



September 13th, 2016

The Honourable Catherine McKenna, P.C., M.P.  
Minister of Environment and Climate Change  
The Honourable Jane Philpott  
Minister of Health  
The Honourable Carolyn Bennett  
Minister of Indigenous and Northern Affairs

House of Commons  
Ottawa, Ontario  
Canada K1A 0A6

Dear Ministers McKenna, Philpott and Bennett:

We are writing to you as physicians, medical learners, allied health professionals and health advocates to request that you reject the Pacific Northwest Liquefied Natural Gas (LNG) Project until its human health impacts have been fully understood, communicated, and addressed.

It is our understanding that the evaluation conducted by the Canadian Environmental Assessment Agency for the proposed Pacific Northwest LNG Project that would process natural gas transported from Progress Energy's horizontal drilling and hydraulic fracturing operations in Northeastern BC and Northwest Alberta does not include full consideration of its potential impact on human health. If some aspects of this have been done, they have not been well-communicated to communities. This is a grave omission that, in our opinion, negates the ability of this review to determine whether or not the project is in the public interest. Given this, and the potentially significant impacts that this project may have on human health globally as a result of its contribution to climate change, and locally as result of the direct impacts of hydraulic fracturing operations (fracking), we believe that the project must not go forward.

First, this project contradicts the spirit and terms of the Paris Agreement which references the need to protect the "right to health" and to hold the increase in average global surface temperatures well below 2 degrees C.(1)

Projections of the amount of CO<sub>2</sub> equivalents produced by the Pacific Northwest LNG project show that the project is not compatible with BC's or Canada's climate goals. Estimates range from the Government of BC's 3.7 million tonnes of CO<sub>2</sub>e per year(2) – which includes only Phase 1 of the project, as opposed to the complete project which you are being asked to approve – to between 11.7-13.9 Mt CO<sub>2</sub>e/year when upstream emissions estimates are added to the proponent's estimates by Environment and Climate Change Canada. (3) The Pembina Institute recently updated its estimate in light of BC's new climate plan to 9.6-10.5 Mt CO<sub>2</sub>e by 2050.(4) Given that BC's 2050 target for the entire economy is 13 million tonnes of CO<sub>2</sub>e per year(5), even the Government of BC's unrealistically conservative estimate of 3.7 Mt CO<sub>2</sub>e/year means that this project alone could consume  $(3.7/13) \times 100 = 28\%$  of BC's 2050 carbon budget. The other estimates suggest that this

project alone would consume most of BC's 2050 carbon budget. As was communicated to you in May in a letter signed by 90 climate scientists, this project would make it virtually impossible for BC to meet its climate targets.(6) This would prevent BC from taking advantage of what the Lancet in 2015 called the greatest health opportunity of our time—tackling climate change.(7)

The threat posed to human health by the changing climate is so severe that the World Health Organization calls it the “greatest threat to global health of the 21st century”(8) and calculates that, between 2030 and 2050, at least 250,000 additional people worldwide will die prematurely every year as a result of climate change from malnutrition, heat stress, diarrhea and malaria alone.(9) The second Lancet Commission on Climate Change pointed out that “The effects of climate change are being felt today, and future projections represent an unacceptably high and potentially catastrophic risk to human health.” (7)

In Canada, we are already experiencing health impacts from climate change. The Chief Public Health Officer of Canada has stated: “Climate change can exacerbate many existing health concerns and present new risks to the health of Canadians.” In particular we are seeing an increase in severe wildfires causing a sharply increased respiratory health burden(10, 11) and stressful evacuations;(12) an increased spread of Lyme disease(13), and mental health and food security impacts secondary to rapid landscape changes in Canada's rapidly-warming arctic regions(14), amongst other impacts. On a broader scale, climate-related drought has contributed to the conflict in Syria(15) with its consequent disastrous loss of life and challenging international refugee flows. As warming accelerates beyond the 2 degree C target, basic human needs will increasingly not be met, and health care systems will themselves be affected.(7) The Canadian Medical Association recognized the importance of climate change this year by making it a key topic of its annual General Council. We cannot afford to fail to meet our climate targets.

