



M 3 L 2: Government Tools and Initiatives Questions and Discussion points

Part 1

1. In economics a phenomenon known as “market failures” can produce unintended consequences or by-products that are not “properly priced” because they are not included in the price of a given product. The Stern Review of climate change makes a strong statement about greenhouse pollutants as a by-product of human-induced emissions. What was the gist of its message? (slide 1)
2. In 1955 the economist and retail analyst, Victor Lebow stated: *“Our enormously productive economy... demands that we make consumption our way of life, that we convert the buying and use of goods into rituals, that we seek our spiritual satisfaction, our ego satisfaction, in consumption... we need things consumed, burned up, replaced and discarded at an ever-accelerating rate.”* Do you think this statement about consumption as a “way of life” and what he thought made a “productive” economy, holds true today? What has changed? Discuss in the context of what we know now about climate change and “unintended consequences” of the marketplace. (suggest also a hyperlink to the film, “The Story of Stuff” which in part examines this credo from the 1950s) (slide 1)
3. Would you agree or disagree with the following: *“Developing the policies and tools to account for and manage these (greenhouse gas) emissions is a basic function of government.”* Some people would argue that government has too much control over our lives – even in the face of climate change. How would you respond to a person with such views? What do you think the role of government is as far as trying to control greenhouse gas emissions goes? (slides 1 and 13)
4. What are “externalities” in the context of greenhouse gas emissions? (slide 2)
5. A carbon tax is a government-led initiative which is a levy on greenhouse gas emissions – in other words, it puts a price on carbon. Taxing carbon can have at least three positive effects. What are they? (slide 2)
6. Another approach to pricing emissions, called cap and trade, involves a limited-supply permit, or allowance, for each tonne of greenhouse gas emitted. This approach has three advantages for companies. What are they? (slide 2)
7. Carbon taxing involves encouraging behaviour modification – and providing incentives to do so – for individuals, business – and government. In previous lessons we’ve talked about the ways in

which individuals can modify their behaviour to be more climate-friendly. Now discuss some of the ways in which you think business and government can do this. (slide 3)

8. Which two countries were the first to tax carbon on fossil fuels – and in which years? Discuss why you think these countries were the first to take this initiative? What do they have in common and what would be strong incentives for them to do so? (slide 4)

9. In Canada, which was the first province to apply a carbon levy? Which province followed and how was its rate different from the first province? (slide 4)

10. BC's carbon tax is \$30 per tonne per year. How does this translate at the gas pump when you buy gas? (slide 5)

11. The revenue raised by the tax has gone toward reducing personal and corporate tax. What has been the result of this? Would you call this an "intentional consequence"? (slide 5)

12. Not covered in BC's carbon tax are direct releases of methane and carbon dioxide to the atmosphere and other greenhouse gases resulting from three main industries. What are they? Discuss the role of these industries in BC's economy and why you think they are not currently being taxed. (slide 5)

13. Since BC's carbon tax was introduced, what has declined, and what has grown? This could suggest that there has been minimal impact from the tax on the province's economy. Discuss why this "minimal impact" is of great importance to the BC government. (slide 5)

14. Analysts think BC's carbon tax will inevitably have to rise and that it should be applied more fairly to other uncombusted greenhouse gases. It's said that these policy changes will be easier to implement when more provinces begin to tax carbon. Discuss why you think that, for example Alberta, has been reluctant to implement a carbon tax. (slide 5)

15. The cap and trade approach is primarily directed at which industrial sectors? (slide 6)

16. In this approach how does the system of "allowances" work for industry's emission of greenhouse gases? How do market rules of supply and demand enter into it? (slide 6)

17. Quebec has made an agreement with California for a joint cap-and-trade emissions trading system. Discuss why these two jurisdictions, so far apart in distance, would find common ground in the emissions reduction challenge. (slide 6)

18. What is a "vehicle tailpipe standard" and how does this affect the consumer? (slide 7)

19. BC's carbon tax adds 7 cents to the price of a litre of gas and part of the rationale is that this will encourage people to buy more fuel efficient vehicles and use their vehicles less. But some argue that this doesn't affect the wealthy who will continue to drive fuel-inefficient vehicles no matter how much it costs to fill up. What do you think? What's been your experience at the gas station? When you fill-up have you observed fewer gas guzzling trucks and SUVs since 2008 when

the carbon tax kicked in – or not? (slide 7)

20. Canada's emission standards affect car manufacturers. By what percentage point is it expected that the average new Canadian car sold in 2016 will emit fewer greenhouse gases than in 2007? Is this significant? Why – why not? Discuss. (slide 7)

