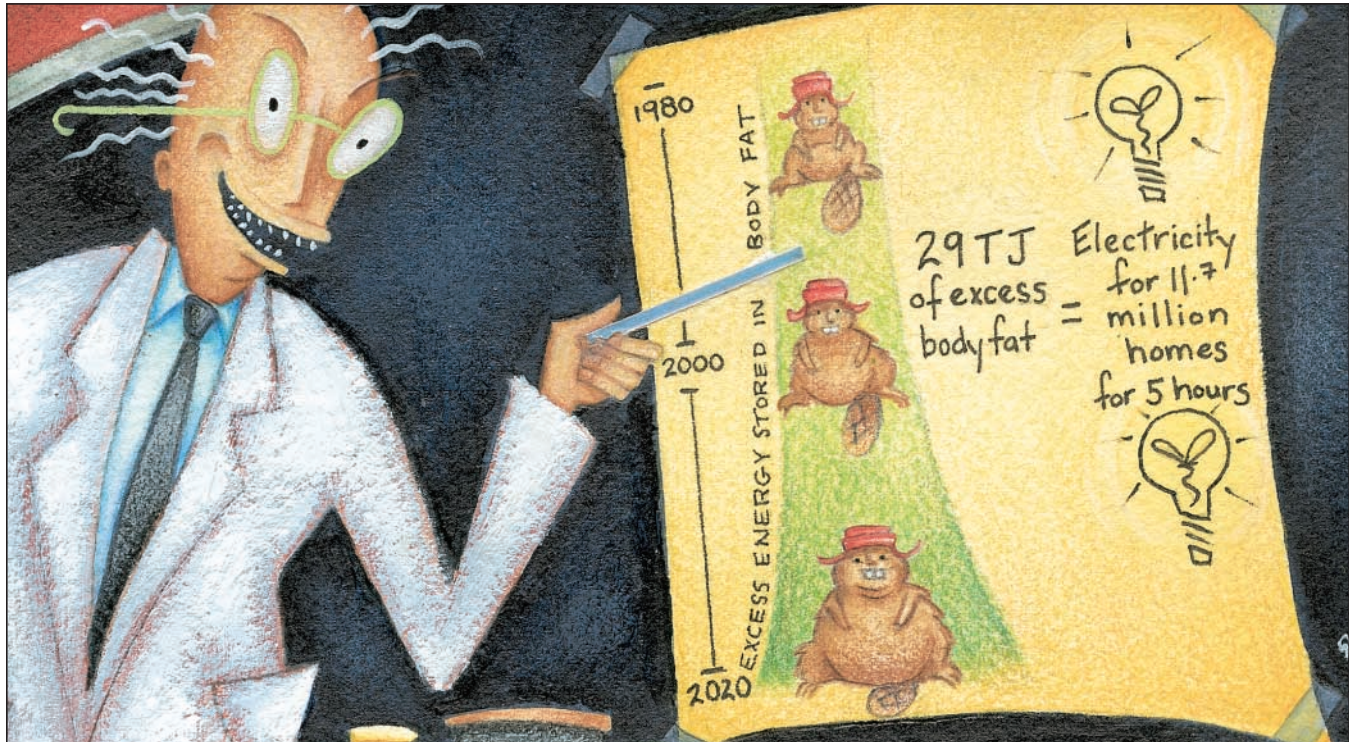


A modest proposal to meet our Kyoto commitments: The answer lies within

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Under the Kyoto Protocol, the Canadian government has committed to reducing greenhouse gas emissions to an average of 6% below 1990 levels during the period 2008–2012. The widely publicized “one-tonne challenge” is aimed at galvanizing Canadians to conserve energy and reduce their contribution to greenhouse gas emissions by approximately one-fifth. However, Canadians have been conserving and storing energy at record rates over the last couple of decades. Human body fat is an energy-dense tissue, and the increasing prevalence of overweight and obesity demonstrates that Canadians have been socking away considerable amounts of energy.

Using body mass index (BMI) data collected in the 2000 Canadian Community Health Survey, I calculated the amount of excess body fat stored in overweight and obese Canadians (i.e., the mass of body fat in excess of that which would produce a BMI of 25 kg/m²): on average 7.6 kg in men and 9.0 kg in women. In total, 8 854 862 kg (or 8855 tonnes) of excess body fat are stored in Canadian adults. This equals approximately 29 terajoules (TJ, or 10¹² J) of stored energy (using a conversion factor of 7700 kcal/kg of fat).

In 2000, total residential electricity use in Canada was 49 670 TJ. The excess body fat stored by Canadians would be sufficient to power all of the 11.7 million homes in Canada for approximately 5 hours. If recent trends in the prevalence of obesity continue, in a few years we would be able to withstand an electrical blackout similar in magnitude to the one that crippled many Canadian provinces and American states in August 2003.

Although there are substantial health risks associated with obesity, including an increased risk of type 2 diabetes, stroke, high blood pressure, coronary artery disease and some cancers, these risks must be placed in perspective: any efforts to reduce obesity, such as programs to promote physical activity, will deplete the valuable energy reserves that have amassed in the adipose tissue of Canadians, thereby forcing us to continue using fossil fuels and impeding our ability to combat global warming.

The best news for our future? Our children have learned by example and appear to be even more diligent than adults in conserving energy in the form of body fat.

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