

**Blind Spot:
The Failure to Consider Climate in
British Columbia's Environmental Assessments**

**A Submission to the BC Climate Leadership Team
Prepared by the Environmental Law Centre, University of Victoria
On behalf of Sierra Club BC**



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1. Introduction

From Pope Francis to President Obama, from Naomi Klein to Preston Manning, there is an emerging global consensus that climate change is the most pressing environmental issue of our age.¹ Climate change has already triggered destruction of vast BC forests, historic droughts, catastrophic storms, devastation of fisheries, agricultural failures and unprecedented wildfires. And it seriously threatens the quality of life of our children and future generations.

Yet there are profound flaws in the BC Environmental Assessment of proposed industrial projects, and these flaws could worsen climate change. For example, current assessments generally fail to consider the greenhouse gas emissions (GHGs) that will be produced by the burning of our coal and oil in Asia – and generally ignore the impact of proposed projects on the Province’s GHG reduction targets. If those blind spots are not fixed, we may fail to meet the threat that climate change poses to British Columbia and to the global community.

Therefore, this report recommends a fundamental reform of the Environmental Assessment (EA) process for new projects.² We recommend that the Province consistently apply a comprehensive “climate test” when assessing projects that could exacerbate climate change.

The following flaws in the current EA system must be addressed:

- Currently, projects need not be assessed for the greenhouse gases their products will release when used outside of BC. For example, EA of coal mines and gas facilities may well consider the GHGs produced by trucks and equipment at the BC industrial site – but completely fail to consider any of the massive GHG emissions that the coal and gas will eventually release when burned in Asia.
- Although the Province has legislated caps (“targets”) on future BC GHG emissions, EAs need not fully apply those targets. This flaw renders the *Greenhouse Gas Reductions*

¹ See the following information about the positions of : Pope Francis: <http://www.theguardian.com/world/2015/jun/18/popes-climate-change-encyclical-calls-on-rich-nations-to-pay-social-debt>; President Barack Obama: <https://www.whitehouse.gov/climate-change>; Naomi Klein: <http://books.simonandschuster.com/This-Changes-Everything/Naomi-Klein/9781451697391>; Preston Manning: <http://www.sustainableprosperity.ca/news/our-quality-life-depends-it>

² We would like to acknowledge Meinhard Doelle, Professor of Law & Associate Dean, Research, Dalhousie University, Schulich School of Law, for his review of this report.

Targets Act little more than empty rhetoric. Emission targets need to be made meaningful – and fully incorporated into the BC EA process. As an example of this problem, note that the Province recently approved an agreement with Petronas for a Prince Rupert liquefied natural gas facility that could emit 10.7 million tonnes (Mt) of GHG annually by 2030³ – which would amount to almost a quarter of BC’s 2020 target (43 Mt), and almost the entirety of its 2050 target (just under 13 Mt).⁴ However, under current law, the EA is not required to meaningfully consider the impact of this proposed project on the province’s GHG targets – even if the project single-handedly makes it impossible to meet those targets.

- Under the *Reviewable Projects Regulation*, the current EA process is automatically required (“triggered”) when a project is above a specific size or meets other defined criteria. Unfortunately however, this regulation does not treat GHG emissions of a project as an automatic EA “trigger.” This omission of a requirement for assessment whenever GHG emissions rise to a specified level undermines the Province’s ability to reduce GHGs.
- There is no requirement that a proponent describe alternatives to a project when applying for its EA certificate.⁵ This results in the decision-maker not having enough information to determine if the project is the best option – or if a less GHG intensive project could be substituted. Additionally, proponents do not need to include a scenario in which the project is not built at all (a “zero option”), further removing context from the decision-maker’s consideration process.
- EA approval is based on a finding of “no significant adverse environmental effects.”

³ Matt Horne, *Pacific Northwest LNG Implications: Analysis of environmental impacts and the project development agreement* (10 July 2015) at 2, online: Pembina <<http://www.pembina.org/reports/pacific-northwest-lng-implications.pdf>>.

⁴ Target: *Greenhouse Gas Reduction Targets Act*, SBC 2007, c 42, s 2(1)(b) “by 2050 and for each subsequent calendar year, BC greenhouse gas emissions will be at least 80% less than the level of those emissions in 2007.” BC 2007 emissions: “British Columbia Greenhouse Gas Inventory” (no date), at “Trends in Emissions” heading, online: <<http://www2.gov.bc.ca/gov/content/environment/climate-change/reports-data/provincial-ghg-inventory-report-bc-s-pir>>: “64.3 Mt in 2007.” Calculation for 2030: 64.3 megatonnes multiplied by 0.33 = 21.22 Mt reduction required, so 43.08 Mt is the 2030 target. Calculation for 2050: 64.3 Mt multiplied by 0.80 = 51.44 Mt reduction required, so 12.86 Mt is the 2050 target.

⁵ Mark Haddock, *Environmental Assessment in British Columbia* (November 2010) at 25, online: <http://www.elc.uvic.ca/wordpress/wp-content/uploads/2014/08/ELC_EA-IN-BC_Nov2010.pdf>.

However, “significance” is not defined from a climate perspective.⁶ This results in arbitrary and inconsistent findings across BC EAs.

Note that the failure to apply a comprehensive “climate test” to GHG-producing projects creates environmental risks – but it also creates substantial *economic* risks to British Columbia. A growing body of expert opinion is warning of a potential “carbon bubble” that could collapse as global climate laws strengthen and fossil fuel demand falters.⁷ Therefore, the approval process must properly assess a project’s expected emissions in order to reduce the economic risk associated with developing fossil fuel infrastructure in the world’s rapidly shifting energy markets.

Therefore, we recommend that BC’s EA process be reformed to apply a comprehensive “climate test” to proposed projects. The environmental assessment process must be reformed to ensure that when substantial GHG-emitting projects are proposed, that the process:

- is automatically triggered when a project is expected to emit over a specified quantity of GHGs;⁸
- fully considers GHG emissions directly and indirectly caused by the project – both downstream and upstream of the project itself (for example, in Alberta and Asia). It is simply unacceptable that Washington State EAs of coal terminals consider the impacts of burning the coal in Asia – while British Columbia ignores such impacts;
- withholds project approval if the project – by itself, or in concert with other projects – would breach legislated GHG targets;
- thoroughly considers alternatives, including the option of not proceeding with the project at all;
- clearly defines what level of GHG release is “significant” for the purposes of assessing, regulating or rejecting projects; and

⁶ Or from a broader environmental perspective.

⁷ See the final section of this paper, “A Final Note on Economic Issues,” for a discussion of the growing body of expert opinion concerned with a “carbon bubble” and stranded fossil fuel assets.

⁸ This is recommended as a practical interim reform. Eventually government should move to a more comprehensive approach, requiring an automatic trigger for any project found **not** to be a transformational project contributing to a transition to a zero emissions future. This would mean that projects that are not carbon neutral would be required to undergo an environmental assessment.

- requires maximum practicable mitigation of GHG emissions for all projects that do proceed.

2. The Status Quo in British Columbia

As will be discussed below, BC is already experiencing serious negative effects of climate change. Yet an examination of previously reviewed projects under the BC EA regime demonstrates the inadequacy of the BC Environmental Assessment process in considering potential climate change impacts. Though BC has legislated provincial GHG reduction targets, its EA process does not meaningfully consider these targets when assessing proposed projects' environmental impacts – and has numerous other shortcomings that must be addressed as well.

2.1 How is Climate Change affecting BC?

Climate change is affecting every country in the world, to varying degrees.⁹ A 2014 Insurance Bureau of Canada report states that:

*Climate change is generating more severe weather... Even in countries such as Canada that have been spared devastating natural disasters in recent history, the question is not whether large catastrophes will occur, but how extensive the damage will be and whether we, as a country, will be prepared.*¹⁰

The National Roundtable on the Environment and the Economy's (NRTEE's) 2011 report, *Paying the Price: The Economic Impacts of Climate Change for Canada*, documented the extraordinarily high economic costs that Canada will incur if climate change is not stopped.¹¹

Climate change has had and will have profound effects on British Columbia. Sea-level rise¹² and

⁹ National Roundtable on the Environment and the Economy, *Paying the Price: The Economic Impacts of Climate Change for Canada* (2011), at 35. Online: <<http://collections.canada.gc.ca/webarchives2/20130322143132/http://nrtee-trnee.ca/wp-content/uploads/2011/09/paying-the-price.pdf>> [NRTEE 2011 Report].

¹⁰ Insurance Bureau of Canada, *Reducing the fiscal and economic impact of disasters* (2014), at 2. Online: ACT <http://act-adapt.org/wp-content/uploads/2014/04/Economic_Impact_Disasters-Paper-2014.pdf>.

¹¹ NRTEE 2011 Report, *supra* note 9 at 45.

¹² NRTEE 2011 Report, *supra* note 9 at 69,71,73,78-79. The report finds that the Metro Vancouver Area is particularly at risk from rising sea levels and storm surges, and the flooding associated with these trends.

impacts to timber supply could be particularly detrimental.¹³ Climate change has already been linked to the mountain pine beetle's destruction of a cumulative total of 710 million cubic metres of timber and devastation of an area of BC forests more than five times the size of Vancouver Island¹⁴ – and this destruction has cost the forest industry hundreds of millions of dollars.¹⁵ Climate change also threatens BC commercial and recreational fisheries, which are worth hundreds of millions of dollars – as well as First Nations fisheries, the value of which is incalculable and irreplaceable.¹⁶ Ocean acidification linked to climate change has caused a massive die-off of scallops off Vancouver Island.¹⁷ Further, climate change is predicted to continue to affect agriculture, due to increased precipitation and flooding, more frequent extreme weather events, dry conditions and their effect on water supply, and cumulative impacts.¹⁸

It is predicted that climate change could cost governments many billions of dollars in

¹³ NRTEE 2011 Report, *supra* note 9 at 53-54.

