

September 2011

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EARTH CONSCIOUS





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Tribute to a foot soldier of the environmental movement in Trinidad and Tobago:

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Julian S.
Kenny**

Page 26

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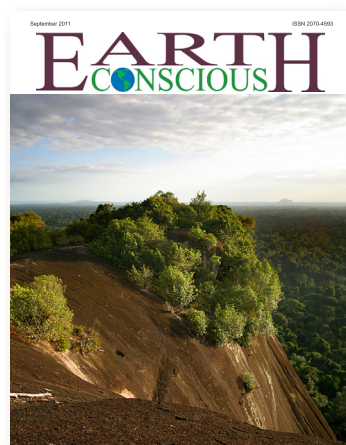
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On our Cover

SURINAME, The Beating Heart of the Amazon courtesy the Suriname Tourism Foundation
Photo by Edward van Toon.

See article inside on 'Suriname signals seriousness with climate change agency'.

EARTH
CONSCIOUS

September 2011

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High Stakes in Durban

Less than 100 days away, the countdown to the United Nations Climate Change summit taking place from 28 November to 9 December in Durban, South Africa is on.

The multi-million dollar question is whether developed nations will sign up for a second commitment period when the Kyoto Protocol which commits them to cut their emissions, expires in 2012.

Christiana Figueres, Executive Secretary of the UN Framework Convention on Climate Change (UNFCCC) has already identified what it would take for COP 17 in Durban to be a success.

According to Ms. Figueres, high-level political engagement is needed throughout the rest of this year to guide the negotiations, notably on the question of the Kyoto Protocol - but also for middle-ground options for the overall emerging global framework to reduce emissions.

Read more on the UNFCCC's chief views on 'The road to Durban - The State of Play of the Climate Negotiations' inside this edition of Earth Conscious. Like Copenhagen two years ago, COP 17 in Durban is expected to attract a very large gathering with over 20 000 delegates including heads of state and government from more than 100 countries.

And as the first major climate change summit on the African continent, the pressure is on for Durban - following on some success from Cancun - to produce an outcome that will be acceptable to both developing and developed countries.

South Africa's Minister of International Relations and Cooperation and incoming President of COP 17/CMP 7, Maite Nkoana-Mashabane in fact says that Durban is clearly the end of the line for the postponement of key political issues.

Only time will tell whether this is truly so.

Linda Hutchinson-Jafar
Editor

BAN KI-MOON PLEDGES SUPPORT FOR SMALL ISLANDS' FIGHT AGAINST GLOBAL CHALLENGES

UN SECRETARY-GENERAL BAN KI-MOON HAS PLEDGED SUPPORT FOR SMALL ISLANDS' FIGHT AGAINST GLOBAL CHALLENGES INCLUDING CLIMATE CHANGE.

In a message, delivered on his behalf by Oscar-Fernandez Taranco, Assistant Secretary-General for Political Affairs, to the Sixth General Meeting between the United Nations System and the Caribbean Community (CARICOM) and its Associated Institutions held in Guyana recently, Mr. Ban noted that the Caribbean region faces many challenges.



"These include the negative effects of the global financial crisis, the widening impacts of climate change, and the threats to governance and public safety posed by organized crime. Such transnational risks cannot be addressed by any single country on its own. Rest assured that the United Nations system has heard the region's call for more coherent engagement. This Meeting provides a further opportunity to build on our long-standing partnership.

Our shared efforts to develop the UN-CARICOM Regional Strategic Framework have allowed us to map our activities in the region and identify areas of redundancy or duplication. I am pleased that the recommendations contained in the final report on the Framework were fully endorsed by both the CARICOM Secretariat and the United Nations system. Let us now work together to implement them.

The Caribbean region has made commendable progress towards the Millennium Development Goals, yet those efforts face significant challenges, including the increase in fuel and food prices. The questions of debt relief for middle-income countries and fair access to the global trading system therefore merit greater attention. I will continue to use every opportunity to raise these issues, including with the G-8 (Group of Eight) and G-20 (Group of Twenty).

CARICOM and Caribbean countries of the Alliance of Small Island States have called attention to the specific vulnerability of small island developing States to climate change. CARICOM countries showed great leadership in the lead-up to last year's talks in Cancún, and I will count on your strong voice as we prepare for the next Conference of the Parties later this year in Durban."

EASTERN CARIBBEAN COUNTRIES to Protect 100,000 Hectares of Fragile Marine Ecosystems

THE WORLD BANK BOARD OF DIRECTORS APPROVED US\$8.75 MILLION GRANT FROM THE GLOBAL ENVIRONMENT FACILITY (GEF) TO ENSURE THE LONG-TERM CONSERVATION AND SUSTAINABLE MANAGEMENT OF FRAGILE MARINE ECOSYSTEMS IN THE EASTERN CARIBBEAN, INCLUDING THE PROTECTION OF OVER 100,000 HECTARES OF MARINE HABITAT.

The Sustainable Financing and Management of Eastern Caribbean Marine Ecosystem Project will establish conservation trust funds to provide reliable and consistent sources of funding for biodiversity preservation.

It will also promote collaboration among participating countries (including governments, communities, NGOs, and the private sector) to facilitate marine and coastal conservation, protect near shore areas, and support a regional monitoring and information network.

The project will benefit Antigua and Barbuda, Grenada, Saint Kitts and Nevis, Saint Lucia, and Saint Vincent and the Grenadines. This initiative is part of a larger regional effort called the Caribbean Challenge launched in 2008 by the Caribbean countries, which seeks to legally protect 20 percent of near shore areas by 2020.

"Eastern Caribbean countries recognize the importance of protected areas as a means to conserve biodiversity," said E. Crispin d'Auvergne, Chief Sustainable Development & Environment Officer for the Government of Saint Lucia. "This project will provide the countries with predictable long-term financing, minimizing disruptions in the planning and management of these important habitats."

The Eastern Caribbean is among the top five global biodiversity hot spots in the world due to its marine and coastal ecosystems. While these ecosystems are essential to the tourism and agriculture sector and the overall economy of the Eastern Caribbean, they are overexploited and under-protected.



The Eastern Caribbean is among the top five global biodiversity hot spots in the world due to its marine and coastal ecosystems. While these ecosystems are essential to the tourism and agriculture sector and the overall economy of the Eastern Caribbean, they are overexploited and under-protected.

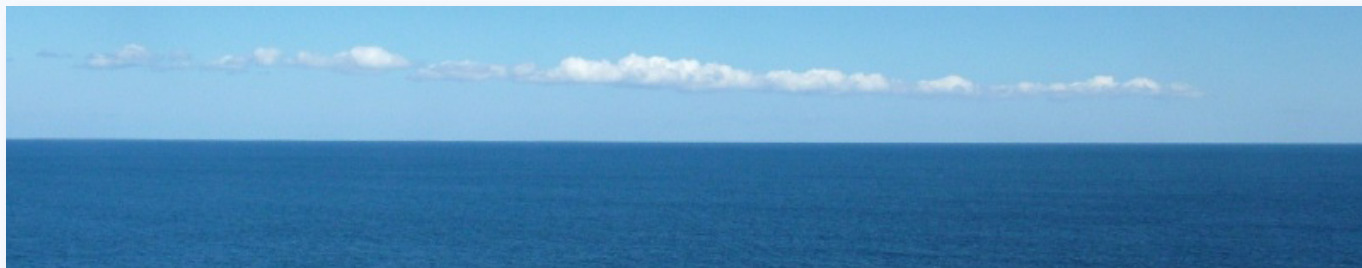
Key threats include increases in exotic invasive species, poorly planned and regulated coastal development, solid and liquid waste dumping by cruise ships/hotels/resorts, and unsustainable extraction of natural resources such as overfishing and sand harvesting for construction.

Specifically, the project will:

- Facilitate the establishment and capitalization of a regional biodiversity fund (the Caribbean Biodiversity Fund) as well as national level trust fund for protected areas.
- Demarcate over 100,000 hectares of marine habitat, thus contributing to the participating governments' ambitious goal of legally protecting 20 percent of near shore areas by 2020.
- Implement a regional monitoring and information system to facilitate regional monitoring of biophysical and social economic indicators in protected areas.

"The World Bank is committed to supporting the Caribbean countries in their conservation agenda, in understanding the impacts of climate change, and in devising adaptation measures. This project will help OECS countries conserve globally significant biodiversity and critical habitats, while protecting the long-term economic well-being of the countries," said Françoise Clottes, World Bank Director for the Caribbean.

The project has a total cost of US\$18.87 million, including co-financing from the Governments of Grenada, Saint Kitts and Nevis, Saint Lucia, the OECS Secretariat, The Nature Conservancy, the German Development Bank, and the GEF. The project will be executed by The Nature Conservancy on behalf of the participating countries.



About The Nature Conservancy

The Nature Conservancy is a U.S. charitable environmental organization that works to preserve the plants, animals, and natural communities that represent the diversity of life on Earth by protecting the lands and waters they need to survive. Founded in 1951, The Nature Conservancy works in more than 30 countries, including all 50 states of the United States.

About the Global Environment Facility

Established in 1991, the GEF is today the largest funder of projects to improve the global environment. It provides grants to developing countries and countries in transition for projects related to biodiversity, climate change, international waters, land degradation, the ozone layer, and persistent organic pollutants.

The World Bank Group is one of GEF's implementing agencies and supports countries in preparing GEF co-financed projects and supervises their implementation.

Caribbean to Benefit from Partnership to Develop Climate Change Adaptation Strategies



British High Commissioner to Belize, Mr Patrick Ashworth (left) observes as Dr Kenrick Leslie, CCCCC Director, and Mr Milo Pearson, CCRIF Executive Chairman sign the Memorandum of Understanding.

The Caribbean Community Climate Change Centre (CCCCC) and the Caribbean Catastrophe Risk Insurance Facility (CCRIF) have strengthened their partnership to be able to better assist Caribbean countries to develop climate change adaptation strategies.

These two organisations currently play key roles in the collection and provision of critical information and knowledge on the impacts of climate change and by extension natural disasters on Caribbean countries. On August 9, the organisations signed a memorandum of understanding (MoU) to formalise this collaboration.

At the signing ceremony of the MoU, which took place at the CCCCC office in Belmopan, Belize, Mr. Milo Pearson, Executive Chairman of CCRIF signed on behalf of CCRIF while Dr. Kenrick Leslie, Director of CCCCC signed for the CCCCC.

Dr. Leslie emphasised the importance of regional collaboration and said that

the signing of the MOU will strengthen the partnership between the two organisations. The MOU is designed to assist the governments of Caribbean States in understanding the risks of climate change to their economies and to the peoples of the region and will help to identify cost-effective adaptation measures to support greater climate change resilience at the local, national and regional level.

The collaboration represents an important step where, in small countries and small economies like those in the Caribbean, a single-event catastrophe such as a hurricane can have devastating socio-economic effects.

Furthermore, these effects are predicted to be exacerbated by the impacts of climate change. The changing climate is a global driver of increasing disaster risk and threatens to undermine the critical development gains made by the most vulnerable countries.

In fact, this is supported by the preliminary results of a study on the Economics of Climate Adaptation (ECA) in the Caribbean conducted in 2010 by CCRIF, CCCCC, and other partners, with analytical support from McKinsey & Co. and Swiss Re.

The results indicate that annual expected losses from wind, storm surge and inland flooding currently amount to up to 6% of GDP in some countries and that, in a high climate change scenario, expected losses could increase by 1 to 3 percentage points of GDP by 2030.

Mr. Pearson noted that the MoU “affirms our mutual commitment to finding solutions that will enable the countries within the region to better manage the risk caused by natural hazards and climate change and to minimise the social, economic, physical and environmental damage caused by these events.”

Dr. Ulric Trotz, Science Advisor at CCCCC, welcomed the signing of the agreement. He indicated that the ECA study which determined the economic costs of adaptation promises to be of great value to the region and hoped that the MoU “would help our two organisations to work together to better define a risk profile for the Caribbean – a risk profile that can form a basis for the design and provision of a range of affordable insurance instruments for the region.”

To better address climate adaptation in the region, this MoU will enable the countries of the region to:

- benefit from capacity building through the elaboration and enhanced use of tools in the areas of catastrophe risk modelling, parametric insurance and alternative risk transfer;
- participate in new programmes and initiatives to assist Caribbean governments in better understanding and financing catastrophe risk exposures which will be increased as a result of climate change;
- pursue the development of common strategies for enhancing and leveraging support for adaptation to climate change by sharing knowledge and pooling resources and expertise;
- gain support for national policy frameworks aimed at enhancing adaptation; and
- access international funding for climate adaptation through mechanisms such as the Adaptation Fund.

DID YOU KNOW?

Small island and low-lying coastal developing states have the least resources and therefore the least capacity to adapt



Global warming will likely result in sea level rise, increased sea surface temperature and changes in atmospheric temperature



SMALL ISLANDS LAUNCH “SIDS DOCK”

Innovative sustainable energy initiative set to transform small island economies

SIDS DOCK, A MULTI-MILLION DOLLAR SUSTAINABLE ENERGY INITIATIVE INTENDED TO RADICALLY TRANSFORM SMALL ISLAND ECONOMIES WAS LAUNCHED AT THE UNITED NATIONS (UN) IN EARLY AUGUST.

SIDS DOCK is a not-for-profit international organization created by small island states to facilitate the development of a sustainable energy sector to provide the foundation for low carbon economic growth and adaptation to climate change.

It is called SIDS DOCK because it is designed as a docking station, connecting small island states with the United States (US) and European Union (EU) technology, capital and carbon markets to trade the avoided carbon emissions in those markets. SIDS DOCK is projected to assist small islands to generate at least 50 per cent of electric power from renewable sources, decrease petroleum use by 20-30 per cent, and increase energy efficiency by 25 per cent (using a 2005 baseline) by 2033.

