



DEPARTMENT OF ENVIRONMENT  
CAYMAN ISLANDS GOVERNMENT

# SDU News

## Sustainable Development Unit Newsletter

### Issue 3 — Kyoto & Green Gallons

This Issue we take a look at the work of the SDU in implementing the United Nations Framework Convention on Climate Change and its Kyoto Protocol in the Cayman Islands, the efforts of a Cayman-based enterprise in providing a more environmentally friendly alternative to diesel fuel on-island, plus an in depth view of the Sustainable Development Unit team.....

## Complying with UNFCCC & Kyoto Protocol

On 23rd March the SDU hosted a workshop on the implementation of the United Nations Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol in the Cayman Islands, international treaties that were extended to the Cayman Islands in March 2007. Funded by the UK Foreign & Commonwealth Office (FCO) through the Overseas Territories Program Fund (OTPF), the SDU arranged for Mr. James Burt, an expert from the UK Department of Energy and Climate Change (DECC) to visit Grand Cayman and present at the workshop. We were also joined by two delegates from Bermuda, Ms. Ellen-Kate Horton and Dr. Frederick Ming.

Mr. Burt brought key stakeholders from a cross section of the public and private sector up to date with what the UNFCCC and Kyoto Protocol are, obligations the Cayman Islands has under these agreements, and suggestions for future policies and action for compliance. Sustainable Development Coordinator at the DOE Mrs. Lisa-Ann Hurlston-McKenzie updated participants on what has been done to date on-island by way of implementation of these treaties.

Mr. Burt explained that having ratified the UNFCCC, the Cayman Islands has accepted a number of general commitments, including to annually collect and develop data that can be used by the UK to create an inventory of greenhouse gas emissions for the islands, which will be included as part of the total UK inventory; to formulate and implement a programme to a) mitigate climate change by reducing greenhouse gas emissions across various sectors and b) introduce measures to adapt to climate change; to promote the sustainable management of sinks and reservoirs of greenhouse gases (GHGs), such as forests and oceans; to



Overseas delegates and Cayman hosts at the workshop, l-r: Mrs. Gloria McField-Nixon, Cayman Islands Ministry of Tourism, Environment, Investment & Commerce; Dr. Frederick Ming, Department for Environmental Protection, Bermuda; Mrs. Ellen-Kate Horton, Ministry of Environment & Sports, Bermuda; Mr. James Burt, Department of Energy & Climate Change, UK; Mrs. Lisa-Ann Hurlston-McKenzie, and Mr. Tim Austin, both from the Cayman Islands Department of Environment. Photo courtesy of Lindsey Turnbull

take climate change into account in relevant social, economic and environmental policies and actions.

Under the Kyoto Protocol, the Cayman Islands have also committed to improve energy efficiency, promote renewable forms of energy, to phase out inappropriate fiscal incentives or subsidies, and to limit methane emissions from waste management and energy systems. Mr. Burt added that although there are currently no binding targets in force on the

## Background Info: The UNFCCC & Kyoto Protocol

The United Nations Framework Convention on Climate Change is an international treaty that sets an overall framework for intergovernmental efforts to tackle and cope with the challenges posed by climate change, the ultimate objective of which is to achieve “stabilisation of greenhouse gases in the atmosphere at a level that would prevent dangerous anthropogenic [human induced] interference with the climate system” (Article 2). Guiding principles include the expectation on parties to “take precautionary measures to anticipate, prevent or minimize the causes of climate change and mitigate its adverse effects” and to “promote sustainable development”. The Convention entered into force on 21 March 1994 and to date, 192 countries have ratified. The Kyoto Protocol is an extension of the UNFCCC, which significantly strengthens the Convention by committing Annex I Parties (developed countries) to individual, legally-binding targets to limit or reduce their greenhouse gas emissions (GHGs), e.g. the UK must reduce its GHG emissions by 12.5% below 1990 levels by 2012. Annex II Parties (developing countries) do not have binding targets for greenhouse gas emissions reduction. The Protocol also introduces for the first time international emissions trading as a mechanism to reduce emissions at least cost, regardless of where they are produced.





Participants at the UNFCCC and Kyoto Workshop on March 23rd; Mr. James Burt delivers advice on labeling products according to their energy efficiency. Photos: DOE

Cayman Islands, these commitments still stand.

Mrs. Lisa-Ann Hurlston-McKenzie presented what has been done to date in the Cayman Islands to meet these obligations, in particular the **annual compilation of data for the Greenhouse Gas Inventory report**. She explained this requires gathering data from a number of local sources on power generation, distribution of fossil fuels, use of solvents, mobile machinery, aircraft movements by engine type, shipping by engine type, waste treatment and disposal, livestock and manure management, fuel imports and stocks, refrigeration and a/c units, GDP and population, all of which aid AEA Technology, the company contracted by DECC, to **calculate the Cayman Islands' contribution to annual amounts of greenhouse gas emissions**.