Second, in direct local terms, there is a rapidly mounting body of evidence which suggests that significant local health impacts are associated with hydraulic fracturing. This field of study has been transformed over the past 3 years: over 80% of the peer-reviewed scientific studies have been published since January 1st, 2013, and the vast majority contain red flags. (16) A recent systematic assessment of the peer-reviewed scientific literature (2009-2015) concluded that “84% of public health studies contain findings that indicate public health hazards, elevated risks, or adverse health outcomes; 69% of water quality studies contain findings that indicate potential, positive association, or actual incidence of water contamination; and 87% of air quality studies contain findings that indicate elevated air pollutant emissions and/or atmospheric concentrations.”(16)

Specific concerns for human health include the endocrine disrupting properties of fracking fluids (17), increased asthma rates among those who live near fracking operations(18), contamination of groundwater resources(19), and potential impacts on fetal development (20), A recent study evaluated more than 1000 chemicals commonly used in hydraulic-fracturing fluids and wastewater for potential reproductive and developmental toxicity. For 76% of these chemicals, no toxicological data were available. Of the remaining substances, 43% and 40% of them were associated with reproductive and developmental toxicity in humans, respectively.(21)

Access to adequate amounts of healthy water is a clear determinant of health and this project poses a real risk to water resources. The volume of water required is extremely large: Pembina Institute estimates 5.1 million m<sup>3</sup> in 2030. (4) This, combined with the recent finding from the first comprehensive study of groundwater to be carried out in the Peace River area, that “the

groundwater regime has been very poorly monitored and is still very poorly monitored,” is cause for real concern. The water study, presented to the Peace River Regional District Board in Dawson Creek on August 25th, additionally comments, “there is a profound absence of knowledge about the presence and migration of fluids in the intermediate zone of the subsurface, approximately located between 500 m and 2 km depth. This needs to be addressed in the areas of intense oil and gas activities. Adequate characterization and monitoring programs need to be designed and implemented very rapidly.”(22) To approve a project involving toxic chemicals of largely unstudied effects on human health in the face of such inadequate monitoring of water resources would be reckless.

Recognizing developing concerns around both climate-related health problems and the health impacts of hydraulic fracturing, in August, the Canadian Medical Association passed a motion at its General Council stating, “The Canadian Medical Association supports incorporating full-cost accounting, including greenhouse gas emissions and water-usage impacts, into health-impact assessments for projects involving hydraulic fracturing for unconventional oil and gas reserves.” To our knowledge, this has not been done for this project or those associated with it.

Finally, the degree of industrial development involved in the fulfillment of this project, and the lack of consensus as to its overall benefit for directly affected populations, particularly in some Aboriginal communities, is likely to lead to changes in traditional ways of life and “solastalgia,” a term given to the intense psychological distress caused by landscape change so rapid that people begin to feel homesick while still at home.(23) The Pembina Institute estimates that the new gas well activity required to supply the project would peak at 842 wells drilled in 2020.(24) The Blueberry River First Nations (BRFN) petition requesting that the province of BC quash its royalty agreement regarding this project shows that directly-affected populations continue to have concerns. The BRFN petition states “The infrastructure development required by the long term royalty agreement and planned by Progress Energy would cause serious harm to Blueberry Rivers First Nations territory and treaty rights...It would destroy, fragment, pollute and otherwise disturb thousands of acres of animal habitat.”(25) Solastalgia has been shown to be worse when people have a feeling of a lack of control over rapid change, as is clearly the case for at least some members of the population directly affected by this project.

In the year in which Canada signed the UN Declaration on the Rights of Indigenous Peoples, and following the release of the Truth and Reconciliation report – the utmost care must be taken to honour the right of Aboriginal people to health, and to full, prior and informed consent with respect to development of their traditional lands.

