

A large yellow Suncor haul truck is the central focus, parked on a dirt road at an oil sands mine. The truck has 'Suncor' and 'KOMATSU' logos. In the background, other mining equipment, including a yellow excavator, is visible against a cloudy sky. A semi-transparent orange banner is overlaid across the middle of the image, containing the title text.

# Canada's Oil Sands: Connecting Energy Infrastructure with Core Values

**Peter MacConnachie**  
2015 July 13  
PNWER Meeting, Big Sky

# It's all about education about energy sources and our use of energy



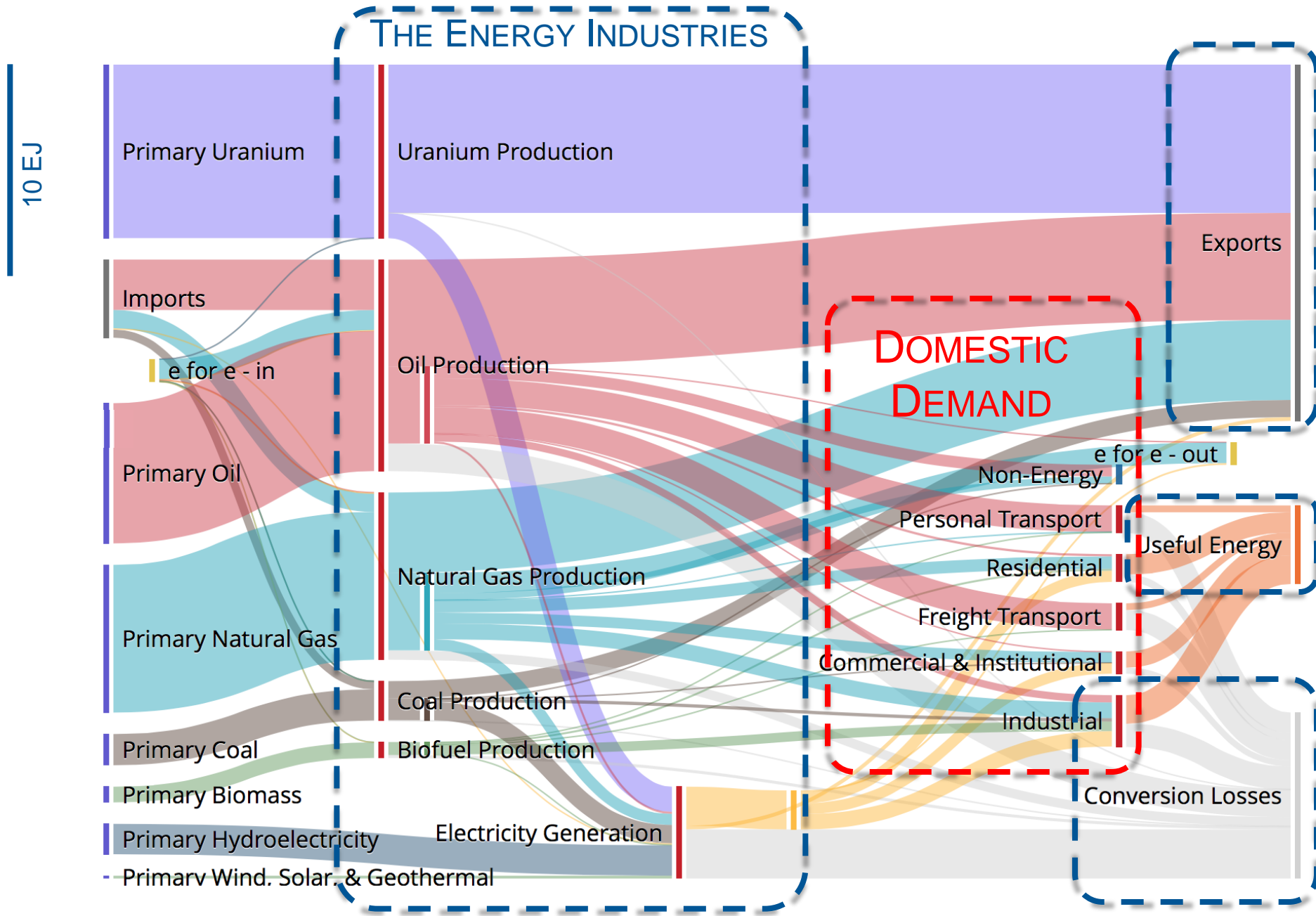
Calgary Herald Sunday Feb 22, 2009



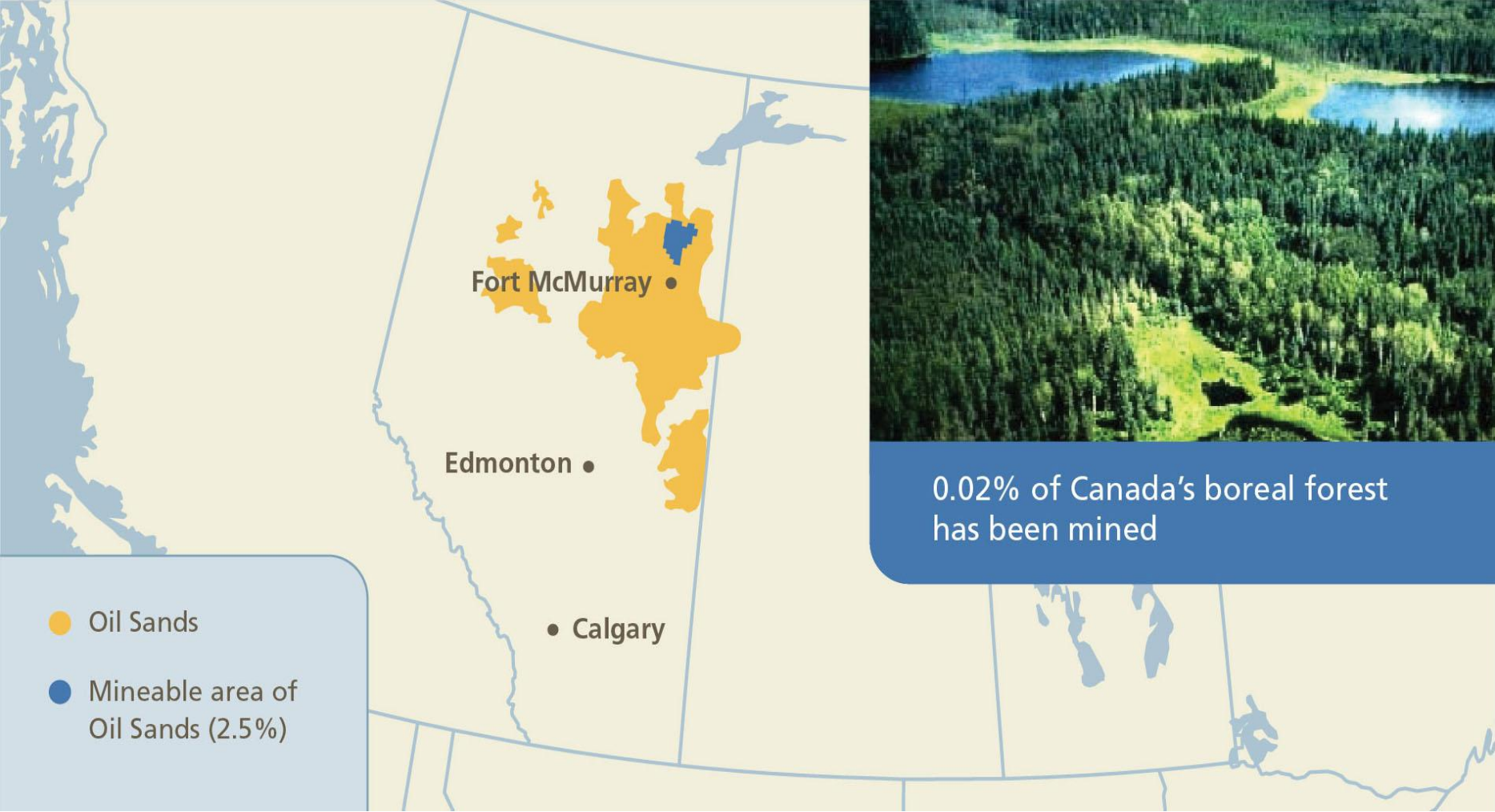
Globe and Mail, 2010



# Canada's Energy Systems in 2010



# Core Business: The Oil Sands

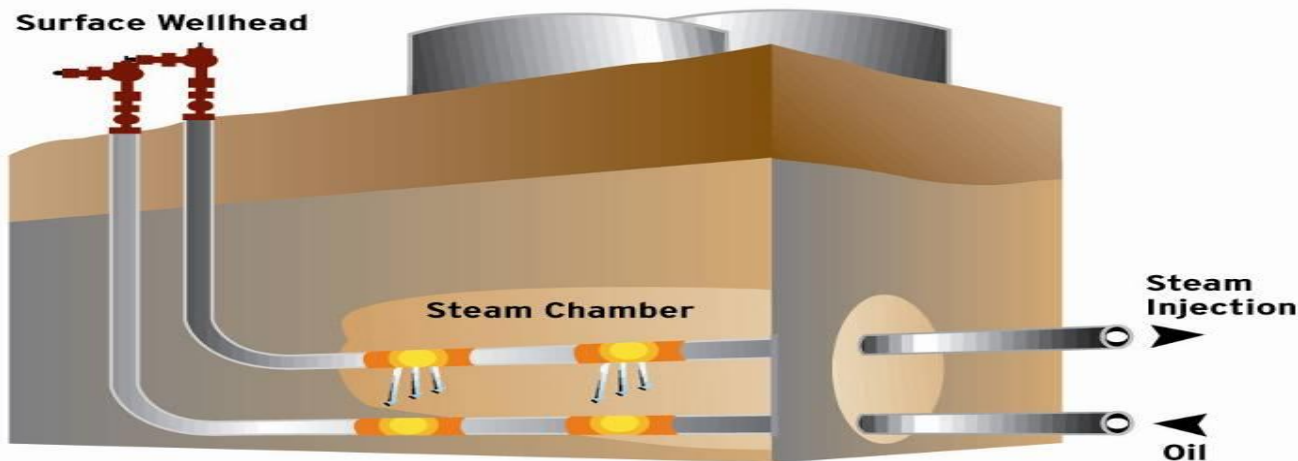


