

Pacific Regional Submission to the Commission for Sustainable Development Fourteenth Session (CSD 14)

Prepared by the Council of Regional Organisations of the Pacific (CROP)

(Long Version: Full Text including Attachments)

Background

1. The paper reviews the status of progress in Pacific small island developing States (Pacific SIDS) with specific focus on the themes of the United Nations Commission on Sustainable Development two-year cycle (CSD 14 and 15 sessions, 2006/7), namely; energy for sustainable development, industrial development, air pollution/atmosphere and climate change.
2. Input is derived from many sources including national and regional assessments for the 10-year review of the Barbados Programme of Action for SIDS undertaken in 2003-2004, the recent development of the Pacific Plan, information presented at relevant regional meetings in 2005, including the Pacific Regional Meeting to review the implementation of the Mauritius Strategy (Apia October 2005), and the Pacific Matrix for monitoring implementation of the Mauritius Strategy in the region developed by members of CROP.
3. The paper also reflects the latest consensus regional positions on energy, and climate change (and closely related disaster risk reduction) that are contained in the revised Pacific Islands Energy Policy, revised Pacific Islands Framework for Action on Climate Change 2006-2015 and the new Pacific Disaster Risk Reduction and Disaster Management Framework for Action 2006-2015. These were endorsed by Pacific Leaders at the 36th Pacific Islands Forum in Papua New Guinea October, 2005.
4. The energy and climate change documents are each appended to this paper.
5. Whilst the **Mauritius Strategy** contains separate chapters dealing with energy and climate change, there is particular reference (paragraph 84) to the high priority given to addressing climate change and energy issues to support urgent sustainable development challenges in SIDS. In fact delegations will recall climate change was specifically listed first as the agreed most important overarching issue for all SIDS. A **key challenge remains** for Pacific SIDS to secure the necessary support of the international community, including through the facilitation and improvement of access to existing resources and, where appropriate, through the allocation of dedicated financial resources.
6. In so far as the **Millennium Development Goals** are concerned, Pacific SIDS are committed to reporting, but equally remain convinced that nationally-set indicators and targets will ultimately be most useful. The setting of these national indicators and targets has still largely to be done. An urgent **challenge** for Pacific SIDS is to improve the quality of data, gathering, storage and dissemination. Nonetheless, we can be optimistic that poverty reduction will be a result for Pacific SIDS if the energy and climate change challenges in this paper are addressed successfully.

Pacific Plan

7. At their October 2005 Pacific Islands Forum, the Leaders endorsed the Pacific Plan for strengthening regional cooperation and integration to assist countries realize their national development goals. It is new (since the Mauritius International Meeting on SIDS in January 2005, and the Pacific Regional follow-up meeting in October 2005), and the opportunities the Pacific Plan presents to support national needs through developing and strengthening efforts at regional level should be highlighted to the CSD. The four strategic objectives of the Pacific Plan include one dedicated to sustainable development, the overarching business of the CSD which is the international forum for discussions on sustainable development.
8. The Pacific Plan describes sustainable development as: *“the integration and mutual reinforcement between the three pillars of economic development, social development and environment conservation (where conservation is defined as wise use, including protection, in some circumstances). Essential requirements for sustainable development include active stakeholder participation, poverty reduction, changing unsustainable patterns of production and consumption, and managing and conserving the natural resource base for economic and social development, while maintaining the underlying ecological processes”*.

9. The vision of the Pacific Plan cannot be fully and successfully achieved without addressing the key thematic areas of the current CSD cycle, namely energy for sustainable development, industrial development, air pollution/atmosphere and climate change.

Pacific Plan Vision

Leaders believe the Pacific region can, should and will be a region of peace, harmony, security, and economic prosperity, so that all of its people can lead free and worthwhile lives. We treasure the diversity of the Pacific and seek a future in which its cultures, traditions and religious beliefs are valued, honoured and developed. We seek a Pacific region that is respected for the quality of its governance, the sustainable management of its resources, the full observance of democratic values, and for its defence and promotion of human rights. We seek partnerships with our neighbours and beyond to develop our knowledge, to improve our communications and to ensure a sustainable economic existence for all.

10. Energy and climate change are directly referenced in the Pacific Plan and are specifically identified as initiatives requiring immediate implementation (2006-2008) in its Kalibobo Roadmap.

- Pacific Plan Initiative 5.4: Implement the Pacific Islands Energy Policy and associated Action Plan to provide available, reliable, affordable and environmentally sound energy for the sustainable development of all Pacific island communities.
- Pacific Plan Initiative 5.5: Continue development of adaptation and mitigation efforts linked to the Pacific Islands Framework for Action on Climate Change 2006-2015 and the Pacific Disaster Risk Reduction and Disaster Management Framework for Action 2006-2015, including public awareness, capacity building and improving governance, risk and vulnerability assessments, and should a genuine need arise consideration of measures to address population dislocation.

11. Also included are specific initiatives on petroleum bulk purchasing, waste management and natural disasters and are important in so far as they relate to energy and climate change respectively:

- Pacific Plan Initiative 1.6: Develop proposals or strategies for the bulk purchasing, storage and distribution of key commodities such as petroleum and pharmaceuticals.
- Pacific Plan Initiative 5.3: Develop and implement policies and plans for waste management.
- Pacific Plan Initiative 13.4: Develop and implement policies and plans for the mitigation and management of natural disasters.

12. A **challenge** for Pacific SIDS is to secure the support of the partners through the CSD process for the Pacific Plan and thus the support for the relevant national and regional initiatives. The Pacific SIDS also continue to face the challenge of managing support from development partners and regional organizations. This is reflected in the Leaders Communiqué 2005 reiterating the importance of Pacific Plan Initiative 5.6: Facilitate international financing for sustainable development, biodiversity and environmental protection and climate change in the Pacific including through the Global Environment Facility.

Linkages within the Thematic Cluster for Pacific SIDS

13. The far-reaching vision of the Pacific Leaders to enable Pacific peoples to “*lead free and worthwhile lives*” is dependent on successfully addressing the energy and climate change concerns of the Pacific SIDS.

14. As with many aspects of sustainable development, there are many interlinkages which by preference would demand an integrated approach. These interlinkages need to be identified and acted upon, as they are crucial across the CSD thematic areas. These interlinkages also impact on other CSD themes for the period 2004-2015.

15. One of the key **challenges** is to develop, and strengthen the capacity at national level to promote action on these interlinkages. One step in this direction is to develop national sustainable development strategies (or the like) which when implemented should secure a national enabling environment whereby joint activity between sectors will become the norm (rather than an impediment fabricated within the budget process). National sustainable development strategies would also provide countries the platform to also negotiate a coordinated and harmonized support from development partners.

16. The answer almost certainly is “not enough progress”, to the following two questions: Has progress at the national (and regional) level on educating the policy-decision makers since the last CSD session on energy (CSD9 2001) been sufficient? Are the benefits of the UNFCCC process started in 1992, being seen in capacity building for improved decision-making at national (and regional) level?

17. Energy and water are essential for life, Pacific SIDS traditionally had a resilience to cope with their exposure to periods of inadequate supplies, which almost certainly would be dependent on the weather, climate variability (e.g. temporary loss or reduced supplies of fuel wood and water after a cyclone).
18. Development in Pacific SIDS during the past 50 years, increasing populations, expectations of newly independent nations, required more energy (including food) which in the first instance was met by cutting down more trees. At the same time in the industrial world, increasing energy demand was securing the trend to global warming through the increasing combustion of fossil fuels and increasing emissions of greenhouse gases.
19. So Pacific SIDS today find themselves at a nexus. The **challenge** is: on the one hand, to manage the national urge for improved lifestyles which is demanding access to more energy and water, misuse/overuse of traditional sources will result in increasing vulnerability; whilst at the same time to build capacity to cope with global change (increase in oil price, climate change and associated sea level rise) which is also contributing to increasing the vulnerability of life on the islands of the region.
20. Pacific SIDS desire to trade necessitates the need to produce goods and services that will almost certainly increase energy demand. Is industrial development a viable and sustainable option to generate revenue and employment when the economic, social and environmental costs are taken into account? Imposing the necessary regulatory framework on existing agro-forestry, mining and growing tourism industries is in some cases proving difficult. Energy efficiency and conservation are crucial, and for which incentive based management instruments may be more suitable.
21. The solar energy resource available to our islands and surrounding ocean remains largely untapped. It is also the driver of our climate and weather patterns. Increasing the use of renewables is essential. Solar, wind, hydro, ocean/wave, and biomass energy resources are all naturally linked to our climate. They are at our disposal if we can overcome the technical and financial aspects to their use.
22. Increasing global warming due to increased energy demand globally is changing the atmosphere, its composition and circulation, and interaction with the ocean which is over 90 percent of our region. The ocean, particularly our Pacific Ocean, is the heat reservoir of the planet and as change progresses inevitably the impact on Pacific SIDS will be evident.
23. The **challenge** is to respond to the reality that traditionally populations could cope with the magnitude and frequency of events (in the extreme.. disasters), but long term change such as increased magnitude and frequency as well as irreversible change such as sea level rise will demand adaptation as a risk management option, or vulnerabilities will increase.
24. Biofuels provides an example of a scenario available to Pacific SIDS that demonstrates the interlinkages. Coconuts, dalo, cassava, cane, are good energy sources. The technology to convert them into fuel oil/ethanol is affordable. Utilising these crops as a renewable option will assist in cutting down on the fuel import bill and improve the balance of trade. Increased agricultural activity to do so will target improving lifestyles in rural areas where poverty is identified as a problem. Planting on already degraded landscapes will reduce runoff, soil erosion and siltation of coastal reef areas and thereby contribute to protecting the environment. An opportunity for a new trade element between Pacific SIDS emerges where countries are not "large" enough to operate their own processing plant. Fuel (ethanol) can be shipped one way in return for raw material (coconuts) being shipped the other way. Financial and operational feasibility studies are crucial in order for Pacific SIDS to take advantage of such new opportunities.

Vulnerability of Pacific SIDS

25. The overall vulnerability of Pacific SIDS lies at the root cause of the challenges to progress sustainable development. This overall vulnerability underpins the "special case" articulated in Agenda 21 and reaffirmed in the JPoI and the Mauritius Strategy. This vulnerability manifests itself in all three pillars of sustainable development; economic, social and environmental.
26. In so far as the thematic areas of CSD 14/15 are concerned, two of these (energy and climate change) have dramatic impact on the vulnerability of Pacific SIDS, and hence progress with sustainable development.

Energy

27. The direct and huge impact of energy on economic vulnerability is due to the high dependence (in some countries almost total dependence) on imported fuels for transportation and power generation. Some Pacific SIDS could hardly afford fuel at US\$20-30/barrel, currently the costs remains over US\$60/barrel. Demand is growing and the cost of doing business for small developing economies is becoming too expensive at a disproportionate rate compared with developed countries.

28. Geographic isolation within and between Pacific SIDS and markets, leads to high transportation costs and often uncertain delivery schedules especially to outer islands and villages in the interior of larger islands. Distances are large between often small centres of population. Places are often without fuel for weeks if not months. The characteristics of Pacific SIDS are well known: land areas range in size from about 10 km² for Tokelau to nearly 463,000km² for Papua New Guinea. Populations range from 1500 people on Niue to over 5 million in Papua New Guinea, speaking in the order of 1,000 different languages, spread across vast areas of ocean surface. The distances within the island countries can be large. Kiribati, for example, has only 85,000 people living on 33 widely scattered low atolls (800km² of land) spread over 4200km from east to west and 2000km north to south. There are significant variation in levels of per capita income in the Pacific SIDS. Still, many Pacific SIDS face the increasing **challenges** of poverty and socio-economic inequalities within the population; and increased competition for foreign direct investment.

29. Social vulnerability impacts of energy result from the high costs of electrification, transportation costs for people and produce movements, inefficient poorly maintained generators, and poor/unreliable access particularly at night time limiting activity and opportunity for improving lifestyles in rural and outer island villages. Poor access to electricity restricts education opportunities in schools, and medical services in rural health centres and hospitals.

30. Increased mechanisation of resource use sectors, agriculture and forestry, require higher energy demands. Increased tourism activity can aggravate situations as per capita, tourists generally have higher energy demands.

31. Energy impacts on environmental vulnerability through increased greenhouse gas emissions and particulate atmospheric pollution. Fuel oil spills from vessels and fuel storage areas will always remain a risk to the environment of Pacific SIDS, which is recognized as one of the most diverse and fragile on our planet.

Climate change, natural disasters and disaster risk reduction

32. Pacific SIDS have long been concerned about the serious and adverse effects of climate change which appear to be increasing in frequency and intensity. It is also clear that they are extremely vulnerable to variations in weather, climate and sea level rise, extreme weather events and appear today to be among the first to be suffering the impacts of global climate change, and among the first to be forced to adapt or abandon or relocate from their islands.

33. Over the last decade, Pacific SIDS have continually urged the international community to reduce greenhouse gas emissions. They have conveyed their concerns over impacts of a changing climate internationally and have given their strong support to a broad range of international agreements. Pacific SIDS however, remain seriously concerned that global emissions of greenhouse gases continue to grow. While the Kyoto Protocol is a first step towards cutting back on these emission trends, the targets contained in the Kyoto Protocol are considered by Pacific SIDS to be inadequate to fully meet the objectives of the UNFCCC.

