DEPARTMENT OF
Geography and Planning

GPHY 880 – The Geography of Energy

Contact Time	One 3-hour session per week, involving lecture/discussion/ breakout time		
Format	Lectures and discussions in the classroom setting		
Class assessment	In-class participation	20%	Throughout term
	Briefing note #1	25%	Week 4
	Briefing note #2	25%	Week 11
	Group presentation	30%	Weeks 10-12

LEARNING OUTCOMES

To complete this course, students will demonstrate their ability to:

1. Critically review academic literature related to energy supply, demand, and policy in the Canadian context;
2. Describe the function of different energy generation options, in terms of technological readiness level and end-use fit;
3. Understand the impact of geography on energy feedstocks, supply, transmission, and use across Canada;
4. Present complex concepts in written formats;
5. Work independently and in groups to complete assignments

COURSE TOPICS

This course provides detailed insights into the historic, current, and projected distribution of energy production and consumption across Canada. The topics covered will cover four key areas of importance to Canadian energy – historic demand drivers in the evolution of Canadian energy supply, our current role as an energy exporter, the development of renewable energy, and an examination of the projections of future energy demand across our country. Each topic will be illustrated with case studies drawn from across Canada, including each region of the nation and reflecting upon the differences in federal and provincial perspectives. A key focus will be the relation between energy and environment, including air and water quality.

The first section of this course will provide a historical perspective by considering the development of 'energy' policy in the context of natural resource management. The actions of different institutions in the evolution of Canadian energy management will be highlighted. The second section of the course will consider the rise of the Canadian energy export market, and the transition that this sector faces with changes to carbon pricing and tariffs as introduced both at home and abroad. The third section of the course will discuss renewable energy development from an environmental perspective, and will explore the role of environmental policy in creating incentives for new renewable energy projects. Finally, we will consider shifts in energy demand from the consumer perspective, and look at different ways in which energy demand may evolve and the relation this will have to our energy portfolio.

SELECTED COURSE TEXTS & READINGS

Axsen 2014. Citizen acceptance of new fossil fuel infrastructure. Energy Policy 75: 255-265

Barrington-Leigh, Ouliaris 2017. The renewable energy landscape in Canada: A spatial analysis. Ren. Sust. Energy Reviews 75: 809-819

Das et al. 2014. Optimal incentive design for targeted penetration of renewable energy sources. IEEE Trans. Sust. Energy 5(4): 1213-1225

James 1993. Energy politics in Canada, 1980-1981. Can. J. Pol. Sci. 26(1): 31-59

MacArthur 2017. Trade, tarsands and treaties. Sustainability 9(3): 464