EMRG News
The Newsletter of the Energy and Materials Research Group
Summer 2013, Volume 22, Issue 2
ISSN 1206 5595

In This Issue:
- Interview With Jaccard
- Policies and Passenger Vehicles
- Green Cars and Green Electricity

Mark Jaccard Brings His Message to the International Stage

Mark Jaccard as interviewed by Maxi Kniewasser

Why did you go to Washington DC in April?

I was invited to provide testimony before the Energy and Power sub-committee of the US Congress on the Keystone XL pipeline proposal. I argued that we need to stop building new, long-lived carbon polluting infrastructure, like this pipeline, because all independent analysis shows that such infrastructure is only justified in a world in which we keep increasing carbon pollution and drive global temperatures 4 C and perhaps 6 C above pre-industrial levels – which scientists say would raise and acidify oceans, destabilize the climate as the earth heats, cause massive species extinctions and great harm to humans. If politicians, like President Obama, are to be honest about their promises to prevent global warming on this scale, they need to prevent such projects. They also need to be pushing other jurisdictions to act similarly, pressuring Canada to stop expanding the tar sands and China to stop expanding the use of coal.

Why did you go to Europe in May?

For six days in May I toured five European capitals with James Hansen, the US climate scientist, to encourage European politicians to maintain the Fuel Quality Directive (FQD), a policy that was passed by the European commission and parliament several years ago, but has not been fully enacted.

Cont. on pg. 2
The Europeans are currently facing intense lobbying by the governments of Canada and Alberta and by oil companies with investments in Alberta’s oil sands. The reason is that the FQD hinders imports of fuels that have been extracted or processed with higher than average greenhouse gas emissions, examples being Alberta oil sands, shale oil and coal-to-liquids. I believe that the FQD should be fully implemented because jurisdictions like Europe, that are likely to meet their 2020 emission reduction targets, are wasting their time and money if they simultaneously help to increase imports of fuels that cause higher emissions in other jurisdictions. Climate policies must increasingly reach beyond national borders (or even multi-national entities like the EU) if humanity is to have any chance of dealing with this massively difficult challenge.

Policy Neutrality in the US Passenger Vehicle Sector

By Jacob Fox

EMRG student Jacob Fox defended his Master’s project on May 27, 2013. The examining committee was composed of Dr. Jonn Axsen and Dr. Mark Jaccard. Jacob’s research project used a sub-model based on the hybrid energy-economy CIMS model and risk analysis techniques to analyze the costs of technology-neutral and technology-specific climate policy designs for a case study of US passenger vehicles. More specifically, Jacob compared a technology-neutral carbon tax with two technology-specific low-emission vehicle mandates.

In this case study, Jacob found that the technology-specific vehicle mandates result in a lower overall expected policy cost-effectiveness than a carbon tax on vehicle fuel because of the risk such vehicle mandates pose of policymakers in government “picking the wrong winner.” However, Jacob found as well that a fuel carbon tax depends mostly on a reducing vehicle travel to achieve GHG emissions reductions and is unable to overcome initial market barriers to the consumer acceptance of advanced low-emission vehicle technologies such as plug-in hybrid electric vehicles. The CIMS sub-model that Jacob used possesses key limitations including: consumers with zero foresight, fixed assumption for fuel supply and cost, and assumptions about uncertainty that seem to implicitly favour the adoption of plug-in hybrid electric vehicles over biofuels.

If you have further questions about Jacob’s research, please e-mail him at jacob.fox1@gmail.com.

Recent Publications: Do Electric Vehicle Buyers Want Green Electricity?

By Jonn Axsen

Clearly, the environmental impacts of electric vehicles depend on the source of electricity used to power the vehicle. One potential solution is to link consumer demand for the two products -- that is, to allow electric vehicle buyers to also purchase green electricity, either through their electric utility or by installing home solar panels. Dr. Jonn Axsen recently completed a study with BMW Motors to explore this idea. He designed a web-based survey to elicit car buyer interest in plug-in electric cars, in green electricity programs, and in the combination of the two "products." The survey was completed in 2012 by over 1500 U.S. new car buyers.

Initially, Dr. Axsen found that most car buyers did not think about electricity sources when thinking about plug-in vehicles. But once the idea of green electricity was explained, consumers overall saw it as "complementary" to plug-in vehicles. Specifically, by providing the option to purchase green electricity, more people were interested in buying some type of plug-in vehicle -- demand jumped by 23% in some consumer segments.
Consumers were driven by a number of motives, including environmental concern, interest in new technology, and desire to have control over their electricity source.

