

**JOINT PLANNING WORKSHOP  
ON SUPPORTING THE  
CLIMATE NEUTRALITY  
STRATEGY**

**MEA ORGANIZES A  
WORKSHOP ON DEVELOPING  
A REGULATORY  
FRAMEWORK FOR THE  
ENERGY SECTOR**

**MEMP SIGNS MOU WITH  
ENHANCING CLIMATE  
RESILIENCY AND WATER  
SECURITY PROJECT**

**U.S AMBASSADOR VISITS  
USAID MALDIVES CLIMATE  
CHANGE PROJECT ISLAND**

**WORKSHOP ON WOMEN  
AND ENERGY HELD**

# CAN EXTREME WEATHER CONTRIBUTE TO CLIMATE CHANGE?

While experts debate whether extreme weather conditions such as this summer's record rainfall can be explained by climate change, University of Leicester geographers are investigating whether the opposite is true — does extreme weather impact on climate change?



To answer the question, a team of researchers from the Department of Geography and Centre for Landscape and Climate Research at the University of Leicester set up a new monitoring station in June to measure greenhouse gas emissions from drained and cultivated peatlands in the East Anglian Fens. They will make measurements over an extended period in order to record carbon emissions over a wide spectrum of weather conditions.

Their study, supported by the Natural Environment Research Council, will provide the first ever direct measurements of carbon dioxide emissions from degraded peat soils in the intensively farmed English Fens, which are widely recognised as the largest land use related source of this greenhouse gas in the UK.



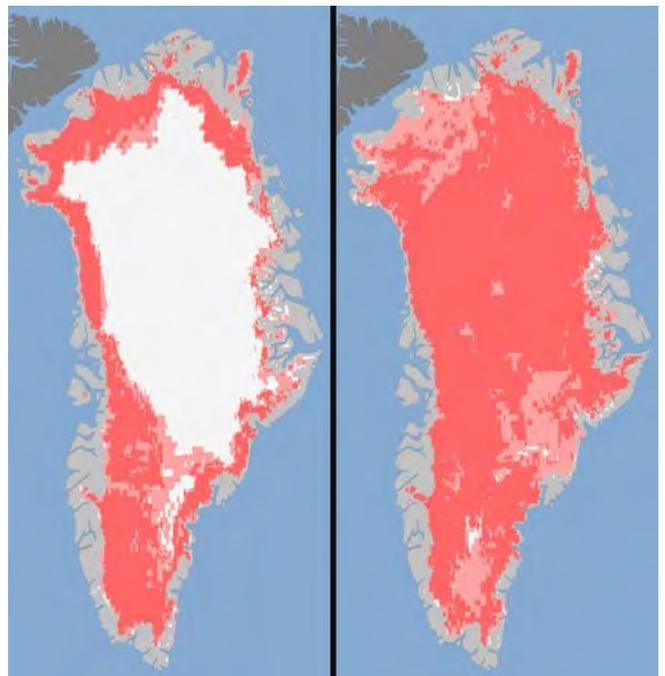
Professor Heiko Balzter, Director of the Centre for Landscape and Climate Research and Professor of Physical Geography, said: "Preserving greenhouse gases

that are stored in peat soils is being recognised more and more as a way to fight climate change. Extreme weather can change the amount of greenhouse gases being released from peat soils. At the same time, these emissions influence future climate itself. We have a feedback loop here, where cause and effect influence each other. Land managers and politicians are looking for solutions to the climate problem. We hope to be able to contribute to finding them."

Source: <http://www.enn.com/pollution/article/44720>

## SHOCKING" GREENLAND ICE MELT

Nearly entire sheet surface melted after four days—fastest thaw seen by satellites.



Shades of pink represent melted ice in satellite pictures of Greenland taken July 8 (left) and 12.

Illustration courtesy Nicolo E. DiGirolamo and Jesse Allen, NASA

After just a few days of intense melting this month, nearly the entire of the surface of Greenland's massive ice sheet had turned to slush, NASA images show—the fastest thaw rate since satellites began keeping score 30 years ago.