British Columbia’s First Nation’s Health Authority (‘FNHA’) recently made clear the strong links between First Nations, the land and resources, culture and associated health outcomes in the initial findings of the Mount Polley Health Impact Assessment.(26) The FNHA report confirms that: “The Aboriginal population in Canada is vulnerable to changes in environmental and socioeconomic conditions stemming from resource development projects. This vulnerability is primarily due to their physical, mental, spiritual, and emotional connections to traditional land and natural resources. And it is underpinned by a history of adverse cultural impacts of colonialism and subsequent assimilation practices spanning more than 150 years.”(26) The FNHA report affirmed that protection of First Nations from environmental dispossession requires protection of the health of ecosystems in an integrated manner. Failure to do so represents a breach of trust which can be expected to negatively impact efforts at reconciliation.

Overall, urgent concerns exist with regards to both the global and the local health impacts of this project. These risks have not been adequately investigated, communicated or addressed. We urge you to consider the following motion, passed in 2012 at the Canadian Medical Association General Council: “The Canadian Medical Association supports a comprehensive federal environmental review process, including health impact studies, for all industrial projects.” (DM 5-29)(24)

Until stakeholders understand the risks that hydraulic fracturing poses to their health, and steps have been taken to mitigate or eliminate them, no new projects which increase the level of hydraulic fracturing in BC, or in Canada as a whole, should proceed.

Climate-health needs to be recognized as a health emergency and must be addressed with the same attention to targets and time windows as is applied during cardiopulmonary resuscitation and thrombolysis for myocardial infarction. There is no worse feeling than losing a patient because a resuscitation happens too slowly—and no better feeling than pulling a patient from a spiral of physiologic dysfunction with timely intervention. Let our experience at the bedside inform our joint success here. Greenhouse gas emissions need to be included in health impact assessments and projects must be evaluated in the context of other projects proposed, with the goal of staying within overall carbon budget targets. Over 80% of economic fossil fuel reserves must remain in the ground, including most Canadian unconventional oil and gas reserves.(27) Nature, unfortunately, does not accept half measures.

Opinion surveys consistently show that health is a top concern of Canadians. As we increasingly understand the pivotal impact that the social and ecological determinants of health have on overall health, we must acknowledge that to consider one without the other leaves the major part of the story untold. Last year the Canadian Public Health Association published a discussion document on the health impacts of global ecological change to assist with this.(28) An incomplete assessment of a project with the potential for causing extreme harm is simply not acceptable.

Christiana Figueres, former head of the United Nations Framework Convention on Climate Change, told the world’s health ministers in May at the World Health Assembly that, “We have five years to make an extraordinary difference.”(29) As healthcare providers, we share with you, our decision-makers, the prime responsibility for the stewardship of our nation’s health during this critical time period. A new era of best practice is required, and should begin with the rejection of the Pacific Northwest Liquefied Natural Gas (LNG) Project until its human health impacts have been fully understood, communicated, and addressed.

Yours Truly,

Dr Courtney Howard, MD, CCFP-EM, Climate-Health Board Lead, Canadian Association of Physicians for the Environment (CAPE). Emergency Physician, Yellowknife

Dr Trevor Hancock, Hon FFPH, Professor and Senior Scholar, School of Public Health and Social Policy, University of Victoria. Senior Editor, Canadian Journal of Public Health

Dr R.Warren Bell BA MDCM CCFP FCFP(LM), Past Founding President, CAPE Rural Preceptor, University of BC, Salmon Arm, BC

Dr Laurence Barzelai, MD, CCFP, BC Lead-CAPE, Clinical Preceptor, University of BC

Dr Margaret J McGregor, MD, MHSc, Clinical Associate Professor & Director of Community Geriatrics, UBC Department of Family Practice, Research Scientist, VCHRI Centre for Clinical Epidemiology & Evaluation

Dr Melissa Lem, MD, CCFP, University of British Columbia Department of Family Practice

Carl Severson, University of Calgary Cumming School of Medicine, Medical Student

Dr Tim K. Takaro, MD, MPH, MS, Professor and Chair, Masters and PhD Committee, Faculty of Health Sciences, Simon Fraser University

