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Canada Falls Far Short of Pope Francis' Call for Ecological Justice

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Laudato Si (Praise Be), *On Care for our Common Home*, has been the most anticipated and commented upon papal encyclical in history. Writing in his straightforward style, Pope Francis addresses climate change in the context of a globalized economy that is threatening the Earth's capacity to sustain life while creating "tragic effects of environmental degradation in the lives of the world's poorest." (13)[1] Leaders from many other faiths have endorsed the Pope's urgent call for action on climate change.

This Briefing Paper will assess Canadian policies in light of Pope Francis' call for ecological justice.

Later this year (November 30-December 11, 2015), France will host the 21st conference of the United Nations Framework Convention on Climate Change. Countries were asked to submit their emission reduction plans to the UN secretariat prior to the meeting. Both the International Energy Agency and independent climate research organizations consider these climate action plans insufficient to meet the official target of keeping temperature increases below two degrees Celsius relative to pre-industrial levels.[2]

In assessing responsibility for the failure of international negotiations on climate change to make significant progress, the Pope singles out "the positions taken by countries which place their national interests above the global common good." (#169)

Thousands of people from many faiths march through Rome to St. Peter's Square on June 28, 2015, to demand action on climate justice.
Photo credit: Green Faith

In the analysis that follows we shall see how Canada is a prime example of a country that is putting short-term economic interests above what is needed to achieve a livable future for all who dwell on Earth, our common home.

1. The International Carbon Market: "A Ploy for Maintaining Excessive Consumption"

Canada's climate action plan submitted to the UN in May set a target of reducing greenhouse gas (GHG) emissions to 30% below 2005 levels by 2030.[3] This amounts to 15% below 1990 levels, the base year for international comparisons. Canada's goal is the weakest of any of the industrialized countries. The European Union, for example, has pledged to reduce emissions to 40% below 1990 levels by 2030.

Canada's plan does promise some new regulatory measures. These include establishing "more stringent [fuel efficiency] standards … for heavy duty vehicles of post 2018 model years;" reducing "GHG emissions from natural gas-fired electricity, as well as from chemicals and nitrogen fertilizers;" reducing "methane emissions from the oil and gas sector;" and gradually phasing out "HFCs [hydro fluorocarbons]."[4] While these are all positive initiatives, Climate Action Tracker, a consortium of four climate research organizations, calculates that, in the absence of other new measures, Canada's emissions could *exceed* 2005 levels by 8% in 2030.[5]

In a significant departure from past policy, the plan states that, "Canada may use international mechanisms to achieve [its] target." It does not specify what portion of its reductions Canada would meet through the purchase of credits for GHG reductions that take place abroad. (Credits for avoided GHG emissions are commonly sold on markets in units equivalent to one ton of carbon dioxide.) An analysis by Climate Action Tracker concludes that under current policies, "Canada would need to use a large quantity of international credits to meet its target."[6]

A decision by Canada to purchase credits ignores one of the strongest warnings by Pope Francis in his encyclical. Using forceful language, he writes: "The strategy of buying and selling 'carbon credits' can lead to a new form of speculation which would not help reduce the emission of polluting gases worldwide. This system seems to provide a quick and easy solution under the guise of a certain commitment to the environment, but in no way does it allow for the radical change which present circumstances require. Rather, it may simply become a ploy which permits maintaining the excessive consumption of some countries and sectors." (171)

Canada's submission specifies that its use of international mechanisms would be "subject to robust systems that deliver real and verified emissions reductions." However, existing carbon trading schemes provide ample evidence that "real and verifiable" reductions are difficult to achieve. As Naomi Klein notes, during the first seven years of the European Union's Emissions Trading System, the largest in the world, up to two-thirds of carbon credits did not represent real emission reductions.[7]

How could this be? Part of the explanation is that many credits purchased from projects in developing countries under the Clean Development Mechanism (CDM) were fraudulent. The *Globe and Mail* quotes the manager of the Greenhouse Gas Emissions Management Consortium of Vancouver: "I have seen [the same] offsets sold three or four times."[8] Moreover, the use of offset projects abroad can result in "double counting" – industrial countries count the reductions towards meeting their emission targets while the developing countries, where the reductions actually occur, do the same.

