United Nations A/58/675

General Assembly

Distr.: General
8 January 2004

Original: English

Fifty-eighth session
Agenda item 94 (d)
Environment and sustainable development: further implementation of the Programme of Action for the Sustainable Development of Small Island Developing States

Note verbale dated 7 January 2004 from the Permanent Mission of Mauritius to the United Nations addressed to the Secretary-General

The Permanent Mission of the Republic of Mauritius to the United Nations, in its capacity as Chair of the Alliance of Small Island States, presents its compliments to the Secretary-General and has the honour to request you to circulate the final report of the Expert Meeting on Capacity-Building for Renewable Energy and Energy Efficiency in Small Island Developing States, held in Niue from 7 to 11 July 2003, as a document of the fifty-eighth session of the General Assembly, under agenda item 94 (d), as part of the preparatory process for the International Meeting to Review the Implementation of the Programme of Action for the Sustainable Development of Small Island Developing States (see annex).

04-20248 (E) 220104
0420248

Annex to the note verbale dated 7 January 2004 from the Permanent Mission of Mauritius to the United Nations addressed to the Secretary-General

REPORT OF THE EXPERT MEETING ON CAPACITY BUILDING FOR RENEWABLE ENERGY AND ENERGY EFFICIENCY IN SMALL ISLAND DEVELOPING STATES MATAVAI RESORT, NIUE, 7 TO 11 JULY 2003

DEVELOPING AN ENERGY AGENDA FOR SIDS

1. INTRODUCTION

The expert meeting on capacity building for renewable energy and energy efficiency in Small Island Developing States was held at the Matavai Resort, Niue from 7 to 11 July 2003. It brought together experts from all Small Island Developing States (SIDS) regions, from a variety of backgrounds such as energy companies, energy research, climate change and human resource development. A large contingent of local participants also attended the sessions.

The opening ceremony was chaired by Sionetasi Pulehotoa, Director of the Meteorological Service and Chairman of the Organizing Committee. After an opening prayer by the Reverend Matagi Vilitama, he made a few introductory remarks, citing the importance of the work on climate change in Niue, and how this meeting would be a direct contribution for Niue as well as for the broader membership of the Alliance of Small Island States. Esther Pavihi of the Niue Tourism Authority provided information on local sites.

The keynote address was delivered by Professor Albert Binger, Director, University of the West Indies Center for Environment and Development. He noted that energy plays an important and critical role for SIDS. The very fact of their remoteness from international markets, the very diverse and sparse spread of the countries over a large ocean area and diseconomies of scale causes this group of countries to be unique. These factors make it imperative to have the proper skills and management in order to achieve the goals of sustainable development. He noted that an examination of some of the key issues in the debate on energy and sustainable development clearly show that achieving a sustainable future will require the concerted effort at all levels of Government, the private sector, society and the international community. He concluded his remarks with an inspiring quote by Robert Nesta Marley.

The meeting was officially opened by His Excellency The Honorable Toke Talagi, Minister of Environment, who urged the participants not to lose sight of the larger picture of sustainable development for SIDS, and to seek solutions for island countries such as Niue, in particular in relation to the economic well being of the country.

The closing ceremony was attended by His Excellency The Honorable Young Vivian, Premier of Niue, who thanked the participants for their efforts, and noted that all SIDS, from the smallest to the larger, have a right and a duty to contribute to the discussions on sustainable development. He expressed the hope that the time spent in Niue would assist further in the building of solidarity amongst island peoples. In gratitude for his services in organizing the meeting, Professor Binger was presented with a drawing by the famous artist Jean Faljean, framed in Niuean hardwood.

2. PROCEEDINGS

Presentations were made by Basil Sutherland, Solomone Fifita, Anare Makativiti, K. Raghavan and Albert Binger. Their presentations and their case studies will be available from SIDSNet (www.sidsnet.org). Discussions were held on the presentations, and a special session was devoted to the energy situation of Niue. The discussions were far ranging, and the sections found below attempt to synthesize the main points and major conclusions.

3. BACKGROUND

SIDS share a number of characteristics that affect the provision of energy services including: limited internal markets; lack of economies of scale; very high transportation costs resulting from relatively small quantities; grave vulnerability to natural disasters; significant difficulties in attracting foreign direct investments; limited availability of human and institutional capacity; and the high cost of domestic capital. For SIDS, the nexus between energy services and economic development is further complicated by four factors: (a) heavy dependence on imported petroleum for commercial energy needs, (b) ongoing loss in preferential access to OECD markets, (c) vulnerability to natural disasters and the adverse impacts of climate change, resulting primarily from the growth of fossil fuel related emissions, and (d) limited integration of the energy sector with the other sectors so as to maximize synergy and the efficient use of financial resources.

