



The Paris Climate Accord Global, Continental, National, Local Context

2016 Spring Seminar Program
Natural Gas Markets And A Carbon Constrained Future

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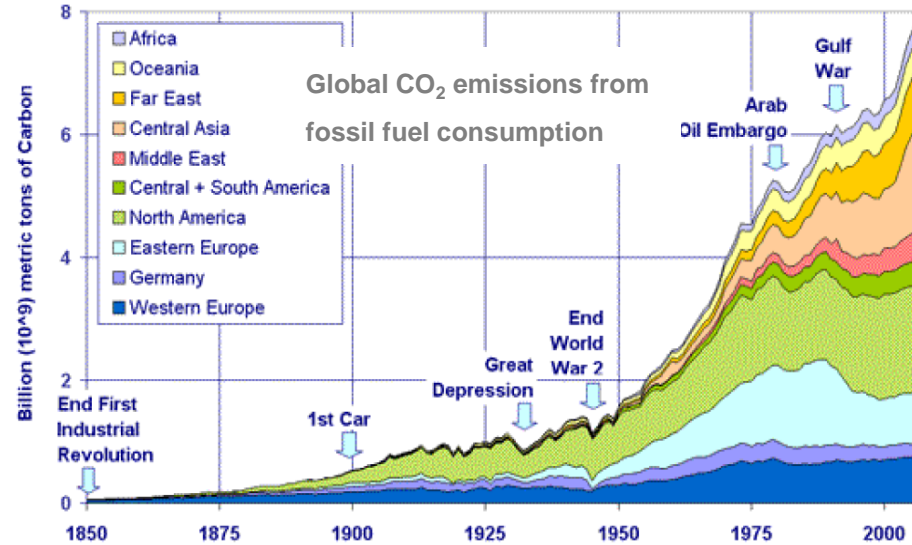
Legally binding global climate change agreement referencing emission reduction goals from 192 of 196 countries.

To take effect 55 countries representing at least 55 per cent of global emissions have to formally adopt.

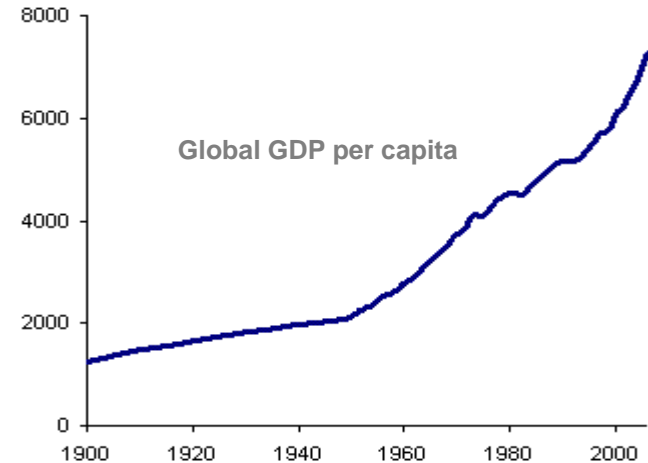
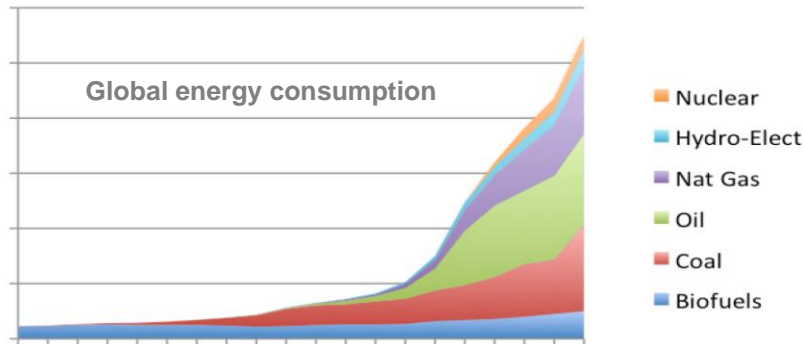
Key elements:

- Goal to keep global temperatures "well below" 2.0°C above pre-industrial times and "endeavour to limit" them even more, to 1.5°C .
- For rich countries to help poorer nations by providing "climate finance" to adapt to climate change and switch to renewable energy.
- To review each country's contribution to cutting emissions every five years so they scale up to the challenge.

