

## **THE FIGHT AGAINST CLIMATE CHANGE: WHY IS CANADA DOING SO LITTLE?**

Stéphane Dion

Canada is one of the most admired countries in the world. That is what several comparative studies have shown. Most recently, an international survey conducted by the Reputation Institute ranked Canada as the most admired and esteemed nation, first out of 50 countries.<sup>1</sup>

Canada is liked for its quality of life, tolerance and political stability, and for the role it plays on the world stage. Canada never aggressed another country, never had an empire, used its army only to promote peace, justice and democracy, and fought bravely in two world wars. For their leadership in building multilateral institutions, with contributions such as drafting the Universal Declaration of Human Rights, creating the concept of peacekeeping forces, and advancing the Anti-Personnel Landmines Convention, Canadians have earned a strong reputation as model global citizens. But Canada is also liked for its open spaces, majestic landscapes and countless lakes, rivers, forests and mountains.

President Chirac lyrically expressed the world's admiration for Canada: "an immense country, land of First Nations peoples, land of the Inuit, a land, at the same time Anglophone and Francophone, that is perfecting, in peace and tolerance, the art of living together."<sup>2</sup>

Canadians appreciate these compliments and like to think they deserve them. One of the most famous Canadians, former prime minister Pierre Elliott Trudeau, said:

"Canada is known to its inhabitants and to others as a human place, a sanctuary of sanity in an increasingly troubled world. We need not search further for our identity. These traits of tolerance and courtesy and respect for our environment and for one another provide it. I suggest that a superior form of identity would be difficult to find."<sup>3</sup>

Many Canadians are thus shocked to learn that in one area, which is destined to become one of the most crucial concerns of humanity, their country is in the dock. In the fight against the crisis of human-induced climate change, Canada looks nothing like a good global citizen; it is seen as a pariah, or even a saboteur.<sup>4</sup> Year after year, Canada is rated among the worst in the *Climate Change Performance Index*. In the 2011 report, it was ranked 54th of 57 countries (France was ranked 6th).

Is Canada's record really that poor? I will endeavour to show that a sober and objective analysis reveals a more nuanced situation: Canada is not the worst, but it must be ranked among the bottom of the class. A class of dunces, one must add, given the chasm that exists between the countries' performance in reducing greenhouse gas emissions (GHG) and the reduction levels recommended by scientists to limit global warming to less than 2°C above preindustrial temperatures.<sup>5</sup> Beyond that climate point of no return, the effects of global warming could have very serious consequences, and Canada would not be immune, as we shall see.

Put another way, Canada's record is among the lowest of the low. How can it be that a country that usually performs admirably on the international stage in many areas has such a pitiful record in the area of climate policy?

Could it be because Canada itself is immune to climate change? As I will show, the opposite is true: as a Northern country, it is particularly vulnerable.

Canadian leaders invoke a series of mitigating factors: the harsh climate; the vast distances between cities in a country as large as Europe but with a population of only 34 million; sustained economic and population growth; and an economy that is still very much based on industry and natural resources. They also claim that the North American economy is so tightly integrated that Canada would have a hard time acting alone, without the U.S. We will see that these claims have some validity: a transport truck hauling a heavy load from

Halifax to Vancouver will obviously emit substantially more GHGs than one travelling from Lille to Marseilles. However, these factors are not enough to absolve Canada, particularly its leaders whose climate policies are far from being stringent or vigorous enough.

Another factor, specific to Canada, hinders the implementation of an effective GHG reduction policy: the challenge of finding a means to spread the burden of reducing emissions fairly among its regions.

In other words, I will show that Canada clearly demonstrates the central hypothesis of this feature of the *Tocqueville Review*, edited by Éloi Laurent: successfully dealing with climate change requires a sense of justice. If “the key to environmental debates is justice for the people, in each country and globally,”<sup>6</sup> Canada is a good example of that.

For everyone to get involved, individuals must believe that the demands made of them are fair relative to those made of others. Canadians have yet to find a way to establish this rule of fairness amongst themselves: this in large part explains their puny efforts to fight climate change.

#### 1. CANADA’S VULNERABILITY TO CLIMATE CHANGE

Two thirds of Canadians want their country to be a global leader in the fight against climate change.<sup>7</sup> Such leadership would square with how they see their country. But as we will see, it would also be in their own best interest.

Because temperatures have been rising more rapidly in the polar regions, warming in Canada has been more pronounced than in most countries. The temperature has risen 1.3°C in half a century (from 1948 to 2006), about double the global average for the same period.<sup>8</sup> Scientists expect temperatures to rise more quickly in Canada than in the rest of the world during this century.

