



Saskatchewan



Notes

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Is Saskatchewan's natural capital going up in smoke?

- by Jim Elliott

Saskatchewan's environment is under fire. A number of substantive pressures with implications for all life in Saskatchewan tell us that we need to significantly change our socio-economic strategy and structure as it relates to our environment. These internal and external pressures if left unchecked could have devastating consequences to our entire population and the environment it depends upon today.

Climate change will likely modify our climate such that more of our land will be water-stressed. Much of our northern boreal forests will need to change to a dry climate parkland form quickly. Availability of water for human use will be greatly reduced, restricted or economically inaccessible.

"Everyone in the world depends completely on Earth's ecosystems and the services they provide, such as food, water, disease management, climate regulations, spiritual fulfillment, and aesthetic enjoyment."¹ Our global systems provide at least \$3 trillion dollars of goods and services for the people on this planet and those same systems are currently being degraded or used unsustainably. The full costs of the loss and degradation of these ecosystem services are difficult to measure, but the available evidence demonstrates that they are substantial and growing.²

The availability of non-renewable oil and gas across the globe and in Saskatchewan has or will peak soon. This will put even more pressure on oil prices to go higher and significantly limit our access to petroleum energy and products into the future, as we are not a large population with much control over the markets.

As a first step, we must begin to set up directive and transition programs to both encourage action from all of society and force a change in direction. We need to limit or reduce barriers to changing our society and its economy to one that is more sustainable and more in harmony with the environment.

This paper will explore a few key actions the Saskatchewan government should consider implementing to make a positive difference in our province's environmental sustainability.

Ecological Auditing

In the same way as we monitor where and what we spend our government monies on through a Provincial Auditor, we must be equally cognizant and forthright about what those same dollars are doing to and for the environment. Natural capital must be included in auditors' reports so that we can measure the full impacts of our actions. We need to know which systems are being degraded or

depleted. We need to have visible indicators of ecological sustainability to understand our actions with the hope that this will push us or direct us to be more sustainable.

The establishment of an Environmental Auditor for the Government of Saskatchewan would begin us on that path. Its responsibility, authority and independence would allow the Environmental Auditor to audit and publicly report on all government departments and crown corporations and be a change agent for our economy.

Waste Management

Saskatchewan residents dispose of approximately 1 tonne of waste materials every year. Almost all of this waste can easily be reused and recycled. We must begin to fully utilize our resources and develop management loops and systems to limit or decrease significantly the amount of waste being disposed of into landfills, our waterways and our air.

The establishment of a provincial Waste Diversion Fund is key to encourage local initiatives that would minimize waste and divert those remaining wastes into current resource cycles. There would be an interest to encourage the development of local employment and local businesses through the use of the current waste in the local community. It would encourage participation and sharing between municipalities, communities and businesses.

Water Conservation

As one of the first consequences of climate change, much of our future supply of and access to potable water is threatened. We must begin to replace or reduce current water demand through local grey water systems, recycling of water, simpler water treatment systems and reduced water use systems. On a small scale, the example of the Craik Eco-Centre shows that it can be done for a single rural building location.

As incidents like Walkerton, North Battleford and Ketchewan shows, it is clear that when source water for human use is jeopardized, a host of other costs are also unleashed. These include, but are not limited to, health care costs, social disruption, decreases in labour productivity and replacement of infrastructure. To avoid or reduce the ancillary costs, a precautionary or preventative approach must be implemented into every infrastructure system using water.

The provincial government could implement a pilot low- or no-water use supply system or sewage treatment system in a small rural town, village or remote location in northern Saskatchewan to introduce the practice of water conservation in areas where it can be directly useful. With examples, more small towns could reduce the demands for water supply and wastewater treatment.

Environmental Monitoring and Compliance

To better understand our impacts on the environment, more monitoring and efforts to encourage the compliance necessary to reduce our impacts on the environment are needed. We need to be employing more staff in the field and to establish a more vigorous compliance system.

There is a need for more Conservation Officers in the field to monitor our activities and respond to wildlife infractions. Further to this, the establishment of a new set of Environmental Resource Officers with the express mandate to be problem solvers and to be available to help individuals and small businesses to reduce their impacts on the environment would be extremely useful provincially. This endeavor could be augmented through website assistance tools and education programs.

Energy Conservation

As one of the first and more substantive actions to reduce our impact on the environment, we must begin to reduce our dependence on fossil fuel

energy and replace it with renewable energy supplies and energy conservation retrofits for homes, businesses and transportation systems.

The re-establishment of a provincial Energy Conservation Development Authority is recommended, with a mandate to monitor energy use, research alternatives and strategies and to plan for the most benign and environmentally sensitive energy use framework for the province of Saskatchewan.

