ARE NEWSLETTER JANUARY 2009

Editorial

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Dear readers and ARE members,

All development actors are aware that access to modern and affordable energy services is a prerequisite for achieving the Millennium Development Goals, especially poverty eradication. Being part of energy access strategies, rural electrification allows deploying quality social services (e.g. in the water, health and education sectors), improving living conditions and developing income-generating activities. Still, 1.6 billion people worldwide are deprived from electricity services.

COOPENER is part of the European Commission "Intelligent Energy – Europe" programme, and addressed the role of sustainable energy for poverty alleviation in developing countries in complement to other cooperation initiatives. It was shaped in the framework of the EU Energy Initiative for Poverty Eradication and Sustainable Development (EUEI) decided at the World Summit on Sustainable Development in September 2002 at Johannesburg.

Budgeted with 18 M€, COOPENER (2003-2006) has been supporting 36 projects in Sub-Saharan Africa, Latin America and Asia, a number of which focused specifically on rural electrification plans and capacity building of local actors. To give just a few examples, IMPROVES-RE developed an innovative planning approach which maximizes socio-economic impact of rural electrification, PROVEN promoted best practices in West and East Africa on decentralised rural electrification using renewable energies, MICROGRIDS promoted micro-grids with high content of renewable energy for electrification of villages in target regions of Senegal, RESIREA develops large-scale renewable energy-based rural electrification plans in target regions of Cambodia, Laos & Vietnam, while PACEAA addresses rural electrification using electricity from agro-industries in Eastern Africa. Interested actors are invited to look into these and other projects results. COOPENER project websites are referenced in the "Intelligent Energy – Europe" project database at: http://ec.europa.eu/energy/intelligent/projects/index_en.htm.

Overall, COOPENER helped development actors to address energy policies and to strengthen local energy expertise. While funding is no longer available under COOPENER, some projects are still running while other community programmes ensure a continued support for increased access to energy services, such as the ACP-EU Energy Facility or the ENRTP programme, which both benefited from a COOPENER feedback.

I would like to take the opportunity to wish readers & ARE members a successful year towards deploying extended and sustainable electricity services worldwide.

News from the Alliance

NEW MEMBERS IN THE ALLIANCE FOR RURAL ELECTRIFICATION:

The Alliance is proud to present two new members:

Next Energy Capital:

Next Energy Capital is a merchant bank focused on the European Renewable Energy sector. Their main interests are private equity and financial advisory services. Their mission is to find and promote ways to pursue attractive investments while serving a greater good for the public. A core perspective of Next Energy Capital is a belief in the opportunities that the development of distributed solar power generation can create in developing countries.

They have supported the initiatives of Muhammad Yunus (Creator of the first Micro credit institution, the Grameen Bank and Peace Nobel Prize in 2006) and intend to launch similar partnerships in the near future. Further to their individual efforts, Next Energy Capital believe that their most rewarding accomplishment will be to propagate a successful model that other financial institutions in the field of sustainable energy investment can follow.

SOLARIA ENERGIA Y MEDIO AMBIENTE, S.A:

Solaria Energia's main area of expertise is photovoltaic Modules. The company designs, manufactures, installs and sells PV panels for electricity generation. These panels are destined for isolated installations (i.e. for rural electrification, water pumping systems, illumination, signs, telecommunications), as well as facilities connected to the power grid (photovoltaic parks, houses). Solaria also designs, manufactures and sells thermal solar receivers that utilize solar energy to, for example, warm Sanitary Hot Water (ACS), support heating systems and for swimming pool heating systems. Finally, Solaria focus on turnkey Projects and the development of photovoltaic parks on behalf of different actors interested in investing in sustainable energy projects.

One of their main interests in joining ARE relates to the company's use of PV energy in rural electrification or water pumping systems. They believe that joining the Alliance will allow them to share information on projects with governments and companies also dealing with rural electrification and access to energy. Solaria bases its mission and social commitment on policies and programs that motivate the development of renewable energies and sustainable lifestyles.

By becoming a member of the Alliance these companies set again an example of commitment to rural electrification from the private sector. Wishing to invest in off-grid markets, they also show their will to provide sustainable energy access to the developing world. These companies will bring in different and complementary expertise which will reinforce the position of ARE and increase the quality of its work as well as its opportunities. To benefit from this new network and from its opportunities, to increase your participation in off-grid markets and to show you commitment to responsible actions, become a member of the Alliance!

ARE Activities

ARE IN POZNAN

This December, the ARE secretariat travelled to Poznan in Poland to join the international negotiations on climate change as an official observer to the UNFCCC. The trip allowed for wide exposure of the ARE message and the opportunity to meet like-minded institutions and governmental representatives.