# Oil Sands Production Methods

Mining (2% of area, 20% of resource)



In Situ Example: Steam Assisted Gravity Drainage (80% of resource)



<i>Mining</i>	<i>SAGD In-situ</i>
Ore is close to surface (<200 m)	Ore is deeper
Intensive land-use	Extensive land-use
High yield per disturbed hectare	Lower yield
High capital demands (\$12-16 B)	Lower capital (\$3-5 B)
Access to H <sub>2</sub> O → 2-3.5 bbl/bbl	Approx 0.5 bbl/bbl
Land Disturbance & tailings ponds	Higher GHG per bbl; Cumulative effects

# My typical day at Suncor - List of Challenges

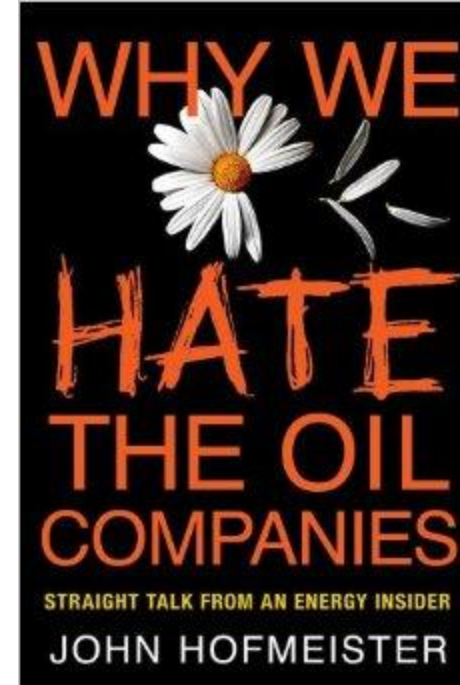
- Dirty Oil → many misconceptions in public
  - Fastest growing source of GHG
  - Toxic emissions
  - Little / no reclamation
- Impact on boreal forest; impact on wildlife habitat
- Tailings Ponds >
- Athabasca River impacts >
- Downstream health >
- No GHG Target or Federal regs
- Market Access – concerns about P/L & rail
  - Keystone XL
  - Northern Gateway
  - Line 9 & Energy East
  - Shipping by rail increasing across North America
- Renewable spending – small % of total capital?
- “No regulations” in Alberta
- Economic & Social protests – Neil Young, Leonardo DiCaprio, Desmond Tutu
- Etc, etc
- Canadian navel gazing in media?

Water Use – fundamental  
to OS operations

# Energy Literacy

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- Low interest in energy matters (except NIMBY)
  - Regional vs. national
- Energy companies are not:
  - good at responding to reports
  - good at writing headlines
  - good at getting our “story” out
  - not seen as trustworthy





