

Energy
Course Outline Fall 2010
DIAL 390, 391, 392

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Location: SFU Harbour Centre Campus, HC 3050

Topics

Our future and that of our planet is affected by two overwhelming trends: we are running out of oil, and climate is changing due to excessive carbon emissions. Our human economies and life styles, the survival and diversity of other organisms, and earth's climate depend on how we adapt to new energy constraints. The choice is not whether to change, but rather how to develop sound energy policies and personal living practices that allow a gentler transition into the new energy economy. This semester is about hope, and solutions, focused on thoughtful, confident planning and rigorous analysis to enable effective adaptation to these challenges. "Energy" topics will include:

- Peak Oil: Will we run out, and are there viable carbon-based alternatives to oil?
- Alternative Energy: How can business, science, and social policy synergize a new energy economy, and who will be the key players?
- Transportation: How might transportation be redesigned locally and over long-distances to adapt to changing energy prices and sources?
- Climate Change: How can we reduce carbon emissions, maintain robust economies, and adapt to current and future levels of global warming?
- Life Cycle/Lifetime Analysis: How do we analyze the status quo and options for change to determine which are optimal economically, personally, and environmentally?

Assignments

Growing the Story: first day of class, and one update during the semester. This assignment involves initially building a process for class work, then learning how to engage and facilitate dialogue through a case study. Details will be provided for you on the day these exercises begin, but note that the latter "growing the story" exercise will involve an overnight assignment requiring evening work at SFU.

Reflective journal: keep a regular journal with your reflections/observations concerning how the values, approaches and experiences of the course provide insights into your own personal and professional growth. This assignment will not be read or graded, although we hope you share some of your observations with the faculty and class. Occasionally, we may ask for a one-page reflection on some aspect of the course, and we will return those to you with feedback.

Photos and biographies: students work in pairs to prepare brief biographical sketches of each other. Each 200-word biography is prepared by the other member of each pair and is based on an interview and follow-up discussion with that person. Each completed biography is accompanied with a photo of the person and is emailed to Linda Bannister for posting on the Undergraduate Semester in Dialogue website.

First Paragraph: each student will prepare anonymously an opening paragraph related

to an energy theme. Working collaboratively, each paragraph is reviewed and edited by the entire class and faculty. The assignment demonstrates effective approaches to giving and receiving feedback and constructively supporting one another in writing situations.

Preparing for Dialogue with Thought Leaders: a student will be assigned to each Thought Leader to prepare a short document circulated to all students electronically at least three days prior to the guest's visit. The handout should include a brief biography, suggestions for two readings on the topic and discussion questions for the dialogue with the Thought Leader. The student will be responsible for greeting the guest, facilitating the dialogue, and thanking the Leader at the end of the day.

Thought Leader debriefs: a short debrief will be held after most guest visits, either during or right after lunch.

Thinking About Energy: Students will explore energy use and resources through a quantitative but non-technical approach. Topics will include the difference between power and energy, relationships between percentage growth and exponential growth, understanding past, present and future energy consumption, future energy sources, and others, all with a focus on British Columbia.

Op-Ed Piece: You will write and submit an article for a daily newspaper, as well as deliver an oral presentation. Initially, you will meet in small groups to discuss your piece verbally and receive feedback, followed by a similar session with the entire class. Then, you will produce a 750-word article to submit as an opinion/commentary piece to a major Canadian newspaper.

Power in Energy: Small groups will find and interview the five most important people who are having influence on a current issue involving energy. Your objective is to determine "how the world works," i.e. the dynamics of reaching consensus or conclusion, and the factors that encourage or inhibit progress. Your project should include policy recommendations to government that would resolve the issue, and your group will report back in an oral presentation in a format to be decided by the class.

By the Numbers: Life cycle and lifetime analysis are ways of determining the environmental, economic, and social advantages and disadvantages of the many choices we are faced with: cloth or paper diapers, disposable or washable dishes, 100 mile diet or global food sources, what is "best?" How much does it cost to produce the energy we use? Students will work in small groups, select a life cycle and/or lifetime challenge, and report back on their conclusions.

Walking the Talk: You will propose and implement a significant change in your own use of energy that reflects an effective adaptation to improve your personal environmental impact. Then, you will report back on what you learned through trying to change your own habits. Ideally, your Walking the Talk project will relate to the topic you chose for By the Numbers. Will include oral presentations and a short written report.