According to the Department of Natural Resources, “the impacts of changing climate are already evident in every region of Canada,”<sup>9</sup> but “adaptive capacity in Canada is generally high”<sup>10</sup> because it is “a prosperous country with high levels of education, access to technology, and strong and effective institutions.”<sup>11</sup> Some groups are more vulnerable, principally Aboriginal people and Arctic residents.<sup>12</sup>

The consequences of this warming are alarming. There has already been an increase in the frequency and intensity of climate-related disasters such as storms, tornadoes, droughts and floods. Coastal regions are fighting shoreline erosion. Several inland regions (including the Prairies) are threatened with water shortages and more intense drought periods, owing to higher evaporation rates and glacial retreat. Forests are affected by insect infestations, and forest fires are increasingly destructive. The most spectacular catastrophe to date was the destruction of a major part of British Columbia's forests as a result of the unprecedented invasion of an insect called the mountain pine beetle. One of the main causes of this epidemic is thought to be the onset of milder winters, which allow the larvae to survive.<sup>13</sup>

More than half of Canada's economy would be directly affected by climate disturbances, in sectors such as forestry, agriculture, fisheries, hydroelectricity, transportation and tourism.<sup>14</sup>

According to the National Round Table on the Environment and the Economy, an important multisectoral group of experts mandated by the Government of Canada, climate change will hit the Canadian economy hard.<sup>15</sup> If the critical global warming threshold of 2°C is breached, it could cost Canada dearly—up to a quarter of its GDP.<sup>16</sup>

Why is it then that Canadians are not doing everything they can to fight such a threat? The truth is that if a sense of foreboding was enough to trigger collective action against climate change, things would be a lot simpler, in Canada as elsewhere. But the fact is that few public policies are as difficult to establish as a policy to fight climate change, because of the constraints of collective action.

The theory of collective action teaches us that it is easier to implement a public policy when the stakes are divisible, that is, when the people who take action to produce a given result also benefit from that result. Unfortunately, that is not the case with climate change. The efforts of those who take action to fight climate change do not benefit them in particular; they benefit everyone, even those who do nothing. Indeed, the positive impacts of these efforts to reduce GHG emissions are imperceptible because they are spread over the entire planet and through time, over decades if not centuries. This results in an enormous collective action problem, because everyone can find a reason to be a climate free rider, that is, to do the

least they can get away with while benefiting from the actions of others.

Canada provides a striking example of this climate free riding. Even if Canada took dramatic action and managed to reduce its GHG emissions by half, such efforts, by themselves, would not have a noticeable impact on the climate disturbances that threaten that country, because Canada accounts for only 1.88% of global emissions.

The exploitation of oil sands in the Canadian province of Alberta is particularly controversial—more on this later—notably because of the GHGs emitted by that industry. If oil sands exploitation was solely responsible for glacial melting in Western Canada, which threatens the region's supply of fresh water, Albertans would certainly be more motivated to reduce their GHG emissions. But the oil sands are responsible for only 0.1% of global GHG emissions and therefore only 0.1% of the melting of Western Canada's glaciers.

For some years now, the Premier of the Canadian province of Ontario has been moving to close down the half dozen coal-fired power plants operating in Ontario, in keeping with his climate change policy. But at the rate China keeps building coal-fired plants, it would take only a few months to cancel out the GHG emission reductions achieved by closing the Ontario coal-fired plants. This is hardly motivation for Ontarians to leap into action.

Nonetheless, as climate free riders go, some countries are worse than others, and Canada is one of them. Are there mitigating factors?

## 2. CANADA'S CLIMATE CHANGE RECORD

Canada failed miserably to achieve its Kyoto target, a 6% decrease in its 2008–2012 emissions relative to 1990 levels. Instead, Canada's GHG emissions increased by 17% between 1990 and 2009.<sup>17</sup> The gap would have been even larger had there not been a global recession, as the slowdown in economic activity also reduced many countries' emissions. Thus, Canadian emissions decreased by 6% in 2009 over 2008. The International Energy Agency predicts that these countries' emissions will resume their rise once the recession ends.<sup>18</sup>

Yet Canada is not the only country that will miss its Kyoto target. In Europe, this will more than likely be the case for Spain, Portugal

and Belgium.<sup>19</sup> The comparison must be extended further to establish Canada's climate performance.

According to the International Energy Agency, Canada is only the 36th most populous country in the world but the 7th biggest emitter of GHGs. However, the 7th position is a long way from the leaders: the top two emitters, China and the U.S., together emit 41% of global GHG emissions, compared with Canada's 1.9%.<sup>20</sup>

In 2008, Canada released 16.53 tonnes of CO<sub>2</sub> per capita into the atmosphere, three times more than France (5.74). Among developed countries, only Luxembourg (21.27 tonnes), Australia (18.48) and the U.S. (18.38) did worse.<sup>21</sup>

Between 1990 and 2008, Canada's emissions increased by 27.4%, according to International Energy Agency numbers. This is not the worst of performances, but it is much worse than the average. In 1990, Canada ranked 17th of 23 countries with a similar level of economic development (Canada, the EU15, the U.S., Japan, Australia, New Zealand, Norway, Switzerland and Iceland). Thus, six countries performed worse than Canada, including Australia (+52.9%) and Norway (+33%). In comparison, the top performers managed to reduce their emissions; they included Sweden (-13%), Germany (-15.4%) and the United Kingdom (-7%). France's emissions increased by 4.5%, and those of the U.S., by 14.9%.<sup>22</sup>

However, population growth was relatively strong in Canada, at 20.4% from 1990 to 2008, compared with averages of 8.2% for Europe and 10.2% for France.<sup>23</sup> On a per capita basis, Canada's emissions growth was only 5.9% during this period. Still, even using this method, Canada's comparative record barely improves, moving from 17th to 15th of 23 countries.<sup>24</sup>