Dr Darcy Scott, MD, FRCPC, Pediatrics, Yellowknife

Cathy Vakil MD, CCFP, FCFP

Thomas L. Perry, MD, FRCPC

Dr. Caroline Kowal, MD, CCFP-EM Emergency physician, Winnipeg

Dr John O'Connor MD

Megan Oakey, MPH  
BC Provincial Health Services Authority

Sarah Giles, MD, CCFP(EM), DMT&H

Kelly Lau, McGill University, Medical Student

Dr. Alan Ruddiman, MB.BCh. FRRMS, Dip. PEMP (SFU)  
Rural Generalist Physician, Oliver, BC

Mark Polle, MD, CCFP, Red Lake, ON

Danyaal Raza, MD MPH CCFP

Dr. Rebecca Psutka, MD, MSc, Family Medicine Resident Physician

Dr. Amy Anne Lubik, BSc, PhD, BC-CAPE

Yassen Tcholakov, MD MIH

Tandi Wilkinson MD

Dr. Erica Frank, MD, MPH, FACPM; Professor and Canada Research Chair in Preventive Medicine and Population Health, University of British Columbia; Past-President, Physicians for Social Responsibility

Elaine Golds, Ph.D.

Jeremy J Leveque, PhD candidate

Nancy Furness PhD (UBC)

Bruce Brandhorst, Ph.D., Professor Emeritus of Molecular Biology, Simon Fraser University

Paola Ardiles MHSc MBA (candidate), Lecturer Faculty of Health Sciences, Simon Fraser University,  
PHABC President

Svetoslav Gueordjev MD

Edith MacHattie, B.SC, M.OT  
Community pediatrics, Surrey BC

Dr. Kate Tairyan, MD, MPH  
Senior Lecturer and Adjunct Professor, Faculty of Health Sciences, Simon Fraser University  
Director of Public Health, NextGenU.org

Larry Dobson MD CCFP

Dr. Vahe Arakelyan, MD

Chris Carlsten, MD MPH  
Associate Professor of Medicine  
University of British Columbia

Dr Makere Stewart-Harawira, Professor, Global, Environmental and Indigenous Studies, University of  
Alberta

Dr AnneMarie Pegg, MD, CCFP(EM)

Dr. Ryan Herriot, MD, CCFP

Dr. Rita McCracken, MD, CCFP, PhD(c)

Dr. Laara Banner, MD, CCFP

Leena Hasan, MPH

Dr. Christopher Stewart, MD, FRCPC

Dr. Pamela Kryskow, MD, CCFP

Dr Lisa Sawyer, MD, CCFP

Michael Irvine, MD, FRCPC

Dr. Gary Bota MD FRCPC Section Chair Emergency Medicine NOSM

Melissa Bota, MD, Psychiatry PGY-2 UBC

Dr. Aldrich J Leung

Dr. Duncan Etches, Professor, Dept of FP, UBC

Dr. Maja Stachura MD, FRCPC, Emergency Medicine

JoyAnne Krupa MD BScN

Dr. Nora Etches, MD, CCFP

Dr. Lise Loubert

Sarah Siddiqui, MSW, RSW

Marguerite Heyns, University of Calgary Cumming School of Medicine, Medical Student

Colin L. Soskolne, PhD, Professor emeritus, University of Alberta; Adjunct Professor, Health Research Institute, University of Canberra, Australia

Monika Dutt, Public Health and Preventive Medicine Specialist, Family Physician, Wagmatcook First Nation

Emma Burns, MD, FRCPC

Robert F Woollard MD CCFP FCFP  
Professor, Faculty of Medicine  
University of British Columbia

Sherilee L Harper, MSc, PhD

Dr. Ann Borda, CHIA, Health informatics; Researcher, Climate and Health Alliance; Honorary Fellow, Health and Biomedical Informatics, University of Melbourne

Dr. Reta Kutsche, MD CCFP

Dr. Jane Cox, MD CCFP

Dr. Tonja Stothart, B.Sc., B.Ed., MD

Claudel P-Desrosiers, Medical Student (University of Montreal)