The outcome of the conference saw a clearer idea of the agreements that will be reached in Copenhagen in December 2009. A key challenge will be to negotiate a way forward for the Clean Development Mechanism which has the potential to greatly assist the deployment of renewable energies in developing countries.

ARE IN WASHINGTON

Last month, ARE lead a delegation of its members to Washington to participate in a number of scheduled workshops with; the World Bank, USAID, the IDB (Inter American Development Bank), the IFC (International Finance Corporation), the SEIA (Solar Energy Industries Association) and the GEF (Global Environment Facility). The meetings attracted large numbers of interested parties and ARE members enjoyed fruitful discussions with participants on their respective experiences and solutions for rural electrification.

ARE was able to put forwards its own experiences and research as developed through our working groups on technological solutions and financing schemes. This was received with interest and the team took encouragement at the openness to innovative schemes expressed by some organisations in particular the World Bank.

The overall outcome of the delegation seems very promising. The organisations are keen to maintain contact with ARE and facilitate continued information exchange on best practises, project design and funding opportunities. Interest was also expressed for further workshops – for example an 'international business opportunities' workshop was proposed in coordination with SEIA. ARE was also proposed as a vehicle for cooperation between different institutions in the rural electrification field. Project proposals forwarded by members will also be followed up and the team is hopeful of some concrete results.

ARE is committed to providing a platform for these ongoing streams of communication and we look forward to working with our Washington based partners in the future!

ARE MEETING WITH THE COMMISSION

ARE held its second meeting in a series of workshops with the European Commission. Numerous Commission departments were represented with participants from DG Development, DG Aidco, DG Research, DG Envi and the IEE (Intelligent Energy Europe). The purpose of the workshop was to follow up on ARE's financing schemes paper as prepared by the financing working group and to gain further insight into the Commission's activities regarding rural electrification.

ARE's key messages on financing schemes are the importance of long-term planning through sustained funding practices and the need for further research into the economics and practicalities of implementing RE rural projects. Rural electrification schemes must also focus on maintenance through financing on an 'out-put' based allocation.

The meeting discussed how these ideas could be implemented through the frameworks that are currently in place. More specifically, ARE wishes to establish the feasibility and next steps for enabling schemes such as Regulated Purchase tariffs to be implemented.

ACTORS FROM THE RURAL ELECTRIFICATION'S WORLD

RENEWABLE ENERGIES AND TECHNOLOGY TRANSFER IN DEVELOPING AND EMERGING ECONOMIES

At Gleneagles in July 2005, the G8 highlighted the importance of strengthening technology cooperation between developed and developing nations to develop and deploy low carbon energy options globally. Many developing countries pressed for a new approach to international cooperation in the area of clean energy technologies. As a follow-up to this, the UK Government and the Government of India decided to collaborate on a study to assess the barriers to the transfer of low carbon energy technology between developed and developing countries.

Technology transfer is an important issue when it comes to rural electrification and the ability of countries to implement sustainable projects that can be replicated in the future. This study into the barriers to technology transfer is therefore very relevant to the work of ARE. We caught up with Alexandra Mallett, a Research Fellow for the Sussex Energy Group at the University of Sussex. We asked a few questions as to what the study found and what recommendations can be put forwards to the international community to overcome these technological obstacles.

"What are the central aspects of technology transfer needed to ensure successful uptake of low carbon technologies according to your study?"

I think it is difficult to say with certainty what aspects constitute a successful 'recipe' for the uptake of renewables. Technology transfer is a complex process involving numerous actors and organizations. Having said this, some have looked at the process as a series of flows, and the importance of focusing on all three flows, including A) capital goods and equipment; B) skills and

knowhow for operating and maintaining equipment; C) knowledge and expertise for generating and managing technology.

A number of studies have indicated however that not enough attention has been placed on Flow C, or the knowledge, expertise and experience for generating and managing technical change – known as technological capacity, or what Sanjaya Lall refers to as "know why" skills, where people understand not only the basics of a technology (how it works and how to maintain the technology) but also the principles behind the technology (why it works). I agree with my colleagues (Key Message 4 from the study) that developing technological capacity is most likely to ensure the success of technology transfer in the long run.

It is important to be aware that technology consists of not just physical equipment, but processes and knowledge too – the IPCC (2000) uses the term hardware (tangible objects) and software (processes and knowledge).

I actually prefer the term technology cooperation (Heaton et al. 1994, Martinot et al. 1997) as this captures the fact that flows between partners are occurring in both directions.