To meet a 2°C Target: Global growth, energy consumption and GHG emissions need to be decoupled



- In order to stabilize CO₂ concentrations by 2050, industrialized countries GHG emissions would have to decline by 80% by 2050.
- **We need to change how we use energy and the energy we use.**
- Then after 2050 balance emissions with removal by sinks.



Who should / will pay?



Who gets \$'s and who gives \$'s?

First – Who is responsible for damages?

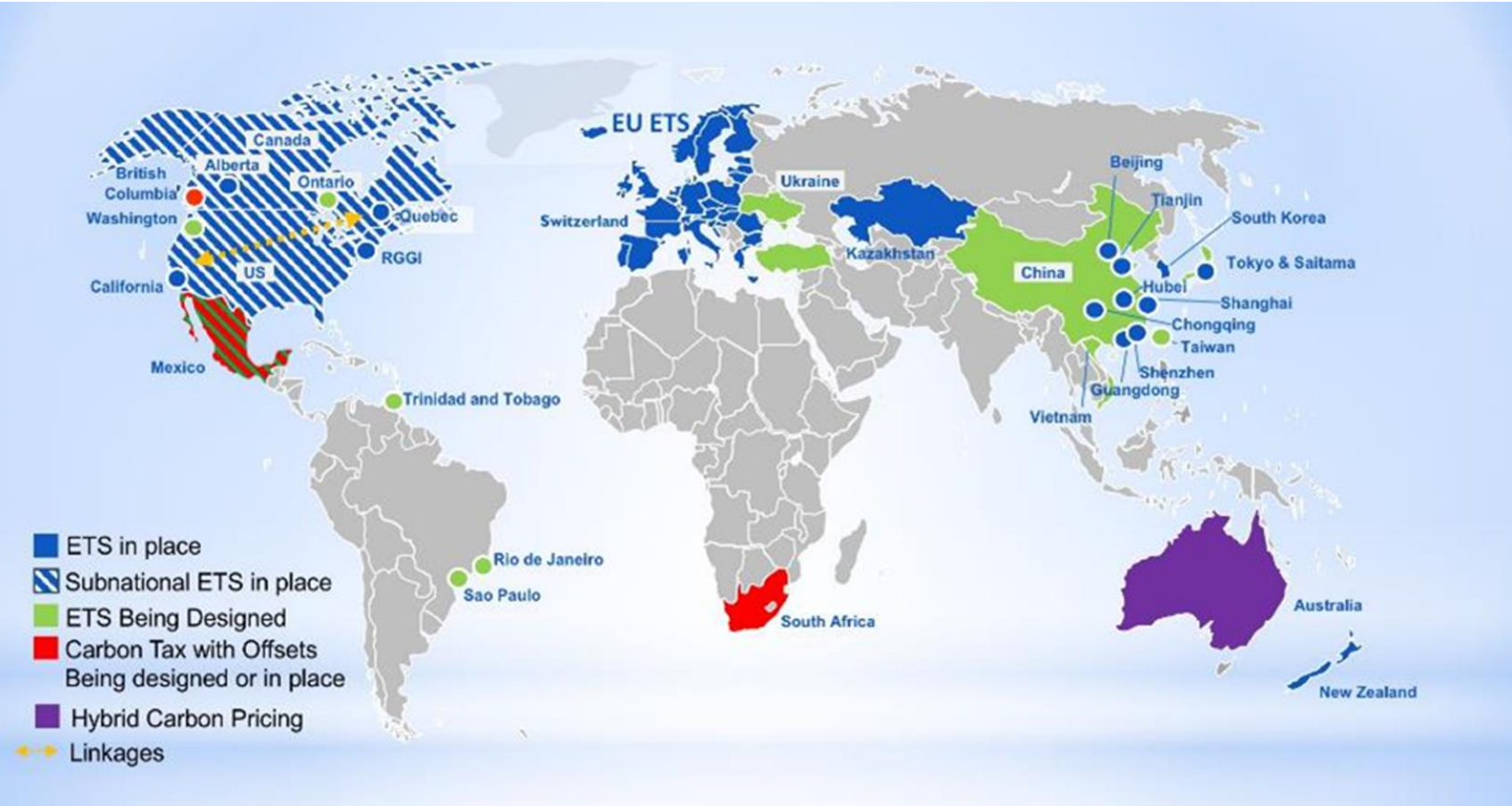
- Developed countries acknowledge impact (Article 8) but without being liable for reparations (Article 52).
- Paris moves from developed vs. developing to “common but differential responsibility”.

