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ENVIRONMENTALLY YOURS

IN HIS BOOK *THE FUTURE*, published earlier this year, former U.S. vice-president Al Gore joins an ever-growing chorus of doomsayers. If we humans don't clean up our act, he argues, we may not have a future. No longer a theoretical concern, environmental deterioration has begun to affect our daily lives. From the declining volume of Arctic sea ice to melting glaciers to extreme vacillations in temperature and precipitation, the planet is sending its message in plain language. It's up to us, say Gore and other observers of the scene, to answer in kind.

GLOBAL WARNINGS

Let's start with that pesky polar ice cap, which seems hell-bent on continuing to melt. "You know the butterfly effect? Where a change in one part of the Earth can have a magnified influence in a distant location? That's how climate change works," says Kathleen Rogers, president of the Washington, D.C.-based Earth Day Network. "Climate change is worsening drought in some places leading to increased desertification, while in other places it is leading to increased rainfall and so more frequent flooding."

As a result, extreme weather we've been subjected to over the past few years – think droughts and superstorms – will likely "increase in frequency and intensity," she says.

Not only do melting Arctic regions affect weather, air quality, fish and fowl, they also dump toxic methane in the atmosphere, says Rogers, noting that "methane is emerging as one of the key issues in climate change."

An "average one-degree increase in the planet's temperature over the 19th century may seem like a small deal until one considers that seemingly modest temperature changes set a feedback loop in motion," says Bill McKibben, a Vermont-based environmental activist and celebrated green journalist. "Instead of having a nice white mirror to reflect sunlight and heat, we now have a big blue pool that absorbs incoming solar radiation and increases the rate of warming."

The more melting, the more heat absorbed, which spurs further melting, and so on. To put it simply: Warming begets warming.

The vast majority of scientists agree that "the lion's share of the blame for the warming since the 1960s rests on humans," says Thomas Homer-Dixon, CIGI Chair of Global Systems at the Balsillie School of International Affairs at the University of Waterloo. In fact, the National Research Council projected that the world's growing carbon emissions could raise global temperatures by as much as 6.4 degrees Celsius by 2100.

To date, the Kyoto Protocol has had mixed success in reining in the emissions heating our planet. In January 2010, the International Center for Climate Governance reported that France, Germany, Greece, Sweden and the United Kingdom had already lowered their average greenhouse gas (GHG) emission levels below their Kyoto targets, while others (notably Japan) had fallen egregiously short, actually seeing an increase in emissions. Ukraine, meanwhile, has emerged as a dark horse in the race to reduce GHGs, showing a 52.9 per cent drop between 1997 and 2010.

The second term of the protocol came into effect in January 2013. With Canada, Japan, Russia and New Zealand opting out of the exercise – not to mention the world's two greatest emitters, the United States and China – this second phase will cover only about 15 per cent of the world's carbon output.

Just how polluted is China? At 8 p.m. on January 12, 2013, an air-quality-monitoring device in Beijing registered 886 micrograms of small airborne particles per cubic metre, which translates to an air quality index (AQI) of 755. The Environmental Protection Agency in the United States advises people to stay indoors when the index goes beyond 300.

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If all goes as planned, the Green Climate Fund, formally established in 2010, will help developing nations to clean up their emitting acts and chart a more ambitious environmental course in the future.

Closer to home, most observers put their faith in renewable energy. McKibben, for one. "A newly-published study from the University of Delaware has suggested that if we built out a sun and wind grid in the United States, it could provide 99.9 per cent of our electrical power needs by the year 2030," he says. Still, given substituting one form of energy for another takes time, it's unlikely we'll be able to rely on alt-energy to get us out of our current mess.

THE CANADIAN PERSPECTIVES

Canada's 2011 decision to withdraw from the Kyoto Protocol took effect in December 2012. "[It] placed unfair requirements on Canada, given our distinct size and geography," says Canada's Environment Minister Peter Kent.

Instead of Kyoto, Canada stands by the ink spilled in Copenhagen, which commits the country to reducing GHGs by 17 per cent (relative to 2005 levels) by 2020. To this end, Kent says, "our regulatory sector-by-sector plan is working so well that the actions taken to date will bring us about halfway to our Copenhagen targets."

This statement doesn't sit well with Green Party leader Elizabeth May. Nor does Environment Canada's parallel claim, which headlined the interim sustainability report released in February, that the country is projected to "reduce its emissions by 130 megatonnes in 2020 when compared to projected business-as-usual greenhouse gas emissions in 2020."

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"It's a disingenuous lie," says May. "The benchmark for Copenhagen was the 2005 emission levels of 740 megatonnes, not some 'business as usual' projection. We're nowhere near halfway toward reducing our 2005 levels by 17 per cent. What Environment Canada has done is create a moving target."

In terms of the country's work on climate change, Kent points to the Climate and Clean Air Coalition launched by Canada and five other countries last year. "We convened the group to individually and collectively address methane, black carbon, soot, hydrofluorocarbons and short-term climate change pollutants," he explains. As a socioeconomic bonus, "Canada is capturing methane from landfills and using it in Mexico to help electrify communities not yet on the grid."

As a further example of his government's environmental efforts, Kent offers the Canada-Alberta Implementation Plan for Oil Sands Monitoring which commits the country to an environmental surveillance program for the region.