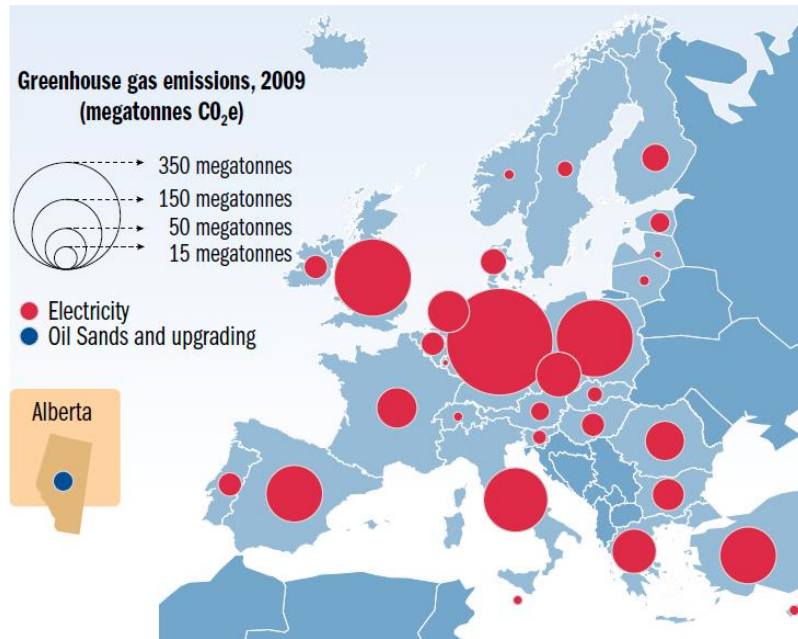
# ARGUMENTS AGAINST-



Jo Heller ©2011 GREENBANK PRESS CARTOON

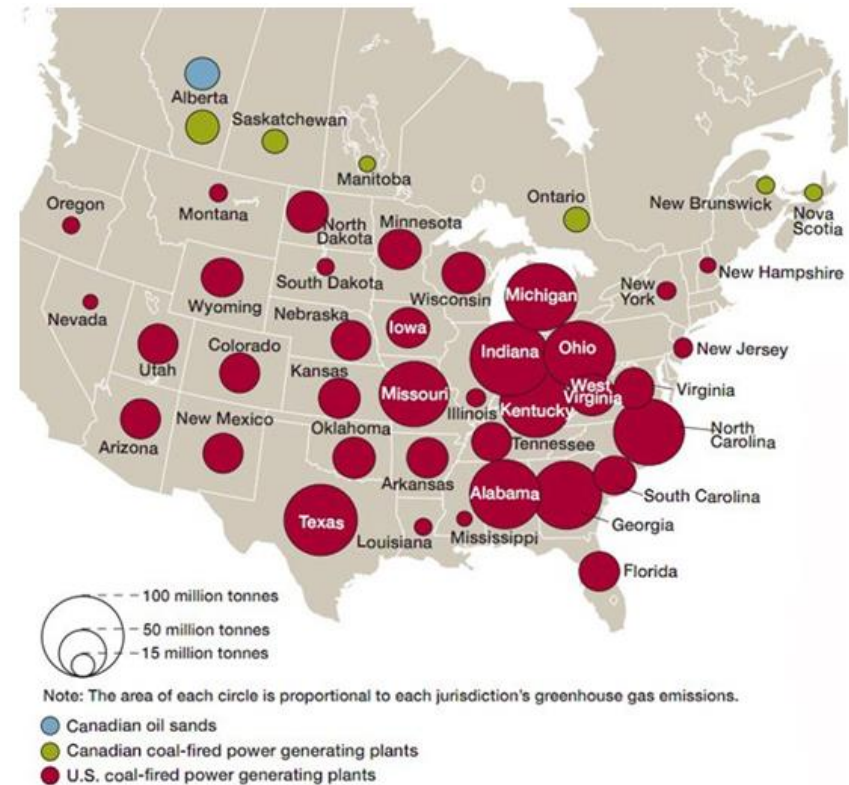
# Relative GHG performance – all countries have an impact

