



**“One path leads to despair and utter hopelessness. The other, to total extinction. Let us pray we have the wisdom to choose correctly.”**

**Woody Allen**

## March 2013

**SAGE meeting March 7th at 7 p.m. at the Fish & Game Hut.**

**Challenges and Opportunities of Small-Scale Solar PV**  
([www.lethbridge.ca/Events](http://www.lethbridge.ca/Events)) event at Tec Connect, March 14th.

**Locally Sourced Dinner & Conversations** [lethbridgelocalfoodforum.eventbrite.com/](http://lethbridgelocalfoodforum.eventbrite.com/)  
Friday, March 8, Lethbridge College, 10 a.m. to 5:30 p.m. followed by dinner.

**Helen Schuler Nature Centre** fundraising for Exhibits that inspire discovery as part of the planned facility expansion. Contact [Becky Little](#) for opportunities for investment.

**Pathways 2 Sustainability** conference, Calgary, May 29-31.

**Source to Tap** meetings, Lethbridge, 7:00 p.m. March 12th, Nord-Bridge Seniors Centre.

## ‘C’ is for Canada

Out of 17 industrialized countries analyzed by the Conference Board of Canada in their [How Canada Performs](#) report, our country ranked 15th for an overall ‘C’ rating on the environment.

The report states that Canada has made some gains in air quality and forest growth relative to harvesting, but falls short on greenhouse gas emissions (20 tonnes per capita); nitrogen oxide and VOC emissions; on energy intensity (the worst of the 17 countries); on municipal waste generation (777 kg per capita each year); and on water abstraction which is double the per capita average.

## Dawson Creek becomes a Solar City

The 12,000 residents of Dawson Creek, in northeast British Columbia, have made a commitment to become carbon neutral.

The community has installed solar thermal (for hot water) and solar photovoltaic (for electricity) on every municipal building. To pay for these initiatives, the City imposed a \$100 per tonne levy on its operations to encourage innovation within the administration and divert funds to progressive improvements. In 2011, the city changed its building bylaws to mandate that every new building must be ‘solar ready’, which means that the structure is designed for solar, the necessary wiring and piping is installed for easy hook-up, and that solar orientation of the building is considered in the design.

It is interesting to note that the per capita GHG emissions in Canada have dropped by 5% since 1990, but the emissions overall have increased by 17%. The report suggests that this is due to CO<sub>2</sub>-intensive mining, forest, and tar sands products being exported, a continuing priority of the federal government.

The goal of the Conference Board is “to measure quality of life for Canada and its peers.” Canada received a score of ‘B’ on the related Society report card. The report continues to say that “a country must not only demonstrate a high quality of life - it must also demon-

The Canadian Solar Cities Project named Dawson Creek Canada’s first Solar City based on 10 criteria including targeted renewable energy use, a plan to reduce GHG emissions, and the implementation of policies and incentives for solar water heating and electricity generation.

Halifax has similarly accessed low-interest loans to install 1000 solar thermal systems on homes, which will be paid back with the energy savings over 10 years. The program will reduce the carbon footprint of Halifax by 2000 tonnes each year.

Lethbridge has a very high solar potential, one of the highest in Canada, and would benefit from environmental leadership to develop its solar capacity.

strate that its high quality of life is sustainable.”

The report goes on to argue that there is a “growing recognition that gross domestic product (GDP) produced at the expense of the global environment, and at the expense of scarce and finite physical resources, overstates the net contribution of that economic growth to a country’s prosperity. Canadians understand that protecting the environment from further damage is not a problem for tomorrow, but a challenge for today. Without serious attention to environmental sustainability, Canada puts its society and its quality of life at risk.”

## Lethbridge Transportation Plan

The Transportation Master Plan has been presented to City Council and represents a collaborative approach to transportation planning including input from transit and city planning.

The plan includes a vision to improve infrastructure for alternative transport including pedestrian and cycling routes, and improved transit routes and schedules. Future housing developments will be designed for improved pedestrian and bicycle access by avoiding long, circuitous routes through neighbourhoods.

There remains some resistance in Council to such planning, however, devoted as they are to the third bridge and the single-occupant automobile ride.

## The Conversation

The Government of Alberta is initiating [a conversation](#) on how water should be managed in Alberta. Water management, healthy lakes, drinking water and wastewater systems, and the impacts of hydraulic fracturing will be topics of discussion.