34. Pacific SIDS have been at the forefront of international action to support efforts to understand the impacts of the climate change and to identify critical areas where adaptation interventions are urgently needed. This has culminated in the completion of the initial national communications (as a group) which were submitted to the UNFCCC COP in November 1999. These communications have highlighted many areas where action is urgently needed to curb the increasing vulnerability due to climate change, variability and sea level rise. Second communications are in preparation.

35. Sea level rise results in increased coastal erosion, loss of land, sea water intrusion into water tables, and damage to coral reefs. The geographic and geological setting of the Pacific SIDS makes them vulnerable to a wide range of natural hazards especially those related to climate change. Those hazards which are hydrometeorological include; tropical cyclones with associated storm surge, flooding and landslides (Niue, Solomon Islands, Cook Islands, Fiji, Vanuatu); landslides (Federated States of Micronesia, Papua New Guinea and Fiji); drought (Papua New Guinea, Solomon Islands, Fiji, Kiribati and Tuvalu). Rapidly increasing populations with urban drift into communities that, to a large extent, live on the coastal fringes are rapidly

increasing the size of the population vulnerable to climate change. Other important climate-driven changes include changes in tuna migratory patterns, changed intensity and incidence of rainfall, heat-shock impacts on agriculture, coral bleaching impact on tourism.

36. Official estimates of disaster impacts do not give the whole story of how disasters affect people in the Pacific. The real total impact of natural disasters, including long-term impacts on the social conditions, livelihoods, economic performance and environmental assets of Pacific SIDS, is likely to be much larger. In addition, due to the small populations, economies and land areas of many Pacific SIDS, disaster-related damages that are small relative to the damages elsewhere in the world can have a large impact relative to the country's total GDP and population.

37. Implementing adaptation measures is crucial, as is the improvement of early warning systems that are in operation today to warn about impending climate- or weather-related hazards. Progress with adaptation, for example developing and implementing national adaptation strategies and integrating these into overall development planning process has been slow. Also, there is evidence of the difficulties governments are experiencing with providing sufficient funding for infrastructure and professional training in regard to early warning, as indicated by Fiji, on World Meteorological Day, 23rd March 2006. There is, at the same time, a growing regional drive to document traditional adaptation and early warning efforts and to rigorously test them as to their applicability in changing resource and ecosystem circumstances. The survival of the Tikopia community in the Solomon Islands during Tropical Cyclone Zoë (Dec 2002), which coped solely through the efficacy of traditional early warning and response measures, is a standing testimony to the ability and resilience of remote communities.

38. The integration of disaster risk management efforts into development processes is recognized as essential to reducing vulnerabilities. In this context, it is important to ensure that a clear and consistent message on climate risks is communicated. Climate change not only impacts on climatic extremes and hence disaster risks, but also leads to more subtle changes in average climatic conditions, which also influence development prospects. It is important to capture the full dimension of climate change and its impacts when considering adaptation measures.

39. An important **challenge** is to promote the communication between and within institutions to ensure that activities concerned with disaster risk management and climate change adaptation build on existing synergies and complementarities, while being aware of relevant conceptual differences.

40. Comprehensive Hazard and Risk Management (CHARM) guidelines for Pacific SIDS, and modeled on the joint Australia-New Zealand risk management standard are now available. Fiji, Vanuatu, Kiribati, Tonga, Marshall and Palau have formalised request for further development of CHARM, whilst Cook Islands, Samoa, Papua New Guinea and Niue have accepted the "whole of government" approach which includes CHARM.

41. A 2006 policy note publication by the World Bank (*Not If But When: Adapting to Natural Hazards in the Region*) provides a useful summary in the context of both adaptation needs to climate change and the urgent need to integrate climate change in the context of disaster risk reduction into overall national planning processes.

Industrial Development in Pacific SIDS

42. Overall, there is to date little industrial development in Pacific SIDS. Nonetheless, encouraging industrial development to provide employment is key, and will surely impact increasingly on the sustainability of development in the future. Without affordable, reliable, clean and sustainable sources of energy, Pacific SIDS cannot hope to compete in an increasingly competitive global trading regime.

43. Over the last two decades, the Pacific Islands region has undergone a great deal of progress and development both at the national and regional level. This trend is unlikely to change over the next decade and consequently the associated issues are also unlikely to deviate significantly from the current trend.

44. This means that as countries in the regions continue to develop in all aspects of their progress the inevitable increase in vulnerability as a consequence is also likely to continue. Populations in the region continue to grow and with it come an increase in need for energy as well as the need for other services. People in the region are becoming more prosperous through their involvement in the commercial and industrial development of the countries and as such their generation of waste/pollution is also continuing to increase. Industries continue to develop in modern technology and in many of these cases the requirements for their existence need an increased amount of material, many of which will ultimately end up as waste and maybe causing increased air pollution around the region.

45. Currently, there is almost no heavy industrial development in Pacific SIDS, though light-heavy industrial development is particularly associated with the processing of natural resources, agriculture (sugar mills), forestry (logging mills), fisheries (fish canneries and boat stevedoring), and mining (mill operations). Other light industry revolves around (i) utilizing the local labour market for value-adding e.g. garment factories, (ii) breweries and distilleries, (iii) light engineering, and these usually operate from concentrated areas (industrial estates close to ports/urban areas).

46. Progressing the tourism industry will also likely have negative impacts on sustainable development if not properly managed through the use of policies strategies and operational instruments that promote sustainable tourism development.

47. Increasing industrial development whilst producing employment will also result in increased demands for energy, increasing atmospheric pollution, and increased vulnerability of plant and people if in the coastal zone. A **challenge** for Pacific SIDS is to ensure that expansion of industrial activity, be it light manufacturing, tourism or services, benefits from having close connections to the energy efficiency and renewable energy initiatives being considered in the region. Where the opportunity exists for further exploring the benefits from developing initiatives that utilize the clean development mechanism.

Atmospheric pollution in Pacific SIDS

48. Atmospheric pollution demands more attention than it has been given in Pacific SIDS.

49. The source of pollution is localized where it occurs. Burning takes place during the course of traditional natural resource use practices (slash and burn agriculture) and during commercial farming (sugar cane burning). The chief source of atmospheric pollution is fuels used in vehicles (especially public transport, bus and taxi exhausts), or from burning of rubbish dumps. The fire at the Lami Rubbish dump in Suva in 2005 demonstrated the potential toxicity of such sources/events. Regrettably rubbish dumps also attract the poorer of the population, which are thus exposed to the related health hazards particularly amongst women and children.

50. Rubbish dumps are a potential source of numerous toxic and harmful materials, which have the potential to impact on humans through burning and release to the atmosphere, and/or leaching into water supplies or by uptake into foods grown in contaminated soils. Fish, shellfish and other marine food sources can also become contaminated through surface run-off or leaching into coastal marine areas. Rubbish burning is a common practice in many Pacific SIDS, and this can be a major source of air pollution and the release of toxic chemicals such as dioxins and furans. Poorly managed rubbish dumps are also a significant source of odours, and a breeding ground for rodents, flies, and mosquitoes, with the resulting potential for increasing outbreaks of infectious and vectorborne diseases.

51. Considerable effort is going into the design and construction of sanitary landfills in the region. For example, the Government of Japan has recently completed the full rehabilitation of the Tafaigata landfill in Samoa using the 'Fukuoka Method' of semi-aerobic landfill. This has eliminated open burning and reduced the emission of greenhouse gases (methane) from the landfill.

52. Administrations are now beginning to take measures to monitor and minimize the impacts of atmospheric pollution from vehicles and dumps, and look into options for energy from waste. It should also be noted that by switching to biofuels particulate emissions will be reduced from petrol with ethanol added, and less sulphur dioxide from coconut/diesel mixes.

53. A **challenge** for Pacific SIDS which certainly by world standards emit negligible greenhouse gases, is to ensure every effort is made to maintain or reduce these emissions as development progresses. Without adequate measures to combat the growing sources and extent of air pollution the Pacific SIDS efforts to maintain healthy people to stimulate new investment and ensure a sustainable future may be undermined.

Montreal Protocol for Ozone Depleting Substances (ODSs)

54. Pacific SIDS have made the political commitment to preserve the stratospheric atmosphere by ratification of the Montreal Protocol and its amendments, and have agreed to an early phase-out of ODSs in advance of the Montreal Protocol scheduled phase out dates.

55. In March 2002 the Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol approved funding for a Regional Programme for the Implementation of the Montreal Protocol in the

Pacific Region. This programme is a strategy for the Pacific SIDS to mitigate ozone depleting substances/greenhouse gas emissions, and the key elements are: national support; policy development assistance; refrigeration sector training; regional cooperation; and customs training.

56. The strategy targets 11 Pacific SIDS each of which has set up a National Compliance Centre (NCC) to administer the projects based upon a National Compliance Action Plans (NCAP). Pacific SIDS under this strategy have over the past three years, attempted to introduce not only national legislation, but have also attempted to implement the legislation in parallel with a variety of training activities, and at the same time making efforts to meet ratification requirements and data reporting obligations. Furthermore, there are now prospects of promoting a regional clean up programme on the removal of waste ozone-depleting substances after the appropriate regulations have been approved in each country. It should also be noted that improvements in the ODSs situation for the Pacific SIDS is linked to energy through efficiency standards for appliances as well as applications using renewable energy as an alternative – for example solar powered air conditioners.

57. A **challenge** remains to secure new funding for the continuation of the ODSs programme and its future projects tied to institutional strengthening needs for the development and implementation of legislation within Pacific SIDS.

Energy for Sustainable Development in Pacific SIDS

58. A Regional Energy Policy was first developed in 2002. In 2004 the Energy Policy was revised (Attachment 1) and an associated Action Plan developed. Together they identify the critical policy and implementation actions for the energy sector. Pacific SIDS call on the international community to support implementation of the Regional Energy Policy and Action Plan.

59. Almost all Pacific SIDS are highly dependent on imported fossil fuels for energy. As the Pacific SIDS have continued to develop, their demand for fossil fuels has also increased, in particular for transportation and electricity production. Given their distance from markets and metropolitan centers, and considering, too, the multi-island characteristic of many Pacific SIDS, transportation remains central to their development. Transport is thus the fastest growing consumer of petroleum, with fuel needs for transport to remote islands especially high.

60. There are still some communities in the Pacific SIDS, however, which continue to use traditional energy sources. About 75% of the Pacific peoples live in rural and remote areas and are still relying on fuelwood as their dominant supply of energy and this reduction in forest cover remains a threat to the extensive and fragile biodiversity of the region.

61. The JPoI reinforced the importance of gender mainstreaming as a mechanism for poverty eradication through improving access to affordable energy services. The Pacific Energy and Gender Network has through its promotional activities developed and disseminated education and awareness materials on energy and gender, in order to support the building of capacity and the awareness in Pacific SIDS to integrate gender into the national and regional energy planning processes. It is expected that this will bring about initiatives to improve access to affordable, efficient and environment-friendly energy technologies to reduce drudgery and illness of Pacific women and children; and encourage participation of vulnerable groups such as Pacific women and youth in energy decision-making and projects.

62. The dependence on oil imports places greatest stress on the energy sectors of Pacific SIDS, particularly when there is a steep rise in oil prices. Petroleum products will remain the most important commercial energy source for most Pacific SIDS for the foreseeable future, notwithstanding efforts to develop alternative energy sources and improve energy efficiency. Pacific SIDS currently rely heavily on fossil fuel imports which is not sustainable, even though there is a huge potential for renewable energy and energy efficiency options. High fuel transport costs to rural areas and remote islands add significantly to energy costs. High energy costs also contribute to price inflation of all domestic goods and services, including transportation and food. Such circumstance demands strategies for improved efficiency in energy production, transmission and distribution, as well as consumption and investment in locally produced alternative energy sources.

Access to Affordable Energy Services

63. There are varying degrees of access to energy resources in the Pacific SIDS. It is estimated that approximately 70% of the population do not have access to electricity, with many living in remote islands or rural areas. Electricity in almost all the Pacific SIDS is heavily subsidized, thus there is a need for effective incentive based instruments and regulatory frameworks, such as the Pacific Islands Energy Policy and Strategic

Action Plan Project is currently working on with the Fiji Electricity Authority. Because of this large gap in coverage, meeting the basic energy requirements and sustainable socio-economic development needs of peoples with subsistence incomes remains a priority.

64. There is an eminent linkage relating access and affordability and in many cases have implications for the development of small scale renewable energy applications.

Promoting the use of Renewable Energy

65. Extensive use of renewable energy in Pacific SIDS would contribute significantly towards reducing their vulnerability and building their resilience in addition to the reduction in GHG emission and air pollution, and the promotion of cottage industries in rural and remote areas. Nearly all Pacific SIDS have adopted strategies for promoting renewable energy. The **challenge** in the development, utilisation and dissemination of renewable energy technologies, such as solar, wind, ocean, wave, geothermal, biomass and hydro power, is to secure these technologies on a scale appropriate to significantly contribute to the development of Pacific SIDS. The lack of knowledge about affordable renewable energy resources potentials, lack of local technical expertise with weak institutional capacity, insufficient market development initiatives, policies which are ineffective and/or are biased towards fossil fuel, inadequate awareness programmes and the absence of inadequate financing and investment opportunities, including the establishment of a sustainable capital fund for renewable energy development.