SIDS DOCK is expected to open its doors for business by September 2011. The launch of SIDS DOCK took the form of the first meeting of the SIDS DOCK National Coordinators, held from July 27-28, 2011.

The SIDS DOCK National Coordinators are responsible for coordinating the development of national, regional and inter-regional priorities in renewable energy, and energy efficiency and conservation projects and to ensuring successful project coordination and outcomes.

In May 2010, the Danish Parliament agreed to disburse \$14.5 million for a partnership to help build SIDS DOCK and deliver renewable energy and energy efficiency and conservation projects amongst small island states. SIDS DOCK will also partner with the World Bank and the United Nations Development Programme (UNDP), over the next year.

The three partners—SIDS DOCK, the World Bank and the UNDP - have declared that this sustainable energy initiative will create a model of cooperation that is heavily focused on demonstration projects that are attractive investments for the private sector and which yields maximum projected energy savings and social outcomes.

In his opening remarks at the launch, attended by more than 40 high-level participants from small islands and development agencies, Ambassador Vince Henderson, Permanent Representative to the Permanent Mission of the Commonwealth of



Dominica to the United Nations and Chairman of the SIDS DOCK Steering Committee, said that 22 out of 42 countries that are members of the Alliance of Small Island States (AOSIS) signed a Memorandum of Agreement (MOA) to establish SIDS DOCK.

Members will collaborate on sustainable energy, sending a strong message that small islands recognize that collective action on their part is the only way to give their countries a fighting chance to adapt to the current and projected impacts of climate change.

Ambassador Henderson also noted that the majority of small islands import petroleum products for more than 90 per cent of commercial energy consumption, representing more than 20 per cent of their gross domestic product (GDP), and that many countries are burdened by debt of magnitudes greater than 60 to 100 per cent of their GDP.

He said small islands can no longer continue to spend vast amounts of scarce foreign exchange to purchase imported petroleum products considering that about a third of the SIDS population are living in poverty, thus putting many islands at risk of not meeting the Millennium Development Goals (MDG), particularly MDG 1, eradicating poverty.

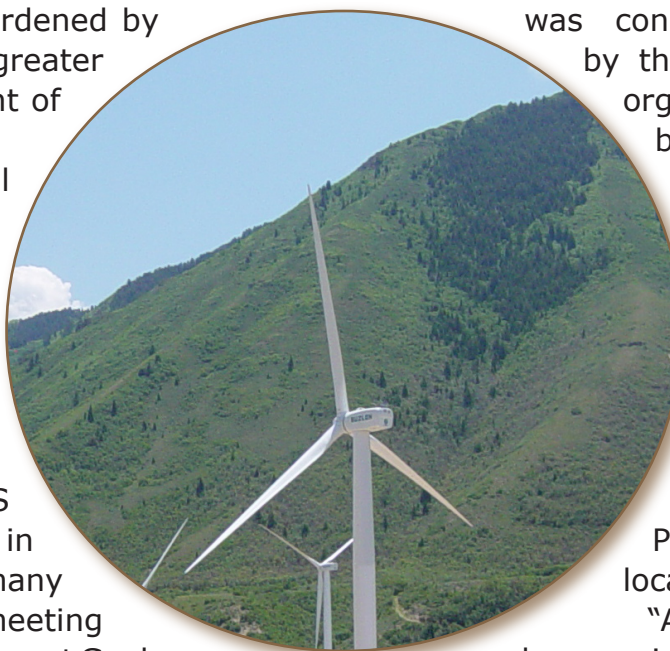
"Crippling debt and the almost total dependence on fossil fuel have left little resources to address social and economic

issues confronting our various countries, and many of us have no recourse and no resources in the event of a natural disaster.

"Additionally, the recent food, fuel and financial crises, with added economic devastation wrought by tropical hurricanes and cyclones, have worsened existing fiscal stresses on many small islands, where prices of petroleum products are among the highest in the world, especially in the Pacific, where the prices of petroleum fuels landed are typically 200 to 300 per cent higher than international values," he added.

In her opening remarks at the launch, Ambassador Dessima Williams, Permanent Representative to the Permanent Mission of Grenada to the United Nations and Chairman AOSIS, noted that SIDS DOCK is a unique SIDS-SIDS institutional mechanism that was conceived and developed by the two premier regional organizations tasked with building regional capacity to address the evolving threat of climate change – the Caribbean Community Climate Change Centre (the 5Cs) located in Belize, and the Secretariat of the Pacific Regional Environment Programme (SPREP), located in Samoa.

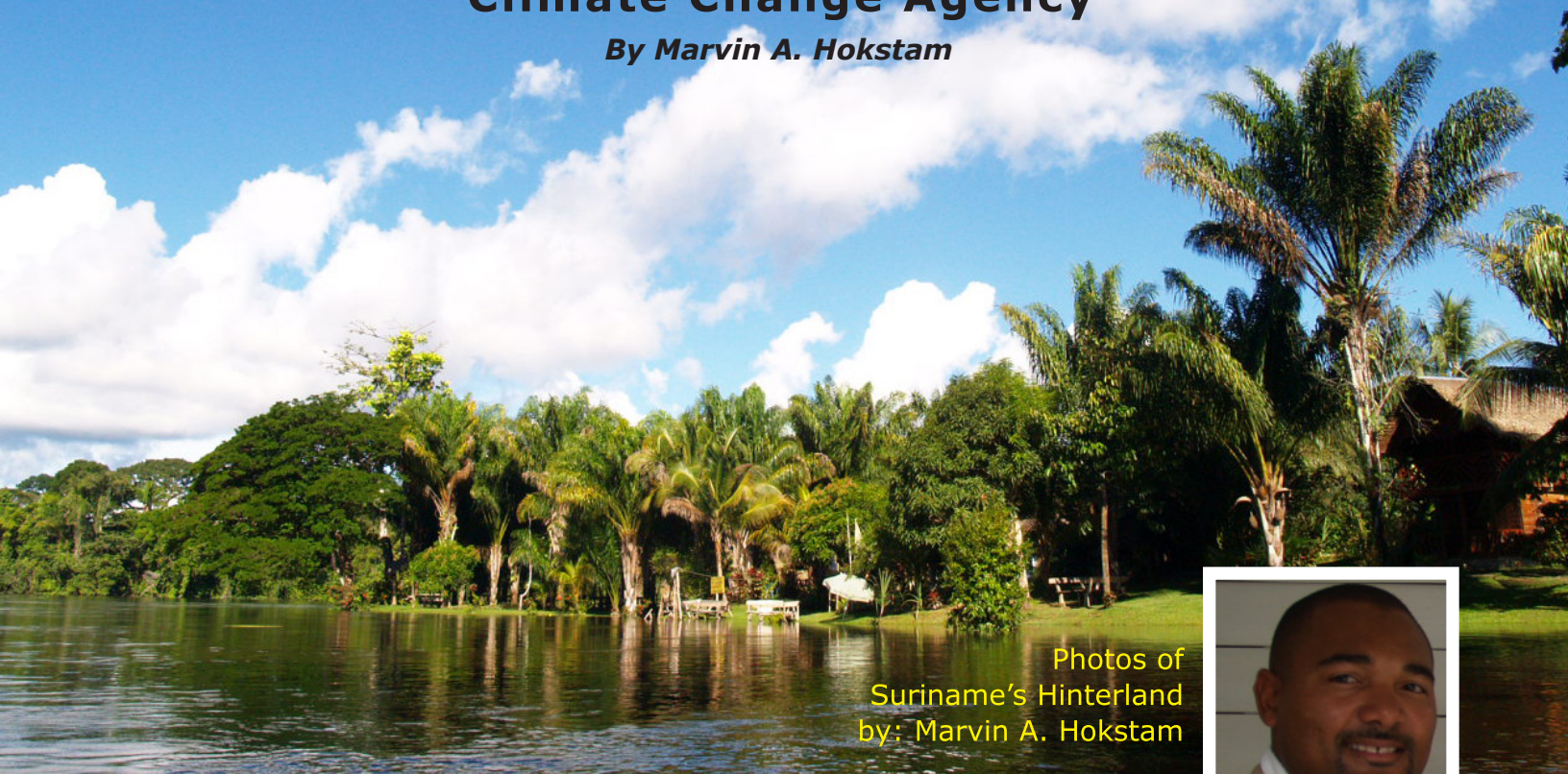
"After 20 years, AOSIS has a unique mechanism for small islands that will chart a sustainable energy path that will contribute to sustainable development in our island states," she concluded.



SURINAME

signals seriousness with
Climate Change Agency

By Marvin A. Hokstam



Photos of
Suriname's Hinterland
by: Marvin A. Hokstam



WHEN JOHN GOEDSCHALK RETURNED TO SURINAME IN 2008, LITTLE DID HE REALISE THAT HE WOULD BE TASKED A FEW YEARS LATER WITH STRUCTURING THE CLIMATE CHANGE ADAPTATION EFFORTS OF HIS COUNTRY OF BIRTH.

Mr. Goedschalk, a US trained economist was named Director of the Climate Compatible Development Agency, which, resorting directly under President Desi Bouterse, will formulate government's climate change policies and lead the execution of the Climate Compatible Development Strategy (CCDS).

"We owe it to our children to prepare ourselves for the effects climate change will have on our country," President Bouterse said at the installation.

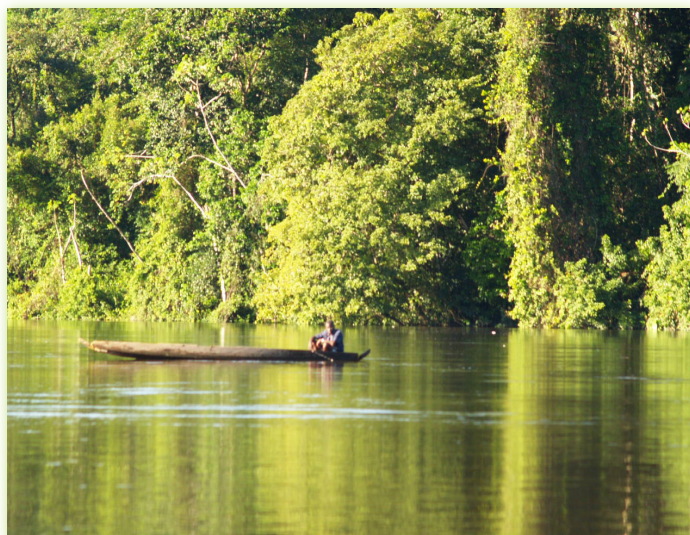
The charter of the agency mentions that Suriname, located in South America, is among five countries that are most threatened by climate change, which also places the country

among nations that need critical access to funding to face its effects.

"Suriname's **John Goedschalk** Government considers it important to support and lead its climate change policies from a central coordination point, in cooperation with all institutes that have linkages with climate change, mitigation, adaptation and forest conservation," the charter adds.

Aside from formulating and executing the Climate Change Development Strategy, the agency will also lead the Climate Change Fund which will be charged with managing funds secured from funding agencies for climate adaptation.

Furthermore, the agency will have a Climate Compatible Knowledge Institute, which will give scientific support to execute its strategies.



"Basically our agency is established to consolidate Suriname's climate change adaptation efforts. We're here to combine and complement the work of other institutes. When you want results in these matters it's best to execute from one central point; a multitude of institutes that sometimes work across each other doesn't work. Hence our climate compatible development strategy," Mr. Goedschalk explains.

The impact of climate change can be significant and could even be catastrophic for Suriname.

In its First National Communication to the United Nations Framework Convention on Climate Change (UNFCCC), the government of Suriname stated that sea-level rise will result in "increased erosion, large-scale inundation, loss of fertile land, reduction of freshwater resources, decline of biodiversity, and worsening of human health. Climate change is likely to result in changes in the hydrological cycle, including the intensity and distribution of rainfall, and drought. The combined effect of these changes makes the country vulnerable to climate change."

Still, despite this knowledge, there has been haphazard execution of adaptation projects. The largest projects included an ongoing carbon inventory that is being conducted on the forests of Suriname and the pilot project of the University of Suriname, as part of which black mangrove clones are

being replanted alongside the muddy, eroded coastline of western District Coronie.

Aside from that there were a few ad-hoc awareness campaigns conducted and videos produced.

"Maybe there was more, but we must change that. Our agency will structure the efforts, secure funding and appropriate climate compatible investments," Goedschalk says. He also considers it a task to consistently communicate with the community and the world on climate change matters.

"That is the only way we will be able to bring a mind shift regarding our behavior. That we must change if we want to secure the future of our Earth. It goes much further than Government efforts; businesspeople have a role to play when they consider new investments; who knows, maybe they are eligible for climate change compatible funding for their next endeavor. But the ordinary citizen has a role too. Our task as agency is also to help anchor a mind shift," the agency's Director asserted.

He refers to a Climate Change Diplomacy report from the United Nations Institute for Training and Research (UNITAR), which advocates an approach where developing countries themselves identify more sustainable development paths and commit to implementing these with financial support.

"It says that each country's should consider its own long-term development objectives. We have to identify policies and measures to make the development path more sustainable. As per the international arrangements under the Kyoto Protocol, the international community would have to agree," he says, hinting that Suriname is not the first to do what he is now tasked with. "

Many other developing countries have been able to secure climate change funding and have executed successful projects. We're entering that fraternity now; albeit late, but that also means that we don't have to reinvent the wheel when we're doing this." Returning full circle to a subject that held his interest from (his days as a student), Mr. Goedschalk has his plans set for execution.

"One of our first goals is to accelerate the first carbon assessment program in Suriname. We will introduce a strategy that is climate change compatible and goes parallel with Government's development initiatives," he said.

He eyes for instance securing funding under the REDD+ program, designed to use financial incentives to reduce the emissions of greenhouse gases from deforestation and forest degradation. With more forest per person than any other country, Suriname could stand to gain much from the REDD+

program.

