

Resolution to the Assembly of Mennonite Church Canada, 2014: Implications of the gospel for action on anthropogenic climate change

Whereas

God's loving will for the world is the restoration of all creation¹, not its destruction;

Whereas

We are commanded by Jesus to follow him by loving the Lord our God with all our heart, soul, mind and strength, and our neighbour as ourselves² - this implies prevention of harm, repentance of actions which cause suffering, and service to the afflicted and vulnerable;

Whereas

We are informed in scripture that the earth is the Lord's³; that the role of human beings is to protect and nurture it⁴, not to raid it to satisfy our own greed; and that God's redemptive work in Jesus involves not just human beings but all created things⁵;

Whereas

There is a clear and unequivocal research-based consensus among scientists publishing in the field⁶, and among national Academies of Science worldwide⁷, that climate change, as predicted by global warming theory, is real, is happening, and is primarily caused by human-generated emissions of greenhouse gases such as carbon dioxide, methane and nitrous oxide;

Whereas

Impacts already seen include:

- a ground-level average temperature rise to more than 0.8°C higher than pre-industrial levels⁸;
- a steady warming of the oceans⁹;
- a steady increase in sea levels¹⁰;
- the loss of arctic sea ice: both the extent of ice cover and its thickness have reduced, amounting to a loss of possibly as much as 75% of late summer arctic sea ice volume over between 1979 and 2013¹¹;
- the loss of land ice in Greenland¹², Antarctica¹³ and most glaciated mountain ranges¹⁴;
- increased incidence worldwide of droughts, coastal and inland floods, severe storms and forest fires; and greater variability of weather patterns¹⁵;

Whereas

Carbon dioxide emissions have also resulted in reduction of ocean pH (ocean acidification), generating serious negative impacts on corals and shellfish, and therefore on the entire ocean ecosystem (including human beings)¹⁶;

Whereas

Climate scientists predict major adverse impacts from climate change if a business-as-usual path continues, resulting from sea level rise, coastal flooding and storm surges; food insecurity and breakdown of food systems as a result of warming, drought and precipitation variability; inland flooding; loss of drinking water supplies; and ecosystem breakdown¹⁷. These effects will be experienced disproportionately by the most vulnerable populations;

Whereas

These impacts – especially drought and harvest failure - are liable to fuel armed conflict over food, water and resources, increase the number of refugees worldwide, and increase the likelihood of both failed states and tyrannies;

Whereas

The World Health Organisation and the UN Development Programme have estimated that additional deaths from the effects of climate change already amount to about 150000 a year, with casualty levels disproportionately high in low-income countries – i.e. among the most vulnerable of our global neighbours¹⁸;

Whereas

Greenhouse gas emissions already in the atmosphere, together with new emissions (mostly but not exclusively from burning of fossil fuels), will increase the intensity of climate change, driving significant increases in the impacts noted above¹⁹ and especially an increase in drought and crop failure²⁰;

Whereas

As global average temperature rises, so-called “positive feedback” mechanisms are expected to come into play: the temperature increase will not only cause but also be accelerated by the release of methane from permafrost and from arctic clathrates, by loss of carbon from degrading rainforests, and by increased solar heat absorption in an increasingly ice-free Arctic Ocean (loss of albedo effect). These mechanisms, and others, together with the long residence time of carbon dioxide in the atmosphere, have the capacity to make global warming effectively irreversible if urgent action is not taken to limit emissions²¹;

Whereas

The world's governments, acting on scientific advice, have consequently agreed in principle (though mostly without adopting targets or implementing policy measures capable of backing it up) to limit the rise in global average temperature to 2°C²²;

Whereas

Canada's *per capita* greenhouse gas emissions are among the highest in the world, and show no sign of reducing even to the scientifically-inadequate target for 2020 to which the Canadian federal government committed itself at the Copenhagen climate talks in 2009²³;

Whereas

Scientists have determined that, in order to prevent the temperature rise from exceeding 2°C, humanity must stay within a fixed “carbon budget” - the current best estimate from the Intergovernmental Panel on Climate Change is that humanity must limit itself to emitting no more 990 billion tonnes of carbon dioxide, for all time, if we are to have a 2/3 probability of keeping the temperature increase below 2°C²⁴;