It may be tempting to link the event to global warming, but scientists say such melts might occur every 150 years. If such rapid thaws become common, though, they could add to already rising seas, experts say (Greenland satellite picture).

# JOINT PLANNING WORKSHOP ON SUPPORTING THE CLIMATE NEUTRALITY STRATEGY



On 02nd July 2012, the Ministry of Environment and Energy together with the German International Cooperation (GIZ) conducted a two-day joint planning workshop at Bandos Island Resort. The main aim of this workshop was to discuss the joint activities and initiatives for the long-term project “Support for the Climate Neutrality Strategy of the Maldives”.



The project is based on a bilateral agreement between the German and Maldivian Government. The planning workshop marks the first milestone in the project implementation. Throughout the workshop, in which various stakeholders from the government, utilities and the private sector participate, experiences and lessons learned with energy generation and consumption in the Maldives was discussed. The final aim of the meeting was to develop a detailed operation plan for the project. Project targets include the improvement of framework conditions for a coherent Climate Neutrality Strategy. In addition, capacity building and strengthening the institutional conditions play a major role in the project.

Environmental friendly reference plants with renewable energy and energy efficiency technologies will be a promoted demonstrating technical and economical feasibility of new technologies.

# MEA ORGANIZES A WORKSHOP ON DEVELOPING A REGULATORY FRAMEWORK FOR THE ENERGY SECTOR



The stakeholders of the Maldives energy sector participated in a two-day workshop organized by the Maldives Energy Authority (MEA). The workshop which began on 2nd July 2012 is the final dissemination workshop on the new regulatory framework for the energy sector being developed by MEA.



The workshop was inaugurated by Honorable Minister of State for Environment and Energy Mr. Abdul Matheen Mohamed.

At the workshop, the consultants hired under the technical assistance from World Bank, gave an overview of the regulatory framework developed for the Maldives

energy sector and a summary description of its elements. The key elements include operator licensing, electricity distribution performance regulation, metering regulations, investment approval framework, licensing framework for electricians and energy auditors, and safety inspections.



The proposals and comments from the participants of the workshop will be taken into account before finalizing the new regulatory framework for the Maldives energy sector.

## MEMP SIGNS MOU WITH ENHANCING CLIMATE RESILIENCY AND WATER SECURITY PROJECT



Maldives Environmental Management Project has signed an MOU with the Enhancing Climate Resiliency And Water Security Project (Maldives GCC) on 9th July 2012. The MOU, which concerns waste management activities on Lh Hinnavaru, was signed by Deputy Minister of the Ministry of Environment and Energy Mr Abdullahi Majeed on behalf of MEMP and by Mr John A. Dorr, Chief of Party, for Maldives GCC. The document was witnessed on behalf of USAID by Mr Adam Schmidt, Acting Mission Director.

The purpose of the MOU is to set out the terms and conditions that will ensure that design and construction of the island waste management centre (IWMC) on Lh Hinnavaru is carried out appropriately, and to assist the island community to plan and implement waste management activities effectively during and after the conclusion of the two projects.

Under the MOU, MEMP will be responsible for liaising with the community leaders and identifying the location and area of land allocated for the IWMC, share the results of the environmental management plan and the island waste management plan for Hinnavaru drawn up under MEMP, and provide technical advice to Maldives GCC to finalize the design and construction of the building to house the equipment at the IWMC, provide training to the community on waste management, purchase and install IWMC equipment and facilitate the handover of the IWMC facility.

Maldives GCC will consult with MEMP and EPA to finalize the design of the physical structure that will house the IWMC equipment, to assure compliance with all required standards, procure a contractor to construct the IWMC, carry out the needed liaison with island council representatives and provide procurement, construction and project management oversight during IWMC construction, work with MEMP to design and execute training programs and develop the capacity to operate or support the IWMC.

## SUMMER STORMS TO CREATE NEW OZONE HOLES AS EARTH WARMS?

More storms may trigger ozone depletion in populated areas far from the Poles.

