

Climate Change: Is Change in the Air?

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These slides are a general overview of the subject matter only. They do not constitute legal advice and should not be relied upon as legal advice. In a specific fact situation, legal advice considering such situation should be obtained.

Recent Developments

- Ontario releases discussion paper on CC mitigation options (Greenhouse Gas Emissions Reductions in Ontario, last revised January 2013)
- US Presidential Inauguration and State of Union speeches both address importance of dealing with CC
- US National Climate Assessment and Development Advisory Committee (NCCDAC) releases draft report on expected CC impacts in US (Climate Change and the American People, Jan 11, 2013)

Greenhouse Gas Emissions Reductions In Ontario Paper

- Notes phasing out coal electricity generation/FIT as already achieving significant reductions
- References Ontario's membership in Western Climate Initiative (?????)
- In Ont CO2 emissions expected to lessen for few years – economy?
- Ont want to take advantage of federal equivalency program so can run its own show – not federal government

Ontario – Principles for Program

- Must achieve absolute reductions – not intensity as is possibly suggested for federal program
- Simple, consistent, transparent and administratively efficient
- Treat sectors equitably (this is difficult)
- Credit early action
- Use accurate and verified reductions
- Promote clean technology
- Alignment with other emission reduction programs
- Integrate with general provincial policy

Ontario – Elements of Program

- Timing – 1 year before Federal program in place (federal oil & gas soon?) for equivalency agreement negotiation
- Cap-and-trade approach seems likely
- Sectors – minimum of same sectors as Feds – fossil-fuel electricity generation, petroleum refineries, chemical (including fertilizer), steel, cement, pulp and paper – large emitters
- Specifically not include transportation and residential heating fuels

Ontario – Elements of Program

- Considering including electricity – why if coal gone? OPA retains FIT emissions credits – will they sell?
- Reduction targets (industry) - Start – set at predicted emission levels – reduce by 5% per year for 5 years (23% over 5 years)
- No allowance for economic/production growth – absolute v. intensity reductions
- Largely fuel use reductions? Win/win since industry saves \$

Ontario – Elements of Program

- Flexibility – investing in energy efficient technology, trading allowances, buying offsets
- Trading offsets is what looking at now
 - Will need to be integrated with other jurisdictions?
 - Need size to be viable/robust market?
 - Ontario/Canada not likely big enough?
Consider European slide in cost of offsets/
credits

Ontario – Consultation Questions

- What sectors included?
- What is emissions threshold to be caught (reporting in Ontario – 25,000T/yr; Federal reporting threshold 50,000T/yr)?
- What are barriers to reduction?
- How address competitiveness issues within and across sectors?
- How integrate with Ont air pollution reduction?
- How facilities achieve reduction?
- How important is equivalency and lack of overlap?

US – Presidential Speeches

- Inauguration (January 21, 2013)

“We will respond to the threat of climate change, knowing that the failure to do so would betray our children and future generations. Some may still deny the overwhelming judgment of science, but none can avoid the devastating impact of raging fires, and crippling drought, and more powerful storms. The path towards sustainable energy sources will be long and sometimes difficult. But America cannot resist this transition; we must lead it. We cannot cede to other nations the technology that will power new jobs and new industries — we must claim its promise. That is how we will maintain our economic vitality and our national treasure — our forests and waterways; our croplands and snowcapped peaks. That is how we will preserve our planet, commanded to our care by God.”

US – Presidential Speeches

State of the Union (February 12, 2013)

- “And over the last four years, our emissions of the dangerous carbon pollution that threatens our planet have actually fallen.” [Why – economic downturn?]
- “But for the sake of our children and our future, we must do more to combat climate change. Yes, it’s true that no single event makes a trend. But the fact is, the 12 hottest years on record have all come in the last 15. Heat waves, droughts, wildfires, and floods – all are now more frequent and intense. We can choose to believe that Superstorm Sandy, and the most severe drought in decades, and the worst wildfires some states have ever seen were all just a freak coincidence. Or we can choose to believe in the overwhelming judgment of science – and act before it’s too late.”