Whereas

Carbon Tracker and the Grantham Institute at the London School of Economics found in 2013 that, globally, fossil fuel corporations have already claimed reserves amounting to emissions of 2860 billion tonnes of carbon dioxide²⁵, or about three times the IPCC carbon budget; and they are still exploring for more;

Whereas

Numerous studies in multiple jurisdictions have demonstrated the viability of transitioning to an economy based on renewable energy sources instead of fossil fuels²⁶;

Whereas

International divestment campaigns made a vital contribution to the ending of the gross injustice of apartheid in South Africa, and have been recommended as an important tools in averting the much greater injustice of irreversible global climate chaos (including by Bishop Desmond Tutu²⁷);

Therefore be it resolved that:

- Mennonite Church Canada recognizes that the climate crisis is a result of human greed, of neglect of its impact on God's creation, of disregard for those most at risk and of denial of divine justice – a sin against God the Creator, against our most vulnerable global neighbours and against future generations (including our own children). MC Canada further recognizes that we are all implicated in that sin; and that God requires us to repent of it, starting with obedience to Jesus' command to love the Lord our God with all our heart, soul, mind and strength and to love our neighbours as ourselves.
- Mennonite Church Canada therefore urges its member churches to study the findings of climate science (as itemized in the 2013-2014 IPCC reports), to consider the implications, to explore the meaning of climate justice and climate responsibility in their own contexts, and to prayerfully consider (i) how best to reach out to the victims (present and future) of climate chaos and (ii) how best to rapidly reduce the greenhouse gas emissions for which they are responsible.
- Mennonite Church Canada commits itself to minimize its own greenhouse gas emissions, and urges member congregations, affiliated organizations, church members and international partners to do likewise.
- Mennonite Church Canada mandates the General Board to establish a framework whereby the denomination, member churches and individual church members may receive advice from experts on the best options for responding to the climate crisis in their own context.
- Mennonite Church Canada recognizes the particular role played by the fossil fuel industry in fuelling the crisis, and therefore mandates the General Board to establish a study on the specific issue of divestment from that industry, in line with the request from Fossil Free Menno. This study shall be:
 - (i) written in collaboration with persons in our constituency who have training in environmental studies and financial expertise;
 - (ii) written from an Anabaptist perspective that privileges the following of Jesus at personal cost;
 - (iii) supported by a small but significant amount of money to actively move the research along, and to alleviate the stress of adding another work item to Mennonite Church Canada staff;
 - (iv) completed by July 2015;
 - (v) written in popular language, to help nurture a conversation around the various discipleship/congregational responses we can take and the implications/responsibilities of those differing responses;
 - (vi) published openly and available to all.