¹⁴ “Facts About BC’s Mountain Pine Beetle” (updated May 2012), online: BC Ministry of Forests, Lands and Natural Resource Operations, <https://www.for.gov.bc.ca/hfp/mountain_pine_beetle/facts.htm>. See also H Manness *et al*, *Summertime climate response to mountain pine beetle disturbance in British Columbia* (25 November 2012), 6 *Nature Geoscience* 65, online: Nature <<http://www.nature.com/ngeo/journal/v6/n1/full/ngeo1642.html>>.

¹⁵ *A History of the Battle Against the Mountain Pine Beetle 2000 – 2012*, at 12. Online: Ministry of Forests, Lands and Natural Resource Operations <https://www.for.gov.bc.ca/hfp/mountain_pine_beetle/pine%20beetle%20response%20brief%20history%20may%2023%202012.pdf>.

¹⁶ The wholesale value of the commercial salmon fishery alone was \$237 million in 2010, and that is only a portion of the total monetary value of wild salmon. [British Columbia Ministry of Environment, “B.C. Capture (Wild) Salmon Production.” Online: BCMoE <<http://www.env.gov.bc.ca/omfd/fishstats/graphs-tables/wild-salmon.html#wholesale>>]. Recreational fishing for wild salmon is a major portion of the BC sport fishing industry – which, by some estimates produces annual revenues of \$925 million, contributes \$325 million to BC's GDP and supports 8,400 direct jobs: Damien Gillis, “Tide turning against salmon farms in lead up to election” (25 April 2013), online: The Tyee <<http://thetyee.ca/Blogs/TheHook/2013/04/25/TideTurningSalmonFarm/#sthash.vXYoQ48f.dpuf>>. First Nations fisheries have incalculable social, cultural and food value to indigenous peoples. Note that drought, higher temperatures and higher concentrations of CO₂ in water are expected to greatly impact BC's salmon stocks this year: Mark Hume, “Tough days for salmon as Fraser River hotter, lower than expected” (5 July 2015), online: Globe and Mail <<http://www.theglobeandmail.com/news/british-columbia/tough-days-for-salmon-as-fraser-river-hotter-lower-than-expected/article25310090/>>. See also: Sierra Club BC, Media Release, “As B.C. Burns, Realities of Climate Change Hit Home” (6 July 2015) online: SCBC <<http://www.sierraclub.bc.ca/media-centre/press-releases/as-b.c.-burns-realities-of-climate-change-hit-home>>.

¹⁷ “Acidic ocean deadly for Vancouver Island scallops” (25 February 2014), online: CBC News <<http://www.cbc.ca/news/canada/british-columbia/acidic-ocean-deadly-for-vancouver-island-scallop-industry-1.2551662>>.

¹⁸ BC Agriculture and Food, “Climate Change Adaptation Risk and Opportunity Assessment, Provincial Report Executive Summary” (March 2012), at 9-10, online: UVic <http://pics.uvic.ca/sites/default/files/uploads/BC%20Agriculture_summary.pdf>.

infrastructure costs,¹⁹ and that these costs will rise as emissions rise.²⁰ Furthermore, the NRTEE's analysis shows that extreme weather events, which are linked to droughts, forest fires, decreased air quality and health impacts,²¹ could greatly impact the province. At the time of writing, wildfires were burning across BC; and Vancouver Island, the South Coast and Lower Fraser Valley were in a Stage 4 drought.²² Over the past ten years, BC has had an average of 708 wildfires per year – this year it was at 1,300 as of July 22nd and this number is only expected to increase further in coming years.²³ Premier Clark specifically acknowledged the changing landscape due to climate change during her tour of the Okanagan region fires in July.²⁴ The impacts of climate change are clearly being felt now.

Climate change will force BC governments to spend billions of dollars on infrastructure -- to rebuild levees and entire stormwater systems, restructure roads, water systems, sewage systems, etc. The City of Vancouver has articulated ways in which it will be specifically impacted by climate change. During the National Energy Board (NEB) review of the proposed Trans Mountain Expansion project, the City raised concerns about the project affecting its climate change planning and mitigation efforts:

*Vancouver has responsibility for planning and mitigating impacts of severe weather events and rising sea levels, including impacts on its infrastructure, and is collaborating with other levels of government to implement Vancouver's Climate Change Adaptation Strategy. The [proposed fossil fuel transportation] project, through its impact on global GHG emissions, will significantly increase the overall need for and costs of adaptation.*²⁵

¹⁹ NRTEE 2011 Report, *supra* note 9 at 15.

²⁰ *Ibid*, at 41.

²¹ *Ibid*, at 99.

²² "Level 4 drought declared for South Coast and Lower Fraser" (15 July 2015), online: CBC News <<http://www.cbc.ca/news/canada/british-columbia/level-4-drought-declared-for-south-coast-and-lower-fraser-1.3153654>>.

²³ Mark Hume "Premier warns B.C. in for more wildfires, blames climate change" (22 July 2015), online: Globe and Mail <<http://www.theglobeandmail.com/news/british-columbia/bc-wildfire-fight-aided-by-cool-weather-but-winds-complicate-efforts/article25628547/>>.

²⁴ *Ibid*.

²⁵ City of Vancouver, *Notice of Motion to National Energy Board in the matter of Trans Mountain Pipeline ULC – Trans Mountain Expansion Application*, Hearing Order OH-001-2014 (16 May 2014). Online: <https://docs.neb-one.gc.ca/ll-eng/llisapi.dll/fetch/2000/90464/90552/548311/956726/2392873/2449925/2450831/2456382/C77-4-1_-_Notice_of_Motion_Re_Expanding_List_of_Issues_-_A3X115.pdf?nodeid=2456470&vernum=-2>.

A tangible and critically important way to do our part to reduce GHG emissions and catastrophic climate change is to incorporate a climate test into BC's existing EA process for industrial projects.

2.2 British Columbia's Greenhouse Gas Reduction Targets

With the *Greenhouse Gas Reduction Targets Act*, BC has committed to reducing its GHG emissions by 33% by 2020 compared with 2007 levels – and by 80% below 2007 levels by 2050.²⁶ It has developed a Climate Action regime, including a Climate Action Plan, to guide its progress toward this goal. The regime includes: legislation that enables performance standards to be set for industrial facilities or sectors;²⁷ legislation that provides for offsets to be factored into emissions calculations;²⁸ legislation providing for a carbon tax;²⁹ and legislation providing for the authority to set-up a cap and trade framework, to link into a larger initiative involving the Western Climate Initiative,³⁰ among other measures.³¹

The Climate Action Plan 2014 Progress Report states that up until now, progress towards BC's legislated emissions reduction goal has been achieved by certain reduction initiatives, the downturn in the economy and by creating offsets through forest management.³²

However, a 2014 BC government Climate Action Report states that under current policies, BC's GHG emissions may *increase*, rather than decrease:

*Real emissions reductions have been achieved through strong action on climate change, particularly by **avoiding new emissions** and preventing emissions from rebounding as the*

²⁶ *Greenhouse Gas Reductions Target Act*, SBC 2007, c 42, s 2(1)(b). This Act also established targets for 2020, and requires the Minister to establish targets for 2016.

²⁷ Bill 2-2014, *Greenhouse Gas Industrial Reporting and Control Act*, 3rd Sess, 40th Parl, 2014 (third reading 20 November 2014). Note that this law is not yet in force.

²⁸ *Carbon Neutral Government Regulation*, BC Reg 193/2014; *Emissions Offsets Regulation*, BC Reg 124/2014.

²⁹ *Carbon Tax Act*, SBC 2008, c 40.

³⁰ *Greenhouse Gas Reduction (Cap and Trade) Act*, SBC 2008, c 32.

³¹ Government of British Columbia, *Climate Action Legislation* (accessed June 23, 2015), online: <<http://www2.gov.bc.ca/gov/content/environment/climate-change/policy-legislation-programs/legislation-regulations&title=climate%20action%20legislation#GGRTA>>.

³² Government of British Columbia, *Climate Action in British Columbia: Progress Report* (2014), at 4. Online: <<http://www2.gov.bc.ca/assets/gov/environment/4d9b65e26dfa11ef78c200b82fad10bd-climate-change/reports-and-data/provincial-ghg-inventory-report-bcs-pir/2014-progress-to-targets.pdf>>.

*province's economy recovers. B.C.'s emissions have stabilized below 2007 levels. With **current policies remaining as they are, B.C. greenhouse gas emissions may begin to increase** (emphasis added).³³*

And indeed, from 2012-2013 BC's emissions did not decline as required – but increased by 2.4%.³⁴ Clearly, action must be taken if BC is to meet its legislated emissions reduction targets in the future.

The above discussion raises two key questions:

- What “current policies” may allow “BC greenhouse gas emissions [to] begin to increase”?
- How might this troubling emissions increase trend be halted?

We will now focus on these questions, as they relate to the BC Environmental Assessment process.

2.3 Under Current Policy, BC Environmental Assessments Do Not Adequately Examine Climate Change Impacts

As you will see below, in some particularly egregious BC environmental assessments, climate change has not been meaningfully considered – even with proposed coal mines. In other cases, the EA has considered some climate change impacts³⁵ but there has been little consistency among analyses of climate change: there is no guarantee that climate change will be considered

³³ *Ibid*, at 6.