A regional assessment of renewable energy potential in the Pacific

A regional assessment of renewable energy potential in the Pacific estimates total potential from hydro, solar and other renewable sources could reach 365,349 kilowatts. If a medium-sized home in the Pacific consumes 365 kilowatt hours of electricity, approximately 438,419 homes can be serviced if only 50% of the 365,349 kilowatts potential from renewable energy can be technical and economically harnessed. With the average efficiency of low speed, base load diesel in the Pacific SIDS being at 0.33 litre per kWh, Pacific SIDS can possibly save 52 million litres of diesel, or US\$ 31.7 million annually.

A recent SPREP/UNDP audit shows that Fiji has a potential of 11,000 kilowatts from agriculture, 3,000 kilowatts from forestry and 125 kilowatts from biofuel. For wind power, Fiji has a potential of 75 kW, noting that its wind power production in 2003 was close to 1 GWh. Along with Papua New Guinea, five other Pacific SIDS have the potential to exploit hydropower: Fiji (over 90,185 kilowatts), Samoa (11,060), Federated States of Micronesia (2,060), Vanuatu (600) and the Solomon Islands (455). Solar holds much promise for Fiji, the Cook Islands and Tonga, each with the potential of 3,000, 2,000 and 1,000 kilowatts respectively.

Cost and maintenance are major factors hampering the wider use of renewable energy in the Pacific. Other obstacles include institutional, financial and market factors, lack of awareness and capacity, technical, policy and regulatory issues. Pacific SIDS will seek to address these issues through targeted projects, and will also initiate cost analyses, which would show the savings each country would make.

Source: SPREP, 2006

66. There is much potential for the further development of renewable energy sources in the Pacific however, a number of ongoing initiatives demonstrate the commitment of some Pacific SIDS to expanding indigenous renewable energy sources. The Pacific Islands Greenhouse Gas Abatement through Renewable Energy Project focuses on reducing the growth rate of GHG emissions from fossil fuel use in the Pacific through the removal of the technical, market, institutional, financial, policy and awareness barriers to technologies. It consists of various activities whose outputs will contribute to the reduction in GHG emissions/air pollution and support the sustainable development effort of the Pacific SIDS, including the promotion of small scale industrial development in remote and rural areas.

67. The Pacific SIDS have a high and relatively constant supply of solar energy. Direct solar energy is currently used in many Pacific SIDS for water heating, crop drying and processing. The use of small-scale solar photovoltaic power to provide electricity in rural areas and remote islands with low load densities also appears to have been successful, but more work on financing and institutional arrangements is required to effectively promote further commercialization. The Kiribati Solar Energy Company has been successfully operating as a Renewable Energy Service Company managing more than 300 solar photovoltaic systems, the number of which has increased to 2000 plus with funding from the European Union.

68. The production of cleaner alternative energy sources such as biofuel from sugarcane, coconuts or other biomass products is being researched and pursued. In addition to having a cushioning effect on the rising fuel costs, their use would also assist in combating land degradation by planting these “energy crops” on degraded or unused land. The emerging biofuels policies in Fiji and Vanuatu will promote planting on degraded lands, and reducing net emissions of GHGs.

69. Ambient air quality would be improved by using greater ethanol/gasoline blends as well as coconut-diesel. The initiative in Fiji to use ethanol is currently being explored. There are also examples of simple improvements in technologies and techniques which have yielded greater profitability for renewable sources such as biomass. In some of the Pacific SIDS, for example, a switch from copra production to a cold-press method for processing coconut oil resulted in a more efficient, high-grade production of oil.

70. There are many practical examples in some Pacific SIDS. For instance in Vanuatu, the use of coconut oil (blend with either diesel or kerosene) by the government vehicle fleet instead of only diesel was largely the result of research by independent entrepreneurs and Vanuatu government’s support. In the Marshall Islands currently there are twelve vehicles and a tugboat in Majuro using coconut oil as fuel. Work on developing mini-electricity systems continues including for mini copra driers, mills and presses to process the copra into oil on the outer islands. This oil then can be used as an alternative to diesel fuel in small generators (5kW-50kW). The various system sizes could then be available to individuals and/or communities or co-operatives as a complete system. The coconut oil generators could be used in conjunction with solar lighting systems with the intention being for the generators to power high load appliances such as washing machines and other major appliances such as freezers. Eventually these systems could be combined to provide a combined hybrid system providing 24 hour power. Efficiency would be improved over the current situation of diesel use, which due to its high costs limits the hours that the generators are in operation – which is the least efficient use of such generators.

71. Hydropower resources for electricity production are extensive but only in a few Pacific SIDS, for example, Fiji, Papua New Guinea, Solomon Islands, Samoa and Vanuatu, but many island countries have micro-/ pico-hydropower capacity ranging from a few watts to kilowatts.

72. On a small scale, sporadically around the region, and from time to time, biogas for cooking has been produced from animal and human waste. There seem to be traditional/cultural barriers with this technology (as with composting toilets). However, biogas can also be produced from agricultural products such as bananas and taro using simple methods developed in South Asia.

73. On a large scale, a number of proposals to develop waste-to-energy facilities in many Pacific SIDS have been developed and submitted to potential donors/investors for their consideration. The waste-to-energy technology is perhaps the solution to meeting some of the region's increasing energy requirements, reducing the need to import petroleum products, and at the same time dealing with the increasing quantities of waste. Whilst it seems to have worked well at research and development project level, the interest of the private sector developers has been quite reserved, as there is an enormous initial investment required. For example, a proposal for a waste-to-energy plant in Fiji, at the new landfill in Naboro, for the Suva-Nausori corridor, was developed with an initial investment cost of about \$USD15-20 million.

74. A more efficient and wide-spread dissemination of information on renewable energy technologies and practices in Pacific SIDS would promote the knowledge of existing possibilities in alternative energy development. Also required is continuous technical advice and training to carry out financial and socio-economic analyses to ensure that the particular choice of renewable energy gives optimum return to the small economies. It would be of further benefit to receive information on renewable energy technologies developed in other SIDS regions and on the experiences and lessons learned.

Promoting Energy Efficiency and Conservation

75. There is a wide sectoral variation in the consumption of energy throughout the Pacific SIDS. The greatest proportion of energy is consumed in transport sector followed by the production, transmission and distribution of electricity, and then, to a lesser degree, government, commerce, industry and agriculture.

76. The land transportation sector in most Pacific SIDS has been growing steadily and most report an increase in the number of vehicles in use. While lead additives have been phased out in most Pacific SIDS, air pollution from older vehicles remains an issue. Furthermore, many Pacific SIDS report that the growth in vehicle use due to lifestyle changes has caused congestion on roadways intended to accommodate less traffic. A sub-regional project on Environmentally Sustainable Transportation in the Pacific Islands has been developed and submitted

for funding to the GEF as a medium sized project. The project is aimed at reducing greenhouse gas emissions from the transport sector in the three participating Pacific island countries (Fiji, Samoa and Vanuatu), through the promotion of environmentally sustainable ground transportation systems for improving energy efficiency in transport, and for improving public transportation systems.

77. Although there are a number of opportunities for displacing the use of traditional fossil fuels within the region through the use of renewable energy sources there also still exists substantial opportunities for reducing the level of energy consumption through energy efficiency and energy conservation. In terms of energy efficiency this objective can best be met through regulation in relation to the introduction of appropriate standards in the form of appliance labelling and in particular minimum energy performance standards. These regulations in most cases will generally be required to be established through government legislation and or mechanisms that allow for example tax benefits or concessions for the importation and marketing of efficient appliances, vehicles, and commercial motors. And the converse for import use of inefficient electrical equipment. Energy conservation opportunities focus more on the consumer and can be applied across all sectors of the community, both public and private, and need to include the use of economic instruments to encourage energy conservation and education programmes that have longer visions.

78. Nonetheless, many Pacific SIDS have been relatively slow in adopting energy efficiency and conservation practices and designs. This has been attributed to the lack of appropriate policy, limited information, awareness and education, and the general reluctance of consumers and energy suppliers to make the initial investment to achieve future savings.

79. The **challenges** remain and the required policy and actions are contained in the revised Pacific Islands Energy Policy and associated Action Plan for which Pacific SIDS call on all partners to assist with implementation. At the same time national energy policies and plans should be completed and supported by institutional measures. Furthermore, energy issues should be incorporated into national development policy and all other sector policies in order to address the cross-sectoral nature of energy.

80. Implementation of these key national and regional initiatives will greatly assist Pacific SIDS meet the needs highlighted in the JPoI and the Mauritius Strategy.

Climate Change and Sustainable Development in Pacific SIDS

81. A Regional Framework for Action on Climate Variability, Change and Sea Level Rise was drafted in 2000. The revised Pacific Islands Framework for Action on Climate Change 2006-2015 (Attachment 2) and associated Action Plan identify the critical policy and implementation actions for the sector. Without any doubt the adaptation aspects of climate change are now paramount amongst Pacific SIDS, and they call on the international community to support implementation of the regional Framework for Action on Climate Change, and the implementation of activities at the national level.

82. All 14 Pacific SIDS are Parties to the UNFCCC and 13 are Parties to its Kyoto Protocol, and are supported by others to meet their treaty obligations. The COPs and related meetings of the UNFCCC remain the international forum for climate change. Notwithstanding, it is of number one importance to many Pacific SIDS and is so crucial to sustainable development efforts that it is key to have it on the CSD agenda and linked to energy.

83. There is still deep concern in regard to the impacts of climate change, climate variability, sea level rise and extreme weather events as impediments to sustainable development in the Pacific Region. For some these elements are now inextricably interlinked and should not be separated, for others the interlinkage is recognized but there is a preference to separate them.

84. Although much work has been done in the region, Pacific-SIDS are still highly vulnerable to climate change due to low elevation, concentration of population, infrastructure in coastal areas, poorly developed planning systems, lack of data, poor environmental practices, lack of awareness amongst all stakeholders at the national level, lack of adequate practical and cost effective adaptation measures, lack of vulnerability assessments, and a lack of sustainable financial resources to address the vulnerability of SIDS beyond the end of projects.

85. There are serious threats of increased natural disasters, coral bleaching, coastal erosion, extreme weather events, storms, droughts, disruption of agricultural activities, decreasing resilience of forests, possible salt water intrusion of ground water systems in low lying atolls, effects on crops and fisheries, effects on and control of

vector borne diseases. These threats by themselves are daunting, however combined could have irreversible effects on the small economies, fragile environments and social systems of the Pacific Region.

86. Under the Pacific Islands Climate Change Assistance Programme, national climate change country teams and coordinating mechanisms across line sectors were established and 10 Pacific-SIDS produced initial National Communications. This included initial greenhouse gas inventories, identification of mitigation options, vulnerability and adaptation assessments and the completion of some National Implementation Strategies.

Adaptation

87. The **challenge** in the context of adaptation for Pacific SIDS, is to now move from understanding that climate change is occurring to concrete measures that reduce existing vulnerabilities. Many methodologies and conceptual frameworks exist to assist countries and communities achieve this. There will be, no “one size fits all” as much adaptation requires site specific considerations.

88. The 2004 Guide to the Integration of Climate Change Adaptation into the Environmental Impact Assessment (EIA) Process is very valuable tool in this regard. The guidelines provide an important first step to assist Pacific SIDS to embed climate change and related adaptation needs into the national planning and regulatory processes. The guidelines adopt a risk management approach and thus make an attempt at linking to the risk approach to disaster management now being promoted. The guidelines were produced jointly for the Caribbean and Pacific SIDS with the support of several donor partners.

89. The CIDA/SPREP Capacity Building for the Development of Adaptation Measures in Pacific Island Countries Project employed a two-tiered “top-down” and “bottom-up” “learning-by-doing” approach to adaptation to climate change. This approach is quite different from the scenario driven top-down approach, as the starting point is not the global climate models and regional climate models, but the community. The focus of data collection is the community that constitutes elders, men, women, youths and children. Their experience with relation to climate variability, change over time, and extreme events are very important in this process. Climate change impact studies normally begin with projections of future greenhouse gas emissions, from which climate change scenarios are specified using global and regional models, biophysical impacts are then modelled, selected socio-economic impacts are estimated, and adaptive options to moderate detrimental impacts are assumed. Any residual impacts are interpreted as defining the vulnerability of the system. This approach has been widely used to estimate potential climate change impacts. However, it does not analyse actual adaptation processes and is not structured to contribute to capacity building.

90. To date much of the progress on adaptation in the region has been restricted to fulfilling reporting obligations under the UNFCCC. This is very much in line with Stage 1 and 2 of the COP guidance on how adaptation should be progressed under the UNFCCC. Pacific SIDS have completed their first and currently working on their second national communication to the UNFCCC COP. The five Pacific Island countries which are LDCs are required to develop a National Adaptation Programme of Action (NAPA), of which Samoa is the first to do so.

91. Nonetheless, some progress has taken place at the institutional and policy level and at a few sites in a few countries. The CIDA funded and SPREP executed Capacity Building for the Development of Adaptation Measures in Pacific Island Countries has recently completed piloting adaptation implementation programmes in Cook Islands, Fiji, Samoa and Vanuatu.

Examples of site specific adaptation measures carried out by the Capacity Building for the Development of Adaptation Measures in Pacific Island Countries (CBDAMPIC Project)

Samoa: Coastal erosion at Saoluafata on Upolu: the design and construction of a sea-wall was based on a 1:100 year event under “future” conditions. This means that it should be able to cope (for the coming 30 years) with extreme events that occur with a frequency of one or more every 100 years.