Having had the opportunity to spend time as a researcher working with organizations in Mexico and Brazil for my PhD research, and in India for my fellowship, I know I've learned a lot from people in those countries. I suspect that actors involved in the technology transfer (or cooperation) process, such as foreign firms and foreign governmental organizations have had similar experiences.

"Your research has highlighted that most technology transfer takes place between private companies. When it comes to low-carbon technologies, what are some of the important factors?"

Again, it really depends – as my colleagues noted, a number of low carbon technologies are at the pre-commercial or supported commercial stage, and so issues like those related to cost are often more relevant (because they are still at the R&D stage and so costs are often prohibitively high for companies and / or individuals on a large scale) as well as uncertainty (the risks involved in investing in an untried technology still 'working out the kinks' with little demand and little exposure on the market). In addition the level of integration may vary too depending on what 'stage' the technology is at (e.g. Intellectual property rights may be more of an issue for those pre- commercial technologies).

Speaking more specifically, for the case studies we looked at in India it varied according to the case study. Domestic firms interested in hybrid vehicles indicated the need for a market, as the current commercial price for a hybrid vehicle was unaffordable for many Indian individuals and / or organizations (e.g. municipalities for their bus fleet). So you see, in the case of hybrids in India, which is a commercial but slow diffusing technology in that country, cost remains a key factor.

Moreover, some noted that many people were not aware of this option (i.e. that hybrids existed and that they could be purchased). There was also a desire for an 'Indian' hybrid option and so domestic firms noted the need for an integrated strategy (recognizing that no one firm or organization in India could successfully develop this technology on their own) – the Society of Indian Automobile Manufacturers (SIAM), working with representatives from key firms and the Govt of India are developing the National Hybrid Propulsion Platform (NHPP) to work together on this issue.

Domestic firms working on solar PV indicated that people (or as we termed it absorptive capacity) and government policies were important in creating a market and production capacity to ensure successful technology transfer and the capacity to innovate. Only a few mentioned IPRs as an issue (those interested in producing the entire value chain of the PV system process). The majority indicated that the basics of the technology were known (one just needed to 'google' PV) but the niche India brought was producing a good quality product at a lower cost.

Generally speaking, many firms working in India (whether domestic or foreign) indicated that India has developed a reputation in the past 10 – 15 years for having a highly educated pool of talent that is able to produce high quality products at a lower cost (from the salaries of engineers to manual labour that is sometimes used in producing PV modules).

"What sort of governmental barriers might still be in place in developing countries which inhibit the uptake of renewable energy technologies?"

As noted earlier, it is hard to make a generalization to speak about "developing countries" because their situations are very complex and unique. So, I will focus my answer on the 'emerging economies'

like India, Mexico and Brazil where I've had experience (bearing in mind of course the stark differences that exist within these countries, e.g. urban / rural dynamic; different regions; etc).

The study identified the following governmental factors as important: Lack of protection for International property rights (IPRs), National systems of innovation, Market creation, Environmental oriented policies, access to finance and Political stability.

In the case of India, it appears that government interest and engagement on certain RETs, the lure of their market, their focus on the NSI, and their reputation have managed to procure interest and investment in RETs. On IPRs, India has been slowly getting up to speed (some have indicated that they're trying to catch up with China who's been working at this since TRIPS in 1994, but India was originally perceived as 'dragging their feet') and they've had major changes in place in their patent legislation in 2005, which is more supportive towards protecting IPRs, to comply with TRIPs. This

gives foreign firms the confidence that IPR won't be violated to their detriment if they choose to enter the market.

A very important thing to keep in mind however is the role of interests and power (e.g. environmental policies being a political incentive) as well as the role of energy security. India produces the majority of its electricity from coal, which is an attractive option for them, as they possess one 10th of the world's resources.

"What sort of solutions on an international level are proposed by your research to encourage the transfer of low carbon technologies?"

A central issue highlighted by the study is the need for bilateral and multilateral collaboration between developed and developing countries on R&D demonstration and diffusion of low Carbon technologies. Sharing information and experience through such a deliberate collaborative approach and an output oriented approach (e.g. funded through international institutions) can enhance technological capacity in developing countries. Emerging tools such as the Clean Development Mechanism (CDM) and the Global Environment Facility (GEF) can also play a role.

In addition, as my colleagues and I have suggested, this study is useful as it's based on empirical evidence. The study can therefore inform policy makers to move beyond their often-entrenched positions, and work with various actors to ensure the diffusion of low carbon energy techs.

