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Issue 1

E-Scene

The energy outlook brought to you by the Energy Information Centre

Greetings

However you may want to define the Year One of the first millennium, it is now clear that as of January the first, 2001, we have definitely said bye-bye to the 20th century and the second millennium. Unfortunately we can't say "bye" to the problems that humans (some of them at least) have generated in their mad thirst for profit and material comforts. As such the word that jumps out of the development lexicon these days is "scarcity". We are fast running out of resources that our ancestors took for granted. We are worried about clean water, pollution-free air, and healthy and non-toxic food. The picture looks bleak on the energy front as well, with the existing sources being either prohibitively expensive or being harmful to the environment.

Fortunately, humans are creative creatures. And we have yet to exhaust our imaginations. Human beings have not yet run out of ideas. We at the Energy Information Centre believe that it is not enough to come up with an interesting idea. Often good ideas gather bureaucratic dust. Sometimes they die a natural death for want of research money or sufficient capital. And sometimes they are locked in hard patents, become instruments of exploitation and not emancipation.

We come to you as a newsletter because we firmly believe that the people in this world and especially its less privileged are better off working together, and "working together" is about conversation and sharing. This is but another "forum" of the Energy Forum. Our goals are pretty modest. We want to say "hello". We want to tell you what's new in the work we do. And we hope, when time permits, you will let us know how you are. Keep in touch and keep your spirits up. And of course, a Happy 2001 to all!

Energy Information Centre of Sri Lanka

The Energy Information Centre (EIC), a project of the Energy Forum of Sri Lanka, provides a centralised location for non-partisan energy information. The Centre focuses on the unique needs of Sri Lanka's energy community, and is gradually developing a strong international component. The EIC has a three-pronged approach to the provision of information to the Sri Lanka's energy community.

- maintaining a database of Sri Lankan energy research on Sri Lanka
- acting as an energy research liaison and resource librarian
- publishing a periodical energy newsletter

The EIC produces a quarterly magazine in Sinhala, "Ræhæn" on behalf of the Energy Forum the purpose of which is to disseminate information, build networks among like-thinking people and functioning as a forum where relevant issues are discussed and debated. E-Scene strives to reach beyond the shores of Sri Lanka and is a result of the recognition that energy and environmental issues are fundamentally global even though the problem(s) can be locally addressed.

These three resources, together with the infrastructure that maintains them, facilitates communication and co-ordination among energy researchers, energy policy makers, NGOs, universities, government functionaries, and other relevant parties within Sri Lanka's energy sector. The long-term goals of the EIC are to streamline Sri Lanka's energy research, to gather information on the large number of energy initiatives in Sri Lanka, and to make that information readily available, both within Sri Lanka as well as to the international community.

ENERGY FORUM OF SRI LANKA

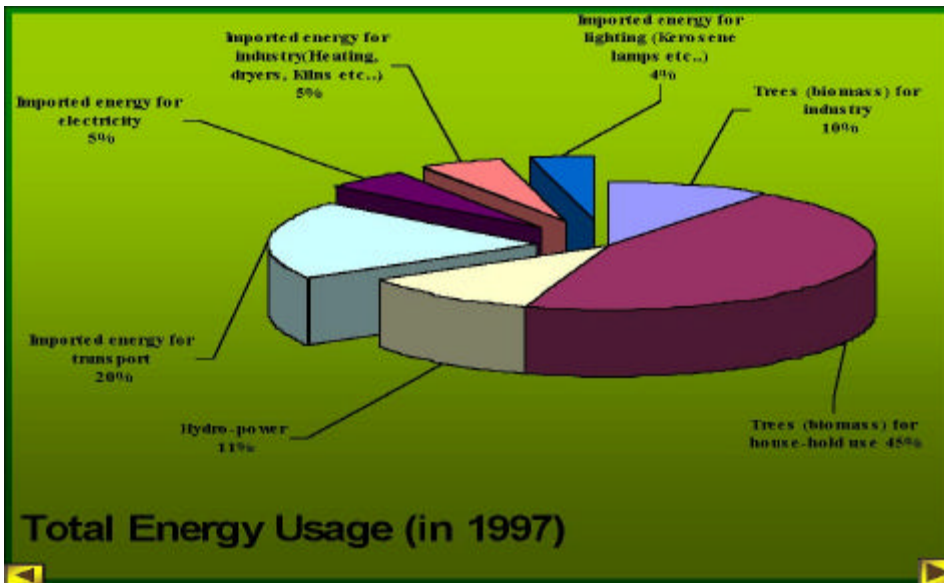
helping people help themselves to energy

The Energy Forum of Sri Lanka is an independent non-profit organisation and is a network of individuals and organisations promoting renewable and decentralised energy technologies. The members of the forum are from NGOs, private sector, government, the utility, research institutions, universities and cover technologies such as micro hydro, solar photovoltaics (PV), wind power, biogas, biomass (dendro power) and efficient cook stoves.