Fiji: shortage of water, also resulting in severe health problems like diarrhoea, and skin infections mainly in young children, was highlighted by the village of Bavu (50-55 households) as the major climate related vulnerability affecting the daily livelihood of the people. The adaptation recommendation requested and implemented was for their current storage tank to be enlarged. The existing tank capacity of 27,300 litres was increased to 45,000 litres.

Vanuatu: at Lateu village, severe coastal erosion of about 50 meters over the last 20 years (2.5 m/yr), sea level change and geological processes have raised the underground water lenses, have created permanent flooding and standing pools of water throughout the village. The village community prioritised relocation of their settlement (including aid post, church and rainwater catchment and tank) and improved rainwater harvesting technologies (tanks and catchment facilities) as the most appropriate adaptation measure to boost their adaptive capacity to fluctuating precipitation, extreme weather conditions and sea level change.

Cook Islands: on Aitutaki, the availability of drinking water is of great concern, due to the increasing saltiness of the mains water and length of dry periods affecting roof catchment supply. Most households are connected to the public water mains, which draw on water pumped from intake galleries and reservoirs. These become brackish with overuse and salt water intrusion from sea, so they are used mainly for non-drinking purposes. There are 43 communal rainwater tanks, but many are in disrepair or landowner issues limit access and maintenance. Improved rainwater catchment systems were the most obvious adaptation measure. There remains great potential for its capture, storage and use, as only 10-30% of the rainwater potential is being captured from the iron roofs. Lack of funding, cyclones and lack of storage capacity have set back government and village initiatives in installing and maintaining this infrastructure.

92 Cook Islands and Federated State of Micronesia have also completed a Climate Proofing Project funded by the Asian Development Bank. The AIACC project, which is funded by the GEF and executed in the region by USP, has also been completed.

93 The World Bank is currently piloting an adaptation-mainstreaming programme in Kiribati. Phase 1 of the World Bank is founded on initiating effective national consultation processes to allow people assessment of climate change risks and their perception of appropriate adaptation measures, which includes social and cultural issues, to be inputted into national development planning processes. The national consultation was a success and it helped guide the inclusion of climate change adaptation and high hazard risk reduction into Kiribati's National Economic Strategic Plans. The key sectors are education and awareness particularly material on early climate warning and climate change; resource management and protection specifically water and coastal management and protection; land use planning and zonation specifically infrastructure zonation, population settlement planning and waste management; and legislation review particularly strengthening regulations on removal of aggregates. The regional CHARM guidelines have been adapted for use at the community level and translated into I-Kiribati. A planned Phase 2 of the Project will carry out pilot adaptation measures, and consolidate adaptation mainstreaming into national economic planning.

Funding for adaptation

94 A **challenge** for Pacific SIDS is to improve their access to financial mechanisms to fund adaptation implementation at the country level. Existence of specific funding for adaptation was mentioned in the Mauritius Strategy (para 84a):

- **LDC Fund:** The “Least Developed Countries” Fund will contribute to the enhancement of adaptive capacity to address the adverse effects of climate change, including, as appropriate, in the context of national strategies for sustainable development. Emphasis is currently placed on providing LDCs with equitable access to funding for implementation of National Adaptation Plans of Action (NAPAs). In this context GEF is requested to develop criteria for supporting activities arising out of the NAPAs on an agreed full-cost basis, taking into account of the level of funds available.
- **SCCF:** The “Special Climate Change” Fund supports the implementation of the UNFCCC, contributes to the achievement of the JPoI and the MDGs by addressing the integration of climate change considerations into development activities.
- **Adaptation Fund:** The Adaptation Fund was established under the Marrakech Accords and is linked to the Kyoto Protocol. The fund should finance concrete adaptation projects and programmes in developing countries, which are also Parties to the Protocol.
- **GEF Trust Fund:** US\$50m have been allocated on the Strategic Priority “Piloting an Operational Approach to Adaptation”.

The LDC, SCCF and Adaptation funds are open to bilateral and multilateral contributions (US\$15M has been pledged for the LDC Fund) and in addition the Adaptation Fund will receive a share of the emission reduction credits arising from Clean Development Mechanism activities (excluding small scale projects). This is estimated to amount to only \$3M to \$5M per year over the first commitment period of the Kyoto Protocol.

95 However, Pacific SIDS are concerned over how the new GEF Resource Allocation Framework will affect them. The available indicative individual funds, coupled with existing complicated means to access GEF resources may severely limit Pacific SIDS ability to acquire and affectively use GEF resources., The Resource

Allocation Framework sets limits to individual allocations based solely on a country's mitigation capacity (in a global context), and its past performance and enabling environment at the national level.

96 Recently Pacific delegations fought hard during the COP8 of the CBD to secure a review process of the GEF that examines the "GEF Benefits Index (GBIbio)" which is the formula, weighting and scoring system given to assess a country's ability to contribute to the global environment through biodiversity. Furthermore, Pacific SIDS believe that in a similar manner the next COP of the UNFCCC should ensure that it is able to assess the "GEF Benefits Index for Climate Change (GBIcc)" and the resulting Resource Allocation Framework scores that are allocated to recipient countries of the GEF. Pacific SIDS are currently estimated to fall in the lowest group allocation of the GEF new Resource Allocation Framework with the lowest individual allocations. The **challenge** for Pacific SIDS is to raise this in the CSD during the climate change discussions.

97 Accessibility remains a significant barrier to use of GEF resources to meet climate change objectives, especially given the capacity constraints Pacific SIDS face in developing project proposals and managing projects of the GEF. This is recognized in Mauritius Strategy (paras 87,88) and quite clearly in the Third Overall Performance Study of the GEF. As such Pacific delegations secured the following relevant agreement at COP8 of the CBD in its decision on "Guidance to the Financial Mechanism" paper *UNEP/CBD/COP/8/L.27*:

"3. Urges the GEF to further simplify and streamline its procedures, in consideration of the special conditions within developing country Parties, in particular the least developed countries and the small island developing States

4. Urges the GEF to develop responses to the capacity and access challenges faced by the small island developing States, the least developed countries and the less developed countries with economies in transition, as identified in the Third Overall Performance Study of the GEF ". As Pacific SIDS are likely to have access to less funding through the GEF new Resource Allocation Framework it is a **challenge** to ensure a special more flexible type of modality for access and use of these scarce GEF resources. A similar type of modality is currently being piloted in Argentina, the "**Decentralized GEF Medium-sized Grants Programme**"(2004). The objective of this proposal is to test the effectiveness of a pilot initiative to implement a GEF Medium-Sized Grant Program in a decentralized manner and at an in-country level. This pilot initiative, experimental in nature, was designed to (a) present a more responsive, simplified, efficient and cost effective mechanism to process, manage and implement MSPs; (b) enhance the participation and direct access of medium-sized and local NGOs and other Argentine partners to GEF resources; (c) strengthen collaboration and coordination between all GEF Implementing Agencies working at the local level; and (d) forge stronger partnerships and efficient collaboration between the local offices of the GEF Implementing Agencies, the Government of Argentina, the NGOs and civil society.

Monitoring

98 There is a positive trend to collaborate on efforts to address climate change and variability. Annual meetings of the Meteorological Directors in the region provide for country reporting on meteorological status and needs including those of oceans and hydrological observing issues, as well as coordinating activities in areas of climate change and variability monitoring and disaster mitigation and preparedness within national agencies. A key partner to meteorological development and assistance in the region is the World Meteorological Organization which liaises and coordinates its relevant programmes through SPREP and SOPAC.

99 Atmosphere and ocean monitoring remains crucial to improve overall understanding of the impacts of observed environmental change, as well as providing data useful for projections of future change, and other environment related sector applications. The Pacific Island Global Climate Observing System (PI-GCOS), the Pacific Islands Ocean Observing System (PI-GOOS), the South Pacific Sea Level and Climate Monitoring Project, and the International Argo Floats Program have programmes covering monitoring and observation issues, and provide for training and education capacity building. Climate change vulnerability and assessment training continues at the USP.

100 The Strategic Action Plan 2000–2009 for the development of meteorology in the Pacific region, provides a synthesis of several previous needs analysis studies on meteorological services in the Pacific, and a strategic guidance for capacity building activities in the technical and human resource development areas. This provides the basis for PI-GCOS activities oriented towards strengthening climate monitoring.

101 The **challenges** remain and specific policy and actions are contained in the revised Pacific Islands Framework for Action on Climate Change 2006-2015 and associated Action Plan for which Pacific SIDS call on all partners to assist with implementation. At the same time national adaptation policies and plans should be completed and supported by institutional measures. Furthermore, climate change issues should be incorporated

into national development policy and all other sector policies in order to address the cross-sectoral nature of climate change. In particular this is important with respect to protection of the unique biodiversity and fragile ecosystems of the region.

102 Implementation of these key national and regional initiatives will greatly assist Pacific SIDS meet the needs highlighted in the JPoI and the Mauritius Strategy.

Regional and International Cooperation

103 Members of CROP remain key regional support mechanisms for Pacific SIDS, with SOPAC and SPREP playing particularly key roles within the CSD14 and 15 thematic areas. PIFS, as always, plays a coordination/facilitation role especially within the framework of the initiatives in the Pacific Plan, and provide economics and policy analysis and advice.

104 The Pacific Power Association, though not a member of CROP, as a membership of power utilities, and focuses on improvements in performance of power utilities, and is the lead organization for the power sector in the region.

105 Regional NGOs, supported in many cases by national counterparts are developing and strengthening their capacity as key stakeholders. FSPI and PCRC are key, as they are solely regional NGOs.

106 The World Bank and the Asian Development Bank continue to play roles at national and regional level, and now need to be encouraged to align themselves with the regional policies and frameworks.

107 The coordination and monitoring of all regional energy and climate activities (projects and programmes) respectively through the CROP Energy Working Group, and the Climate Change Round Table is expected to continue. These are multi-stakeholder dialogues and Pacific SIDS and partners are represented as they are able to participate.

108 Opportunities through the GEF must be actively pursued so as to ensure that maximum support to the region can be secured in particular with emphasis on energy and climate change related projects. As called for in the Mauritius Strategy, assistance is required to facilitate access to GEF resources, this may be particularly important in light of the GEF new Resource Allocation Framework (refer paragraphs 94 – 97 above).

109 Pacific SIDS recognise that meaningful development will be dependent on investment in human and institutional capacity, and on their success in accessing appropriate technology.

110 There are also ongoing efforts to involve private entrepreneurs in the development and commercialization of renewable energy and climate change adaptation technologies. A range of policy measures need to be promoted to advance the use of these technologies, such as the implementation of legislation to enable operation of renewable energy service companies; and the lowering of duty on renewable energy technology components.

111 As called for in the Mauritius Strategy, Pacific SIDS continue to seek assistance, including technical and capacity building support in regard to the relevant global and regional energy initiatives for the sustainable development of energy resources, renewable energy technologies and systems, and climate adaptation technologies. This may include discussion of a possible forum that could bring together partner countries and organizations, technology experts and scientists and representatives of other SIDS, to find ways and means of bridging the gap between the needs and the available resources. The Pacific matrix would be of assistance to such a process.

A Summary of Continuing Challenges

112 A summary of continuing challenges is most easily captured by highlighting the key areas of the Pacific Islands Energy Policy and Pacific Islands Framework for Action on Climate Change:

113 In the Pacific Islands Energy Policy, the vision is available, reliable, affordable and environmentally sound energy for the sustainable development of all Pacific Islands communities through 10 thematic sectors:

- Regional Energy Sector Co-ordination: A co-operative approach to energy sector co-ordination that maximises the impact of regional resources and capabilities.
- Policy and Planning: Open and consultative cross-sectoral policy development and integrated planning to achieve sustainable supply and use of energy.
- Power: Reliable, safe and affordable access to efficient power for all Pacific island communities.

- Transportation: Environmentally clean, energy efficient and cost effective transportation within the region.
- Renewable Energy: An increased share of renewable energy in the region's energy supply.
- Petroleum: Safe, reliable, and affordable supplies of petroleum products to all Pacific SIDS.
- Rural Areas and Remote Islands: Available, reliable, affordable, and environmentally sound energy supplies for the social and economic development of rural areas and remote islands.
- Environment: Environmentally sustainable development of energy sources and use of energy within the region.
- Efficiency and Conservation: Optimised energy consumption in all sectors of the regional economy and society.
- Human and Institutional Capacity: Adequate human and institutional capacity to plan, manage, and develop the Pacific energy sector.

114 In the Climate Change Framework, the goal is to ensure Pacific island people build their capacity to be resilient to the risks and impacts of climate change with the key objective to deliver on the expected outcomes under the following Principles:

- Implementing adaptation measures;
- Governance and decision making;
- Improving our understanding of climate change;
- Education, training and awareness;
- Contributing to global greenhouse gas reduction; and,
- Partnerships and cooperation.

Means of Implementation

115 Future approaches to tackling energy and climate change should be programmatic. Short-term project cycles have limitations and relevant milestones and evaluations should be built into a longer term approach, along with flexibility to enable strategic change of direction if required.

116 The launch by the Leaders in Johannesburg of the Pacific Partnership Initiatives began a new way of seeking support for implementation. Both the energy and the climate adaptation partnerships have showed some success. There is ample room for further and strengthened collaboration in order to facilitate replication of successful experiences and consolidate and exchange knowledge. The strengthening of collaboration in this regard is strongly advocated by the Pacific Plan and the implementation of its initiatives.