"How has the CDM thus far played a role in the transfer of low-carbon technologies? How might it be enhanced?"

The fact that the CDM has attempted to put a price on carbon provides another economic incentive for project developers and investors. For my PhD research, one of the technologies I looked at was biogas projects (or gas to produce electricity from landfills – of course debates exist regarding whether or not this is a RE source), which included technology transfer and one of the main reasons that projects were up and running was due to the potential to generate carbon credits. It is not likely these projects would be happening without them.

Having said this, differences between countries in attracting CDM investment are also stark and many have argued that the CDM is not enough since many countries get left out of the process (the majority of projects are happening in the emerging economies and so many LDCs and continents such as Africa are under represented). It seems likely that CDM and technology transfer through CD, is largely connected to national policies/circumstances.

Largely, evidence suggests that so far the CDM has allowed for some transfer of technologies but not as much as might have been expected.

Alexandra Mallett

More information can be found here: http://www.sussex.ac.uk/sussexenergygroup/1-2-9.html

NEWS FROM THE RURAL ELECTRIFICATION WORLD

Czech EU Presidency intends to promote renewable energy in developing countries

The Czech EU presidency indicated that it is very interested in decentralized power generation and fostering renewable energy in developing countries. There will be an informal meeting of EU development ministers end of January which may decide on EU priorities and concrete steps. The Czech initiative is very much welcomed by ARE. In this year the EU/ Africa Energy Partnership and its key financial instrument, the Energy Facility, could substantially boost renewable energy in Africa. Hence, 2009 may be a crucial year for the EU to demonstrate its commitment to promote rural electrification with renewable energy.

The Alliance for Rural Electrification is in close contact with the Czech presidency and is providing information on technological solutions and suitable financing schemes.

The Czech Republic will hold the rotating EU presidency from January to June 2009.

PV acceleration in Uganda

Efforts to increase the uptake of solar energy in rural areas have gained momentum in Uganda following the launch of the 'PV Target Market Approach' (PVTMA). The scheme – coordinated by the 'Rural Electrification Authority' – is supported by 'Post Bank' of Uganda and enables people in rural areas to access loans and subsidies to purchase solar systems. Grants under the PVTMA consist of two key elements: business development support grants and; sales-based performance grants, which are issued to companies upon successful installations – these can meet up to 15% of installation costs.

Developing countries strike a bold position in climate negotiations

Whilst developed countries have been struggling to come up with decisive resolve on climate action at the UN climate talks in Poznan this month – emerging economies have demonstrated their commitment to curbing green-house gas emissions, revealing some ambitious new targets. Mexico announced a plan to cut 2002 GHG emissions to the degree of 50% by 2050, India has outlined a national plan to boost solar power production and Brazil has pledged to reduce annual deforestation by 70%. Angola, Pakistan, Nigeria and South Africa are also moving towards mitigation targets. Developing and enhancing renewable energy markets will form a central pillar of many of these

mitigation strategies and delegates in Poland insisted on the fact that goals for using solar, wind and other clean technologies will require financial and technological assistance from wealthier nations.

Solar systems for Nepal schools

Kyocera Corporation has announced that it will donate and install 600-watt solar power generating systems in 3 Nepal schools each year from 2009 to 2014. The systems will also come with basic appliances such as lights and audio-visual equipment.

Kyocera initiated a partnership with local company Lasersun Energy in 2000 to supply small-scale solar generating systems for residential use. Recognising the importance of electricity for educational means, the Japanese company is now extending its activities in Nepal through this new project which will furthermore enhance the visibility of solar systems in the country.

Kyocera has also been actively promoting solar solutions in Pakistan, China and is currently undertaking a similar school electrification project in Tanzania.

Ministry in Peru earmarks $200 million to develop renewables in rural communities

Peru's Ministry of Mines and Energy has completed a 10-year rural electrification master plan based exclusively on renewable energies.

The goal is to reach communities that will not be linked to the national electric grid even within the next 10 years. The strategy seeks to provide 261,520 households with access to solar-based electricity systems and 18,498 households with power generated by new mini and micro hydropower plants.

Putting the plan into action will require an estimated investment of US$218 million through 2020, according to a statement the ministry issued last month. About US$178 million will be set aside for installing solar photovoltaic panels and the balance for building mini and micro HPPs. The program, scheduled to start next year, is to be financed from the Peruvian state budget, user contributions and foreign credit.

RURAL ELECTRIFICATION AND RENEWABLE ENERGIES EVENTS: INCOMING APPOINTMENTS

19-21 January 2009: "World Future Energy Summit", Abu Dhabi National Exhibition Centre, Abu Dhabi.

