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PICS Climate News Scan – 24 April 2012

[Produced by ISIS, Sauder School of Business, UBC](#)

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The PICS Climate News Scan is a weekly summary of the major climate-change related science, technology, and policy advances of direct relevance to the BC provincial and the Canadian federal governments and more generally to businesses and civil society. The News Scan focuses on cutting edge climate issues and solutions gathered by the fellows and faculty of [ISIS, a research centre at the Sauder School of Business](#), in partnership with the [Pacific Institute for Climate Solutions \(PICS\)](#). Access to some referenced articles may require a journal subscription or purchase of the article, and appropriate links are provided for this purpose. To be added to the News Scan distribution list or to provide content feedback and/or suggestions about interesting news items, please email picsscan@uvic.ca.

Complementing the News Scan is the [PICS Briefing Note Service](#). This service provides timely and concise analysis, as well as suggested policy action, on issues related broadly to BC climate change mitigation and adaptation.

Research Theme I: The low carbon emissions economy

Is natural gas better for the climate? It depends

April 9, 2012. A group of leading research institutions in the US has weighed in on the discussion about [whether natural gas is beneficial in mitigating against climate change](#). Natural gas is more beneficial than high carbon alternatives for both power plants and vehicles only if leakage rates are very low; gas that leaks into the atmosphere has 21 times more impact as a greenhouse gas than carbon dioxide (CO₂). Power plants should not have a leakage rate of more than 3.2% in order to beat coal-fired plants. For natural gas vehicles to be beneficial, the researchers find that leakage rates must be kept below 1.6%. The study also finds that, because the emissions data is highly uncertain, it is difficult to compare the climate benefits of natural gas to other fuels, which led the researchers to call for improved monitoring at each point in natural gas processing and better information on leakage figures.

A March 25 incident in Scotland has leaked approximately seven million cubic feet of natural gas from a North Sea platform into the atmosphere every day since, with [both local environmental and global climate impacts](#). The platform operator, French energy company Total SA, estimates that it may take half a year to shut the leak and, if all the methane released

reaches the atmosphere, the spill would equal the annual global warming impact of putting 300,000 new cars on the road. As BC [moves forward with its natural gas strategy](#) to turn the province into an exporter of climate-friendly natural gas, the findings in this study should be front of mind. The potential for leakage exists at each contact point during processing from natural gas extraction using fracking techniques and transportation through the Northern Gateway pipeline, to liquefaction in Kitimat and shipping from BC shores. It's also important to keep in mind the post-delivery contact points on the customer end. In addition, the liquefaction process will require considerable new power resources, although the government has stated that it will secure this power from renewable sources.

Research Theme II: Sustainable communities

American urban planners focus on building sustainable communities

April 15, 2012. Climate change was front and centre at the recent [American Planning Association Annual Conference](#), held this year in Los Angeles. The University of Victoria's Andrew Weaver gave the opening keynote, urging planners to [build infrastructure for decarbonized societies](#). The Dutch Ambassador to the US gave the closing keynote on [planning decisions to deal with rising seas](#). The session on "[Tactical Urbanism](#)" was standing-room-only, as frustrated citizens were encouraged to bypass local government planners and act themselves to make their communities more friendly to transit. Summarizing the conference, one senior commentator noted that [change was the only constant](#), concluding that planners had to focus on building resilient and varied communities that can adapt to a range of future scenarios.

As municipalities across British Columbia work to convert their car-dependent, single-use neighborhoods to walkable, compact communities, the themes and work presented at this conference could not be more relevant. Across the province, almost all municipalities have signed the [Climate Action Charter](#) in which they commit to "creating complete, compact, more energy efficient rural and urban communities, through a built environment that supports a reduction in car dependency and energy use". In Metro Vancouver, despite the recent [uncertainties over transit funding](#), [freeway expansion](#) and [new mall construction](#), the region's [2040 Growth Strategy](#) includes goals that are consistent with the themes of the conference, such as compact, complete communities that make active transportation the easiest choice.

Research Theme III: Resilient ecosystems

Corals used to temperature swings are more likely to survive warming oceans

April 13, 2013. New research reveals that [corals accustomed to frequent swings in temperature are more likely to survive the warming of the world's oceans](#), making them a focus for conservation efforts as the globe warms. Coral bleaching, often the result of high water temperatures causing corals to lose their colour and die, is expected to increase as surface ocean temperatures in the tropics are forecast to rise one to three degrees by the end of the century. The study found that corals called Porites were more likely to survive if located in areas that normally experienced frequent temperature changes due to the effects of El Niño, the temperature anomaly that forms in the Pacific Ocean every three to seven years. The

researchers were able to gather information about the corals' growth over time by drilling cores into them, an exercise similar to that of studying the rings of a tree. The next step for the researchers is to determine exactly what makes these specific corals better able to survive the warming waters.

