OPINIONS

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What's all the fuss about carbon and climate change?

For more than two decades there has been much discussion and debate over whether the climate is changing and if so what impacts it will have on the planet and our way of life.

It is well established, among the majority of scientific community, that indeed the climate is changing. The discussion and debate has now shifted from whether climate is changing to finding solutions to deal with and adapt to the changing reality. Climate change is expected to have significant impacts on both the ecological and human systems on the planet.

Considering that the planet is a mosaic of interconnected ecosystems it is inevitable that impacts on one part of the system will have an impact on another.

It is expected that changes in climate will cause shifts in ecosystems. This can in turn affect biodiversity, distribution, migration, and range patterns of plants and animals in Ontario and across the globe. A warming ocean can change habitat and food supplies for marine life, accelerate melting of the ice caps, and cause sea level rise. Forests are more vulnerable to insect damage, diseases, and fires. Shifts in weather patterns could cause unusual changes and increases in droughts, floods, storms, and other adverse weather conditions.

What does it mean for humans? Ecosystems provide valuable and necessary services for humans to survive and utilize. Changes in ecological systems will change the way we interact within and with our environment. The impacts of climate change will have an effect on many aspects of human life, including such things as food security, water availability, land use, health, economics, natural resource availability, and outdoor recreation.

According to climate experts, the main reason for change in climate is due to significant releases of greenhouse gases due to human activity, particularly over the past 150 years.

Greenhouse gases include carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF6). While greenhouse gases, of which CO2 is the most important, help to keep the planet warm and habitable, human activity in recent history has helped release significantly more CO2 into the atmosphere than would have occurred naturally.

Human activities release about 10 billion tonnes of carbon dioxide into the atmosphere each year. On average, approximately half of these emissions remain in the atmosphere causing elevated levels of CO2 in the atmosphere.

The other half is removed by our lands, forests and oceans, and stored as carbon sinks. These carbon sinks are extremely important - without them, climate change would be happening twice as fast.

Carbon itself is not a bad thing. It is the fabric of all living and non-living matter and is stored in such things as plants, animals, soil, oceans, geological formations, and fossil fuels such as coal, oil and gas.

Normally stored carbon is released and exchanged slowly through biological, hydrological, and geological processes. However, human activity through the use of fossil fuels and deforestation has accelerated the release of stored carbon into the atmosphere thereby significantly increasing the amount of CO2 in the atmosphere. Unfortunately increasing temperatures are having additional consequences; carbon stored in oceans and wildfires are causing further releases of carbon into the atmosphere making the situation worse.

So what can we do? Two words come to mind -- reducing and offsetting.

Addressing climate change is everybody's responsibility. One thing everyone, whether they are an individual, family, business, non-profit, or a government agency, can do is reduce their carbon (or other greenhouse gas) footprint, i.e. reduce the amount of carbon they are responsible for as a result of the things they do or the choices they make.

However, it is not always possible to eliminate our carbon footprint.

In such cases, it is possible to offset one's carbon footprint to reduce their overall impact. It is possible to purchase carbon offset credits by investing in specific projects that help reduce carbon in the atmosphere to compensate for the emissions that are produced as a result of various activities and choices.

Carbon offsets essentially reduce emissions to balance out the emissions that cannot be or is not reduced by the producer. Examples of projects undertaken to offset carbon include reforestation, energy efficiency, renewable energy, and landfill methane recovery initiatives.

So, are investments in carbon offsets worthwhile, credible, and legitimate? Are there any standards? Is the market regulated? What are the governments of Ontario and Canada doing to address climate change and develop mechanisms to reduce carbon? What can we do to reduce our carbon footprint?

These are some of the questions Kawartha Heritage Conservancy and Peterborough Green-up will be investigating as we conduct research for a possible local carbon offset social enterprise project funded by Ontario Trillium Foundation.

To find out more about the project and engage in the dialogue follow us at www.localcarbonoffsets.com.

Suresh V. Kandaswamy
Kawartha Heritage Conservancy