³⁴ Emissions were 61.5 MT in 2012 and increased to 63 MT in 2013: Government of British Columbia, British Columbia Greenhouse Gas Inventory (no date), online: <<http://www2.gov.bc.ca/gov/content/environment/climate-change/reports-data/provincial-ghg-inventory-report-bc-s-pir>> and Environment Canada, “National Inventory Report 1990-2013: Greenhouse Gas Sources and Sinks in Canada – Executive Summary” (modified 17 April 2015), at ES.5, online: <<http://www.ec.gc.ca/ges-ghg/default.asp?lang=En&n=5B59470C-1&offset=5&toc=show>>.

³⁵ Usually referencing the following federal guidance document: The Federal-Provincial-Territorial Committee on Climate Change and Environmental Assessment, *Incorporating Climate Change Considerations in Environmental Assessment: General Guidance for Practitioners* (November 2003), online: International Association for Impact Assessment <https://www.iaia.org/IAIA-Climate-Symposium-DC/documents/Canada_Guide_EIA_CC.pdf?AspxAutoDetectCookieSupport=1> [*Canadian Guidance Document*].

in the process, or if it is, *when* it will be considered. Further, when GHG emissions of a project are considered, the EAO has tended to find that the actual impact of the emissions is not significant. All of this results in an arbitrary system that does not systematically analyze how much new GHG pollution the project will create – let alone meaningfully apply the province’s legislated emission reduction targets.

2.3.1 Specific Environmental Assessments that Failed to Adequately Consider Climate Change

Below is a discussion of project environmental assessments that mentioned GHG emissions, but did not meaningfully include any consideration of the GHG emissions’ impact on climate change.

Note that it is most troubling to find *coal mines* on this list. One would expect effective EAs to rigorously examine GHGs from coal mines. After all, *Time* magazine has warned that China is burning almost as much coal as the rest of the world combined – and specifically noted “we won’t solve global warming until that changes”.³⁶

1) Murray River Coal Project (EA process 2013-present)

The Murray River Coal Project is undergoing a joint federal-provincial EA under both the BC EAA and the *Canadian Environmental Assessment Act, 2012* (CEAA 2012). The project’s proponent, Chinese-owned HD Mining International Ltd., plans to build the coal mine near Tumbler Ridge, BC. It would produce six million tonnes of coal per year, and is expected to have a project life of 31 years. A full life cycle calculation, incorporating the burning of the coal at its final destination, results in the project emitting 17,160,000 tonnes of CO₂ emissions/year.³⁷ The

³⁶ Bryan Walsh, “The Scariest Environmental Fact in the World” (29 January 2013), online: Ecocentric <<http://science.time.com/2013/01/29/the-scariest-environmental-fact-in-the-world/>>.

³⁷ Plus the emissions from mining and transportation. This calculation is based on: 6,000,000 tonnes coal per year (production) x 2.86 tonnes CO₂ per tonne of metallurgic coal = 17.16 million tonnes CO₂ per year. The 2.86 figure comes from: BD Hong & ER Slatick, “Carbon Dioxide Emission Factors for Coal” (August 1994) at “Coal Combustion and Carbon Dioxide Emissions” heading, online: US Energy Information Administration <http://199.36.140.204/coal/production/quarterly/co2_article/co2.html>.

17 Mt CO₂/year is almost 40% of BC's 2020 emissions target and 133% of its 2050 target.³⁸ But the EA didn't require calculation of the GHGs produced by the end use (burning) of the coal outside of BC. Thus, the expected emissions from mining operations that the proponent disclosed in its application were only 383,780 - 579,128 tonnes CO₂/year.³⁹

The federal review did not include a requirement to consider GHG emissions in its Environmental Impact Statement Guidelines.⁴⁰ The BC EAO's Application Information Requirements (AIRs) direct the proponent to include GHG emissions for the purposes of air quality and to compare emissions' inventories and intensities with mining industry averages.⁴¹ However, the AIRs do not require disclosure of life cycle emissions, including transportation or end use.

Though it acknowledges that GHGs are associated with climate change, the proponent's application in both the federal and the provincial review process considers GHG emissions only in the context of air quality. The application in the provincial review states:

*A cumulative effects assessment for GHG emissions was not completed as the contribution of an individual project to climate change cannot be measured and climate change is a global and not a local issue.*⁴²

The application says that "[t]he Project is therefore assessed in terms of CO₂e produced and compared with sector, provincial, federal, and international levels."⁴³ It references federal reduction targets (but not provincial reduction targets) – but then does not link them to its

³⁸ See footnote 4 for explanation of BC's targets. 2020 target: 43.08 Mt/year; 17.12 Mt/year is 39.8% of that target. 2050 target: 12.86 Mt/year; 17.12 Mt/year is 133.4% of that target.

³⁹ HD Mining International Ltd, *Murray River Coal Project, Application*, Chapter 6 Air Quality Effects (28 November 2014) at 6-37 (Adobe p 37), online: <http://a100.gov.bc.ca/appsdata/epic/documents/p367/d38447/1417648118427_FxpQJ1SJNdLsIVCR1vr9yrKCIQM QJqQ6yJJKxQ1w3F0841F47g5m!-231679769!1417646740055.pdf> [*Murray River Project Application*].

⁴⁰ Canadian Environmental Assessment Agency, "Environmental Impact Statement Guidelines" (2013) online: CEAA <<http://www.ceaa-acee.gc.ca/050/documents/p80041/94123E.pdf>>.

⁴¹ BC Environmental Assessment Office, *Murray River Coal Project Application Information Requirements* (approved 3 September 2013) at 5-2 (Adobe p 41), online: <http://a100.gov.bc.ca/appsdata/epic/documents/p367/1378251043836_5f50ec19380477c5da22ca76d7db534fcd6b7fe5cd20eeb9ff1c168d06d83378.pdf>.

⁴² *Murray River Project Application*, *supra* note 39 at 6-43 (Adobe p 43).

⁴³ *Ibid*, at 6-4 (Adobe p 4).

project.⁴⁴

2) Raven Underground Coal Project (EA process 2009-2013)

The EA for the Raven Coal Mine proposal also did not consider GHG emissions for use of the coal at its overseas destinations.

The proposed Raven Underground Coal Project near Buckley Bay underwent its first EA commencing in 2010⁴⁵ and is an example of an EA that purported to consider climate change effects. However, scoping discretion was exercised to *exclude* emissions from transport to and use of coal at overseas destinations⁴⁶ – which again was where the vast majority of GHG emissions would have occurred.⁴⁷

The BC EAO stated: “GHG emissions for transport and use of coal at overseas destinations **will not be included** [in the finalized AIR/EIS Guidelines that would govern that assessment] (emphasis added).”⁴⁸

3) Carbon Creek Coal Mine Project (EA process 2012-present)

The Carbon Creek Coal Mine project is a project that falls under a substitution EA agreement between the provincial and federal government, which dictates that the provincial process be considered to fulfill all requirements of both federal and provincial EAs. It is currently in the

⁴⁴ “There are no standards associated with GHG emissions; however, there are reporting regulations and federal reduction targets.” *Murray River Project Application, supra* note 39 at 6-1 (Adobe p 1).

⁴⁵ The EAO rejected the application in May 2013 due to insufficient information and the proponent submitted a new application in January 2015; it withdrew in March 2015.

⁴⁶ “The potential effects on climate change from coal use overseas are not within the scope of the assessment”: AMEC, “Proposed Raven Underground Coal Project, Background and General Comments Response Document on the Draft Application Information Requirements/Environmental Impact Statement Guidelines” (2011) at 14, online: <http://a100.gov.bc.ca/appsdata/epic/documents/p351/d33836/1320778388483_521b51bc3378dc732622990a292397dd3a1db9584db50938b25e77fe109463b5.pdf>.

⁴⁷ Stephen Ellis, Letter to Doug Caul (2015) online: EAO <http://a100.gov.bc.ca/appsdata/epic/documents/p351/1425335959998_VTJhJ0lcFfZPD3GhbYqm6gMyQsRmgptv ywM2LPbCKZhyzl4DQ6db!1378338455!1425335740573.pdf> (this environmental review process for the Raven Project is on hold as the proponent withdrew from the process in 2015).

⁴⁸ See the draft AIR/EIS Public Comment Tracking Table, p. 14, which contains the EAO and CEAA response to public comments on GHG emissions from the coal use overseas.

“pre-application” phase.⁴⁹ The BC EAO’s Executive Director’s section 11 order uses broad language in its scoping of environmental effects in the EA: “[the scope of the review will include] potential adverse environmental, economic, social, heritage, and health effects of the proposed Project, including Cumulative Effects, and practicable means to avoid, mitigate, or otherwise manage any such potential adverse effects.”⁵⁰ The proponent mentions minimizing emissions in the Air Emissions and Noise section of its Project Description; it does not mention actually measuring or reporting on emissions.⁵¹

4) Trans Mountain and Northern Gateway Pipeline Projects

The proposed Northern Gateway pipeline and Trans Mountain pipeline expansion have been subject to federal environmental assessments, but the Province has agreed to treat the federal reviews as equivalent to the provincial EA process (under “equivalency agreements”).⁵² In the NEB’s EAs, the Board refused to consider the global climate change impacts of the projects – as well as impacts from oil extraction activities in Alberta or the end use of the product abroad. In the Trans Mountain case, environmental groups and individuals brought a *Charter* challenge for the failure of the NEB to consider these climate change impacts, but the Federal Court of Appeal dismissed the challenge. Currently the Supreme Court of Canada is considering whether to grant a request for leave to appeal at the SCC.⁵³ As it stands today however, the EAs of both pipeline projects have omitted assessment of climate change impacts arising from oil extraction activities in Alberta or end use of the product abroad.