Copenhagen (2009) committed “rich” world to “mobilize” \$100B by 2020 to help developing countries.

- Paris agreement defined no new \$'s BUT item 115 of the decision “strongly urges developed country Parties to scale up their level of financial support...”.

Widespread carbon pricing commitments and implementation underway.

Outside COP – Mission Innovation, CPLC, World Bank 100/100/100, BAML, Credit Agricole, and more.





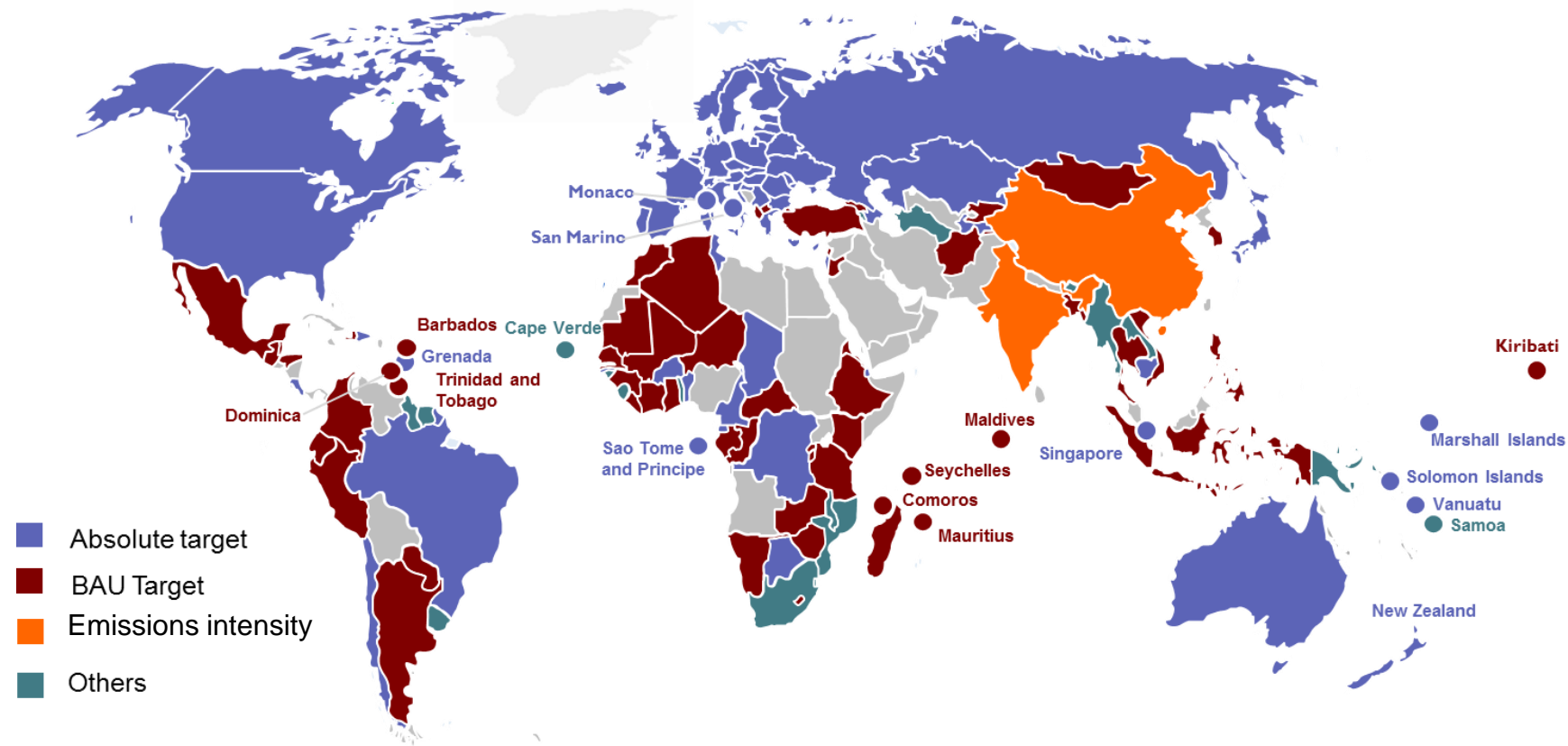
The Kyoto Protocol of 1997 set targets for a handful of developed countries, but the US pulled out and others (like Canada) failed.

