

Reality Check

THE CANADIAN REVIEW OF WELLBEING

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It's hard to go anywhere these days without encountering talk of energy. From the price of gas to the global oil situation, energy touches nearly every aspect of our wellbeing. It fuels our economy, powers our industries, provides our jobs, ensures our mobility, and lights and heats our homes. It governs our day-to-day lives in myriad ways. And every day, we use oil by-products like plastics, detergents and paints. Energy use also dramatically affects our natural environment, which in turn affects our health and our survival.

Damn This Traffic Jam!

"Used to think that I was cool, running around on fossil fuel. Until I saw what I was doing, was driving down the road to ruin," croons James Taylor in his catchy 1977 hit "Traffic Jam."

It's no news that burning fossil fuels has some nasty side effects. But Canadians rely on them for over 80 per cent of our energy, and our use of them keeps growing. Over the 1990s, for example, our fossil-fuel use grew 10 per cent and our overall energy demand grew by nine per cent. While energy efficiency improved 12.7 per cent during this period, Canada remains among the world's biggest energy gluttons. Our per capita energy use from all fuels, including hydroelectric and nuclear power, is nearly double the average of other nations in the Organization for Economic Co-operation and Development (OECD). Our per capita energy use ranks third highest among 30 OECD nations, surpassed only by Iceland and Luxembourg.

Canada among world's biggest consumers – and polluters

We often point to our cold climate and vast geography to explain our voracious energy consumption. But other countries with similar climates consume far less. OECD numbers provide an accurate, reliable means of comparing Canada's performance with other nations that have similar climates or economies. They show that in 2002, Finland, for example, consumed about 249 gigajoules (GJ) of energy per capita and Sweden 264, compared to 353 GJ in Canada. Nor can we simply blame geographic size. According to the OECD, most Canadian transportation, which accounts for about one-quarter of total energy use, occurs within cities. Rather, it is Canada's high per capita GDP, affluence, and consumption habits that generate such high industrial and personal energy use.

Although the Kyoto Protocol commits Canada to reduce its greenhouse gas emissions, which are mainly from fossil fuel combustion, emissions rose 24 per cent between 1990 and 2003. The increase is due largely to both increased fossil fuel use and production, with fugitive emissions from oil and natural gas extraction now one of the fastest growing sources of greenhouse gas emissions. Statistics Canada reports that energy is now Canada's largest export.

Wild weather getting wilder

As for those nasty side-effects of burning fossil fuels, we need look no further than the wild weather of this last year: Hurricane Katrina and the most intense hurricane season on record; a two-foot snowfall in Los Angeles; record-breaking drought with accompanying water shortages and wildfires in Europe.... The list goes on.. All of the hottest 15 years on record have occurred since 1980.

Such weather patterns are consistent with scientists' predictions about climate change, which the 2,000 experts on the United Nations Intergovernmental Panel on Climate Change link to fossil fuel combustion and the production and use of energy.

Counting it Right

We need energy to power our economy and produce goods and services. But we don't need nearly as much as we currently use. We can get by with far less fossil fuel; it's running out, and poses a threat to our environment, health and survival as a species. Still, current measures of progress, based primarily on economic growth statistics, often send the misleading message that the more energy we consume, and the more fossil fuel we burn, the better off we are. And these conventional measures ignore the costs of that energy consumption. Resource depletion, soil contamination, air and water pollution, illness costs, damage to marine and terrestrial wildlife, land-use conflicts, and the effects of global climate change all remain invisible in our conventional economic accounts and in the narrow measures of progress based on them.

By contrast, comprehensive measures like the new Canadian Index of Wellbeing give explicit value to the quality of our environment, health, and livelihood security. They count pollution, sickness, and climate-change damages as costs—not gains—to the economy. A recent full-cost accounting study by GPI Atlantic shows that Nova Scotia's energy system produces more than \$600 million in yearly damage costs due to greenhouse gas and pollutant emissions from oil, coal and wood combustion. Costs include poor health, reduced agricultural yields, acid rain in river and lakes, and damage to forests.

