



ENERGY DAY WEBSITES

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Geography Awareness Week 2009

Canadian Association of Geographers

The introduction to Geography Awareness Week’s inaugural Energy Day in 2008, prepared by Dr. Barry Wellar, astutely noted that “the availability of energy by type and quantity affects all aspects of the Canadian space-economy, including the agriculture, mining, forestry/pulp and paper, transportation, manufacturing, government services, health/medical, retailing, recreation, and residential sectors. Given its importance to Canadian society, energy warrants our attention on a day-to-day basis”.

The selection of websites for Energy Day 2009 builds on that theme, and focuses on capturing and highlighting the cross-sectoral, cross-boundary, and multi-stakeholder nature and orientation of “energy” in the daily lives of Canadians.

Similar to the selection criteria for Energy Day 2008, the websites selected for Energy Day 2009 attempt to draw attention equally to conventional energy sources (such as fossil fuels) and alternative energy options (such as nuclear energy, wind power, solar energy, and other renewable sources). They attempt to focus on both energy use and conservation; and they highlight the geography of energy production, energy transmission, and energy consumption.

New for Energy Day 2009 is the inclusion of sites dedicated to offshore energy development, and the encroachment of energy development on wildlife habitat (and vice versa). The websites selected for 2009 highlight the linkages between:

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| Geography and energy development | Geography and energy adaptation/ change |
| Geography and energy security | Geography and alternative energy |
| Geography and energy risk | Geography and energy use |
| Geography and economic development | Geography and lifestyle choice |
| Geography and energy conflict | Geography and energy conservation |
| Geography and land use contests | |

The ten websites selected for Energy Day 2009 are listed in an order that uses this keyword list as a guide, beginning with sites that describe energy developments in Canada and that emphasize the linkages between “energy” and other sectors and concerns (such as climate change, air quality, transportation, and agriculture/food); and



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progressing to show issues of energy security/risk; the importance of energy in economic development; and the ability of energy to cause conflict (for example, between competing land uses and among stakeholders with different visions and values).

Attention then shifts to presenting sites that highlight issues of energy consumption, including identifying the need to develop and adapt to new energy sources; and identifying and describing the linkages between energy consumption, daily lifestyle choices, and energy sustainability.

1. Hibernia

<http://www.hibernia.ca/index2.html>

This site describes the Hibernia oil field, infrastructure, and extraction processes. “Discovered in 1979, the Hibernia oil field is located 315 km east southeast of St. John's, Newfoundland, in 80 metres of water. The field is significant by any standards. For example, it is the fifth largest field ever discovered in Canada” (http://www.hibernia.ca/html/about_hibernia/index.html). This site is unique among websites selected for Energy Day (2008 and 2009), as it pertains to offshore oil resources and their extraction.

As the materials demonstrate, this site is inherently “geographic” through its description of Newfoundland’s transition from a petroleum “greenfield” to an oil-producing province; descriptions of regional geology and the nature of the resource; and issues associated with offshore development and extraction, including the mechanics of the platform, the drilling process, and ice management.

2. CIGI (Centre for International Governance Innovation): Addressing International Governance Challenges – Environment and Resources Program.

<http://www.cigionline.org/programs/environment-resources>

The Centre for International Governance Innovation (CIGI)’s Environment and Resources Program “focuses on governance issues related to climate change, resource scarcity, energy security, and agriculture and food security. The aim is to research and develop innovative policy responses to these important global issues.”

This site describes and links to current, cutting edge, Canadian Environment and Resources Projects underway, including innovations in governance in response to climate change, possible future trajectories for global energy systems (including nuclear and alternative fuels), and governance responses at the interface of global agricultural/food systems and the environment. Indicative of the scope of links



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provided by the page are projects such as “A Blueprint for the Energy Partnership of the Americas,” “Global Responses to Rapid Nonlinear Global Change,” “Global Responses to Rapid Nonlinear Global Change,” and “Nuclear Energy Futures: Implications and Options for Global Governance”. Each of these elaborates the transboundary, cross-sectoral, multi-activity and multi-stakeholder nature of energy and energy issue, with emphasis on the critically important linkages between energy and climate change.

3. Encana

<http://www.encana.com/>

The Encana website provides a wealth of information about natural gas and oil developments and extractions in North America. Interestingly, the Encana website provides insight about the connections between geography and energy conflict, energy security, and risk, in that it links to an information site about the Dawson Creek pipeline bombings. These connections are described through a media release on public safety (<http://www.encana.com/media/pdfs/p006754.pdf>) and through a link to the RCMP Pipeline Explosion Investigation site (www.dawsoncreekbombings.com).