In addition to the EIC, several inter-linked bodies make up the Energy Forum:

- Energy Policy Unit**, designed to create an enabling policy environment and institutional framework in order to meet off-grid community energy requirements;
- Community Based Projects**, which designs practical pilot projects;
- Energy Research Fund**, to coordinate research in the energy field and promote new thinking in the field of renewable energy;
- Capacity Building Unit**, educating and training practitioners, teachers, youth officers and government officials in various aspects of renewable energy.

Energy Scene - Sri Lanka



Asia, despite containing a sizable portion of the world's population, is one of the relatively low primary energy using regions per capita. Whereas North America uses 7.5 tons of oil equivalents per capita every year, the figure for Asia is a low 0.3 per capita. Within Asia, Sri Lanka is a distant 8th behind Singapore, Thailand, India, China, Philippines, Indonesia, and Vietnam.

It is interesting to note that electricity (through hydropower or oil) accounts for only 16% of the total energy consumption in Sri Lanka. It is not surprising then that only 53% of Sri Lankans have access to electricity. Fuel wood gathered at the domestic level still accounts for the largest slice of energy consumption, forty five percent. Industries, as one would expect, are the largest consumers, sector-wise (42.7%). Domestic users consume 35.9% of all the electricity.

The picture is made more interesting when data pertaining to the district-wise supply of electricity is examined. Over 90% of the District of Colombo have a regular supply of electricity. Outside the Western Province the story is quite dark, with less than 50% of the area being covered by the national grid. In some cases, such as the Uva and Eastern Provinces, the number is less than 30%! Meanwhile, the demand for electricity is supposed to double every ten years. Unfortunately, current plans for the long-term generation of electricity such as coal power systems and diesel generators have run into political trouble and have been shelved temporarily.

When daily demand is analysed, it has been found that the peak period is between 5pm and 11pm. The Ceylon Electricity Board has been suggested that separate mechanisms be put in place to meet this demand with a corresponding pricing structure. This would, it is argued, allow specific systems to be employed for specific time segments, making for a more efficient management of energy resources.

Another "sector-based" answer to the emerging energy crisis is to deploy energy produced subsequent to the expending of foreign exchange to industries that will recover these monies through exports.

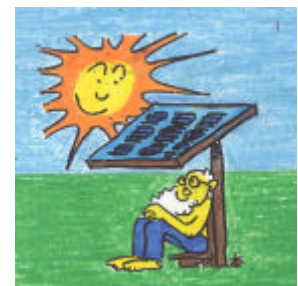
However, it would seem that these proposals are more stopgap attempts to deal with the problem rather than sustainable options. It is in this context that renewable energy options should be considered. It is heartening to note that over the last 4 years or so there has emerged a slow but steadily increasing demand for energy generated outside the traditional hydropower and thermal systems.

A quick-look at the "renewables" option

There are about 120 off-grid micro-hydro plants. It is estimated that there is potential to develop a further 853 plants, with a total capacity of 37Mw.



There are about 12,000 households using Solar PV (photovoltaic) systems. Solar water heating systems currently consume around 50 units per month.



Around 300 bio-gas producing units have been set up in the country over the past 2 years.



There is one grid-connected wind-power system, located in Hambantota, with a potential of 3Mw. In addition, ITDG has launched two projects, one in Venivelara producing 2.5 kw, and one in Usgala, with two systems, one producing 1 kw (supplying 3 households) and another producing 200w (for one household). A third wind-power project has been planned for Kirinda to produce several 1 kw systems.

Carbon trade and the future of the energy sector

For a long time the issue of energy has stood in opposition to the notion of a clean and sustainable environment. Although the idea that the environment should be protected is accepted in principle, the problem can be characterised as one where the environment has not been reflected as a factor within economic processes and "imperatives". Here the Kyoto Protocol is important because the world's worst polluters had to agree to take measures to reduce the overall emission of Carbon Dioxide. As such they had to come up with ways and means of assigning values to the environment or at least certain components of it. This created certain turbulence in the economic valuation of the energy sector. Ideally a complete reorientation of priorities in the energy sector should have taken place, especially in the relative worth of fossil fuels and renewables. The way this effects the so-called Third World is through the emergence of the notion of "Carbon Trade. Third World countries can choose to sell their "reductions" of carbon emissions. They would then be forced to move into renewables instead of fossil fuels. This scenario has certain advantages since it is both environment friendly and since most of the resources available to such countries happen to be renewables. In addition, by moving from centralised options to decentralised ones, neglected and off-grid communities stand to gain. The question, however, is whether we in the global south are being pushed to a situation where we have to pay for the pollution unleashed by the industrialised world. Thus policies incorporating costs should be promoted only on the condition that local, national and global priorities are considered.

UNFCCC: COP-6: our position

The UNFCCC, COP-6 (United Nations Framework Convention on Climate Change, 6th Conference of Parties) began by characterising the two weeks of the conference as the most crucial in the history of human civilisation. In reality it seems to have generated only frustration. At the same time, we feel that it is not necessary to be too disappointed with the outcome, or rather, the lack of a definite outcome. It was most certainly a critical fortnight. Up to now there has been a sense that concrete steps have been taken to arrest that which is seen as the most urgent of the problems facing the environment, namely, climatic change. This is so because over the past 10 years various conventions and protocols have been agreed upon. However, it became clear during the COP-6 that the problem of climatic change has not been adequately addressed. The conference ended without any consensus, without any conventions being signed. As such there are no illusions about magical and all encompassing "solutions". A decade of deception ended with the COP-6. This in itself was a victory. If the question is to be resolved there are certain prerequisites. First it must be recognised that this is a global problem. Countries can no longer afford to view the issue from the point of view of nation. All of us, in this issue, must allow our minds and imaginations to float freely over the artificial boundaries of nation, community, caste, race, religion etc. if only because the climate does not come packaged in boxes, and because plugging pollution must begin with the unplugging of minds.