Canada's economy grew rapidly between 1990 and 2008. In that span, GDP (measured using purchasing power parity) grew by 60.1% compared with an average of 44.7% for Europe and 38.8% for France.<sup>25</sup> Is Canada's economic strength responsible for its increased emissions? To answer that question, we calculate the change in emissions intensity by dividing GDP by the total emissions per year for each country. Thus, between 1990 and 2008, Canada's emission intensity dropped by one fifth (20.4%). In other words, for every US dollar (in constant 2000 dollars) produced by Canada's economy, 0.52

kilogram of CO<sub>2</sub> were emitted in 2008 compared with 0.66 kilogram in 1990. Is this a good performance? Unfortunately, it is only average. Among the 23 countries in our comparison, Canada ranks 15th. As regards reductions in emission intensity, the top performers were Ireland (-47.7%), Sweden (-41%), the United Kingdom (-39.7%) and Germany (-37.7%). France's performance was -24.7%.<sup>26</sup>

However, is it possible that Canada's poor performance is the result of its economy remaining based on industry and primary resource extraction while many other countries, seeing their industries leave, shifted toward the much less CO<sub>2</sub> emissions-intensive service sector?

Unlike the European Union, which possesses few natural resources,<sup>27</sup> Canada is a major producer of energy (sixth-ranked globally), oil (sixth) and natural gas (third), the world's largest exporter of coal, the largest producer of potash, the second-largest producer of uranium, the third-ranked exporter of diamonds and one of the five biggest producers of aluminum and nickel, in addition to being a traditional supplier of fish, wood and fur. This intensive exploitation of natural resources has long made Canada a target of environmentalists.<sup>28</sup>

For a long time, Canadian officials have argued that Canada's GHG emissions should be attributed to the countries that consume Canadian resources, not just Canada itself. In 1999, Canada became the leading exporter of oil to the U.S. Shouldn't the emissions generated in extracting this oil be attributed, at least in part, to the Americans?

This brings us to a larger debate that concerns all countries: should emission levels be calculated based on what countries produce or what they consume? This issue is beginning to receive close attention. According to Peters,<sup>29</sup> although the developed countries can claim to have reduced their production of GHG emissions by 2% between 1990 and 2008, the results change if we count emissions resulting from consumption—that is, if we add the emissions attributable to imported goods and subtract those of exported goods. Then we see that instead of declining by 2%, the developed countries' emissions actually rose by 7% (going up to 12% if Russia and the Ukraine are excluded). According to Peters *et al.*, China alone

accounts for 75% of the emissions growth resulting from developed-world imports.

Using this calculation method, which means counting emissions generated in the production of goods where these goods are consumed rather than where they are produced, Canada's climate record improves relative to the other developed countries. According to data from a study by Davis and Caldeira in 2010,<sup>30</sup> as reworked by Éloi Laurent,<sup>31</sup> Canada is one of the few developed countries whose consumption generates fewer emissions than their production. The difference in GHG emissions from production compared with those from consumption is -4.3% for Canada and +32.9% for the EU15.

Table 1 reformulates these statistics as per capita emissions. Consumption-based rather than production-based accounting does not improve Canada's ranking: it remains one of the largest emitters. Nonetheless, its per capita consumption emissions are closer to those of the European countries. In 2004, Canada emitted eight more tonnes of CO<sub>2</sub> per capita than the EU15 when measured by production compared with five more tonnes when measured by consumption. In 2004, the average Canadian consumer generated only three more tonnes of emissions than the average consumer in the United Kingdom and less than one more tonne than the average Belgian consumer.

Table 1. Canadian per capita greenhouse gas emissions compared with EU15 member countries, Australia, the U.S. and Japan for 2004

Production Emissions			Consumption Emissions		
Rank	Country	Per capita emissions (CO <sub>2</sub> Mt)	Rank	Country	Per capita emissions (CO <sub>2</sub> Mt)
1	Portugal	6.0	1	Portugal	7.43
---	Sweden	6.0	2	France	9.36
3	France	6.53	3	Spain	9.67
4	Spain	8.09	4	Italy	10.14
5	Italy	8.13	5	Sweden	10.55
6	Austria	8.64	6	Greece	10.63
	<b>EU15</b>	<b>8.7</b>		<b>EU15</b>	<b>11.56</b>
7	Greece	8.82	7	Japan	12.54
8	United Kingdom	9.29	8	Germany	12.71
9	Denmark	9.44	9	Austria	13.33
10	Germany	9.95	10	Ireland	13.41
11	Japan	10.26	11	United Kingdom	13.53
12	Ireland	10.73	12	Denmark	13.89
13	Belgium	10.86	13	Netherlands	13.92
14	Netherlands	10.98	14	Finland	14.42
15	Finland	13.07	15	Belgium	15.96
16	Australia	16.96	16	Australia	16.61
<b>17</b>	<b>Canada</b>	<b>17.36</b>	---	<b>Canada</b>	<b>16.61</b>
18	U.S.	19.75	18	U.S.	22.14
19	Luxembourg	22.0	19	Luxembourg	32.00