US – Presidential Speeches

- “The good news is, we can make meaningful progress on this issue while driving strong economic growth. I urge this Congress to pursue a bipartisan, market-based solution to climate change, like the one John McCain and Joe Lieberman worked on together a few years ago. But if Congress won’t act soon to protect future generations, I will. I will direct my Cabinet to come up with executive actions we can take, now and in the future, to reduce pollution, prepare our communities for the consequences of climate change, and speed the transition to more sustainable sources of energy.”

US - NCADAC Report (January 2013)

- Membership – University Professors, NGOs, private industry, consultants (ex officio – bureaucrats)
- “Climate Change and the American People”
- Draft for comment only – could be toned down for final
- 1146 pages total
- Primarily about actual impacts – what does it mean for people’s lives, livelihoods and future, by region

US - NCADAC Report

CC-consistent effects already observable:

- Longer, hotter summers
- Shorter, less cold winters
- Extreme heat periods last longer
- Rain comes in heavy downpours
- Many regions longer periods between rainfalls
- Coastal cities flooding, high tides
- Larger inland river floods more and more frequently

US – NCADAC Report

CC-consistent effects already observable:

- Hotter, drier weather and earlier snow melt = wildfires in West start earlier in year, last later into fall = threaten more homes, mean more evacuations, burn more acreage
- Receding sea ice that once protected Alaskan coast
- Fall storms cause more erosion = more serious damage and relocation of communities

US – NCADAC Report

CC-consistent effects already observable:

- Higher nighttime temps
- Higher sea level (8 inches over last century and projected to rise another 1 to 4 feet by century end)
- Lessening of permafrost = access effects, stability, construction effects
- Winter storms on New England coast slightly more frequent and severe (recent hurricane in NY)
- Infrastructure failure – storm drain/storage capacity insufficient = flooding

US – NCADAC Report

Report Findings

- CC of past 50 years primarily due to human activities – primarily burning fossil fuels
- Effects already occurring
- Extreme weather events increased in recent decades
- Human-induced CC projected to continue to increase
- CC effects will continue to increase
- Infrastructure negatively impacted

US – NCADAC Report

- Report findings
- Reliability of water supply reduced (greater sea level = more saltwater intrusion, declining rainfall in some areas, less snowmelt)
- Adverse impact to crops and livestock over next 100 years
- Lower biodiversity and location of species
- Oceans changing
- Planning for adaptation increasing, but limited progress

US – NCADAC Report

Snowball effects

- Lower snow cover means less reflection out of atmosphere
- Changes could mean changes to ocean currents, further exacerbating negative effects
- CO₂ lowers overall ocean pH acidifying waters = negative impact on corals, krill, oysters, clams, crabs and others with skeletons made of calcium carbonate
- Health effects intensify and new health threats emerge

US – NCADAC Report

- Temp continue to rise with about 2 to 4 degrees F over next few decades
- Increase by end of century – about 3 to 5 degrees F higher

US – NCADAC Report

Regional Observations of Climate Change

- **Northeast** Heat waves, coastal flooding due to sea level rise and storm surge, and river flooding due to more extreme precipitation events are affecting communities in the region.
- **Southeast** Decreased water availability, exacerbated by population growth and land-use change, is causing increased competition for water; risks associated with extreme events like hurricanes are increasing.
- **Midwest** Longer growing seasons and rising carbon dioxide levels are increasing yields of some crops, although these benefits have already been offset in some instances by occurrence of extreme events such as heat waves, droughts, and floods.
- **Great Plains** Rising temperatures are leading to increased demand for water and energy and impacts on agricultural practices.
- **Southwest** Drought and increased warming have fostered wildfires and increased competition for scarce water resources for people and ecosystems.
- **Northwest** Changes in the timing of streamflow related to earlier snowmelt have already been observed and are reducing the supply of water in summer, causing far-reaching ecological and socioeconomic consequences.