For the majority of SIDS, imported petroleum (mainly end-use products) is the chief source of primary commercial energy and is used largely for transportation and electricity generation. Consequently, the cost of petroleum products in SIDS is among the highest in the world. The cost of electricity generation using petroleum products is much higher in SIDS given the added costs of fuel distribution for small-scale generation systems, made acute by the geographic dispersion of SIDS and the distance from suppliers. The ratio of petroleum imports to total merchandise exports in most of SIDS remains comparatively higher than in other developing countries and has remained almost unchanged since 1992. The almost total dependence of SIDS, with the notable exception of a few countries, on imported petroleum and the relatively low level of conversion efficiency for their commercial and domestic energy needs continues to cause imbalances in trade.

For SIDS, the linkages between patterns of energy consumption and production and the effects of global climate change pose particularly serious future challenges to improving the quality of life for the population of SIDS. Although SIDS are among those that contribute the least to the problem of global climate change because of low per capita and aggregate greenhouse gas emissions, the latest report from the IPCC states that these states would suffer most from the adverse effects of global climate change (such as sea-level rise, coastal zone inundation, and escalations in the frequency and intensity of hurricanes and typhoons) which threaten their very existence. The sustainable development of energy resources in SIDS is therefore an urgent priority.

Most SIDS, particularly the small islands of the Pacific and Indian Ocean, remain heavily dependent on traditional forms of biomass based energy (fuel wood from natural forests, coconut shells, husks and stem wood, residues from crops such as coffee, cocoa, for cooking purposes which makes meal preparation hazardous to the health of the household, in particular women and children. As with fossil fuels, current biomass usage is inefficient.

The potential savings that would accrue from a reduction in SIDS' dependence on imported petroleum, or from increased use of energy efficiency and conservation measures and renewable energy technologies (RETs), could contribute significantly to improving the economic, social and environmental well-being of SIDS.

SIDS with a few exceptions have significant renewable energy resources that could be developed to reduce dependence on imports and their growing economic and environmental vulnerability. Relative to other countries, SIDS have a high and relatively constant supply of solar energy. In a number of SIDS, the use of small scale solar photo-voltaic (PV) power to provide electricity in rural areas and remote islands with isolated pockets of low load densities have been implemented on a pilot scale, but more work on financing and institutional arrangements needs to be done to realize their full potential. Wind and biomass resources vary significantly with location, both within and between countries; however, technological advancement in recent years makes wind power a cheaper option for commercial energy services in many SIDS. Biomass from agriculture, either as by-products in agro-industry (bagasse from the processing of sugarcane, or waste from livestock production or fish processing) represents not only potential substitutes for fossil fuel, but opportunities to improve local agricultural productivity and economic profitability, directly contributing to quality of life improvements and reducing vulnerability. In some SIDS the combination of energy from the agricultural sector combined with wind and hydro represent opportunities for base load and peak electricity production.

Hydropower resources for electricity production exist in a number of SIDS for example Fiji, Jamaica, Solomon Islands, Samoa and Vanuatu, but exploitation is fairly limited. The management of urban organic wastes (sewage, household

garbage, and paper from offices) is a growing concern for SIDS, and could be addressed in a significantly more cost effective manner through the use of waste-to-energy systems or biogas systems which would not only contribute to increased energy independence but help to address pollution and public health concerns, as well as providing a source of organic fertilizer. A smaller number of SIDS have substantial level of geothermal resources which remain untapped.

Also untapped is the vast energy resources of the tropical ocean, upon which SIDS are anchored. This resource has the potential not only to substitute for fossil fuel but also to provide commercial energy at a cost that will create opportunities for the development of energy intensive industries in SIDS.

Despite some growth in the use of modern RETs, particularly PV systems in SIDS, the wide scale application and use of RETs has not occurred in SIDS for a number of reasons. A principal reason has been the lack of technical and policy related knowledge related to RETs within SIDS. Currently most SIDS lack appropriate institutional capacity and do not have adequate technical capacity to evaluate RETs and implement their usage, and consequently continue to depend on donor driven activities. The vast majority of SIDS therefore continue their high level of dependence on imports and in the process continue to increase their economic, environmental and social vulnerabilities.

