

# LOW CARBON ECONOMY - A LESSON FROM OFF-GRID COMMUNITIES IN SRI LANKA

Human civilization is currently in transition from a 'high carbon' to a 'low carbon' economy. A 'high carbon' economy is one which depends on burning fossil fuels - coal, oil and natural gas - to support the society; releasing large volumes of fossil carbon to the atmosphere. High carbon economies are unsustainable; indeed they are self-destructive, increasing atmospheric CO2 levels and leading to a climate catastrophe.

Reaching a peak in carbon emissions by 2015 is a must in order to limit the average global temperature increase to two degrees centigrade; hence the transition from the high carbon economy to a low carbon economy in the coming decade is essential.

Over the last two decades the 'developed world' has repeatedly committed to slashing carbon emission. In 1997 the Kyoto Protocol saw industrialized nations pledging to cut Green House Gas (GHG) emissions from 1990 levels

during the period 2008 - 2012. In reality, industrialized nations' GHG emissions have significantly increased. Japan committed to a 6 per cent decrease in CO2 emissions; but has seen a 6.9 per cent increase between 1990 and 2005; The USA committed to a 7 per cent reduction from 1990 levels, but has seen a 16.3 per cent increase over the same period.

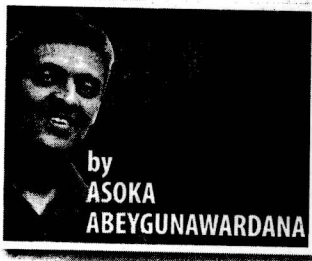
Meanwhile GHG emissions from the developing nations have been increasing exponentially. Sri Lanka's carbon dioxide emissions have increased by 230 per cent during the 1990-2005 period; outstripped only by Benin and Nepal.

This rapid increase in Sri Lanka's emissions is due mainly to the establishment of oil fired power plants and the importation of reconditioned vehicles from Japan. The country is to go ahead with the proposed plans of establishing 300 MW of much dirtier coal fired power plants then we may have to discuss these percentage increases of it in hundreds but in thousands. It is quite clear that neither the developed world nor the developing world is on track to create a low carbon economy.

What is meant by the term 'low carbon economy'? It is simply a society that is satisfying the requirements of the human without burning fossil fuels. There is no blueprint for sustainable development.



Sri Lankan project winning the silver award at the Ryutaro Hashimoto APFED award ceremony



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This year's Ryutaro Hashimoto APFED Silver Prize Award was awarded to a programme in Sri Lanka entitled: "Establishing private, public and civil society partnerships for ensuring the long term sustainability of the off-grid community based renewable energy power projects in Sri Lanka". This is the first time such an award was granted to a Sri Lankan programme. This APFED Silver award was given in recognition of the ef-

forts of about 51,000 people in 10,250 families who are associated with 200 independent community hydro schemes. These people living in off national electricity grid areas have overcome logistic and bureaucratic hurdles to establish and run their village renewable energy schemes to supply electricity to their households. These micro-hydro power, dendro power and biogas power schemes are established by the villagers themselves. These schemes are owned and operated by the Village Electricity Consumer Society (ECS) and the power is generated, distributed and consumed by the members of the ECSs.

The path to low carbon society cannot and will not be discovered by the affluent society; it should be trialed, pilot tested and demonstrated by the poor living in the developing world.

Developments in the Asia Pacific region which includes China, India, Japan, and Australia are crucial for finding a way to mitigate against the impending climate catastrophe. The Asia-Pacific Forum for Environment and Development (APFED), a regional group of prominent experts launched in 2001, aims to address critical issues facing the Asia and the Pacific region and to propose new models for equitable and sustainable development. The APFED activities consist three major components: Policy Dialogues, Knowledge Initiative, and Showcase Programmes. It disseminates information and presents policy recom-

mendations in pursuit of sustainable development in the region. In the interest of promoting best practice within the region, APFED annually grants the Ryutaro Hashimoto Awards to organizations pioneering exemplary projects. The 2009 Ryutaro Hashimoto APFED Awards Ceremony was held from 31 July - 3 August 2009 in Nanao, Ishikawa, Japan.

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The village consumer society acts as the decision making body to manage the power plant, to share the available limited renewable energy resource and to ensure the sustainability of the scheme. The Federation of Electricity Consumer Societies (FECS) which is the umbrella organization of the ECSs is the national level organization looking after the interests of these unprivileged villagers living in remote areas. Until the establishment of the FECS the voices of the communities were unheard at the national level.

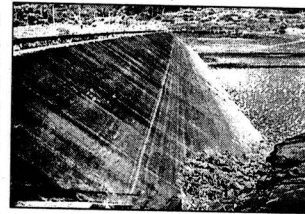
The APFED Silver award was given to the Energy Forum of Sri Lanka (EF) for the activities conducted for the sustainability of the off-grid electricity sector during the last 15 years. The Energy Forum initially lobbied for establishing a World Bank funded financing mechanism for off-grid power projects. Then the capacities of Provincial Councils, NGOs, CBOs and the private

sector were built for them to play a vital role in the off-grid energy sector. Establishment of the Federation of Electricity Consumer Societies (FECS) was a very important step towards address the issues common off-grid electricity consumers. The FECS trained village leaders attached to ECSs, introduced income generation

activities to off-grid villages, and built the capacity of the villagers to manufacture concrete poles locally. Further the Energy Forum took the initiative for establishing National Standards for Micro-hydro power in Sri Lanka with the Sri Lanka Standards Institute (SLS), and then formulated regional code of ethics for micro hydro power. The organizations such as HIVOS- Netherlands, World Bank/GEF, European Commission, UNDP - GEF/SGP, USAID, GVEP, WISSIONS - Germany, and ENERGIA have supported these activities.

If the national electricity grid is extended to a village already powered by an off-grid energy source then there should be a mechanism to connect the existing power plant to the national grid so that excess energy generated by the power plant can be supplied to the national

grid. Billing can be done based on the net flow of energy. In order to facilitate this process Sri Lanka Sustainable Energy Authority and the Ministry of Power



and Energy have taken steps to introduce net metering and power purchasing schemes.

Unlike fossil fuels reserves, renewable energy resources are scattered and hence the power generation is decentralized. Each household and each village need to generate electricity from its surroundings. The technical options currently available for generating power are micro-hydro, Solar PV, dendro, and biogas power. The experience of the off-grid renewable energy consumers is a lesson for the rest of the world as they generate the power from the renewable energy resources available within the village for satisfying their energy needs. It is the responsibility of the rest of the electricity consumers to take necessary steps to tap the renewable energy resources available in their surrounding and to supply power to the national grid. Then the pressure on the government and the CEB to generate power from fossil fuels will be less. The grid connected electricity consumers, for them to be on track to create a low carbon economy, may learn a lesson from the off-grid communities who received the Ryutaro Hashimoto APFED 2009 Silver Prize.