Under the Paris Accord:

- “Facilitative dialogue” in 2018
- “Stock-taking” in 2023 – countries announcing “how they have reduced emissions”.
- “Ratcheting” every 5 years to “update and enhance” plans.
- No outside agency will oversee compliance with targets.
- Nations will be subject to a “technical expert review”, recognizing challenges facing developing countries.
- Transparency will be linked to support (\$).

New York signing ceremony. Now Governments by either legislative or executive action need to formally adopt – that will take until next year at least.

Paris Agreement: Party Targets



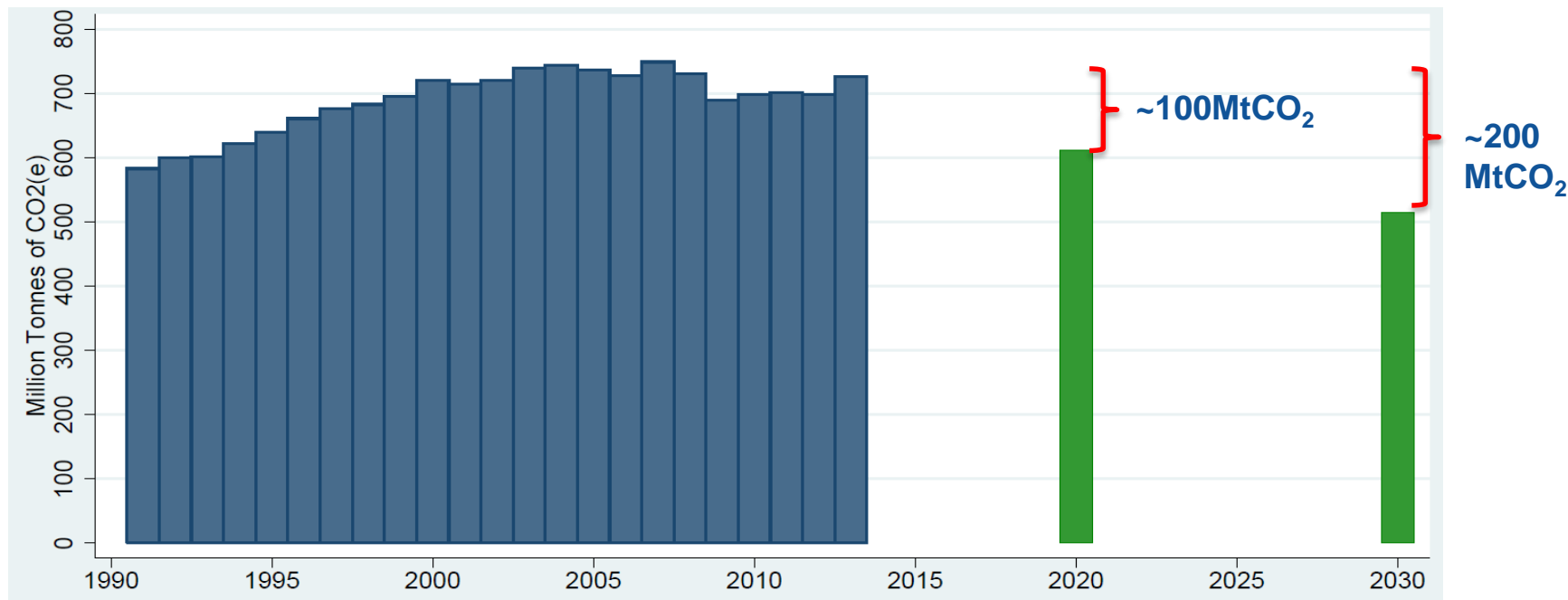
The Federal government is no longer agnostic on matters related to climate policy