Mrs. Hurlston-McKenzie also touched on some of the policies and measures in place to limit the country's GHG contribution such as the **recent import duty exemption** on renewable energy equipment and a **program to improve the environmental performance of the tourism sector**. Adaptation efforts have largely come from the Cayman Islands' participation in a UK-funded regional capacity building project that will culminate with a **National Adaptation Strategy**.

Mr. Burt concluded with suggestions on how the Cayman Islands can further reduce GHG emissions: by enhancing the use of renewable energy and fossil fuel alternatives, energy from waste, more efficient products, improved building design, more efficient vehicles and electric vehicles. He stressed that although the greenhouse gas emissions of Caribbean countries are small compared to the large emitters around the globe, this does not diminish **the moral responsibility that countries such as the Cayman Islands have to do their part in the effort to combat climate change**. Accounting for our actions will also do much to secure a place around the negotiating table for future climate change treaties, which is vital given the **vulnerability** of these islands and the region to the impacts of climate change, such as sea level rise and expected increased intensity of hurricanes.

## Business Bite: Cayman Biofuels - Going green a gallon at a time

After the UNFCCC and Kyoto Protocol workshop, the SDU and Bermudan delegates took a tour of **Cayman Biofuels**, a biofuels processing plant in North Sound Industrial Estate, at the invitation of owner, Mr. Larry Bang.

Mr. Bang creates the biofuel out of **used cooking oil**, which he processes and modifies so it can be mixed with diesel fuel and used in a whole range of diesel-run vehicles and equipment. Once blended, the resulting fuel is **considerably less polluting than diesel fuel alone**, emitting less air pollutants such as sulphur dioxide and particulates, and less greenhouse gases such as nitrous oxides and carbon dioxide.

The used cooking-oil is first heated to separate out and drain off the water content. Heat is generated from burning waste oil, such as used diesel motor oil, in an EPA approved specially designed boiler. It is then **pretreated** with methanol and sulphuric acid in the process of **esterification** before being treated with more methanol and potassium hydroxide in the process of **trans-esterification**, to remove the acids picked up by the oil from foods during cooking. The oil is then **settled and filtered** through a substance called Puro-lite, which improves the quality of the fuel and removes any trace methanol left over from the treatment.

Mr. Bang's business also has other beneficial effects through providing a **sustainable alternative to dumping used cooking oil at the landfill**, or worse, down Cayman's drains. This causes no end of problems for the Water Authority, as the

**used oil clogs up drains** and makes for very costly remedial work.

The sustainable aspect of Mr. Bang's business does not stop there, however. He explained that the **tanks** used to process the fuel were **reclaimed from the old Stingray brewery**, and modified to be re-used to fit their current purpose. He is also looking for inventive ways to **use by-products** from the process, such as the production of glycerol—this could for example be used as fuel in heating cement kilns.



Mr. Larry Bang gives members of the SDU, DOE Operations team and overseas delegates from the Kyoto Workshop a tour of his bio-fuel plant. Photo: DOE



## In Depth: What is the SDU?

The Sustainable Development Unit (SDU) at the DOE was set up in July 2006 to spearhead the formation of a national level strategy for sustainable development. This was in response to the expanding advisory role of the DOE on environmental matters, the Cayman Islands' commitment under the Environment Charter of 2001 to implement such a strategy, and obligations under various Multilateral Environmental Agreements that require integration of physical, economic, social and environmental development planning policies. To date the SDU has worked on a National Sustainable Development Framework, draft National Conservation Law, draft Grand Cayman Development Plan 2008, revised National Tourism Management Policy and the Go East Initiative, National Assessment of Living Conditions study and Public Health Review, the 'Enhancing Climate Change Adaptation in the Caribbean' (ECACC) project, implementation of the Climate Convention and its Kyoto Protocol, and continues to advise on planning and coastal works applications.

## SDU Staff Profiles:

### Lisa-Ann Hurlston-McKenzie

Lisa heads the Department's Sustainable Development Unit, which she helped establish nearly 3 years ago, but has been with the DOE for over 11 years. She enjoys advising Government and non-government agencies, companies and the public on an array of environmental issues, particularly climate change adaptation and mitigation. Lisa has worked to place sustainability at the core of many national planning initiatives, such as the National Strategic Plan Vision 2008, the National Assessment of Living Conditions Study and other social development policies, contributed to economic and physical Development Plans, and helped steer the National Tourism Management Policy and other sector programs. As National Focal Point she currently oversees the development of a National Climate Change Adaptation Strategy. Lisa has a Bachelor (Hons) in Environmental Studies from York University, Canada, a Master of Philosophy in Environment and Development from University of Cambridge, UK, and a Sustainable Design Certificate from the Boston Architectural College. A consummate student, she is currently pursuing a Certified Sustainable Development Professional accreditation.



### Joni Kirkconnell

Joni has been working with the Department of Environment since 2001, and has been with the SDU since its inception in 2006. She holds a BSc Degree in Marine Biology and Ecology, and an MSc in Environmental Resource Management. Her role within the SDU is to undertake the Department's sustainable development initiatives, to plan and promote the uptake of sustainable development principles both at the department and national level, and to assist in the assessment and monitoring of coastal and terrestrial development likely to impact the natural environment. Joni is passionate about environmental education and has crusaded to integrate conservation and sustainable development initiatives into the country's school curriculums. As joint coordinator of the Department's marine turtle research program Joni has developed best management practices for and worked along with beach developments to ensure the protection of the country's endangered marine turtle population.