2. TIME FOR SIDS TO ADVANCE THEIR OWN SUSTAINABLE ENERGY AGENDA

While there has been some ad-hoc support from bilateral donors to help SIDS address energy for development, international agencies such as the development banks have chosen not to help SIDS develop the capacity to exploit their abundant indigenous energy resources, but rather to use market approaches more specifically for privatisation of their commercial energy production. Instead of helping to develop indigenous energy sources and reducing the cost of electrical energy the opposite has occurred. The leaders of SIDS welcome foreign investments, as their economies are, and will be, dependent on such investments to drive economic development. However, the increasing escalations in electricity cost are proving counter-productive, as the high cost of energy is a disincentive for foreign investment. So rather than providing a long term solution, privatisation at this point in time is taking SIDS in the opposite direction. This is the result of a number of factors including: lack of transparency, limited institutional capacity to formulate policy to guide privatisation and putting in place the needed regulatory regime.

Policy makers in SIDS need to recognize that our countries are unique and that wholesale adaptation of prescriptions from larger countries are not appropriate. Our decision makers must now meet the challenge of making informed decisions on the economic and technical viability of those prescriptions from the developed world, understanding that there may be vested interest not necessarily consistent with SIDS aspirations. In many cases the external advice is not appropriate to the

specific situations of SIDS, and our policy makers need to be provided with the information necessary to evaluate these recommendations. The experience of the applicability of this external advice should be measured by its success in actually assisting other SIDS.

Policy makers in the energy sector need to better understand the integral linkages between their sector and the economy, including the major challenges that economic globalisation poses for small scale producers and the many economic, social, and environmental benefits that would accrue to that national economy from the comprehensive development of indigenous energy sources. Policy makers in the energy sector need to work in a synergistic manner with their counterparts in economic development to better understand the trade-offs, and how choices in the energy sector contribute to social and economic vulnerability in the future. They also require a greater degree of understanding of how best to encourage technology transfer and the national/regional adaptation of RETs and energy efficiency, and how this could reduce the need for government to provide subsidies.

Sustainable energy is the foundation of sustainable development, and requires affordable financing, but the majority of SIDS do not have the financial and technical resources or affordable access to financing. SIDS will require political commitment as well as financial investments to build appropriate institutional and human capacity, develop the necessary regulatory frameworks, energy policies, and financing mechanisms, and to catalyse public sector involvement. Policy makers therefore also need to become much more innovative in developing financing mechanisms in partnership with the local and external private sector, to tap the much cheaper capital available internationally, a potential benefit of economic globalisation that SIDS are yet to take advantage of.

This begins with getting the political leadership in SIDS to recognize the critical role of the energy sector and to give it the level of importance that is required, and provide the level of resources to make sure that there is adequate capacity. Given the limited human resources that now exist in the sector coupled with a tight fiscal situation, cooperative approaches by the governments of SIDS to develop and share institutional capacity, in partnership with the developed countries, should be given priority by our political leadership.

Table A Brief Overview of RET Applications in small island settings.

BIOMASS	***Bagasse: Mauritius has initiated a Bagasse Energy Development Programme. Bagasse is used as fuel for sugar mills in Barbados, Fiji and Jamaica.*** *Biogas: Biogas systems (differing in size, design and feedstock) have been built in Barbados, Jamaica, St. Lucia, St.Vincent and the Grenadines, and Trinidad and Tobago.* *Biofuels:* ***Used to run small diesel generators in Fiji, Tuvalu and Samoa.*** ***Coconut oil has been used in Vanuatu for running cars, buses and ferries.***
SOLAR	***Solar Photovoltaic (SPV) Systems: particularly in Pacific SIDS such as Kiribati, Tonga and Tuvalu also in Cape Verde, Barbados.*** *Solar Thermal: Most widely used RE application in the Caribbean. Solar Water Heaters offer exciting market opportunities for growing tourist and hotel industry, used widely in Barbados, Mauritius and Seychelles.* *Solar Drying: in the Caribbean particularly in Grenada, Jamaica and Trinidad and Tobago.*
WIND	***Wind turbines have been used in Martinique, Curacao, Guadeloupe, Cape Verde and Jamaica. The potential for wind energy, and in particular, small wind and diesel hybrid power systems is being studied by several Pacific islands.***
HYBRID & OTHER NEW TECHNOLOGIES	***Wave and Tidal power, and Ocean Thermal Energy Conversion (OTEC) are some of the other technologies that offer interesting opportunities for SIDS. The Scientific and Technical Advisory Panel of the Global Environment Facility has recommended that OTEC be studied more closely for application in SIDS.***

As shown in the above table, RETs are in various stages of development in SIDS, and this provides evidence of its feasibility and viability, which are key requirements for convincing senior decision makers in the government and private sector. It also provides the basis to get support from the general population whose endorsement is critical to successfully addressing the development challenges of our countries.