⁴⁹ BC Environmental Assessment Office, Project Information Centre (e-PIC), “Carbon Creek Coal Mine Project” (updated 23 February 2015), online: BC EAO <http://a100.gov.bc.ca/appsdata/epic/html/deploy/epic_project_doc_list_383_p_pro.html>.

⁵⁰ BC Environmental Assessment Office, *Order Under Section 11* (28 November 2012), s 4,1,1 (at p 5), online: <http://a100.gov.bc.ca/appsdata/epic/documents/p383/1354217724604_7445e84948b7eb032f37f7ee8e902f43e0463351fd39dcada30a5405b48e43a8.pdf>.

⁵¹ Cardero Coal Ltd, *Carbon Creek Metallurgic Coal Project Description* (no date), at 134 (Adobe p 152), online: <http://a100.gov.bc.ca/appsdata/epic/documents/p383/1361304334169_82a6e3be29c5e159a8664e530c71479231742bc32a0c783e83bc78140004dd85.pdf>.

⁵² BC Environmental Assessment Office, “Agreement and Project Listing” (no date), online: <http://www.eao.gov.bc.ca/EAO_NEB.html>.

⁵³ A positive outcome from an appeal could require Canadian EA processes to consider climate change impacts. See: David Geselbracht, “Supreme Court to rule on charter right to raise climate change in NEB hearings” (31 July 2015), online: Vancouver Observer <<http://www.vancouverobserver.com/news/supreme-court-rule-charter-right-raise-climate-change-neb-hearings>>.

2.3.2 BC Environmental Assessments that Have Considered Climate Change

The LNG Canada project's EA considered GHG emissions, to a limited extent:

5) LNG Canada Export Terminal Project (EA process 2013-2015)⁵⁴

Like the Carbon Creek project, the LNG Canada project underwent a substituted EA process.⁵⁵ In its Application Information Requirements (AIRs), the LNG Canada Facility project included "Greenhouse Gas Management" as a Valued Component (VC).⁵⁶ The VC's scope was described as including the construction and operation of the facility. However, perhaps most important, the "AIR" requirements that government laid out did not include a requirement for information defining the amount of GHGs that would be emitted from the ultimate end use of the LNG.⁵⁷

In addition to failing to look at all the project's expected GHG emissions, the ultimate decision on this project's EA ended up ignoring the effect that the project would have on provincial GHG targets. To its credit, the EAO's Assessment Report had concluded:

*[T]here would be a significant residual adverse effect of the proposed Project related to GHG emissions. The effect is considered significant because of the existing context of global greenhouse gas emissions and the magnitude of the proposed Project's emissions, which would have a notable impact on BC's emissions reduction targets.*⁵⁸ [emphasis

⁵⁴ EAO staff has informed us that the incorporation of climate change impacts in this project's review process is typical of many recently reviewed LNG projects.

⁵⁵ Ministry of Environment, LNG Canada Export Terminal granted environmental assessment approval (17 June 2015), online: <<https://news.gov.bc.ca/stories/lng-canada-export-terminal-granted-environmental-assessment-approval>>.

⁵⁶ BC Environmental Assessment Office, *Proposed LNG Canada Export Terminal Project Application Information Requirements* (approved 24 February 2014), at 4-6 (Adobe p 48) <http://a100.gov.bc.ca/appsdata/epic/documents/p398/d37266/1393282066515_84192dd3649d7d5f611c30c38273cdaa46447f247aa0d907c3c80c7afe5b6cd5.pdf> [*LNG Canada AIRs*]. Valued Components are "aspects of the natural and human environment that have scientific, ecological, economic, social, cultural, archaeological, historical or other importance:" Environmental Assessment Office User Guide (June 2015), at 11 online: <<http://www.eao.gov.bc.ca/pdf/EAO%20User%20Guide%20-%20June%202015%20final.pdf>>.

⁵⁷ Interestingly, the AIR states that the GHG Management VC does not have spatial boundaries, but rather it has administrative boundaries as determined by applicable legislation and policy: *LNG Canada AIRs*, *supra* note 56 at 4-20 (Adobe p 62). It references the *Greenhouse Gas Reduction (Cap and Trade) Act Reporting Regulation* and the World Resource Institute GHG Protocol – both of which relate to methodology to measure emissions: *LNG Canada AIRs*, at 4-44 (Adobe p 11).

⁵⁸ Environmental Assessment Office, *LNG Canada Export Terminal Project Assessment Report* (6 May 2015), at 63, online:

added]

Indeed, the GHG emissions were the proposed project’s only “significant adverse effect” that was deemed not mitigatable.⁵⁹ However, the ultimate project decision concluded that “the benefits accruing to the public interest from the Project outweigh the significant adverse effect to GHG emissions,” and granted the EA certificate despite the “notable impact” on BC’s legislated targets.⁶⁰

3. Other Jurisdictions Do a Better Job

There are numerous examples of other jurisdictions implementing climate tests in their EA processes at the federal, state, and municipal levels. On a review of other jurisdictions’ processes, common themes emerge; these themes are reflected in the headings below -- along with illustrations of how each theme is incorporated into the other jurisdictions’ EA processes.

3.1 Including GHG Emissions from the Project’s Full Life Cycle

One of the key issues to address in developing a “climate test” is determining the scope of emissions that should be considered: does one look just at the direct and proximate emissions of the project – or does one consider the long-term, indirect, and full “product life cycle” emissions that will result? For example, does an oil export facility look only at the GHGs produced by activities at the terminal or does it consider the emissions that will result when the oil is used in industrial plants and cars in Asia? Defining the scope of emissions is an important question because the wider the scope, the more emissions that the test will capture – and in turn the more likely a project will be found to have significant adverse effects on climate change during the EA process. It is important to note that the “causation” question here is not if or how the project causes climate change, but *how much* GHG emissions it causes. The question is scientific, as it is an objective determination of the quantity of emissions that are causally linked to the project –

<http://a100.gov.bc.ca/appsdata/epic/documents/p398/1434642529923_wfwdVCkNJLyPstWRWR66gV2MDTsh9kynQdjr3H51N2Xnvmf9yJXh!-14610924!1434641485535.pdf>.

⁵⁹ *Ibid*, at 349.

⁶⁰ Reasons for Ministers’ Decision LNG Canada Export Terminal Project (17 June 2015), at 7, online:<http://a100.gov.bc.ca/appsdata/epic/documents/p398/1434642478570_wfwdVCkNJLyPstWRWR66gV2MDTsh9kynQdjr3H51N2Xnvmf9yJXh!-14610924!1434641485535.pdf>.

but the question is also political, as there must be a determination of how far down the causal chain a climate test will look.

Washington State is doing a better job than BC in assessing a project's full life cycle impacts. Washington's Department of Ecology released a document "Guidance for Ecology: Including Greenhouse Gas Emissions in SEPA Reviews"⁶¹ (WDE Guidance Document) to address its policy for situations in which it acts as a lead or permitting agency under the State Environmental Policy Act (Washington SEPA).⁶² This WDE Guidance Document requires that a proponent disclose GHG emissions if they are "proximately caused" by the project.⁶³ **The definition of proximate cause includes impacts of a project that are outside of the jurisdiction or the state's boundaries.**⁶⁴ For example, the WDE Guidance Document suggests that if the ongoing operations of the project under consideration include frequent transportation to or from locations outside of Washington, that these transportation emissions are potentially necessary to a full analysis.⁶⁵

In addition, although the final combustion of fossil products outside Washington state is not directly mentioned in the Guidance Document, such end uses are now being assessed. The Millennium Bulk Terminals project is a proposed \$650-million coal terminal in Washington State. In early 2014, it was announced that the project's environmental review would include investigation of the global climate change effects of burning the exported coal in Asia, as well as statewide effects of transporting the coal by rail.⁶⁶ The Gateway Pacific Terminal at Cherry Point in Whatcom County is another project with an ongoing environmental review by WDE under the Washington SEPA, the scope of its review also includes consideration of GHG emissions of the

⁶¹ Washington Department of Ecology, *Guidance for ecology, including Greenhouse Gas emissions in SEPA Reviews* (Washington,) online: Washington Department of Ecology <http://www.ecy.wa.gov/climatechange/docs/sepa/20110603_SEPA_GHGinternalguidance.pdf> [*WDE Guidance for SEPA*].

⁶² *State Environmental Policy Act*, 43.21C RCW.

⁶³ The definition of "proximately caused" is adopted from the United States Supreme Court, which defines the same term in NEPA as a "reasonably close causal relationship between the environmental effect and the alleged cause:" *Dept. of Transp v Public Citizen*, 541 US 752, 754 (2004). To prove that a project is the cause of an emission a direct sequence must be shown and it may not be broken by a superseding cause: *WDE Guidance for SEPA, supra* note 61 at 3.

⁶⁴ WAC tit 197-11-060 § (4)(b).

⁶⁵ *WDE Guidance for SEPA, supra* note 61 at 4.

⁶⁶ Phuong Le, "Washington coal terminal to get extensive review" (12 February 2014), online: Komo News <<http://www.komonews.com/news/local/Washington-coal-terminal-to-get-extensive-review-245240301.html>>.

end use of the coal being transported.⁶⁷

This is in stark contrast to the assessments done for proposed BC coal mines, discussed above.

