

FOS MEMBERSHIP QUARTERLY NEWSLETTER
No. 51

“FoS is dedicated to providing the public with insight into Climate Science”

PRESIDENT’S MESSAGE

Friends of Science Society has many projects on the go that you may not be aware of and we have not always reached out to our members to participate. We need your human power now. We have not been an activist organization until now, but **we need you to use our information to help Albertans, Canadians and those in other countries make informed choices on climate policy.**

We need your help in communicating your views to your MLA, MP, the Premier and the Prime Minister in Canada or your local government officials where you live. We ask you to reach out to **five** friends and invite them to join Friends of Science Society. Why should they join? Show them. Explain.

Friends of Science Society is one of the few, **perhaps the only, organization** that is conducting critical reviews of climate change policies – putting a price tag and evaluating consequences on policy, **and publicly objecting with facts and figures.**

We are acting on behalf of Albertans, Canadians and our members worldwide – not industry.

Alberta Coal phase-out:

Since 2013 we have issued a number of reports, articles, press releases and videos questioning the claims of Pembina Institute. Our new report, denouncing Pembina’s latest call for accelerated phase-out that **demonstrates Alberta Health Services own statistics do not support the health-coal claims made by anti-coal activists.**

This issue is crucial because the cost of coal phase-out will be more than \$22 billion and ultimately Alberta could face blackouts in the near future as coal capacity is shut down early when the carbon tax kicks in, but no new natural gas plants are on the horizon as investor confidence in Alberta is low.

We fact checked the Alberta government’s claim on coal phase-out and find they are **not supported by the evidence.** Watch our YouTube video: <https://youtu.be/P79vogLQvGs>

Alberta Utilities Commission – Jenner Wind Farm intervention

Friends of Science Society filed a statement requesting standing to intervene on the Jenner Wind Farm, a project of Power Renewable Energy Corporation out of Quebec. We have been denied standing on the grounds that this wind farm would not directly affect us.

We believe the matter of adding wind and solar and other renewables to the power system in Alberta has not been properly debated in the public and we believe the AUC is the right forum for a hearing as they claim on their web-site that: *“The AUC is responsible to ensure that the delivery of Alberta’s utility service takes place in a manner that is fair, responsible and in the public interest.”* and that public participation in the process is invited.

Our letter can be downloaded from the AUC site – **Jenner Wind Farm Jenner Wind Power Project and Interconnection (“Project”) Proceeding 21394.** As this wind farm is the start of many such projects financed from out of province, we believe we have to question the value to Albertans in light of other jurisdictions like Ontario, the UK and EU suffering drop in grid reliability, surge in power prices and heat-or-eat poverty for the public, with little or no reduction in emissions.

Ask your elected members to demonstrate how this and other such projects will benefit Albertans – especially in light of Hon. Shannon Phillips, Environment Minister stating that “We know renewables

lower the prices for consumers.” The evidence from many countries shows that increasing renewable's capacity dramatically increases energy prices.

If any of our members have expertise in AUC related processes and can help, please contact us. We are also looking for people with legal expertise to help us review relevant legislation and find precedents.

Alberta Climate Plan and Carbon Tax – A Burden with no Benefit:

Ken Gregory has done an excellent job of assessing the dubious benefits of the Alberta Climate Plan and carbon tax, finding that warming would be reduced, perhaps, by only 0.00007 by 2030. We have his reports and more resources on our blog:

<https://friendsofsciencecalgary.wordpress.com/2016/08/10/albertas-climate-plan-carbon-tax/>

Please share them with friends and family. We have a number of items ranging from simple to very technical depending on the audience. We can also do presentations at service clubs or restaurants via “Meet-up” groups – just let us know. Or share this clip:

<https://youtu.be/xfE1xRj7aEQ>

All of our billboards are on our blog – you can download and print a small copy and take a picture of yourself (with or without sunglasses) and post your statement everywhere on the web. (There are different versions in each city, review them all and see what message suits you!) The billboards are excellent for tweeting.

Edmonton campaign:

<https://friendsofsciencecalgary.wordpress.com/2015/11/11/courting-controversy-our-new-edmonton-billboard-campaign-complain-here-please/>

Calgary campaign:

<https://friendsofsciencecalgary.wordpress.com/2015/11/18/calgary-climate-change-billboard-campaign-lights-up-and-papers-the-city/>

Please share our information on your Facebook, twitter, Instagram or tumblr pages.

