental Council (CONAM), and to the African regional group through the South African Energy and Development Research Centre (EDRC).

UCCEE's activities build on its prior mitigation studies that have focused on identifying project possibilities at the national level. In order to make more information available on recent methodological developments, UCCEE has set up a searchable database on baseline literature under [www.uccee.org](http://www.uccee.org). The database is open-ended and we would welcome any suggestions for additional literature that could be included. For more information contact Fanny Missfeldt under [fanny.missfeldt@risoe.dk](mailto:fanny.missfeldt@risoe.dk).

## New Staff



**Myung-Kyoon Lee** joined UCCEE in July 2000. Previously he was a senior research fellow at the Korea Environment Institute, Seoul. In Korea, Myung has served various committees and working groups related to environmental affairs. His work on climate change dates back to his PhD dissertation in 1990 at Brown University, USA, and to participation in climate change negotiation meetings since 1995 as part of the Korean delegation. Myung has among others been working on research projects assessing

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Editor: Fanny Missfeldt  
([fanny.missfeldt@risoe.dk](mailto:fanny.missfeldt@risoe.dk))  
Layout: Finn Hagen Madsen  
([finn@studio8.dk](mailto:finn@studio8.dk))

UCCEE Collaborating Centre  
on Energy and Environment (UCCEE)  
Risø National Laboratory  
P.O. Box 49  
DK 4000 Roskilde  
Denmark

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UCCEE at Risø National Laboratory, Denmark, supports the United Nations Environment Programme (UNEP) in pursuing its aim of incorporating environmental aspects into energy planning and policy world-wide, with special emphasis on developing countries. UCCEE works catalytically, encouraging, promoting and supporting research by local research institutions, coordinating projects and disseminating information, as well as carrying out a full in-house research programme in close collaboration with colleagues at Risø National Laboratory - the main public scientific research institute in Denmark.

the economic impacts of greenhouse gas (GHG) emission reductions on the Korean economy, the CDM potential in Korea, cost-benefit analysis of GHG emission reduction in Korea, and the possibility of a climate-related food crisis in Korea.



Before joining UCCEE in June 2000, **Jorge Rogat** worked as Network Officer at the secretariat of the Global Water Partnerships (GWP), where he was responsible for the establishment of the GWP's South American Technical Advisory Committee (TAC). In the beginning of 1998, he defended his PhD thesis, which evaluated the costs and benefits of improved air quality in Santiago de Chile as a result of decreased emissions from the transport sector. Prior to that and during his PhD studies Jorge co-ordinated a capacity building programme in environmental economics for Central America. The programme was carried out by Gothenburg University and funded by the Swedish International Development Agency (Sida).



Before starting at UCCEE in September 2000, **Njeri Wamukonya** was a project manager at the Energy and Development Research Centre (EDRC), University of Cape Town, South Africa. Her work focused on renewable energy policy, analysis of energy use patterns and socio-economic impacts of electrification. She worked on monitoring and evaluation of public-private initiatives in rural electrification. In addition, Njeri managed a capacity building project on the Clean Development Mechanism in South Africa, which was funded by Norad. Before joining EDRC, Njeri worked as a freelance consultant in Namibia, and completed her PhD on fuel switching with the University of California, Berkeley.



**Anton-Louis Olivier** came to UCCEE in September 2000. Before joining he managed "e3 energy & environmental management", an energy project planning and consulting business in South Africa. His activities at e3 focused on the commercialisation and implementation of sustainable energy projects in the Southern African (SADC) region, and ranged from market assessments to rural electrification and independent power production. He consulted extensively on project planning and appraisal, and the implementation of projects using climate change funding mechanisms. Earlier Anton-Louis had worked as a policy researcher at the South African Department of Mineral and Energy. Initially qualified as an engineer, he later completed a Masters degree in agricultural and development economics.