It should also be noted that, unlike British Columbia, the Government guidance documents for environmental review processes in the states of Minnesota⁶⁸ and New York⁶⁹ suggest assessment of upstream and downstream emissions.⁷⁰

The full life cycle approach is likely to be implemented soon across the United States. In 2014, the US Council on Environmental Quality released its draft guidelines for considering GHG emissions in assessments under *National Environmental Policy Act* (NEPA)⁷¹ (CEQ Draft Guidelines).⁷² These White House CEQ Guidelines serve as the policy guide followed by all US federal agencies and departments when conducting environmental assessments. In addition, since the policies and court decisions used to interpret NEPA (the federal assessment law) are often also adopted by or inform state-led environmental assessments, the final form of the CEQ Draft Guidelines may eventually apply to many state environmental assessment regimes.

⁶⁷ Whatcom County, Washington State Department of Ecology, U.S. Army Corps of Engineers, Joint Release, “Agencies set scope of environmental impact statement for proposed Cherry Point Export project” (31 July 2013), online: WDE <<http://www.ecy.wa.gov/news/2013/197.html>>.

⁶⁸ Minnesota Pollution Control Agency, “Discussing greenhouse gas emissions in Environmental Review” (December 2011), at 3, online: <<http://www.pca.state.mn.us/index.php/view-document.html?gid=12570>>.

⁶⁹ New York State Department of Environmental Conservation, “Assessing Energy Use and Greenhouse Gas Emissions in Environmental Impact Statements” (15 July 2009) at 6, online: <http://www.dec.ny.gov/docs/administration_pdf/eisghgpolicy.pdf>. Note: downstream emissions are only included for **fuel products**. This document applies to Department of Environmental Conservation staff when DEC is the lead agency in a project, but is believed to influence other agencies in assessing GHG impacts: Columbia Law School, Sabin Center for Climate Change Law, “EIA Guidelines for Assessing the Impact of a Project on Climate Change” (accessed September 3, 2015) online: <[http://web.law.columbia.edu/climate-change/resources/nepa-and-state-nepa-eis-resource-center/environmental-assessment-protocols-consideration-climate-change#State Guidelines](http://web.law.columbia.edu/climate-change/resources/nepa-and-state-nepa-eis-resource-center/environmental-assessment-protocols-consideration-climate-change#State%20Guidelines)>.

⁷⁰ Further, Massachusetts allows for inclusion of customers’ travel emissions: “Revised MEPA Greenhouse Gas Emissions Policy and Protocol” (5 May 2010), at 4-5, online: <<http://www.mass.gov/eea/docs/mepa/ghg-policy-final.pdf>>.

⁷¹ The *National Environmental Policy Act* is the U.S. federal law that governs federal level environmental assessments.

⁷² Center for Environmental Quality, *Revised Draft Guidance for Greenhouse Gas Emissions and Climate Change Impacts* (2015) at 12, online: the White House <https://www.whitehouse.gov/sites/default/files/docs/nepa_revised_draft_ghg_guidance_searchable.pdf> [*CEQ Draft Guidelines*]. Though this guidance document is still in its draft stages, it will eventually become the policy guide used by all federal agencies and departments in the US when they complete an EA or EIS analysis under NEPA (and will be built into ongoing reviews): *CEQ Draft Guidelines* at 31.

These landmark guidelines recommend considering a wide scope of possible emissions, including emissions that are “proximately caused” by the project and are “reasonably foreseeable” effects of various components of the project.⁷³ They state that agencies should take into account emissions from “connected actions,”⁷⁴ as well as from “activities that have a reasonably close causal relationship to the federal action, such as those that may occur as a predicate for the agency action (often referred to as **upstream emissions**) and as a consequence of the agency action (often referred to as **downstream emissions**).”⁷⁵ These downstream emissions include the end use of the resources or product. Thus, this is an example of an EA process that includes full life cycle emissions.

The CEQ Draft Guidelines go on to use the example of an open pit mine, which should include in its analysis: “clearing land for the extraction, building access roads, transporting the extracted resource, refining or processing the resource, and using the resource (emphasis added).”⁷⁶ This example clearly acknowledges the project’s life cycle emissions – an important step in a fulsome emissions analysis.

The “Presidential Permit”⁷⁷ required by the proposed Keystone XL pipeline project⁷⁸ is an example of a US environmental assessment that has effectively considered life cycle emissions. In June 2013, President Obama indicated that climate change would be a major factor in his final decision: he stated that the project will only go forward if it “**does not significantly exacerbate**

⁷³ *Ibid*, at 12

⁷⁴ As defined in 40 CFR § 1508.25: “actions are connected if they: automatically trigger other actions which may require environmental impact statements; cannot or will not proceed unless other actions are taken previously or simultaneously; or are interdependent parts of a larger action and depend on the larger action for their justification.”

⁷⁵ *CEQ Draft Guidelines*, *supra* note 72 at 11.

⁷⁶ *CEQ Draft Guidelines*, *supra* note 72 at 12.

⁷⁷ A Presidential Permit is required because the proposed project would cross the US-Canada border. The Presidential Permit application process is also known as the ‘National Interest Test’, as it considers whether a proposed project is in the US’s national interest: Embassy of the United States, “Keystone XL Pipeline Final Supplemental Environmental Impact Statement” (31 January 2014), online: <<http://canada.usembassy.gov/news-events/2014-news-and-events/january-2014/31-january-2014-keystone-xl-pipeline-final-supplemental-environmental-impact-statement.html>>.

⁷⁸ The Keystone XL proposal is Phase IV of TransCanada’s Keystone pipeline, and is a proposed oil pipeline running from Alberta to Nebraska, linking up with the existing Keystone pipeline system that flows to the US Gulf Coast. The proposed pipeline would transport approximately 830,00 barrels of bitumen per day: Congressional Research Service, “Keystone XL Pipeline: Overview and Recent Development” (1 April 2015), at Adobe p 2, online: <<https://www.fas.org/sgp/crs/misc/R43787.pdf>>.

the problem of carbon pollution.⁷⁹ The State Department has completed an EIS, which inputs into the Presidential Permit process. The scope of emissions considered in the Supplemental EIS is wide and thorough, and goes beyond direct operational impacts; it reaches across jurisdictional boundaries, and considers the full life cycle of the product being transported by the project. This includes whether the project will increase production (and therefore global emissions) in the Alberta oilsands.

Similarly, in Australia, EAs must take into account the full life cycle of GHG emissions related to the project. For example, in New South Wales, an Environmental Impact Assessment of a coal mine had proceeded in a manner similar to the current flawed BC approach. The EIA included consideration of “Scope 1 emissions” or direct GHG emissions and “Scope 2 emissions” generated by electricity used by the mine. But the EIA excluded consideration of “Scope 3 emissions,” or indirect GHG emissions, including those originating from the actions of third parties. **The court found that Scope 3 emissions *should* have been included, and that for a coal production facility, would have specifically included burning coal at its final location – even if that location was outside of the jurisdiction.**⁸⁰ The Court concluded that EIAs are required to consider effects that have a ‘real and sufficient link’ to the project. See *Gray v Minister of Planning*, [2006] NSWLEC 720.

The European Union has released a 2013 guidance document “Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessment” (EU EIA Guidance Document)⁸¹ that emphasizes the importance of incorporating climate change into EA processes. This document serves as a guide to all EU member states in running their EIA processes.⁸² The EU EIA Guidance Document suggests that scoping a project’s emissions should be determined

⁷⁹ President Barack Obama, *Remarks by the President on Climate Change* (2013), online: The Whitehouse <<https://www.whitehouse.gov/the-press-office/2013/06/25/remarks-president-climate-change>>

⁸⁰ The reasoning was: the statute providing for the EIA decision-maker’s authority includes principles of environmentally sustainable development (ESD), which include the precautionary principle and intergenerational equity. These principles require consideration of downstream, GHG emissions: “[i]f an important downstream impact is omitted from that assessment it is more difficult for the final decision maker, the Minister, to be informed about all relevant matters” (*Gray v Minister of Planning*, [2006] NSWLEC 720, at para 124).

⁸¹ European Commission, *Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessment* (2013), online: <<http://ec.europa.eu/environment/eia/pdf/EIA%20Guidance.pdf>> [*European Commission Guidance Document*].

⁸² *Ibid*, at 9.

on a project-by-project basis and should include both direct GHG emissions caused by “the construction, operation, and possible decommissioning of the proposed project, including from land use, land-use change and forestry” and “indirect GHG emissions due to increased demand for energy; [and] indirect GHG emissions caused by any supporting activities or infrastructure which is directly linked to the implementation of the proposed project (e.g. transport, waste management).”⁸³ These comprise upstream and some downstream effects, though the EU EIA Guidance Document is silent on full downstream emission inclusions including the end use of a project (for example, the combustion of fuels transported by a pipeline project).

It is clear that progressive jurisdictions are changing their EAs to reflect atmospheric reality -- GHGs released anywhere in the world negatively impact global climate. Governments are expanding the scope of the GHGs that they evaluate to include GHGs eventually released beyond their borders. This is a sensible approach, because climate change is not a problem that restricts itself to jurisdictions and is inherently transboundary.

3.2 Explicitly Linking EA Processes to a Jurisdiction’s GHG Reduction Targets

If a jurisdiction has a GHG reduction target, but does not consider this in its assessment of large infrastructure projects, the reduction target becomes a nominal number, with little meaning. Yet that is largely the case in British Columbia.