Can carbon trading lead to new forms of speculation? The *Wall Street Journal* warns that carbon trading makes "money for some very large corporations, but don't believe for a minute that this charade would do much about global warming." The paper says carbon traders make "money by gaming the regulatory system."[9] *Newsweek* magazine's investigation of the CDM called the carbon market "a shell game" which has transferred "$43 billion to some of the worst carbon polluters in the developing world."[10]

In addition to these problems, grave human rights violations are all too frequent when purchasers of carbon credits buy offsets from projects in developing countries. While net emission reductions may occur, there are numerous accounts of projects with human rights abuses. Some examples:

- The Swasti run-of-river hydroelectric project in India disrupted the local farmers' irrigation system that provided food crops even when rainfall was irregular.[11]
- Members of Kenya's Ogiek people were evicted from their lands to make way for a forestry project that would earn credits by reducing deforestation.[12]

- A film, *The Carbon Rush*, documents cases of peoples displaced from their lands by carbon sequestration projects in Brazil, India, Panama and Honduras.[13]
- In Brazil's Parana state, the Guarani people were not allowed to forage for food, hunt on their traditional lands or fish in nearby waters.[14]
- In the Bajo Aguan region of Honduras, palm oil plantations, registered as carbon offset projects, displaced traditional agriculture. Disputes over land have led to the deaths of as many as 100 small farmers and human rights advocates.[15]
- In Uganda, an estimated 22,000 people have been evicted from their traditional lands at gunpoint to make way for a tree plantation owned by a British firm intent on earning carbon credits.[16]

2. Dependence on Fossil Fuels Must End "Without Delay"

Missing from Canada's submission to the UN are meaningful commitments to move quickly to reduce dependence on the production and use of fossil fuels. Canada's approach contrasts with the urgent call in *Laudato Si* for how "the use of polluting fossil fuels – especially coal, but also oil, and to a lesser degree, gas – needs to be progressively replaced without delay." (165)

While some progress has been made on phasing out the use of coal for electricity generation, this is chiefly due to initiatives by provincial governments. Ontario closed its last coal-fired plant in 2014 and Nova Scotia is taking steps to reduce its dependence on coal. Prior to her election as Premier, Alberta New Democratic Party leader Rachel Notley introduced a motion in the legislature proposing that the province phase out the use of coal for generating electricity by 2030.

The federal government issued performance standards for coal-fired power plants in 2012. New coal-fired power plants must incorporate carbon capture and storage (CCS) technology to prevent CO_2 from being released into the atmosphere. However, these rules will not apply to existing plants allowing many of them "to continue burning coal for several more decades – far too late to meet Canada's climate change commitment."[17]

Burning natural gas can be preferable to other fossil fuels as its CO_2 emissions at the point of combustion are only about half as great as those from coal. However, when gas is produced by hydraulic fracturing (fracking), fugitive emissions of methane escaping from the well bore can render it even more damaging than coal. Methane, a powerful GHG, is 85 times more potent than CO_2 over a 20 year period. Studies by Robert Howarth and colleagues at Cornell University have found that when natural gas is extracted from shale formations through fracking about 50% more methane leaks into the atmosphere than during conventional drilling. Those studies conclude that using natural gas from fracking operations has a larger GHG impact than coal or oil.[18]

This finding has important implications for Canadian energy policy. British Columbia has ambitious plans for the production and export of liquefied natural gas (LNG), mainly from fracked wells in B.C.'s northeast. Geoscientist David Hughes calculates that for B.C. to achieve its announced target, the province would have to produce "between 4.1 and 4.6 times [its] current proven gas reserves of 42.3 trillion cubic feet." Noting that "from wellhead to final combustion there are substantial leakages of methane," Hughes concurs with the view that the GHG emissions from liquefied fracked gas are every bit as concerning as those from burning coal.[19]