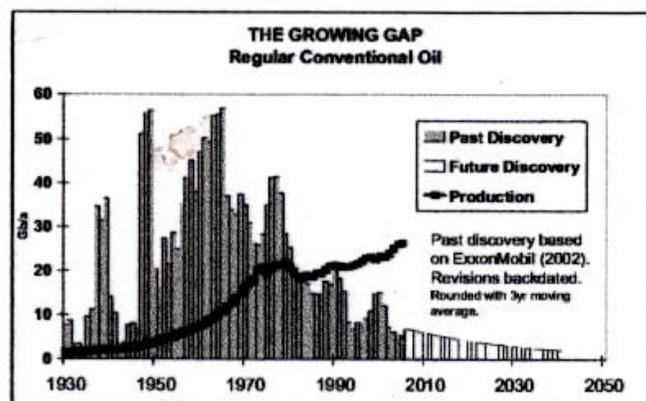
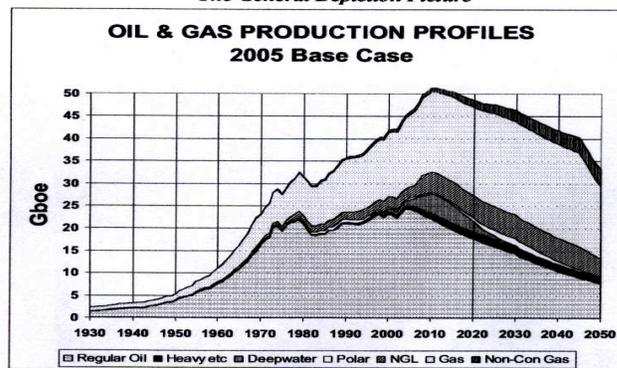
The establishment of an Energy Conservation, Retrofit & Tax Credit Fund to allow individual families, businesses and industries to retrofit and replace old energy inefficient systems with new efficient systems would also offer a great incentive to support energy conservation.

In an article titled "Critical Paths to the Post-Petroleum Age," Russell A. Brown of Argonne National Laboratory concluded:

"World petroleum production will begin to decline during the next decade. The majority of the petroleum-producing nations have already passed their production peaks....The United States has compensated for its production decline by importing oil. The planet does not have that option....the United States and the world face an energy problem that goes far beyond the need for developing new technologies or building more power plants....Preparation for both these changes and their effects must begin immediately."³

The two following graphs illustrate the ongoing and increasingly more accurate assessments of the currently available petroleum products and their use.⁴

The General Depletion Picture



The most serious issue Canada faces for its energy supplies involves natural gas. We now export 56 per cent of our production to the US. Exports are growing faster than domestic consumption. Reserves peaked in 2001 and despite huge exploration efforts, reserves are falling; we currently have less than nine years of proven reserves in Canada.

Under the provisions of the North American Free Trade Agreement (NAFTA), we cannot as a matter of policy divert exported gas to meet domestic needs. NAFTA has effectively trumped our hoped policy of allowing exports only where there was an assured 25-year supply for domestic needs.

In the prairies, the extraction of conventional oil in the Western Canadian Sedimentary Basin (WCSB) has peaked and is in decline. This is very evident in Saskatchewan. Herman Daly put it well: "The growth ideology is extremely attractive politically because it offers a solution to poverty without requiring the moral disciplines of sharing and population control."

Four of David W. Orr's characteristics of ecological sustainability are worth summarizing here.⁷

1. People are finite and fallible. The human ability to comprehend and manage scale and complexity has limits. Thinking too big can make our human limitations a liability rather than an asset.
2. A sustainable world can be redesigned and rebuilt only from the bottom up. Locally self-reliant and self-organized communities are the building blocks for change.
3. Traditional knowledge that coevolves out of culture and place is a critical asset. It needs to be preserved, restored and used.
4. Nature is more than a bank of resources to draw on; it is the best model we have for all the design problems we face.

These characteristics imply that the only long-term approach to building a sustainable world is to redesign the details of the products, buildings and landscapes around us. Such re-design --- attending carefully to scale, community self-reliance, traditional knowledge and the wisdom of nature's own designs --- requires patience and humility. It is a search for the nitty-gritty design details of a sustainable culture, one grounded in the texture of our everyday lives.⁵

“Paul Hawken has proposed such a system in *The Ecology of Commerce*: ‘to create an enduring society, we will need a system of commerce and production where each and every act is inherently sustainable and restorative....Just as every act in an industrial society leads to environmental degradation, regardless of intention, we must design a system where the opposite is true, where doing good is like falling off a log, where the natural, everyday acts of work and life accumulate into a better world as a matter of course, not a matter of conscious altruism.’⁶

¹ Millennium Ecosystem Assessment, 2005, *Synthesis Report*, World Resources Institute, Washington, D.C.

² Ibid.

³ Russell Brown, “Critical Paths to the Post-Petroleum Age,” cited in *ASPO News* No. 35, November 2003.

www.asponews.org/docs/Newsletter35.doc

⁴ *ASPO News* No. 37, May 2006.

⁵ Van der Ryn, Sim and Stuart Cowan, *Ecological Design*. Island Press, Washington, D.C. 1996, p. 7.

⁶ Paul Hawken, *the Ecology of Commerce: A Declaration of Sustainability*. Harper Collins, New York. p. xiv.

⁷ David Orr, *Ecological Literacy: Education and the Transition to a Postmodern World*. State University of New York Press, Albany, New York. 1992, pp. 29-38.

Jim Elliott is an environmental and community development consultant living in Regina. He has been part of the Saskatchewan Alternative Budget Steering Committee and has made numerous briefs and presentations to municipal, provincial and federal governments on sustainable transportation, waste diversion, environmental management and climate change. He was Conservation Director for Nature Saskatchewan in the early 1990's and was on the Environmental Roundtable at the World Urban Forum, June 2006 in Vancouver.

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