Mr. Goedschalk says that by establishing the agency, Suriname signals to the world that it is serious about facing climate change.

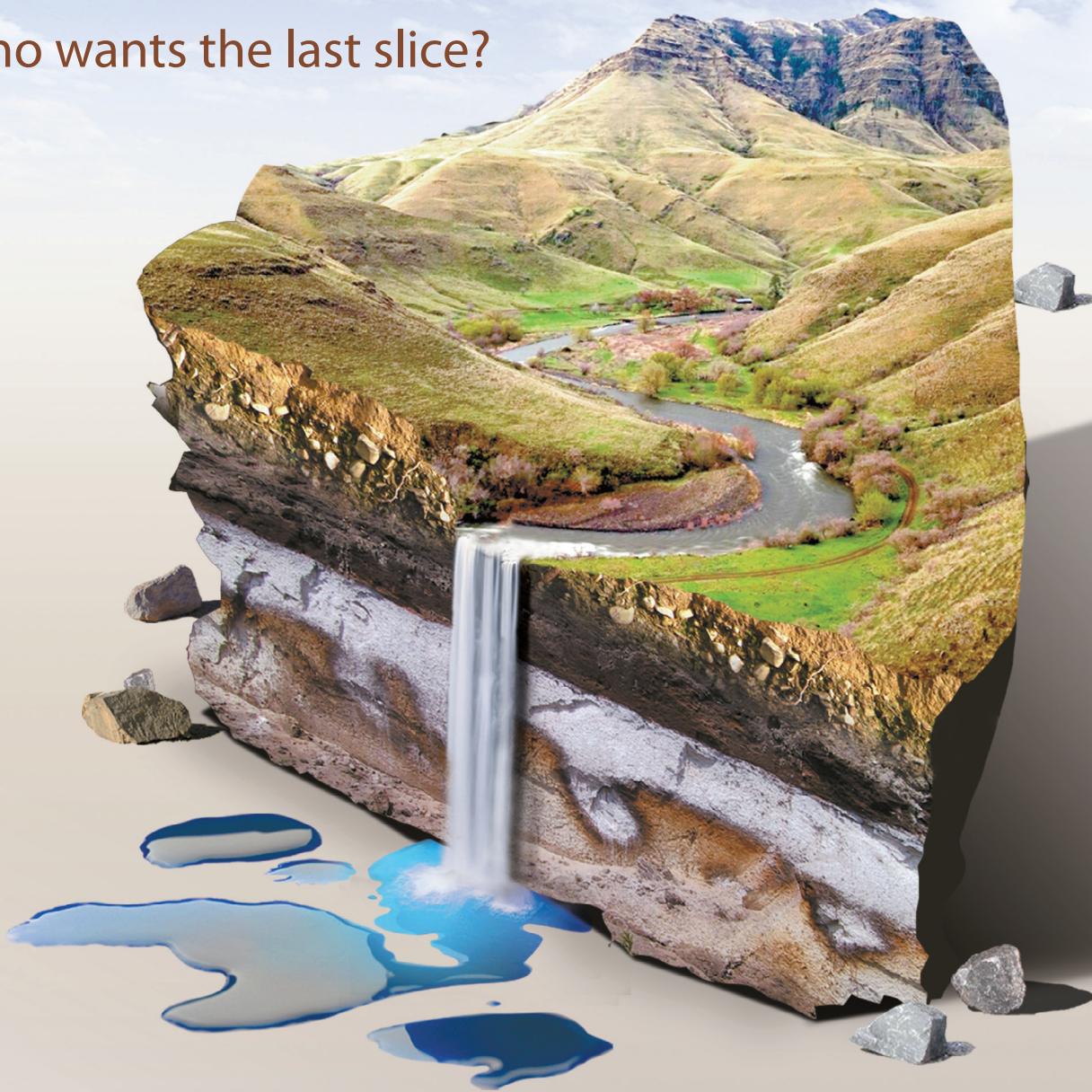
He adds, "The establishment of the Climate Compatible Development Agency puts us in the fraternity of developing countries that are signaling their seriousness regarding adaptation. Despite the fact that we do not contribute to climate change we stand to be impacted heavily by its effects.

"Our entire economic zone is located within our coastal areas, so when sea level rises we stand to lose a whole lot. That is why it's important that we look with a certain measure of structure at how we can prepare Suriname better for climate change," he says, adding that this does not have to be at Suriname's cost.

He lauded Government's foresight: "The President was right; we do owe it to our children to consider our environment. It is also referred to in the Copenhagen Accord, which notes that social and economic development and poverty eradication are the first and overriding priorities of developing countries and that a low-emission development strategy is indispensable to sustainable development."



Who wants the last slice?



Our planet is the only one we have, and its resources cannot be mindlessly consumed. Let's conserve our earth and make sure there is plenty for future generations to enjoy.



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Yes, we can!!

Recently, I came across a video of a 12 year-old Canadian girl, Severn Suzuki who addressed the United Nations Earth Summit in Brazil in 1992 about the environment and captivated the attention of governments from around the world.

Severn has gone on to become a global advocate on the environment and she continues to be invited to speak at UN conferences.

It's great to be part of the global movement of young people highlighting issues of the environment and putting pressure on — not only our governments but also the business community to protect our environment.

When I read stories like Severn's, I feel more emboldened to continue doing my own little part, which is writing this column every three months and trying to live a life that does not add to environmental destruction.



If given a chance, I am sure many young people will join the global movement to protect the environment. I think they just need to find the outlet to do so and a good place to start is at our schools.

Our schools will be reopening very soon and it would also be a nice surprise to see recycling bins, for example, to put our paper, cans and bottles. It's a small start but think about its impact in the years to come.

Young people do have a major part to play in defending the environment just like Severn did 19 years ago and every bit of action counts as we keep up the battle to get our messages across to world leaders.

**Click
← the
Pic**

to view Severn's
presentation to the
UN in 1992, on
Youtube!

Climate Connections

WEATHER is a specific event or condition that happens over a period of hours or days. For example, a thunderstorm, a snowstorm, and today's temperature all describe the weather.

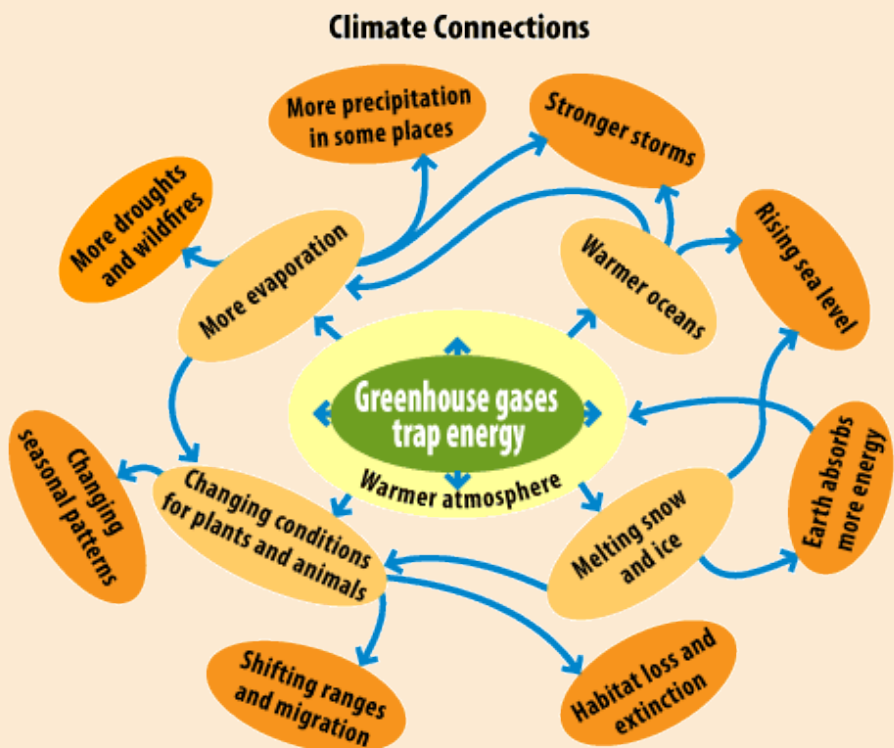


Climate refers to the average weather conditions in a certain place over many years. For example, the climate in Minnesota is cold and snowy in the winter, and the climate in Honolulu, Hawaii, is warm and humid all year long. The climate in one area, like the Midwest or Hawaii, is called a regional climate. The average climate around the world is called global climate.

When scientists talk about global climate change, they're talking about the global climate and a pattern of change that's happening over many years. One of the most important trends that scientists look at is the average temperature of the Earth, which has been increasing for many years. This is called global warming.

CLIMATE refers to the average weather conditions in a place over many years (usually at least 30 years). For example, the climate in Minneapolis is cold and snowy in the winter, while Miami's climate is hot and humid. The average climate around the world is called global climate.

Rising global temperatures lead to other changes around the world, such as stronger hurricanes, melting glaciers, and the loss of wildlife habitats. That's because the Earth's air, water, and land are all related to one another and to the climate. This means a change in one place can lead to other changes somewhere else. For example, when air temperatures rise, the oceans absorb more heat from the atmosphere and become warmer. Warmer oceans, in turn, can cause stronger storms.



Source: <http://www.epa.gov/climatechange/kids/>

Trinidad and Tobago CLIMATE CHANGE POLICY SUMMARY STATEMENT

By Dr. Roodal Moonilal



*Photos courtesy
The Ministry of Housing and the Environment*

Background

Climate change is globally recognized as the single environmental issue of the 21st century that poses unprecedented threats to mankind. The international policy response to global climate change has been through the adoption of two legal instruments: the United Nations Framework Convention on Climate Change (UNFCCC) and its Kyoto Protocol, to both of which Trinidad and Tobago is a ratified signatory. The ultimate objective of the UNFCCC is *"the stabilization of greenhouse gas concentrations in the atmosphere at a level that will prevent dangerous human interference with the climate system and in a timeframe that would allow ecosystems to adapt naturally, will not hamper food production and allow sustainable economic development"*. Trinidad and Tobago has no legally binding commitment to reduce emissions but is mandated to pursue development pathways that will follow a low carbon paradigm as far as is possible.

Recent Trends

Although a natural phenomenon, building evidence suggests that there is an accelerated rate of climate change as a result of human activity, primarily the increases in concentration of greenhouse gases in the atmosphere as a result of fossil fuel



Mora Forest

combustion, industrial processes and waste management.

The most recent science suggests that the prospect of limiting the global temperature increase to 2 degrees Celsius above pre-industrial times, as agreed in Copenhagen in 2009 and Cancun in 2010, is getting bleaker with carbon dioxide emissions reaching a record high in 2010 according to the International Energy Agency's *World Energy Outlook*, and continuing to rise.

Projected Impacts of Climate Change in Trinidad and Tobago

Climate change projections for Trinidad and Tobago include for higher temperatures and lower rainfall. The mean annual temperature is projected to increase by 0.7 to 2.6 degrees Celsius by the 2060s, and 1.1 to 4.3 degrees Celsius by the 2090s. Sea-level in this region is projected to rise by between 0.13 and 0.56m by 2100 relative to 1980-1999.

Vulnerability

As a small island developing state, Trinidad and Tobago is particularly vulnerable to the adverse impacts of climate change. Sectors that are likely to be impacted are agriculture, human health, human settlements, coastal zones, and water resources as well as cross sectoral socio-economic systems. Accordingly adaptation actions or those related to coping with the expected changes will be pursued.

Greenhouse Gas Emissions

Greenhouse gas emissions for the period 1990 - 2006 indicate that the energy, transportation and industrial sectors account for the bulk of carbon dioxide emissions, accounting for an estimated increase of 278%, 100%, 86.7% respectively.

Although Trinidad and Tobago accounts for less than 1% of absolute global greenhouse gas emissions, the government recognizes the need to address these emissions in accordance with the decisions under the UNFCCC. Accordingly, mitigation actions or those related to the avoidance or reduction of greenhouse gas emissions will be pursued.



Leatherback hatchling

Justification for Needed Action

Projected impacts of climate change and recent science dictate that suitable actions be implemented. The Government has identified the following reasons for policy and action on climate change:

1. Integration of adaptation into national planning

Impacts of climate change are expected to be cross sectoral, transcending the biophysical and socio-economic systems. Preparedness through adaptation planning is critical to achieving the objective of sustainable low carbon growth towards the development of a green economy and in accordance with the Millennium Development Goals (MDGs).

2. Co-benefits of mitigation action

Increased use of alternative fuels, renewable energy and cleaner production technology will increase the quality of the ambient air and improve the quality of lives of citizens of Trinidad and Tobago. The conservation of natural carbon sinks such as forests and coastal ecosystems will also ensure continuous provision of food and sustainable livelihoods for communities.

3. Economic opportunities and cost savings

Economic opportunities are available for the development and deployment of climate technologies, participation in the Clean Development Mechanism (CDM) of the Kyoto Protocol, as well as realize cost savings in respect of reduced waste management costs through cleaner production technology. Such opportunities will be fully explored across all socio-economic sectors.

4. Enhanced energy security

Enhancing the use of renewable energy and energy efficiency will augment power generation and demand and provide greater energy security.

VISION

Trinidad and Tobago as a responsible member of the international community, is committed to pursuing a low-carbon development path, consistent with the principles of sustainable development through the development and delivery of strategies and actions for maximizing renewable energy resources, clean energy and clean production technology as well as adapting to the adverse impacts of climate change through integration within all aspects of national development in its infrastructural, human and socio-economic systems, at an acceptable balance of costs and benefits.

GOALS

The policy will aim to provide policy guidance for the development of an appropriate administrative and legislative framework, in harmony with other sectoral policies, for the pursuance of a low-carbon development path for Trinidad and Tobago through suitable and relevant strategies and actions to address climate change.