Tone has changed from “Do what you think you need to do”.
To...

- “We have a **collective responsibility** to take action on climate change.”
- “The Government of Canada will **ensure national leadership**, and join with the provinces and territories to take action on climate change, put a price on carbon, and reduce carbon pollution.”
- “Together, we will attend the Paris climate conference, and within 90 days will formally meet to **establish a National emissions reduction target**, as well as a pan-Canadian framework for combatting climate change.”
- “Ensure that the provinces and territories have **targeted federal funding** and the **flexibility** to design their own carbon pricing policies.”
- Endow a **\$2 billion Low Carbon Economy Trust** to fund projects that reduce carbon.
- Fulfill our G20 commitment and **phase out subsidies for the fossil fuel industry**.
- Work with the Provinces and Territories to **develop a Canadian Energy Strategy** to protect Canada’s energy security, encourage energy conservation, and bring cleaner renewable energy into the electricity grid.

Canada has committed to an aggressive abatement target considering its profile



May 2015

Environment Minister Leona Aglukkaq

Canada plans to reduce its greenhouse gas (GHG) emissions by 30% below 2005 levels by 2030.

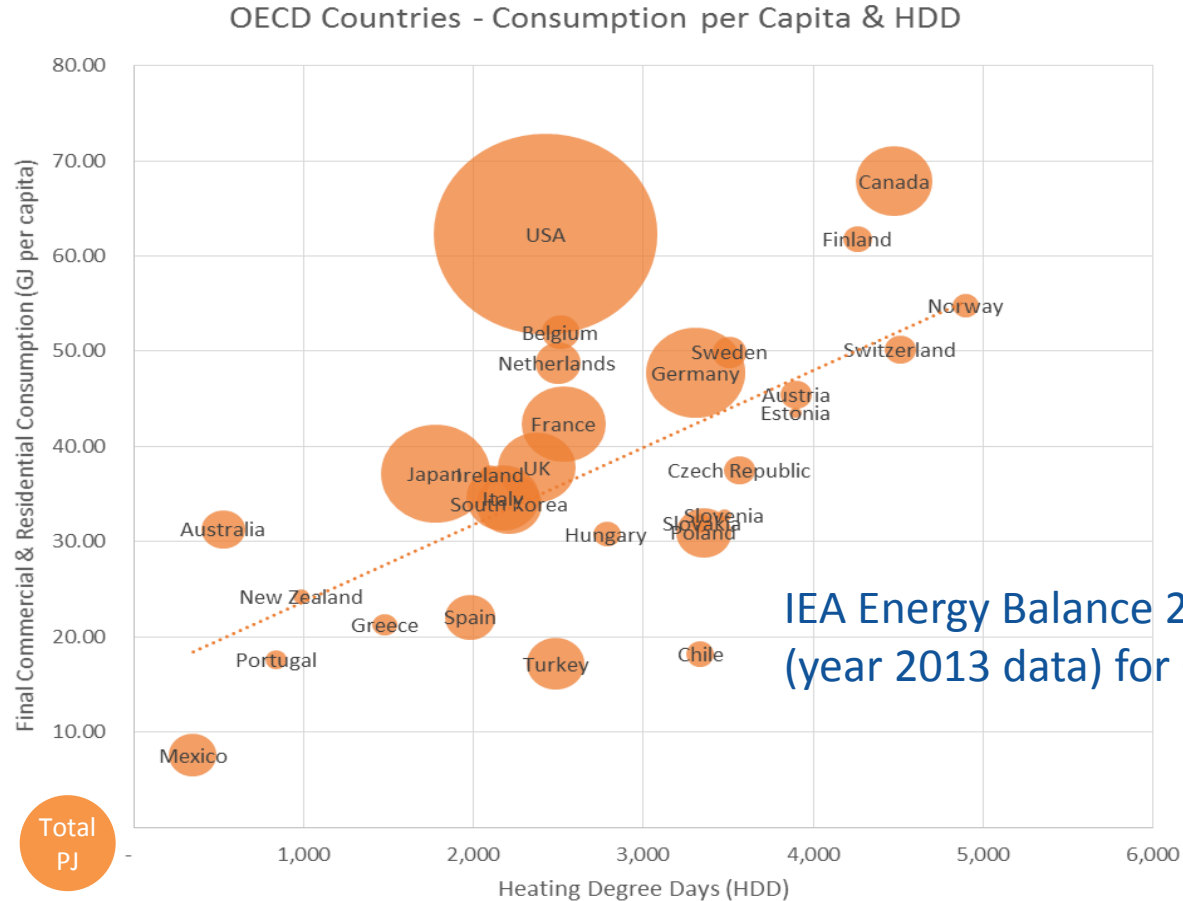
November 2015

Environment Minister Catherine McKenna

"Yes, that will be the floor, but certainly we want to try to do better,"...

The key, is "to figure out what you can actually do."

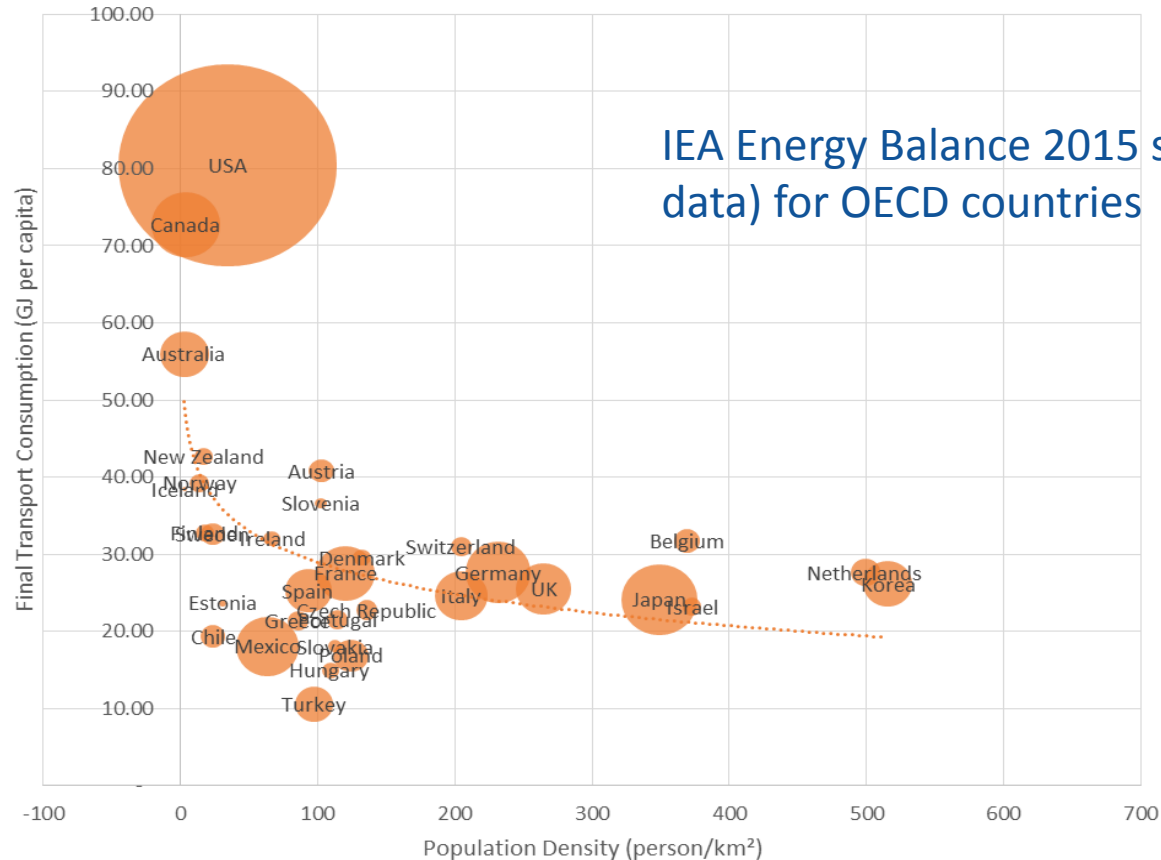
Canada's energy consumption for buildings is driven by an extreme climate



