

ONTARIO PLANNERS: VISION · LEADERSHIP · GREAT COMMUNITIES

ONTARIO Planning

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A person wearing a bright yellow hard hat and a red jacket with reflective strips is kneeling in a forest. They are using a mallet to work on a large, weathered log. The person has a red bag slung over their shoulder. The forest floor is covered with green leaves and dry twigs.

Collaboration in the Sault

The story of ULERN—The Upper Lakes Environmental Research Network—is both instructive and inspirational.

Planners, Please Adjust Your Sets: *The World is Changing Faster than You Think*

Definitely Not Business As Usual

Dan Leeming, Deana Warman & Diane Riley

A convergence of significant events in the areas of energy, demographics, public health and climate is about to take place. The changes to our urban lifestyles will be immense. Planners have historically studied change to try to determine the best ways to react and plan. But these major issues are so imminent, there will be little time for study.

The habits we have developed in the past 50 years have created a false sense of security. What we learned about these issues will prove to be inadequate unless there is a reordering of priorities, a significant change in society's attitude, and strong political leadership to implement a plan of action.

City regions have begun to implement some measures to deal with future demands, but in a haphazard, way. In order to be bet-

ter prepared for the level of change that we are facing, planners need to address the "big picture" analysis of the convergence of significant issues and determine how change can be accommodated in a relatively short time.

Planning for the next 25 years will be nothing like planning for the last 25. The following facts need to be considered to place the next 25 years in context:

- Until 1850, 7 percent of the earth's population lived in cities. Today, 75 percent live in cities, with an increase to 80 percent expected in the next few years.
- In 1800, the world's population was 1 billion; in 2000 it was 6 billion and rising.
- Urbanization and population growth occurred during a period of massive

reliance on cheap oil. The earth's supply of known oil is estimated to last only 30 to 40 years, with dramatic increases in the cost of accessing supply.

- Over the past 20 years, the incidence of depression, obesity, heart disease and asthma has double or tripled.
- In 25 years' time, the percentage of people in Canada over the age of 65 will increase from 13 percent to 24 percent.
- In the next 25 years, a flu pandemic will take a heavy toll on the aged and the unhealthy, taxing health care and emergency resources to the fullest.
- In the next 25 years, global climate change will bring warmer summers and an increasing reliance on air conditioning.
- In the next 25 years, coal and nuclear



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use will increase significantly to compensate for loss of oil resources. Without any significant breakthroughs in technology, this will increase air pollution, nuclear waste storage and operating costs.

The rapid convergence of these factors—massive aging populations with serious health problems in urban regions, climate change and the rapid deflation of the cheap energy bubble—means trouble for urban regions. The implications of the above facts spread like ripples through our current thinking about physical, economic and social planning.

These issues are global and Canada must seek solutions both at home and abroad. Each of these issues has a very different dimension when seen from the perspective of one of the world's most affluent countries. The level of prosperity in Canada, which has been sustained for over 50 years, has

produced complacency and denial of both the fact that these events will occur and that they will affect us directly. More alarming still is the attitude of many people that problems such as energy shortages and increasing chronic and infectious disease will be solved with some imaginary "silver bullet." These attitudes do not take account of the fact that the experience of the past 150 years of cheap energy will not be repeated. Cheap energy is coming to an end, yet most of the systems of our urban societies rely on this energy.

In this series of three articles these main factors—energy, aging and health—will be examined and some of the literature will be reviewed. The pertinence of this information for our daily needs will be discussed and recommendations made regarding actions that we as planners can take to help ameliorate the effects of significant global change.