OBJECTIVES

The policy will be guided by the following objectives:

- i. reducing or avoiding greenhouse gas emissions from all emitting sectors
- ii. enhancing carbon sinks
- iii. conserving and building resilience of human and natural systems to adapt to the adverse impacts of climate change,
- iv. the application of cleaner technologies
- v. protection of the natural environment and human health
- vi. enhanced agricultural production and food security

Policy Elements

The climate change policy shall be guided by the following principles:

i. Sustainability

Strategies and actions that are environmentally sustainable and compatible with low carbon economic growth and social development will be pursued.

ii. Multi-partite

Meeting the challenge cannot be the sole role of the government. All relevant stakeholders including academia, research institutions, the public and private sectors, non-governmental organizations, community based organization, business and industry organizations and the citizenry at large will be consulted in developing strategies and approaches to addressing climate change.

iii. Precautionary

The government will not await scientific certainty in order to act. The government shall develop, through a process of thorough consultation, actions that will redound to the benefit of the citizens of Trinidad and Tobago, for current and future generations consistent with the principles of sustainable development.

iv. Multisectoral

Strategies and actions shall take into account different socio-economic contexts, be comprehensive, cover all relevant sources, sinks and reservoirs of greenhouse gases and adaptation, and comprise all economic sectors.

v. Evidence-based

The policy shall be revised in the light of new scientific findings.

Policy Directives and Strategies for Action

The government shall implement this policy through the development of a strategy and action plan that will address revising relevant policies where applicable, and legislation.

Mitigation

The government will strive to develop the country via a low greenhouse gas emission economic development pathway across all sectors of the economy. Accordingly, the government will seek through appropriate actions to, *inter alia*:

- Increase the use of renewable energy;
- Increase energy efficiency in commercial and residential buildings;
- Increase the use of alternative fuels and fuel switching in the transportation sector;
- Enhance natural carbon sinks through conserving forests and protecting natural systems that contribute to carbon sequestration;
- Maximise the use of the carbon market;
- Enhance research and development on renewable energy and clean technology.

Adaptation

Adaptation measures would be integrated into the national development agenda by, *inter alia*:

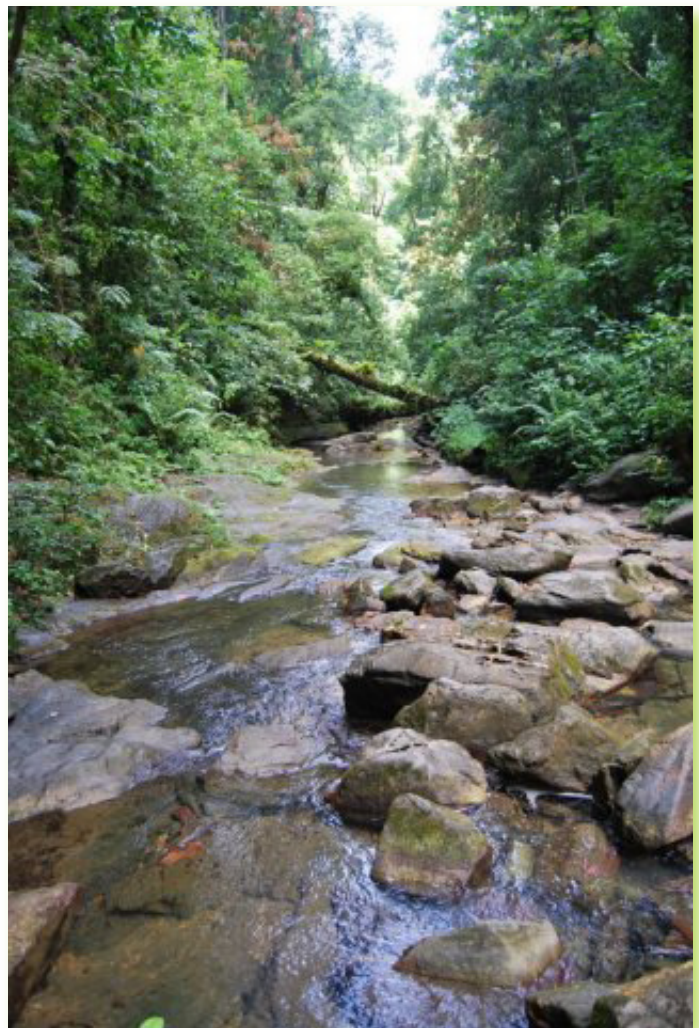
- strengthening existing institutional arrangements for systematic observations, research and climate change modeling,
- assessing sectoral vulnerability to climate change,
- technological application,
- “climate proofing” new developments and retrofitting existing infrastructure,
- enhancing the resilience of socio-economic and biophysical systems,
- promoting community-based adaptation through expanded use of the Green Fund for capacity building and enhancing resilience

Public Education and Awareness

Education and awareness is critical to the success of the implementation of this policy. Accordingly, the Government shall:

- i. integrate educational programmes on climate change impacts into school curricula;
- ii. develop and implement within one (1) year of the adoption of this policy a communication strategy;
- iii. ensure that national and local stakeholders have equitable access to and benefits from information and knowledge on climate change impacts.

Dr. Moonilal is the Minister of Housing and Environment in Trinidad and Tobago



Rio Seco Stream

Energy Efficient Lighting in Latin America and the Caribbean

Government representatives from 26 countries in Latin America and the Caribbean have voiced their support for the phasing out of incandescent light bulbs. Such a move could save the region an estimated US\$4 billion a year in energy costs.



Participants at a regional meeting of the UNEP-backed en.lighten initiative signed the "Santo Domingo Declaration", which states that the phase out of incandescent lamps is one of the easiest ways to reduce CO2 emissions and achieve significant energy and financial savings.

The meeting was held in Santo Domingo, Dominican Republic in early August in conjunction with the 2011 Latin American and Caribbean Energy Efficiency Seminar by Organización Latinoamericana de la Energía (OLADE).

en.lighten is an initiative funded by the Global Environment Facility (GEF), in partnership with the United Nations Environment Programme (UNEP) and leading global lighting manufacturers (Philips and OSRAM), to accelerate market transformation of efficient lighting technologies on a global scale.

At the meeting in Santo Domingo, UNEP and partner regional organizations addressed key regional stakeholders and explored opportunities for governments to formally participate in a globally coordinated effort to transition to efficient lighting as a key efficiency and climate mitigation measure. The emphasis was on the phase-out of general purpose incandescent light bulbs, the most common type for consumers.

Energy efficiency officials and climate change focal points from 26 countries participated in the event including; representatives from the Ministries of Energy, Environment, national utilities, manufacturing, international organizations and NGOs. Bernard Jamet, Head of the

UNEP Technology Transfer Unit, opened the session by introducing the en.lighten program and its role within ongoing climate change negotiations.

"en.lighten's ultimate success will be gauged by the number of countries that commit to its goal of phasing-out inefficient lighting," said Mr. Jamet.

The en.lighten partnership aims to restrict the global supply of inefficient light bulbs and promote market adoption of most efficient alternatives by way of an "integrated approach" including:

- Adoption of globally harmonized minimum energy performance standards (MEPS) for CFL performance by December 31, 2015, leading to the

phase-out of all incandescent lamps by this date;

- Setting up of monitoring, verification and enforcement (MVE) schemes in countries to ensure compliance with global standards and remove low quality products from the marketplace;
- Supporting interested countries in establishing focused waste management efforts including: waste collection, disposal and/or recycling;
- Country support activities in the form of communications, policies and innovative finance mechanisms to encourage and support the transition to efficient lighting;
- Technical support developed by international experts for those countries willing to develop national efficient lighting strategies and join the en.lighten partnership.

These efforts are necessary to overcome failed examples in many countries in which low quality Compact fluorescent lamps (CFLs) have limited the market penetration of efficient lighting technologies. The UNEP/GEF en.lighten initiative proposes an integrated approach to ensure the success of countries in their efforts to move towards efficient lighting including providing support to set up successful end of life strategies for spent CFLs.

Country Lighting Assessments have been generated for most countries around the world to explain the significant savings potential of the transition to more efficient lighting.

In the 20 countries from Latin America and the Caribbean analyzed, 4% of total electricity consumption would be saved if incandescent lamps were substituted with compact fluorescent lamps (CFLs). This totals US\$4 billion per year of savings for consumers in energy bills, and the equivalent

carbon emissions of 4 million cars. Eight large power plants (500 MW) could be closed in the region due to increased energy efficiency.

Roberto Gonzalez Vale of Cuba's Ministry of Basic Industry, the official that led Cuba's prime phase out efforts in 2006, stressed the need to share best practices and lessons learned from countries within the region.

"There are major gaps that exist such as in the effective development of phase-out legislation, the implementation of quality control and verification policies or the proper handling of discarded bulbs," said Vale. He demonstrated his staunch support for the en.lighten initiative by strongly encouraging representatives to participate in the UNEP partnership to ensure that the region works to effectively complete the transition.

Representatives from the Energy and Environment Ministries of several countries made presentations on their successful domestic efforts to phase-out incandescent bulbs, including Argentina, Mexico, Ecuador and Cuba.

According to Alicia Baragatti of the Argentinean Ministry of Energy, "technologies like mobile phones are advancing in the region at an incredible rate. Establishing minimum energy performance standard could help the efficient lighting sector achieve similar progress. "The efficient lighting sector should be on a similarly path though the establishment of minimum energy performance standards."

All country delegates who presented in the meeting agreed that consumer confidence in energy efficient lighting technologies presented an important challenge. Poor performance could undermine consumer trust, making it more difficult to encourage the large-scale adoption of new CFL technology. This has been the experience in the United States, Europe and recently in Bangladesh.

THE ROAD TO DURBAN -

The State of Play of the Climate Negotiations

by Christiana Figueres,
Executive Secretary of the
UN Framework Convention on Climate Change (UNFCCC)



Record greenhouse gas concentrations in the atmosphere, record peak temperatures in many parts of the world, but also record investments in clean technologies that show that countries are ready to reap the benefits of going green: this is the compelling backdrop against which governments meet in November in South Africa for the UN Climate Change Conference.

It has never been clearer that the nations of the world have acknowledged both the challenges and opportunities of climate change and, in Durban, they need to take the next decisive step in their response to the challenge.

They have a solid foundation for action, laid at last year's UN Climate Change Conference in Mexico. The Cancun Agreements provide the strongest signal countries have ever given to the private sector that the world is moving toward low-carbon economies.

With near universal support, countries of the world committed to a maximum temperature rise of 2°C, and to consider a maximum of 1.5°C in the near future. All industrialized countries and more than 40 developing countries officially announced emission reduction targets and actions.

The Cancun Agreements also include the most comprehensive package ever agreed by governments to help developing nations deal with climate change, including new institutions to boost technology cooperation, to provide climate finance to developing countries, and to help the poorest and most vulnerable adapt to the inevitable effects of climate change.

The three negotiating sessions, and a number of other meetings this year, have advanced work on building the institutions to deliver finance and technology to developing countries. On the Technology Mechanism, work has moved ahead on the Climate Technology Centre and Network.

There has been progress on the governance-related issues of the Adaptation Committee. And the Transitional Committee to design the Green Climate Fund has outlined the path towards completing its work in Durban, as agreed by governments in Cancun.

This institution-building needs to be accelerated in the final months of the year so that the goals that the international community clearly set for itself in the Cancun Agreements can be achieved.

However, in the big picture of global climate change, the international response is lacking in one critical area: the sum total of official emission reduction pledges adds up to only 60% of what is needed to keep the temperature increase to 2°C.

This means that with the present pledges, the world is heading towards what is universally considered to be an unacceptable temperature rise. Because of this, every effort needs to be made to find a realistic way to increase the level of ambition to close that 40% gap.

Good discussions on the future global framework to reduce greenhouse gas emissions have already taken place during the first three negotiating sessions of 2011. In this context, a key question that needs to be answered in Durban is the future of the Kyoto Protocol. Many countries want the treaty to continue, but some are not willing to continue with it, at least not in its current form. Others would like those elements of the Protocol which ensure predictability and compliance with national commitments to reduce greenhouse gases to be integrated into future mitigation action.

Meanwhile, governments have time and again called for the continuation of the Kyoto Protocol's flexible mechanisms. This is one of the strongest points of convergence. There is also an emerging consensus on what nationally appropriate mitigation actions of developing countries could look like, and the role of a registry to match developing country action with climate finance and technology.

For COP 17 to be a success, high-level political engagement is needed throughout the rest of this year to guide the negotiations, notably on the question of the Kyoto Protocol - but also for middle-ground options for the overall emerging global framework to reduce emissions.

To facilitate this involvement, the incoming South African presidency and the current Mexican presidency of the COP plan to engage Heads of State and Government on the margins of the UN General Assembly in New York in September. Further ministerial meetings are scheduled ahead of COP 17. And a final round of UNFCCC negotiations will take place in Panama in October.

The reminders grow stronger and starker each year. This year's new record greenhouse gas concentrations and temperatures act as a clear reminder of the urgency of the situation that no country can ignore. And, indeed, the record-high investments in clean technology are an indication that the momentum is there; the potential is there; and the private sector is waiting for its cues.

I am confident that Durban can build the next decisive step in the global response to climate change, provided that middle-ground solutions are developed at the appropriate level, and that governments can demonstrate the same spirit of compromise and commitment as they did in Mexico last year.

Durban needs to be the next essential step in the international effort to resolve the long-term climate change challenge, without which there can be no long-term solution to the many other problems of sustainable development that humanity faces. I congratulate the IISD for its continued leadership in the area of sustainable development and, in that context, I ask that you also continue to place the global fight against climate change at the very heart of your strategies for success.