In contrast, the Washington Department of Ecology’s Guidance Document specifically considered the state’s GHG reduction targets when describing its method for determining “significance” in the context of GHG emissions: “we believe that we can identify what level of greenhouse gas emissions would not be significant, especially taking into account the state’s greenhouse gas reduction targets and other legal requirements to reduce or mitigate emissions.”⁸⁴ In Washington, the significance determination helps to determine whether a project will be required to mitigate GHG emissions, and dictates whether it will be approved.

It is important to note that Washington uses a “mitigation to reduction” approach, in which **its**

⁸³ *Ibid*, at 29.

⁸⁴ *WDE Guidance for SEPA*, *supra* note 61 at 6. When the document was released in 2011, Washington would have to reduce its emissions by 11% to meet its 2020 goal.

state-wide GHG emissions reduction target is transposed into the EA process: a proponent may select to reduce its project emissions to 11% below its initial expected emissions as one option on the route to a “not significant” finding. The WDE Guidance Document acknowledges the difficulty in quantifying climate change – so it uses state emission targets to form a quantitative part of its climate significance analysis.

Similarly, the state of California imports reduction targets into its environmental assessment processes. Although the general guidelines under California's environmental assessment legislation do not specify this, California courts have intervened in environmental assessments when they do not explicitly consider GHG emissions.⁸⁵ And more specifically, **recent Court decisions have made California's approach quite similar to that of Washington: proponents must estimate their baseline GHG emissions and then reduce those emissions in line with California's emissions targets.**⁸⁶ Thus, unlike British Columbia, California environmental assessments specifically require consideration of GHG targets.⁸⁷

At the federal level, the landmark US CEQ Draft Guidelines state that agencies can incorporate by reference federal, state, tribal or local emissions targets “and make it clear whether the emissions being discussed are consistent with such goals.”⁸⁸ For example, projects in California in which the Bureau of Land Management is the lead agency often explicitly state that their

⁸⁵ In *Communities for a Better Environment v City of Richmond*, 184 Cal. App. 4th 70 (2010), the Court of Appeal of California, First Appellate District, Division Four determined that a refinery project's environmental impact review (EIR) failed to properly establish, analyze, and consider an environmental baseline and improperly deferred greenhouse gas mitigation measures. It also found that the EIR failed to provide an adequate project description.

⁸⁶ In *Friends of Oroville v City of Oroville*, 218 Cal. App. 4th 1352 (2013), the Court of Appeal of California, Third Appellate District found that the city properly adopted the state's GHG reduction targets as its threshold of significance in an environmental review of an expanded Walmart store (which would replace an existing Walmart store), and that the proposed project must establish the baseline GHG emissions of the current Walmart store and properly quantify mitigation efforts for the new store to determine if they are aligned with California's reduction targets. In *Cleveland National Forest Foundation v San Diego Association of Governments*, 231 Cal. App. 4th 1056, the Court of Appeal of California, Fourth Appellate District, Division One found that the decision-making agency prejudicially abused its discretion by omitting from the EIR an analysis of the plan's consistency with the state climate policy.

⁸⁷ An exception is made for projects subject to California's cap and trade system, but in that latter system the established “cap” functions as a *de facto* target in any case: personal communication, Professor Michael Wara, Stanford Law School, September 4, 2015.

⁸⁸ *CEQ Draft Guidelines*, *supra* note 72 at 13.

frame of reference is the California State’s Assembly Bill 32⁸⁹ (which outlines California’s 2020 emission target).

The EU EIA Guidance Document states the importance of generally differentiating between “magnitude” and “significance” and emphasizes the impact of GHG reduction targets on a finding of significance from a climate perspective:

*Judging an impact’s magnitude and significance must be context-specific. For an individual project — e.g. a road project — the contribution to GHGs may be insignificant on the global scale, but may well be significant on the local/regional scale, in terms of its contribution to set GHG-reduction targets.*⁹⁰ [emphasis added]

Though the EU EIA Guidance Document doesn’t directly tie proposed projects’ expected GHG emissions to national GHG reduction targets, the EU EIA Directive does mention how incorporating climate change considerations in EAs eases *compliance* with reduction targets:

*Addressing climate change and biodiversity in EIA makes it easier to comply with the EIA Directive and relevant national laws. This is useful, since climate change and biodiversity are the subjects of many recent pieces of EU legislation, policies and strategies, including national binding targets.*⁹¹ [emphasis added]

The EU EIA Guidance Document directs decision-makers to focus on “environmental limits” or “thresholds,” as defined via a database created by the Resilience Alliance⁹² and includes “GHG emissions inventories” as a listed piece of source information to inform EIAs. This is an analysis that is more context-specific than one that is tied with legislated emissions targets, and is arguably also more resource-intensive and advanced. It may also result in the same outcome as that which this paper advocates: the jurisdiction meeting its emission target.

It is important to note that there is Canadian authority for making targets meaningful in EAs. In

⁸⁹ For examples, *Citizens for Responsible Equitable Environmental Development v. City of Chula Vista* (2011) 197 Cal.App.4th 327 [127 Cal. Rptr. 3d 435].

⁹⁰ *European Commission Guidance Document*, *supra* note 80 at 40.

⁹¹ *Ibid*, at 15.

⁹² *Ibid*, at 34. Resilience database is found at this link: Resilience Alliance, “Homepage” (accessed 31 August 2015), <<http://www.resalliance.org/index.php/>>.

2003, the Federal-Provincial-Territorial Committee on Climate Change and Environmental Assessment published a guidance document on incorporating climate change into EAs, “Incorporating Climate Change Considerations in Environmental Assessment” (the CCCEAC 2003 Guidelines).⁹³ Although the document does not have enforceable legal status, it was developed by all levels of Canadian government and posted as a guidance document on the federal CEEA website. Environment Canada has suggested that the CCCEAC 2003 Guidelines may be used as a reference for EAs⁹⁴ – and they have been referenced in many BC EAs.

The CCCEAC 2003 Guidelines state that by analyzing a project in the context of the relevant jurisdiction’s policy objectives or regulations, the environmental importance of a project may be addressed.⁹⁵ As the Guidelines were released in 2003, they note a lack of binding emission targets on a federal, territorial and provincial level at that time — but significantly, the Guidelines specifically suggest that once implemented, legislated emissions targets will be the “thresholds or limits relevant to EAs.”⁹⁶

Clearly, since BC has now legislated emissions targets, these should be incorporated directly into its EA process. The Guidelines say these emission targets could provide an effective tool to judge the significance of a project’s GHG emissions:

*When put in place by jurisdictions, and applied to entities and facilities, such covenants, targets and/or regulations, should constitute the mitigation required of practitioners subject to these provisions.*⁹⁷ [emphasis added]

British Columbia should stop ignoring its legislated GHG emissions targets in its Environmental Assessments.⁹⁸

⁹³ *Canadian Guidance Document*, *supra* note 35 at 42.

⁹⁴ Environment Canada, *Environment Canada TOR comments* (6 July 2007), online: Mackenzie Valley Review Board <http://reviewboard.ca/upload/project_document/EIR0607-001_Env%20Canada%20ToR%20and%20Workplan%20comments_1184621173.doc>.

⁹⁵ *Canadian Guidance Document*, *supra* note 35 at 5.

⁹⁶ *Ibid*, at 4.

⁹⁷ *Canadian Guidance Document*, *supra* note 35 at 4.

⁹⁸ One problem that arises is BC’s GHG reduction targets currently only apply to in-province emissions. This paper advocates a full life cycle accounting of GHG emissions, including GHGs emitted outside BC, as explained above. In the short-term, the existing targets on life cycle in-province emissions should be given real meaning in EAs. In

3.3 Including GHG Emissions as a Threshold to Trigger EA

Most EA regimes will have defined “triggers” that indicate an EA process is required; if a project meets defined criteria. These triggers may include: project types, projects of a specified size, or projects producing a specific quantity of product. However, BC has not defined a level of GHG emissions (whether in-province or globally) that will automatically “trigger” an EA. This undermines the Province’s efforts to achieve its GHG emissions reduction targets. At a minimum, an EA should be triggered automatically whenever the level of emissions is expected to be more than negligible.⁹⁹ Furthermore, GHGs should be assessed for all projects that are undergoing an EA, whether or not they meet a defined GHG threshold trigger.

The Washington Department of Ecology’s Guidance Document requires that a proponent disclose GHG emissions if they are ‘proximately caused’ by the project and reach a threshold of 10,000 metric tonnes of CO₂-e per year.¹⁰⁰ WDE makes the initial determination of whether the project is likely to reach the threshold.¹⁰¹ The WDE Guidance Document discusses two categories of emissions: between 10,000 and 25,000 metric tonnes and above 25,000 metric tonnes of CO₂-e per year. These ranges dictate what type and the extent of the EA the project will undergo. This framework ensures that negligible projects will not waste the time of regulators – and that larger development projects will be thoroughly assessed.¹⁰²

The groundbreaking US federal CEQ Guidance Document relies more on the discretion of the decision-maker to determine if a project should undergo an environmental assessment, due to the context and intensity of emissions and not necessarily the quantity. The document explicitly states that a single project only expecting to produce a small fraction of global emissions does not automatically mean it is ‘insignificant’ from a climate perspective. However, much like Washington’s SEPA, the CEQ Draft Guidelines provide a reference point of 25,000 metric

the long-term, BC must develop *global* emission reduction goals to assess its contributions to global emissions. Once this has been done, the EA process should tie a project’s expected life cycle global emissions to those new global targets.

⁹⁹ Alternatively, the trigger could be established as when the project is no longer carbon neutral.