John Roach  
for National Geographic News  
Published July 26, 2012

Summer storms may create new holes in our protective ozone layer as Earth heats up—bringing increased solar ultraviolet radiation to densely populated areas, a new study says.

What's more, if more sunlight reaches Earth, skin cancer could become the new marquee risk of global warming. As the planet warms, some studies have suggested summer storms may become more frequent and intense. This would send more water vapor—a potent greenhouse gas—into the stratosphere, the middle layer of Earth's atmosphere, which sits between 9 and 22 miles (14 and 35 kilometers) above Earth's surface.

*continued on page 4*

In a recent series of research flights over the United States, Harvard University atmospheric chemist James Anderson and colleagues found that summer storms often loft water vapor into the stratosphere.

"It was an unequivocal observation," he said. "We had a number of flights, and this was an abiding feature" of the storms.

Under the right conditions, this water vapor could trigger chemical reactions that deplete the ozone layer, which prevents harmful ultraviolet rays from reaching Earth's surface, the study says.

Even small reductions in the ozone layer can make people more susceptible to skin cancer and eye damage, experts say.



### Ozone-Attacking Conditions Occur in U.S.?

The finding concerned Anderson, whose research in the 1980s and '90s played a pivotal role in establishing the Montreal Protocol. The international treaty phased out the production of ozone-depleting chemicals called chlorofluorocarbons (CFCs), which were found in a variety of products, including hairsprays and refrigerators.

CFCs produce a form of chlorine that degrades ozone particles in the stratosphere, most significantly over the Arctic and Antarctic.

Subsequent studies in the Arctic and in the laboratory revealed that both temperature and water vapor concentrations are crucial in a chemical reaction that makes chlorine attack ozone.

Now, the new observations over the United States suggest summer storms create the same combination of temperature and water vapor conditions at mid-latitudes. (Interactive Map: Global Warming Effects.)

"We essentially have the chemistry that's present in the Arctic that is clearly very potent for destroying ozone," Anderson said.

The findings, published today in the journal *Science*,

calculate ozone loss at a rate between 4 and 6 percent per day in water vapor-rich areas of the stratosphere. The effect could persist for several weeks after a storm, he added.

What worries Anderson most is where and when this phenomenon appears to occur.

"It is not ozone loss in Antarctica and the Arctic under winter conditions. It is an attack on the ozone layer in the summer over populated regions of the Northern Hemisphere," he said.

### Ozone Loss Not Yet Confirmed

Simone Tilmes, an atmospheric chemist at the National Center for Atmospheric Research in Boulder, Colorado, views the new findings with caution.

Research does indicate that more water vapor in the stratosphere will lead to greater ozone loss under the right conditions, said Tilmes, who was not involved with the current research.

But the study found no direct evidence of a simultaneous observation of water vapor and the presence of destructive chlorine, she said.

"This raises attention," she said, emphasizing that more research is needed to determine if such ozone depletion will occur.

Study leader Anderson and colleagues acknowledged that they haven't yet measured the ozone-destroying chlorine in the North American stratosphere.

However, he noted that, though chlorofluorocarbons are no longer released into the atmosphere, the compounds already there can persist for decades.

### Cancer Risk May Spur People to Action

If there's a silver lining to the research, it's that the results could have a tangible impact on people's behavior, Anderson said.

Unlike with the "out of sight, out of mind" nature of melting glaciers and carbon dioxide and methane emissions, he said, "most people know that skin cancer is highly prevalent and increasing its frequency."

If the new findings are confirmed, people may see a direct link between climate change and their health.

That, he said, "might spur them to "step up and take responsibility for what is actually occurring."