Pacific SIDS Matrix for Monitoring Implementation of Sustainable Development (Attachment 3)

117 Prepared by CROP at the request of the PIFS Missions in New York at the October 2005, Apia follow-up meeting on the Mauritius Strategy, the matrix is intended to provide a simple means to monitor what is happening in the region in the different areas outlined in the Mauritius Strategy. It intends to provide the reader with an overview of the main policies and programmes ongoing or listed as priorities for implementation, and website link and/or contact person to acquire further information should this be required. The Matrix is intended to be an evolving document, to be updated annually in time for submission to each CSD which is mandated to review the implementation of the BPoA and therefore Mauritius Strategy. The Matrix attempts to include the implementation priorities of the Pacific Plan as well as other priorities determined through other national and regional processes. It should be used as a platform to engaging partners in a coordinated manner as well as monitoring progress.

Pacific Regional Submission to CSD 14: Attachment 1

PACIFIC ISLANDS ENERGY POLICY (PIEP)

November 2004

PACIFIC ISLANDS ENERGY POLICY (PIEP)

November 2004

VISION

INTRODUCTION

1. REGIONAL ENERGY SECTOR COORDINATION
2. POLICY AND PLANNING
3. POWER SECTOR
4. TRANSPORTATION
5. RENEWABLE ENERGY
6. PETROLEUM
7. RURAL AREAS AND REMOTE ISLANDS
8. ENVIRONMENT
9. EFFICIENCY AND CONSERVATION
10. HUMAN AND INSTITUTIONAL CAPACITY

THE PACIFIC REGION

PACIFIC ISLAND COUNTRIES AND TERRITORIES DATA

This document represents a regional consensus, affirmed at the 2004 Regional Energy Meeting in Madang, Papua New Guinea and is based on an earlier version of the regional energy policy affirmed in the Cook Islands in 2002 and with due consideration to the Rarotonga Declaration.

The review of the Pacific Islands Energy Policy has been coordinated by the Council of Regional Organisations in the Pacific (CROP) - Energy Working Group in close consultation with the Energy Officials from Pacific island countries and territories (PICTs) [and inputs to the relevant sections of the PIEP by members of the Energy Working Group.](#)

VISION

Available, reliable, affordable, and environmentally sound energy for the sustainable development of all Pacific island communities.

INTRODUCTION

Energy has a vital role in achieving sustainable development in the Pacific region. It is a fundamental input to most economic and social activities and a prerequisite for development in other sectors such as education, health, and communications. Sustainable development is a process of change in which the exploitation of resources, the directions of investment, the orientation of technological change, and institutional change are all in harmony and enhance both current and future potential to meet human needs and aspirations. It is recognised that youth and women are important stakeholders in the energy sector and their participation is vital to achieve sustainable development. Responding to energy issues within the context of sustainable development involves many complex, cross-sectoral and interdependent factors requiring effective coordination.

Pacific island countries and territories face a unique and challenging situation with respect to energy for sustainable development:

- Demographics vary widely between countries, but often feature small, isolated population centres.
- Markets are very thin, difficult to serve, and without significant economies of scale.
- 70% of the regional population is without access to electricity, but access varies widely, from 10% to 100% at the national level.
- Pacific Island countries comprise a wide range of ecosystems, predominantly influenced by marine systems that make infrastructure development difficult and environmental impacts significant.
- Most Pacific island countries do not have indigenous petroleum resources but have a range of renewable energy resources that are generally under utilised.

Pacific island countries and territories have special concerns arising from their situation that have motivated the development of this policy:

- Environmental vulnerability through climate change and sea level rise is very high, particularly for small islands and low-lying atolls.
- Environmental damage, habitat loss and pollution resulting from development and use of conventional energy sources have significant effects on fragile island ecosystems.
- Economic vulnerability due to the heavy reliance on imported fossil fuels.
- Energy supply security is vulnerable, given the limited storage for bulk petroleum fuels, which are sourced over a long supply chain at relatively high prices.

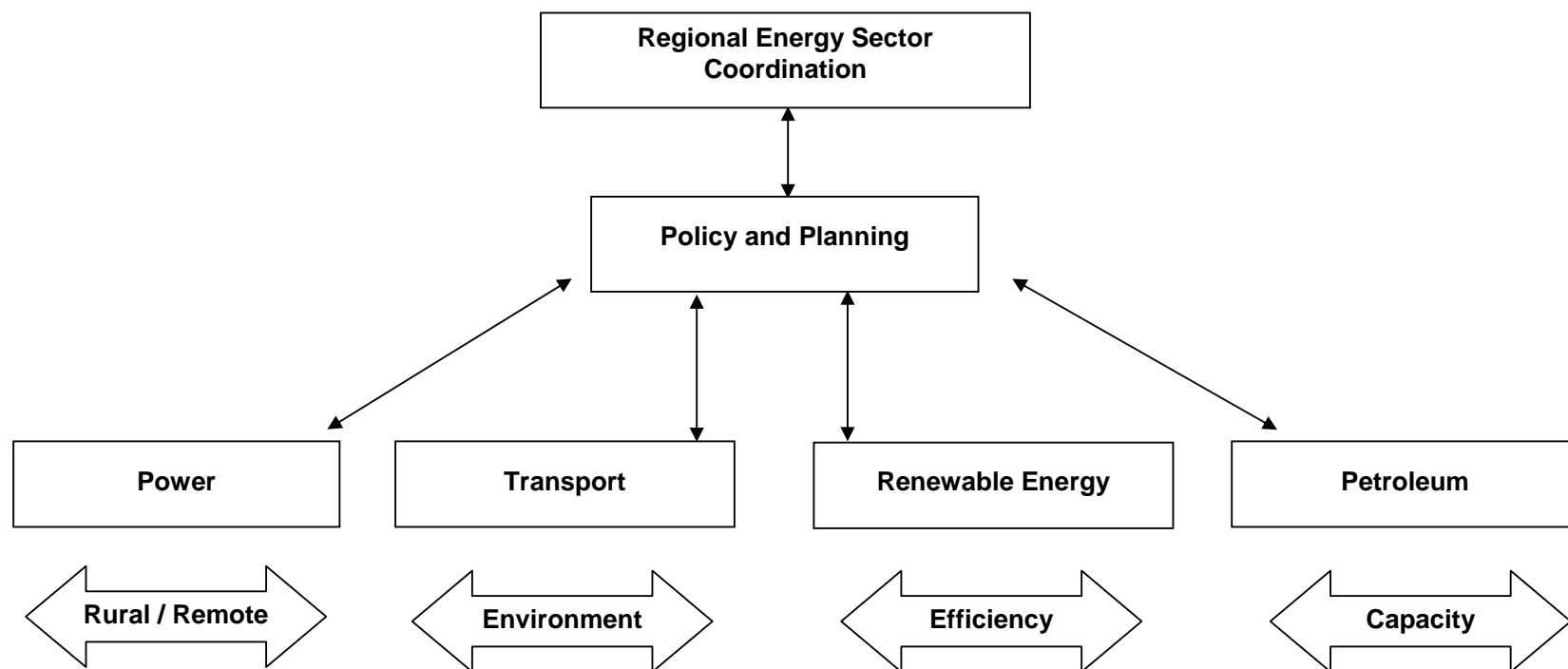
- The development of renewable energy resources has been limited by the availability of capital, suitable financing mechanisms, appropriate technology, effective institutional mechanisms, and the challenges of developing systems for small remote markets at reasonable cost.
- There is limited scope for market reforms considering the variation in size and density of markets; therefore, appropriate alternatives vary between countries.
- The region has limited human resources and institutional capacity to respond to these challenges.
- While youth and women are significant energy users, they are poorly represented in energy policy, planning, and development.

In response to these challenges and their concerns, the Pacific Islands Energy Policy has been developed as a means of co-ordinating the energy programmes in the regional organisations and with development partners in areas where international co-operation is required. It is also intended to offer guidelines for adaptation to the circumstances of Pacific island countries and territories in the development of their National Energy Policies and Strategic Action Plans.

For planning and policy development purposes, the energy sector is organised and analysed according to the following six themes, shown graphically in the figure below, which have become the standard classifications for integrated energy planning. Four cross-cutting issues, which apply equally to all other themes, are also identified at the bottom of the figure. These ten themes correspond to the sections of the Pacific Islands Energy Policy (PIEP).

The Pacific Islands Energy Policy is therefore considered as a strategic document that will assist in contributing towards achieving the Millennium Development Goals (MDGs) and provides a common and representative position for the Pacific region that will compliment and support the development of an enabling environment for the implementation of the Barbados Plan of Action (BPoA) and Mauritius Strategy (MS).

Thematic Sectors of the Pacific Islands Energy Policy



The PIEP is structured around these ten sections with the following goals in each area that are underpinned by a series of policies:

- Regional Energy Sector Co-ordination: A co-operative approach to energy sector co-ordination that maximises the impact of regional resources and capabilities.
- Policy and Planning: Open and consultative cross-sectoral policy development and integrated planning to achieve sustainable supply and use of energy.
- Power: Reliable, safe and affordable access to efficient power for all Pacific island communities.
- Transportation: Environmentally clean, energy efficient and cost effective transportation within the region.
- Renewable Energy: An increased share of renewable energy in the region's energy supply.
- Petroleum: Safe, reliable, and affordable supplies of petroleum products to all Pacific island countries.
- Rural Areas and Remote Islands: Available, reliable, affordable, and environmentally sound energy supplies for the social and economic development of rural areas and remote islands.
- Environment: Environmentally sustainable development of energy sources and use of energy within the region.
- Efficiency and Conservation: Optimised energy consumption in all sectors of the regional economy and society.
- Human and Institutional Capacity: Adequate human and institutional capacity to plan, manage, and develop the Pacific energy sector.

To achieve these goals, policies are further supported by detailed strategies that include a number of activities with individual implementation, indicators and a time frame statements. These are all incorporated into a separate document entitled Pacific Islands Energy Strategic Action Plan (PIESAP) that should be reviewed and changed on a one yearly cycle.

The PIEP is organised such that policies are stated for each goal, intended to set the rules by which specific strategies and actions will be designed and implemented to achieve the desired outcomes and outputs. They are long-term, but may be reviewed and changed every 5-7 years if necessary but are intended to stand and provide the continuity and consistency necessary to ensure the overall vision of the policy can be realised.

The Chair of the CROP Energy Working Group shall be responsible for coordinating any policy review should this be deemed necessary in the future.

1. REGIONAL ENERGY SECTOR COORDINATION

Regional co-operation in energy policy and planning can help to overcome the disadvantages faced by the region, particularly in relation to its small size, dispersed communities, fragmented markets, environmental vulnerability, and limited institutional and human capacity. A regional co-operative approach to co-ordination will allow countries to share expertise, take advantage of economies of scale, harmonise policies and regulations, and mobilise increased official development assistance from international sources. The goal for regional energy sector co-ordination is:

A co-operative approach to energy sector co-ordination that maximises the impact of regional resources and capabilities

Policies

- 1.1 Co-ordinate regional energy sector activities of regional organisations, associations, the private sector, non-state actors and development partners through the Council of Regional Organisations in the Pacific, Energy Working Group (CROP-EWG).
- 1.2 Mobilise development assistance and financing from international and multilateral development partners and the private sector, for the implementation of national and regional energy strategies.

2. POLICY AND PLANNING

The prominence accorded to energy issues in a global economy presents great challenges to policy and planning in Pacific island countries and territories, which must address integrated cross-sectoral partnership and issues, co-ordinated implementation, appropriate institutional arrangements, adequate financial mechanisms, and the roles of diverse public and private stakeholders. In addition, Pacific island countries and territories are faced with scarce energy resources and a heavy reliance on imported fossil fuels to meet their energy needs. Hence the need for a strategic and sustainable approach to development and implementation of policies, and the ability to plan to meet future energy sector requirements. The goal for policy and planning is:

Open and consultative cross-sectoral policy development and integrated planning to achieve sustainable supply and use of energy

Policy

- 2.1 Ensure energy sector policy and planning addresses the availability and efficient use of affordable, and appropriate sources of energy, taking into account a balance of social, cultural, technological, institutional, environmental, economic, and global market issues.
- 2.2 Ensure increased availability of energy services to the 70% of the regional population that is without access to electricity.
- 2.3 Promote sustainable energy options for electricity generation, transportation, water supply, health care, education, telecommunication, tourism, food supply, and income generation.
- 2.4 Promote the development of appropriate regulatory guidelines to meet the needs of consumers resulting from sector reforms.
- 2.5 Assess and promote indigenous resource potential and technical capacity for all aspects of energy sector planning and development.
- 2.6 Promote policy mechanisms for efficient use of energy in all sectors of the economy.
- 2.7 Promote the involvement of all stakeholders, including non-government organisations, local communities especially youth and women in policy development and integrated planning.
- 2.8 Promote the development of national energy policies and strategic action plans that address the reduction of fossil fuel imports and greenhouse gas emissions and strive to meet regional renewable energy targets.

