

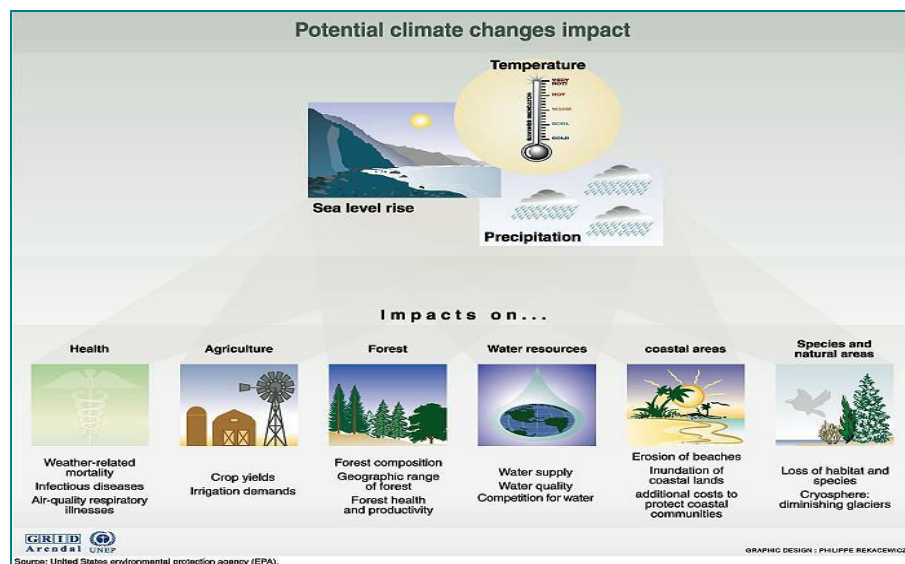
Renewable Energy - A Legacy Worth Fighting For?

- by Ishak Zakaria

The Global Turmoil

Much has been talked, debated and researched on the effect of global warming leading to climate change phenomenon causing untold havoc of biblical proportion. The terror with which the turmoil was unleashed has left a trail of devastation, costing thousand of death to human lives and damages to properties. In a recent report produced by the World Health Organisation (WHO), the UN Environment Program and the World Meteorological Program, found that at least 150,000 people die needlessly each year as a direct result of global warming. The report was published at the climate talks in Milan, where ministers were trying to put the finishing touches to the Kyoto protocol, designed to put legal limits on developed countries' greenhouse gas emissions. Increased warmth has intensified the spread of diseases, such as diarrhoeal diseases spread by bacteria, mostly via unclean water and food, spread and develop more quickly in warmer temperatures and humidity.

Yet, there are still present amongst us those who chose to disbelief the signs that are so glaringly evident. We continue to pursue the path of affluence that ignores the damage to our environment. In our pursuit for development and modernisation, we squander away our resources with impunity, not caring enough to consider leaving behind our children to inherit for their survival. Still there are others who will dispassionately declare that the depletion of energy resources will come long after they are gone. As a father of three children whose future still lies ahead of them, it saddens me to think that when I am gone, they will suffer due to the greed of my doing.



A study by UNEP indicate that worldwide economic losses due to natural disasters appear to be doubling every ten years and, if current trends persist, annual losses will come close to \$150 billion in the next decade. Whilst we contemplate on the RE being expensive to implement, in reality, it is more expensive not to take action.

RE Initiatives in Malaysia

We are fortunate to have those who in power, though not thoroughly enlightened on the impact of environmental degradation, willing to institute some measures of restitution to prepare for the eventual consequences of finite energy resources depletion. Hence, the Government initiated DANCED study resulted in the “Development of a Strategy for Renewable Energy as the Fifth Fuel”. It outlines the abundance of RE resources that Malaysia, as a developing nation cannot afford to ignore. Taking on the cue from the DANCED study, the Ministry of Energy, Water and Communications (MEWC) instituted an administrative policy target of 5% of grid connected electricity generation or 500 MW from RE by the end of 8th Malaysia Plan (2005). Subsequently, the Small Renewable Energy Power Programme (SREP) was launched to encourage and intensify the utilisation of RE in power generation under the auspices of the Energy Commission and actively supervised directly under MEWC through a Special Committee on RE (SCORE).

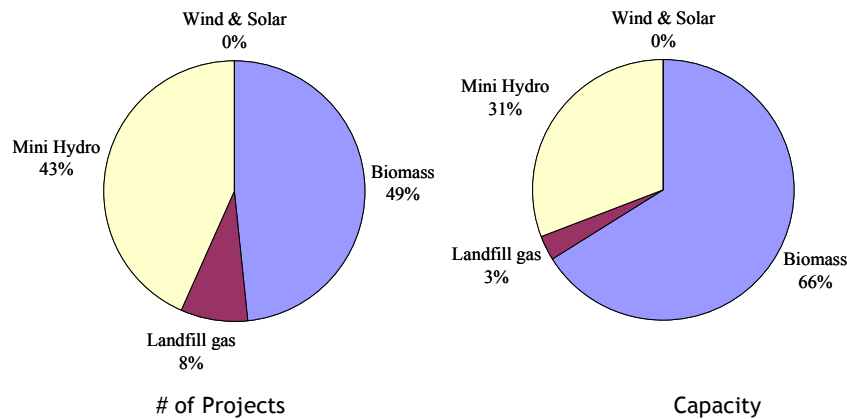
The current status of SREP implementation is very dismal. According to the report by MEWC, 60 projects are approved as of July 30 in 2004. The following is the statistics of these 60 projects.