ClimateChange101.ca #JointheDebate #Joinezledebat

Bi-lingual, plain language climate science and policy! Our new website is up and running, along with the Facebook page and bilingual twitter feed. We are about to publicly launch, but you can Join the Debate today! <http://climatechange101.ca/>

Please follow and Share our blog – <https://friendsofsciencecalgary.wordpress.com/>

We have many excellent economic analyses here from energy economist Robert Lyman and much more.

Please follow and join the conversation on our main twitter feed: @FriendsOScience

Join the conversation on our Facebook page: <https://www.facebook.com/FoSClimateEd/>

See our many video clips on our YouTube Channel at <https://www.youtube.com/user/FriendsofScience>

Subscribe to our YouTube page so you will never miss a new video.

Major policy decisions will be made in the next few weeks and months. We need your help now.

Warren Blair
President, Friends of Science

POLITICAL DEVELOPMENTS

The Exxon Witch Hunt

In November 2015 *The New York Times* revealed¹ that New York State Attorney General Eric Schneiderman had begun an investigation of Exxon Mobil to determine whether the company had lied to the public about the risks of climate change or to investors about how such risks might hurt the oil business. On March 29,

2016 Mr. Schneiderman joined² Al Gore and others to announce a coalition (AGs United for Clean Power) bringing together attorneys general from 25 states, cities and councils. The coalition is "...committed to aggressively protecting and building upon the recent progress the United States has made in combatting climate change."

Also in March one of the AGs, Claude Walker of the US Virgin Islands, issued³ his own subpoena⁴ demanding that Exxon Mobil provide copies of correspondence with over 90 conservative and libertarian groups, such as Heritage Foundation, the Cato Institute, the Federalist Society, the Hoover Institution, the Reason Foundation, the Mercatus Institute, the Competitive Enterprise Institute (CEI) and "... other organizations engaged in research or advocacy concerning Climate Change or policies." Mr. Walker issued the subpoena under the USVI's *Criminally Influenced and Corrupt Organizations Act*. Specifically, his subpoena states: "Your knowledge of the likelihood that Your products and activities have contributed and are continuing to contribute to Climate Change in order to defraud the Government of the United States Virgin Islands and consumers in the Virgin Islands, in violation of ..."

Mr. Walker also subpoenaed⁵ the CEI demanding a decade's worth of communications, emails, statements, drafts, and other documents regarding CEI's work on climate change and energy policy, including private donor information. The CEI announced that it would vigorously fight to quash the subpoenas.

When deciding which organizations to target, Mr. Walker apparently had help⁶ from Greenpeace. Of the institutions listed in his subpoena, 69 are listed⁷ on Greenpeace's #ExxonSecrets website in the same order. Subsequently to the subpoenas came news⁸ about a January 8 closed-door meeting of prominent climate change activists and political operatives at the Rockefeller Family Fund in Manhattan. A copy of the meeting's agenda reveals⁹ its purpose:

- To establish in the public's mind that Exxon is a corrupt institution that has pushed humanity (and all creation) toward climate chaos and great harm.
- To delegitimize them as a political actor.
- To force officials to disassociate themselves from Exxon, their money, and their historic opposition to climate progress, for example by refusing campaign donations, refusing to take meetings, calling for a price on carbon, etc.
- To call into question the climate advantages of fracking, compared to coal.
- To drive divestment from Exxon.
- To drive Exxon & climate into the center of the 2016 election cycle.

After a rash of criticism over his CEI subpoena, including the CEI's full-page ad¹⁰ in the *New York Times*, Mr. Walker withdrew¹¹ his CEI subpoena in May, and in June he agreed to withdraw¹² his Exxon Mobil subpoena.

Republicans on the House Science, Space and Technology Committee, concerned¹³ about the AGs' campaign's impact on free speech and scientific inquiry sent letters¹⁴ to the AGs requesting information on a series of meetings and communications with climate change groups and activists from 2012 until the March 29 press conference. These letters refer to a "2012 Workshop to Explore Legal Avenues to Demonize the Fossil Fuel Industry" (to develop strategies to enlist attorneys general to secure documents) and the January 8 meeting at the Rockefeller Family Fund described above. As well, the committee members sent letters to eight leading environmental groups and foundations asking for communications on the coordinated legal strategy.