### Linda Bishop

Linda is involved in the assessment and monitoring of coastal and terrestrial development likely to impact the natural environment and provides support to the Department's sustainable development programs. Prior to joining the Sustainable Development Unit in 2007, Linda worked at engineering consulting firms in both the Cayman Islands and Canada advising clients on land development and environmental assessment. Linda holds a Bachelor of Science degree in Biology and Environmental Science from the University of Western Ontario and completed an Environmental Engineering Applications post-degree program at Conestoga College in Ontario, Canada. Linda has been awarded the Certified Engineering Technologist designation by the Ontario Association of Certified Engineering Technicians and Technologists in Canada.



### Sophie Halford:

Sophie joined the SDU in 2008, and works on climate change and sustainable development issues, including climate change adaptation and the implementation of the UNFCCC and Kyoto Protocol in the Cayman Islands. She holds a BA Hons Degree in Natural Sciences from Cambridge University, UK and an MSc in Environmental Technology from Imperial College, London. Prior to arriving at the DOE, Sophie worked for companies involved in carbon dioxide (CO<sub>2</sub>) emissions trading in London, UK, analyzing the market for creating and trading CO<sub>2</sub> emissions permits and the climate change policy and international agreements surrounding it. She also has experience in environmental education, having worked for an environmental charity in Southampton, UK at their Energy Efficiency Advice Center.





### Going green a gallon at a time, continued

The biodiesel produced by Cayman Biofuels currently consists of **20% biofuel (i.e. converted cooking oil)** and **80% regular diesel** found on island, **B20**, although the ratio of biofuel can be increased and even pure bio-fuel can be



Mr. Bang shows members of DOE filtering tanks for oil refinement Photo: DOE

used. At present, the biodiesel produced is being used in a number of operations on-island. **Cruise ship tenders** are using the fuel, and according to Mr. Bang have estimated a **75% reduction in the amount of smoke** generated from their engines. A growing number of dive companies source fuel for their boats from Mr. Bang. His biofuel is also used in heavy equipment.

Currently, Cayman Biofuels **collects used cooking oil from a range of hotels and restaurants**. Mr. Bang explained there is still plenty of **un-tapped capacity** on the island for used cooking oil collection, and he is exploring the potential receipt of used oil from the cruise ships. Currently the plant produces **6,000 litres a week of refined oil**, however Mr. Bang estimates there could be around 10,000 to 12,000 litres a week of used cooking oil currently produced on-island that could be processed. He explained his current plant could process up to 30,000 litres a week. Mr. Bang is trying to make people in Grand Cayman aware that he wants to collect their used oil. He also has plenty of other ideas for where the biodiesel could be put to good use, one example being in **school buses**, due to the health benefits for children of reducing the fossil fuel content of the fuel used.

### Earth Week 2009: April 18 to 26

Earth Day is Wednesday 22 April but lots of activities are planned during Earth Week 2009 which runs from Saturday 18 through to Saturday 26.

This year's international Earth Day theme is the **"Green Generation Campaign™"** which marks the beginning of celebrations of this event's 40th anniversary in 2010. Governments, communities and individuals are encouraged to galvanize action around the campaign's core principles of creating **carbon-free futures**, committing to **responsible, sustainable consumption**, and fostering **green economies** that will provide good quality, "green-collar" jobs. <http://www.earthday.net/greengeneration>.

On Saturday 25 April the DOE will be partnering with the Chamber of Commerce to host a **Green Generation Fair** at Public Beach on West Bay Road from 10:30 am to 1 pm, which will showcase the rapidly growing green sector within the Cayman Islands. All are encouraged to come out and view environmentally friendly products readily available on island and receive helpful information.

In observance of Earth Day 2009, the Cayman Islands Department of Environment is launching an **information pack** produced for the Joint Nature Conservation Committee containing materials



designed to inform the general public, business and government on the issues associated with **climate change in the Overseas Territories**. This consists of two books, a pair of videos, a PowerPoint presentation and four pamphlets, which can be downloaded from <http://www.jncc.gov.uk/page-4362>. The Cayman Islands

feature throughout and the Cayman Islands Department of Environment had considerable input on the production of the pack. The materials speak simply and directly about the **science, evidence and causes** of climate change, its potential **impacts in the Overseas Territories**, and the **actions** we can take to adapt and to do our bit to combat the causes of climate change at an individual, organisational and governmental level.

**Butterflies of the Cayman Islands** has been selected as this year's local theme in honour of the new publication on this subject published by the National Trust. For more information on activities happening this week, see the calendar of events on the National Trust website <http://www.nationaltrust.org.ky/calendar.html>.



For further information regarding the work being undertaken by the SDU, please contact us at [doe@gov.ky](mailto:doe@gov.ky) or by phone on 949-8469. You can also learn more about the DOE through our website [www.doe.ky](http://www.doe.ky)