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- 1 Rom 8:19-23; also reference to *renewal* of all creation in Matt 19:28
- 2 Deut 6:5; Matt 22:37; Mark 12:30; Luke 10:27
- 3 Gen 1&2; Lev 25:23; Ps 24:1-2; Is 66:1-2
- 4 Gen 2:15. The Hebrew words used here are *abad*, to work as a servant, and *shamar*, which conveys a sense of watchful care and preserving.
- 5 John 3:16; John 6:51; Rom 8:19-23; Col 1:20; Rev 11:18 (cf also Gen 9:13 & 17 – covenant with the earth, not just with humans)
- 6 Oreskes, N. (2004), Beyond the ivory tower: the scientific consensus on climate change, *Science*, 306:1686. Abstract available online at <http://www.sciencemag.org/content/306/5702/1686>
Doran, P., & Zimmerman, M. (2009), Examining the scientific consensus on climate change. *Eos, Transactions of the American Geophysical Union*, 90, 22. Available online at http://tigger.uic.edu/~pdoran/012009_Doran_final.pdf
Anderegg, W. R. L., Prall, J. W., Harold, J., & Schneider, S. H. (2010). Expert credibility in climate change. *Proceedings of the National Academy of Sciences of the United States of America*, 107, 12107-12109. Available online at <http://www.pnas.org/content/107/27/12107.full>
Cook, J., Nuccitelli, D., Green, S.A., Richardson, M., Winkler, B., Painting, R., Way, R., Jacobs, P., & Skuce, A. (2013). Quantifying the consensus on anthropogenic global warming in the scientific literature. *Environmental Research Letters*, 8(2). Available online at <http://iopscience.iop.org/1748-9326/8/2/024024>
- 7 A compilation of statements by academies of science and other professional associations is available at https://en.wikipedia.org/wiki/Scientific_opinion_on_climate_change
- 8 Intergovernmental Panel on Climate Change (2013), *Climate Change 2013: The Physical Science Basis*. (IPCC AR5 WG1), Technical Summary p.5 Available online at <http://www.ipcc.ch/report/ar5/wg1/>
The work of the IPCC is the most carefully produced summation of the findings of research in the natural and social sciences on climate change and its impacts. Each of its three working groups encompasses a massive range of research expertise. For example, the working group 2 report is the product of 309 coordinating lead authors, lead authors and review editors, drawn from 70 countries, with the assistance of 436 contributing authors and a total of 1729 expert and government reviewers, who generated over 50000 peer review comments before the report was released.
- 9 IPCC AR5 WG1, Technical Summary pp.6-7
See also Dean Roemmich (2013:Oct), *Argo and Ocean Heat Content – progress and issues*. Available online at http://ceres.larc.nasa.gov/documents/STM/2013-10/14_Global_averages.pdf (esp. p14)
- 10 IPCC AR5 WG1, Technical Summary pp.12-14
- 11 IPCC AR5 WG1, Technical Summary pp.8-9
See also Polar Science Center, Applied Physics Laboratory, University of Washington: PIOMAS Arctic Sea Ice Volume Reanalysis. Available online at <http://psc.apl.washington.edu/wordpress/research/projects/arctic-sea-ice-volume-anomaly/>
- 12 IPCC AR5 WG1, Technical Summary p.9
- 13 IPCC AR5 WG1, Technical Summary pp.9-10.
See also McMillan, M., A. Shepherd, A. Sundal, K. Briggs, A. Muir, A. Ridout, A. Hogg, and D. Wingham (2014), Increased ice losses from Antarctica detected by CryoSat-2, *Geophys. Res. Lett.*, 41. Abstract available online at <http://onlinelibrary.wiley.com/doi/10.1002/2014GL060111/abstract>
- 14 IPCC AR5 WG1, Technical Summary p.9
- 15 IPCC AR5 WG1, Technical Summary pp.14-15
- 16 IPCC AR5 WG1, Technical Summary p.17
See also the following:

Kleypas, J.A., R.A. Feely, V.J. Fabry, C. Langdon, C.L. Sabine, and L.L. Robbins, 2006. Impacts of Ocean Acidification on Coral Reefs and Other Marine Calcifiers: A Guide for Future Research, report of a workshop held 18–20 April 2005, St. Petersburg, FL, sponsored by NSF, NOAA, and the U.S. Geological Survey. Available online at <http://www.ucar.edu/news/releases/2006/report.shtml>

Discussion of this process in Rockström, J., W. Steffen, K. Noone, Å. Persson, F. S. Chapin, III, E. Lambin, T. M. Lenton, M. Scheffer, C. Folke, H. Schellnhuber, B. Nykvist, C. A. De Wit, T. Hughes, S. van der Leeuw, H. Rodhe, S. Sörlin, P. K. Snyder, R. Costanza, U. Svedin, M. Falkenmark, L. Karlberg, R. W. Corell, V. J. Fabry, J. Hansen, B. Walker, D. Liverman, K. Richardson, P. Crutzen, and J. Foley (2009), Planetary boundaries: exploring the safe operating space for humanity. *Ecology and Society* 14(2): 32. Available online at <http://www.ecologyandsociety.org/vol14/iss2/art32/>

17 Intergovernmental Panel on Climate Change (2014), Climate Change 2014: Impacts, Adaptation and Vulnerability (IPCC AR5 WG2), Technical Summary, pp.6 et seq Available online at <http://www.ipcc.ch/report/ar5/wg2/>

18 Details of the WHO findings are available at <http://www.who.int/heli/risks/climate/climatechange/en/>.

A detailed 2013 study by Spanish NGO DARA arrived at the higher figure of 400000 deaths per year at present: see DARA & Climate Vulnerable Forum (2012), Climate Vulnerability Monitor 2 – a guide to the cold calculus of a hot planet, Fundación DARA Internacional. Accessible online at <http://daraint.org/climate-vulnerability-monitor/climate-vulnerability-monitor-2012/>