When the letter recipients refused to comply the committee's Chairman, Rep. Lamar Smith, issued subpoenas¹⁵ to the AGs of New York and Massachusetts, as well as the eight environmental organizations. When Mr. Schneiderman objected to the subpoena, Mr. Smith refuted¹⁶ the objections on August 23. The last news about the subpoenas was a three-hour committee hearing¹⁷ on September 14 with four law professors as witnesses, who testified whether or not the committee should try to enforce the subpoenas against state attorneys general.

On August 19 Mr. Schneiderman gave an interview¹⁸ with *The New York Times* in which he said the investigation will now focus less on the distant past and more on recent statements by Exxon Mobil and what it means for the company's future – in other words, less on what Exxon knew and more on what it predicts.

On August 31 *Watts Up With That* published¹⁹ a copy of a column from the *Wall Street Journal*, titled *How the Exxon Case Unraveled*, revealing the press's role in the affair. It appears that the "Exxon knew" claim began with investigative reports by *InsideClimate News* and the *Los Angeles Times*. Their efforts were partly underwritten by a Rockefeller family charity while Rockefeller and other non-profit groups were simultaneously stoking Mr. Schneiderman's investigation. The *Wall Street Journal* columnist concludes with: "There simply never was any self-evident contradiction between Exxon's private and public statements. In emphasizing the uncertainty inherent in climate models, Exxon was telling a truth whose only remarkable feature is that it continues to elude so many climate reporters."

Tear Up the Contracts

Ontario's power prices are soaring out of control, industry is leaving the province, and the Liberal government is panicking²⁰ over its re-election prospects. The cause is the ludicrously lucrative long-term contracts that the Ontario government signed with wind and solar energy developers, which condemn the province to many more years of economic hardship. However, there is a way out: rip up the contracts. Lawrence Solomon in the *National Post* makes²¹ three compelling cases:

- Economic – The promise of creating 50,000 jobs and boosting the Ontario economy to new heights is no longer heard as jobs flee the province and business confidence is at rock bottom.
- Environmental – The industrial wind turbines, relying on fossil fuel backup do little to reduce CO₂ emissions, but they disfigure the countryside and slaughter millions of birds and bats.
- Moral – Ontario's multi-billion "clean energy" industry has largely been a closed-door sector where 11 politically-favoured companies control 90% of the wind power market. They will pocket \$10 billion in government-mandated subsidies over the next two decades.

Then there's the legal case. Bruce Pardy, law professor at Queen's University, is the author²² of *Cancelling Contracts: The Power of Governments to Unilaterally Alter Agreements* that examines whether the Ontario government can cancel the power contracts. Some of his conclusions:

- Government contracts are not ironclad agreements because governments can cancel them by enacting legislation, and legislative supremacy is a central feature of the Canadian system of government.
- In Canada there is no constitutional right to compensation for expropriated property.
- Having the power to enact an end to a contract does not mean that legislatures should do so, because it erodes confidence in doing business with government. However, democratically elected governments require the ability to make unilateral changes to agreements made by previous governments.

There is one caveat regarding compensation: Under Section 11 of the *North American Free Trade Agreement*, any expropriation of investments made by US or Mexican companies would require²³ compensation "equivalent to fair market value." Presumably the cost of this would be less than the future government-mandated subsidies. However, if the contracts were amended to allow the wind and solar producers to continue to sell their output to the grid, though at market rates when the grid is able to accept it, this might not count as "expropriation."

As Mr. Solomon concludes, cancelling the contracts would immediately lower power rates for the province's citizens and industry. It would also discipline future governments and investors alike. The latter would be leery of participating in future politically motivated government programs that aren't fundamentally sound.

See the references [here](#).