Sources: Davis, Steven and Caldeira, Ken. "Consumption-based accounting of CO<sub>2</sub> emissions" *Proceedings of the National Academy of Sciences of the United States of America, Volume 107*. (March 8, 2010) <<http://www.pnas.org/content/early/2010/02/23/0906974107.full.pdf+html>>; Eloi Laurent, "Faut-il rejeter le découplage", in *Économie du développement durable, Revue de l'OFCE / Débats et politiques*. 120. (2011) <<http://www.ofce.sciences-po.fr/publications/revue.htm>>; Population Reference Bureau. *2004 World Population Data Sheet*. Population Reference Bureau. Washington, D.C. (2004) <[http://www.prb.org/pdf04/04worlddatasheet\\_eng.pdf](http://www.prb.org/pdf04/04worlddatasheet_eng.pdf)>

But the fact remains that Canada is a major GHG emitter, as both a producer and a consumer. To better understand why, we must set international comparisons aside and closely examine the Canadian data.

On closer examination, we do find some good news.<sup>32</sup> The growth of emissions since 1990 occurred during the first decade of that period. In the 2000s, emissions held steady before dropping in 2008 and 2009, owing to the global economic slowdown. There was even a 21% decline in emissions from industrial manufacturing between 1990 and 2009, and emissions from electrical generation stabilized in 2002 and then began to decline, notably because of the province of Ontario's efforts to abandon coal.

So what caused the substantial growth in Canadian emissions? Essentially, two things: "the long-term (1990–2009) trend of emission growth has been driven primarily by the fossil fuels industry and the transportation sector."<sup>33</sup> Between 1990 and 2009, the fossil fuels industry accounted for 54% of total emissions growth; the transportation sector, 45%.

Let us look at the first factor: over the past two decades, Canada has greatly increased its oil and gas production, mostly for export. In 2009, total crude oil and natural gas production was 57% higher than in 1990.<sup>34</sup> Moreover, the increase in oil production came from oil sands extraction, which emits the most GHG of all production methods, while conventional oil production peaked in 1998.<sup>35</sup> In 1990, the oil sands industry had just got off the ground. Today, it is a major contributor to the Canadian economy and indeed has been growing exponentially. Between 2005 and 2009, emissions from the oil sands industry increased by 40% while emissions from conventional oil production decreased by 12%.

As for the emissions growth linked to the transportation sector, it is not just the result of the increase in the number of vehicles and kilometres driven. Two other factors are at work. First, many Canadians, for reasons of comfort and safety, have switched from cars to vans and trucks, which are less fuel-efficient. The number of light trucks on the road more than doubled between 1990 and 2007 while the number of cars stayed roughly the same.<sup>36</sup> This growing infatuation with sport utility vehicles and trucks is understandable in a country with long travelling distances and roads that can be dangerous in the winter. However, it has caused an additional rise in GHG emissions in the absence of sufficiently stringent vehicle fuel-efficiency regulations.

The other factor that has pushed transportation emissions higher is the 91% increase in emissions from heavy, diesel-engine vehicles between 1990 and 2009. The quantity of goods transported by truck increased sharply in this period. That increase is in large part a result of free trade with the U.S., which began in the 1990s and favoured shipping goods by truck rather than train, because rail lines run east-west, not north-south.<sup>37</sup>

In short, Canada is a major per capita GHG emitter. Its emissions increased dramatically in the 1990s before levelling off. Canada's

performance is one of the worst among developed countries owing to strong growth in its overall economy and population, but also because of two additional factors: unfettered growth in the oil sands industry and in trucking.

These factors drove up emissions, all the more so because very little constrained them: no adequate regulations, no real climate policies and most importantly, no price on carbon. Canada failed to develop an overall plan and public policies that would have enabled it to meet, or at least approach, its GHG emissions reduction targets. Did politics have an impact?

### 3. CLIMATE POLITICS IN CANADA

The reader should be aware that I myself am a political actor; as Canada's Environment Minister, I came up in 2005 with a plan to ensure that Canada would live up to its Kyoto Protocol commitments.<sup>38</sup> Although far from perfect, that plan would have provided Canada with a coordinated set of policies supported by a GHG cap and trade system. However, the Liberal government, of which I was a member, lost to the Conservatives in the 2006 federal election.

The new prime minister, Stephen Harper, openly questioned the science of climate change. He called the Kyoto Protocol a "socialist plot," and even one year after taking power, was still talking about "so-called greenhouse gases."

Since then, his government has toned down its rhetoric and claims to be taking the climate change crisis seriously. However, its actions are not consistent with its words. It has shelved the previous government's plan without coming up with anything to replace it. The Harper government has done away with the target to which Canada had committed under the Kyoto Protocol (a 6% reduction in emissions for 2008–2012 from 1990 levels) and ultimately decided to adopt the U.S. government's much less onerous target: a 17% reduction in emissions in 2020 over 2005 levels, resulting in a 3% increase in Canada's emissions compared to the 1990 threshold. Even then, the measures put forward by the government will achieve only one quarter of that target, by the Environment department's own admission, or hardly one tenth according to independent analysis.<sup>39</sup>

Internationally, Canada had earned a leadership role during the 2005 UN Climate Change Conference (COP 11) in Montreal, which I had the honour of chairing. Since then, under the Conservative government, Canada has become one of the fiercest opponents of the Kyoto Protocol, earning it multiple fossil awards, presented by environmental groups, at each UN conference. According to the Sierra Club, an environmental group, Canada has gone "from hero to zero."<sup>40</sup>