It is recognized that no individual SIDS can by themselves drive the development of their indigenous energy resources. This will require collective action and for this, SIDS leaders need to develop a common agenda for renewable energy and energy efficiency. Such an agenda will help to ensure that:

- The required expertise is developed;
- Experience and expertise are effectively shared;
- The required financial resources can be mobilized from the global markets recognizing that we cannot depend solely on donor assistance; and
- A framework for others wishing to assist SIDS can easily identify areas where their vested interest intersect with the interests of SIDS.

The main goals of the Agenda would be:

- To increase the professional and institutional capacity of the energy sector in SIDS.
- To enable SIDS and other interested countries to develop and demonstrate on a commercial scale, energy services systems that maximize the use of their abundant renewable energy resources.
- Demonstrating to the international community, which is reluctant to make the changes in energy systems that will address the apocalyptic future of global climate change, that it is indeed possible to make these changes, and thereby strengthen the position of SIDS in global negotiations.

The Agenda should lead to:

- More effective utilization of SIDS overall experience and expertise in response to each SIDS's unique energy needs and challenges.
- Providing a framework for regional, inter-regional and global collaboration to maximize benefits for all; especially since donors tend to focus on geographical regions or specific groups of countries.
- Sensitising donor groups to the characteristics and specific needs of SIDS, in order to attain more targeted support.
- More effective mobilization of donor support, and coordination of such support.
- A clearinghouse for sustainable energy development experts, consultants, and partner agencies, as well as a reference and information resource.

Priority would be given to the development and implementation of the following:

- Integrated Resource Planning.
- Promotion of energy efficiency — best practices, certification, standards, building codes and home designs, etc.
- Electric utility regulation and efficient management: capacity development and the provision of technical assistance through SIDS institutional entities.
- Technology development, demonstration, and national scale generation of energy services through:

1. Utilization of waste, and anaerobic fermentation/biotechnology (multiple benefits at the national level).

2. Ocean energy: wave, OTEC, tidal.

3. Wind, solar, biomass, hydro, geothermal.

4. Hydrogen generated from renewable energy sources.

5. More efficient use of conventional sources of energy.

6. Improved efficiency of technologies and methods for the utilization of energy in SIDS (cooking stoves, air conditioners, freezers, motors, etc.).

- Capacity building, through:

1. Training of engineers, research scientists, architects, sustainable energy systems policy makers, managers and technicians.

2. Development or strengthening of institutional capacity to facilitate regional and inter-regional exchange of information and expertise, and the development of appropriate databases.

3. Assessment of the potential of new and renewable energy resources.

- Efficient modes and alternative transportation systems.
- Public awareness and education, with an emphasis on primary and secondary education on the role and importance of energy and of energy efficiency.
- Development of structures for fostering and facilitating regional, inter-regional and global cooperation.

3. PROPOSED ELEMENTS OF A SUSTAINABLE ENERGY DEVELOPMENT AGENDA

The participants at the Niue Energy Meeting, recognizing that at the BPOA+10 International Meeting on the sustainable development of SIDS scheduled for August 2004, our leaders will for the first time in ten years gather to discuss our common future and necessary actions to address the growing vulnerabilities of our countries, hereby suggest for consideration by our colleagues at the various national, regional and inter-regional meetings that are part of the preparatory process, the following elements as part of the development of a comprehensive Sustainable Energy Agenda for SIDS.

- The Establishment of a Sustainable Energy Network for SIDS

Functions would include:

  - The provision of information on best practices
  - Assistance in identifying external technical and financial support
  - Access to expertise, through a roster of experts
  - Support for the development of demonstration projects
  - Support for Public Education and Awareness, including assistance with program development, information exchange and cooperation for resource mobilization
  - Assistance with the development of sustainable energy policies
  - Capacity development
  - Facilitate the exchange of information at the different levels (national, regional and inter-regional)
  - Assistance with curriculum development
  - Linkages to existing relevant projects and programs (such as PIREP) as well as to the further development of Type II partnerships developed in the context of the WSSD.