3. POWER SECTOR

Reliable and affordable electric power is essential for economic development and social progress. Key issues related to power supply include insufficient human resources, inefficient performance of some utilities, inefficient consumption of electric power, and inadequate regulatory and legislative frameworks to support private sector participation and investment. The goal for the power sector is:

Reliable, safe and affordable access to efficient power for all Pacific island communities

Policies

- 3.1 Improve the efficiency of power production, including renewable energy, transmission and distribution to optimise costs and fuel consumption.
- 3.2 Develop corporatisation and commercialisation mechanisms for power utilities to facilitate improvements in power production, transmission and distribution.
- 3.3 Expand where appropriate private sector participation, investment, ownership, and management arrangements for electricity generation, transmission and distribution.
- 3.4 Establish an enabling and competitive environment for the introduction of independent power providers where these may provide efficient, reliable, and affordable service to consumers.
- 3.5 Promote appropriate international best-practice regulations and standards for the safe and reliable supply, generation, transmission and distribution of power.
- 3.6 Support the introduction of new commercially proven technologies, including renewable energy technologies and generating systems that are environmentally, economically, financially and socially viable.

4. TRANSPORTATION

Transportation is an essential service that enables economic and social development. It accounts for about 50% of the region's use of petroleum products and polluting emissions, with national shares varying from 34% to 70%. The goal for transportation is:

Environmentally clean, energy efficient and cost effective transportation within the region

Policies

- 4.1 Evaluate and encourage the application of emerging environmentally clean technologies and alternative fuels for transport, and promote markets and create policy and regulatory frameworks to make them more affordable and reliably available.
- 4.2 Promote emission control regulations and effective enforcement procedures.
- 4.3 Promote vehicle efficiency standards and encourage the import of more efficient vehicles.
- 4.4 Promote policy mechanisms that create a framework for greater use of appropriate and energy efficient modes of transportation including public transport.
- 4.5 Promote the use of non-fossil fuels in both new and existing vehicles.

5. RENEWABLE ENERGY

Despite past efforts to promote widespread use of renewable energy, progress in general has been rather slow. This is due to a number of policy, technical, financial, management, institutional and awareness barriers. Renewable energy sources in the form of hydropower, wind, solar, biofuel, geothermal and ocean thermal hold a lot of potential to be used to promote sustainable social and economic development, particularly in rural and remote areas, while reducing the dependence on fossil fuel for power generation, in transportation, and reducing greenhouse gas emissions and pollution. Key issues in renewable energy include: a lack of technical expertise and weak institutional structures to plan, manage and maintain renewable energy programmes; the absence of clear policies and plans to guide renewable energy development; a lack of successful demonstration projects; a lack of understanding of the renewable energy resources potential; a lack of confidence in the technology on the part of policy makers and the general public; a lack of local financial commitment and support to renewable energy; and continuing reliance on aid-funded projects. There also remains the need to ensure that there is a balance of partners and beneficiaries in the development of renewable energy. The goal for renewable energy is:

An increased share of renewable energy in the region's energy supply

Policies

- 5.1 Promote the increased use of renewable energy technologies and strive to meet regional renewable energy targets.
- 5.2 Promote the effective management of both grid-connected and stand-alone renewable-based power systems.
- 5.3 Promote a level playing field approach for the application of renewable and conventional energy sources and technologies.
- 5.4 Promote partnerships between the private sector (including local communities and NSAs) and public sector, and mobilise external financing to develop renewable energy initiatives.

6. PETROLEUM

Petroleum fuels dominate the energy supply system in the Pacific, yet the region has very limited proven indigenous crude oil sources and these are predominantly exported. Competition in fuel supply is limited by monopoly terminal ownership. Fuel distribution arrangements within countries vary widely, with many governments choosing price regulation to ensure that fuel prices remain fair and equitable. The supply of fuel to remote locations and outer islands is not always reliable, is not always carried out in a safe manner and can result in very expensive fuel to a sector of the community least able to afford it. The environmental impacts of waste oil have the potential to significantly pollute the limited soil and ground water and near shore fisheries of Pacific Islands. The need for policy in this area arises from the need for energy security, the concentrated nature of the petroleum fuel supply industry, and the threat of climate change posed by the expanding use of petroleum fuels. The goal for petroleum is:

Safe, reliable, and affordable supplies of petroleum products to all Pacific island countries

Policies

- 6.1 Improve the competitiveness of petroleum supply options through standardised regional supply templates, supply chain rationalisation, leveraged purchasing power and a regional approach to negotiations with suppliers.
- 6.2 Encourage suppliers to maintain the quality of petroleum products in line with relevant standards and to introduce cleaner and better quality petroleum products as they become available.
- 6.3 Reduce petroleum product imports through fuel substitution.
- 6.4 Co-operate regionally to collect and disseminate information on fuel demand, regional fuel prices, and related issues.
- 6.5 Promote the collection, transportation, and environmentally responsible re-use, disposal, or removal of waste oil and other petroleum by-products to minimise adverse impacts on soil, ground water, and near shore fisheries.
- 6.6 Promote equitable availability of petroleum products in rural and remote islands.
- 6.7 Encourage environmentally sound exploration for, and development of, indigenous sources of petroleum products.

7. RURAL AREAS AND REMOTE ISLANDS

The majority of people within the region without access to electricity live in rural areas and on remote islands. These people often rely on biomass as their primary energy source. Petroleum products are also often not reliably and safely available at affordable prices in rural and remote island communities, thus reducing their potential for use in electricity generation and transportation. The goal for rural areas and remote islands is:

Available, reliable, affordable, and environmentally sound energy supplies for the social and economic development of rural areas and remote islands

Policies

- 7.1 Assess the availability, and promote the development, of indigenous energy resources and technical capacity as a substitute for imported fuels.
- 7.2 Promote opportunities for rural energy service companies and local manufacturers to supply equipment and human resources for project design, implementation, management and maintenance.
- 7.3 Develop sustainable energy options that are appropriate for remote areas (including biomass), through an integrated approach, for electricity generation, transportation, water supply, health care, education, telecommunication, tourism, food supply and income generation.
- 7.4 Establish opportunities for better access to renewable energy technologies (such as stand alone solar systems, and hybrid systems) in rural areas through the removal of barriers and constraints to sustainable rural energy sector development.
- 7.5 Encourage the application of appropriate subsidies and incentives to enable disadvantaged rural areas and remote islands access to energy supplies and electricity.

8. ENVIRONMENT

Energy development and use can affect the earth, air, and water both regionally and globally. There are increasingly detrimental economic and environment impacts of energy use, particularly from fossil fuels. By incorporating environmental considerations into energy sector planning, the negative environmental impacts can be lessened. On the other hand adverse impacts can be reduced through fuel substitution, renewable energy, greater efficiency, and better management, among other approaches. Assessments should also consider social, gender, environmental and economic aspects. The goal for the environment is:

Environmentally sustainable development of energy sources and use of energy within the region

Policies

- 8.1 Promote strategic environmental assessments and full life-cycle environmental impact assessment of proposed energy supply and infrastructure policies and projects, including assessment of impacts on bio-diversity, greenhouse gas emissions, and local air quality.
- 8.2 Incorporate mechanisms in conventional and renewable energy supply and infrastructure plans for effective management and ultimate disposal of wastes during their development, operation, and decommissioning.
- 8.3 Integrate environmental regulations into all related energy-related plans, including transportation, power supply, and building codes.
- 8.4 Continue to support international action on reduction of greenhouse gases.
- 8.5 Oppose the use of nuclear energy in the region in recognition that it is inappropriate and unacceptable.
- 8.6 Promote the conservation and maintenance of native forests as natural carbon dioxide sinks.

9. EFFICIENCY AND CONSERVATION

In general there is a wide sectoral variation in the consumption of energy throughout the Pacific where by weighted average the greatest proportion of energy is consumed in transport sector followed by the production, transmission and distribution of electricity, and then, to a lesser degree, government, commerce, industry and agriculture. It has been well demonstrated and recognised that making energy consuming systems more efficient will lead to reduction in: costs; fossil fuel imports and greenhouse gases. Hence the development and implementation of policy initiatives in energy efficiency and conservation provides a prime opportunity to save energy and improve the long-term sustainability of the energy sector. The goal for energy efficiency and conservation is:

Optimised energy consumption in all sectors of the regional economy and society

Policies

- 9.1 Improve the efficiency of energy production, transmission, and distribution through demand side management.
- 9.2 Introduce demand side management programmes for enhancing energy efficiency and conservation so as to reduce the energy consumption in government facilities, residential and commercial buildings, industry, agriculture and forestry.
- 9.3 Introduce minimum energy performance standards for electrical equipment, adoption of building energy codes.
- 9.4 Promote appropriate packages of incentives (including taxes, duties and tariffs) to encourage efficient energy use.
- 9.5 Encourage co-operation in energy efficiency and conservation programmes between the private sector, consumers and governments, by increasing public awareness and improving access to information.
- 9.6 Promote the process to establish regional demand side energy targets.

10. HUMAN AND INSTITUTIONAL CAPACITY

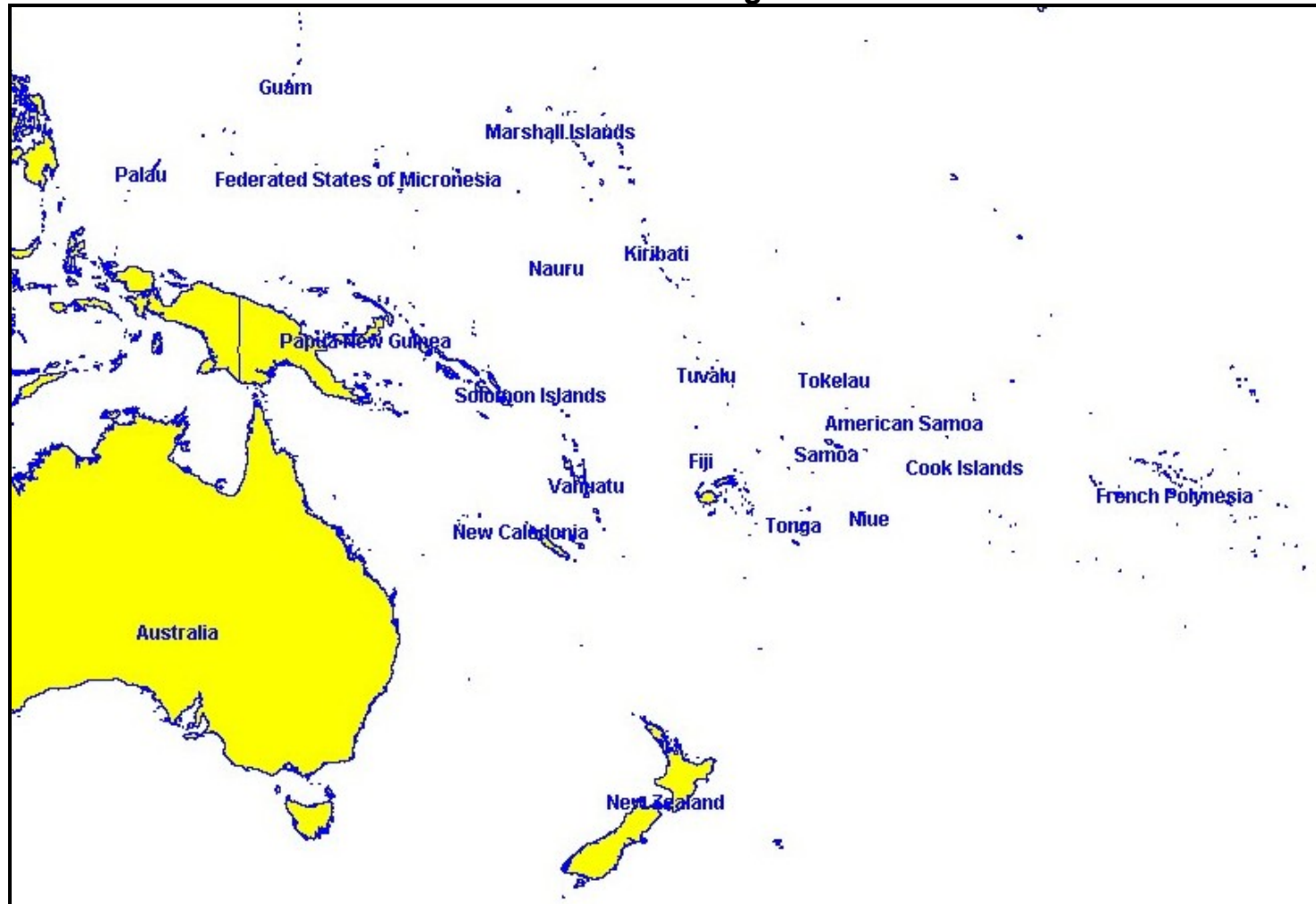
National capacity to plan and manage the energy sector must be developed to improve the region's self-reliance. Adequately trained and educated engineers, technicians, and planners are necessary to provide the region with guidance, policy support, and planning to meet long-term economic and social objectives in the energy sector. The goal for human and institutional capacity is:

Adequate human and institutional capacity to plan, manage, and develop the Pacific energy sector

Policies

- 10.1 Provide appropriate energy-related training opportunities regionally at all educational and professional levels.
- 10.2 Promote an interdisciplinary approach to energy training and capacity building programmes that merges the physical sciences (physics, engineering, mathematics) and the social sciences (economics, management).
- 10.3 Accelerate human resource development in the power utilities in the areas of production, transmission and distribution.
- 10.4 Accelerate research and development of energy technologies that are appropriate for adoption within the region.
- 10.5 Increase training and public awareness on alternative and renewable fuels and vehicles, energy efficiency, and conservation through publicity campaigns and school curricula.
- 10.6 Develop community capacity for project planning and management of conventional and renewable energy projects.
- 10.7 Promote, develop and strengthen an enabling environment within the energy sector for all stakeholders, including non-government organisations, local communities especially youth and women, through gender mainstreaming and public awareness on energy-related gender issues.