During the 2008 election campaign, the Liberal Party, of which I had become the leader, crafted an ambitious plan to make greening the Canadian economy the centrepiece of its election platform.<sup>41</sup> Our boldest election plank was a fiscal reform program called *The Green Shift*.<sup>42</sup> It involved setting a fair price for carbon emissions by introducing a carbon tax and using the resulting revenue to reduce personal and business income taxes. Economists and environmentalists agreed – for once – to approve the basis for our tax reform. But I was unable to convince Canadians or counter the Conservative Party's effective campaign against what they called "the tax on everything." Our platform was also attacked by the left-wing New Democratic Party, which argued that only big business should be given reduction targets and that taxpayers should be left alone. In the end, the Liberals lost that election.

If they had won, 75% of Canada's GHG emissions would have been taxed at up to \$10 a tonne in 2009, gradually rising to \$40 in 2012 (the Canadian dollar is more or less at parity with the U.S. dollar). If passed, this green tax would have led to substantial cuts to personal and business income taxes, as well as tax credits for activities that do not harm the climate. Unfortunately, following our election defeat, the expression "carbon tax" appears to have become taboo in Canada and the U.S. I must say that I feel some responsibility for the ongoing inaction in the fight against climate change.

Today, the federal Conservative government has not even come up with the "key management tools" needed to reduce GHG emissions, according to the Canadian Commissioner of the Environment and Sustainable Development.<sup>43</sup> Experts say that Canadian government programs and grants for decarbonizing the economy are much less generous than those in the U.S.<sup>44</sup> Furthermore, its regulation of GHGs generated by vehicles and coal-

fired plants is seen as being hardly more rigorous than what it would have been under a *status quo* scenario.<sup>45</sup>

Canada's current government places a lot of hope on CO<sub>2</sub> capture and storage, technology of unknown effectiveness for carbon and even less so for the tar sands. However, given the lack of a price on carbon, the private sector has no incentive to invest the billions of dollars needed to quickly implement this technology.<sup>46</sup> The government is also focussing on a biofuel subsidy program that mostly promotes corn-based ethanol. This program, with its highly questionable environmental benefits, appears to function more as a form of support for the agricultural sector, in Canada as well as other places.

The Canadian government claims that Canada is unable to do more than its colossal neighbour, the U.S., which accounts for three quarters of its international trade. As long as the U.S. Congress and government do not adopt climate legislation which includes a cap on GHG emissions and carbon pricing, the Government of Canada will not do so either. Ottawa waits for Washington!

However, one has to wonder where this sudden inability to take a different course than the U.S. comes from, especially as regards climate change, since we know that in previous times Canada was able to act differently from its neighbour to the south, by setting up a more accessible and more efficient health care system, more generous workers rights, fairer and more effective anti-crime policies, much smaller public debt, a much more reliable banking system and lower business taxes.

The wait-and-see approach of the Canadian federal government has been criticized, not only by environmentalists, scientists and the opposition parties. Business is increasingly calling for a shift toward a decarbonization of the economy. The C.D. Howe Institute, a renowned Canadian think tank, calculated that postponing concrete measures "will then likely increase the overall costs of long-term reductions."<sup>47</sup>

According to another study by a different Canadian think tank, the Pembina Institute, the impact of climate policies on competitiveness could be limited to only a few industries. The study showed that if the price of carbon were substantially higher in Canada than in the

U.S., only the production responsible for some 5% of industrial emissions would be at risk.<sup>48</sup>

Another renowned think tank, the Conference Board of Canada, showed that the Canadian research, public policy and business sectors have not taken sufficient advantage of the opportunity presented by the rapidly expanding global market for technologies to reduce GHG emissions: "Putting a price on carbon, for example, would provide broad incentives to develop and commercialize Canadian climate-friendly technologies."<sup>49</sup>

Canada's provincial governments are not sitting idly by, but their efforts cannot make up for the lack of federal leadership. Certain provinces, such as Quebec, Ontario, British Columbia and Manitoba, are turning to American states, such as California, in an attempt to establish their own GHG cap and trade system (the Western Climate Initiative). Ontario got involved in actively promoting renewable energy and is working to shut down its coal-fired plants. Even much-criticized Alberta has set up a cap system based on emissions intensity. The most ambitious initiative is a carbon tax established by British Columbia. Although courageous, this initiative is too modest to be able to result in a steep reduction in emissions (the tax will reach its maximum – \$30 a tonne – in 2012), and no major political party has committed to pursuing this green tax further.<sup>50</sup>

Things could have been different had there been a different election result. And they still can be. Canada can come up with the political leadership it now sorely lacks in the fight against climate change. However, a solution needs to be found to another political obstacle, the last one that we need to examine: the high geographic concentration of Canada's GHG emissions, which poses a particularly complex problem of fairness.

#### 4. FEDERALISM AND CLIMATE JUSTICE IN CANADA

No country with a GHG reduction policy is free from the problem of treating its entire population fairly: how to distribute the burden fairly among them. In Canada there is the additional, still-unresolved problem of distributing the burden among its federal entities: the ten provinces and three territories.