The Ontario Medical Association recently found that air pollution annually causes 1,900 premature deaths, 9,800 hospital admissions, 13,000 emergency room visits, and 47 million minor illness days in Ontario, costing the province more than \$1 billion a year due mainly to absenteeism and medical expenses. The price tag rises to \$10 billion if loss of life and the value of pain and suffering are included. While some of these costs show up indirectly in our economy through impacts on productivity, business insurance premiums, and provincial expenditures, our conventional economic accounts do not attribute them to pollution, and thus conceal their cause.

If these kinds of costs were explicitly included in our national and provincial accounting mechanisms,

excessive fossil fuel combustion would suddenly appear much less attractive, and the motivation and political will to cut its use and costs would increase. Policy makers would have new incentives to commit to and track Canada's progress on the Kyoto Protocol. Financial incentives for conservation and efficiency, and for investment in renewables, would suddenly appear highly cost-effective rather than be dismissed as costs we can't afford.

Cutting energy pays off

The evidence shows that using less energy doesn't have to compromise our comfort or economy. In the 1970s, oil embargoes led many European countries to rethink their dependence on oil. As a result, these nations "broke the hitherto inseparable link between growth in GDP and energy demand," says the European Commission's 2005 Green Paper on Energy Efficiency, which outlines ways in which the EU can cut its energy use by a further 20 per cent, while helping the economy.

The report notes that improvements in energy efficiency in North America lag well behind Europe, where energy intensity – the amount of energy it takes to produce one unit of GDP – dropped 40 per cent since the 1970s in Germany and Denmark and 30 per cent in France.

Global and national examples of innovative, sustainable energy practices abound. You'll find these examples peppered throughout the pages of Reality Check. While nuclear energy is increasingly being promoted as a clean, green, renewable energy source, Reality Check has not included it among our options. Nuclear energy currently provides about half of Ontario's electricity, and 15 per cent of electricity in Canada. From an environmental perspective, nuclear energy has one huge catch: radioactive waste. Nuclear power appears costly and unattractive when the costs of long-term storage of nuclear waste are considered, along with environmental and health costs of uranium mining, and the expense of developing and sustaining nuclear technology and power plants.

Instead, Reality Check looks to the development of renewable and more benign energy technologies. We also advocate conservation measures such as financial incentives for fuel-efficient cars, and efficiency measures such as "smart" urban development, or the use of waste energy in heating systems. Better measures of progress, including the new Canadian Index of Wellbeing, can help raise the policy profile of these energy-saving efforts, and place a redesigned energy system at the top of the policy agenda.

CANADIAN INDEX OF WELLBEING UPDATE

In May 2005 Reality Check announced the creation of the Canadian Index of Wellbeing—a new measure of quality of life currently being developed in Canada. The CIW will measure progress in seven key social, economic and environmental areas. The first set of data is nearly complete in three of these areas:

- living standards;
- population health; and
- time use and balance.

In 2006, Reality Check will feature these first CIW results and report on how Canada is doing. CIW research is also currently under way on education, community vitality and ecosystem health, and will soon begin on civic engagement.

For more information and updates, visit www.atkinsonfoundation.ca or e-mail ciw@atkinsonfoundation.ca

Smart Planning Pays Off— in Several Ways

In the early 1970s, Oregon state legislator and former dairy farmer Hector McPherson was driving on the outskirts of Portland when he saw bulldozers ploughing through a tract of farmland.

In a now famous incident, he pulled over and asked a typical farmer's question: "What are you going to grow here?"

The reply: "Houses."

Outraged that such rich soil was being paved over to make way for suburbs, the state politician lobbied to enact a revolutionary land-use law that has made Portland an international model for "smart growth." Smart growth ensures that development doesn't become a city's ruin. With an eye to the future, smart urban planning tries to protect farmland and wilderness, keep housing affordable, ensure neighbourhoods have a mix of homes and businesses, and reduce dependence on cars.

Portland's groundbreaking 1973 legislation prevents sprawl by establishing a growth boundary. New development can only happen within the established city limits.

