## **ECHNICALLY SPEAKING**

By Paul McFedries

## Changing Climate, Changing Language

According to the Nobel Prize—winning Dutch chemist Paul J. Crutzen, we are now living in the **anthropocene**, his recently coined term for the present geological period, characterized by humanity's effects on global climate and ecology. That humans are having a negative effect on the world's climate is almost universally regarded as a fact in scientific circles, but global warming stubbornly remains in the realm of fantasy in some political and business circles. I won't rehash the arguments here, since climate change is not my bailiwick. However, language change is what this column is all about, and the climate is generating a lot of linguistic heat.

For the symptoms of global warming, I love the phrase **drunken trees**, which refers to a stand of trees under which the perma-

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frost has melted. I'm not sure if these trees are considered to be "drunk" because they have so much water beneath them as a result of the melting (causing them to "drink to excess") or because the melting causes the trees to tilt at various angles, making them appear inebriated. The latter seems more plausible to me.

Did spring seem to arrive a bit earlier than usual this year in your part of the world? That wouldn't be surprising, because we seem to be undergoing season creep: earlier spring weather and other gradual seasonal shifts, particularly those caused by global climate change. Then there's the strange concept of global dimming, the gradual reduction in the amount of sunlight reaching the earth's surface. According to the British newspaper *The Guardian*, the average amount of sunlight reaching the

ground has gone down by almost 3 percent a decade over the past 50 years. In his book *The Weather Makers* (Atlantic Monthly Press, 2005), Australian scientist Tim F. Flannery blames global dimming, at least in part, on particles spewed into the atmosphere from cars and coal-fired power stations.

Much of humanity's emissions consist of carbon dioxide, of course, so a great deal of climate-change language revolves around carbon. For example, a person's total CO<sub>2</sub> output is called the **carbon footprint** or **carbon cost**, and you can calculate this by performing a **carbon audit** that tallies up the amount of CO<sub>2</sub> emitted by driving your car, running your appliances, and other activities. According to *The Wall Street Journal*, the average American's **carbon footprint** is a whopping 20 000 kilograms (compared with just about 2000 kg for that of the average Chinese).

For many people, the goal now is to become **carbon neutral**—to emit no net carbon dioxide into the atmosphere. For people

and organizations, this goal is usually achieved by carrying out renewable energy projects and other **carbon offsets**—such as planting trees, which absorb  $\mathrm{CO}_2$ —that balance the amount of carbon dioxide emissions. You don't have to deal with these offsets yourself. Instead, you can engage in **carbon trading** by investing in green projects through the emerging **carbon markets**.

These pollution trading markets are where technology ties in. Sure, some of the projects are decidedly low-tech, such as planting lots of trees. But increasingly, we're seeing savvy investors putting their money behind companies that specialize in **eco-tech**, technology designed to alleviate environmental problems and reduce the use of natural resources. This is also called **greentech**.

Other investors look for firms that practice **eco- efficiency**: making goods efficiently and with as
little effect on the environment as possible.

Sadly, all too often companies engage in **greenwashing**. They work on token environmentally friendly initiatives as a way of deflecting criticism about existing environmentally destructive practices. (This is the environmental version of whitewashing.)

As the reality of global climate change penetrates, companies will become increasingly carbonconstrained. They will not only have to stop producing bads, commodities that lead to environmental harm (as opposed to goods), but they'll also have to decarbonize: make their processes environmentally cleaner by reducing the amount of carbon produced. They'll also need ecolonomics,

sustainable living through environmentally friendly business practices. For this they'll need the principles of **green accounting**, using economic measurements that take into account the effects of production and consumption on the environment.

The end goal is **enlibra**, the process of bringing something into balance, particularly an environmental issue. There will always be **exemptionalists**, people who discount or ignore environmental problems because they believe that intelligence and technological prowess make humanity exempt from the natural processes that govern other species. But perhaps it's better to invoke the **precautionary principle**, which tells us that action should be taken to correct a problem as soon as there is evidence that harm may occur, not after the harm has already occurred.

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