When Prime Minister Harper attended the G7 summit in Germany in early June, he reportedly resisted endorsing a call for phasing out the use of fossil fuels by the year 2050. Instead the official communiqué was modified to refer to "a decarbonisation of the global economy over the course of this century."[20] Reports from the summit cite officials from the Prime Minister's office as calling the G7 target "aspirational" and Mr. Harper as saying that the goal would be achieved only through technological advances.[21]

Ecologists warn that the G7's use of the term "decarbonisation" does not necessarily mean an end to the use of fossil fuels. It could mean the development of large-scale industrial CCS projects or accelerating plans to take carbon out of the atmosphere through dedicating more land to growing biomass to absorb rising CO_2 emissions.[22]

Canada's submission to the UN declares that "Canada is a leader in clean energy technologies,"

pointing to "the world's first large scale power sector carbon capture and storage project in Saskatchewan, as well as the first carbon capture and storage project at an oil sands operation."[23]

The CCS operation at Boundary Dam Power Station in Saskatchewan is expensive, costing $1.47 billion to build.[24] Its high costs are partly covered by a $240 million subsidy from the federal government and extra charges for SaskPower customers amounting to $651 million over the 30-year life of the project. It is also dependent on selling the CO_2 it captures to a consortium of oil companies to recoup $690 million over 30 years. The companies will use the CO_2 for enhanced oil recovery, pumping it underground to flush out more oil from the declining Weyburn oil field. When burned, that additional oil will release more CO_2.

Not only is CCS very expensive but the scale of deployment required to avert climate catastrophe is unachievable. University of Manitoba energy researcher Vaclav Smil calculates, "If just 10% of global CO_2 emissions were to be sequestered, this would mean burying annually [more] CO_2 … than the annual volume of oil extracted globally." Noting that the oil industry's infrastructure and capacity has been put in place over a century, he concludes that "such a technical feat could not be accomplished within a single generation."[25]

Canada's UN submission signals an intention to build on these experiments in CCS by investing in technologies "to drive further improvements in environmental performance in the oil sands and other growing sectors."[26] Clearly the expectation is that the tar sands will continue to expand even though they are Canada's fastest growing source of GHG pollution. According to data from Environment Canada, emissions from tar sands extraction are projected to grow by 69% between 2012 and 2020. There may, in fact, be a slowdown in tar sands expansion, but it is more likely that it will be driven by market forces rather than public policy (see box below).

Market Forces Cast Doubt on Tar Sands Growth

Prime Minister Harper no longer makes speeches boasting that Canada is an "energy superpower" with an "ocean of oil-soaked sand … under the muskeg of Northern Alberta."[27] Yet, since 2009, his "government has spent more than $100 million of taxpayers' money on ads to convince Canadians that the oil sands are the way of the future."[28] Federal policy continues to promote the construction of new bitumen export pipelines to ports on the Pacific, the Atlantic and the Gulf of Mexico. For these pipeline projects to be viable, the tar sands would have to continue to grow at a fast pace.

However, the Canadian Association of Petroleum Producers (CAPP) foresees a slowdown. Several new tar sands projects have been deferred, not because of government initiatives to mitigate climate change, but due to low world oil prices. To be profitable, tar sands projects need to sell oil for $65 to $100 a barrel.[29] Currently North American oil prices are below US$60 a barrel and are expected to remain low, assuming that Saudi Arabia continues high levels of production and Iran will ramp up exports once sanctions are removed.[30]

A year ago, the CAPP expected production from the tar sands to expand from just over two million barrels a day (mb/d) in 2014 to almost five mb/d in 2030. However, its most recent forecast puts 2030 production at between three and four mb/d.[31] The lower figure is based on the assumption that only existing projects and those now under construction will be operating in 2030, while the higher figure assumes some new tar sands projects will proceed.