Counting the benefits of smart growth

Since that time Portland's population has grown by 50 per cent, yet its land area has increased by a mere two per cent. As result, over 25 million acres of farm and forestlands have been protected. By contrast, Winnipeg's urban boundary quadrupled in 20 years while its population only doubled. And Calgary, with only one-tenth of New York's population, has a land area of more than 700 square kilometres – close to the size of New York City's five boroughs.

Portland's greenhouse gas emissions have actually fallen per person by nearly 13 per cent since 1990, the benchmark year established in the Kyoto Protocol. Despite rapid population and economic growth, the city's overall greenhouse gas emissions in 2004 were only slightly above 1990 levels, says a 2005 report by the city of Portland. The Global Warming Progress Report highlights several factors that helped Portland cut emissions, including:

- The construction of nearly 40 high-performance green buildings;
- The planting of over 750,000 trees and shrubs since 1996;
- Weather-proofing of over 10,800 apartments and homes in two years;
- Consistent funding for energy efficiency and renewable energy programs;
- The addition of two new light rail lines since 2000.

ANNE OF GREEN TURBINES

PRINCE EDWARD ISLAND—Heavy dependence on imported fossil fuels is not only costly in an era of rising oil prices, but is increasingly risky with the impending advent of peak oil production. The PEI government boldly plans to move the province to made-in-PEI energy sources – mainly wind power. Its 2004 Energy Strategy sets a target of at least 15 per cent of electricity generation from renewable sources by 2010, and 100 per cent by 2015.

The Island currently gets about four per cent of its electricity from wind power. Its plan proposes tax and financial incentives for community-sponsored and co-operative wind developments. The Island's public energy corporation will also continue to develop wind power, and the government now requires the Island's private electricity supplier to submit an energy-efficiency plan.

These successes remain invisible in conventional GDP-based measures of progress, which give no value to the preservation of farmland and forests, and which perversely count increased energy consumption as a contribution to prosperity and wellbeing. By contrast, more comprehensive measures of progress like the new Canadian Index of Wellbeing recognize energy savings, greenhouse gas reductions, and natural resource conservation as signs of genuine progress, and give Portland due credit as a leader in good development.

Brazil's beacon

Curitiba, Brazil, presents another famous, and encouraging, example of sustainable urban planning.

Curitiba's success story began in the 1970s when visionary architect Jaime Lerner was appointed mayor. Unlike most urban planners of his generation, Lerner shunned freeways and modernist mega-projects. In a recent interview with the Detroit Free Press, he compared the car to his mother-in-law: he wanted to get along well with her, but didn't want her to rule his life.

Yet his city was dealing with a major development and transportation challenge: a massive influx of people from rural areas. Curitiba grew from 500,000 in 1970 to about 2.7 million today.

Lerner's scheme was radical, but ultimately worked. He widened five streets for exclusive bus routes radiating from Curitiba's downtown. To house the city's growing population, he zoned the land along the transit corridors for high-density housing. The result: all high buildings sit along the five transit corridors while the older neighbourhoods and natural areas are left untouched. When Lerner's transit-ways reached capacity by the early 1990s, the city purchased high-speed stretch buses that haul up to 20,000 passengers per hour on the central part of the transit-way.



NO DILLY-DALLYING OVER KYOTO

UNITED KINGDOM—While Canada wavers over its commitment to Kyoto, the U.K. has been busy cutting greenhouse gas emissions. Emissions levels are already 15 per cent lower than 1990 levels. Much of the U.K. reduction comes from switching to natural gas, with significant reductions also gained through greater efficiency and pollution control. The U.K. plans to cut emissions further to 60 per cent below current levels by 2050. Canada has no such long-term target.

The Kyoto Protocol is the only global agreement that aims to reduce greenhouse gas emissions that cause climate change. For up-to-date information on Canada and the Kyoto Protocol, see Environment Canada's Climate Change website:

www.ec.gc.ca/climate

Grow wind, grow

DENMARK AND OTHER EUROPEAN NATIONS BLOW CANADA AWAY IN WIND POWER



Toronto's Exhibition Place wind turbine, erected in 2002, is the first urban turbine in North America. The 30-storey windmill, co-owned by the WindShare Co-operative and Toronto Hydro, generates enough energy to power 250 homes.