- **The Development of a Renewable Energy and Energy Efficiency Centre (REEEC) on the Internet**

  Role would be:

  - Provide a support and training resource to help awareness and education of policy, decision makers in the public and private sectors, and leaders of Civil Society
  - Assist energy experts and planners in identification of technological options
  - Provide estimate of costs and benefits of sustainable energy systems
  - Make use of existing networks, in particular SIDSNet and networks related to specific projects and programs in SIDS regions.

- **The Development of Tertiary Education Capacity in Renewable Energy and Energy Efficiency**
- Developing human and institutional capacity in management, financing, efficiency and maintenance.
- Providing opportunities to and encouraging the development and participation of rural energy service companies, local companies and manufacturers to supply equipment for project implementation, management and maintenance.
- Ensuring that the implementation of rural energy systems maximizes the benefits to the environment and livelihood of rural communities.
- Establishing detailed information databases on resources available and the assessment of energy requirements, existing systems and projects.
- Providing institutional strengthening and assist with developing and implementing legislative reforms, and encourage and establish an enabling environment.

- **The Development of Dedicated Funding Facilities for renewable energy and energy efficiency in regional development banks as well as other funding sources**
- Seeking increased official development assistance and other grant and concessional financing from international and regional funding cooperation in the development of national sustainable energy service strategies.
- Engaging development finance institutions and commercial banks in providing loans and grants for small-scale projects, and promote innovative financing arrangements, especially for low-income inhabitants, and the restructuring of loans to assist financing of energy services.
- Encouraging the local private sector and local communities to provide energy financing and other energy services, particularly in rural areas and remote islands, and contribute to achieving the intended goals through capacity building at the corporate and community levels.
- Providing support and financial resources for renewable energy, and giving special consideration for funding for SIDS.

- **Planning and implementation of several ”100% Renewable Energy Islands” in the 3 regions – Pacific, Caribbean and Indian ocean. The aims would be:**
- To show that a it is possible for islands to get all their energy needs sustainably from Renewable Energy Sources (RES).
- To build up local capacity on SIDS to plan and implement 100% Renewable Energy Islands.

- To focus attention on the final goal of sustainable energy supply which is to be free from fossil fuels.
- To create a replicating effect that will lead to more and more islands on SIDS trying for and achieving 100% energy supply from RES.

4. WORKSHOP RECOMMENDATIONS

a) The workshop recommends that the proposed Agenda would be implemented as two components. The first component will focus on developing the partnerships within SIDS and other interested parties, and strengthening the information and professional capacity for sustainable energy development. The second component will support implementation of commercial demonstrations of energy services from renewable resources and the energy efficiency. In order to achieve this the AOSIS leadership should be informed of the outcome of the meeting, and be invited to place the item of the energy agenda development on the draft agenda for the Inter-regional Preparatory Meeting for the Review of the Implementation of the Barbados Program of Action, to be held in Bahamas in January 2004, in preparation for the International Meeting in Mauritius in August 2004.

b) In addition to the recommendations directly related to the energy agenda the meeting also identified the following points as being of crucial importance. They could be considered separately, but should eventually be integrated in the energy agenda as positive steps. It was also noted that certain Type II initiatives would be working on several of these areas. In this regard the need to share information on successes and progress was noted as being particularly important.

We the participants in the Niue meeting based on our deliberations, building on the recommendations of previous AOSIS workshops and summits, recommend the following for consideration by our respective governments:

- Recognizing that our countries need to reduce the cost of energy to the consumer and the amount of foreign exchange required for importation of fossil fuels and help in the protection of the national as well as the global environment; recommend that our governments consider formulating policies to encourage the following best practices in order to improve the efficiency of energy generation, distribution and end use:
    - in the provision of lighting services undertake pilot programme to convince consumers of the benefits of energy efficient lighting;
    - reduction in the use of water within the tourism sector by encouraging occupants to use less water, installing variable flush toilets, time control on air condition units, wide scale use of solar hot water systems, greater use of natural lighting in the future design and construction of hotels and resorts, and programmes for the reuse of water;

- establishment of special programmes to fund consumers' energy efficient retrofits;

- Improving energy efficiency by addressing the constraints and barriers:
  - Identify clearly the constraints and barriers to take full advantage of energy efficiency measures, particularly in the production and distribution of energy, and the utilization of energy in industrial, commercial and domestic sectors.
  - Address the lack of skilled human resources, public education and awareness, and develop clear appropriate policies, technology choices, taxes, duties, subsidies and rebate incentives. The resolution of these will contribute to energy efficiency, to reduction in energy demand and greenhouse gas emissions and other pollution.