In an October 2014 *Briefing Paper*, we cited a calculation from the International Energy Agency indicating that "if we are to have a 50% chance of keeping temperature rises below two degrees, production from the Alberta tar sands must be no larger than 3.3 million barrels a day by 2035."[32] We also noted that the 3.3 mb/d limit is effectively the same as that advocated in KAIROS' 2010 policy paper which called for no further approvals for tar sands projects.[33]

For policy makers, the low world oil prices are an opportunity to tax carbon without an undue backlash from motorists. It is also a chance to promote investments in energy efficiency, conservation and renewable alternatives instead of wasting resources on subsidizing CCS and other technological fixes for an industry that is no longer viable.

3. Earth's Finite Resources Cannot Sustain Unlimited Growth

The Prime Minister's faith in technological fixes contrasts with a warning in *Laudato Si* against embracing technology "according to an undifferentiated and one-dimensional paradigm … [accepting] the idea of infinite or unlimited growth, which proves so attractive to economists, financiers and experts in technology. It is based on the lie that there is an infinite supply of the earth's goods, and this leads to the planet being squeezed dry beyond every limit. It is the false notion that 'an infinite quantity of energy and resources are available, that it is possible to renew them quickly, and that the negative effects of the exploitation of the natural order can be easily absorbed.'" (106)

One way to assess the extent to which human activity is overusing the Earth's finite resources is to measure the size of each country's ecological footprint. Ecological footprints quantify how much fertile land, forest resources, marine life and carbon dioxide absorption capacity a given society uses to sustain its level of consumption. The Ecological Footprint Network calculates that, if everyone were to use the planet's finite resources at the same rate as Canadians we would need 3.8 Earths to accommodate that much consumption.[34]

The encyclical's critique of unlimited growth is perhaps its most profound challenge to policy makers who assume that progress is best measured by increases in Gross Domestic Product. GDP is a simplistic metric which measures monetary value without differentiating between ecologically destructive and life-supporting activities. The encyclical invites "every living person on this planet"(3) to seriously consider limiting the amount of nature's bounty they use and the amount of waste they generate.

Some ecological economists promote "degrowth" – an actual shrinkage in the size of Northern countries' economies – to make room for sufficient growth in Southern countries to overcome poverty.[35] The Pope advises: "We need also to think of containing growth by setting some reasonable limits and even retracing our steps before it is too late. We know how unsustainable is the behaviour of those who constantly consume and destroy, while others are not yet able to live in a way worthy of their human dignity. That is why the time has come to accept decreased growth in some parts of the world, in order to provide resources for other places to experience healthy growth." (193)

The term degrowth can be problematic as it implies that the overall goal is to shrink the size of the economy. But whether a given economy grows or contracts as measured by GDP is not the essential point. Some ecological economists speak of "agrowth," emphasizing a reduction in the over-exploitation of natural wealth and over-consumption by affluent groups while improving the quality of life for all. They would achieve this through greater production of public goods in education, health care or the arts and better sharing of the goods that are produced.

Defenders of across-the-board growth frequently maintain that it is essential in order to reduce poverty. However, the Pope asserts that problems of hunger and poverty "will not be resolved simply by market growth." (109) Canadian ecological economist Peter Victor provides empirical evidence that "since the 1970s … economic growth [in Canada] has not brought full employment, it has not eliminated poverty – in fact by some measures poverty has increased – and it has not solved our environmental problems."[36]

The encyclical contains a direct challenge to politicians who promote growth at any cost: "A politics concerned with immediate results, supported by consumerist sectors of the population, is driven to produce short-term growth. In response to electoral interests, governments are reluctant to upset the public with measures which could affect the level of consumption or create risks for foreign investment. The myopia of power politics delays the inclusion of a far-sighted environmental agenda within the overall agenda of governments." (178)

One way policy makers avoid the debate on restraining growth, particularly in extractive industries, is by invoking the notion of "sustainable development." In *Managing without Growth: Slower by Design, Not Disaster,* Peter Victor discusses how the term "sustainable development" is manipulated by governments and industry to justify continual growth.[37]