IEA Energy Balance 2015 source
(year 2013 data) for OECD countries

Canada's energy consumption for transportation is driven by low population density

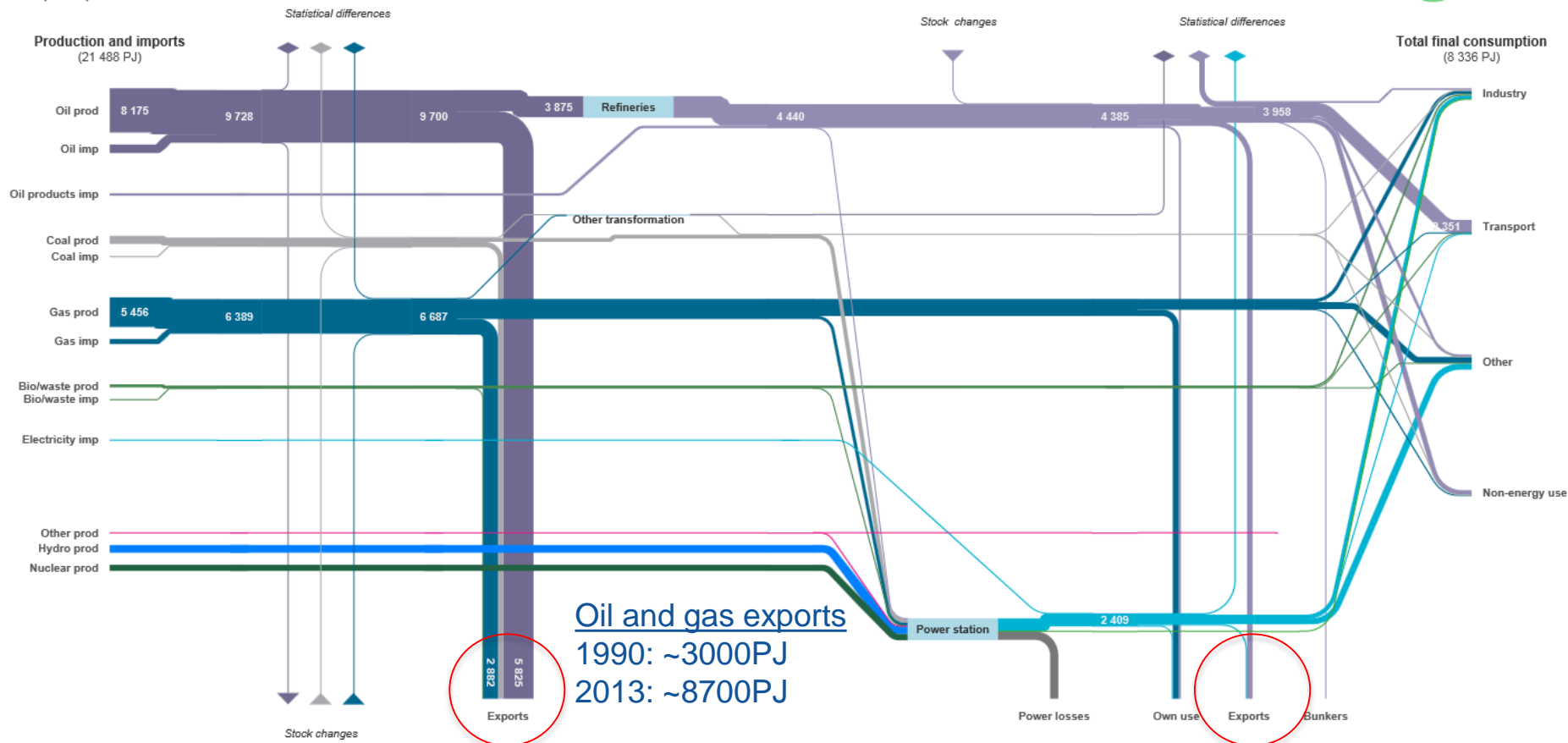
OECD Countries - Consumption per Capita & Population Density