*Source: National Geographic Daily News*

*Photo Courtesy: Joel Sartore, National Geographic*

# U.S. AMBASSADOR VISITS USAID MALDIVES CLIMATE CHANGE PROJECT ISLAND



US Ambassador to Sri Lanka and the Maldives, Ms. Patricia A. Butenis, travelled to Haa Alif Atoll Dhihdhoo on 10th July 2012 to review the ongoing “Enhancing Climate Resiliency and Water Security Project in Maldives (Maldives GCC)” on the island. The project is funded by the U.S Agency for International Development (USAID) and implemented in partnership with the Ministry of Environment and Energy.

During the visit, the Ambassador was accompanied by Minister of Environment and Energy, Dr. Mariyam Shakeela, the Acting Mission Director, Adam Schmidt from the US Agency for International Development and their parties. Staff of the Maldives GCC project and senior officials from the Atoll and Island Councils also participated in the events.



Ambassador Butenis was greeted on arrival in Dhihdhoo by Environment Minister Dr Mariyam Shakeela, council members and local residents, including a large number of school children waving the flags of both countries.. Following an introduction and welcome by Atoll Council

member, Mr. Yoosuf Siraj, both the Minister and Ambassador presented brief remarks.

Following lunch and an open discussion among the visiting parties and residents, the US Ambassador then visited the a existing reverse osmosis plant site, after which she and the Minister also visited the future solid waste collection site, the school's communal rainwater collection facility and a portion of the shoreline that is experiencing erosion.



During the visit, Ambassador Butenis met with people from Dhihdhoo and discussed the various concerns and difficulties faced by the local residents. Speaking during the meeting with Dhihdhoo residents, Minister thanked the US for its continued assistance to the Maldives, and both the Minister and Ambassador recognized the importance of this bilateral partnership.



The Maldives GCC project is funded by the U.S. Agency for International Development in partnership with the Ministry of Environment and Energy, and implemented by Chemonics International Inc. The project intends to develop processes and achieve results that will enhance the resiliency on two targeted islands in the northern part of the country, Lh. Hinnavaru and HA. Dhihdhoo, to pending impacts of climate change. It is anticipated that at the completion of the project approximately 8,000 people will have improved access to potable water , and sewerage and solid waste services, as well as enhanced capacity to adapt to climate change impacts.

# SPOTLIGHT

## GROWTH IN MUNICIPAL SOLID WASTE OUTPUT STILL A MAJOR CHALLENGE



Growing prosperity and urbanization could double the volume of municipal solid waste annually by 2025, challenging environmental and public health management in the world's cities, according to new research conducted by the Worldwatch Institute ([www.worldwatch.org](http://www.worldwatch.org)) for its Vital Signs Online service. Although some of this waste is eventually recycled, the doubling of waste that current projections indicate would bring the volume of municipal solid waste—or MSW—from today's 1.3 billion tons per year to 2.6 billion tons, writes report author and Worldwatch Senior Fellow Gary Gardner. As defined in the report, MSW consists of organic material, paper, plastic, glass, metals, and other refuse collected by municipal authorities, largely from homes, offices, institutions, and commercial establishments. MSW is a subset of the larger universe of waste and typically does not include waste collected outside of formal municipal programs. Nor does it include the sewage, industrial waste, or construction and demolition waste generated by cities. And of course MSW does not include rural wastes. MSW is measured before disposal, and data on it often include collected material that is later diverted for recycling. MSW tends to be generated in much higher quantities in wealthier regions of the world. Members of the Organisation for Economic Co-operation and Development (OECD), a group of 34 industrialized nations, lead the world in MSW generation, at nearly 1.6 million tons per day. By contrast, sub-Saharan Africa produces less than one eighth as much, some 200 million tons per day.

## ENDANGERED MALDIVES FRUIT BAT



© Guy Stevens

Two species of megabats had been recorded in the Maldives, namely *Pteropus hypomelanus maris* and *Pteropus giganteus ariel*. Although 16 subspecies of fruit bat has been documented and common world wide, the subspecies *Pteropus hypomelanus maris* of the Maldives is considered endangered due to excessive culling and limited distribution.