Pope Francis concurs with this critique: "Talk of sustainable growth usually becomes a way of distracting attention and offering excuses. It absorbs the language and values of ecology into the categories of finance and technocracy, and the social and environmental responsibility of businesses often gets reduced to a series of marketing and image-enhancing measures." (194)

4. Understanding and Acknowledging Ecological Debt

When the Canadian Ecumenical Jubilee Initiative was campaigning to cancel the illegitimate financial debts of low-income countries, our partners in Jubilee South challenged us to recognize the ecological debt owed by the peoples of the global North to the peoples of the global South. That led us to investigate how those of us who live in industrialized countries need to be held accountable for the ecological destruction brought about by our patterns of production and consumption. We examined the debt we owe to marginalized and impoverished peoples, especially Indigenous peoples, for the damage inflicted through our over-exploitation of nature's bounty resulting in pollution, deforestation and the loss of biodiversity. In particular, we focused on how, for centuries, industrialized countries have overused the carbon absorption capacity of the Earth's atmosphere, oceans, vegetation and soils.[38]

In his encyclical, Pope Francis takes up the same theme. While he alludes to how "the foreign debt of poor countries has become a way of controlling them," (52), his focus is on ecological debt: "A true 'ecological debt' exists, particularly between the global north and south, connected to commercial imbalances with effects on the environment, and the disproportionate use of natural resources by certain countries over long periods of time. … There is a pressing need to calculate the use of environmental space throughout the world for depositing gas residues which have been accumulating for two centuries and have created a situation which currently affects all the countries of the world. The warming caused by huge consumption on the part of some rich countries has repercussions on the poorest areas of the world, especially Africa, where a rise in temperature, together with drought, has proved devastating for farming." (51)

The use of the word "debt" prompts us to think in terms of monetary compensation of the ecological creditors, the peoples of the global South. However, our partners in Jubilee South insist that financial reparation is not the first requirement. Instead they invariably maintain that cutting back on our overuse of global resources, such as the carbon absorption capacity of the atmosphere and the oceans, should be our first prioity. Financial compensation is necessary but a secondary obligation.

The Pope makes the same point when he writes: "The developed countries ought to help pay this debt by significantly limiting their consumption of non-renewable energy." In addition, he says, developed countries must assist low-income countries with the cost of programs for ecologically responsible development. Then he adds a reminder: "Regarding climate change, there are *differentiated responsibilities*." (52)

The phrase "differentiated responsibilities" refers to a core principle of the 1992 Rio Declaration that is incorporated into the UN Framework Convention on Climate Change. In essence it means that although all countries have a duty to address climate change, the industrialized countries must assume a greater responsibly since their activities and practices caused most of the historical GHG emissions.

However, in recent UN climate negotiations, these countries have begun to back away from recognizing their special responsibilities. They oppose language that implies they owe any kind of ecological debt. This debate came to a head at the 2013 Warsaw climate change conference.[39] The developed countries tried to retreat from a commitment made the previous year in Durban where they had agreed to negotiate a protocol on what they owe to developing countries for "losses and damage" caused by climate change. The debate in Warsaw grew so heated that 133 low-income countries staged an unprecedented walk-out.

Youth attending the Warsaw conference accused Canada and Australia of being particularly intransigent on the issue.[40] In the end, a compromise was reached assigning compensation for losses and damages to a different instrument for funding mitigation and adaptation measures within developing countries. However, no actual funding was committed. This debate continued in the 2014 meeting held in Lima. The final document from that conference, intended to frame proposals for the Paris conference this year, contains no explicit reference to loss and damage. Instead the text says only that developed countries will "mobilize" financial support for developing countries.[41]

The final communiqué from the June 2015 G7 summit in Germany elaborates on their understanding of what is meant by "mobilizing" the US$100