Since the mid-'70s, Denmark has invested more in wind power than any other European country. It is now the world's largest exporter of wind turbines, and gets more than 20 per cent of its electricity from wind power.

Denmark's wind investments began first as a way to cut energy imports, and only secondly as an environmental measure. An investment subsidy introduced in 1979 covered nearly one-third of investment costs in wind turbines. By 1989, business was profitable enough for the government to eliminate its subsidy.

Wind is a growing industry all over Europe. In some areas of Germany, about half the electricity comes from wind power. With over 20,000 working wind turbines, Europe's overall wind power operations produce enough power to meet the domestic needs of more than eight million people, says the Canadian Wind Energy Association.

Despite Canada's capacity for wind power, we lag far behind Europe when it comes to harnessing the wind. Canada gets just one per cent of its energy from wind, although it has the potential to produce enough wind power to satisfy 20 per cent of its energy needs. A growing number of wind power projects, including a highly visible one on Toronto's waterfront, demonstrate the great potential for producing clean electricity in Canada. Canadian wind-power advocates hope wind will supply five per cent of the country's energy needs by 2010.

By comparison, wind energy is growing fast in Europe mainly because of public involvement and an energy pricing system that has allowed hundreds of thousands of Germans and Danes to develop, own and operate their own wind turbines, says energy expert Paul Gipe. For example, in Denmark, five per cent of the population owns shares in wind-energy co-ops. In Germany, 300,000 people are members of wind-energy co-ops.

For more information, visit: www.wind-works.org

GREEN TAX EXEMPTIONS

SAN FRANCISCO — On October 25, 2005 the city of San Francisco passed legislation that offers tax exemptions to businesses that generate renewable power or manufacture renewable-energy technology. The Bay City News Wire reports that 14 businesses are currently eligible for the exemptions, worth

\$32,000 in payroll taxes. Subsidiaries of large corporations are excluded from the tax break, it reports. The renewable energy magazine Refocus says the tax credit is based on a report that estimates clean technologies could create between 52,000 and 114,000 new jobs in California within the next five years.

THE END OF What then?



On Thursday August 14, 2003 a massive power failure plunged the eastern seaboard and central Canada into chaos.

Millions of computers, refrigerators and traffic signals suddenly stopped. An estimated 50 million people – 10 million of them in Canada – couldn't turn on their lights. Subways and tramways shut down. Many people had no running water. A state of emergency was declared and Ontario Premier Ernie Eves pleaded with Ontarians to save power as it came back on. Businesses were asked to cut their energy use by half.

Black Thursday – as it has come to be called – was a fire drill, warns Matthew Simmons, author of *Twilight in the Desert: The Coming Saudi Oil Shock and the World Economy*.

"This blackout ought to be an incredible jolt telling us about a host of energy problems that are ultimately going to prevent any future economic growth," Simmons told journalist Michael Ruppert in the online magazine *From the Wilderness*.

Simmons is the chair and CEO of Simmons & Company International, the world's largest investment bank specializing in the energy industry, and a well-respected oil authority whose clients include energy giants Halliburton, Dynegy, and Kerr-McGee. He believes oil supply issues are as serious an energy problem as the overtaxed electrical grid that left much of the eastern seaboard in the dark two years ago.

Peak oil – when will it happen?

Simmons is part of an ever-growing global chorus that warns of a coming oil and gas supply crisis. They dub the coming disaster "peak oil" production. In the next decade or two, experts say, world oil production will peak, and thereafter forever be in decline. In other words, the demand for oil will continue to grow while the supply dwindles. Some estimates say oil production could peak as soon as 2007. Optimists at the U.S. Department of Energy say it won't happen until 2037. The consensus estimate of 20 major studies conducted over the past decade is that oil production will peak around 2010. Global natural gas production is expected to peak within 20 years. It may already have peaked in North America.