Types	Sources	Approved	Capacity(MW)	Capacity connected to grid (MW)
Biomass	Palm waste	22	200.5	165.9
	Wood waste	1	6.6	6.6
	Rice Husk	2	12.0	12.0
	M. solid waste	1	5.0	5.0
	Mix	3	19.2	19.2
Landfill gas		5	10.2	10.0
Mini Hydro		26	99.2	97.4
Wind & Solar		0	0	0.0
Total		60	352.70	316.1

Among 60 projects approved, mini-hydro (43%) and biomass (49%) and palm oil waste accounts for 36% of total numbers of projects. In terms of capacity, palm oil waste accounts for 66%, mini-hydro for 31%. The total capacity of those 60 projects is 352.70 MW. The total capacity of six of the 7 projects which signed the REPPA as of June 2004, is only 33 MW..

Among 60 projects, 7 projects signed the REPPA (Renewable Energy Power Purchase Agreement), and 6 projects are issued with the generating license. Among 6 projects

licensed, one project utilizing landfill gas has been grid-connected, and another project utilizing Empty Fruit Bunches (EFBs) in Sabah will be commissioned within this year 2004.



The REPPA is an agreement between utility and the project developers and it covers the price of electricity, hours of connection to the grid, penalty for non-compliance etc. The following chart is the list of 6 projects among 7 projects that signed the REPPA.

Project name	Location	RE fuel	Export capacity	Current status
Bumi Biopower	Perak	Oil palm waste	6.0 MW	Signed REPPA
Jana landfill S/B	Selangor	Landfill gas	2.0 MW	In operation
Naluri ventures	Johor	Oil palm waste	9.0 MW	Signed REPPA
Sunquest	Port Dickson	Oil palm waste	5.0 MW	Signed REPPA
Recycle energy	Selangor	Municipal solid waste	5.0 MW	Signed REPPA
TSH resource	Sabah	Oil palm waste	10 MW	Will be commissioned within this year

According to the current low development of RE, the government's target of 5 % is unlikely to be achieved by 2005.

The implementation of RE power projects is daunted with insurmountable barriers preventing it from taking shape. Certainly the lack of knowledge is a significant impediment to RE development. This is understandable since RE Technology is still in its infancy in Malaysia. The so-called priority accorded to RE is given only in term of slogans devoid of significant supportive framework. Whilst the experience of other countries clearly demonstrates that RE technology cannot compete with the more mature conventional fossil resource power generation, we decided to pitch RE development on a purely commercial terms in a "non-level playing field". Conventional power systems are strongly subsidised resulting in the existing cheap electricity cost so as to ensure its competitiveness, whilst element of support is missing for RE projects. Whatever fiscal incentive such as tax exemption etc given to RE does not truly benefited the developer as the small power plant

does not enjoy the “economies of scale” to be meaningful. We have conveniently ignored the element of a “Externality or damage to the environment” in the comparative equation.

Potential developers especially the palm oil mill owners who were championing power generation for decades to be grid connected at the time when the infrastructure was missing, are now playing a waiting game hoping to secure a higher price for their waste that previously incurred a negative cost through arbitrary dumping. There is a general reluctance on their part to participate in power generation which is their non-core business with a high initial investment. Given the good price of CPO, the mill owners are not too keen on embarking into a business venture that is likely to yield a marginal return compared to other investment option.

TNB’s Dilemma

Tenaga Nasional Berhad as the sole distribution company is the only allowable purchaser of RE electrical energy. It would have been an appropriate “avoided cost” situation for RE incorporation into the National Grid had it not been for the excessive amount of reserve margin that TNB currently has to contend with. With the commitment on long term contract under the IPP PPA, TNB has to make the capacity payment with or without energy despatch. It does put quite a burden on TNB considering that it is a private sector organisation with responsibility to its shareholders. Against this constraint, it only stands to reason that TNB will not be too eager to conclude as many REPA as the Government wanted them to. The paradigm of “willing buyer willing seller” negotiation platform always ended with “willing buyer unwilling seller” with the tough “take it or leave it” situation being the order of the day. Many a Developer has come to PTM and MEWC to air out their grievances on the negotiation difficulties.

Conclusion

Malaysia is still grappling with the difficulties of attempting to encourage the development of Renewable Energy as its Fifth Fuel. The realisation of its abundance and the dangers of fossil fuel depletion without substitute, is an option that cannot be ignored. There is a general lethargy from all sector preventing RE from taking off the way it was envisaged. Whatever action plan that has been instituted has not been translated into a success story worthy of mention.

It may now be prudent to institute mandatory measures that will compel the relevant sector to take an active participation on a “polluters pay” principle. The generators may now be required to make a percentage contribution of clean energy through the well-known Renewable Portfolio Standard (RPS), the failure of which will be subjected to a

corresponding penalty. In this way, the generators will be hard pressed to look for developer to contribute RE electrical energy instead of the other way round.

The Ministry of NRE will also be required to strictly enforce the Environmental Quality Act 1974 that prohibits open burning of waste materials from all sources. A severe penalty will compel the industry to look into appropriate technology as a solution. In this way, Malaysia will have a chance to make use of its abundance RE resources for proper utilisation that will also help to mitigate the damage to our environment.

All of these measures are just our anxious attempt at leaving behind a worthwhile legacy for our generations to come. Certainly this is a worthwhile cause to fight and dedicate ourselves to.