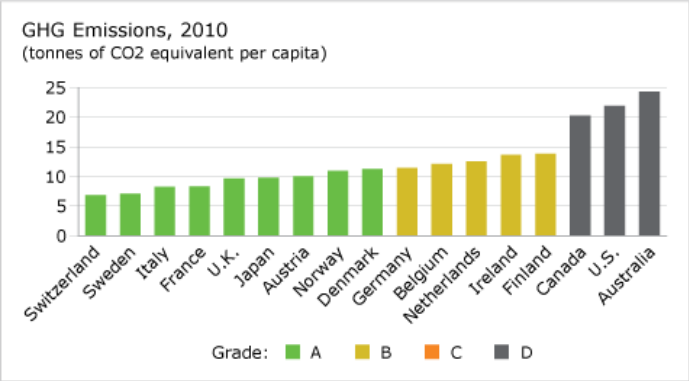
billion a year by 2020 in climate finance for developing countries that was first promised in the unofficial 2009 Copenhagen Accord. The G7 make it clear that they do not intend to raise much of that money from their own treasuries. Instead they refer to funds from private investors, loans from multilateral development banks and, ominously, income from the carbon market.

In our 2014 Briefing Paper, *People's Climate March Outshines UN Summit*, we cite the director of the International Emissions Trading Association as saying the primary role for public contributions to the Green Climate Fund, established after the 2010 climate conference in Cancún, should be as a catalyst for private investments. These will largely go where returns are most lucrative, not where they are most needed. As an example, we cite a proposal from the World Business Council on Sustainable Development to use revenues from carbon taxes to finance "carbon, capture, **utilization** and sequestration" schemes where "utilization" refers to using the captured CO_2 for enhanced oil recovery.[42]

Civil society observers, moreover, are concerned that climate financing for low-income countries will take the form of loans rather than grants, resulting in yet more onerous external debts.

5. All Levels of Society Called to "Ecological Conversion"

According to a survey by the Conference Board of Canada, Canadians place third last among 17 developed countries for per capita GHG emissions.[43] In 2010 each Canadian was responsible for 20.3 tonnes of GHG emissions, significantly more than the average of 12.5 tonnes for all 17 countries. Canadian emissions are nearly three times greater than those of Swiss citizens.



Source: Conference Board of Canada.

While politicians often cite factors like long travel distances and a cold climate as reasons for Canada's high emission levels, other Northern countries do much better. Sweden, Denmark and Norway, also a petroleum exporter, score an A on the ratings displayed in the graph, while Canada gets a D.

In *Laudato Si*, Pope Francis calls on individuals to changes consumption habits: "There is a nobility in the duty to care for creation through little daily actions, and it is wonderful how education can bring about real changes in lifestyle. Education in environmental responsibility can encourage ways of acting which directly and significantly affect the world around us, such as avoiding the use of plastic and paper, reducing water consumption, separating refuse, cooking only what can reasonably be consumed, showing care for other living beings, using public transport or car-pooling, planting trees, turning off unnecessary lights, or any number of other practices." (211)

The Pope then emphasizes the need for community action: "Nevertheless, self-improvement on the part of individuals will not by itself remedy the extremely complex situation facing our world today. … Social problems must be addressed by community networks and not simply by the sum of individual good deeds. … The ecological conversion needed to bring about lasting change is also a community conversion." (219)

In his call for community action, the Pope sees the values of Indigenous peoples as guidelines in learning "a greater sense of responsibility, a strong sense of community, a readiness to protect others, a spirit of creativity, a deep love for the land [and a concern about what we] will eventually leave to [our] children and grandchildren. These values are deeply rooted in indigenous peoples." (179)

As we have chronicled in *Indigenous Wisdom: Living in Harmony with Mother Earth*, Indigenous peoples draw on their ancestral teachings to urge us to respect the Earth's resources. David Choquehuanca, the Aymara Foreign Minister of Bolivia, poses a direct challenge to those who consume a disproportionate share of nature's bounty when he exhorts us to end "excessive spending and luxury, [to consume] only what is needed, [to lower] the global economic bar to levels of production and consumption of energy that the health and resources

of the planet allow. In order to achieve this, the countries of the North above all need to change."[44]