South Africa prepared for COP17/CMP7

Speaking to the press in Pretoria, Maite Nkoana-Mashabane, Minister of International Relations and Cooperation of the Republic of South Africa and incoming President of COP 17/CMP 7, said that with just less than four months to go, South Africa as host country is well prepared for the event. This is an edited version of the Minister's koana-Mashabane statement:



**Maite
Nkoana-Mashabane**

Today marks exactly 117 days before the start of the 17th Conference of the Parties (COP17) to the United Nations Framework Convention of Climate Change (UNFCCC) and the 7th Session of the Conference of the Parties serving as the meeting of the parties (CMP7) to the Kyoto Protocol in Durban from 28 November – 9 December 2011.

Today also marks the second day of the visit by the UNFCCC team to Durban to discuss with us our country and the City of Durban's state of readiness in hosting this critical climate change conference. We are working closely with the UN to ensure that South Africa hosts an international event which meets UN requirements.

This morning we had a meeting of the Inter-Ministerial Committee (IMC) on COP17. The IMC was established to oversee government's preparations for COP17/CMP7. The meeting today looked at our state of readiness at various levels.

With just less than four months to go, we can proudly say that South Africa is ready to host UN climate change conference. We are equally very excited in unveiling the COP17/CMP7 theme and logo today.

THE PROCESS, NEGOTIATIONS, CHALLENGES and EXPECTED OUTCOMES

The Department of International Relations and Cooperation (DIRCO) has been part of the Climate Change negotiations even before the Kyoto Protocol was adopted in 1997. We are therefore quite familiar with the history and dynamics of this complex process, as well as the substance.

It is also important for us to confirm that in our preparations for Durban, we have been working closely with Mexico in its capacity as current COP President.

The recent expression of unease with progress in the media has become part and parcel of the larger negotiating environment and happened also with previous COPs/CMPs held in various parts of the world. The fact that South Africa, a developing country, will host COP17/CMP7, demonstrates that we are taking seriously our responsibility to do what we can to address this global threat.

Starting in Bangkok, South Africa as incoming COP President has been undertaking informal consultations at ministerial, negotiators and stakeholders level to facilitate a credible outcome that is equitable, fair and

inclusive. The party-driven principle has been emphasized in numerous occasions and therefore South Africa as incoming COP President cannot be expected to drive the process on its own and prescribe the outcomes of the negotiations.

In order to achieve a balanced outcome, South Africa will inter alia require the operationalisation of the Cancun Agreements as well as commitment to deal with unfinished business from the Bali Roadmap and Action Plan.

Durban is clearly the end of the line for the postponement of key political issues.

We have every intention to utilize, in an inclusive and transparent way, all opportunities to advance the COP17/CMP7 process to ensure that Durban is a success. In this regard, together with Mexico we are arranging a Leaders' Dialogue on Climate Change on the margins of UNGA66 to get guidance from Heads of State and Governments.

As incoming COP President I am planning to host, amongst others:

- an informal Ministerial Meeting on 8 and 9 September 2011 here in South Africa;
- preceded by a Negotiators-Level Meeting on 6 and 7 September 2011;
- stakeholders' meeting on 5 September; and I will also host the traditional "Pre-COP" Informal Ministerial Consultation on 20-21 October 2011, again in South Africa.

The intention is for Ministers to focus on finance, means of implementation and the other outstanding political issues.

The aim of the informal meetings is, amongst others:

- to get clarity on concepts and assumptions, as well as
- provide political guidance for the negotiations.

Outcomes of these meetings will feed into the upcoming formal negotiating process.



If the world temperature rises by more than 1.5 degrees Celsius the Caribbean's low-lying countries and small island states will be at serious risk of economic hardship, poor health, and environmental degradation from rising sea levels, severe weather, coastal erosion and coral and sea life deterioration.

Caribbean Community Climate Change Centre
www.caribbeanclimate.bz

TRIBUTE TO PROFESSOR JULIAN KENNY



Professor Kenny sharing his passion for local flora at the launch his book, 'Orchids of Trinidad and Tobago' hosted by The Guardian Life Wildlife Fund in 2009

Professor Julian Kenny, a well-known Caribbean environmentalist died recently at age 81 in his homeland of Trinidad and Tobago. He was best known for his work in zoogeography and his knowledge of the natural history of the Caribbean. He was also one of Trinidad and Tobago's foremost resources in the documentation and protection of the country's wildlife. An avid diver and photographer, he also published work on freshwater fish, orchids and corals, with many of his works including his own photography.

'There are some people you just think will live forever'. So said Janice Hernandez in a post on Facebook, yet her words echoed in the hearts of the dedicated foot soldiers of the environmental movement in Trinidad & Tobago when the news of the passing of Professor Julian S. Kenny broke.

Dr. Carol James, herself a former student, mentee and friend of Prof Kenny, recognised him as a 'true champion of the environment'. She noted that the late Professor Julian Stanley Kenny was a defender of the natural environment. "His knowledge and involvement in ecology amass to contributions arguably unmatched by any other national of Trinidad and Tobago".

Among the local environmental fraternity, activists, politicians, journalists and students, the Guardian family has also had the opportunity to share in the contributions of the fearlessly outspoken Professor Kenny. One of his several appointments was in service to the Guardian Life Wildlife Fund (GLWF) where he sat as Chairman from 2001 to 2005 and was a Trustee from the Fund's inception in 1992. Undoubtedly, the Fund has benefitted from the Professor's knowledge and experience as well as a number of exclusive opportunities for insight into his work and love for nature photography.

Back in 1999 photographs, then covering more than 40 years of Professor Kenny's scientific research, were featured in a philatelic and numismatic collection exhibition called "Natural Designs" which has an environmental theme. The exhibition was part of the Trust's drive to promote environmental awareness through a celebration of the biological diversity of Trinidad & Tobago. Some of the photographs were sold and the proceeds given to the GLWF by Professor Kenny. The philatelic and numismatic collection now hangs on the third floor of the Guardian Holdings' head office in Westmoorings.

Then a year later, in a collaborative project with the Telecommunications Services of Trinidad and Tobago (TSTT), two companion calling cards were produced. Two of the photographs from the 1999 exhibition were

selected: 'The Iguana' and 'Water Grass Flower'. These photographs were generously donated by Professor Kenny. For every card purchased, TSTT donated part of the proceeds to the Guardian Life Wildlife Fund.

Again in 2000, with access freely given to images from his vast collection, the GLWF, in association with the Asa Wright Nature Centre and the Environmental Management Authority, launched a three-part series of wildlife posters. The aim once more was to use a visually appealing medium to stimulate environmental awareness and raise the national consciousness for the conservation cause. These three posters focused on wildflowers, orchids and 'Nature's Mini Monsters' which proved quite a hit among children. Complimentary posters were distributed to schools and libraries throughout Trinidad and Tobago. Proceeds from their sale otherwise were also matched by Guardian Life.



Chairman of the Guardian Life Wildlife Fund, Dr. Carol James (l.) and former First Lady Zelayah Hassanali (r.) peruse Professor Kenny's 'Orchids of Trinidad and Tobago'.

Under his leadership, the GLWF partnered with the Fondes Amandes Community Reforestation organisation in constructing a welcome shelter for use by the entire community. Later, the Trust did a documentary on the Fondes Amandes 'gayap' called *The Hills Are Burning*. In 2009 when Professor Kenny published his book, 'Orchids of Trinidad and Tobago', The Guardian Life Wildlife Fund had the pleasure of hosting the launch in the Atrium of its Westmoorings office.

In speaking to the Trustees, past and present, a theme persisted: gratitude to have shared so many wonderful moments with Professor Kenny. On his retirement from the Trust, Professor Julian Kenny continued his generosity when he donated his vast collection of photographs to NALIS and gave the GLWF permission for their use.

Current GLWF Chairman and Asa Wright Nature Centre Director, Dr. Carol James, describes him as her kindred spirit. In expressing her tribute, she says, "We never imagined that such an icon had timelines on earth as he seemed ageless but his legacy is assured and many generations will benefit from his work".

About the Trust

In 1992, Guardian Life of the Caribbean Limited established an independent Trust with a mandate to assist citizen groups in the conservation of the country's living resources and their habitats. The Trust seeks also to nurture an environmentally responsible national consciousness by raising awareness of the enormous issues attached to the question of preservation and conservation of our environment. Our forests are being destroyed by logging, slashing and burning and quarrying; our swamps, among the richest ecological systems in the world, are considered expendable by some; some of our animal, bird and marine life are critically endangered. Visit us on Facebook and our website, www.glwildlife.org

SECOND MEETING OF THE CARIBBEAN WETLANDS REGIONAL INITIATIVE

The second meeting of the Caribbean Wetlands Initiative was held on the Dutch Caribbean island of Bonaire in July. Led by the Governments of Jamaica and Cuba and supported by the Public Entity of Bonaire, the Ministry of Economic Affairs, Agriculture and Innovation of the Caribbean Netherlands and the Ramsar Secretariat, the meeting's main objective was to discuss the implementation of the Ramsar Convention in the region.

The Commissioner of Bonaire, Mr. Delno L.A. Tromp, opened the meeting by saying that even though Bonaire is a small island it can be considered as a leader in coral reef conservation. He also listed the multiple benefits provided by wetlands to life quality and the importance to protect these areas for the economic development and as a global contribution.

Delegates from Antigua and Barbuda, Bahamas, Belize, Dominican Republic, Jamaica, Suriname, Saint Vincent and the Grenadines, and Grenada as well as representatives of the Caribbean Netherlands, Aruba, Curacao and France attended the meeting. Observers from the Dutch Caribbean Nature Alliance, Stinapa (National Park Foundation), Sea Turtle Conservation Bonaire, and the Interamerican Convention for the Protection and Conservation of Marine Turtles also participated in the meeting.



The Contracting Parties, Non Contracting Parties and other participants worked on the strategic framework document of the Initiative, discussing mechanisms for the preparation of a regional project proposal for the implementation of the initiative. They reached an agreement on the type of activities and material to be presented and disseminated during the Pan-American meeting that will take place in Jamaica in December 2011 and at the Conference of the Parties (COP11) meeting in Romania in June 2012.

Participants were invited to visit two Ramsar Sites during the meeting, Lac and Klein Bonaire, as an opportunity to learn about their ecological functioning, history and tourism activities.

LATIN AMERICA AND CARIBBEAN WORKSHOP CONSIDERS CONTRIBUTIONS OF SCIENCE AND ENGINEERING TO GREEN ECONOMY

The UN Educational, Scientific and Cultural Organization (UNESCO) and the International Council for Science (ICSU) organized a Science and Technology Workshop for Latin America and the Caribbean to give scientists and engineers from the region the opportunity to prepare joint positions and inputs for the regional preparatory processes for the UN Conference for Sustainable Development (UNCSD, or Rio+20) and to discuss views with policy makers and other key actors.

The workshop, which took place from 3-5 August in Mexico City, Mexico, was one of four regional workshops (in addition to Asia Pacific, Africa, and Europe) organised by ICSU and UNESCO in cooperation with the World Federation of Engineering Organizations (WFEO), the International Social Science Council (ISSC) and other regional stakeholders.

Key issues addressed at the Latin America and Caribbean workshop included: the priority issues for Rio+20; the link between science, education and policy and how to strengthen this link in order to ensure early detection of emerging crises and quick response actions; the needs of science and technology in the region, in order to contribute best to sustainable development in the region and to international endeavours of sustainability science; and how science and engineering can contribute to a green economy.

The outcome of the workshop will be presented at the Latin America and the Caribbean Intergovernmental Regional Preparatory Meeting for the UNCSD, which will take place in September in Santiago, Chile.

ST. KITTS AND NEVIS TO REINFORCE ITS CAPACITY-BUILDING IN OCEANOGRAPHIC AND CLIMATE CHANGE POLICY WITH IOC EXPERTISE

St. Kitts and Nevis intends to become a member of the UNESCO Intergovernmental Oceanographic Commission (IOC), joining over 140 countries worldwide.

The official notification was submitted to Irina Bokova, UNESCO Director General, and Wendy Watson-Wright, Assistant Director General and IOC Executive Secretary, during the IOC Assembly in June.

The Federation's Permanent Delegate to UNESCO, Dr David P. Doyle, noted that "by integrating St. Kitts-Nevis into the IOC framework we gain aid and advice from leading policy experts in the reduction of risks from tsunamis, storm surges, and other coastal hazards through the development and implementation of adaptation measures to strengthen the

robustness of the highly vulnerable coastal communities, the associated infrastructure and the ecosystems."

Over time, St. Kitts-Nevis should become a member of the Intergovernmental Coordinating Group for the Tsunami and other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (CARIBE EWS).

IOC has pioneered development of networks of Tide Gauges, which confirm tsunami heights, arrival times at coastal locations, and validate tsunami inundation models. Additional techniques such as DART Buoys that confirm tsunamis and real time forecasting of tsunamis are also available, as well as access to geophysical instrumentation, GPS, and hydroacoustic sensors.

UN CC:LEARN SELECTS PILOT COUNTRIES FOR CLIMATE CHANGE LEARNING



One UN Training Service Platform
on Climate Change: UN CC:Learn

The Dominican Republic is among countries selected by the UN CC:Learn Steering to participate in the 2011-2013 pilot implementation phase of the UN CC:Learn's "Pilot Projects to Strengthen Human Resources, Learning and Skills Development," aimed at supporting countries to develop a strategic approach to climate change learning.

Benin and Uganda are the two other countries selected to the part of the pilot project.

The announcement is the outcome of the Steering Group's second meeting, which was held in July in Geneva, Switzerland. At the

meeting, the Steering Group also approved an increase in the number of pilot countries to five and requested the Secretariat to explore mobilization of resources to support additional pilot countries.

One aspect of the pilot projects is the development, through a country-driven process, of a national strategy to strengthen human resources, learning and skills development to address climate change and foster low-carbon and green development.