Ian Cameron
Director, Friends of Science

SCIENCE NEWS

Coastal Land Area is Increasing Despite Sea Level Rise of 1.7 mm/yr

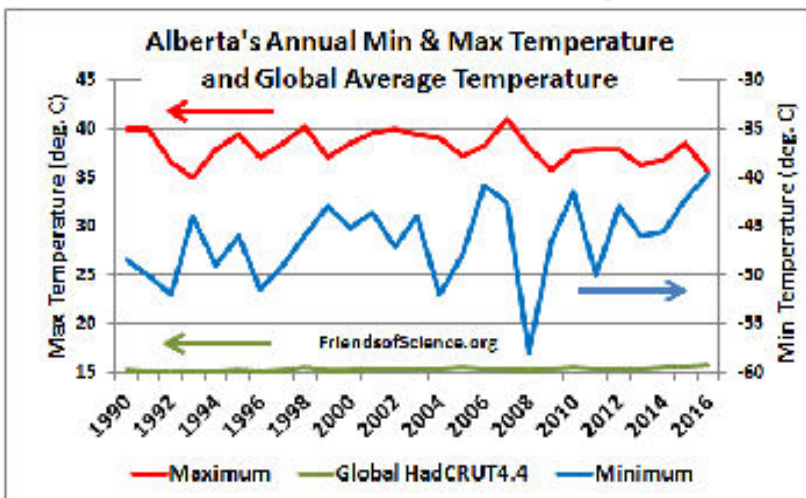
Sea Level rise is the most important cause of projected damages due to anthropogenic global warming. A paper published in *Geophysical Research Letters* in September 2016 shows that the sea level with respect to land has been rising at 1.7 mm/yr averaged over the 20th century using the longest and best quality tide gauges. This value is 0.1 mm/y greater than the simple average of the tide gauge measurements due to the non-uniform distribution of tide gauge locations. See the abstract [here](#). A paper published in *Nature Climate Change* in September 2016 shows that the net land area change at the ocean coasts from 1985 to 2015 was +13,565 km². Coastal land area declined by 20,135 km² along some coastlines but gained 33,700 km² along other coastlines. The world's sea coasts are growing, not shrinking due to sea level rise. "We expected that the coast would start to retreat due to sea level rise, but the most surprising thing is that the coasts are growing all over the world," said Dr Baart, one of the authors. The data was obtained through the Deltares Aqua Monitor, a tool that uses satellite images with a resolution of 30 m to detect changes in land and water area. See the abstract [here](#). See the monitor tool description [here](#).

Tree-ring Reconstruction of Maximum Temperatures in the Sichuan Plateau, China

A new tree-ring reconstruction of July-August maximum temperatures of the northwest Schuan Plateau (NWSP) in China over the period AD 1646 – 2013 identified seven major cold periods and three major warm periods. The Little Ice Age was represented by the cold periods 1670 – 1715 and 1815 – 1850 corresponding to the Maunder and Dalton minimums, but the start of the cold periods were delayed about 25 years from the start of the solar minimums. The correlation between solar activity and temperature "further confirmed that late summer temperature variation in the NWSP might be driven by solar activity." The authors write "the 17th and 19th centuries were cold with more extreme cold years, while the 18th and 20th centuries were warm with less extreme cold years. The 20th century warming was not very obvious in our reconstruction, which was in line with recent studies that global warming has occurred mainly in the minimum temperatures and at night in most regions of the Northern Hemisphere." The reconstruction is also tentatively related to Pacific Decadal Oscillation and the Atlantic Multi-decadal Oscillation. See the open access paper [here](#).

Alberta's Min and Max Temperature Extremes Compared to Global Average Temperatures

Albertans will be paying a comprehensive carbon (dioxide) tax in three months in order to protect us from imagined damages (ignoring benefits) of climate change. The graph below compiled from Environment Canada temperature data for Albert contrasts the change in the annual minimum and maximum temperatures in Alberta for the period 1990 to 2016 to the global average surface temperatures according to the HadCRUT4.4 dataset. The maximum temperatures in Alberta have been declining during the period at