In Canada, Indigenous peoples are in the forefront of movements for protecting lands, forests, and waters from destructive resource extraction projects. The Athabasca Chipewayan First Nation, located downstream from the tar sands, has challenged the expansion of two bitumen mines in court. Similarly, eight First Nations from British Columbia have applied for a judicial review of the government's decision to allow the Northern Gateway pipeline to proceed after a flawed review by the National Energy Board ignored Indigenous peoples' right to free, prior and informed consent.[45]

In British Columbia, members of the Wet'suwet'en First Nation are resisting all proposed oil or natural gas pipelines across their unceded territory. The Unist'ot'en clan of the Wet'suwet'en nation has been occupying a key pipeline corridor across the Morice River for over a year, refusing to allow surveyors onto their lands without their permission.

Indigenous peoples are also active in building alternatives to dependence on fossil fuels. On the Peguis First Nation north of Winnipeg, Aki Energy, an Indigenous-run social enterprise, is building geothermal energy projects. ("Aki" is Ojibwa for earth.) The projects extract energy from underground for heating and cooling houses and large buildings such as hockey arenas in five First Nations' communities. The project provides training and skills certification for Indigenous workers, equipping them for meaningful employment in the emerging green economy.[46]

Pope Francis sees the link between personal action and the need to influence political and corporate decisions: "A change in lifestyle could bring healthy pressure to bear on those who wield political, economic and social power. This is what consumer movements accomplish by boycotting certain products. They prove successful in changing the way businesses operate, forcing them to consider their environmental footprint and their patterns of production." (206)

One way that individual actions intersect with political decisions is through the call for investment in public transit: "Many cars, used by one or more people, circulate in cities, causing traffic congestion, raising the level of pollution, and consuming enormous quantities of non-renewable energy. This makes it necessary to build more roads and parking areas which spoil the urban landscape. Many specialists agree on the need to give priority to public transportation." (153)

While the Pope does not include an explicit call for church organizations to sell their investments in fossil fuel companies, some observers suggest the encyclical will encourage those in the churches who are campaigning for more religious institutions to divest from fossil fuels.[47]

Conclusion

An adequate response by Canadians to the challenges posed by the encyclical requires actions by individuals, communities and all levels of government – federal, provincial/territorial, and local/municipal. New initiatives in the areas of energy efficiency, renewable energy, and transportation are urgently needed.

In all these areas, the federal government has an essential role. New data prepared for the Green Economy Network shows that federal investment of $30 billion a year over 10 years in energy efficiency, renewable energy, public transit and high speed rail infrastructure would generate four million new person years of employment (i.e., jobs for one person for one year).[48] An investment of $19 billion annually would create 2.5 million person year jobs, many of which could employ people from marginalized communities. Investments in renewable energy create seven and a half times as many jobs as spending on oil and gas production.[49]

Yet the 2015 federal budget proposes to spend only $750 million on public transit over two years starting in 2017-18 and $1 billion per year afterwards. Municipal officials, eager to build new transit infrastructure, see these amounts as far from adequate. There are no new spending plans to support energy efficiency or renewable energy. Indeed, the federal government is ending initiatives such as the popular ecoEnergy home retrofit program, begun in 2007 and terminated in 2012, leaving substantial amounts unspent.[50] Similarly, March 31, 2011, saw the end of new contracts for the ecoEnergy for Renewable Power program.

An important source of revenue for new investments in these areas would be through taxes or fees on carbon emissions. As Naomi Klein points out, current low oil prices make it much easier for governments to introduce a meaningful carbon tax. Otherwise the low prices will just lead to more petroleum consumption.[51]

Carbon taxes can be effective instruments for inducing corporations and individuals to reduce their GHG emissions as well as raising money for investments in green infrastructure.[52] One critic of the encyclical interprets Pope Francis' disapproval of carbon trading as precluding the use of carbon taxes.[53] However, a careful reading does not support this conclusion.