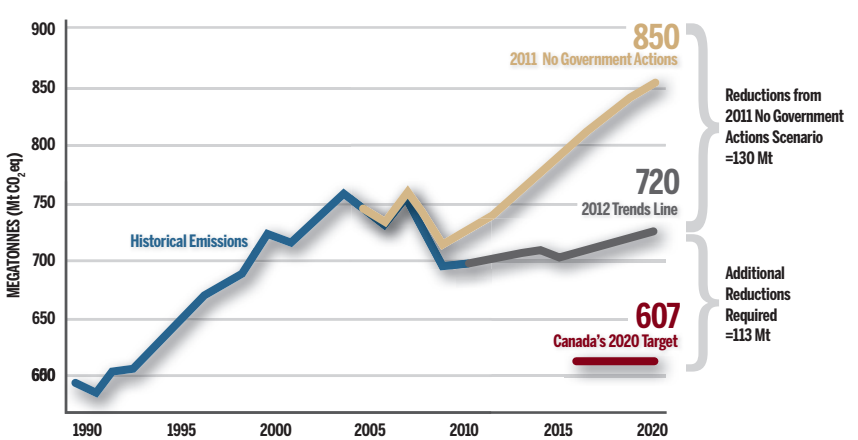
In the private sector, Canadian businesses have come to embrace sustainability. Robert Hardt, president and CEO of Siemens Canada Limited, says "about 45 per cent of our Canadian revenue comes from sustainable products and solutions. Ten years ago it was estimated to be about half that amount." With a strong commitment to wind technology, Siemens has been investing dollars into research and development of energy storage.

At Portlands Energy Centre (PEC) in Toronto, the spotlight is on bees. "We worked with personnel at [adjacent] Tommy Thompson Park to establish beehives on our site," says PEC general manager Curtis Mahoney. "The goal was to help pollinate the park to support the flora and fauna in the area."

Mahoney says the company also has installed in the facility General Electric 7FA combustion engines that are "well below regulatory requirements for emissions."

Still, as reported in the World Wildlife Fund's Living Planet Report 2012, it would take 3.5 Earths to support the demand if the world's entire population lived as Canadians do. In the view of environmental activist McKibben, we could learn a thing or two from Germany, which "generated as much as half of its energy from solar sources on some days." Why can Germany achieve what Canada apparently can't – or won't? "The fossil fuel industry seems to have less of a stranglehold over there," he says wryly.

TRENDS IN CANADA'S GREENHOUSE GAS EMISSIONS



Source: Environment Canada, *Canada's historical greenhouse gas emissions and projections to 2020, adapted from Canada's Emission Trends 2012*

A NEW ERA OF 5R

As Earth Day reminds us, we can always do better in our individual actions - reduce, reuse, recycle, restore and replenish. "It really doesn't matter where you get started," says Tovah Paglaro, the David Suzuki Foundation's current Queen of Green. "Once people find out how good it feels to live green, they keep going."

Transportation: Reuse

Car sharing (rent-by-hour) such as Zipcar and AutoShare has become popular particularly among young urban adults who question car ownership and its attendant headaches. They choose their homes so they can take public transit to work and fill the gaps by car sharing. Following the lead of cities including in the United Kingdom and France, Toronto, Calgary and Vancouver now have car2go, a fleet that uses smart cars and has no preset drop-off time or location. You can also find car sharing services, from Burnaby, B.C. to Halifax, on the Car Sharing Canada website (www.carsharing.ca).

The New Composting: Recycle

Municipal curbside composting programs have made composting "ridiculously easy," says Paglaro. You just have an extra step to sorting your waste: putting food scraps (perhaps combined with yard waste) in a separate container.

If you want a hands-on composting experience, you can buy or make a countertop composter, which takes up little space and is easy to maintain.

Some models, called vermicomposters, have you put live worms into the mix (you only have to do this at the beginning). "Nothing gets kids more excited than feeding the worms," notes Paglaro.

Home Upgrading: Recycle

Construction, renovation and demolition material accounts for 20 to 30 per cent of total waste production, and most of that waste is being sent to landfills, according to Public Works and Government Services Canada and a 2006 Recycling Council of Ontario study. Instead of throwing construction waste from a home renovation project into the dumpster, many organizations including Habitat for Humanity's ReStore locations will take the renovated waste off your hands.

And when buying materials to use in the renovation of your home, consider product made from recycled building materials. Salvage stores and supermarket garden centres sell everything from recycled concrete to reclaimed wood (from old barns, schools and industrial buildings).

Shoreline Scrub: Restore

What better way to restore an ecosystem than to clean up a shoreline? You can log onto the Great Canadian Shoreline Cleanup website, find out what cleanup projects are nearby, and sign up. You can also organize one in your own community. "Whether it's a little stream or a great lake, it's all good. All water feeds into one place," says Paglaro. In 2012, the coast-to-coast initiative cleaned up 1,815 sites and 3,102 kilometres of shoreline.

Bee Season: Replenish

To get the most out of your garden, let bees do some of the work for you. Bee houses, available at most gardening stores, have surged in popularity. You can order dormant bees (such as Mason bees, which rarely sting) from a seed shop. Place them in the house and wait until they wake up. "They'll pollinate your garden and make it look beautiful," says Paglaro.

-Written by Gabrielle Bauer, Edited by John Southerst