This new research is intended to help guide authorities on which reefs to protect. Researchers say the bias in conservation is often to protect the most pristine, undisturbed places, but these new results lead practitioners to believe that this strategy may be wrong. By the end of the century, it might be the hardy and often less interesting reefs that are most likely to survive. [BC has 148 provincially designated marine protected areas \(MPAs\)](#), including 128 parks and protected areas and 20 ecological reserves. Combined with federal MPAs, they result in the protection of 0.7% of the province's waters out to the [Exclusive Economic Zone \(EEZ\)](#), 5.38% of BC's waters less than 1,000 m deeps, and 21% of the province's shoreline. The lessons from this study and their applicability to local waters should be considered when the provinces MPAs are next up for review.

Research Theme IV: Social mobilization

Climate change and health; a moral imperative

April 18, 2012. [A recent report by professional health care providers](#) in the US points to the moral and professional responsibility that the industry has in promoting solutions to climate change and caring for the victims. The authors predict a number of adverse health effects that will result from climate change and rising temperatures in some parts of the world. It is expected that an additional one billion people will become susceptible to malaria as temperatures rise, and many more will suffer the effects of pollution (premature deaths, poor birth outcomes, respiratory illnesses). The report concludes with recommendations for health care providers: decrease energy usage and waste, source locally, support victims, and advocate for policies and legislation that improve our efforts at curbing climate change.

British Columbians will not be immune to [adverse health impacts from climate change](#). Increasing natural disasters, pollution, and diseases are likely to affect communities throughout the province, with children, seniors, and rural populations hardest hit. BC health authorities have undertaken a variety of initiatives to promote improved energy use and reduced carbon emissions. A recent [report by the Provincial Health Services Authority](#) outlines actions for local, sustainable food options, and [programs such as 'Cut the Carbon Community'](#) are gathering support and inspiring health care workers to take action. More broadly, health and the environment are intimately linked; [health outcomes for people, notably children, are improved](#) through interaction with the outdoors and nature.

Research Theme V: Carbon management in BC forests

Urban trees provide economic value

April 9, 2012. A [study](#) from Tennessee suggests that urban trees provide \$683 million per year in economic value. Conducted by the United States Forest Service (USFS), the [research](#) found 284 million urban trees provide \$2.25 in value per tree per year. Most of the value is from

stored carbon, generating \$20.70 per ton per year or a total of \$350 million in value. The trees also provide air and water filtration at a rate of \$204 million per year by removing ozone, sulfur dioxide, and other pollutants from the atmosphere, as well as help reduce energy costs by \$66 million a year by offering shade in warmer months. The aesthetic value of the trees was not quantified, suggesting that the overall benefits from urban trees are even larger. Other [research](#) by the USFS has found that urban trees are under threat. Four million urban trees are [lost annually](#) in the US, with 17 of the 20 cities analyzed losing tree cover. Pestilence, climate change, and urban sprawl all contribute to the losses.

The state of urban forests in BC and Canada is not well understood. Similar studies do not exist and there is little pressure to change this, perhaps due to the enormity of Canada's wild forests. However, there is momentum to improve our understanding and there are tools to help. The upcoming [Canadian Urban Forest Conference](#) will focus on the importance and value of Canada's urban forests with the host city, London, Ontario, having recently completed a [study](#) of its urban trees. Using an open-source tool developed by the USFS, [i-Trees](#), London used satellite and aerial imagery to calculate tree cover in urban areas. This provides an opportunity to translate inventory data into an economic valuation. The importance of measuring and valuing urban trees is clear. Each year, [19% of deforestation](#) in Canada is caused by urban development, second only to agriculture as a driver of deforestation. Given the huge value of trees in Tennessee, the economic cost of this loss is likely significant.

Also in the news

[Beyond boom and bust: Putting clean tech on a path to subsidy independence, from the Brookings Institute](#)

[Mexico joins UK with a pioneering climate law](#)

[Kinder Morgan to proceed with \\$5-billion Trans Mountain pipeline expansion to Burnaby](#)

[Kent unveils new rules to cut heavy-duty vehicle emissions](#)

[All over the map 2012: Comparison of provincial climate change plans](#)

[US tops global clean energy investment rankings](#)

[UK invests £60 million in climate research centre](#)

[Inventory report confirms oil-and-gas pollution rising](#)

[Arctic oil rush will ruin ecosystem, warns Lloyd's of London](#)

[Food supplies threatened by fungus epidemics](#)

[Subtly selling 'green' to the flat-screen crowd](#)

[Climate control: Tiny switches, big effects](#)

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[Regulating Carbon in Canada: The impact of the federal government's proposed electricity coal performance standards](#)

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