Djamila Saad, Medical Student (McGill University)

Aline D. Khatchikian, Medical Student (Laval University)

Gershon Growe, MD. (Prof. Emeritus, UBC)

Anne-Lou McNeil-Gauthier, Medical Student (University of Sherbrooke)

James Wright, MD, PhD, FRCP(C)

Daniel Rosenbaum, MD, Psychiatry PGY-2 University of Toronto

Dr Maya K. Gislason, Assistant Professor, Faculty of Health Sciences, Simon Fraser University

Meg Sears PhD

Dr. Lewis Pullmer MD FRCPC

Greg Linton MD., CCFP.

Nitasha Puri, MD, CCFP

Dr. Jean Zigby, MDCM, CCFP(PC)

Sue Turgeon MD, CCFP

Vikhashni Nagesh, MS2

Rachel McGhee MD, CCFP

Fahreen Dossa MD CCFP DTM&H

Liam Brunham, MD, PhD, FRCPC

Carolyn J McGhee MB BS

Nardia Strydom, MB ChB

Dept Head Family & Community Medicine, Providence Health Care

Clinical Assistant Professor, Dept Medicine, UBC

Paddy McCluskey, MD

Christy Sutherland MD CCFP dABAM Clinical Assistant Professor, University of British Columbia,  
Department of Family Medicine

Renee Fernandez, MD, CCFP

Marianne Rev, MD CCFP FCFP



Karen Buhler MD, CCFP

Charles King MD  
Clinical Assistant Professor, Faculty of Medicine  
University of British Columbia

Vicky Tong, MD, CCFP

Julie Martz, MD, CCFP

Philip A. Muir, MD, CCFP, FCFP

Curtis Lavoie MD CCFP (EM)

Linda Knox, RM

Joan Rosenberg, B.Sc. M.D.

Dr Blake Poland, PhD, Dalla Lana School of Public Health, University of Toronto

Bill Mackie Clinical Professor, Past Chair Environmental Health BCMA Counsel on Health Promotion

Neasa Coll, MD, CCFP

Trevor Janz MD Regional Residential Care Medical Director for Interior Health East

Val Embree, MSc (Health Services Planning)

Michelle Linekin, MD -- Vancouver family physician

G. Mazowita

Gail Mountain, Business Owner

Dr. Caroline Eberdt, MA, MD, CCFP-EM

Adrienne Ross PhD MD CCFP

Patricia Schwartz MD, FRCP (C)

Kim McGrail, PhD (health services research at UBC)

Douglas Graeb MD, FRCPC, Professor Emeritus, UBC

Dr. Joanne Young MD

John Last, OC, MD, DPH, FRCPC, etc.  
Emeritus professor  
School of Public Health, University of Ottawa

Gabriela Glattstein-Young, MD, MPH

Dr Danielle Marentette, MD CCFP

Dr. Vanessa Brcic MD CCFP

Dr. Karen Stancer, MD CCFP

Dr. Sarah Olson, MD, CCFP

Dr. Janessa Laskin, MD FRCPC; Medical Oncologist

Dr. Rodica Janz, BSc, MD, CCFP

Carolyn Hall MD CCFP

Sylvia Makaroff, BSc, MD, FCFP

Dr. Evelyn Cornelissen, RD, PhD (clinical assistant professor in family medicine, health services and policy researcher)

George Deagle, M.D.