To this end, UN CC:Learn is developing draft guidance in support of the strategy development process. The guidance seeks to assist countries in self-assessing their learning needs and identifying short- and medium-term learning action in support of national climate change and green development objectives. The draft guidance will be tested by the pilot countries.

DOMINICAN REPUBLIC PROMOTES CLEAN ENERGY WITH SUPPORT FROM IDB

The Inter-American Development Bank approved two loans for a total of US\$78.3 million to support the construction of two wind farms in the Dominican Republic.

The projects, part of the country's new investment in electric power production, will add a total of 80.6 megawatts to the existing electricity production capacity, estimated at 3000 megawatts.

The new wind farms, which are being developed by private companies, reflect the growing confidence in the Dominican energy sector. Progress in the sector's operating management, the new leadership of the Corporación Dominicana de Empresas Eléctricas Estatales (CDEEE) and the development of a strategic plan represent determining factors for the sector's future development of the sector and plans to expand sources of energy production, according to the IDB.

The wind farms, among the first to be constructed in the Dominican Republic will help the country diversify its energy matrix, which currently depends almost exclusively on fossil fuels such as oil and natural gas for electricity production. The projects will take advantage of incentives created by a recent law to develop electricity production from non-traditional, renewable sources.

A US\$50.7 million loan will support the Parques Eólicos del Caribe (PECASA) project, under development by a business consortium made up of Gamesa, Grupo Delta Intur, Aquiles Mateo and Miguel Ángel Muñiz, to install 25 Gamesa G90 turbines with a capacity of 2 megawatts each in the locality of Guanillo, in the southern province of Monte Cristi. The total cost of this project is estimated at US\$127 million.

Another US\$27.6 million loan to Grupo Eólico Dominicano a company controlled by the Spanish group Inveravante, will help finance the installation of 17 Vestas V90 turbines, with a capacity of 1.8 megawatts each, in the locality of Baní, in the Peravia province, to the west of Santo Domingo. The total cost of this project will be on the order of US\$68.9 million.

In both cases, 138-kilovolt transmission lines will be constructed to connect the wind farms to the national electric grid, and civil engineering works will be constructed, including access roads, substations and control stations, and foundations and platforms for the turbines. The wind farms will sell the power produced to the CDEEE based on 20-year power purchase agreements.

STUDY SHEDS LIGHT ON HOW PUBLIC-PRIVATE PARTNERSHIPS CAN BRING RENEWABLE ENERGY TO THE POOR

A report published by the International Institute for Environment and Development examines how governments, donors and businesses can work together to provide poor communities with low-carbon energy supplies.

The study analyses an Argentinean programme that has successfully delivered basic electricity access to remote, rural communities that are beyond the reach of the grid.

PERMER (the Project for Renewable Energy in Rural Markets) has provided a combination of renewable (solar and wind power) and hybrid fossil fuel-renewable energy (e.g. diesel-solar mini grids) to around 10,000 households and 1,800 schools and other public buildings, and is on its way to reaching another 18,000 households.

The programme was introduced in the late 1990s, when it became clear that power sector privatisation had done little to extend access in remote rural areas. Long distances, low population density and poverty meant the cost of extending grid networks was prohibitively high.

PERMER has used government and donor funding to install generating equipment and subsidise user tariffs, with exclusive delivery contracts awarded to concessionaires (private sector, public sector, co-operatives) that run and maintain the service.

Most of the start-up funding came from international loans and grants from the World Bank and Global Environment Facility, along with co-financing from national and provincial government budgets, companies and users.

The programme has provided better quality and safer illumination to households at costs that are equivalent to, or lower than, what residents paid previously for kerosene lamps and candles. This enables users to listen to radios or have a light source for studying, reading or making handicrafts at night.

However, PERMER installations do not provide enough electricity for productive or domestic activities such as pumping water, refrigerating food or shearing sheep, so the project has not created new economic opportunities or addressed poverty directly.

The report says that to reduce poverty and create productive opportunities, electrification projects like PERMER need to be integrated with rural development plans and programmes, which involve all relevant ministries, are rooted in community participation and address a much wider range of energy needs.

"While PERMER has not transformed lives it has certainly improved them," says the report's author, Sarah Best "The biggest positive impact has been felt by students and teachers in rural schools because the level of power provided there is greater."



HORN OF AFRICA DROUGHT Needs Long Term Solutions

The Horn of Africa is in the middle of its worst drought in more than 60 years following two seasons with no rains that have led to crop failures, widespread loss of livestock, and rising food prices in parts of Ethiopia, Kenya, Djibouti, Somalia and Uganda. The situation is now dire with over 11 million people requiring life-saving assistance throughout the region.

As the humanitarian community works to save lives in the areas affected, the need for sustainable solutions to prevent a reoccurrence of this situation in the medium and long-term is becoming increasingly apparent.

"The first and most pressing challenge is to provide food, water and other essentials to the people affected," said Nick Nuttall, spokesperson for the United Nations Environment Programme (UNEP). "But addressing some of the root causes must also be part of the eventual solution," he added.

Myriad factors have contributed to this crisis, with climate change challenges being among them. The region is clearly experiencing at first hand the human consequences of climate change and

understanding the link between climate change and development is particularly crucial in Africa, where agriculture and other climate-sensitive sectors are the mainstay of local economies.

This is not the first time that drought has ravished the region. However, prior to the 1970s, extreme climate conditions, such as El Nino, occurred every 10-20 years, which enabled local communities to find coping measures to deal with the impact. But climate change is now eroding these coping measures by causing climatic extremes with greater frequency and intensity. Since 2001, consecutive dry spells in some areas of Africa have led to serious food shortages in many countries.

Investing in the restoration and maintenance of the Earth's ecosystems - from forests and mangroves to wetlands and river basins - can have a key role in countering climate change as well as climate-proofing vulnerable economies.

According to a joint study in 2006 by UNEP and the World Agroforestry Centre on climate change and the impacts and adaptation strategies on agriculture in southern Africa, a number of adaptation measures were cited

to tackle the extreme weather events like droughts and floods that come with climate change. Rainwater harvesting, improved crop varieties and climate forecasts as well as forestation were just some cost-effective measures.

The availability of drinking water is of crucial importance in these vulnerable communities. UNEP has been at the forefront of supporting the restoration of Kenya's Mau forest, which is one of Sub-Saharan Africa's largest closed canopy forest and the source of the Yala and Nyando rivers which feed Lake Victoria, provide drinking water and support 5,000 hectares of rice production important for local food security.



Decades of deforestation of this single most important water catchment in the Rift Valley and western Kenya have had devastating effects on the country, including severe droughts and floods which in turn have led to loss of human lives and livelihoods, crops and livestock. Major steps have now been taken to rehabilitate the Mau and in February a multi-million Euro

project to assist in the restoration of the complex was announced by the European Union, UNEP and the Government of Kenya.

In Ethiopia, UNEP is partnering with the UN Development Programme (UNDP) and the Food and Agriculture Organization (FAO) to help introduce new policies that will assist pastoralists in managing climate change risks and shocks in six districts.

The CC DARE programme, jointly implemented by UNEP and UNDP, is providing timely-targeted support to nine nationally driven projects, with most of them linked to the agricultural sector and thereby addressing food security, in an effort to speed up the integration of climate risk consideration into policy and national planning to curb vulnerability to climate impacts.

In the Horn of Africa, UNEP has collaborated with UNICEF in water resource management that includes assessments of groundwater resources and formation of water councils to help improved drought resilience and water security.

Sharing the lessons learned and gained from such projects will no doubt find an audience among the many people currently impacted by the drought.

"These illustrative projects underline that some communities are trying to build resilience and reduce vulnerability in the face of accelerating environmental change including climate change," said Mr. Nuttall.

"Scaling these up and accelerating their implementation more widely could prove to be among the keys to a more sustainable and stable future for millions of people in the region," he added.

Recycling Aluminium

By Salman Zafar



THE DEMAND FOR ALUMINIUM PRODUCTS IS GROWING STEADILY BECAUSE OF THEIR POSITIVE CONTRIBUTION TO MODERN LIVING. ALUMINIUM IS THE SECOND MOST WIDELY USED METAL WHEREAS THE ALUMINUM CAN IS THE MOST RECYCLED CONSUMER PRODUCT IN THE WORLD.

Aluminium finds extensive use in air, road and sea transport; food and medicine; packaging; construction; electronics and electrical power transmission. The excellent recyclability of aluminium, together with its high scrap value and low energy needs during recycling make aluminium highly desirable to one and all.

The contribution of recycled metal to the global output of aluminium products has increased from 17 percent in 1960 to 34 percent today, and expected to rise to almost 40 percent by 2020. Global recycling rates are high, with approximately 90 per cent of the metal used for transport and construction applications recovered, and over 60 per cent of used beverage cans are collected.

Aluminium does not degrade during the recycling process, since its atomic structure is not altered during melting. Aluminium recycling is both economically and environmentally effective, as recycled aluminium requires only 5% of the energy used to make primary aluminium, and can have the same properties as the parent metal. Infact, aluminium can be recycled endlessly without loss of material properties. During the course of multiple recycling, more and more alloying elements are introduced into the metal cycle. This effect is put to good use in the production of casting alloys, which generally need these elements to attain the desired alloy properties.



The industry has a long tradition of collecting and recycling used aluminium products. Over the years, USA and European countries have developed robust separate collection systems for aluminium packaging with a good degree of success. Recycling aluminium reduces the need for raw materials and reduces the use of valuable energy resources. Recycled aluminium is made into aircraft, automobiles, bicycles, boats, computers, cookware, gutters, siding, wire and cans.

Aluminium can recycling

Aluminum can is the most recycled consumer product in the world. Each year, the aluminum industry pays out more than US\$800 million for empty aluminum cans. Recycling aluminium cans is a closed-loop process since used beverage cans that are recycled are primarily used to make beverage cans. Recycled aluminium cans are used again for the production of new cans or for the production of other valuable aluminium products such as engine blocks, building facades or bicycles. In Europe about 50% of all semi-fabricated aluminium used for the production of new beverage cans and other aluminium packaging products comes from recycled aluminium.

Step-by-Step Guide to Aluminium Can Recycling

Step 1: Aluminium cans are collected from recycling centers, community drop-off sites, curbside pick-up spots etc.

Step 2: Compressed into highly dense briquettes or bales at scrap processing facilities and shipped to aluminum companies for melting.

Step 3: Condensed cans are shredded, crushed and stripped of their inside and outside dyes. The potato chip-sized pieces are loaded into melting furnaces, where the recycled metal is blended with brand new aluminum.

Step 4: Molten aluminum is converted into ingots which are fed into rolling mills that reduce the thickness to about 1/100 of an inch.

Step 5: This metal is then coiled and shipped to can manufacturers. The cans are then delivered to beverage companies for filling.

Step 6: The new cans, filled with your favorite beverages, are then returned to store shelves in as little as 60 days and the recycling process begins again!



and pyrolysis. In pyrolysis, the non-metallic components are removed from the aluminium by evaporation. A newer technology is the thermal plasma process where the three components – aluminium, plastic and paper – are separated into distinct fractions.

Recycled aluminium from Municipal solid waste

Aluminium exposed to fires at dumps can be a serious environmental problem in the form of poisonous gases and mosquito breeding. Recycled aluminium can be utilized for almost all applications, and can preserve raw materials and reduce toxic emissions, apart from significant energy conservation.

Aluminium can also be extracted from the bottom ashes of municipal solid waste incinerators as aluminium nodules. In many European countries, municipal solid waste is entirely or partly incinerated; in this case the contained thin gauge aluminium foil is oxidized and delivers energy while thicker gauges can be extracted from the bottom ash.

About the author

Salman Zafar is a Cleantech Entrepreneur actively involved in creating mass awareness on waste management, renewable energy and environmental issues. He has participated in many national and international conferences and has authored more than 50 popular articles. He can be reached at salman@bioenergyconsult.com

Aluminium packaging

Aluminium packaging fits every desired recycling and processing route. Aluminium packaging needs to be separated from other packing material when intended for material recycling. A growing number of sorting facilities are equipped with eddy current separators which offer a comprehensive means of sorting the aluminium fraction.

Multi-material packaging systems may consist of plastics, tinplate, beverage cartons and paper packaging, apart from aluminium packaging, e.g. beverage cartons. A variety of systems have been developed to extract aluminium from complex packaging systems, such as repulping, mechanical separation



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Transitional Committee for the design of the Green Climate Fund concludes second meeting

The Transitional Committee for the design of the Green Climate Fund concluded its second meeting which took place in Tokyo in mid-July and followed a one day workshop with presentations and discussions on experiences with existing international funds and institutions.

The Transitional Committee discussed the main objectives for the fund, how it should be governed and how it could most effectively raise and deliver climate finance to developing countries.

The Committee agreed on a work plan for concluding its report and recommendations to the UN Climate Change Conference in Durban, South Africa, at the end of this year. Ambassador Burhan Gafoor, Singapore and Ewen McDonald, Australia were elected as Vice-Chairs of the Committee.

The Green Climate Fund is a central element of last year's global climate agreement in Cancun, Mexico.

The Fund will play an important part in delivering climate finance to developing countries in their efforts to limit and reduce emissions of greenhouse gases and adapt to climate change. Governments agreed in Cancun to establish the Fund and to take decisions at the Durban conference to make it operational.

The Chairs of the Transitional Committee are Mexican Finance Minister, Ernesto Cordero Arroyo; South African Minister in the Presidency for Planning, Trevor Manuel; and Norway's State Secretary at the Ministry of Finance, Kjetil Lund.



Indian Minister calls for 5-pronged approach to fast-track climate talks



Mr. Jairam Ramesh

India's Minister for Environment and Forests, Mr. Jairam Ramesh has identified five key issues that need to be addressed before the UN Climate Change Conference in Durban, South Africa.

He was at the time speaking at the second Petersberg Dialogue on climate change held in Berlin in July to evolve political consensus on key deliverables for success at Durban and the outcomes of the Cancun climate conference.