The problems with treating individuals fairly are inherent in policies for reducing GHG emissions. In particular, carbon pricing in

the form of a tax or a cap and trade system could be rather regressive, given that low-income households ordinarily spend a large proportion of their income on heating and transportation.<sup>51</sup> This is particularly true in a country such as Canada, with its cold climate and vast distances.<sup>52</sup> For example, it has been determined that British Columbia's carbon tax hits lower-income residents especially hard, while those with higher incomes benefit from tax cuts.<sup>53</sup>

Regressive carbon pricing appears to be especially inequitable in a country with already-widening inequalities<sup>54</sup> and where GHG emissions growth is due almost exclusively to the highest-income consumers.<sup>55</sup>

*The Green Shift*, which was proposed to Canadians by the Liberal Party during the 2008 federal election, avoided this type of inequality. Instead, in that tax reform we included social objectives that were funded out of carbon tax revenues. In fact, in five years, our plan would have helped cut overall poverty by a third and child poverty in half through tax benefits for low-income Canadians and families. Furthermore, without granting any exemptions whatsoever, we supported, using carbon tax revenues, various groups in their efforts to reduce their emissions. That is why, in addition to a broad-based reduction of individual and business income taxes and new green energy incentives, the plan provided a green rural credit, a Northern allowance, special credits for farmers, foresters and fishers (to help them reduce their GHG emissions), and credits for not-for-profit and charitable organizations.

We believed this tax reform to be fair and infinitely simpler to understand than our opponents' plans, which were all based on complicated cap and trade mechanisms. However, it was our plan that was criticized for being complex. Simply promising to send a "green cheque" of the same amount for each Canadian might have won more votes, but it would have certainly been less effective – socially, economically and environmentally.

The geographic concentration of Canada's emissions adds another layer of complexity – a particularly thorny fairness problem. Macdonald, Douglas *et al.*<sup>56</sup> clearly outlined the extent of this problem by comparing the emissions per resident for the Canadian provinces and European countries for 2009. Their data have been used to draft Table 2, which compares the Canadian provinces with the EU-15

countries. We see that the vast majority of Canadians live in provinces whose emissions levels are not that different from the European average. Quebec, with annual GHG emissions of 10.4 tonnes per resident, is doing better than Germany, with 11.2 tonnes. Ontario (12.6 tonnes) is comparable to Finland (12.3 tonnes). British Columbia's emissions (14.3 tonnes) are only slightly higher than those of Ireland (13.9 tonnes). Ontario, Quebec and British Columbia account for 75% of Canada's population.

*Table 2. Greenhouse Gas Emissions per Capita – Canadian Provinces and EU-15 Member Countries*

Rank	Country or Province	Emissions per Capita (Mt CO <sub>2</sub> )
1	Sweden	6.4
2	Portugal	7.1
3	France	8.0
-	Spain	8.0
5	Italy	8.1
6	United Kingdom	9.1
7	Austria	9.6
<b>8</b>	<b>Quebec</b>	<b>10.4</b>
9	Greece	10.9
10	Denmark	11.0
11	Germany	11.2
12	Belgium	11.5
13	Netherlands	12.0
14	Finland	12.3
<b>15</b>	<b>Ontario</b>	<b>12.6</b>
<b>16</b>	<b>Prince Edward Island</b>	<b>13.4</b>
17	Ireland	13.9
<b>18</b>	<b>British Columbia</b>	<b>14.3</b>
<b>19</b>	<b>Manitoba</b>	<b>16.6</b>
<b>20</b>	<b>Newfoundland and Labrador</b>	<b>18.6</b>
<b>21</b>	<b>Nova Scotia</b>	<b>22.4</b>
22	Luxemburg	23.9
<b>23</b>	<b>New Brunswick</b>	<b>24.6</b>
<b>24</b>	<b>Alberta</b>	<b>63.7</b>
<b>25</b>	<b>Saskatchewan</b>	<b>71.0</b>

*Source:* Macdonald, Douglas *et al.*, "Background Document for Three Workshops on National Climate-Change Policy: Allocating Canadian Greenhouse Gas Emission Reductions Amongst Sources and Provinces: Learning from Germany and the EU," Centre for the Environment, University of Toronto, Ottawa, September 6, 2011, p. 30.

Table 2 shows that Canada's performance is considerably skewed by the exceptional results of two of its provinces: Alberta, which emits 63.7 tonnes of GHG per resident, and Saskatchewan (71.0 tonnes). Both these provinces represent 14% of the population but 40% of its GHG emissions. The major climate impact of these two provinces can be easily explained: this is where most of Canada's hydrocarbon production, including the tar sands, originates. As well, their main source of electricity is coal. Alberta is where 70% of Canada's coal reserves lie. Nearly half of Canada's emissions linked to electricity and heating comes from Alberta. In contrast, electrical generation in Quebec and British Columbia is practically free of CO<sub>2</sub> emissions since they essentially come from hydroelectric power.