## EU Power Generation vs. Oil Sands GHG Emissions



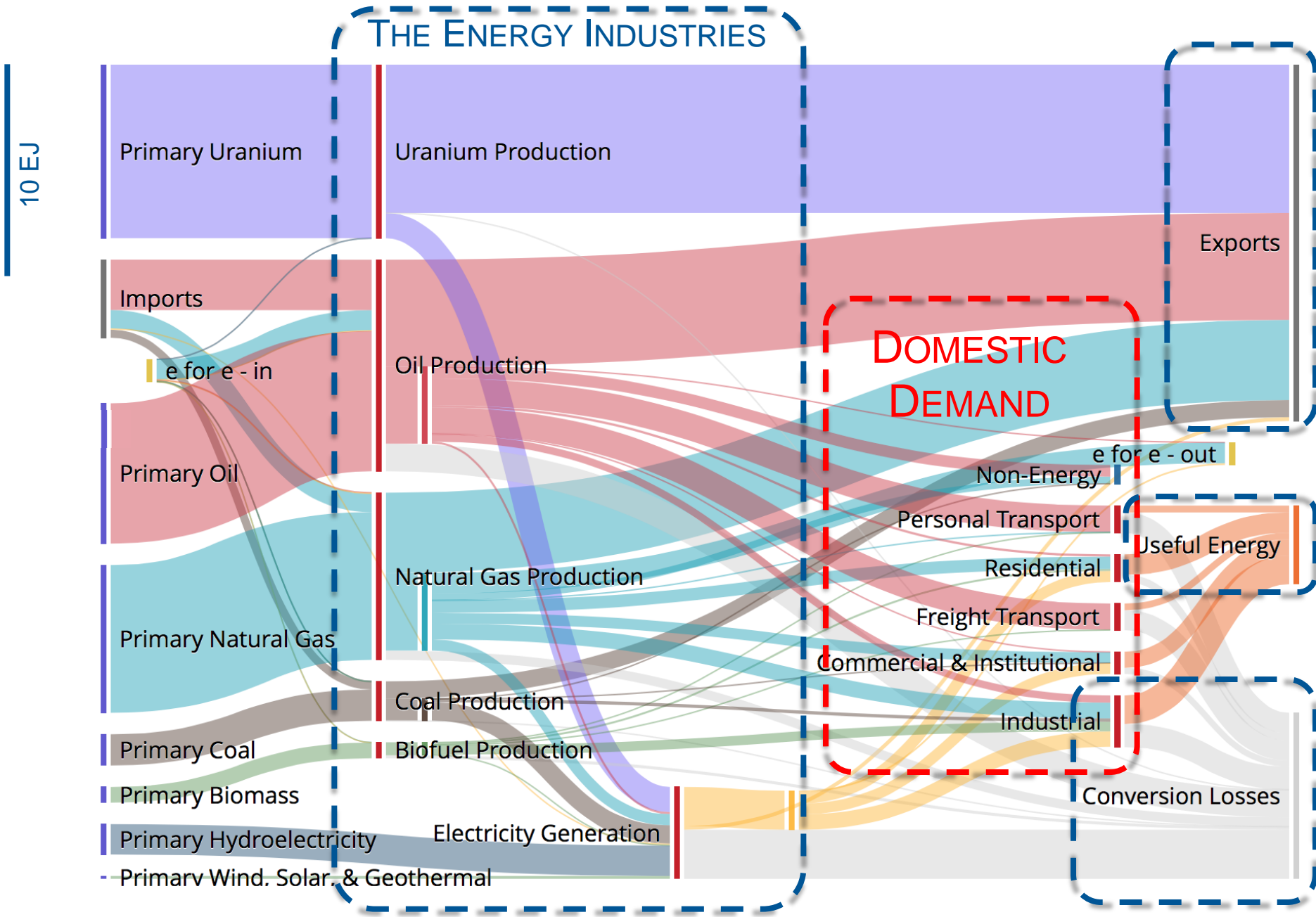
- (1) The area of each circle is proportional to the jurisdiction's greenhouse gas (GHG) emissions. The circles of the two maps are comparable.
- (2) Sources: Canadian Ministry of the Environment; European Environment Agency. Graphic reproduced from Natural Resources Canada.