Jackie Mann, MD - R1 UofC

Dr. Haseena Majeed

Robin Fowler, business owner

Dr. Kevin McKechnie, MD, CCFP

Dr Rupinder Brar MD CCFP

Leala Wong, RN

Beverly Spring, MD MCFP(PC)

Dr. Joel Bluman, MD, UBC Family Medicine Resident

Dr Jade Dittaro, MD, CCFP  
Clinical Instructor and Site Faculty - Curriculum, UBC Rural Okanagan Family Medicine Residency Program, Kelowna, BC

## References

1. United Nations. Paris Agreement. 2015.  
[http://unfccc.int/files/essential\\_background/convention/application/pdf/english\\_paris\\_agreement.pdf](http://unfccc.int/files/essential_background/convention/application/pdf/english_paris_agreement.pdf)
2. VANDERKLIPPE JHAN. B.C. climate plan promises to reduce emissions from LNG.  
<http://www.theglobeandmail.com/news/british-columbia/bc-climate-plan-promises-to-reduce-emissions-from-lng/article30227704/>
3. Canada CEAAaEaCC. Pacific Northwest Liquefied Natural Gas (LNG) Project Review of Related Upstream Greenhouse Gas (GHG) Emissions Estimates. 2016. <http://www.ceaa-acee.gc.ca/050/documents/p80032/104795E.pdf>
4. Pacific NorthWest LNG highlights missing leadership in B.C. climate plan: carbon pollution from project would torpedo province's 2050 climate target [press release]. Sept 8, 2016.
5. Government of British Columbia. Climate Action in BC.  
<http://www2.gov.bc.ca/assets/gov/environment/climate-change/policy-legislation-and-responses/climate-leadership-plan/bcclimateactionssummary.pdf>
6. Harrison, K et al. 2016. <https://www.scribd.com/doc/314292679/Letter-from-scientists-and-experts>
7. Watts N. The Lancet Commissions. Health and climate change: policy responses to protect public health. The Lancet. 2015. <http://www.thelancet.com/commissions/climate-change-2015>
8. Chan M. World Health Organization Call to Action on Climate Change. 2015.  
<http://www.who.int/globalchange/global-campaign/cop21/en/>
9. Organisation WH. Fact sheet on Climate Change and Health. 2016.  
<http://www.who.int/mediacentre/factsheets/fs266/en/>
10. Moore D, Copes R, Fisk R, Joy R, Chan K, Brauer M. Population health effects of air quality changes due to forest fires in British Columbia in 2003: estimates from physician-visit billing data. Canadian journal of public health = Revue canadienne de sante publique. 2006;97(2):105-8
11. Henderson SB, Brauer M, Macnab YC, Kennedy SM. Three measures of forest fire smoke exposure and their associations with respiratory and cardiovascular health outcomes in a population-based cohort. Environmental health perspectives. 2011;119(9):1266-71
12. Bell D. Children feeling stress of Fort McMurray wildfires. 2016.  
<http://www.cbc.ca/news/canada/calgary/children-impact-fort-mcmurray-fire-1.3572275>

