



THE ANGUILLA NATIONAL TRUST

Preservation For Generations

Eco-Corner

Climate Change: Examining the Options, Adapting to a New Way of Life

The 1980s was the decade of sustainable development while the 1990s was the decade of biodiversity. This decade and probably (at least) the next two or three to come will be a time when the impacts of global climate change will have to be addressed. In fact, climate change has been identified by scientists world-wide as one of today's most serious threats facing the Earth and everything that lives on it.

What We Have Done

Over the last two centuries, human activities have been vastly altering the Earth's climate. We have been releasing gases that capture heat and in turn, warm the atmosphere. The concentration of carbon dioxide and other so-called "greenhouse gases" in the atmosphere has increased tremendously over the last two hundred years. Their levels are at the highest they have ever been in 20 million years. How did so much of these gases, and particularly carbon dioxide, get into the atmosphere so quickly? The two main causes are the burning of fossil fuels (for example, coal, petroleum products, and natural gas) and deforestation.

While the Earth has always had periods of warming and cooling, scientists now agree that this particular period of warming is happening faster than ever before. It also coincides with the industrial revolution – a time in our history where we have relied heavily on pollution-generating industries and technologies to advance our societies.

Scientific studies have indicated that between 1900 and 2003, the Earth's average temperature has increased by 0.6°C. While this may not sound like much, it is the greatest change in temperature the Earth has seen in a millennium. And if nothing is done to reverse it, it is only going to get warmer - scientists estimate that the Earth will warm by 1.4 and 5.8°C by 2100. As a comparison, during the last ice age, the average surface temperature was only between 4 and 6°C colder than it is now!

What We Are Seeing

The impacts of climate change are far-reaching and they have already been significant: the thickness of the Arctic ice during the summer months is only 60% of what it used to be; storms such as hurricanes are becoming more frequent, stronger, and destructive; parts of the world are becoming drier; water levels are rising and with over 60% of the human population living in coastal areas, they are at serious risk.

If greenhouse gas emissions are not reduced, scientists believe that sea levels will continue to rise and millions of people who live on the coastline will be displaced because of flooding. In addition to more intense rainfalls and storms, tens of millions of people will be put at risk from hunger, hundreds of millions from malaria, and billions from water shortages. Ecologically, a huge proportion of plants and animals will become either endangered or extinct because they cannot adapt to the quickly changing conditions and the loss of important habitat. More than half of the world's coral reefs will also be destroyed and this will have impacts on beaches, mangrove forests, and seagrass beds. Economically, tens of billions of dollars will be spent on managing water, agriculture, and forestry industries and countries that are already struggling to survive will suffer even more because they will most likely not be able to afford the measures needed to help them deal with changing climatic conditions.

What We Need To Do

Governments and scientists seem to have come to an agreement that by 2050, we need to have reduced our greenhouse gas emissions by at least 30 to 50% below the levels measured in 1990.

One of the most important ways that we can reduce emissions is by changing the ways we create and use energy. We are energy-addicted. We blast air conditioners, leave lights on, drive gas-guzzling SUVs, and cut down trees without replanting any. This cannot continue – not just because of the environmental costs, but also because of the related social and economic ones. Fossil fuels (particularly coal and oil) are non-renewable. This means that they will not last forever and the cost of extracting them, exporting them, and then buying them will become more expensive as they become rarer. We need to start looking at energy alternatives.

Wind Power

Wind power is fast becoming one of the most recognised alternatives to fossil fuels, so much so that its use is growing by 35% a year worldwide. One reason for its popularity is its efficiency – every unit of energy generated by wind power corresponds to a reduction in greenhouse gas emissions of almost 100% - it is one of the cleanest types of energy we can get.

Solar Power

Converting the sun's energy into electricity and heat forms that we can use requires the use of energy-collecting photovoltaic/solar cells. These cells are able to absorb the sun's energy only during daylight hours, but they are becoming increasingly popular for many power needs, including agricultural applications (irrigation and pasture management), heating water, and providing power to those who are not on the regular power grid. Although solar cells are expensive, their high initial cost is offset by a long life and very little maintenance requirements.

Tidal Power

Moving water generates a significant amount of power. Tidal energy has two forms that can be used: kinetic which is produced by tides; and potential which is produced from the difference in height between high and low tides. To harness potential energy, a lagoon has to be built. The changes in water level inside the lagoon areas as compared to those outside the lagoon drive turbines which, in turn, produce electricity. Scientists have expressed some concern over the use of turbines because they can kill fish that try to pass through them.

International Response

In an effort to respond to global climate change, the United Nations Framework Convention on Climate Change came into force in 1994. The Convention has been signed by 150 countries and it provides the basis for the Kyoto Protocol – a legally binding protocol that binds countries to reducing greenhouse gas emissions. Although it is not a Signatory Country, the Government of Anguilla supports both the Convention and the Protocol and it is one of several multilateral environmental agreements (MEAs) that Anguilla is currently seeking to have extended to it by the United Kingdom. While it is a good first international step, the Protocol's call for a reduction in industrialised countries' emissions by only 5% of 1990 levels by 2012 is far from the type of reduction that is actually needed. Regardless, it still represents an acknowledgement by countries worldwide that climate change is a threat and that action needs to be taken now to address it.

How You Can Make A Difference

Armed with the knowledge that we are putting the health of our planet and ourselves in such jeopardy, we now must do something about it. Simple changes to our everyday routines can have profound positive impacts – because it all adds up.

- Learn more about climate change;
 - Car pool – four people can ride together in one car instead of four people driving four cars to work;
 - Save energy – turn off lights, televisions, and computers when you are not using them;
 - Enjoy a fresh breeze – turn off the air conditioner, open a window, and let the fresh air cool you down;
 - Bike or walk to places if they are not too far;
 - Plant trees – they absorb carbon dioxide (a greenhouse gas) from the air;
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- Push for a recycling programme on the island for paper, plastics, bottles, and cans and reuse as much as possible – recycling and reusing means less waste is being sent to the landfill and resources like trees, oil, and aluminium are saved;
- Buy products that are made out of recycled materials – it usually takes less energy to make recycled products than to make new ones;
- Buy electronic products that use less energy;
- Consider buying a hybrid car, van, or SUV – they produce less exhaust, are more efficient, and will save you money on gas;
- Push ANGLEC to provide energy from alternative sources like wind turbines and solar panels/cells – there is plenty of sun and wind in Anguilla!

Sources: www.cbc.ca/news/background/climatechange/; www.cbc.ca/news/background/energy/energy-solution.html; www.epa.gov/globalwarming/kids/difference.html; www.pembina.ca/climate-change.

Eco-Corner is a regular feature provided by the Anguilla National Trust in co-operation with The Anguillian. The Anguilla National Trust welcomes questions, comments, and suggestions. If you would like to voice your opinions and/or concerns, please contact the Trust at 497 5297 or at axanat@anguillanet.com. Together we can make a difference. *Preservation for Generations.* 