Such a geographic concentration of GHG emissions is unique to Canada. For example, this degree of concentration is not found in three other federations: the U.S.,<sup>57</sup> Germany<sup>58</sup> or Australia.<sup>59</sup>

Table 2 shows that Alberta, with 63.7 tonnes per resident, emits five times more than Ontario (12.6) and six times more than Quebec (10.4). In comparison, Europe is very homogenous. For instance, its four largest countries emit almost the same number of tonnes per resident: France (8 tonnes), Italy (8.1), the United Kingdom (9.1) and Germany (11.2).

This homogenous nature of the European countries helped with negotiating their Kyoto targets and distributing the GHG reductions needed to achieve them. As well, Europe's largest country, Germany, agreed to take responsibility for a very large part of this reduction effort (80% according to Macdonald *et al.*).<sup>60</sup> In doing so, Germany took a risk. Modernizing the former East Germany's outdated, dirty industries allows it to expect a significant reduction in its emissions. In Canada, no province has felt it was able to take such a risk. Canada did not get its own Germany.

In contrast, each province fought aggressively for a distribution of the reduction effort based on fairness criteria favourable to their interests. Provinces with few emissions favoured the "polluter pays" principle, in which the biggest emitting provinces and industries are to reduce their emissions accordingly. Some of those provinces, particularly Quebec, promoted the principle of recognizing first movers, under which industries that have already reduced their emissions in the past should not be subjected to new reduction

efforts; instead, they should be rewarded with offsets paid by major emitters.

The Province of Alberta has always flatly refused such criteria. In its view, since the entire country benefits from the economic spinoffs of oil and gas extraction, it is only fair that the reduction effort be equitably distributed among all provinces and areas of economic activity. Alberta points out that it already pays heavily for the other provinces through federal transfer payments, and that taking more money away from Alberta will not be the way to come up with the billions of dollars needed to reduce its emissions. It also points out that it is the only province to have established a cap system based on emissions intensity and that the oil sands industry has reduced its emissions intensity (but not in absolute terms, since they continue to increase) by 29% over 1990 levels.

This debate has been taking place within a political framework that gives the provinces significant leverage. In fact, Canada is a decentralized federation whose Constitution gives the provinces jurisdiction over energy and natural resources. Based on this, the Alberta government states that the federal government does not have the constitutional jurisdiction to impose a binding GHG emissions reduction system on the provinces. The federal government replied, no doubt correctly, that since case law made the environment a joint responsibility, the federal government is completely within its rights to act.

Making things even more complex is the fact that projections call for an even greater geographic concentration of GHG emissions, particularly driven by an expected significant expansion in tar sands development. The industry projects that total production, in barrels of oil per day, will almost triple by 2025, rising from 1.5 million barrels a day to 3.7 million. Today, development of Alberta's oil sands produces 6.5% of Canada's emissions. In 2020, this will probably be 12%, or more than Quebec's total emissions. While the other economic sectors reduce their emissions, oil sands development will more than wipe out these decreases, so that if nothing is done to change course, Canada's total emissions will continue to climb.<sup>61</sup>

In other words, emissions from oil sands development are expected to rise four times faster than those from other sectors of Canada's economy. So what is the solution? The Conservative

government considered imposing a less stringent target on the oil sands than on other sectors.<sup>62</sup> This would have meant asking Quebec's manufacturing sector or British Columbia's forestry sector to accept steeper reduction targets in order to accommodate the oil sands. Anticipating an outcry, the government abandoned the plan.

In 2009, two major Canadian environmental organizations, the Suzuki Foundation and the Pembina Institute, released a study that found that Canada could reduce its emissions by 25% in 2020 over 1990 levels, all the while experiencing an enviable economic growth of 23% over the decade, if it took the necessary steps, including setting a price of \$200 per tonne of CO<sub>2</sub>.<sup>63</sup> According to the study, such an effort would reduce growth in Canada's economy by only 3.2 percentage points over the status quo (when no additional effort is taken to reduce emissions). For Alberta and Saskatchewan, losses over the status quo would be more significant: 12.1 percentage points for Alberta and 7.5 for Saskatchewan. Lastly, the study reported that despite this, both provinces would continue to experience the strongest growth in Canada.

This study was based on questionable assumptions.<sup>64</sup> For instance, the authors forecast that the price of a barrel of oil would stabilize at below \$50 between 2010 and 2020.<sup>65</sup> However, what is worth noting is the harshly critical response from Western Canada.<sup>66</sup> The Canada West Foundation stated that Alberta's and Saskatchewan's weight in Canada's economy is steadily growing, that the spin-offs from the oil and gas industry are felt directly and indirectly in the other provinces in terms of jobs, contracts and all kinds of investment, and as much as it would be unfair to ravage Ontario's automotive construction factories by claiming that they make products that emit large quantities of GHGs, it would also be completely unwarranted to place all the burden of GHG reduction targets on Alberta's and Saskatchewan's fossil fuel extraction.

In *The Green Shift*, the 2008 Liberal plan I referred to earlier, the carbon tax would have been collected so as to distribute the tax burden among the various provinces' taxpayers. But since we were unable to promise Albertan and Saskatchewan voters that each and every dollar collected in their province would be returned to them, this did not help the fortunes of the Liberal Party in these provinces.

