

SECTION 5 CONCLUSIONS AND RECOMMENDATIONS

General Policy

It is clear that non OECD countries continue to be the main users of renewable energy, with biomass being the main constituent. Europe has embarked on a target of 12% of primary energy to come from renewable resources by 2010, but it is already clear that this target has proven to be greatly over-optimistic. Although results in Europe are going to be much lower than initial expectations, there are still lessons to be learnt from the approach that has been taken which might have application to Asia. A complicated matrix of incentives and controls “carrot and stick” to promote green energy have emerged with national variations within Europe. In South Asia, the past 10 years have demonstrated the rising economic prosperity of the region with an increase in the total electricity consumption by a factor of around 50%, nevertheless the per capita levels of energy use is still low and further dramatic increases in demand must be anticipated and planned for by the energy sector. In 2003, South Asia generated 663 billion kilowatt hours of electricity. Of this, around 81 percent was from conventional thermal power plants, 16 percent from hydroelectric plants, 3 percent from nuclear, and less than 1 percent from “other renewables” (like wind and solar). India accounted for the vast majority (85 percent) of the region's electricity generation and has put a high dependence on coal for its energy source.

As the leading developing nations like India and China gear themselves for even greater economic growth and attempt to attain a better general standard of living for the majority of their populations, the demand for power will become one of the most critical factors that could prevent or limit such growth. Even putting aside the problems of global warming and the consequent need to identify more environmentally friendly sources of power; the overall global demand for fossil fuels means that there is no choice but for South Asia to move to a wider portfolio of energy sources. The clear indications are that global competition for oil will mean that its value in real terms will continue to increase and its use will need to be limited to those situations where there is no replacement.

Sri Lanka Policy

In Section 2, it is clear that the Government of Sri Lanka has accepted the need for a diversity of power sources in the future. Hydro has limitations for further expansion and with no, or at least very limited, fossil fuels to hand, the country has recognised that renewables – particularly solar, wind and biomass – will have an important role in supporting an expanding grid and for meeting the future demands for that section of the population unlikely to be connected to the grid within the foreseeable future. Heavy emphasis is to be put on coal as a replacement fuel as a ceiling is placed on future expansion of oil-based units. Current projections are that coal (and renewables) are to provide 80% of the total electricity requirements by 2025 and oil pegged to less than 7%. The Government has accepted that biomass will be one of the sources of electrical power in the future along with its wide use as a direct source of heat energy. It is hoped that with

the move towards greater use of coal in power production, there will also be a greater acceptance to the role of biomass for co-firing. Trials in Europe and elsewhere have demonstrated that partial replacement of coal by up to 10% or more by biomass is possible with relatively minimal modification of the power plant infrastructure and operations. It is also important to grasp available industrial opportunities for co-generation with biomass residues such as sugar cane wastes or rice husks in industries where there is potential for combined heat and power. A number of examples of such schemes for of heat and power have been implemented in the region and opportunities also exist in Sri Lanka. We see biomass becoming both an important source of carbon-neutral energy and a useful additional source of income for farming communities which have access to land that can be spared from food production. The recognition of *Gliricidia* as a fourth estate crop has been a valuable success for the pro-biomass lobby, but its elevation to such a position needs to be reflected in direct policy moves to incorporate it as an important component of the Sri Lankan energy equation.

India Energy Policy

India, is clearly facing a major energy issue as demand for electricity power accelerates as the country continues to modernise. Although India has a basket of energy sources, coal is the dominant source, since the country has its own sources of coal – albeit of a low quality. Clearly there is greater role for the renewables and the policy decision to reach at least a 10% target by 2012 is to be welcomed. The strong positive moves that India has now taken to promote investment in the energy sector, including such from foreign companies, is to be welcomed and provides a good example of the sort of strong positive policy framework that needs to be in place if countries in the region are going to come to grips with their growing energy problems. Several key agencies have been established to provide national and state support to those able to invest in the power industry and direct support is being provided for biomass energy along with co-generation. It now remains to be seen if these positive moves will be translated into the level of investment that will be needed to ensure the continued growth of the power sector in the country.

The Role of the CDM

In terms of international funding, the CDM offers a valuable component to entice foreign investment in energy-linked programmes within the developing world. The process has been slow to start and it is really only within the last 1-2 years that it has become a practical source of funds. The process of project preparation, approval and validation is however not straight forward and many investors are going to be put off by the relatively difficult procedures. We have been able to identify some of the key problems that prevent or at least slow down successful registration. Specialist consultancy companies fully conversant with the requirements for registration will emerge and provide the necessary service. For the smaller investors, some form of joint or group registration will probably be necessary to make the process economically viable. At the current time it is not clear

how critical CDM funding will be to the financial viability of biomass and forestry projects, certainly for the very small off-grid projects, the cost of registration and validation will greatly out-weigh the benefits unless the project can be linked to others. It is clearly a process to watch and it would be valuable to return to provide a more complete analysis of the benefits derived from some of the regional projects that have been recently registered and provide a more complete assessment of the real benefits of the scheme within the South Asia region.