4. Andrew Nikiforuk

<http://www.andrewnikiforuk.com/index.html>

This is the website of Andrew Nikiforuk’s 2008 acclaimed exposé of the environmental and social consequences of the Alberta’s Athabasca Tar Sands, *Tar Sands: Dirty Oil and the Future of a Continent*. The information on this site encapsulates the range of conflicts inherent to large scale fossil fuel extraction, chiefly economic development; “progress”; and job creation versus environmental impacts; social, cultural and human health impacts; and resource sustainability. The site highlights some of the issues arising from the book’s release, such as the Energy Resources Conservation Board (ERCB)’s accusation that the book presents faulty information, and Nikiforuk’s response to this criticism. The site also contains many links to a number of key related and supporting documents, including “Alberta’s Disposable Workforce”, “Bitumen Price Review”, “Energy at the Crossroads”, “Risk of the Oil Transition”, and the “U.S. Report to Congress 2008”.

5. Environment Canada: Canadian Forces Base Suffield National Wildlife Area

<http://www.mb.ec.gc.ca/nature/whp/nwa/suffield/dd02s00.en.html>

This site explores energy and land use conflicts, and specifically, the conflicts that emerge between “development” versus “protection/conservation” in the context of a



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well infill drilling program proposed by the EnCana Corporation in the Canadian Forces Base (CFB) Suffield National Wildlife Area (NWA) near Medicine Hat, Alberta. As the viewer may recall, we have already linked to the EnCana Corporation website (3 above), so accessing this site provides an additional layer of understanding to the geographical dimensions of energy development, transmission, risk, and conflict.

According to this website description, “CFB Suffield National Wildlife Area is 458 square kilometers in area and is located within the 2,690 km² Canadian Forces Base Suffield. CFB Suffield is one of the largest blocks of unplowed grassland remaining in Prairie Canada, roughly one half the size of Prince Edward Island. Undisturbed grasslands, sand hills, river breaks and wetlands are refuge to an army of plants, mammals, birds, reptiles, amphibians and insects. CFB Suffield is home to more than 1,100 known species, 20 of which are listed as species at risk in Canada. The National Wildlife Area has long been recognized as ecologically unique and fragile by the military: ground training has not been conducted in the lands that are now the NWA since 1971”.

The range of potential issues and conflicts associated with energy developments on this site are myriad and complex. Significantly, this website links to the site of the Canadian Environmental Assessment Agency (CEAA) and a set of documents pertaining to the proposed project and the Joint Review Panel environmental assessment (report and recommendations released January 2009), including public comments and submissions (http://www.ceaa-acee.gc.ca/050/Viewer_e.cfm?SrchPg=1&CEAR_ID=18709)

6. David Suzuki Foundation. Solving Global Warming: Energy

http://www.davidsuzuki.org/Climate_Change/Energy/

This site addresses the notion of economic development associated with energy revolutions (e.g. wood to coal; coal to oil and gas; fossil fuels to sustainable alternatives). In particular, it argues that a shift from fossil fuels to renewable energy sources may be equally profitable as was the fossil fuel revolution, through job creation, generating investment income, and providing a competitive edge to “green” industries and nations.

Links of particular note provided by this Energy Day 2009 selection include “Conservation and Energy” (dedicated to the environmental and financial benefits of reducing energy consumption), “Renewables” (focusing on the potential of renewable energy sources in powering the Canadian economy), “Fossil Fuels” (describing their destabilizing effect on climate), and “Nuclear” (highlighting environment and financial risk of nuclear power).

And, for geographers who have long been promoting the importance of having more regard for the geographic aspects of the energy story, they will be pleased to see the various ways that these materials challenge the reader to consider the geographic



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elements of an energy revolution: What will happen to nations and regions reliant on fossil fuels? What will happen to nations and regions capable of harnessing solar and wind power? What are the global, national, and local implications of not having an energy revolution?

7. Environment Canada: The Eole Wind Energy Project

http://collaboration.cmc.ec.gc.ca/science/rpn/eole/eole/index_en.html

Mindful of the call for an “energy revolution”, the next websites focus on selected aspects of sustainable, renewable alternative energy resources. Researchers and especially those who are new to this field may be particularly interested in learning about the materials which do an excellent job of exploring the energy-science-geography connections by describing efforts undertaken and underway in wind modeling. Using these models, the project has “established a toolkit specialized for Wind Energy mapping”. Various wind resource mapping exercises are detailed. Specifically, this website highlights the development of the Canadian Wind Energy Atlas (inaugurated 2004).