## MALDIVES ENVIRONMENTAL MANAGEMENT PROJECT



continued on page 7

There are two main objectives of this project:

1. Improve and develop a socially and environmentally sustainable system of solid waste management that reduces the associated environmental and public health risks and that can be replicated and scaled up across the country.
2. Strengthen the national technical capacity and quality of local expertise in environmental management/monitoring.

The Project aims to strengthen the Maldives' capacity for environmental management through three key components:

1. A regional solid waste management programme for the North Region
2. Capacity building for environmental management
3. Technical assistance for strengthening environmental management and monitoring

There are 46 inhabited islands, 225 uninhabited islands and 14 operational resorts in the North Region where about 50% of the Project funding is being utilized to set up a waste management system. It is estimated that the Region's population is more than 41,000, approximately one-tenth of the population of the Maldives.

In addition to the Ministry of Environment and Energy, the Environmental Protection Agency, the island and atoll councils of the four atolls of the North Region (N, R, B and Lh) and the utilities company are involved in the establishment of the waste management system.



All the inhabited islands, resorts and industrial islands of the region are included in the waste management system. Through this system, there will be promotion of the composting of organic waste at island level, and the separation of recyclable waste for reuse or sale. Under this system, a user pay system of fees based on the amount of waste that is produced will be established in

order to make the system sustainable; and the waste that cannot be managed at island level will be transported on a regular basis to the regional waste management centre, where it will be managed using incineration, after separation of recyclables.

Based on various studies and community consultations that have been done in order to establish the waste management system, the location to establish the waste management centre that has been decided on by the cabinet is Raa atoll Vandhoo. The land parcel size allocated is 15 hectares. Vandhoo is an uninhabited island of 39.8 hectares, adjacent to R.Innamaadhoo. This island is located within 3 hours' travel time by dhoni to 60% of the population of the region, and within 4.5 hours to even the farthest island.

As a beginning of the practical waste management activities of the project, the accumulated waste from 5 of the islands with the most waste accumulated was removed in June 2012, and some islands began charging fees for waste management. Additionally, waste is to be removed from these 5 islands every 3 months.



In addition to waste management in the North Region, the Project also carries out activities to monitor the environment of the Maldives, and to establish a strong system to assist developmental decision making through this information. Some of the activities that are carried out under the Project include monitoring of coastal erosion, challenges to bait fisheries, recording changes to reef systems, challenges to reef fisheries and the establishment of a national geographic information system. A framework has been developed to include communities, resorts and schools to contribute to data collection on the environment in these areas. A community training programme to provide the necessary training and equipment to ensure this data collection will be carried out in the North Region towards the end of 2012.

In addition to the above, a Foundation level 2 course for Environmental Management, as well as Diploma and Degree programmes in Environmental Management,

*continued on page 8*

have been designed, with necessary equipment and reference material provided and lecturers trained by the Project, in collaboration with the Maldives National University, and these programmes have been running since 2010. At the moment there are some 41 students studying at degree level on these courses. The first cohort will be graduating in 2013. These courses have been sponsored by the Project, with pocket money given to scholarship holders as well as course fees paid for them during the Project period. The opportunity to enrol on these courses is available towards September each year.

Moreover, in order to increase the human resource capacity in various institutes in the government involved in the environment sector, a total of 26 staff have been sent abroad to study in areas that will contribute to the development of the sector, to complete studies at Degree and Masters level.

At present the procurement process for the development of the regional facility is underway and will be announced in August, including the following.

1. Civil works – landfill and harbour
2. Heavy machinery – wheel loader and forklift
3. Equipment – waste management equipment for islands and wheely bins
4. Incinerator – 40 tons per day capacity
5. Waste transport vessel – 2 vessels

Please find more information on MEMP at [www.environment.gov.mv/memp](http://www.environment.gov.mv/memp).

## WORKSHOP ON WOMEN AND ENERGY HELD



A workshop on “Woman and Energy” organized by Ministry of Environment and Energy in collaboration with South Asian Association for Regional Cooperation (SAARC) Energy Centre began on 2nd July 2012 Bandos Island Resort.