Results point to the potential to link markets for plug-in vehicle and green electricity. BMW Motors has already taken such steps; their all-electric ActiveE vehicle is now being offered with the opportunity to purchase renewable energy certificates. Dr. Axsen is now continuing this line of research (synergies between electric vehicles and green electricity) with a set of consumer surveys, interviews and economic and technical modeling exercises exploring the Canadian context--working with a team of students at EMRG.


Download the open access PDF here:

View the video abstract here:

**EMRGer in Paris and on the Airwaves in French**

*By Adam Baylin-Stern*

Recent EMRG graduate and researcher Adam Baylin-Stern was selected amongst thousands of applicants for the final round of interviews in the Organisation for Economic Cooperation and Development (OECD)’s Young Professionals Program. He interviewed this past February in Paris for a position studying Environmental Taxation across OECD member countries. Though not selected, Adam received pre-clearance for future recruitment at the organization following his interview. Perhaps he will be seeing more of Paris in the near future…

Mr. Baylin-Stern also recently gave a live radio interview in French on CBC/Radio-Canada BC for the program Phare Ouest hosted by Myriam Fehmiu. The interview involved questions surrounding BC climate politics, and whether the province is investing sufficiently in climate change mitigation and adaption actions. It was a rewarding process, and a great chance for Adam to apply his knowledge of energy systems and climate change policy to French media (as Adam demonstrated, pipeline is ‘oléoduc’). You can hear the interview here: http://www.radio-canada.ca/emissions/Phare_ouest/2012-2013/chronique.asp?idChronique=283871

**Derek Peters and Jonn Axsen Present at Quebec Smart Grid Conference**

In the beginning of May, Jonn and Derek attended and presented at a conference in Wakefield, Quebec called "Unlocking the potential of smart grids: A partnership to explore policy dimensions". This conference brought together researchers from universities in Ontario, Quebec, British Columbia, and the United States that have partnered together to better
understand the societal significance of smart grids and the policy issues which they raise. Jonn's presentation was titled, ‘Linking Plug-in Vehicles to Renewable Energy through Smart Grids’ and Derek's ‘Citizen Perceptions of Smart Meters: Comparing Survey Results Across Canadian Regions’. Both presentations were well received, and the conference definitely contributed to Jonn’s and Derek's future research with this smart grid partnership.

EMRG Ph.D. Student Jeff Rambharack Receives SSHRC Doctoral Fellowship

In April, 2013, Jeff Rambharack was awarded a Doctoral Fellowship from the Social Sciences and Humanities Research Council (SSHRC). SSHRC is a federal research funding agency and supports research in the humanities and social sciences. The fellowship will support his Ph.D. research in the field of energy policy. His research projects are in the areas of California Energy Policy, Green Jobs, Electric Vehicles, and Renewable Energy. Ph.D. students across Canada compete for Doctoral Fellowships annually.

Ekaterina Rhodes Wins Two Prestigious Doctoral Awards

Ekaterina Rhodes, Ph.D. candidate, has been selected as a recipient of the highly prestigious Vanier Canada Graduate Scholarship (Vanier CGS) awarded by the Social Sciences and Humanities Research Council (SSHRC). The scholarship will support Ekaterina's research on the key attributes of effective and acceptable climate policies in Canada, conducted using survey techniques and energy-economy modeling. As a Vanier Scholar, Ekaterina is among a select group of accomplished individuals chosen to receive this honour based on her strong leadership skills and a high standard of scholarly achievement in graduate studies. The Vanier CGS program is designed to attract and retain world-class doctoral students by offering them a significant financial award to assist them during their studies at Canadian universities. The program plays an important role in fulfilling the Government of Canada's Science and Technology strategy to promote the development and application of leading-edge knowledge and support the development of a world-class workforce.

In addition, Ekaterina won another Doctoral fellowship from the Pacific Institute for Climate Solutions (PICS) to support her research on the environmental and economic effectiveness of Vancouver's Greenest City Action Plan. PICS fellowship program assists talented graduate students from B.C.'s major universities and produces a diverse array of research outcomes related to climate change.

Contact Us

EMRG News
For more information contact Noory Meghji at noory_meghji@sfu.ca

Simon Fraser University
School of Resource and Environmental Management
Vancouver, BC, Canada V5A 1S6
Phone: (778) 782-6621
Web: http://www.emrg.sfu.ca/