The Pacific Region



Pacific Island Countries and Territories Physical Data – Sheet 1

Country / Territory	Land Area [km ²]	Coastline [km]	Number of Islands	EEZ Area [km ²]	Total Population 2000 / [Est 2004]	Geography
American Samoa	200	116	7 (2 Atolls & 5 Volcanic Islands)	390,000	57, 291 / [57,900]	Volcanic islands with rugged peaks and limited coastal plains, two coral atolls.
Cook Islands	240	120	15 (7 Atolls & 8 Volcanic Islands)	1,800,000	19500 / [21200]	Low coral atolls in the North and elevated hilly volcanic islands in the South.
Federated States of Micronesia	702	6112	607	2,978,000	107 000 / [108,150]	Islands range geologically from high mountainous islands to low coral atolls.
Fiji	18,272	4,637	332	1,260,000	814,000 / [880,800]	Mostly volcanic islands - Viti Levu [10,390 sq. km] and Vanua Levu [5,556 sq. km].
French Polynesia	3,521	2,525	118 Islands & Atolls	5,030,000	231,400 / [266,300]	Mixture of rugged high islands and low lying islands with reefs.
Guam	541	126	1	218 000	154,805 / [166,100]	One large island; peak of a submerged mountain located in the Marianas Trench.
Kiribati	811		33	3,600,000	84,494 / [100,800]	Islands are low-lying atolls, except for Banaba which is a phosphate rock.
Marshall Islands	181	370	1152 Islands 30 Atolls	2, 131, 000	51,600 / [57,700]	Low coral atolls and limestone islands.
Nauru	21	30	1	320 000	11,500 / [12,800]	Single raised coral island with phosphate plateau in centre.
New Caledonia	18, 576	2,254	1 Main Island & Many Isle & Atolls	1, 740, 000	211,000 / [213,700]	Coastal plains and interior mountains, numerous small islands and atolls.

Pacific Island Countries and Territories Physical Data – Sheet 2

Country / Territory	Land Area [km ²]	Coastline [km]	Number of Islands	EEZ Area [km ²]	Total Population 2000 / [Est 2004]	Geography
Niue	259	64	1	390,000	1,900 / [2150]	Steep limestone cliffs with a central plateau.
Northern Marina Islands	477	1,482	14	N/A	[78250]	Southern islands limestone with coral reefs, Northern islands are volcanic.
Palau	488	1,519	300 Plus Islands	629,000	19,129 / [20,000]	Varies types, volcanic, reef and atoll, low platform and high limestone.
Papua New Guinea	462 243	5,152	Main Land Mass & 1400 Islands	3,120,000	5,190,786 / [5,420,300]	Largely volcanic high islands and coastal lowlands.
Pitcairn Islands	47	51	5	N/A	46	Volcanic with a rocky coastline
Samoa	517	403	2 Large Islands Plus a number of small islands	120 000	169,000 / [177,700]	Coastal plains with a volcanic, rocky, rugged mountainous interior.
Solomon Islands	28,446	5,313	6 Main Islands & 992 Islands/Atolls	1,340,000	459,000 / [523,600]	Rugged mountains with some smaller islands, low coral atolls and reefs.
Tokelau	10	101	3 Atolls & 165 sq km of lagoons	N/A	1,500 / [1,405]	Low lying atolls enclosing large lagoons.
Tonga	699	419	170	700,000	100,000 / [110,200]	Combination of uplifted limestone or limestone overlying a volcanic base.
Tuvalu	26	24	9 (5 Atolls and 4 Coral Islands)	1,300,000	10,500 / [11,500]	Very low lying coral atolls and islands.

Vanuatu	12,190	2,528	80 Plus Islands	710,000	191,900 / [202,600]	Scattered archipelago of volcanic mountainous islands.
Wallis & Futuna	274	129	3 Main Islands & 20 Islets	N/A	15,500 / [15,880]	Volcanic islands with low hills.

Pacific Islands Framework for Action on Climate Change 2006-2015

In this framework, Pacific Island Countries and Territories (PICTs) refers to American Samoa, Cook Islands, Fiji Islands, French Polynesia, Guam, Kiribati, Commonwealth of the Northern Marianas, Marshall Islands, Federated States of Micronesia, Nauru, New Caledonia, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu, Vanuatu, Wallis and Futuna.

The timeframe for this Framework is 2006-2015. This Framework builds on *The Pacific Islands Framework for Action on Climate Change, Climate Variability and Sea Level Rise 2000-2004*

In this Pacific regional framework, climate change refers to any change in climate over time both as a result of human activity and natural variability.¹

I. Preamble

The adverse effects of climate change and sea level rise present significant risks to the sustainable development of Pacific Island Countries and Territories (PICTs) and the long-term effects of climate change may threaten the very existence of some of them. This was agreed to generally by Small Island Developing States together with the international community most recently in the *Mauritius Strategy for the Further Implementation of the Barbados Programme of Action for Sustainable Development of Small Island Developing States*.

PICTs' priorities and needs in the area of climate change are reflected in international documents such as the Mauritius Strategy. These are also reflected in national communications, the outcomes of the UNFCCC Conferences of the Parties and the outcomes of related international meetings.

At the regional level, PICTs' priorities and needs have been reiterated for over a decade in relevant documents such as Forum Leaders Communiqués, regional policy frameworks and related action plans together with the strategic plans of the regional intergovernmental and non-governmental organizations.

At the national level, PICTs are also taking action to address climate change through their national sustainable development strategies, or their equivalent, which are linked to national budgetary and planning processes.

PICTs recognize their commitment to sustainable development is a national responsibility but realise that this cannot be achieved without development partner support. Within this context the Framework identifies broad priorities for PICTs. It provides a strategic platform not only for use by policy and decision makers at all levels, but also for the development and strengthening of partnerships for implementation of national and regional initiatives.

¹Refer to Intergovernmental Panel on Climate Change (IPCC) and the United Nations Framework Convention definition of climate change.

The Framework runs from 2006-2015 and is consistent with the timeframes of the *Millennium Declaration*, the *Johannesburg Plan of Implementation* and the subsequent work of the UN Commission on Sustainable Development. It does not create legal rights or impose obligations under international law.

The Framework is intended to promote links with, but in no way supercedes, more specific regional and national instruments and plans across specific sectors that link to weather and climate including: water, agriculture, energy, forestry and land use, health, coastal zone management, marine ecosystems, ocean management, tourism, and transport.

Addressing the issues of climate change requires an integrated, multi-stakeholder approach. Furthermore, a strategic programmatic approach is required rather than an increase in stand-alone project initiatives.

II. Pacific Context

PICTs experience a high level of risk from the effects of extreme weather and climate variability. Climate models suggest that the tropical Pacific region will continue to warm. This warming has the potential to alter and indeed increase such risks, through changing the frequency and/or intensity of extreme weather or climate variability phenomena or through accelerated sea-level rise. The impacts of these climate events will exacerbate already stressed marine, freshwater and terrestrial environments.

Reducing the risks associated with the impacts of extreme weather and climate variability is a fundamental developmental challenge faced by PICTs. This must be urgently addressed in order to contribute to improving livelihoods, economic wellbeing and health, as well as maintaining biodiversity and culture.

An integrated and multi-stakeholder approach that considers the complete cycle of interlinked causes and effects, within the context of risk management across all sectors, is vital. A high priority is the need to develop and strengthen community-centered initiatives.

III. Vision

Pacific island people, their livelihoods and the environment resilient to the risks and impacts of climate change.

IV. Goal

Ensure Pacific island people build their capacity to be resilient to the risks and impacts of climate change with the key objective to deliver on the expected outcomes under the following Principles:

- implementing adaptation measures;
- governance and decision making;
- improving our understanding of climate change;
- education, training and awareness;
- contributing to global greenhouse gas reduction; and,
- partnerships and cooperation.

V. Principles

Principle 1. Implementing adaptation measures

Building resilience through adaptation to climate change, climate variability and extreme weather events has been identified as the key priority for PICTs. All PICTs agree that they are already witnessing the adverse effects of climate change. Atoll states in particular believe that their very survival is threatened.

The ecological fragility, economic and social vulnerability, and the remoteness of many PICTs makes recovery from extreme weather events very difficult.

Adaptation now will greatly increase our capacity to better adapt to future climate change impacts. Appropriate adaptation measures using a multi-stakeholder approach need to be integrated into national/sectoral sustainable development strategies or their equivalent.

PICTs will encourage adaptation measures based on the principles of risk management and where this is not possible the “no regrets” or precautionary approach with a focus on improving the livelihoods of their people including safety and security.

Expected Outcomes by 2015:

- 1.1 Adaptation measures to the adverse effects of climate change developed and implemented at all levels.
- 1.2 Identification of vulnerable priority areas/sectors and appropriate adaptation measures using available and appropriate information recognizing that such information may be incomplete.
- 1.3 Adaptation measures in vulnerable priority areas supported by existing data sets and traditional knowledge, or new data developed in some instances as necessary.
- 1.4 Appropriate adaptation measures integrated into national/sectoral sustainable development strategies or their equivalent and linked to the budgeting process.

Principle 2. Governance and decision-making

PICTs recognize that they have a national responsibility for addressing the risks and effects of climate change in the context of their national sustainable development strategies, reflecting the principles of sustainable development and good governance.

All stakeholders have a role to play in developing individual and collective resilience through adapting, preventing and/or mitigating the adverse effects of climate change. Climate change and its effects is a shared responsibility, which also requires effective partnership with all relevant stakeholders in decision-making and implementation of strategies and actions at all levels.

Recognizing the presence of limited technical and financial resources and institutional capacity at the national and regional levels, collaboration and partnerships between CROP agencies in support of national efforts, consistent with the Pacific Leaders’ vision, is critical for harnessing key disciplinary skills and expertise across the region.

Good governance ensures the adoption of core principles of accountability and transparency by all stakeholders and at all levels, which is critical for cost effective adaptation against the risks of climate change and greenhouse gas reduction activities

Expected Outcomes by 2015:

- 2.1 Climate change considerations mainstreamed into national policies, planning processes, plans and decision-making at all levels and across all sectors.
- 2.2 Partnerships and organizational arrangements between government agencies, private sector, civil society, community and other stakeholders strengthened.
- 2.3 CROP agency partnerships coordinated, harmonized and strengthened to ensure country, and outcome, focused delivery of services.
- 2.4 Good governance by all stakeholders in climate change activity management at regional, national and local levels strengthened.

Principle 3. Improving our understanding of climate change

Better understanding of climate change, variability and extreme weather events is needed to inform local, national and regional responses. This will mean enhancing human resource capacity for generating, analyzing and managing climate related data sets; sustaining and upgrading existing observation and application systems; developing and strengthening technical data sets and tools for climate observations; establishing baseline data in different sectors; and maintaining the collection of the latest information on sea level rise.

A basis for improving our understanding of climate change is the ongoing need to engage research into improving understanding in the variations, circulations and climatic patterns in the Pacific region.

Translating climate change science into applicable information products through user-friendly materials and tools is necessary to inform the decision-making process at all levels.

Expected Outcomes by 2015:

- 3.1 Existing meteorological, hydrological, oceanographic and terrestrial institutional capacity including data collection systems sustained and upgraded.
- 3.2 Technical data sets integrated with relevant climatic, environmental, social and economic information and data sets, and traditional knowledge for risk management.
- 3.3 Analytical frameworks, models and tools for projections of regional climate change and variability, risk assessment and management strengthened.
- 3.4 Develop, and strengthen where, necessary datasets and information required to underpin, strengthen and monitor vulnerable priority areas, sectors and adaptation measures.

Principle 4. Education, Training and Awareness

PICTs' capacity to use economic, scientific and traditional knowledge to monitor, assess and predict environmental, social and economic risks and effects of climate change needs strengthening. This is critical for developing and implementing viable and sustainable national programmes on cost effective adaptation and greenhouse gas reduction measures.

Concerted efforts need to be undertaken to enhance human capacity in the assessment of the risks and impacts of climate change, climate variability and extreme weather events. A pool of informed resource persons conversant with development and application of practical steps in adaptation tools and methods is critical. Increased awareness and understanding of risks and effects of climate change is particularly important at the community level to increase their resilience.

Expected Outcomes by 2015:

- 4.1 Strengthened human capacity to monitor and assess environmental, social and economic risks and effects of climate change.
- 4.2 Strengthened human capacity to identify, analyse and implement cost effective adaptation measures as well as greenhouse gas reduction measures and creation of a pool of informed resource persons conversant with development of practical steps in adaptation tools and methods.
- 4.3 Strengthened human capacity to identify and integrate economic, scientific and traditional knowledge into adaptation and greenhouse gas reduction practices.
- 4.4 Better informed public on climate change issues.

Principle 5 Contributing to global greenhouse gas reduction

PICTs' contributions to the total global emission of greenhouse gases are insignificant compared to the rest of the international community. Nonetheless, PICTs wish to contribute to the global effort to reduce emissions. As part of their national policies, PICTs will promote cost effective measures to reduce greenhouse gas emissions, including increased energy efficiency and increased use of appropriate low carbon and renewable energy technologies.

There may be the opportunity to work with developed countries on Kyoto Protocol Clean Development Mechanism projects to support these efforts. Complementing the effort will be national plans and policies to ban the use of ozone depleting substances.