21. In BC's larger cities you may have noticed a variety of unusual right-hand drive Japanese cars and tiny mini-vans which have been imported for Canadians to drive. They reflect Japan's history of higher fuel prices as well as good design and good care by their owners. Why aren't Canadian manufacturers producing similar smaller, well designed, more fuel-efficient vehicles like these imported Japanese models? Or are they? Discuss. (slide 7)

22. What are renewable portfolio standards? BC has voluntary renewable portfolio standards which require that at least 93% of electricity be generated by renewable sources. What are the five sources mentioned as sources of renewable supplies? (slide 9)

23. Which European country and which Canadian province have adopted "feed-in tariffs"? (slide 9)

24. How is the carbon content of fuels measured? (slide 10)

25. What are two ways that the low carbon fuel standard can be met? (slide 10)

26. The installation of a heat pump in a home is given as an example of a clean energy investment supported by a government using "innovative financing rules" with a public utility. What are the pros and cons of heat pumps? If you own a home what would motivate you to purchase – or what would stop you from switching – to a heat pump? (slide 11)

27. Innovative measures and forward thinking around energy use and pollution can come from municipal governments and there are lots of examples around the world where this has happened. Curitiba, Brazil is one example where a well designed transit system has been praised the world over. Consider reading some basic articles on Curitiba and the mayor who initiated the transit system – and learn how these innovations happened. What lessons can we take from Curitiba's example? What measures have been taken in the city or town where you live that have made it more energy efficient and/or less polluting? (slide 27)

28. The Climate Action Charter, established in 2007, now has how many local governments within BC signed on. What are they committed to doing? Which was the first BC community to achieve carbon neutrality? How did they do this? Discuss what other places could learn from its achievements. (slide 12)

29. In response to the charter's goals, local governments are implementing a range of climate actions, including supporting housing density and the fast-tracking of low impact, affordable housing. What are the ways in which such housing can be "fast-tracked"? Affordable housing initiatives sometimes generate a NIMBY ("not in my backyard") response by citizens. Discuss why this is and how this attitude could be overcome. Why also do some people have a negative reaction to high density initiatives in neighbourhoods? (slide 12)

30. Is it inconsistent for a government such as BC's to support initiatives to reduce greenhouse gases in industry while at the same time shipping large amounts of coal overseas? Can it continue to encourage large scale natural resource development? Is it possible to reconcile this? Discuss. (slide 14)
31. What is B.C.'s Clean Energy Act designed to do? (slide 15)
32. BC's Clean Energy Vehicle Program, introduced in 2011, offers incentives for what kinds of things? (Hint: there are three main ones.) (slide 16)
33. Have you noticed electric vehicles on the road or any charging stations? Have you talked with anyone who owns an electric vehicle or is thinking about buying one? What are the pros and cons of electric cars at this point in time? (slide 16)
34. What is the BC Forest Carbon Offset Protocol designed to do in the forestry sector? (slide 17)
35. The "ICE", or Innovative Clean Energy fund has, since 2007, invested almost \$50 million and supported projects in more than 37 communities across BC. What kinds of clean energy were involved? (slide 18)
36. BC was the first jurisdiction of its size, not just in Canada, but in North America – to mandate all its facilities to become carbon neutral. This is a huge challenge, given all it covers. Can you list some of the institutions that must comply? How successful has this initiative been? (slide 21)

Part II - National/State Initiatives

1. Canada has a greenhouse gas reduction target of 17% (below 2005 levels) by 2020 and is starting with regulations in its two largest emitting sectors. What are they? (slide 2)
2. How can setting rigorous emissions standards at the national level cause problems at the provincial level? What is the term used to describe these problems? (slide 2)
3. What is the American Regional Greenhouse Gas Initiative ("Reggie") and which part of the U.S. does it affect? (slide 3)
4. The Western Climate Initiative, a collaboration of California, BC – and, interestingly, Quebec – was designed to work regionally and support national action to tackle the global problem of climate change. What are two initiatives that the WCI has participated in? (slide 4)