Business Making a Difference: In groups, you will explore how local businesses are reacting to energy challenges. Your task will be to find and visit a business or group of related small businesses that are attempting to improve aspects of their environmental impact through changing energy use, while maintaining a viable bottom line. Your report will describe their approach, evaluate how successful they have been, and make recommendations for future actions that represent economically viable adaptations. Will include oral presentations and a short written report.

Public Dialogue: Students choose a topic of broad public interest related to Business Making a Difference, and organize, advertise, facilitate, and produce a web-based report on your public dialogue. Students will be responsible for every stage of this event, with input from faculty and thought leaders.

Other assignments: Additional short assignments may be developed throughout the semester.

Final individual project: produce a 3000-word manuscript or equivalent in other media including but not limited to painting, sculpture, video, audio, multimedia, dance, etc. Your work should be on a topic relevant to “Energy”, and suitable for submission to major public outlets such as newspapers, magazines, book publishers, documentary film festivals, television or radio stations, art galleries, or other appropriate venues. You will be required to submit a “proposal to the editor” by mid-October.

Grading and Feedback

Written assignments/oral presentations: These will be reviewed and edited in a timely fashion by faculty, returned, rewritten, and resubmitted. Students also will exchange manuscripts for constructive comments. Oral presentations will be critiqued both in class and privately.

Mentoring: We expect you to meet with faculty on a regular basis to discuss your projects and any issues relating to the course, as well as to receive feedback.

Grading for the three courses will be divided as follows:

Dial 390: TBD

Dial 391: TBD

Dial 392: Final Project

Readings

Our approach to general reading assignments is different than you may be used to in your previous coursework. To understand impacts and solutions, you need to immerse yourselves in everything related, including books, reading appropriate articles/columns in

daily newspapers and weekly/monthly magazines, and uncovering reports, documents, and academic studies in areas you are particularly interested in.

The books/articles listed below are examples from which we will be drawing readings. You will be reading for general background knowledge and as aids in developing your individual perspectives, not for detail. That is, these are “pleasure books,” to be enjoyed and absorbed but not memorized. A few of the books will be ordered through the SFU Bookstore (Harbour Centre) and assigned in their entirety, and we suggest you start those readings before the semester begins.

Potential Assigned Books (Not all will be chosen, but the selected books will be available in SFU Harbour Centre bookstore late May/early June)

Ian McEwan	<i>Solar</i>
Andrew Nikiforuk	<i>Tar Sands: Dirty Oil and the Future of a Continent</i>
David JC MacKay	<i>Sustainable Energy, Without the Hot Air</i>
Tom Rand	<i>Kick the Fossil Fuel Habit, 10 Clean Technologies to Save Our World</i>

Readings for each Thought Leader will be distributed the first day of class, as well as additional readings that will be assigned throughout the semester. For the full set of readings, see <http://semesterindialogue.pbworks.com/FrontPage>.

Thought Leaders

Jason Bak, Finavera Renewables

Stephanie Bertels, SFU Business

Karen Campbell, Pembina Institute

Morag Carter, David Suzuki Foundation

Melissa Davis (BC Citizens for Public Power)

Bob Elton, Former CEO BC Hydro

Chris Fordham, Senior Sustainability Strategy Specialist, Suncor

Fred Ghatala, Canadian Bioenergy

David Helliwell, Pulse Energy

Mark Jaccard, Professor, Resource Management, SFU

Judith Marcuse, Fellow SFU Centre for Dialogue (workshop)

Michael Margolick, NaiKun Wind Energy

Donald McInnes, Plutonic Power

Bruce Sampson, former VP Sustainability of BC Hydro

Shauna Sylvester, Carbon Talks

Paul Sullivan (media/op ed session)

Andrew Toth (improv and energy)

Rob Woodbury/Lyn Bartram: <http://westhouse.sfu.ca/contactUs.html>

Patricia Bell (Community Energy Association) and **Ken Carrusca** (Metro Vancouver)

Josh Paterson (West Coast Environmental Law) with **Dr. Paul Kariya** (Independent Power Producers Association)

Anthony Perl: SFU Urban Studies/**Trish Webb** Translink

Deborah Harford, Adaptations to Climate Change, SFU

Robin Junger, Deputy Minister, Ministry of Energy, Mines and Petroleum, BC

James Mack, Acting Head, Climate Action Secretariat, B.C.

Tours

Omnicon (plus UBC buildings, Tammy Stephen contact)

UBC Sustainability (<http://www.sustain.ubc.ca/green-building-and-sustainability-tours>)

Neighbourhood Energy Utility, City of Vancouver (Manager Chris Baber, P.Eng.)

Lighthouse

Undergraduate semester courses/Energy 2010