- Energy efficiency associated with the production and distribution of energy:
  - Identify and adopt, where economically and financially viable, more efficient power production and distribution technologies, and facilitate their transfer to SIDS.
  - Carry out power system loss assessments or energy audits in the power utilities in SIDS within an appropriate penalty regime, implement a loss reduction programme, and develop appropriate specifications for the procurement of power supply equipment that will not contribute to energy inefficiencies.
  - Carry out a human resource development needs assessment of the power utilities, and implement an institutional strengthening programme in those areas that will increase the ability of the power utility to improve energy efficiency.

- Energy efficiency associated with the utilisation of energy:
  - Creating appropriate energy policies, standards and incentives that act as drivers for the conservation of energy and the acquisition of energy efficient consumer appliances.
  - Establishing energy audit mechanisms and monitoring systems.
  - Encouraging the creation of energy service companies.
  - Supporting research, development and demonstration, as well as education and public awareness programs.
  - Disseminating technology options for improving end-use energy efficiency in the residential and commercial buildings sector, including wider diffusion of technologies, such as more efficient equipment and appliances; efficient heating and air-conditioning systems; and more efficient building envelope designs.
  - The introduction and adoption of tariff and customs reform to encourage the wider utilization of energy efficient appliances and equipment through star rating programmes and the introduction of

minimum energy performance standards (MEPS) for equipment and appliances will assist in meeting these requirements.

- Establishing institutional mechanisms that are required for regulatory and legal frameworks for implementing policies on incentives; energy efficiency standards and labelling of equipment; and incentives for the private sector and communities to contribute to achieving the intended goals.

There should be increased development and utilization of renewable energy sources through national and regional efforts and international cooperation, specifically to increasing technology transfer and investments in mature renewable energy technologies. In particular, the proposal for 100% Renewable SIDS should be investigated further, and specific research and projects for small communities in SIDS should be explored as a matter of urgency.

Strengthening national capacity in policy development, institutions, technology, financing and commercialisation will be crucial.

Regional organizations should be encouraged to continue to provide assistance to the public sectors on policy and regulation, and to provide the necessary interface for program promotion. They should serve a catalytic role by providing public information, to encourage participatory approaches involving NGOs and community-based organizations, encourage best practices and facilitate institutional networks through demonstration projects.

- Renewable energy technologies at the regional and national levels:
    - Establishing regional networks and centers of excellence for the exchange of experience in the development and application of renewable energy, research and development cooperation, including joint development projects, the sharing of testing and training facilities and South-South cooperation for capacity-building.
    - Disseminating technology options at the national, regional, and international levels for mature solar, wind, biomass, hydro including mini-hydro, geothermal, ocean (wave, tidal and ocean thermal energy conversion), and hydrogen from renewable sources, and other renewable energy technologies.
    - Learning from past experience and establish closer links between research, development, demonstration projects and industry.
    - Promoting trade in renewable energy devices and systems and facilitate the creation of an enabling environment for rapid market growth.

- Supporting national efforts to build organizational and manufacturing capacity for the production and diffusion of renewable energy technologies, as well as for education and public awareness.
- Strengthening linkages between existing regional and international mechanisms, such as the Global Environment Facility, and renewable energy technology development and utilization in SIDS. In this regard special consideration should be given to creating a “window” within the GEF focal areas for the provision of new and additional funding for renewable energy projects in developing countries, in particular the least developed countries and the SIDS amongst them.
- Planning and implementation of several ”100% Renewable Energy Islands” in the Pacific, Caribbean and Indian ocean regions.

Energy efficiency is a major preoccupation, and problems with the transportation sector abound in the SIDS regions. Efforts at improving energy efficiency within each transportation mode, including sea transport will therefore be necessary, as will be developing transportation management policies that would improve the effectiveness and availability of public transport systems.

The introduction of sustainable energy supplies in rural areas and remote islands to increase the standard of living of rural dwellers and in generating economic activities is very important, as well as establishing greater reliability of the energy supply at an affordable cost.