## US Coal-fired Generation vs. Oil Sands GHG Emissions

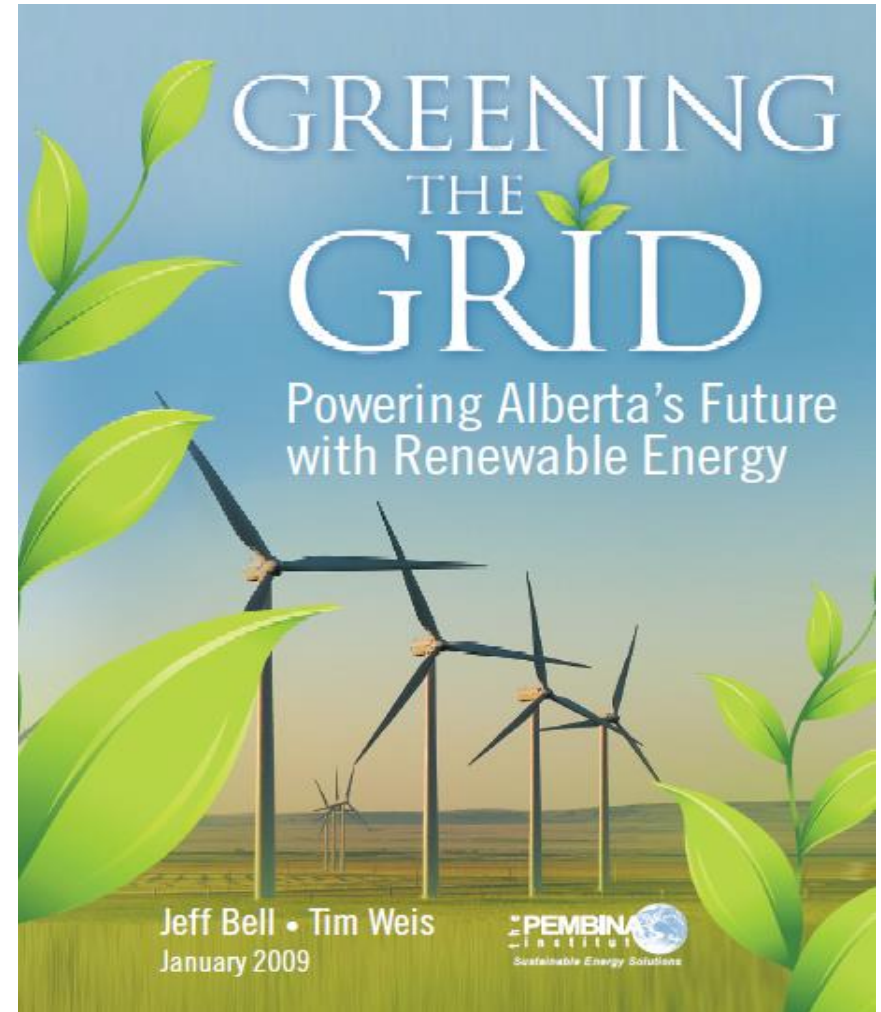
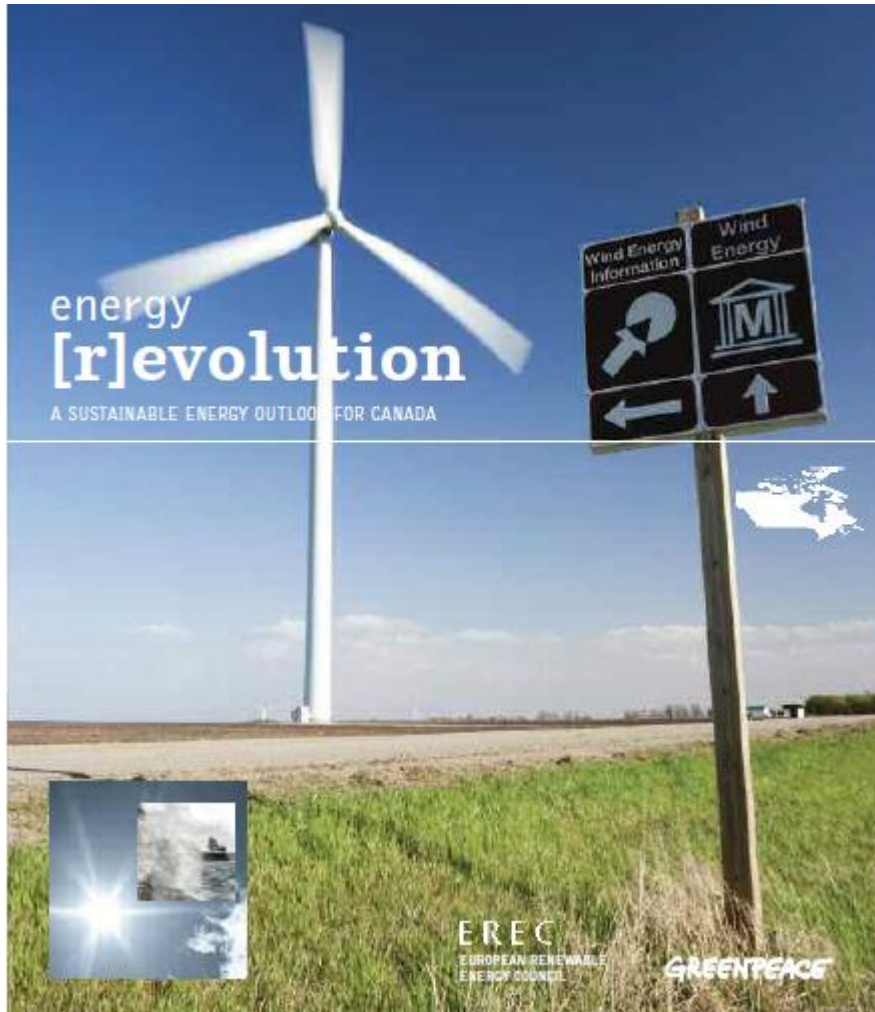


- (1) Sources: U.S. Department of Energy (Energy Information Agency) and Environment Canada.