19 IPCC AR5 WG1, Technical Summary pp.75-78, 105 et seq

20 IPCC AR5 WG2, Technical Summary pp.16, 17, 18 among others

See also the maps showing predicted increases in drought severity in Aiguo Dai (2013), Increasing drought under global warming in observation and models, *Nature Climate Change* 3, 52–58. Abstract and figures available online at <http://www.nature.com/nclimate/journal/v3/n1/full/nclimate1633.html>

21 See, for example, T M Lenton, Held H, Kriegler E, Hall J W, Lucht W, Rahmstorf S & Shellnhuber H J (2008), Tipping Elements in the Earth's Climate System, *Proc Nat Acad Sci*, vol 105 no 6, pp 1786-1793. Available online at <http://www.pnas.org/content/105/6/1786.full>

22 United Nations Framework Convention on Climate Change (2009:Dec:18), 15th session, Copenhagen, 7 - 18 December 2009, Agenda item 9: High-level segment: Draft decision /CP.15: Copenhagen Accord, para 1 & 2. Available online at <http://unfccc.int/resource/docs/2009/cop15/eng/107.pdf>

United Nations Framework Convention on Climate Change (2011:Mar:15), Report of the Conference of the Parties on its sixteenth session, held in Cancún from 29 November to 10 December 2010. Addendum Part Two: Action taken by the Conference of the Parties at its sixteenth session - decisions adopted by the Conference of the Parties, para I4. Available online at <http://unfccc.int/resource/docs/2010/cop16/eng/07a01.pdf>

It is perhaps of note that, despite the Canadian government's lack of action commensurate with remaining within the 2°C limit, it continued to affirm these documents: see CBC news, 2011:Dec:07, posted at <http://www.cbc.ca/news/world/story/2011/12/07/kent-speech-un.html>

23 Environment Canada (2013:Oct), Canada's Emissions Trends. Available online at http://www.ec.gc.ca/ges-ghg/985F05FB-4744-4269-8C1A-D443F8A86814/1001-Canada%27s%20Emissions%20Trends%202013_e.pdf

Also Environment Canada (2014), National Inventory Report: Greenhouse Gas Sources and Sinks in Canada – the Canadian Government's Submission to the United Nations Framework Convention on Climate Change. Available online from the UNFCCC website at https://unfccc.int/national_reports/annex_i_ghg_inventories/national_inventories_submissions/items/8108.php

24 Calculated from IPCC AR5 WG1, Summary for Policy Makers, p.20 (see also graph on p.36)

25 Carbon Tracker Initiative & Grantham Research Institute on Climate Change and the Environment (2013),

Unburnable Carbon 2013 – Wasted Capital and Stranded Assets. Available online at <http://www.carbontracker.org/site/wastedcapital>

26 See, for example:

Jacobson M Z, M A Delucchi, A R Ingraffea, R W Howarth et al (2014:Mar), A Roadmap for Repowering California for All Purposes with Wind, Water and Sunlight. Available online at <http://www.stanford.edu/group/efmh/jacobson/Articles/I/CaliforniaWWS.pdf>

Allan P, L Blake, P Harper, A Hooker-Stroud, P James & T Kellner (2013:Jul), Zero Carbon Britain: Rethinking the Future, CAT Publications, Machynlleth, Wales. Available online at <http://zerocarbonbritain.org/>

INFORSE's Vision2050 programme for transition to 100% renewable energy in European jurisdictions: <http://www.inforse.org/europe/Vision2050.htm>

Denmark is committed – with the support of all but one small parliamentary party - to be fully carbon-free in all energy use (electricity, heat and transport) by 2050. An outline of the plan is given in the Danish government's 2011:Nov document, Our Future Energy, available online at <http://www.kebmin.dk/sites/kebmin.dk/files/climate-energy-and-building-policy/denmark/energy-agreements/Our%20future%20energy.pdf>

27 Desmond Tutu (2014:Apr:10), We need an apartheid-style boycott to save the planet, The Guardian, London. Available online at <http://www.theguardian.com/commentisfree/2014/apr/10/divest-fossil-fuels-climate-change-keystone-xl>