Fuelling Conversation in Saudi Arabia

Early this past November, Jonn Axsen travelled to Riyadh, Saudi Arabia, to attend a workshop hosted by the King Abdullah Petroleum Studies and Research Centre (KAPSARC). The conference brought together internationally recognized researchers and stakeholders from around the world to talk about their work on technologies, markets, and policies related to alternative fuels and electric vehicles. Jonn gave three presentations that contributed to stimulating discussion among those gathered around the table.

The first presentation, titled ‘The roles of demand-focused and supply-focused policies in North American PEV sales’, conceptualized a distinction between policies that target plug-in electric vehicle (PEV) demand and those that target PEV supply. Demand-focused policies include vehicle purchase incentives, such as rebates and fee reductions; energy incentives, such as preferential electricity rates; vehicle charging policies, such as home-charging incentives and public-charging deployment; and non-monetary benefits, such as access to carpool lanes. Supply-focused policies include vehicle purchase incentives, such as rebates and fee reductions; energy incentives, such as preferential electricity rates; vehicle charging policies, such as home-charging incentives and public-charging deployment; and non-monetary benefits, such as access to carpool lanes. Supply-focused policies include zero emission vehicle mandates, crediting PEVs in vehicle efficiency and low-carbon fuel standards, and funding for PEV research and development. The presentation then outlined the effects of these various policies on PEV market share and emphasized the need for both strong supply-focused and strong demand-focused policies.

The second presentation, titled ‘Moving beyond PEV hype to decarbonize transportation’, outlined how alternative fuel vehicles have largely ‘failed’ for the past 35 years. Despite numerous hype cycles for various types of alternative fuel vehicles, a number of market, government, and system failures have stood in the way of these vehicles becoming widely adopted. The good news is that recent survey research by Jonn and his team suggests that close to one-third of new vehicle buyers would like to purchase a PEV if they were not held back by constraints such as lack of familiarity with PEVs, lack of PEV availability, and lack of access to home charging. Well-crafted government policies would help remove these barriers and facilitate higher rates of PEV adoption. A combination of supply-focused and demand-focused policies are likely required in North America, while other regions with a tolerance for high taxation (such as Norway) might follow different paths.

The third presentation, titled ‘How future plug-in hybrid buyers will differ from present owners: Preferences for vehicles and controlled charging’, presented a number of findings from the recent Canadian Plug-in Electric Vehicle Survey. The research found that current

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PEV owners, referred to as PEV Pioneers, tend to have higher income and education levels and to have green and/or techie lifestyles and motivations for buying a PEV. On the other hand, those who may eventually become early mainstream PEV owners tend to have lower income and education levels and a wider variety of lifestyles and motivations. Furthermore, PEV Pioneers tend to have a higher awareness of PEV technologies and often prefer battery electric vehicles, while early mainstream adopters have a lower awareness of PEV technologies and a strong preference for plug-in hybrids. The presentation also discussed perceptions of utility controlled charging (UCC), in which electric utilities control some aspect of PEV charging such as timing, charging rate, and discharge. Concerns surrounding UCC among early mainstream adopters include invasion of privacy and loss of control.

**Words of Advice for the New Canadian Government**

By Mark Jaccard

I believe that Justin Trudeau and his cabinet sincerely want to reduce CO2 emissions, even at a political cost. But they don’t want to be a one-term government. So, on February 2, I released my proposed strategy for Trudeau. I noted that, to be effective, climate policies must either price carbon emissions (carbon tax, as in BC, emissions cap with tradable permits, as in Quebec) or phase-out by regulation those technologies that burn coal, oil and natural gas (Ontario’s forced coal plant closures, California’s vehicle emissions regulations). I further noted that while carbon pricing is more economically efficient, we have not been able, in 25 years of trying, to raise carbon prices to levels that would significantly reduce emissions. Yet over this time, we have, in some jurisdictions, enacted a few politically acceptable regulations that significantly reduced emissions. My recommendation? Pursue carbon pricing in cooperation with the provinces. But don’t overlook opportunities for the federal government to design smart regulations that will significantly reduce emissions, are not too economically inefficient, and will sustain Trudeau’s chance of re-election in four years.


**EMRG Grads at COP21**

By Caroline Lee and George Kamiya

EMRG grads made a strong showing at the recent 21st session of the Conference of the Parties (COP21) to the United Nations Framework Convention on Climate Change (UNFCCC) in Paris. Kevin Tu, Caroline Lee, and George Kamiya attended as delegates from the International Energy Agency (IEA) where they now work. The three of them were busy putting their knowledge of energy issues to work both leading up to and during the conference.

As members of the Environment and Climate Change Unit that coordinated IEA activities at COP, Caroline and George undertook a variety of analytical and administrative activities, including writing reports and briefings, organizing and supporting IEA side events, scheduling and supporting high-level bilateral meetings with government and business leaders, tracking the progress of the formal negotiations and providing daily summaries to IEA staff, designing and staffing the IEA’s conference booth, and sharing updates on social media.

Kevin, who leads IEA’s work with China, organized and moderated the Joint China/IEA High-Level Side Event, one of the IEA’s key events at COP. The event featured high level speakers such as IEA Executive Director Fatih Birol and China’s Special Envoy on Climate Change Xie Zhenhua.

We caught up with Caroline and George to give us an insider’s perspective on their experience at the conference.

COP21 was defined by a spirit of collaboration among countries that was unprecedented in the history of international climate negotiations. Traditional rifts between “developed” and “developing” countries were breaking down in the lead-up to the Paris conference, as evidenced by the China-US climate agreement earlier in the year and commitments from almost all countries (through Intended Nationally Determined Contributions, or INDCs) to reduce emissions.