## Most Campaigns call for changes to our energy system





## Solar plane flies to Madrid Friday



Clean Transport - Jul 5, 2012

An experimental solar-powered aircraft will leave the Moroccan capital on Friday for Madrid on its return journey to its home port in Switzerland, Morocco's news agency MAP reported.

Strong winds grounded the Swiss-made Solar Impulse plane in Morocco on Tuesday, delaying its flight to Spain.

Related Research on ASDReports.com:  
[Energy Harvesting for Electric Vehicles 2012-2022](#)

But MAP said on Thursday that the plane would depart the Rabat base aimed at 0700 GMT on Friday and

We are in the midst of a transition away from fossil fuels, but it will take a long time

Cf. 50 years horse → rails

60 years candles → gas

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# IEA Report Predicts Solar Power Domination by 2050

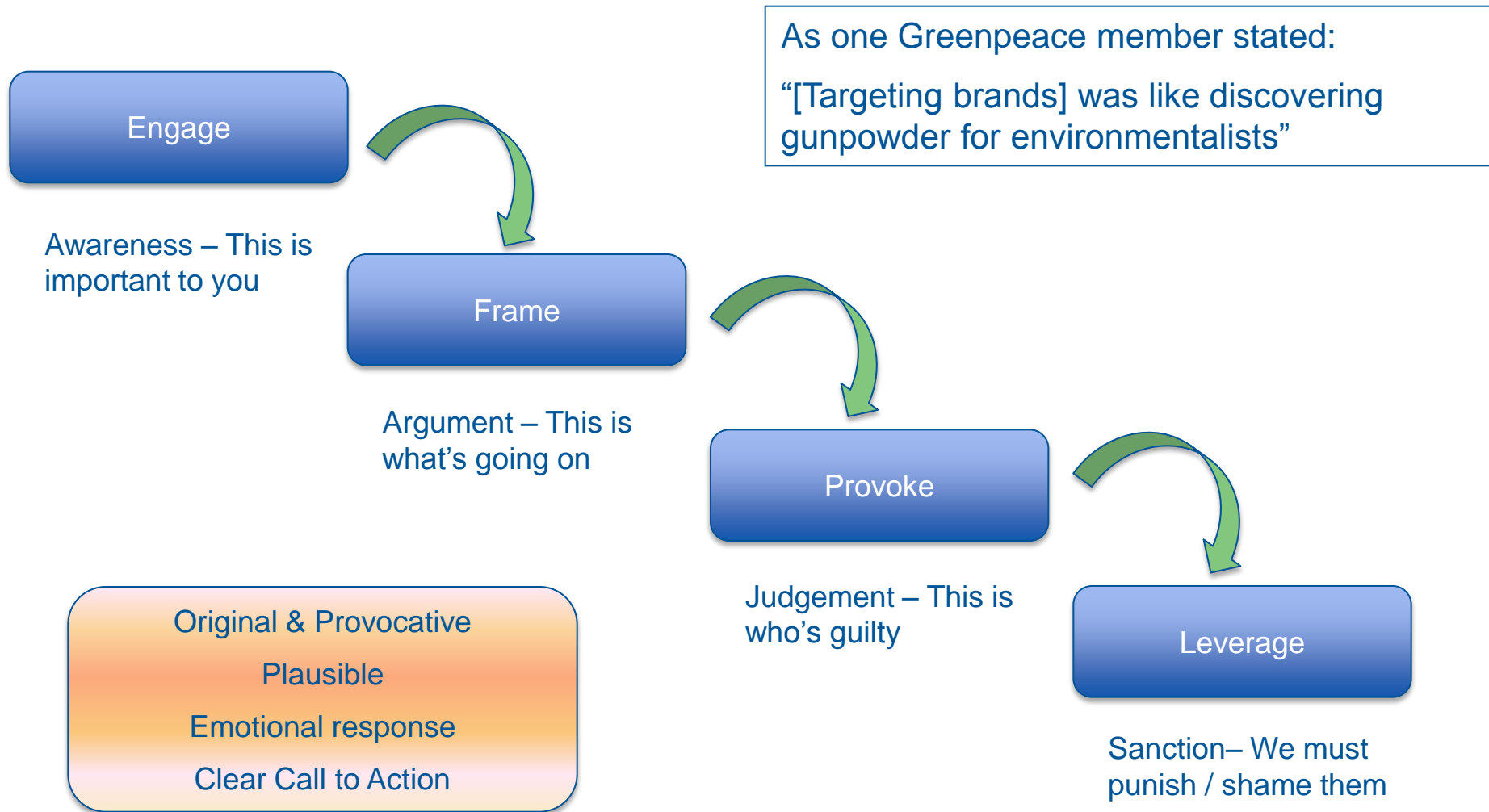
Two reports released simultaneously last week by the International Energy Agency (IEA) say that by the year 2050 solar power will be the world's most widely used energy source.