Expected Outcomes by 2015:

- 5.1 Energy efficiency actions and cost effective technologies promoted and implemented.
- 5.2 Cost effective renewable energy technologies and local sources promoted, shared and implemented.
- 5.3 Commitments met on ozone depleting substances.
- 5.4 Clean Development Mechanism initiatives developed and implemented, where appropriate.

Principle 6. Partnerships and Cooperation

Partnerships and cooperation provide an enabling environment and are an essential part of PICTs' efforts to build resilience to the adverse effects of climate change.

PICTs will continue to advocate for the reduction of greenhouse gas emissions and to advance adaptation internationally. Networks and partnerships to inform policy development for harmonized regional, national and local responses to climate change are necessary.

Additional resources will need to be accessed through multilateral and bilateral funding. One of the roles of regional organizations is to support national efforts to access this assistance and to coordinate existing and new innovative projects and programmes, including the *Pacific Partnership Initiative for Adaptation to Climate Change* launched by Pacific leaders at the World Summit on Sustainable Development. Efforts will be taken to ensure climate change partnerships are strategic and well coordinated.

Expected Outcomes by 2015:

- 6.1 Existing and emerging international partnerships for the Pacific islands region on climate change and related issues strengthened and established.
- 6.2 Enhanced coordination of regional action on climate change issues.
- 6.3 Climate change related assistance from development partners coordinated and harmonized to maximize benefits to PICTs.
- 6.4 Access by PICTs to secure increased resources from funding mechanisms related to climate change instruments optimized.
- 6.5 Promote significant international support through advocacy for further reduction in greenhouse gases and securing resources for adaptation.

VI. Implementation Strategy

PICTs recognise that the implementation of this Framework, the *Mauritius Strategy, Agenda 21 and the Johannesburg Plan of Implementation*, as well as the achievement of the internationally agreed development goals, including those contained in the *Millennium Declaration*, are mutually reinforcing.

The implementation of this Framework will be further elaborated in the *Pacific Islands Action Plan on Climate Change 2006-2015*. It will require more focused and substantially increased effort by PICTs and appropriate support from their regional organisations and the international community. PICTs recognize that each country has primary responsibility for its own development and that the role of national policies, development strategies and the allocation of dedicated financial resources cannot be overemphasized.

VII. Monitoring Progress and Updating this Framework

Targets and indicators will be established within the Action Plan linked to the Framework and set at the appropriate levels. The framework will be subjected to a mid-term review in 2010 to determine overall progress.

Evaluating progress towards achieving the outcomes of this Framework will be measured every two years against the agreed national and regional indicators with the support of regional organizations and the international community. This will require PICTs to identify progress towards achieving the principles contained in this Framework, and to identify emerging gaps requiring priority action and adjustment of priorities in future. The regional organizations will, where necessary, provide support and a coordinating role for regional and international reporting.

Pacific SIDS Submission to CSD14: Attachment 3

Extracted from the Pacific SIDS Matrix for Implementation of the Mauritius Strategy

Summary of Agreements in MS and other Relevant International Agreements.	Relevant Regional Policy, Strategy, Plan or Decision Making Process.	Relevant Partnership, Initiative, Programme or Mechanism for Implementation.	Priorities for Implementation
Chapter 1 Climate Change			
Key Implementation Issues: (As raised in the Implementation Section) <ul style="list-style-type: none"> To develop NAPS as part of NSDS (where appropriate). Facilitate regional & inter-regional cooperation 			
Climate Change (16-20)	<ul style="list-style-type: none"> Pacific Islands Regional Climate Change Framework for 2006-2010. Pacific Plan – Initiatives for the first 3 years 5.5. Forum Leaders Communiqués related to climate change, climate variability and sea level rise. SPREP Action Plan 2001-2005. 	<ul style="list-style-type: none"> UNFCCC COP's, Kyoto Protocol MOP's, and direction to GEF for funding windows and criteria. Annual Forum Leaders Meetings – Post Forum Dialogue promotion of projects with partners. Annual SPREP Meeting gives direction on priorities related to climate change. The Climate Change Round-table endorsed by Forum Leaders and their Environment Ministers in 2000 was established primarily to ensure a coordinated, cooperative and strategic approach by regional and international organizations and agencies to assist Pacific islands undertake the activities identified by their representatives and their development partners, regional 	<ul style="list-style-type: none"> Continue development of adaptation and mitigation efforts linked to the Pacific Climate Change Framework 2006 – 2015, including through the early convening of the Climate Change Round-table. [SPREP] Ensure adequate coordinated and linked PIC representation at COP's, MOP's and the GEF Governing Council. [SPREP-PIFS] Support for the development of regional and national projects under climate change to the GEF including capacity building of National GEF focal points. [SPREP, GEF, UNDP]

		organizations and collaborating institutions.	<ul style="list-style-type: none"> Seek special consideration for SIDS project funding through the GEF instrument. [GEF]
<ul style="list-style-type: none"> (MS Para 18 c), (JPoI Para 20 a-w, 59 a-b) - Energy 	<ul style="list-style-type: none"> Pacific Plan Priority Initiatives for implementation 5.4. Pacific Islands Energy Policy (PIEP) 2002 Pacific Island Energy Strategic Action Plan (PIESAP). 	<ul style="list-style-type: none"> Pacific Islands Energy Partnership Initiative – or the Pacific Islands Energy for Sustainable Development [PIESD] has the prime function of facilitating the implementation of components of the PIEP. The International Action Programme for Renewable Energy. (Adopted at the June 2004 International Conference on Renewable Energy in Bonn: follow http://www.renewables2004.de/ Clean Development Mechanism is now operational as a result of 	<ul style="list-style-type: none"> Implement the Pacific Islands Energy Policy and associated Strategic Action Plan to provide available, affordable, and environmentally sound energy for the sustainable development of all Pacific island communities. Recommend that SPREP coordinate sharing and
<ul style="list-style-type: none"> MS para 18.d. - Implement 	<ul style="list-style-type: none"> SPREP Action Plan 		

<p>the Buenos Aires Programme of Action adaptation</p> <ul style="list-style-type: none"> MS Para 18.e – transfer of appropriate technologies and practices; MS 18.f - Build scientific and technological capabilities, for the exchange of scientific information and data (18.g) Implementation of national, regional and international strategies to monitor the Earth's atmosphere, strengthen their involvement in monitoring and observing systems, 	<ul style="list-style-type: none"> Pacific Partnership Initiative on Adaptation Piloting and Adaptation Strategy for the Pacific World Bank Adaptation Policy Note CIDA CBDAMPIC Programme World Bank GEF Kiribati Project Draft Regional Pacific Adaptation to Climate Change PDF A SPREP Action Plan 2005 - 2009 <p>Pacific Island Global Climate Observation System Action Plan and Implementation Plan</p>	<p>the Kyoto Protocol coming into force.</p> <ul style="list-style-type: none"> The Johannesburg Renewable Energy Coalition (working towards energy targets. AOSIS is a founding member) Pacific Partnership Initiative on Adaptation 	<p>dissemination of CDM information so that the Pacific's efforts to strategically participate in CDM developments is enhanced.</p> <ul style="list-style-type: none"> Develop an Adaptation Strategy that specifically focuses on priority adaptation measures for implementation; this should complement the Pacific Islands Framework on Climate Change. Encourage and support all PICs to complete their UNFCCC Conventional requirements. National Technology Needs Assessments SPREP Action Plan <p>Only 5 of 32 projects funded although momentum is good. Need to develop GTOS and GOOS.</p>
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<ul style="list-style-type: none"> • (MS para 19) develop and implement national adaptation strategies • (20) Small island developing States, with assistance from regional development banks and other financial institutions, as appropriate, should coordinate further, on a regional basis, to establish or strengthen national and regional climate-change coordination mechanisms. <p>BPoA para 19 A.1 – Montreal Protocol</p>	<p>National Capacity Self Assessment Exercise National Implementation Strategies National Adaptation Programme of Action (For LDCs only) National Adaptation Strategies</p> <ul style="list-style-type: none"> • World Bank Climate Change Strategy • Asian Development Bank Environment Strategy related to climate change • Regional Strategy to Implement the Montreal Protocol in the Pacific Region (http://www.sprep.org/climate_change/ods.htm) • Chapter 5 of SPREP Action Plan 2005-2009 lists 3-year outcomes for phasing out ozone depleting substances in the region. This further lists the relevant instruments. 	<p>Building Regional Center of Excellence involving WMO Subregional Office, Technical support from UNDP and UNEP, IPCC, SPREP, SOPAC, FFA, SPC, USP, University of Guam and PNG, US FEMA, NASA, PEAC, University of Hawaii, Meteo France, BOM Australia, Greenhouse Gas Office Australia, NIWA, NZ Meteorology,</p> <ul style="list-style-type: none"> • Regional Meteorological Services Directors Meetings • National Climate Team (involving climate, agriculture, water, met) Roundtable Process • National Climate Team (involving climate, agriculture, water, met) <p>The Pacific Ozone Depleting Substances (ODS) Project is implementing the Regional Strategy, and has a 3-year timeframe beginning in late 2002 and ending in late 2005. The goal is to phase-out imports of CFCs by end of 2005. Participating countries are currently establishing ODS regulations so they can legally ban the trade (and irresponsible emissions) of CFCs by end of 2005. The Republics of the Marshall Islands is the first core country to approve ODS regulations, under its National Environment Protection Act 1984. ODS regulations would form the legal basis of training for customs officials on monitoring the imports of ODS.</p>	<ul style="list-style-type: none"> • Support the development of National Capacity Self Assessments (NCSA's) • • Few PICs have completed national adaptation strategies link between sectors needs but needs to be further integrated. • Appreciation of modalities needed. <p>Donor Harmonisation needed to focus on integrated rather than stand-alone approaches.</p> <p>In collaboration with the Waste Management Programme, a concept note on "waste refrigerants-disposal in PICs project" has been developed and work is at its</p>
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		<p>Main highlights of the Project include institutional strengthening (setting up of national ozone offices in each participating country), conducting week-long train-the-trainer workshops on “good practices in refrigeration” in all core countries and Papua New Guinea. Two regional thematic meetings were organized by SPREP, with a third scheduled for August 2005. The Project has recently expanded with the inclusion of three other countries (Cook Islands, Nauru, and Niue) two of which became Parties to the Protocol since the Project began. Funding for these countries have been approved and activities are expected to commence in early 2005.</p>	<p>initial stage on developing it further into a proposal. (Refer to Management of Wastes section for more information). SPREP has suggested to UNEP to include an additional component in the 2nd phase of ODS work (2006-2008). A “correlation study on impacts of ozone layer depletion in the Pacific region” would be useful for improving the knowledge and understanding of protecting the ozone layer. This would enhance collaboration at all levels – national ozone offices, health departments, meteorology departments, customs officers, refrigeration technicians, importers of ODS, and the general public. PICs would be able to know whether the harmful effects of increased ultraviolet rays (cancers, eye cataracts, and damages to aquatic life) are occurring in the region and whether these are attributed to increased levels of ultraviolet rays. A good knowledge of this would enhance compliance on reducing ODS use and reporting obligations, and allow access to information on levels of ultraviolet rays. Health departments could then advise on taking measures to protect oneself from exposure</p>
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Chapter VII. Energy Resources			
Key Implementation Issues: (As raised in the Implementation Section)			
<ul style="list-style-type: none"> To promote access to energy efficient technologies, renewable energy & advanced clean technologies that are affordable & readily adaptable to the circumstances of SIDS. 			
<p>MS para 46-49</p> <p>Ref also:</p> <p>MS 84 (b) Implementation – Energy</p> <p>MS 89 (b) Technology</p> <p>MS 90 (b) & (c) Capacity development</p>	<ul style="list-style-type: none"> All of the energy aspects are covered in the PIEP and PIESAP which are endorsed for implementation under the Pacific Plan 5.4. Pacific Islands Energy Policy and Plan (PIEPP) Oct 2002 Pacific Islands Energy Policy (PIEP) Nov 2004 Pacific Island Energy Strategic Action Plan (PIESAP). CROP Energy Working Group 	<ul style="list-style-type: none"> Pacific Islands Energy Partnership Initiative – or the Pacific Islands Energy for Sustainable Development [PIESD] has the prime function of facilitating the implementation of components of the PIEP (Nov 2004) through the CROP Energy Working Group The International Action Programme for Renewable Energy. (Adopted at the June 2004 International Conference on Renewable Energy in Bonn: follow http://www.renewables2004.de/ The Johannesburg Renewable Energy Coalition (working towards energy targets. AOSIS is a founding member) PIREP – leading to the PIGGAREP (GEF) proposal Transportation sector efficiency – 	<ul style="list-style-type: none"> Pacific Island Energy Strategic Action Plan (PIESAP), is the strategic action plan for the implementation of the regional energy policy (PIEP) and will be used to monitor the progress of the development and implementation of energy activities in the region. Reporting on progress to Energy Officials on an annual basis. The reviewed PIEPP (Oct 2002) – now known as the PIEP (Nov 2004) to be submitted to the CROP Heads for recommending to the Pre-Forum FOC and then to the Forum for their high level endorsement. Support and encourage the endorsement of the PIEP (Nov 2004) by Pre-Forum FOC and at the Forum in

		GEF proposal.	<p>August 2005.</p> <ul style="list-style-type: none"> • Encourage the timely approvals of GEF projects for the region – this should be both at a national as well as regional level.
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