



Golden Jewel Energy

The Global Rural Energy Webservice Initiative

A proposal prepared for the Session on "Scaling Up Energy Efficiency Under the CDM - Do We Need A "Plan B"?"

A COP13/MOP3 Side Event on Friday, 7th December 2007, 13:00-15:00, Wind Room
Hosted by Policy Solutions and Centre for Socio-Eco-Nomic Development
(www.policy-solutions.org; www.csend.org)

Summary

The Global Rural Energy Webservice Initiative is an online interactive information service, which allows people to find their optimal energy solution and to share their own energy solutions with others. Golden Jewel Energy, a Geneva based NGO, has been working on the Energy Webservice for over a year now. For this purpose an internet service and knowledge base with local and commercial energy solutions from all around the world is being built up.

This is a call to rural inhabitants, policy makers, participants, partners and other stakeholders to build up a global rural energy network.

Rural energy

Rural energy needs for household, agricultural and entrepreneurial activities tend to be more intertwined than in urban areas. Ideally rural energy solutions would be integrated solutions. One example is a sustainable energy solution for water management. An extension of the grid can be very expensive in rural areas. In Kenya the average cost to connect a new rural home to the grid is seven times the per-capita national income (source: gsr.ren21.net). An alternative is to look for a solution, closely situated to local customers within the distribution system. Rural energy can bring local socio-economic development including employment, income generation and local empowerment.

Rural energy solutions can also work in many urban situations. For example a micro combined heat and power system works just as well in a city as in a rural village. However many urban solutions, especially those which are centralized, large scale and maintenance intensive, do not work very well in rural areas.

Rural energy supply is still dominated by traditional energy sources such as fuel wood, agricultural and forestry wastes, dung and other unprocessed biomass fuels. In 2001 the share of biomass added up to 49% of total primary energy supply in Africa, 25% in Asia and 18 % in Latin America. For 94 % of the rural households in sub-Saharan Africa fuel wood and crop residues are the primary source of energy (source: gsr.ren21.net).

In rural areas, many villages have no access to the grid at all. More than 1.4 billion people have no access to energy.

Now it is time to take action to foster the rural energy market

Stable rural energy supply is crucial for rural economic development. Steady increases in oil and diesel prices have worsened the energy security in rural areas. Since 2002 the global oil prices have more than tripled. In recent years many industries in Africa were forced to close down because of energy shortages. Many farmers can neither use mechanization, irrigation, food processing nor transport their goods to the market because of lack of energy. In addition the poorest countries will be especially hit by climate change (The Stern Review, Ch. 20).

Innovative rural energy strategies offer an opportunity not only for rural development, but also for climate change mitigation and adaptation. New ICT modes enable rural communities to enter the worldwide web. Community internet web portals are becoming more popular.

New financial modes have come up which can be particularly attractive for rural energy alternatives as well, for example the Clean Development Mechanism. New solutions are being created every day now, energy is 'hot'. However the amount of information is growing as well, and it is more difficult to find out what options are there, where to get it and if it works for one particular situation.

There is a high need for a free and objective 'virtual' rural energy expert.

The solution

By utilizing the latest IT developments, creating an rural energy expert-system (decision making tool), and distributing through existing farmer and rural networks, *anyone anywhere in the world will be able to share and find his or her optimal energy solution.*

Recently more alternative energy solutions have become available and their costs have been declining. Many modern, home-made and traditional solutions and application have already been selected and analysed. Examples of rural energy solutions are micro-hydropower for rural electrification, small-scale biofuel production from crops used in generators by the farmers themselves, various solar and wind energy installations and so on. More information can be found at www.goldenjewelenergy.org.

The suitability of each of these small-scale applications depends very much on the local conditions. The Energy Webservice is able to capture and assess the local conditions and optimize the socio-economic benefits.

It will be for the first time that rural and less developed communities are served *prior to* the developed customers. Not as second rate customers, but as a pioneer market that deserves commercial and institutional interests and can spur a world wide growth in decentralized, renewable energy applications.

End users

End users are the global rural population of about **three billion**. Final groups of end users include: farmers, nomads, women, small entrepreneurs. At the beginning they will mostly indirectly approach our services, through extension workers, farmer networks, experts, local governments and other intermediaries.

Scaling Up Energy Efficiency under the CDM - Do we Need a "Plan B"?

The webservice could effectively serve as a 'Plan B' tool to scale-up energy efficient and other renewable energy initiatives especially in rural areas. It invites people to share their energy solutions (including energy efficiency solutions) and distributes these solutions to those with similar boundary conditions and needs (based on the webservice's modeling).

Based on these collective efforts it will enhance rural energy market transformation.

It also helps to guide stakeholders working in the field of energy efficiency and rural energy supply. The webservice informs them about recent developments, financial support (e.g. bundling of small-scale initiatives), and relevant boundary conditions.

Operation and maintenance (O&M) and service and maintenance (S&M) refer to maximizing the efficiency of an energy system for the life-time of the equipment (O&M) and on a day to day business (S&M). Many projects have failed in rural areas as a result of lack of understanding of the importance of O&M and S&M. It is important to understand that energy efficiency is not only a technical issue. It is also a result of environmental factors, human resources, boundary conditions and socio-economic factors. Moreover measures should be demand and supply side oriented. The webservice provides indicators for O&M and S&M and other energy efficiency characteristics for each energy solution. Achieving high energy efficiency in rural energy projects is critical.

And finally the webservice contains criteria, which assist in making standards and labels for 'good energy efficiency practices'.

GJE is currently in the process of acquiring funding for the project. If you or your organization would like to participate in some sort of way, please contact us:

Contacts

Golden Jewel Energy is a NGO based in Geneva, Switzerland, and was created in July 2007. GJE is specialized in rural energy solutions. GJE collects, disseminates and analyses rural energy information and is building up a knowledge base and global network. Cecile van Hezik has developed and tested a model for rural energy optimisation for farmers and entrepreneurs, in China and other parts of the world as part of a PhD work.

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