Biofuels: US Navy moves ahead on biofuels plants.

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<b>Subject</b>	US Navy moves ahead on biofuels plants.
<b>Body</b>	<p>The Pentagon is pushing ahead with a \$420 million effort to build refineries to make competitively priced biofuels, despite anger in Congress over the price the Navy paid for alternative fuel to test a carrier strike group this month. The government plans provide \$210 million in matching funds to help firms build three refineries, each able to produce at least 10 million gallons of biofuel a year for military jets or ships, according to documents released this week. The Navy would supply \$170 million and the Energy Department \$40 million.</p> <p>The military's spending on alternative fuels has drawn criticism from Republican lawmakers, with Senator Jim Inhofe charging that President Barack Obama's priorities are "completely skewed" and Representative Mike Conaway accusing Navy Secretary Ray Mabus of "squandering precious dollars."</p> <p>But Mabus warns that U.S. dependence on foreign oil is a strategic vulnerability that can only be addressed by reducing the military's reliance on</p>

# A Generic view on (anti) Brand Campaign



## External Conversations – getting past “us & them”

I've always believed the best conversations start by listening to the other person's point of view. And though we may not agree on everything, we must agree on this: no one has a monopoly on good ideas. With a commitment to excellence and innovation, together we can build the sustainable energy future we all desire.

- Steve Williams, 2012 Suncor Report on Sustainability

Instead of trying to prove who is right and who is wrong, we need to work together on practical solutions. Simply put, there is no room for villains or heroes when we are looking at our collective energy future.

- Steve Williams, 2014 Suncor Report on Sustainability

We also know that energy, in all its forms, is essential to human progress. It provides mobility, heats our homes and schools, and generates jobs and economic growth. Energy is the bedrock of the developed world. In the developing world, it can mean the difference between health and sickness.

- Steve Williams, 2015 Suncor Report on Sustainability





Heiltsuk First Nation



CENTER FOR CLIMATE AND ENERGY SOLUTIONS



environmental defence INSPIRING CHANGE

Ceres

The Nature Conservancy protecting nature. Preserving life.™





# Collaborative efforts

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- COSIA Canada's Oil Sands Innovation Alliance
  - [www.cosia.ca](http://www.cosia.ca)
  - 13 companies collaborating on environmental performance
- Boreal Leadership Council
  - protect at least 50% of the Boreal region
  - state-of-the-art stewardship practices in the remaining landscape
  - Issues include FPIC, Caribou, Shale Gas
- The Energy Futures Lab
- Alberta-based, multi-sector collaboration designed to help shape Alberta's energy future;
- Canada's Ecofiscal Commission
  - Recommend policies which include economic *and* environmental considerations.
  - Support for setting carbon prices

# Fossil Fuel Divestment and Stranded Assets

- 350.org led by author Bill McKibben, Fossil Free is a campaign which encourages campuses to divest from all fossil fuels from endowments and pensions funds.
- The genesis of the campaign is based on frustration with slow progress on climate change action.
- Critics of the campus fossil fuel divestment campaigns suggest that there are more effective ways for colleges and universities to address climate change
  - focus on create and share knowledge.
- Worth considering that almost 85% of the world's oil reserves are controlled by national oil companies that are almost entirely immune to the threat of divestment.
- Fundamental to contributing constructively to the climate change debate is knowledge, specifically an understanding of where energy comes from now and how we'll meet our energy needs in the future.

Home / Campaigns /

**TAR SANDS FREE**

## Students at UBC, SFU, and UVic vote for endowment funds to divest from fossil fuels

Travis Lupick | Georgia Straight - February 5th 2014

[Read the full article on the originating site](#)



The image shows a Facebook page for the "Divest University of Washington Community". The page features a large photo of a diverse group of people at a protest, many holding signs. One prominent sign in the foreground reads "NO COAL IS THE GOAL." with a wind turbine icon and the text "NOV. 13TH, 11:30 AM, RED SQUARE. With Speakers: Mike McGinn". Another sign in the background says "UW DIV FOR A JUST". The Facebook interface includes a header with the page name, a "Sign Up" button, and a "Log In" button. Below the photo, there are navigation tabs for "Timeline", "About", "Photos", "Likes", and "More". At the bottom, a post from "Divest University of Washington via CarbonWA" is visible, dated April 17 at 10:34am.