13. Ogden NH, St-Onge L, Barker IK, Brazeau S, Bigras-Poulin M, Charron DF, et al. Risk maps for range expansion of the Lyme disease vector, *Ixodes scapularis*, in Canada now and with climate change. *International journal of health geographics*. 2008;7:24.  
<http://www.ncbi.nlm.nih.gov/pubmed/18498647>
14. Harper SL, Edge VL, Ford J, Willox AC, Wood M, Team IR, et al. Climate-sensitive health priorities in Nunatsiavut, Canada. *BMC public health*. 2015;15:605.  
<http://www.ncbi.nlm.nih.gov/pubmed/26135309>
15. Colin P. Kelley, Shahrzad Mohtadi, Mark A. Cane, Richard Seager, and Yochanan Kushnir. Climate change in the Fertile Crescent and implications of the recent Syrian drought. *Proceedings of the National Academy of Science*. 2015;112 no 11: 3241–6,  
<http://www.pnas.org/content/112/11/3241.full>
16. Hays J, Shonkoff SB. Toward an Understanding of the Environmental and Public Health Impacts of Unconventional Natural Gas Development: A Categorical Assessment of the Peer-Reviewed Scientific Literature, 2009-2015. *PloS one*. 2016;11(4):e0154164.  
<http://www.ncbi.nlm.nih.gov/pubmed/27096432>
17. Kassotis CD, Tillitt DE, Davis JW, Hormann AM, Nagel SC. Estrogen and androgen receptor activities of hydraulic fracturing chemicals and surface and ground water in a drilling-dense region. *Endocrinology*. 2014;155(3):897-907. <http://www.ncbi.nlm.nih.gov/pubmed/24424034>
18. Rasmussen SG, Ogburn EL, McCormack M, Casey JA, Bandeen-Roche K, Mercer DG, et al. Association Between Unconventional Natural Gas Development in the Marcellus Shale and Asthma Exacerbations. *JAMA internal medicine*. 2016. <http://www.ncbi.nlm.nih.gov/pubmed/27428612>
19. Garth T. Llewellyn, Frank Dorman, J. L. Westland, D. Yoxtheimer, Paul Grieve, Todd Sowers, E. Humston-Fulmer, and Susan L. Brantley. Evaluating a groundwater supply contamination incident attributed to Marcellus Shale gas development. *PNAS*. 2015.  
<http://www.pnas.org/content/early/2015/05/01/1420279112>
20. McKenzie LM, Guo R, Witter RZ, Savitz DA, Newman LS, Adgate JL. Birth outcomes and maternal residential proximity to natural gas development in rural Colorado. *Environmental health perspectives*. 2014;122(4):4127. <http://www.ncbi.nlm.nih.gov/pubmed/24474681>
21. Elliott EG, Ettinger AS, Leaderer BP, Bracken MB, Deziel NC. A systematic evaluation of chemicals in hydraulic-fracturing fluids and wastewater for reproductive and developmental toxicity. *Journal of exposure science & environmental epidemiology*. 2016.  
<http://www.ncbi.nlm.nih.gov/pubmed/26732376>
22. Interraplan GS-. PEACE RIVER REGIONAL DISTRICT WATER QUALITY BASELINE. 2016 Dawson Creek, August 25, 2016. Report No. <http://prrd.bc.ca/board/agendas/2016/2016-26-768204806/AGENDA.html>

23. Albrecht G, Sartore GM, Connor L, Higginbotham N, Freeman S, Kelly B, et al. Solastalgia: the distress caused by environmental change. *Australasian psychiatry : bulletin of Royal Australian and New Zealand College of Psychiatrists*. 2007;15 Suppl 1:S95-8.  
<http://www.ncbi.nlm.nih.gov/pubmed/18027145>
24. Horne M. Pacific Northwest LNG Implications  
Analysis of environmental impacts and the project development agreement.  
<https://www.pembina.org/pub/pacific-northwest-lng-backgrounder>
25. Proctor J. Landmark LNG agreement under fire in lawsuit  
Blueberry River First Nations' B.C. Supreme Court petition claims province ignored treaty rights.  
2015. <http://www.cbc.ca/news/canada/british-columbia/landmark-lng-agreement-under-fire-in-lawsuit-1.3329129>
26. Shandro J, M. Winkler, L. Jokinen, and A. Stockwell. Health impact assessment for the 2014 Mount Polley Mine tailings dam breach: Screening and scoping phase report. First Nations Health Authority. 2016. <http://www.fnha.ca/Documents/FNHA-Mount-Polley-Mine-HIA-SSP-Report.pdf>
27. Hancock, T et al. Global Change and Public Health: Addressing the Ecological Determinants of Health. Canadian Public Health Association Discussion Paper. May 2015.  
[http://www.cpha.ca/uploads/policy/edh-discussion\\_e.pdf](http://www.cpha.ca/uploads/policy/edh-discussion_e.pdf)
28. McGlade, Christophe and Ekins, Paul. The geographical distribution of fossil fuels unused when limiting global warming to 2 Deg C. *Nature Letter*. Jan 2015. doi:10.1038/nature14016  
<http://www.nature.com/nature/journal/v517/n7533/full/nature14016.html>
29. Karliner, Josh. "Reaching a tipping point": Climate a key issue at World Health Assembly.  
<https://medium.com/@HCWH/reaching-a-tipping-point-climate-a-key-issue-at-annual-world-health-assembly-9255542f9021#.ogrgztb4s>