Various authors have suggested that in Canada, a carbon price needs to be developed in such a way that any amount collected in one province will be reinvested there. The federal government would collect a uniform tax across the country, but the revenue from such a tax would be provided to the provinces based on their contribution. However, several experts and industry representatives stress that, no matter what is done, an integrated cross-Canada approach should be established that sets a consistent price on carbon that would be applicable to all industries and all provinces and that, in doing so, would avoid the unproductive balkanization of climate policies.<sup>67</sup>

Even the Canada West Foundation lent its support for a carbon tax provided that it not become a new vehicle for transferring Alberta's money to the other provinces. It stated that carbon pricing, which would reflect the seriousness with which Canada is taking its climate responsibilities, would help protect Alberta's oil from boycotts organized against the tar sands in Europe and the U.S.<sup>68</sup>

Canada's tar sands – the largest potential reserve of oil after Saudi Arabia – have become symbolic, a symbol staining Canada's reputation.<sup>69</sup>

Even Nobel Prize recipients are criticizing the GHGs produced through development of Canada's tar sands.<sup>70</sup> Producing oil using this viscous, heavy bitumen mixed with sand creates a large amount of pollution and requires vast amounts of water. Extracting this oil generates three to four times more GHGs than does conventional oil extraction.<sup>71</sup>

Some industry advocates have tried to shift the debate, arguing that it is "ethical" oil since it is produced by a stable democracy that respects human rights, is allied with other democracies and contrasts with the other large producers such as Saudi Arabia, Iran, Sudan, Nigeria, Angola and Venezuela.<sup>72</sup>

As for the oil sands industry, it is quick to point out that if emissions are calculated not only at the extraction stage, but instead taking the entire product cycle into account, including the burning of fuel by users, the extra GHGs generated by the tar sands compared to conventional oil is low. In fact, it is estimated at 20% according to a study by the European Commission, 17% according to the U.S. government, and about 13% according to the Royal Society of

Canada.<sup>73</sup> This gap is bound to shrink, predicts the industry, owing to its efforts to reduce the energy intensity of its activities, as well as to the fact that the extraction of conventional oil is increasingly difficult and dirty, either because new reserves are of questionable quality, or because companies must now extract it in areas that are difficult to access or deep under water.

This final argument is not reassuring to ecologists, who dream of freeing humanity of its dependence on oil and who are dismayed to see the headlong rush toward increasingly heavy, dirty hydrocarbons. This is undoubtedly why the tar sands are such a repellent symbol, despite the fact that on a global scale, their GHG emissions are relatively low. For instance, the 650 coal plants in the U.S. generate 60 times more GHGs than Canada's tar sands.<sup>74</sup>

The oil sands industry's reputation will be in doubt so long as Canada does not pledge to combat climate change and other forms of pollution. Political and industrial players are aware of this. "The anti-oilsands campaign is very real and shows no sign of letting up ... This will not go away and will likely intensify in the absence of movement on climate change legislation," wrote a special advisor on energy issues at the Canadian Embassy in Washington in an email sent to the Ambassador.<sup>75</sup> This awareness must now be turned into action.

As we see, there are certainly solutions to Canada's dilemma. However, these solutions must take into account the country's federative context and the strong geographical concentration of its GHG emissions.

#### CONCLUSION

If Camus was correct when he wrote that real generosity toward the future lies in giving all to the present, then the world is entitled to expect much more from Canada in the fight against climate change caused by human activity. Canada could do more now by developing much stronger policies in all relevant areas: targeted regulations, building codes, rules for land use and against urban sprawl, expansion of public transit and high-speed trains, energy efficiency standards for appliances and vehicles, grants for new technologies, and the promotion of green and renewable energy. All these policies would gain all their strength from a national climate plan and carbon pricing system.

Certainly, Canada can legitimately point to extenuating circumstances: a cold climate, vast distances, strong economic and demographic growth, intensive natural resource and hydrocarbon extraction, deep economic integration with the U.S. and a very exceptional geographical concentration of emissions. This last factor poses a thorny problem of fairness that so far has hampered efforts to implement effective climate action across Canada.

These factors explain why, in the fight against climate change, Canada's performance has been at odds with its reputation as a good global citizen. While they explain Canada's deficiencies, they do not excuse them. They help explain, but they do not justify.

If nothing more is done, Canada's GHG emissions will continue to grow. However, the world expects all developed countries to significantly reduce their emissions, not only in relative intensity, but also in absolute terms. If they do not, emerging and developing countries cannot be expected to do their part. In other words, if all countries behaved like Canada has until now, the climate point of no return – an increase of 2°C – would be reached, causing serious consequences for all countries, including Canada, whose natural environment is particularly vulnerable to climate disruptions.

We recently witnessed how successive meteorological catastrophes motivated Australians to come up with more stringent climate policies, including a carbon tax. Will Canadians necessarily have to experience the same situation? Not necessarily. Canadians are able to convince themselves that the role of climate free rider does not suit them; it is inconsistent with their history, their reputation and their best interests.

When Canadians firmly commit to decarbonizing their economy, when they fully apply themselves to invent, implement and export sustainable development solutions throughout the world, that is when the world will recognize the Canada it admires more than any other country. Then Canadians, like all of humanity, will be able to say to themselves, to paraphrase Pierre Elliot Trudeau, who I quoted in the introduction: "Here is a nation that, through its tolerance, courtesy, respect for our environment and for one another, has shaped for itself the most superior form of national identity."

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