Canada's economy essentially "floats on a stream of oil and gas," says Vancouver-based ecological economist and University of British Columbia professor William Rees. Primary energy "connects us materially to the world," Rees writes in a March 2000 *Globe and Mail* op-ed. Canadians depend on fossil fuels to heat their homes and transport the goods needed to survive our harsh climate. Because of industrial agriculture and food processing, even the food we eat depends on fossil fuels, says Rees. A recent *New York Times* report, for instance, found that raising one beef cow requires the equivalent of 1,076 litres of oil to produce the animal's feed, antibiotics, growth hormones and other supplements. And Cornell University food experts David and Marcia Pimentel calculate it takes nine times more energy to produce, process, package and transport a 455-gram can of corn than the corn itself contains.

What next?

In a society that relies on fossil fuels for 80 per cent of its energy, an oil shortfall has dire consequences. And the move to alternative sources is not happening nearly quickly enough to maintain our economy or ways of life.

Geologist Kenneth S. Deffeyes, author of *Beyond Oil: the View from Hubbert's Peak*, predicts modern civilization will descend into chaos as our fossil-fuel dependent economy collapses, and heating, food and transportation costs soar. Petrochemical industries

that produce medicines, paints, plastics, lubricants, and cosmetics will no longer be able to operate, writes Deffeyes, one of the first geologists to warn of the impending oil crisis.

James Howard Kunstler, author of *Geography of Nowhere*, predicts that peak oil will transform the North American suburban dream into a nightmare. "People will scramble to get out of the suburbs," says Kunstler in the Canadian documentary *End of Suburbia*.

Soaring energy prices can cause: economic hardships; inflation; fuel shortages, lack of transportation, and severe restrictions on mobility; increased potential for international warfare over dwindling energy resources; food scarcity; and major social problems. The poor will suffer disproportionately, as will nations that have limited means to switch to alternative energy sources.

Experts worldwide expect oil reserves will last 40 years, while natural gases could last 70 years, according to David Hughes, a geologist with the Geological Survey of Canada. Coal, the most plentiful fossil fuel, should last 200 to 300 years, but produces a wide range of other problems, including high levels of greenhouse gas and pollutant emissions, such as highly toxic mercury. The difference between the coming crisis and previous oil crises, like that of the 1970s, is that this one is not caused by political or human intervention, but by nature's own limits. It will be irreversible.

Canadians spending proportionally more income on fossil fuels

This year's higher gas prices may provide a hint of what's in store. According to Benjamin Tal, a senior economist with CIBC World Markets, Canadians spent an estimated \$5.5 billion of extra cash in 2004 just to fill their gas tanks – an amount that taxed away half our wage growth. According to Tal, if gas prices remained at around 80 cents per litre – the average price for 2004 – Canadians would have to increase their spending on gasoline by an additional \$6 billion to \$7 billion in 2005. Little did Tal know that this year, gas prices would spike to over \$1.30 per litre following Hurricane Katrina – illustrating the volatility of prices and the vulnerability of our oil-dependence.

Statistics Canada reports that from April through June 2005, Canadians spent \$8.3 billion on automotive fuels, oils and additives in retail stores, an increase of about 13 per cent over the same quarter last year. This was the second consecutive quarter that fuel spending accounted for nine cents of every dollar spent in retail stores, up from six cents in 1998, says Stats Can. Over the same three months, sales of vehicles, parts and services equalled \$23.2 billion, up 7.8 per cent over the same quarter last year.

While all that extra spending may temporarily make the economy grow, which in turn is misleadingly interpreted as a sign of prosperity, the impending advent of peak oil indicates these higher prices are the first hint of a long, slippery downward slide. We need to wean ourselves from our GDP-based measures of progress as urgently as we need to wean ourselves from our dependence on fossil fuels, so that a decline in energy consumption and a switch to renewables begin to register as measures of true progress.

Canadian journalist Gordon Laird travelled the country to research his 2002 book *POWER: Journeys Across an Energy Nation*. Laird believes our seemingly endless supply of cheap energy weakens Canada's economy and causes too much pollution. He says a single question emerges from all the doomsday headlines: Energy built Canada's first century, but will it undo the next?