"In order to generate forward momentum for progress at Durban, we need to ensure actual disbursement of fast start finance that was promised at Cancun; preserve the structure of the Kyoto Protocol and its second commitment period; work on content before deciding legal form; agree on the modalities of the Review (of a global goal) based on the process of monitoring reporting and verification; and resolve pending issues from Cancun such as equity, IPRs and trade," he said.

Issues of operationalizing the Cancun Agreements and finance occupied a large part of the discussions.

Ministers and Delegates agreed that there needed to be a step-by-step approach to deliverables promised at Cancun – especially the Green Climate Fund (GCF), technology mechanism and the adaptation committee, as also on transnational in the post-2012 period. On finance, discussions focused on the importance of a structure and modalities for the GCF emerging from Durban, as well as the sources of funds being enumerated.

World Bank's FCPF Carbon Fund Becomes Operational



The July newsletter of the Forest Carbon Partnership Facility (FCPF), housed at the World Bank, highlights that its Carbon Fund has become operational. The Fund will provide payments for verified emissions reductions from programmes for REDD+ (reducing emissions from deforestation and forest degradation in developing countries, as well as conservation, sustainable management of forests and enhancement of carbon stock).

So far, US\$215 million have been committed or pledged to the Fund. Previously, the FCPF focused on its Readiness Fund to help countries prepare for REDD+ by developing the necessary policies and systems, in particular by: adopting national strategies; developing reference emission levels; designing measurement, reporting and verification (MRV) systems; and setting up REDD+ national management arrangements, including the proper safeguards.

Now, about five REDD country participants will qualify for the Carbon Fund. Following an assessment of a country's readiness package, criteria for inclusion include: a focus on results, including sustainable emissions reductions and social and environmental benefits; sufficient scale of implementation; consistency with emerging compliance standards; diversity; clear mechanisms; and transparent stakeholder consultations.

ADB Report Warns Against Climate Change Impacts on Health

The Asian Development Bank (ADB) has released a report titled "Accounting for Health Impacts of Climate Change." The report highlights that Asia and the Pacific host the greatest number of people vulnerable to the projected adverse impacts of climate change, which will challenge the public health community at the global, national, and local levels with the appearance of new diseases and the proliferation of existing ones.

The report, based on a study of the impacts of climate change on health in Tajikistan, the Philippines and Nepal, notes that existing knowledge on the relationship between climate change and health, and how it may change with the socioeconomic characteristics of populations, is anecdotal and insufficient to guide policy making.

It further suggests that unless developing countries anticipate and plan cost-effective responses to the health effects of climate change, the health impacts and costs of climate change are likely to overwhelm the capacity of the public sector.

Key messages of the report include that: planning adaptation investments in the health sector must be an important part of a climate change adaptation strategy; the health benefits of adaptation investments in agriculture, water, and disaster risk reduction (DRR) should be explicitly accounted for in the design and economic analysis of such investments; and climate experts, health experts, and economists need to improve the way they communicate to ensure greater project integration.

China Commits to Landmark Agreement With Dual Ozone and Climate Benefits

China, the largest producer and consumer of hydrochlorofluorocarbons (HCFCs), which not only harm the ozone layer but also the climate due to their high global-warming potential has been granted US \$265 million to cut its use of these gases by 2015.

The funding approved by the Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol will support China's commitment to make a real change to the global environment as well as a contribution to the Green Economy.

China and its HCFC-consuming industries have made a significant step towards achieving the first reductions in HCFCs mandated by the Montreal Protocol, the world's most successful environmental agreement.

The projects agreed between China and the Multilateral Fund's Executive Committee represent the first stage of China's HCFC phase-out management plan (HPMP).

Once implemented, the HPMP will not only eliminate 3,320 tonnes of HCFC consumption in China, but the new technologies adopted will also significantly contribute to global efforts to combat climate change by reducing the emission of greenhouse gases as compared to the technologies currently in use in China.

In recent years China's consumption of HCFCs has been soaring due to its rapidly growing economy. In 2009, China accounted for over 58% of HCFC consumption in developing countries. China uses HCFCs mainly as refrigerants for air-conditioners and industrial and commercial refrigeration, foam blowing agents and, to a lesser extent, as solvents.

The overall reduction to be achieved will represent about 17% of China's total amount of controlled HCFC use.

Golden Experiences

By *Bogusia Sipiora*



Amritsar in the state of Punjab in India is so popular because of its Golden Temple. It is a spiritual and cultural centre for Sikhs, followers of Sikhism-religion founded there. Punjab is mostly

inhabited by Sikhs, who wear turbans as headdress, under which they cover uncut hair. This is one of the articles of their faith. They believe hair is the gift from God so they never cut them. Turbans vary from size and the way of tying to different colours and decorations indicating origin of the owner or financial status.

The Golden Temple is considered the holiest shrine for Sikhs where Guru Granth Sahib, so called holy book, has its locus. It is believed that this place has always been a site for meditation and spiritual enlightenment. Even Buddha is known to contemplate at erstwhile Amritsar, originally known as an ancient lake. With time Amritsar has developed into temple complex and later the surrounding city.

The Golden Temple is located in the middle of the lake today called Sarovar, the pool of immortal nectar. Sikhs believe that water in Sarovar is an amrit, the drink of Gods, that brings peacefulness and purifies all sins. This is why people take a bath in the lake believing in its magical and spiritual power.

This gurdwara (Sikh's temple) attracts not only pilgrims but also non-Sikhs tourists. Everyone is asked to follow basic restrictions before entering the site. For example, like in any other Indian temple, one need to leave shoes before the entrance, cover the head and wash feet by wading through a shallow pool.



But is the Golden Temple really golden? Yes, indeed! The dome only is covered with 100 kg gold. The entire building is gold-plated with copper cupolas and white marble walls encrusted with precious stones arranged in floral patterns. The structure is decorated inside and out with verses from the Sikhs' holy book.

In the bright Indian sun, the golden building looks very reverently, especially with the light being reflected in the surrounding water. There are four entrances to the temple which means that people from all sides of the world are welcome inside.

To get inside the Temple we followed the Parikrama, which circumscribes the Sarovar in a clockwise direction. Finally we reached marble causeway called the Guru's Bridge, which symbolizes the journey of the soul after death. After standing in a long line we finally entered the Hari Mandir (Golden Temple).

People come here to pray, to meditate, to touch the holy walls and take blessings. Every night the Sikhs' holy book is carried in procession along the bridge to its night room. Only males can actively participate in the veneration of the holy book. Otherwise everyone can watch the book carried on a palanquin. The site is crowded 24/7. For people from the West, seeing such a devotion and tradition in one place is another attraction itself. In India there are still wandering sages who walk all over the country and come to Amritsar to find consolation or maybe another stop in their journey of life.



RESPONSIBLE for IRRESPONSIBILITY?

By Garfield King

THE MOSQUITO BORNE DISEASE, DENGUE, CONTINUES TO FEATURE HEAVILY IN NEWS REPORTS IN THE CARIBBEAN. EVERY YEAR WE HEAR OF THE NUMBER OF POSITIVE CASES AND, UNFORTUNATELY, THE NUMBER OF FATALITIES. DENGUE IS OF COURSE MUCH MORE THAN A CARIBBEAN CONCERN. EXPERTS SAY DENGUE AFFECTS UP TO 100 MILLION PEOPLE A YEAR AND THREATENS OVER A THIRD OF THE WORLD'S POPULATION.

We had another outbreak in Trinidad between June and August and the authorities again stressed that fogging (spraying to kill the lava of the dengue causing *Aedes aegypti* mosquito) has only limited effect. The best way, we are advised, is for citizens to keep their surroundings clean and free of stagnant water. We should also make sure the drains are clear so that water runs off easily and cut any excessive growth of bush around our homes.

Good ideas. So we follow this sensible advice, but our neighbours do not. A particularly frustrating scenario is when you keep around your house bush-free and make daily checks for any water pooling, but the vacant lot of land next door is overrun with growth and you can see puddles of water over there. You don't know who owns the land so you can't make a formal complaint. Twice a month you pay to have ten or twelve feet cleared adjacent to your fence so the bush does not hang over into your yard. You have even paid out hundreds of dollars over the years to have bush cut on that lot. You know it can't go on. So you contact the authorities.

If landowners refuse to keep their lots clean, the authorities may deem the areas health hazards. When this happens, work crews can be sent out to do the clean up. The land owner will then be invoiced or the amount added to his/her land tax bill. However, more often than not, when you contact the authorities you are told they have no idea to whom the land belongs. What to do? A friend suggested we could erect a for sale sign on the land with a telephone contact number. When the owner or their representative calls to find out "What the *!#* is going on?" We have our man/woman. I guess it's worth a try.

There's a level of personal responsibility we seem to run from when it comes to issues such security, health and the environment. We know something has to be done and we say loudly, "They have to do something". But who is this mysterious "they" we always refer to? When "they" are found "they" will certainly have much to answer for.



Photos above show vacant neighbourhood lots overrun with growth.

A neighbour was successful in finding a real estate agent responsible for selling the overgrown vacant lot next to his home. He asked the realtor about the possibility of cleaning the land. My neighbour was told a buyer was imminent and the realtor didn't feel it was worth spending \$400 to clear the land that he was about to sell for close to half a million dollars. A month later my neighbour's daughter was tested positive for dengue. Fortunately she made a speedy recovery.

Any wonder that it's so difficult to bring up the topic of Climate Change with some people? Even when your government and local health officials annually warn that we each have to be responsible for reducing the risk of diseases such as dengue, we ignore the calls. We can't escape reminders of the simple steps required to reduce the threat posed by these diseases. We see the impact in the neighbourhood, but many remain in denial. That is unless you or your loved ones become victims. So when it comes to the suggestion that our actions may have something to do with messing up the environment locally and globally... well that's just a brain freezer.

During the almost 4 years of Earth Conscious Magazine there have been countless articles outlining down to earth, low cost (often no cost) suggestions for saving energy, reducing your carbon footprint and related matters. All with the aim of saving money, regaining health and improving lifestyles. In fact, it's difficult not to see such information in the media, on the internet, even on food packaging. The responsibility for action is ours.

The debate continues as to whether or not climate change is caused by the activity of humans. Whatever the outcome of that heated discourse one thing seems certain, we are responsible for our inability to reduce its negative impact. We are responsible for our lack of political, moral, ethical will to be the ones to do something. One might argue that we are responsible for our irresponsibility.



The Family Business

*Barbara King, Parent Educator
The Parent Support Centre, Arima*



Parenting is the most important job you will ever have. Once you have a child you have a responsibility for life - literally to keep that child alive, and for the rest of your life. As the mother or father of that child you cannot be replaced. There may be grandparents, aunties and uncles or childcare providers, who may care for and nurture the child, but they can never be that child's mother or father. You are forever bound to that child.

Family is a business

Once you become a mother or father you have started a business – that is a family business. A business is an organization. A family is the most basic organization of society. Hopefully you would start your business with a partner, a plan, goal-setting meetings, you would have ongoing team building sessions and clear missions and expectations.

The job, of a parent could be said to be to produce top quality adult human beings within a given period: 18 – 20 years. Adults who can:

- take care of their own personal needs
- manage their lives effectively
- adults who any employer would consider a wonderful addition to the staff or team
- a man or woman that could partner with other adults to create healthy, lasting relationships
- A human being who gives of himself or herself to make the world a better place

And importantly, an adult capable of producing healthy children and being a better parent than you.

This family business requires you to be:

- C.E.O. chief everything officer - problem solver, planner and organizational developer
- Financial manager, accountant
- Human Resources coordinator
- Premises manager, responsible for maintenance and janitorial services
- Medical and psychological services
- Trainer and teacher
- On call 24 hours a day, 365 days a year

All without salary and with few recognized benefits.

Parents need to nurture and grow our families by striving to keep the relationships strong, to keep the love light burning – not just with a partner, also with our children. That is a full time occupation.

Work

One of our most important responsibilities as family CEO is to provide products or services to the community to create an income (and hopefully profits) that will cover our overheads, pay for the costs of maintaining and developing the family, and provide some special treats – maybe some overseas trips, some special comforts or experiences. When it comes to work outside the home – providing those products or services – that too requires a large commitment. Work is critical to our survival. It is the means of acquiring the money that enables us to create the life we want.

Our earnings determine the type of house and the neighbourhood we live in; if we have a car, what kind, what we wear, how much we have to wear. The type of schools our children go to... pretty much everything we want, almost every service we require, we exchange for money. So, the grander we want the Family to be, the more expensive the lifestyle we want for ourselves and our families, the more we need to work or we need to get a higher salary for the hours put in.



That requires improving our skills and knowledge – courses, training, learning how to supervise or manage others, training to do more difficult or complicated tasks so we can provide better quality service, more services. In the process we become more capable, confident, specialized, our work is of a higher quality, we “stand out” and become worthy of a higher salary.

Work and parenting are two full time jobs

Can we build a strong family organization without giving adequate time to it? Can a person do two full time jobs properly? When there is a clash, which one should get priority?

We are adopting a lot of American cultural practices and U.S. studies of how Americans used their time during the period 2006-2010 show that:

- Adults living with children under 6 spent an average of 2.0 hours per day providing direct physical childcare – reading, talking or playing. On an average day, women spent 1.1 hours by contrast, men spent 26 minutes. In families where the youngest child was between 6 and 17, the adults spent an average of 47 minutes per day with the child.