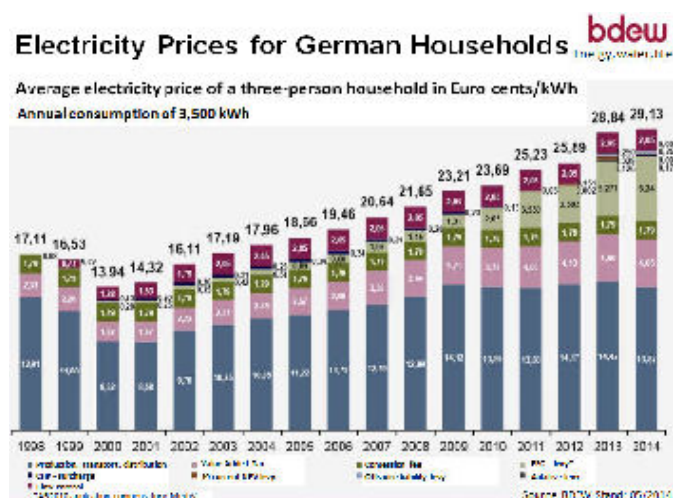


0.51 °C/decade. The minimum temperatures have been increasing, which is quite beneficial, and is due to the urban heat island effect and climate change in unknown proportion. Since 1990, Alberta's temperatures have varied from -58.1 °C to +41.0 °C, with the minimum extremes being more variable than the maximum extremes. The global temperatures as recorded in the HadCRUT4.4 dataset shows a maximum temperature change from 1992 to 2015 of 0.61 °C, which is 0.62% of the 99.1 °C temperature range in Alberta. (2016 is the average of 7 months, during a strong El Nino.) Click on the graph for a **larger size**.

Cement and Asphalt area near US Weather Stations Increases Significantly

A study published September 16, 2016 shows that the impervious surface area (ISA) around US weather stations as determined by satellite remote sensing has increased significantly during the decade 2000 to 2011. The area of cement and asphalt around weather stations contribute a large part of the urban heat island effect, as these surfaces retain heat absorbed during the day and release it during the night which increases the night-time low temperatures. The study found that over 34% of the stations have exhibited more than 20% increase in the ISA for at least 1% of the grid cells within a radius of 100 m from each station, and 9% of the stations have exhibited more than 20% increase in the ISA for at least 10% of the grid cells in the same area. Over 52 of the stations have exhibited more than 20% increase in the ISA for at least 1% of the grid cells within a radius of 1000 m from each station. See the abstract [here](#). Previous research shows that the warming trend from non-compliant stations (near structures or heat sources) are 56% more than trends from compliant stations, see [here](#).

Cost of Electricity from Conventional and New Wind and Solar



The cost of new wind and solar power is not only the cost of producing and installing these facilities, but also includes the costs that the intermittent and unreliable power imposes on conventional power plants, and the costs of electrical transmission lines. The effects of increasing reliance on wind and solar power is most evident in Germany where solar and wind power now supplies 14.3% and 8.1%, respectively, of total electricity generation. This has caused electricity prices to increase dramatically. This chart shows that the price of electricity in Germany has increased from 13.94 in 2008 to 29.13 €cents/kWh in 2014, which is a 109% increase in 4 years. Click on the chart for a **larger size**. Unfortunately, one of Germany's major power grid operators, Tennet, announced it will increase the power

grid fees by 80% on January 1, 2017. See [here](#). The Energy Research Institute has calculated the costs of electricity generation for various power sources, but unlike most sources, it includes costs that variable sources impose on conventional resources by reducing their utilization rates. The study found the cost of existing coal at \$39.9/MWh is about a third of the cost of wind power at \$107.4/MWh, and are about a quarter of the cost of solar power in the US of \$140.3/MWh. See [here](#). The cost of solar power in Germany and Canada would be much greater than in the US. The solar capacity factor (energy produced/energy at maximum capacity) is 15% for US, 6% for Canada and 11% for Germany.

Ken Gregory
Past Director, Friends of Science

DONATIONS

To accomplish our goal of educating the broader public and policy makers on the diversity of views on climate change, and the important natural factors, we need financial help from our members. Thank you for your help to date. **This debate matters, you are making a difference.**

Please continue to make donations to Friends of Science. We can be a voice for your climate change issues – and we thank all of you who have given us tips on the misinformation they see in the marketplace. Donations made directly to Friends of Science will help us bring in quality guest speakers, expand our media presence and create a platform for informed debate. To make a contribution at www.friendsofscience.org; click on DONATE in the upper right of the home page. Alternately, you can mail donations to Friends of Science at the following address:

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