The objective of this two day workshop is to provide opportunity to reflect and highlight important areas of energy and issues which have greater bearing on social equity and extension of benefits to women and men.



This important workshop was inaugurated by the Controller of Immigration and Emigration Dr. Mohamed Ali. During the opening remarks he highlighted the importance of women's role in addressing the energy issues as the 50 percent of the population of the SAARC region are women.

Delegates from all SAARC member states were attending this workshop. At the end of the workshop the participants will be able to understand and recognize women's role in energy sector for sustainable development. Determining initiatives and way forward required moving in ensuring an inclusive approach on gender in energy sector.

## WORKSHOP ON HYDROCHLOROFLOUROCARBONS (HCFC) PHASE-OUT AND ITS CLIMATE AND ENERGY USE LINKAGES

The Workshop on 'HCFC phase-out and its climate and energy use linkages' organized by the National Ozone Unit, Maldives and Authority and Compliance Assistance Programme (CAP) of the United Nations Environment Programme (UNEP), was held at Traders Hotel, Maldives. The workshop was inaugurated by the Deputy Minister of Environment and Energy Mr. Abdullahi Majeed on 17th July 2012.

*continued on page 9*

Speaking at the Inaugural ceremony Mr. Abdullahi Majeed highlighted that the HCFC Phase-out Management Plans provides a golden opportunity for addressing the issues of climate and ozone and through this project a common road-map for the adoption of both Climate Friendly and Energy Efficiency products could be developed.



The two day workshop was attended by the importers and servicing sector of Refrigeration and Air-Conditioning, Consultancy Organizations of energy sector and Tourism sector.



The objective of the workshop was to enhance awareness of the policy makers of the unique opportunity of calibrating policy and regulatory measures during HPMP implementation with energy and climate policies. The Presentations were delivered by representatives from UNEP, Bureau of Energy of India, EESL, GIZ, Maldives Association for Tourism Industry, Maldives Energy Authority, National Ozone Unit, EDS, EVI, Energy Utilities and Mining, Price Waterhouse Coopers, Energy Efficiency and Climate Change of India, National Ozone Unit of Pakistan and National Ozone Unit of Philippines.



## MALDIVES PARTICIPATES IN THE THIRTY SECOND MEETING OF THE OPEN-ENDED WORKING GROUP OF THE PARTIES TO THE MONTREAL PROTOCOL ON SUBSTANCES THAT DEplete THE OZONE LAYER (OEWG 32)

The Thirty Second Meeting of the Opening ended Working Group of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer has started on 23rd July at the United Nations Conference Centre in Bangkok.

During the five-day OEWG, parties are expected to consider two proposals for amendments to the Montreal Protocol, one submitted by the Federated States of Micronesia (FSM) and another submitted by Canada, Mexico and the US, similar to the proposals for amendment submitted by those parties in 2010 and 2011. OEWG 32 is also scheduled to consider several other issues, including the 2012 progress report of the Technology and Economic Assessment Panel (TEAP), the TEAP's initial recommendations for essential-use and critical-use nominations, and a report on Quarantine and Pre-Shipment (QPS). Other issues on the agenda include the treatment under the Montreal Protocol of ozone-depleting substances used to service ships and nomination and operational processes of the TEAP and its subsidiary bodies.

Several side events are scheduled throughout the week, including an event on the final day of OEWG 32 to discuss means of celebrating the 25th Anniversary of the Montreal Protocol.

OEWG 32 started immediately after the Conference on “Advancing Ozone and Climate Protection Technologies: Next Steps” which was held from July 21 and 22 in Bangkok.

Layout & Design by: Mohamed Aflah

Published by:

Environment Department,  
Ministry of Housing and Environment,  
1<sup>st</sup> Floor, Tinu Building, Ameen Magu,  
Male', Republic of Maldives.  
Email: ahmed.hassaan@mhe.gov.mv  
Web: <http://pemphis.wordpress.com>  
<http://www.mhe.gov.mv>