Top government officials, heads of global organisations, leading environmentalists and the largest international investors are meeting once again at the World Future Energy Summit, 19-21 January 2009, Abu Dhabi National Exhibition Centre to discuss, debate and plan for the Future of Energy.

The Summit is the platform for policy decision making, investment and high-level business deals and represents a unique opportunity to become part of an evolving industry with unlimited opportunity.

The latest conference brochure with the full programme is now available online at www.WorldFutureEnergySummit.com/brochure.

9-15 February 2008: "The European Sustainable Energy Week 2009", Brussels, Belgium. Organisers: European Commission

The European Commission is putting on the third EUSWE. It will take place in Brussels, Belgium, and in other cities across Europe from Monday 9th to Friday 15th February, 2009.

As a campaign associate, ARE has been assigned a slot in the Charlemagne Building (one of the most representative buildings of the EC) to develop a half day activity within the framework of the EUSEW 2009 (more information here).

Organised by the most important European and International organisations dealing with renewable energies and environment The Sustainable Energy Week will be a great event to promote renewable actions for rural electrification.

To have more information about the EUSEW 09 or to register on line please visit the webpage www.eusew.eu

21-25 April 2009: "International Show of Renewable Sources of Energy and of Environment in Africa", Dakar, Senegal. Organizers: Sinergie Afrique

"This proposal is based on the desire to contribute towards the promotion of alternative sources of energy and towards the strengthening of environmental protective measures in Senegal and Africa. This step is even more crucial given the huge natural potential of the African continent in these areas."

The event follows two previous International Salons on solar, wind and biomass sources of energy organised in 1983 and 1985 by EXCAF in Dakar. The objective of this salon is to provide a forum for information exchange and promotion for public and private users. In addition, the event seeks to promote investment, technology transfer and business to business relations.

The event will include:

• An international exhibition open to companies, international organizations and research & development structures;

• An international colloquy based on African concerns including energy, environmental issues and African focused alternative solutions.

• Partnership building encounters with a view to promote investments in renewable sources of energy and different sectors of the environment.

For more information: www.sinergie-afrique.com / E-mail : info(at)sinergie-afrique.com

25 – 26 May, 2009: "Small PV-Applications - Rural Electrification and Commercial Use –" University of Applied Sciences Ulm, Germany. Organizer: OTTI

The market for Small PV Applications, delivering light to remote rural homes or electricity for remote infrastructure equipment in industrialized and in developing countries is an interesting pillar of the PV world. Estimations speak of 150 MW of PV power which is installed annually in small off-grid applications and stable annual market growth rates of 10 to 15 percent are foreseeable producing an annual turnover of well over one billion Euros.

The bigger part of this market segment is not depending on political support of renewable energies: for small off-grid needs of electricity, PV is often the least cost solution under first investment, operation cost and reliability aspects. Therefore, this symposium will be dedicated in particular to the questions of small off-grid electricity supply with PV.

The Conference will focus on different issues from PV SHS to off-grid civil infrastructure, power for industrial infrastructure etc. The Alliance for Rural Electrification, which is already a supporting organization of the "PV-Hybrid and Mini-Grid Conference", also organized by the East Bavarian Technology Transfer Institute (OTTI), will also be supporting this conference which coincides with our mission.

OTTI is also launching a call for papers to potential speakers to the conference. Papers are invited on the following topics: Rural Electrification & Solar Home Systems; Rural Electrification & Power for Infrastructure; Industrial Applications (e.g. Telecommunication; Integrated Systems and Products (e.g. Street Lights)

For more information please contact: gabriele.struthoff-mueller(at)otti.de or visit the webpage: http://www.otti.de/pdf/cfppva3273.pdf

28th May 2009: "Off-Grid Power Conference", Intersolar trade fair, Munich, Germany.

The Off-grid Power conference is an international conference on power supply in developing countries. It takes place annually at the Intersolar trade fair in Munich, Germany.

Present at the event will be private companies, international organisations in development and infrastructure, non-governmental organisations and entrepreneurs in the field of off-grid power supply.

Finance, technical design and socio-economic conditions will be explored during the event, with a particular focus on “Micro-Finance”. Therefore, companies that are operating micro-finance projects in renewable energy supply will present their experiences. In addition, classical Micro-finance institutions will showcase their portfolios and adapt them to off-grid power supply. During the conference there will be sufficient time for networking and discussions on how to bring Micro-finance and off-grid power supply together.

ARE is a supporting organisation of this event and will contribute to the conference with a speaker.

For more information please visit: www.off-grid-conference.com