US – NCADAC Report

Regional observations of climate change

- **Alaska** Summer sea ice is receding rapidly, glaciers are shrinking, and permafrost is thawing, causing damage to infrastructure and major changes to ecosystems; impacts to Alaska native communities are increasing.
- **Hawaii** Increasingly constrained freshwater supplies, coupled with increased temperatures, are stressing both people and ecosystems, and decreasing food and water security.
- **Coasts** Coastal lifelines, such as water supply infrastructure and evacuation routes, are increasingly vulnerable to higher sea levels and storm surges, inland flooding, and other climate-related changes.
- **Oceans** The oceans are currently absorbing about a quarter of human-caused carbon dioxide emissions to the atmosphere and over 90% of the heat associated with global warming, leading to ocean acidification and the alteration of marine ecosystems.

Canada – Federal

- Repeatedly said will track US approach (but that may not make sense for Canada since very different climate, etc – maybe no choice: previous US proposed Acts had trade provisions – not likely to go that way currently?)
- Target reductions (17%) for 2020 over 2005 emissions (easy to promise?)
- Sector by sector approach
- Start with oil and gas sector
- May use intensity as has Alberta (\$15/tonne)
- Pembina Institute calling for \$100 - \$150/tonne

Comments - Ontario

- Lot's of work appears necessary
- Question whether can do within times described
- E.g., “fairness” often means different reduction targets for different sectors (ease of achieving reductions, economic impacts differ). Not easy to determine and lots of study/economics required
- Setting up trading rules takes time but maybe just adopt with WCI system?

Comments - Ontario

- Possible provincial election – Conservatives seem unlikely to continue if get power
- For federal equivalency, will have to know federal rules first? But Ontario says have in place before federal system to be able to negotiate agreement.
- Negotiations could take longer than expected, but feds will want a deal since they believe more powers should go to Provinces
- Compatibility with other provincial/US systems will be difficult and may cause problems
- Competitive disadvantages between provinces and US/Asia – business is global

Comments - US

- President does apparently have sufficiently broad powers to impose significant requirements to control CO2 emissions through Presidential fiat – doubt if could impose cap-and-trade system but emission limits
- Maybe impose alternatives that Republicans would ask for cap-and-trade?
- Some CC skeptics (Exxon Mobil's Rex Tillerson) support carbon tax over cap-and-trade

Comments - US

- US currently inconsistent between states. Opportunity to make systems consistent across all states?
- Query – political capital used up – but not up for re-election anyway
- Bell-weather may be Keystone – but not real test since State Dept report says will make no long-term difference to Alta Oil sands production. Just build different pipelines and ship elsewhere. Should approve, but politics may override.

Comments - Cdn Federal

- Repeatedly said that achieving significant reductions (economy?)
- Say moving ahead with cap system and extensive discussions with industry sectors to determine fair reduction impositions – where is the evidence?
- Repeatedly said will follow US. But how do so without knowing what US doing so how progress on Cdn system?
- Platitudes?

Comments - General

- ENGOs heartened by Presidential comments but could be just rhetoric – need to see action
- Economy will come first – tough to achieve meaningful reductions w/o economic impact – political risk of “job-killers” from Republicans/Conservatives (consider current Cdn Conservative Party)
- Politics will inhibit mitigation progress and my personal expectation is that nothing meaningful will be achieved until too late

Comments - General

- Politics has a 4 to 6 year time horizon.
- Tough to justify if nothing done by China & India – but has to start somewhere....
European example.
- With CC, tough decisions can always be put off until after the next election – worst effects decades out
- Easy for politicians, as the Cdn Feds have done, to promise achieving goals many years out. Not so easy to promise goals 2 years out. Need more short term political promises.

Comments - General

- Conservatives get electorate right. Voters see effects decades out and economically painful solutions can always wait. By the time voters realize it is real, too late to achieve anything except for lessening impact decades afterwards.
- Walrus Magazine - April 2013 – “Mortal Hazard – *Why catastrophic events like the sub-prime mortgage crisis and climate change are inevitable*”
- Reap rewards w/o bearing true costs. “Failure to internalize the externalities”.

These Are Contaminants?

- Castonguay Blasting (on way to SCC) – flyrock from blasting
- Cadillac Fairview – reflected light

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