¹⁰⁰ *WDE Guidance for SEPA*, *supra* note 61 at 3.

¹⁰¹ *Ibid.*, at 3, also see document’s Attachment 1 at 10-11.

¹⁰² Note that the Washington Guidance Document does not explicitly require that end-use out of state emissions be considered in this initial step of determining whether the threshold has been met – although that would be consistent with the decisions made in the Millenium and Cherry Point projects..

tonnes of CO₂-e emissions per year: below that point, a quantitative analysis is not justified unless it is easy to accomplish.¹⁰³

BC should create a GHG emissions level that triggers an EA. Ultimately, this should include lifecycle emissions, both inside and outside the province – and be set at the point at which emissions are no longer negligible.¹⁰⁴

3.4 Including an Analysis of Alternatives with a “Zero Option”

Alternatives Analysis is a step in an EA process that involves considering alternatives to the proposed action “with no, or less, adverse environmental effects as compared to the proposed action.”¹⁰⁵ A “zero option” is a scenario in which the project is not implemented at all.

Considering alternatives provides the decision-maker with a frame of reference: what would happen if this project were not built? Would we be better off? Is this the best project amongst a selection of alternatives?

In considering alternatives, the alternative’s emission scenarios must be considered as well – and a consistent approach is crucial. For example, the CEQ Draft Guidelines encourage including GHG emissions when assessing alternatives to a proposed action in order to “advance a reasoned choice among alternatives and mitigations.”¹⁰⁶

The EU EIA Guidance Document outlines an EA process that requires an analysis of alternatives to the project, which should include a “zero option,” in which the project is not built – the alternatives can inform mitigation measures and cause modification of the initial project plans.¹⁰⁷

The zero option – the scenario without the project at all – can input into the baseline from which incremental emissions are measured.

¹⁰³ *CEQ Draft Guidelines, supra* note 72 at 18. This approach of providing greater scrutiny for the larger category of projects recognizes the principle of proportionality, which is “grounded in the fundamental purpose of NEPA to concentrate on matters that are truly important to making a decision on the proposed action:” *CEQ Draft Guidelines, at* 10.

¹⁰⁴ Or at the point where the project is no longer carbon neutral.

¹⁰⁵ *CEQ Draft Guidelines, supra* note 72 at 19.

¹⁰⁶ *Ibid, at* 20.

¹⁰⁷ *European Commission Guidance Document, supra* note 80 at 35.

3.5 Defining Climate “Significance” for the Purposes of Regulating or Rejecting Project

Academics and case law have identified problems when EA regimes fail to clearly define what is “significant” when determining whether a project triggers an EA – or when determining whether a project’s emissions are so significant that mitigation or project rejection is required. Courts and assessment boards often have no statement from government as to how significance should be determined from a climate¹⁰⁸ perspective.¹⁰⁹ This is demonstrated by a Canadian example: the Kearl Oilsands project was predicted to release 0.5% of Canada’s annual GHG emissions. Its joint federal-Alberta EA found that these emissions were unlikely to cause significant adverse environmental effects. A judicial review of the decision found that the review panel should have given reasons for the finding that the project was unlikely to cause significant adverse environmental effects – and ordered that it do so.¹¹⁰ In response, the review panel specifically gave reasons that, despite the considerable GHG emissions, there was little evidence that the release would cause significant adverse environmental effects and that as the proponent would adhere to intensity targets set by the Alberta government, this would mitigate adverse effects.¹¹¹

As mentioned in section 3.2, the Washington Department of Ecology’s Guidance Document specifically considered the state’s GHG reduction targets in its framework for determining “significance” for the purposes of:

- triggering an EA;
- determining whether mitigation should be required; and
- determining whether the project should be approved.

Washington’s significance analysis also involves several factors including: whether the proposal conflicts with local, state, or federal rules or laws (and specifically emission targets); mitigation

¹⁰⁸ Or even simply a broader environmental perspective.

¹⁰⁹ Albert Koehl “EA and Climate Change Mitigation” (2010) 21 *Journal of Environmental Law and Practice* 181 at 181 [*Koehl EA paper*].

¹¹⁰ *Pembina Institute for Appropriate Development v Canada (Attorney-General)*, 2008 FC 302.

¹¹¹ *Koehl EA paper*, *supra* note 108 at 187-188. See panel’s rationale here, under “Greenhouse Gases” heading: Canadian Environmental Assessment Agency, “Archived - Joint Panel Report, Kearl Oil Sands Project, Addendum to EUB Decision 2007-013, Additional rationale for the joint review panel’s conclusion on air emission”(6 May 2008), online: <<http://www.ceaa.gc.ca/052/document-html-eng.cfm?did=26766>>.

measures proposed by the proponent; and mitigation measures required by law.¹¹²

As discussed above, WDE uses a “mitigation to reduction” approach, in which its state-wide GHG emissions reduction target is transposed into the EA process: a proponent may select to reduce its project emissions to 11% below what its initial expected emissions were as one option on the route to a “not significant” finding. The WDE Guidance Document acknowledges the difficulty in quantifying climate change – so uses state emission targets to form a quantitative part of its climate-specific significance analysis.

California’s CEQA Guidelines describe specific factors that a lead agency should consider when assessing the significance of impacts from greenhouse gas emissions on the environment; these include the extent to which the project complies with GHG reduction requirements.¹¹³

The federal CEQ Draft Guidelines encourage agencies to consider the context of emissions, including both short- and long-term effects and benefits, as this will affect the significance analysis. They recommend that if an agency determines that it’s appropriate to use a monetary cost-benefit analysis¹¹⁴ to determine significance,¹¹⁵ that the agency should use the federal social cost of carbon document¹¹⁶ to provide some context for a meaningful review.¹¹⁷ This allows for a traditional cost-benefit analysis, while incorporating the social costs of not reducing carbon into the equation. BC may look to the US federal document outlining its calculation of the social cost of carbon to inform an updated EA process.

As previously discussed, the EU EIA Guidance Document states the importance of generally

¹¹² *WDE Guidance for SEPA*, *supra* note 61 at 6.

¹¹³ CEQA Guidelines Amendments, §15064.4(b), § 15064.7 (at Adobe 6, 8) (2009), online: <http://resources.ca.gov/ceqa/docs/Adopted_and_Transmitted_Text_of_SB97_CEQA_Guidelines_Amendments.pdf>.

¹¹⁴ Monetary cost-benefit analysis involves comparing the net costs and benefits of a proposed project and alternatives based on monetary figures. This allows a project and its alternatives to be compared on the grounds of net monetary difference, and may provide a feasibility justification for a project. In the US, “Significant Regulatory Actions” as defined by Executive Order 12866 must do a cost-benefit analysis for proposed regulations.

¹¹⁵ The CEQ Draft Guidelines state that an agency should not use a monetary cost-benefit analysis to determine significance if there are qualitative considerations: *CEQ Draft Guidelines*, *supra* note 72 at 16.

¹¹⁶ Interagency Working Group on Social Cost of Carbon, *Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis – Under Executive Order 12866* (2013), online: The Whitehouse <<https://www.whitehouse.gov/sites/default/files/omb/assets/inforeg/technical-update-social-cost-of-carbon-for-regulator-impact-analysis.pdf>>.

¹¹⁷ *CEQ Draft Guidelines*, *supra* note 72 at 16.

differentiating between magnitude and significance and emphasizes the impact of GHG reduction targets to a finding of significance:

*Judging an impact's magnitude and significance must be context-specific. For an individual project — e.g. a road project — the contribution to GHGs may be insignificant on the global scale, but may well be significant on the local/regional scale, in terms of its contribution to set GHG-reduction targets.*¹¹⁸ [emphasis added]

The Document states that the EU member country must define “significance;” relevant criteria to aid in a significance determination are found in Annex II of the Directive.¹¹⁹

¹¹⁸ *European Commission Guidance Document*, *supra* note 80 at 40.

¹¹⁹ “Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment” (27 June 2001) 197 Official Journal L 30-37, online: <<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32001L0042:EN:HTML>>. Note that in considering significance, it is important to also consider what happens to emissions *below* the threshold: project proponents should ultimately take life cycle responsibility for all GHG emissions associated with their project, through charges or purchasing approved offsets.

4. Conclusion

BC's current EA process is weak and inconsistent in its approach to assessing GHG emissions and potential climate change impacts. The current arbitrary system does not systematically support the province's legislated emission reduction targets – and is not consistent with the BC government's own public statements about considering the future in development decisions.

In contrast, the laws, policies and guidelines from the jurisdictions reviewed above show a clear and progressive trend towards explicitly including climate change mitigation analysis into EA processes. There is important Canadian precedent as well.¹²⁰ Therefore, we advocate that a comprehensive climate test be incorporated into the BC Environmental Assessment process. In furtherance of that goal, we make the following recommendations.

Recommendations for Reform of the BC Environmental Assessment Process:

1) Implement a GHG Emissions Threshold as an Additional Mandatory EA Trigger

As discussed, both the Washington SEPA process and the US federal CEQ Draft Guidelines, described above, have an emissions threshold that triggers mandatory environmental assessment.¹²¹ The new BC threshold should be set at the point when emissions are no longer negligible, and there should be clear scoping guidelines to ensure proponents are properly calculating their proposed projects' expected emissions to include full life cycle emissions.¹²²

Requiring a GHG emissions assessment early in the EA process could serve the interests of both proponents and decision-makers alike. If a project will prevent the Province from reaching its legislated emission reduction targets, the proponent should be made aware as soon as possible in the process – in order to modify its plans to reduce expected emissions, or to consider

¹²⁰ For example, the federal and provincial governments that created the CCCEAC's 2003 Guidance Document specifically contemplated that emissions reduction goals would serve as the thresholds or limits relevant to EAs and inform mitigation. As these goals are now legislated in BC, incorporating them into BC's EA process is directly in line with these longstanding federal-provincial guidelines.