Over the two weeks in Paris, there appeared to be a genuine desire on the part of most countries (including Canada) to reach a global climate deal. Though the negotiations were not void of politicking, game-playing, and manipulation, these tactics were employed by isolated countries and held less traction, ultimately reducing their
effectiveness in derailing negotiations as we have seen in the past. Overall, the level of good faith amongst countries prevailed, bolstered by the French Presidency’s acumen in diplomacy and conflict management.

While none of us were in the room itself with the gavel dropped, the spirit of accomplishment and celebration at Le Bourget that evening was palpable. Watching tears of joy flow from the eyes of negotiators and observers was a special moment, instead of the usual tears of frustration and disappointment at past COPs.

Having said this, it’s important not to over-emphasize the significance of the Paris Agreement. Politically, it sends a strong signal that countries around the world are serious about addressing climate change, though the real work lies ahead in making true on commitments and proving that COP21 was more than just a diplomatic success. Bill McKibben had it right when he said "This didn't save the planet, but it may have saved the chance of saving the planet.”

For more information about the IEA’s activities at COP 21, go to http://www.iea.org/cop21/

Recent EMRG Grads in the Workforce

A bit closer to home, other recent EMRG grads are currently working in a variety of interesting positions in locations across Canada. Here’s a snapshot of some of their activities.

James Hoffele, Port Metro Vancouver (Vancouver, BC)

James Hoffele is working to make the operations of Port Metro Vancouver more sustainable through a number of projects and programs in his role as Environmental Coordinator – Strategic Initiatives. Through the EcoAction Program that he administers, vessels are eligible to receive discounted harbor due rates through a variety of fuel quality, technology options and environmental management practices. The program focuses on emissions from auxiliary engines used by vessels while at anchor and at berth. For example, container ships capable of connecting to shore power are eligible for nearly half off their harbor dues.

As well, James works with port tenants on the Non-Road Diesel Emissions program to reduce diesel particulate matter emissions associated with non-road equipment. To accomplish this, the program includes a fee for tenants who operate older diesel non-road equipment on federal land leased from the Port.

In 2016, James will be assisting with the 2015 Port Emissions Inventory. This inventory aims to calculate GHG and criteria air contaminant emissions associated with the Pacific Gateway supply chain including tug activity, ocean-going vessels calling to the Port, the national rail network, trucking, and terminals. New for the 2015 inventory is the inclusion of process, fugitive, and refrigerant emissions and a forecast to 2030. Being developed in parallel, James looks forward to contributing to a Port-wide GHG emissions reduction strategy.

Derek Peters, Clean Foundation (Dartmouth, NS)

Since leaving EMRG I have been working with Clean Foundation in Dartmouth, NS. Clean is an environmental NGO that works to develop a “clean climate, clean water and clean leaders”. My role is Clean’s Research and Development Officer and I work most closely with Clean’s energy programs. In particular my work has focused on HomeWarming, a province wide, residential, low-income energy efficiency program. Some of my projects over the past year included researching opportunities for new energy efficiency upgrades, researching how to adapt HomeWarming for the low-income rental market, developing a energy efficiency retrofit...
program for a First Nations community, overcoming outreach obstacles to increase HomeWarming participant uptake, working with municipalities to develop property assessed clean energy Financing, and incorporating home energy rating systems into Nova Scotia’s real estate market though the province’s Multiple Listing Service (MLS). My position with Clean has been a great transition from my graduate research that has provided me with the freedom to explore innovative technologies and policies and see how they might apply to Clean’s mission and Canada’s low carbon transition. If any past or present EMRGers see an opportunity to partner with Clean Foundation on an emerging project or idea, please let me know!

Maximilian Kniewasser, Pembina Institute (Vancouver, BC)
Recent EMRG graduate Maximilian Kniewasser has started work for the Pembina Institute, an environmental think tank committed to moving Canada to a clean energy future. Maxi first got involved with Pembina through a summer internship in 2014. After the internship, Maxi defended his 699 “Achieving Canada’s climate targets and the impacts on Alberta’s oil sands industry” and started another six months contract with Pembina. Halfway through this second stint, he was offered full time employment at the institute’s Vancouver office. He is currently working on a range of energy policy related issues including improving the energy efficiency of B.C.’s buildings, decreasing the environmental impacts of the province’s growing shale gas industry, and advocating for the implementation of a strong Climate Leadership Plan in B.C. The skills he learned at REM, and at ERMG in particular, were instrumental in finding a job that he is passionate about. Maxi can be reached at maximiliank@pembina.org.

Danette Moulé,
Town of Drayton Valley (Drayton Valley, AB)
In June, 2015, I landed a job with the Town of Drayton Valley, Alberta, as Sustainability Coordinator. This is a fantastic role, as I have a great deal of autonomy & responsibility, and it’s a position that allows me to apply my expertise, transcend the worlds of varying passions, and continually learn. As Sustainability Coordinator, I am working on implementing the Town's Community Sustainability Plan. This involves assessing how Drayton Valley can lower its energy usage and GHG emissions, increase the presence of the arts, increase community engagement, and become a healthier community. One of the first projects I undertook in this role was recommending to Council that we join the Federation of Canadian Municipality’s Partners for Climate Protection programme. We have done so, and are now working on the first three milestones of the programme (creating a GHG inventory & forecast, setting reduction targets, and creating a Community Energy & GHG Reduction Plan).