The Pope does warn against putting a price on pollution in a manner that would penalize the populations of low-income countries: "Some strategies for lowering pollutant gas emissions call for the internationalization of environmental costs, which would risk imposing on countries with fewer resources burdensome commitments to reducing emissions comparable to those of the more industrialized countries." (170)

But proposals for carbon taxes have a very different logic. Such taxes mostly call for levies at the national or provincial level within industrialized countries and invariably include plans to use a large part of the revenues to reimburse poorer households. As such they are progressive taxes with a redistributive effect since low-income earners generally consume smaller amounts of fossil fuels than high-income earners.

There are many passages in the encyclical that challenge Canadians to change our habits and practices. There are repeated calls for "ecological conversion," for abandoning "extreme consumerism" and for a "cultural revolution." One surprising passage reads: "Doomsday predictions can no longer be met with irony or disdain. We may well be leaving to coming generations debris, desolation and filth. The pace of consumption, waste and environmental change has so stretched the planet's capacity that our contemporary lifestyle, unsustainable as it is, can only precipitate catastrophes." (161)

Towards the end of *Laudato Si,* the Pope strikes a more hopeful note, expressing confidence in how humans "are capable of rising above themselves, choosing again what is good, and making a new start, despite their mental and social conditioning." (205) Given the gravity of the threat to life on Earth posed by current practices we can take consolation in these words and pray that we rise to the challenge.

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[1] *Laudato Si*. "Given in Rome at Saint Peter's on 24 May, the Solemnity of Pentecost, in the year 2015, the third of my Pontificate. Franciscus." All citations are referenced by paragraph number. See the full text at http://w2.vatican.va/content/dam/francesco/pdf/encyclicals/documents/papa-francesco_20150524_enciclica-laudato-si_en.pdf

[2] *Energy and Climate Change: World Energy Outlook Special Report*. Paris: International Energy Agency. 2015. P. 12. www.iea.org/publications/freepublications/publication/WEO2015SpecialReportonEnergyandClimateChange.pdf Also Climate Action Tracker. *Effect of current pledges and policies on global temperature.* climateactiontracker.org/global.html

[3] Canada's INDC Submission to the UN Framework Convention on Climate Change. May 15, 2015. www4.unfccc.int/submissions/INDC/Published%20Documents/Canada/1/INDC%20-%20Canada%20-%20English.pdf

[4] See our April 2015 *Briefing Paper* "Hopeful Signs, Alarming Realities on the Road to Climate Justice" commending Canada for taking the initiative to phase out HFCs under the Montreal Protocol. HFCs are used as a refrigerant as a substitute for CFCs (chlorofluorcarbons) that are responsible for the depletion of the ozone layer. www.kairoscanada.org/sustainability/climate-justice/hopeful-signs-alarming-realities-on-the-road-to-climate-justice-briefing-paper-41/

[5] Climate Action Tracker. Assessment of Canada's Submission to the UN Climate Secretariat. May 20, 2015. http://climateactiontracker.org/countries/canada.html

[6] Ibid.

[7] Naomi Klein. *This Changes Everything: Capitalism vs. Climate.* Toronto: Knopf Canada. 2014. P. 225.

[8] Cited in *The Globe and Mail*. July 14, 2007.

[9] Cited in "From False to Real Solutions for Climate Change" *MRZine*. January 6, 2008.

[10] Ibid.

[11] Larry Lohman. "When Markets are Poison." *The Corner House*. September 2009. P. 48. http://www.thecornerhouse.org.uk/pdf/briefing/40poisonmarkets.pdf

[12] The No REDD Platform. "Open Letter of Concern to the International Donor Community about the Diversion of Existing Forest Conservation and Development Funding to REDD+." *REDD Monitor*. 2011. P.2.

[13] To view the trailer for *The Carbon Rush* visit http://www.thecarbonrush.net/

[14] Naomi Klein. Op. cit. P. 221.

[15] Ibid. P. 222.

[16] Cited in *Rio + 20: Whose green economy?* London: World Development Movement. May 2012. P. 3.

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