The outcomes of this process will help advise the ongoing planning process under the Land-use Framework and Integrated Resource Management System to achieve balanced economic, social and environmental development in the province.

If you are interested, there is an online workbook for feedback at: [https://surveys3.praxis.ca/goa\\_waterforlife\\_2013/](https://surveys3.praxis.ca/goa_waterforlife_2013/)

## Environment Lethbridge: Letter to the Herald

Editor,

Recent letters (January 31, February 14) concerning a proposal presented to City Council's Community Issues Committee in January suggesting the City provide start-up funding for an entity called Environment Lethbridge call for comment.

It's useful to identify what exactly was proposed by Environment Lethbridge: to work with Lethbridge City Council to do several things (1) develop a community entity to provide grassroots leadership in environmental sustainability (2) initiate a communication and education program for community engagement in environmental sustainability including eventually a storefront operation, website presence, and educational programs; (3) work with other organizations to achieve these undertakings (4) liaise with the Environmental Committee of City Council on issues and policies in support of environmental sustainability; and (5) collaborate with the City of Lethbridge on the compilation of the availability of baseline key indicators of environmental health of the City of Lethbridge.

One writer suggested Lethbridge should instead adopt ISO14001 certification, saying that other cities have. Calgary adopted ISO14001 in 1999. Edmonton adopted it in 2005, noting that the total cost of implementing the program would be \$125,000 with an annual cost of \$25,000 to maintain registration. Medicine Hat voted to adopt ISO14001 in 2010 anticipating external annual audits to cost \$30,000 to \$40,000. ISO14001 is an environmental management system that provides standards for operations of a corporation. It is not a broad-based sustainable community initiative.

Calgary, Edmonton and Medicine Hat, besides adopting ISO14001, have developed municipal environmental policy and support environmental initiatives leading to sustainable community. Calgary supports Green Calgary, Edmonton supports The Way We Green, and Medicine Hat supports Hat Smart. These initiatives, all with easily accessible webpages, provide models for Environment Lethbridge. All involve community stake-

holders and provide helpful information for businesses and homeowners wanting to progress towards a greener community.

One writer asks about scientific qualifications of Environment Lethbridge and expresses concerns about activists". EL proposes to have an open and transparent governance structure that meaningfully engages industry, commerce, environmental groups, educators, scientists and other interested community organizations and citizens. EL proposes to hire an Executive Director with appropriate management skills and environmental knowledge.

Environment Lethbridge is a new and evolving concept, created by a group of volunteers working together over the past few years. The presentation to the Community Issues Committee provides a starting point for a broader conversation.

The "steering committee" welcomes your views. You can contact us at <http://environmentlethbridge.org/>

### Interesting Links:

Era of Fast Growth Ends for Wind Energy in Europe <http://www.spiegel.de/international/business/0,1518,882357,00.html>

Fugitive Emissions (GHGs) from Natural Gas production  
<http://mobile.bloomberg.com/news/2013-02-05/greenhouse-gas-emissions-fall-in-u-s-power-plants-on-coal-cuts.html>

Drill, Baby, Drill: Can unconventional fuels usher in a new era of energy abundance?  
<http://www.postcarbon.org/reports/DBD-report-FINAL.pdf>



**Southern Alberta Group for the Environment (SAGE)**

**A Leading Voice for a Healthy and Environmentally Sustainable Community.**

Visit us at: <http://sage-environment.org/>

If you are interesting in getting involved, contact us at:

[sage-communications@sage-environment.org](mailto:sage-communications@sage-environment.org)



## The Collapse of Complex Societies (1988)

*The Collapse of Complex Societies* by Joseph Tainter is an anthropological study of historical complex societies that have collapsed. He provides in-depth analysis on the Roman Empire, the Mayan civilization and the Chacoan civilization which vary in time and geography. This book has had a lasting impact on understanding our own complex society, and has since informed the popular works of Thomas Homer-Dixon and Jared Diamond, amongst others.