Doing More With Less: EU study shows how to save energy and money

Evidence indicates that nations can sharply cut energy consumption without harming their economies. The European Commission's new Green Paper on Energy Efficiency lays out how Europe could cut at least 20 per cent of its energy consumption through conservation and efficiency programs aimed at homes, businesses, commercial buildings and transportation, saving \$84.5 billion per year. Each household could save between \$282 and \$1,400, depending on their current energy use. The report says half the savings could be reached if European Union member states enforced already adopted legislation on buildings, domestic appliances, and energy services.

The Green Paper guidelines could result in even greater savings for nations that aren't as energy efficient as those in Europe. The report notes that the U.S., for example, uses 50 per cent more energy than the EU to produce one unit of GDP.

The Green Paper suggests financial incentives, regulations and goals including:

- Civil service spending to boost energy-efficient technologies such as smart-cars;
- Creating national Annual Energy Efficiency Action Plans (with follow-up monitoring);
- Improving energy pricing and taxation to ensure the polluter really pays;
- Targeting state aid to provide incentives for efficient use of energy.

For more information visit:
http://europa.eu.int/comm/energy/efficiency/index_en.htm

CLEANER GAS

ONTARIO—The government of Ontario has announced that all gasoline sold in the province will contain an average of five per cent ethanol by 2007. Ethanol is a high-octane fuel additive made from agricultural crops. It is blended with conventional gasoline and results in cleaner fuel combustion and fewer pollutant emissions. The 2007 target represents the equivalent of removing 200,000 vehicles from the road, or reducing greenhouse gas emissions by 800,000 tonnes annually.

BURNING FISH-WASTE FOR FUEL

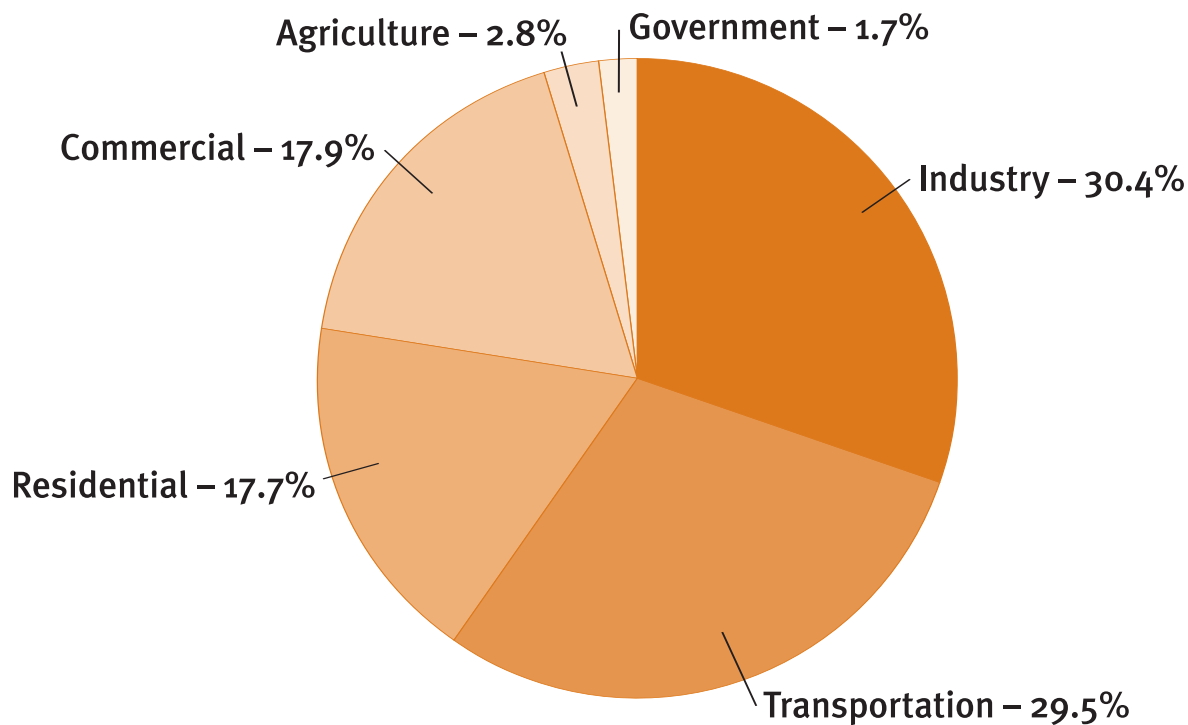
HALIFAX—In October of 2004 the Halifax Regional Municipality announced it was switching its entire fleet of public transit buses to biodiesel fuel. This fuel is a mix of 80 per cent regular diesel and 20 per cent "bio-fuel," a by-product refined from fish oil. Preliminary tests of this fuel have demonstrated reductions in emissions of 18 per cent for particulate matter, 16 per cent for carbon dioxide, and 11 per cent for unburned hydrocarbons.