¹²¹ See the CEQ description in *CEQ Draft Guidelines*, *supra* note 72 at 18.

¹²² As described in this paper's third set of recommendations below.

alternatives to the project. The sooner this happens, the less time and resources will be wasted by both proponent and government.

Recommendation: In addition to the current “thresholds” mandating an EA, as laid out in the *Reviewable Projects Regulation*,¹²³ the government should implement a specific GHG emissions threshold, above which all projects must be reviewed.¹²⁴

Recommendation: A second, higher threshold should be established for larger projects that require more comprehensive assessment, as is done in Washington State.¹²⁵

2) Tie a Project’s Expected GHG Emissions to BC’s Legislated Reduction Targets

Recommendation: Once a project falls above the threshold requiring an EA, it should be required to undergo stringent mitigation based on legislated emissions reduction targets.¹²⁶ These mitigation requirements must be directly tied to BC’s legislated emission reduction targets.

Until BC’s emission reduction targets begin to be seriously applied in assessment of individual projects, the targets will remain mostly theoretical. The Canadian CCEAC 2003 Guidelines specifically state that when targets are put in place, they should constitute the mitigation required of proponents and can serve as the thresholds or limits relevant to EAs. Legislated targets now exist in BC – thus, they should form an integral part of the EA process.¹²⁷

Washington, California and the US federal CEQ Draft Guidelines provide good examples of how emission reduction targets may be meaningfully linked to the assessment process.¹²⁸ Climate

¹²³ *Reviewable Projects Regulation*, BC Reg 59/2012.

¹²⁴ This is recommended as a practical interim reform. Eventually government should move to a more comprehensive approach, requiring an automatic trigger for any project found not to be a transformational project contributing to a transition to a zero emissions future. This would mean that projects that are not carbon neutral would have to undergo an environmental assessment.

¹²⁵ This is described in the *WDE Guidance for SEPA*, *supra* note 61 at 4-5.

¹²⁶ And potentially intensity targets.

¹²⁷ Further, the current BC EA process includes valued components (see footnote 56 for a definition), which is a framework that lends itself well to considering climate impacts – and indeed was used by the LNG Canada Export Terminal Project to consider climate.

¹²⁸ For example, see *CEQ Draft Guidelines*, *supra* note 72 at 6; *WDE Guidance for SEPA*, *supra* note 61 at 6; and the discussion of how California applies targets in environmental assessments, above.

test requirements should only be considered fulfilled after the proposed project has demonstrated that it will not impair the province's ability to meet its GHG emissions reduction targets.

3) Examine Full Life Cycle Emissions

It is simply unacceptable that Washington State carefully examines coal export projects to determine the amount of GHGs that the coal will eventually release when burned in China – while BC continues to ignore how burning our coal will affect global climate. Currently, most BC EAs limit themselves to considering the GHG emissions expected during project construction, operation and decommissioning. Often, they do not include the project's much more significant upstream or downstream emissions. In the case of proposed oil pipeline projects, for example, BC EAs may not include the increased extraction upstream in the Alberta oilsands or the combustion downstream in cars in Asia – both part of the project's life cycle and contribution to global GHG emissions.

This must change. The approach of considering both upstream and downstream emissions, as found in the US federal CEQ Draft Guidelines and several states, should be followed.¹²⁹

Recommendation: Environmental Assessments should be required to consider full life cycle GHG emissions directly and indirectly caused by the project -- including upstream and downstream emissions.

4) Consider Alternatives to the Project and a “Zero Option”

Recommendation: Environmental Assessments should be required to consider alternatives to the proposed project and a “zero option” (the scenario without the project at all).

For example, such an approach is outlined in the EU's EIA Guidance Document.¹³⁰ This approach assists in establishing an emissions baseline as well as mitigation ideas. It is important that strong language and direction is included around alternative analyses and a zero option.

¹²⁹ Scoping determinations should be project dependent and allow for some discretion, but pre-defined categories of emissions are helpful to ensure that an analysis considers a sufficiently broad scope of emissions. See the *CEQ Draft Guidelines*, *supra* note 72.

¹³⁰ This is described in *European Commission Guidance Document*, *supra* note 80 at 17.

5) Clearly Define “Significance” from a Climate Perspective

Recommendation: Legislation should clearly define what level of GHG emissions release is “significant” for the purposes of assessing, regulating or rejecting projects.

The guidance and policy documents from other jurisdictions that are discussed above do not simply determine whether GHG emissions of a project will be significant or “not significant” from a climate perspective – they measure projects against a variety of metrics, including emissions targets, intensity targets and the social cost of carbon. Existing emissions targets should be used and an accounting system should be devised that considers the Province’s current emissions, along with the expected emissions of projects that are currently undergoing EAs – and compares this to the Province’s reduction targets.

In setting targets and policies, government must keep in mind that the ultimate goal is to transition to a carbon neutral future – and that GHG reduction goals must steadily become more stringent. This is reflected in the recent G7 agreement to cut carbon emissions deeply by 2050 and to completely eliminate fossil fuels by the end of the century.¹³¹ Therefore, government must establish robust policies and rules that are consistent with that long-term vision.

6) Set a General Rule to Mitigate GHGs

Recommendation: Regardless of thresholds and other requirements, all projects that proceed should be required to mitigate GHGs to the maximum practicable.

¹³¹ CBC News “Prime Minister Stephen Harper agrees to G7 ‘decarbonization’ by 2100” (8 June 2015), online: <<http://www.cbc.ca/news/politics/prime-minister-stephen-harper-agrees-to-g7-decarbonization-by-2100-1.3104459>>.

A Final Note on Economic Issues

It is important to note that there are compelling economic reasons to apply a comprehensive climate test. A growing body of research questions whether the fiscal policy of investing in long-term fossil fuel infrastructure is actually sound, because the carbon economy may well founder. If G7 countries follow through on current commitments, the carbon economy will no longer exist by the end of the century – and likely much sooner. A number of eminent experts are now warning that the “carbon bubble” could collapse as global climate laws strengthen and fossil fuel demand falters – all in the face of new scientific evidence that 80% of all known fossil fuel reserves¹³² must not be extracted if the earth is to avoid a warming of 2°C and runaway climate change.¹³³

For example, a 2013 HSBC report found that fossil fuel companies might lose up to 60% of their value due to future actions to reduce carbon emissions.¹³⁴ Recently, Bank of England governor, Mark Carney, joined other experts in publicly lending his support to the “carbon bubble” theory.¹³⁵ Others have warned that companies left with carbon assets “stranded” in the ground could experience large reductions in company value.¹³⁶

The World Energy International Outlook’s 2014 Special Report highlighted the problem:

Carbon pricing gives rise to a set of commodity risks that are dependent on political decisions. Any new fossil fuel investment has a 20 to 30-year horizon during which

¹³² Carbon Tracker Initiative, *Unburnable Carbon – Are the World’s Financial Markets Carrying a Carbon Bubble?* (March 2012), at 2, online: Carbon Tracker <<http://www.carbontracker.org/wp-content/uploads/2014/09/Unburnable-Carbon-Full-rev2-1.pdf>>.

¹³³ Conference of the Parties, *Draft Decision -/CP.15 Proposal by the President Copenhagen Accord*, FCCC/CP/2009/L.7 (Copenhagen: 7-18 December 2009) at 1, online: UNFCCC <<http://unfccc.int/resource/docs/2009/cop15/eng/107.pdf>>. An article published in *Nature* states that in Canada, 75% of oil, 24% of gas 82% percent of coals reserves must be left in the ground: Christopher McGlade & Paul Ekins, *The geographical distribution of fossil fuels unused when limiting global warming to 2 C* (8 January 2015), 517 *Nature* 187 at 189.

¹³⁴ HSBC Global Research, *Oil & Carbon Revisited: Value at Risk from “Unburnable” Reserves* (2013), at 1, online: Swarthmore College <<http://daily.swarthmore.edu/wp-content/uploads/2013/02/HSBCOilJan13.pdf>>.

¹³⁵ Jessica Shankleman, “Mark Carney: most fossil fuel reserves can’t be burned” *The Guardian* (13 October 2014), online: Guardian <<http://www.theguardian.com/environment/2014/oct/13/mark-carney-fossil-fuel-reserves-burned-carbon-bubble>>.

¹³⁶ Generation Foundation, *Stranded Carbon Assets: Why and How Carbon Risks Should be Incorporated in Investment Analysis* (30 October, 2013), at 21, online: GF <<http://genfound.org/media/pdf-generation-foundation-stranded-carbon-assets-v1.pdf>>.

*energy use and energy policy are likely to change considerably, with implications for different fuels and various parts of the value chain that are difficult to foresee.*¹³⁷

For this reason, not only would a climate test aid in reaching emission reduction goals, but it would allow government to adequately assess projects that may be economically unviable in the long-term – precisely because of the project’s unacceptable climate change impacts. Clearly, such impacts must be measured and considered if we are to make wise *economic* decisions. Thus, application of a comprehensive climate change test during environmental assessment could ensure more economically sound project development, with less risk to jobs in the long term.

¹³⁷ International Energy Agency, *Special Report: World Energy Investment Outlook* (2014) at 34, online: IEA <<http://www.iea.org/publications/freepublications/publication/weio2014.pdf>>.