What he means is there should be more refineries to process oil from "Somewhere Else." Limited new oil and gas finds will occur, but on a small scale; there has not been a major oil find since the 1960s. U.S. production peaked in 1970 and has been declining ever since. The world has been carefully mapped and explored for fossil fuel for some time. Canada has already passed its peak natural gas supply point, while the United States passed its back in 1973. Supplies are being depleted and costs are steadily rising. Under Free Trade, Canada exports two thirds of its gas stocks to the U.S. annually. To make matters worse, 95 percent of nitrogenous fertilizer is made from natural gas. The effects of declining fossil fuel supplies mean that the cost of food will rise due to increased production, transportation and plastic packaging costs.

4. *Why not just increase production and open the taps?* Oil pumping facilities worldwide are already working at maximum capacity to keep up with demand. Saudi Arabia, the world's largest producer, is working flat out to pump as much oil out of the ground as it can in order to meet its U.S. commitments and the increasing demands of emerging economies. In addition, increased use of fossil fuels will generate more climate-altering carbon dioxide. As energy scientist Dan Kammen states, "We're running out of atmosphere faster than we're running out of fossil fuels. The more we diversify the better" (*National Geographic*, August 2005, p. 19).

5. *Why can't alternative energy sources replace current oil supplies?* Fossil fuels have met the growing demand for energy because they concentrate millions of years of the sun's energy in the growing of plants that became fossilized into a compact form. We will not find this type of source again on this planet. The replacement of fossil fuels by alternatives such as solar, wind, geothermal, biomass (wood, corn, alcohol), hydrogen and nuclear fission is not yet a viable alternative. Even if we were to use all of these sources combined, with present-day technologies they do not even come close to providing the energy we derive from oil. To vastly expand solar, wind, and nuclear sources, not counting planning and political delays, it would take at least 40 years to match our present-day consumption of oil. We must also anticipate that there are days when the sun does not shine and the wind does not blow. And with nuclear waste already a serious storage problem, this problem will only get worse. Estimated current supplies of uranium will only last for another 50 years, so nuclear fission is far from renew-

Energy: The End of Cheap Oil

Definitely Not Business as Usual

Daniel Leeming

The issue of energy has been looming like a storm cloud on the horizon for over 30 years. North American society's understanding of energy supply and demand has been distorted, because we have had a virtually uninterrupted supply of cheap energy for several generations. Cheap energy has powered the manufacturing, automotive, home heating, agricultural and construction industries. In fact, North American prosperity has been fuelled by an abundant supply of cheap energy.

The facts about oil supply, our primary energy source, have been known for some time. The body of literature on oil supply is very compelling, but seldom makes the best-seller list. What is really surprising is the silence from the mainstream media and our elected officials about this enormous issue that has been bearing down on us for decades. The amount of oil in the earth has been estimated by international bodies to be 2 trillion barrels. In the past 140 years since initial oil production in 1860, we have used half of the world's supply, leaving approximately 1 trillion barrels. The current rate of oil consumption is 27 billion barrels a year which, when you do the calculations, leaves just 37 years of supply.

In addition to running out of our prime energy source by 2041, there are other commonly asked questions to con-

sider when planning for the future:

1. *Isn't there still lots of oil left?* The "low hanging fruit" has already been picked: the remaining oil will be harder and more dangerous to extract. When it costs a litre of oil to retrieve a litre of oil, the economics of the situation will shut production down, leaving the most difficult sources untapped. In the meantime, extraction costs will continue to drive up prices.

2. *Isn't this just another blip—remember the 1970s?* The estimate of 27 billion barrels per year is based on current demand; this does not include the rising demands of the emerging industrial giants, China and India, or the ever-increasing demands of developed nations. Their initial demands have already sent prices higher and they are only starting to develop. China's oil imports doubled from 1999 to 2004 and surged a further 40 percent in 2004 alone. Both China and India already have frequent brownouts because of short supply and priorities given to industrial use. The irony in China is that workers can afford air-conditioners for the first time, but power is often not available to run them.

3. *Why doesn't the U.S. increase its energy production?* When President Bush says that the United States must increase its energy production, he does not mean that more should be pumped out of U.S. soil, since this oil source has been dwindling for years.