SOLAR HEATERS ON EVERY ROOF

BARCELONA—In 1999 this Spanish city passed legislation requiring solar water heaters on all new or retrofitted buildings. Solar power must cover 60 per cent of the buildings' sanitary hot water requirements. In the first year and a half after the legislation, the total area of solar thermal collectors in Barcelona quadrupled. In 2002, the city's solar collectors offset the use of 780 tonnes of oil, eliminating 1,000 tonnes of carbon dioxide emissions.

WHO USES THE MOST ENERGY IN CANADA?

CANADA'S ENERGY USE, FINAL DEMAND, 2003 Percentage of overall energy used in Canada, by sector
Sources: Energy Statistics Handbook (Statistics Canada, 2005 Q1)



NOTE: It takes energy to produce energy. These percentages exclude some of the energy used by energy producers such as electric utilities and oil refineries. Energy producers consume about 20% of all the energy used in Canada – before it makes it to our homes and businesses. When energy producers are included in the above numbers, the percentages listed for sectors that consume energy drop slightly.

Levittown and Beyond... SUBURBS, CARS, SHOPPING HABITS EAT ENERGY

When William and Alfred Levitt built thousands of identical single-family homes in Long Island, New York, after the Second World War, an American dream was born. By 1950 the Levitts were factory-producing a house every 16 minutes. Soon there were 17,450 houses in Levittown. North America's first, and most famous, post-war suburb was born.

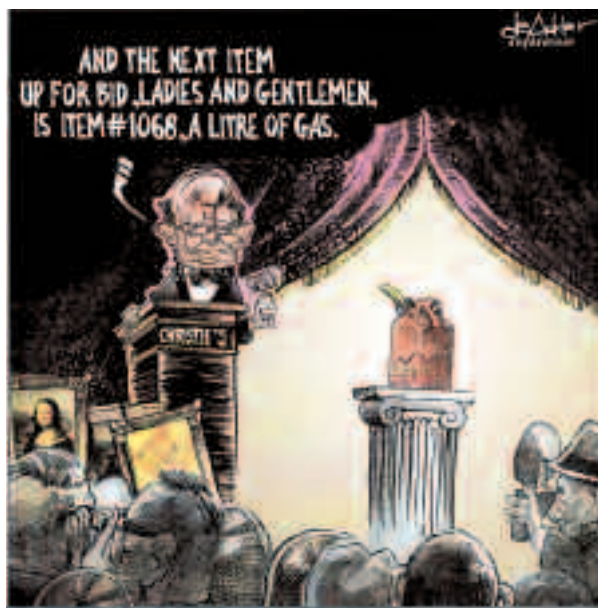
The suburban dream that began in Levittown quickly spread across the continent, symbolizing affluence, mobility, and individual freedom. "America took all of its post-war wealth and invested it in a living arrangement that has no future," says American urban-planning expert and writer James Howard Kunstler in the documentary *End of Suburbia*, which states that half of the U.S. populace lives in suburbs. Kunstler calls suburbs "the greatest misallocation of resources in the history of the world."

"The suburbs wouldn't exist if it weren't for cheap oil," says energy expert Richard Heinberg, in *End of Suburbia*. Awash in cheap oil in the 1920s and '30s, North America looked to auto companies as an economic growth engine, says Heinberg, author of *The Party's Over: Oil, War, and the Fate of Industrial Societies*.