CDM

The Clean Development Mechanism (CDM) allows countries with emission limitation or reduction targets to offset these commitments through investment in carbon mitigation projects in developing countries.

MEND

Moving towards Emission Neutral Development (MEND) will examine the potential for the CDM to impact positively on development targets, whilst ensuring the competitiveness of carbon credits in global trading markets. MEND will identify the capacity building needs of the partner countries to encourage investment flows under the CDM.

Focus Countries

- Bangladesh
- Colombia
- Ghana
- Sri Lanka

MEND has already conducted a workshop on CDM at national level in Sri Lanka and will be conducting similar workshops in Kurunegala, Ratnapura, Moneragala and Matara districts.

Funding for the research project comes from the Knowledge and Research Programme of



Project Coordinators

Eco SECURITIES

Eco Securities Ltd (UK)



LGA Consultants (Sri Lanka)

Booklist

The Energy Information Centre has at its disposal books, newsletters, reports and other literature on various topics related to energy. You are more than welcome to visit us and browse through these. The following is a partial list of new material on Renewable Energy acquired by us. E-Scene will periodically publish the lists of the other energy related subject areas as well.

- "Feasibility of Dendro Power Based Electricity Generation in Sri Lanka", Upali Dharmagama, Priyantha Wijetunga, K.P. Ariyadasa & W.K.K. Kumarasiri, Energy Forum & Technology Development Group, 1998, Sri Lanka.
- "Chemical and Process Engineering Final Part 111, Section C: Renewable Energy Systems", Dr Ajith de Alwis, Sri Lanka.
- "Impact of Renewable Energy Project on the Live Hood of the Beneficiaries-A Gender Segregated Study", D. Ratnayaka, 2000, Intermediate Technology Development Group, Sri Lanka.
- "An Assessment of Off-Grid Micro Hydro Potential in Sri Lanka", ITDG-South Asia, 2000, Sri Lanka.
- "A 21st century Energy source for Sri Lanka", Vythilingam Tharumaratnam, 1995, Business Marketing International Limited, London.
- "Rural Energy and Development. Improving Energy Supplies for Two Billion People", 1996, The World Bank, Washington, DC.
- "Rethinking Development Assistant for Renewable Electricity", Keith Kozloff and Olatukumbo Shobowale, 1994, World Resources Institute, Washington DC.
- "Rural Energy Planning", K.V. Ramani, A.K.N. Reddy and M.N. Islam, 1995, Asian Pacific Development Centre, Malaysia.
- "Rural Energy Applications. PV, wind and Small Hydro. Proceedings of the International work shop. New Delhi. December.", 1998, Institute of Engineering, Tribhuvan University, Nepal.
- "Energy Situation in Sri Lanka: A review", Karunatisa Atukorala and Kanchana Balumulla, Sri Lanka.
- "Micro Hydro: A Case Study of Sri Lanka", Drummond Hislop,
- Survey of Potential End Uses of Micro Hydro Electricity in the Village Environment in Sri Lanka", Matthew Jossop, 1990.
- "Course Small Hydro Development", 1995, Central Board of Irrigation and Power, New Delhi.
- "Renewable Energy-Small Hydro. First International Conference. Hydro Centenary-1997. Additional Papers", 1997, CBIP, New Delhi.
- "Solar Powered Electricity", 1988, IT Publishers, UK.
- "Renewable Energy Technologies. Their Applications in Developing Countries", L.A. Kristoferson and V. Bokalders, 1991, IT Publishers, UK.

News:

Shakthi Viskam (Energy Innovatives)

The Energy Information Centre, in partnership with ITDG-South Asia, held a two-day exhibition culminating in a distribution of awards for the winners of an art and models competition organised among students at the Ratnapura Town Hall. The competition was aimed at creating awareness about energy-related issues and generating interest about alternative sources of energy, especially renewable energy, among the youth island-wide.

The North-East looks for ways to harness energy

It is indeed a challenge to find ways of meeting the energy needs of a people who are trapped in a conflict zone and are further crippled by harsh economic conditions. As such it is heartening that the Chief Secretary of the North-East Provincial Council, G. Krishnamoorthy, has initiated new directives in addressing this issue. As a first step, the North-East Provincial Council, in partnership with the Energy Forum organised a workshop titled "Decentralised Energy Options" from the 17th-19th December, 2000. The workshop concentrated on identifying the problems and limitations of rural electrification, the potentials and local resources for DEO in the North-East province, and assessing the rural energy needs of the people. An Action Plan for the province has since been formulated and a number of projects been identified.

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