Tainter describes complex societies as "problem-solving organizations, in which more parts, different kinds of parts, more social differentiation, more inequality, and more kinds of centralization and control emerge as circumstances require" (p.37). The thesis is that complexity is added when a problem must be solved. Initially the costs of adding complexity are compensated by the benefits, but as societies grow in complexity the 'marginal returns' of adding complexity diminish. At a certain point in the evolution of a society, the costs exceed the benefits and the society becomes susceptible to overthrow or collapse.

The process is summarized as: "1. human societies are problem-solving organizations; 2. sociopolitical systems require energy for their maintenance; 3. increased complexity carries with it increases costs per capita; and 4. investment in sociopolitical complexity as a problem-solving response

often reaches a point of declining marginal returns" (93).

Tainter argues that control and specialization are the very essence of a complex society. "The reasons why investment in complexity yields a declining marginal return are: (a) increasing size of bureaucracies; (b) increasing specialization of bureaucracies; (c) the cumulative nature of organizational solutions; (d) increasing taxation; (e) increasing costs of legitimizing activities; and (f) increasing costs of internal control and external defense" (115).

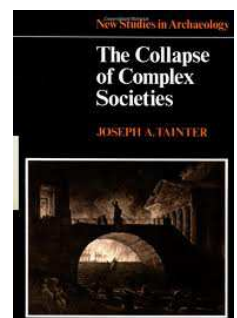
It should be kept in mind that these are the result of responses to problems, but as the problems become more complex, the specialization of bureaucracy required becomes more complex with diminishing benefits. And these organizational complexities tend to be cumulative, which means that once created they don't go away - they grow exponentially until they can no longer be sustained. This point is followed by collapse (particularly in the absence of a less complex society that is able to absorb the more complex society). In other words: "*Collapse occurs, and can only occur, in a power vacuum*" (p.202).

Tainter observes that complex civilization requires material inputs, and that "rationally acting human populations first make use of sources of nutrition, energy, and raw materials that are easiest to acquire, extract, process, and dis-

tribute. When such resources are no longer sufficient, exploitation shifts to ones that are costlier to acquire, extract, process, and distribute, while yielding no higher returns" (p.194). Each aspect of a society follows a similar path of declining marginal benefits. At a certain point more resources, research, and specialization are required just to maintain the *status quo*.

What follows? "Declining resources and rising marginal costs sap economic strength, so that services to the population cannot be sustained. As unrest grows among producers, increased resources form a dwindling supply must be allocated to legitimization and/or control. The economic sustaining base becomes weakened, and its members either actively or passively reduce their support for the polity. Reserve resources to meet unexpected stress surges are consumed for operating expenses" (p.122).

Tainter suggests that, in the bigger picture, this is not necessarily catastrophic - just an economizing step backward. He shows how this process was central to the collapse of historical civilizations and he makes it abundantly clear that our society is showing signs of diminishing returns on complexity. *The Collapse of Complex Societies* remains a classic study that informs our current situation.



Response by email from Government of Canada, Minister of National Defense regarding SAGE letter included in January Newsletter.

**Sent:** Thursday, February 14, 2013 8:54 AM  
**To:** Braum Barber  
**Subject:** RE: Suffield National Wildlife Area  
**Attachments:** SAGESuffieldNWA2012.pdf

Dear Mr. Barber:

Thank you for your correspondence of 14 December 2012 concerning the Cenovus (previously EnCana) shallow gas proposal at Canadian Forces Base Suffield National Wildlife Area.

The Department of National Defence takes its environmental responsibility seriously, and does so in the context of its primary mission: to train and maintain a combat-capable Canadian Armed Forces members to defend Canada and Canadian values. We understand that we must practise good stewardship of the environment to ensure the sustainability of our ranges and training areas.

As you are aware, on 30 November 2012 the Minister of the Environment announced that the project would not be granted federal approval to proceed as the significant adverse environmental effects it would cause are not justified in the circumstances. The project has undergone a thorough environmental review based on the best available scientific evidence by an independent Joint Review Panel under the *Canadian Environmental Assessment Act*. In making its decision, the Government of Canada took into consideration the recommendations of the Joint Review Panel, as well as subsequent identification of critical habitat in the area for species at risk, and agreed with the conclusions of the Panel regarding the significance of the project's environmental impacts.

I trust this information is helpful, and I thank you for your interest in the Suffield National Wildlife Area and SAGE's work in Alberta.

Sincerely,

Peter MacKay  
Minister of National Defence