It is largely the suburban way of life that makes Canada one of the world's greatest energy gluttons. Extensive networks of highways, roads and shopping centres service millions of single-family dwellings. But the energy and transportation network that services the suburbs and the North American lifestyle extends much further afield. Wal-Mart, for example, now gets 70 per cent of its products from China, reports Kunstler. And to get those items from Asia to Canada requires an extraordinary amount of cheap and plentiful energy, and poorly paid labour. How else could a chair produced halfway around the world be cheaper than one made down the street?

Car-culture tied to economy, lifestyle

Suburbs have also made Canadians – and the Canadian economy – dependent on one of modern civilization's biggest energy eaters: the car. Auto sales, service and manufacturing employ close to a million people, producing vehicles and parts worth \$95 billion per year. Despite record high prices for crude oil, which began climbing in late 2002, we are hitting the road – both for business and pleasure – more than ever. Energy use for cars, trucks and other



forms of transportation grew twice as fast as industrial energy use during the 12 years between 1990 and 2002, says Statistics Canada. During that same time period, travel by road increased by 10.5 per cent, while travel by rail decreased by 10.4 per cent due to shifts in both freight and passenger transportation.

Hidden costs of energy use

The suburban lifestyle keeps the economy churning at a solid clip. But conventional economic measures don't count the hidden costs of high energy use in our cars, homes and shopping malls. Federal, provincial and municipal governments spend about \$13 billion yearly maintaining roads, for example. Then there's the financial and emotional burden of the 3,000 deaths and 230,000 injuries suffered every year on our roads. The Ontario Ministry of Transportation tried to quantify the costs of motor vehicle crashes in that province in 1990 – \$11.5 billion.

The costs of air pollution – caused by cars, businesses and homes – are similarly hidden in our conventional measures of progress. They are not reflected in the price of oil, gas or electricity. Air pollutant emissions in Nova Scotia alone caused half a billion dollars in damage in 2002, according to a study by GPI Atlantic. Damages included poor health, reduced agricultural yields, less productive forests, and acid rain in rivers and lakes. The study showed the main source of air pollution in the province came from coal-burning electric power plants.

Supersize Us

Increasingly, Canadians seem to want to live bigger – bigger cars, bigger houses, bigger TVs.

According to the Canada Mortgage and Housing Corporation, Canadian homes have more than doubled in size since the Second World War. Relatively modest 800-square-foot homes for returning veterans have morphed into the average 1,800-square-foot homes of today – even though families are smaller. Modern suburbs are replete with even bigger palaces, which have been dubbed "monster homes," "starter castles" and "McMansions" in the popular press. Similarly creative terms, such as "garage Mahal," describe their three- or four-car attached garages.

South of the border, homes have grown even bigger. A 2002 study by the National Association of Home Builders found that home sizes have been growing in the United States. In 1987, the size of the average new home was 1,900 square feet; by 2001, it had increased by 20 per cent to an average of 2,300 square feet. As the U.S. Energy Department notes: "Larger homes do require increased energy consumption and will thus affect energy intensity."

We seem to want bigger cars as well. Retail sales of gas-guzzling SUVs rose by 268 per cent in Canada between 1992 and 2002. In the U.S., SUVs now account for 25 to 30 per cent of all new vehicles sold. On average, one SUV has about three times the environmental impact of a small car.

Advances in energy efficiency haven't been able to offset the growth in energy demand, which has increased steadily since the 1980s. Per capita energy use in Canada has risen by about 11 per cent since the 1980s, although it remained fairly flat over the 1990s.

Between 1990 and 2002, overall residential energy use increased by nearly nine per cent. The federal government's Office of Energy Efficiency says better built homes and reduced energy use by occupants moderated that increase. Without these improvements, it says total residential energy consumption would have been about 20 per cent higher.

Fuel prices actually declined in real terms in the 1980s and '90s, contributing to increased energy use and a drop in incentives to conserve energy or develop alternative sources.



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