5. What jurisdictions participate in the Pacific Coast Collaborative Agreement? Looking at this long section of western coastline you could divide the area into bioregions. Can you name the three bioregions? Discuss why the bioregional approach makes sense when dealing with climate change problems – and coming up with ways to address them? (slide 5)
6. What is the cornerstone of the European Union's policy for reducing industrial greenhouse gas emissions? How many countries are involved? What are the current projections for the lowering of greenhouse gases covered by this policy? (slide 6)
7. What is the Intergovernmental Panel on Climate Change's (IPCC) primary task and why is it important? (Hint: How do countries make informed decisions on climate change action?) (slide 8)
8. The “Earth Summit” or “Rio Summit” of 1992 focused the world’s attention on the international cooperation needed to address climate change, articulating that the climate system is a shared resource whose stability can be affected by greenhouse gas emissions. This summit achieved four milestones. Can you name and discuss one of them? How many countries ratified the agreement? Which developed nations did not sign on? (slide 8)
9. International treaties are very difficult to negotiate and ones on climate change are no exception. Responsibility, costs, and the disparities between nations are all important factors. Canada is a wealthy country with a small population (35 million) spread out over thousands of kilometres. Similarly the United States is a large, wealthy country with a population of almost 314 million. Pakistan, a very poor country, is a fraction of Canada or the U.S.’s size, but has almost 180 million people. Nigeria, the most populous country in Africa, at 155 million, still has many very poor citizens but as a country it has also become relatively wealthy because of its oil reserves. Using these examples, discuss fairness and responsibility (“scale of impacts” and “associated costs”), with regard to fairness in international agreements about emissions. Also discuss the “free-rider” challenge where countries that take little or no action may benefit from emissions reductions in other nations – using the country examples given. (slide 9)
10. Industrialized nations achieved their economic growth largely through the use of fossil fuels but if developing countries do similarly, it’s predicted that the level of greenhouse gases in the atmosphere will skyrocket. How can a mechanism be formulated so that poorer countries receive both support in their economic goals as well as adopting low carbon energy technologies? What should the role of industrialized countries be? Discuss specifically with regard to Canada’s role. (slide 10)
11. The Kyoto Protocol came about in 1997 but two large and significant countries refused to ratify it. Which ones were they and why did they refuse? (slide 12)
12. In 2010, all developed countries presented emission reduction pledges for 2020 – a remarkable achievement. What did Canada pledge in terms of a reduction goal? Despite these international pledges it is estimated that this will only achieve about half of the overall amount needed to avoid the likelihood that global average temperatures will increase by more than 2 degrees Celsius-- an increase that will have seriously negative economic, social and ecological consequences. If someone said, in response to this, “well then what’s the point – why bother?”, how would you

defend a) efforts (time, energy) spent by countries to achieve international agreements and b) Canada's role in an emission reduction pledge? (slide 13)

13. The Durban conference of 2011 was another breakthrough in terms of binding emissions reduction targets. Is there any irony in delegates flying in from all over the world to attend these conferences (carbon footprint, emissions from airplanes)? Does the end justify the means? Discuss. (slide 14)

14. The Durban conference also created the Green Climate Fund which was aimed at whom and designed to do what? What was the ultimate target amount suggested? (slide 14)

15. Which four countries opted out of the Kyoto Protocol in 2012? What reason was given by Canada's government for its decision to opt out? Do you agree with this decision? (slide 15)

16. Denmark continues to be a leader in reducing greenhouse gas emissions with several ambitious targets set for 2020. Can you name one of these targets? (slide 17)

17. China, at almost 1 1/2 billion people, is the world's largest greenhouse gas emitting nation and its carbon intensity is about twice that of the U.S. (population of 318 million) and Canada (population of 35 million). However on a per capita basis, China's emissions are only about a third of the U.S., Canada and Australia (population of 22 million). Discuss the reasons for this apparent anomaly. (slide 19)

18. Which country has not only reduced its greenhouse gas emissions but has exceeded its Kyoto Protocol reduction target of 12.5% - and as well, has set in law, its carbon budget for 2023 to 2027? (slide 20)

19. Britain's government has set into motion a whole series of policies and measures designed to combat greenhouse gas emissions. It has also committed 300 million pounds to help address another international climate concern. Which one? (slide 20)

20. One of the great challenges, as you've learned in this lesson, is to try to ensure that a country's economic progress is equitably integrated with emission reductions. If industry, the engine that fuels province's and countries' economies, is also committed to growth (growth being linked to progress), how can agreement be reached in terms of reducing emissions while allowing heavy industry to grow? Discuss in the context of BC's main industries. (slide 21)

21. Consider what you've learned about BC's efforts to combat greenhouse gas emissions, what would you say is the government's most important initiative? How do you think BC compares with other provinces? What about internationally? If you were premier of BC what initiatives would you expand on or what new ideas would you want to implement – and why? (slide 21)