IEA Energy Balance 2015 source (year 2013 data) for OECD countries

Canada exports have grown since 1990 and now exports >50% of the energy it produces

BALANCE (2013)



A price on carbon will disadvantage domestic energy intensive industry vs. competitors with no climate policy.

- A price on carbon will manifest as increased energy costs / compliance obligation.
- Cost could impact competitiveness of the Energy/Emissions Intensive Trade Exposed (EITE) sectors of the economy.
- Regions that price carbon must protect industrial competitiveness to avoid “leakage”.
- Leakage results where EITE operations relocate from a region with higher carbon prices to one with no / weaker policy.
- Without accommodation for this economic reality; emissions will fall locally due to industrial shuttering with no change in global emissions.
- Policy makers have recognized this and typically remove or reduce the obligation on EITEs.
- However this determination is complicated.
- And by exempting EITEs from carbon pricing we impose a greater burden to achieve an economy wide reduction target on the remaining sectors.

Ontario has engaged with large emitters to assess level of emissions exposure and need for accommodation

- Impacted facilities (+25ktCO₂) and the regulator need to share context.
- Sub-sectoral and facility level assessment.
- Include impact on the price of all forms of energy (natural gas, electricity) and related to supply chain (transport fuel, natural gas).
- Intensity-based allocation to accommodate expansion and avoid perverse outcomes.
- Small emitters (< 25ktCO₂) will also need to be accommodated and the solution will be complicated.
- Access to “cap-and-trade funds” based on reduction potential \$/t basis.
 - Energy management / efficiency and fuel switching.

Differing views on NEED to accommodate industry...



Table 5: Summary of Trade-Offs for Revenue-Recycling Options

	Environmental Impacts	Economic Impacts	Competitiveness Impacts	Household Fairness	Public Acceptability
Transitional Support to Industry	Negative	Somewhat positive	Positive	Neutral	Neutral

- “Ontario’s manufacturing sector is mostly unexposed...”
- “a few specific manufacturing sectors – steel, chemicals, petrochemicals, fertilizer, and refining – display notable exposure ...”
- “...Ontario’s low-carbon electricity system reduces indirect GHG emissions for industry, lessening the competitiveness pressures.”
- “Overall, the business community should not perceive carbon pricing as a significant economic threat.”

Canada’s Ecofiscal Commission; Provincial Carbon Pricing and Competitiveness Pressures (Nov 2015) and Chose Wisely: Options and Trade-offs in Recycling Carbon Pricing Revenues (April 2016)



- Changing national message, politics, and image.
- Ever changing international landscape US-Canadian Federal Climate Leadership & Cooperation (Markets, Methane etc.).
- Paris agreement...
 - ✓ Defined a “gathering momentum” for action on climate change
 - ✓ Committed countries to submit plans to meet their targets, report on progress and to become more ambitious in their targets
 - ✓ Defined \$s for developing countries and scale-up of clean finance
 - ✗ Countries legally bound to meet national targets or meet 2.0°C target.
- Great challenge ahead to meet 2030 emissions target.
- Now is the time to develop short, mid, long term plans and achievable targets. Then do what we say we are going to do.
- Industry must contribute sectoral context or be a taker of government / academic context.



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