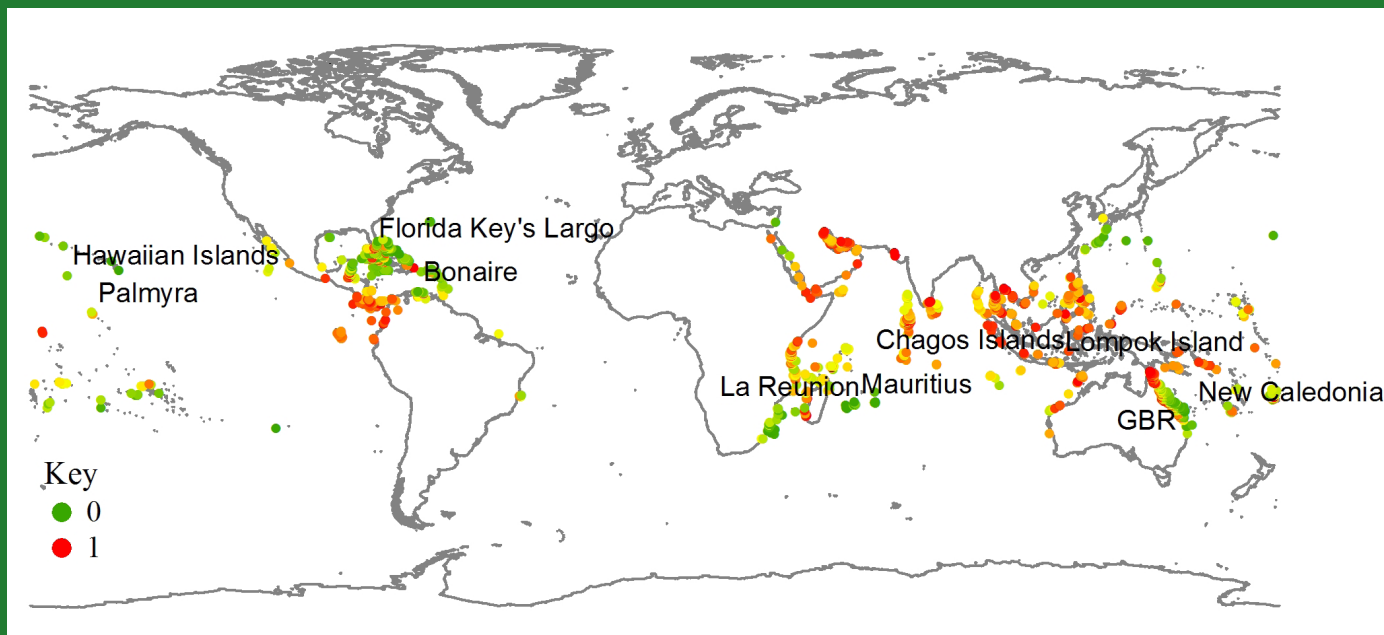


Are we there yet?

Can the CEO have a thriving family business when he or she is spending most of the day away from it? Can the top-quality adult human being be properly shaped and developed in a few minutes a day? Can a strong loving relationship be built with a child if you spend just a few minutes with them now and then?

Parenting and work are inter-connected, they are solidly linked and inseparable. Without one or the other we feel incomplete. Lose a job and we are purposeless and feel useless. Take away the family and you take away the reason for getting up in the morning and going to work. But there needs to be some kind of balance to enable us to give priority to that which is most important. So how do you prioritize?

It could be quite simple. Just ask yourself: ***If I were to die today, who should experience the greatest loss - my children or my boss?*** Then you will see, that parenting is the most important job you will ever have.



Worldwide Map Identifies IMPORTANT CORAL REEFS EXPOSED TO STRESS

Marine researchers from the Wildlife Conservation Society and other groups have created a map of the world's corals and their exposure to stress factors, including high temperatures, ultra-violet radiation, weather systems, sedimentation, as well as stress-reducing factors such as temperature variability and tidal dynamics.

The study, say the authors, will help to conserve some of the world's most important coral reefs by identifying reef systems where biodiversity is high and stress is low, ecosystems where management has the best chance of success.

The paper appears online in journal PLoS One. The authors include: Joseph M. Maina of WCS and a doctoral student at Macquarie University, Sydney, Australia; Timothy R. McClanahan of WCS; Valentijn Venus of Netherlands Institute for Geo-Information Science and Earth Observation; Mebrahtu Ateweberhan of the University of Warwick; and Joshua Madin of Macquarie University.

"Coral reefs around the globe are under pressure from a variety of factors such as higher temperatures, sedimentation, and human-related activities such as fishing and coastal development," said Joseph M. Maina, WCS conservationist and lead author on the study. "The key to effectively identifying where conservation efforts are most likely to succeed is finding reefs where high biodiversity and low stress intersect."

Using a wide array of publicly available data sets from satellites and a branch of mathematics known as fuzzy logic, which can handle incomplete data on coral physiology and coral-environment interactions, the researchers grouped the world's tropical coral reef systems into clusters based on the sum of their stress exposure grades and the factors that reinforce and reduce these stresses.

The first cluster of coral regions - Southeast Asia, Micronesia, the Eastern Pacific, and the central Indian Ocean - is characterized by high radiation stress (sea surface temperature, ultra-violet

radiation, and doldrums weather patterns with little wind) and few stress-reducing factors (temperature variability and tidal amplitude).

The group also includes corals in coastal waters of the Middle East and Western Australia (both regions have high scores for reinforcing stress factors such as sedimentation and phytoplankton).

The second cluster -- including the Caribbean, Great Barrier Reef, Central Pacific, Polynesia, and the Western Indian Ocean -- contained regions with moderate to high rates of exposure as well as high rates of reducing factors, such as large tides and temperature variability.

Overall, stress factors such as surface temperature, ultra-violet radiation, and doldrums were the most significant factors, ones that ecosystem management has no control over. What is controllable is the mitigation of human impacts that reinforce radiation stress and where managers decide to locate their protected areas.

"When radiation stress and high fishing are combined, the reefs have little chance

of surviving climate change disturbances because they both work against the survival of corals that are the foundation of the coral reef ecosystem," said Dr. Tim McClanahan, WCS Senior Conservationist and head of the society's coral reef research and conservation program.

The authors recommend that the study results be used to formulate management strategies that would include activities such as fishing restrictions, the management of watersheds through improved agricultural practices, and reforestation of coastal watersheds that play a role in healthy coral systems.

"The study provides marine park and ecosystem managers with a plan for spatially managing the effectiveness of conservation and sustainability," said Dr. Caleb McClennen, Director of the Wildlife Conservation Society's Marine Program. "The information will help formulate more effective strategies to protect corals from climate change and lead to improved management of reef systems globally."

CORAL BLEACHING

Information provided by the Caribbean Community Climate Change Centre (CCCCC), states that increasing ocean acidification and thermal stress affect our coral reefs and lead to coral bleaching.

The Youtube video (***click at right***) shows a dramatic footage of mass coral bleaching near Tobago. The bleaching was caused by a prolonged period of high sea-surface-temperatures (SST), which affected many areas in the Caribbean.

Renewable energy continued growth in 2010 despite recession

The newly released REN21 Renewables 2011 Global Status Report shows that the renewable energy sector continues to perform well despite continuing economic recession, incentive cuts, and low natural gas prices.

Authored by Worldwatch Institute Senior Fellow Janet Sawin in collaboration with a global network of research partners, the report shows that in 2010, renewable energy supplied an estimated 16% of global final energy consumption and delivered close to 20% of global electricity production.

Renewable capacity now comprises about a quarter of total global power-generating capacity. Including large and small hydropower (an estimated 30 GW added in 2010), renewable energy accounted for approximately 50% of total added power-generating capacity in 2010. In 2010, existing solar water and space heating capacity increased by an estimated 25 gigawatts-thermal (GWth), or about 16%.

The report was commissioned by the Paris-based Renewable Energy Policy Network for the 21st Century, or REN21. Sawin was the lead author of the report, which in recent years has become the industry standard for information on the global renewable energy industry.

Worldwatch staff Matthias Kimmel and Will Bierbower, Senior Editor Lisa Mastny, Senior Fellow Eric Martinot, and Director of Climate & Energy Alexander Ochs also contributed to the coordination, research, writing, and editing of the report.

"The Global Status Report shows that despite the recession, renewables are growing at an enormous rate," said Mr. Ochs. "Still, there are 1.5 billion people who don't have

any access to energy, and 3 billion people relying on traditional biomass sources and coal. If we want to prevent climate change from spinning out of control, we need to scale up our efforts to accelerate renewable energy development and deployment at all levels. Worldwatch will continue to provide guidance as to how this can be done."

Renewable energy policies continue to be the main driver behind renewables growth. By early 2011, at least 119 countries had some type of policy target or renewable support policy at the national level, more than doubling from 55 countries in early 2005.

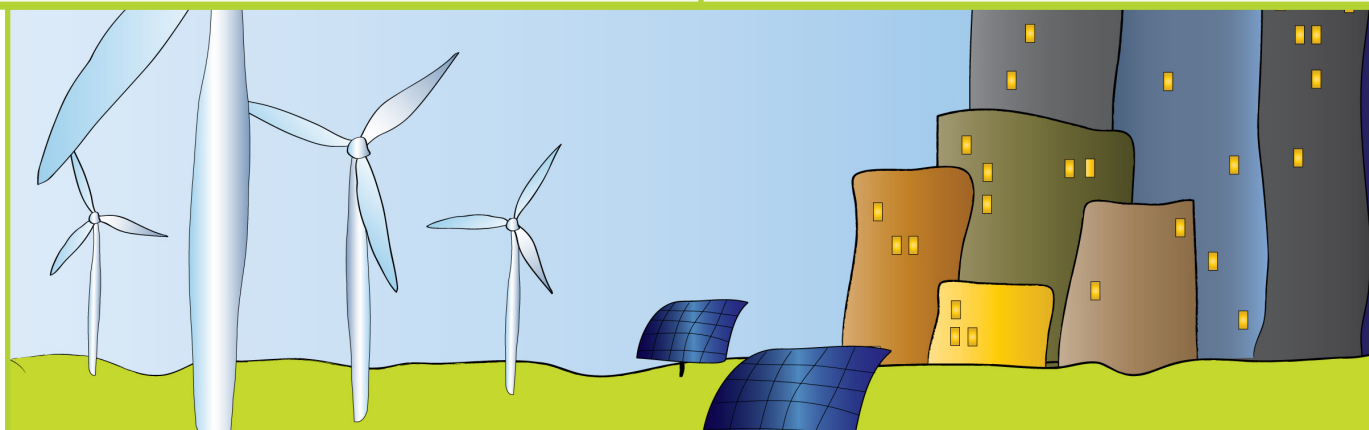
More than half of these countries are in the developing world. At least 95 countries now have some type of policy to support renewable power generation. Of all the policies employed by governments, feed-in tariffs remain the most common. Last year, investment in renewables reached a record US\$211 billion—about one-third more than the US\$160 billion invested in 2009 and more than five times the amount invested in 2004.

Money invested in renewable energy companies, utility-scale generation, and biofuel projects increased to US\$143 billion, with developing countries surpassing developed economies for the first time, as shown in the Global Status Report's recently released companion report, UNEP's Global Trends in Renewable Energy Investment 2011.

China attracted US\$48.5 billion, or more than a third of the global total, but other developing countries also experienced major developments in terms of policies, investments, market trends, and manufacturing.

Further Highlights from the Report:

- Renewable capacity now comprises about a quarter of total global power-generating capacity and supplies close to 20% of global electricity, with most of this provided by hydropower.
- Developing countries (collectively) have more than half of global renewable energy power.
- Solar PV capacity was added in more than 100 countries.
- The top five countries for non-hydro renewable power capacity were the United States, China, Germany, Spain, and India.
- In the United States, renewables accounted for about 10.9% of U.S. domestic primary energy production (compared with nuclear's 11.3%), an increase of 5.6% over 2009.
- In the United States, 30 states (plus Washington, D.C.) have Renewable Portfolio Standards (RPS).
- China led the world in the installation of wind turbines and solar thermal systems and was the top hydropower producer in 2010. The country added an estimated 29 GW of grid-connected renewable capacity, for a total of 252 GW, an increase of 13% compared with 2009.
- Renewables accounted for about 26% of China's total installed electric capacity in 2010, 18% of generation, and more than 9% of final energy supply.
- Brazil produces virtually all of the world's sugar-derived ethanol and has been adding new hydropower, biomass, and wind power plants, as well as solar heating systems.
- In the European Union, renewables represented an estimated 41% of newly installed electric capacity. While this share was significantly lower than the more than 60% of new capacity in 2009, more renewable power capacity was added in Europe than ever before.
- The EU exceeded its 2010 targets for wind, solar PV, concentrating solar thermal power, and heating/heat pumps. Countries including Finland, Germany, Spain, and Taiwan raised their targets, and South Africa, Guatemala, and India, among others, introduced new ones.
- Developing countries, which now represent more than half of all countries with policy targets and half of all countries with renewable support policies, are playing an increasingly important role in advancing renewable energy.
- REN21 has also launched its Renewables Interactive Map, a streamlined tool for gathering and sharing information online about developments related to renewable energy, at www.map.ren21.net



Your Letters



Dear Editor,
Thank you once again for producing this very exciting magazine. Who thought I could get a thrill of climate

change and global warming issues! But really, it's about the whole product of the magazine that excites me. It has some serious content, mixed with light-hearted columns and your photos are just too astonishing.

Looking forward to your next edition.

Lukas Baum,
Bonn, Germany

Dear Linda,
Finally I've put pen to paper (although I'm writing on a computer) to thank you for Jordan's articles on climate change. I read these to my children because they're a simple way of communicating climate change issues to young people and getting them to understand a little of these complex issues.

So, Jordan, thank you so much for your articles and please know that you have some young and old fans.

Gina,
Tortola

Hello Linda,
I look forward to your captivating magazine every few months and I'm so proud that you can produce this very high-quality publication.

Sandra Lee,
Jamaica



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*Happiness is a butterfly, which when pursued, is
always just beyond your grasp, but which, if you will
sit down quietly, may alight upon you.*

~ Nathaniel Hawthorne ~

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