Worthy of special note are the interactive maps. This capability allow users to select an area of Canada and view visual representations of mean wind speed, mean wind energy, and topography (among others), allowing users to specify certain parameters, such as annual or seasonal (in 3 month increments) measurements of interest, and the display options (e.g. proximity to cities).

8. Cameco: Uranium in Saskatchewan

http://www.cameco.com/uranium_101/uranium_sask/

Attention now shifts to the potential of nuclear power as a renewable energy resource. This website was selected for three main reasons. First, “Saskatchewan is the world leader in uranium production”, and second, the “Cameco Corporation and AREVA Resources Canada are the two uranium producers in Saskatchewan, producing all of Canada's uranium” (http://www.cameco.com/uranium_101/uranium_sask/).

As such, this website seems to be a logical resource for understanding the range of issues in nuclear energy and the generation of nuclear power, responds to the third reason for selecting this website: there are numerous issues associated with nuclear energy, and much worry, fear and confusion among many stakeholder groups about the benefits and risks of nuclear power. This website was, thus, selected as a key source for primary information on the resource.

As noted by the website description, “‘Uranium in Saskatchewan’ is a series of fact sheets that are produced annually by Saskatchewan's uranium mining industry”. This



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website links to the 2008 fact sheets. These materials provide corporate information for Cameco and AREVA. Substantively, they detail the locations, sizes, and quality of Saskatchewan's uranium deposits; the mining methods used; the expenditures on and revenues/employment from uranium extraction; the amount of CO₂ emissions avoided by using nuclear energy; uranium exploration and production rates; and environmental protection and worker safety measures undertaken.

The factsheets also provide information on Saskatchewan's major uranium production areas, including the Cigar Lake project; the Key Lake Operation; the McArthur River Operation; the McClean Lake Operation; the Rabbit Lake Operation; the Cluff Lake Mine (decommissioned); the Midwest Project (postponed); and the Millennium Project (potential).

9. Safe Climate: A Project of the World Resources Institute, Carbon Footprint Calculator

<http://www.safeclimate.net/calculator/>

This site allows individuals to calculate their "carbon footprint", which is defined as the quantification of an individuals' (or family's) carbon dioxide emissions from energy consumption. This calculator focuses on home energy use and energy use from transportation (car and airplane), highlighting the fact that much of our energy consumption is discretionary and excessive.

By allowing individuals to understand the scope and consequences of their consumption, sites such as this are important tools for empowering citizens to make positive lifestyle choices to reduce their energy consumption and resultant greenhouse gas emissions. Specifically, such sites allow individuals to see the value of implementing changes detailed in the next, and final, site selected for Energy Day 2009.

10. BC Hydro: Green Your Home

https://www.bchydro.com/guides_tips/green-your-home.html

The B.C. Hydro site provides real guidance and advice for individuals and families on how to reduce their energy consumption (and associated environmental impacts and greenhouse gas emissions) by providing tips and suggestions for reducing daily energy use.

One especially appealing feature of this site is that it speaks directly to consumers by linking reduced energy consumption with reduced energy costs. While reducing environmental impacts is the overall goal of this site, associating reductions in energy use with saving money is a practical and powerful message for consumers that is likely to attract and retain voluntary compliance.



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Significantly, this site links to a number of “Power Smart Green Guides” (for heating, cooling, lighting, water, appliances and electronics). These guides identify a set of tips for reducing energy consumption (for example, “draft proof your home”) and ranks each tip according to its affordability to implement, the cost savings it will lead to, and the reductions in carbon dioxide emissions that will result from taking an active role in reducing energy consumption.

The websites selected for Energy Day 2009 complement and supplement the websites selected for 2007 and 2008, and contribute to an impressive compilation of facts, figures, maps, images, and other means of representing the unfolding story of energy in Canada.

And, more importantly for the purposes of the Geography Awareness Week program of the Canadian Association of Geographers (CAG), each of the selected websites makes a significant contribution to the Energy Day mission of elaborating the geography-energy connection.

Shannon Christie Bruyneel, a Ph.D. Candidate in the Department of Geography and Planning at the University of Saskatchewan, conducted the website search and selection process for Energy Day. Questions about the search and selection process for the Energy Day 2009 websites should be directed to shannon.christie@usask.ca.

On behalf of the CAG, and all viewers, thanks are given to Shannon for selecting the websites and preparing the descriptions of website contents.

The summaries are very “viewer friendly”, and provide a context and frame of reference for choosing which websites to visit, and perhaps for deciding which ones to view in which order.

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