OPENING REMARKS by Peter Salonius, SEPTEMBER 2, 2016 (2:00 PM) before the ***Select Committee on Climate Change***

Good afternoon

During 12 of the last 16 decades the global temperature was either flat (not increasing) OR cooling. Only during the 2 decades of the 1920s and 1930s AND the 2 decades of the 1980s and 1990s did the global temperature rise. The global warming of the 1920s and 1930s was **at the same rate** as the global warming of the 1980s and 1990s in spite of the fact that the atmospheric CO2 concentration was much lower in the 1920s and 1930s (about 300 PPMV) than the atmospheric concentration of CO2 in the 1980s and 1990s (335 rising to 365 PPMV). The so called "pause" in the rate of global warming during the last decade or so should more properly be referred to as a return to normal conditions. Obviously CO2 and other carbon containing greenhouse gases such as METHANE (whose atmospheric concentration changes mirror that of CO2) do not drive the global climate.

Furthermore, because the main cause of increased atmospheric carbon containing greenhouse gases -- is the increase in global temperature caused by natural drivers .... then even if all human emissions ceased the atmospheric concentration would continue to increase because the global temperature is now at a point where absorption of greenhouse gases (by oceans and land ecosystems) lags somewhat behind the natural rate of emissions.

The only avenue that would cause a decrease in atmospheric carbon containing greenhouse gas concentration --- would be a drastic decrease in the global temperature such as happens regularly during periods of glaciation.

BOTTOM LINE - The goal of attempting to decrease the atmospheric concentrations of carbon containing greenhouse gas by cutting human emissions in order to curb climate warming is --- futile and misguided.

When I applied for and was promised a time slot to make a presentation/appear before to the Select Committee on Climate Change - I was sent the discussion guide at: http://www2.gnb.ca/content/dam/gnb/Departments/env/pdf/Climate-Climatiques/BuildingAStrongerResponseToClimateChange.pdf

I offer the following comments regarding some of the statements in the discussion guide:

Page 2 -- Re: "**Climate change is the single most significant challenge of our generation**"

Salonius's response: In the face of exponential population growth that could not have been supported without the energy subsidy we have had access to in the form of non renewable, finite, and temporary supplies of geologically stored fossil fuels allowing a massive expansion of food production a population growth that has caused agricultural soil depletion, ocean fisheries collapse, health threats from urban air pollution, multiple wars over natural resource availability etc. **Climate change** is most certainly NOT **the single most significant challenge of our generation.**

Economics Professor Richard Tol stated recently that "There is vigorous debate about how much humans have contributed to climate change, but no one argues the effect is zero. By emitting greenhouse gases, changing the landscape, rerouting rivers, and huddling together in cities, we change the climate – perhaps by a little, perhaps by a lot – but not one expert doubts we do."

Page 3-- Re: "**The current level of greenhouse gas (GHG) emissions is expected to push global temperatures over this 2.0* C before the end of this century."**

Salonius's response: The expectation that **current level of greenhouse gas (GHG) emissions [will] push global temperatures over this 2.0* C before the end of this century** , is based on the PROJECTIONS of Global Climate Models that have never been validated and that assume carbon containing **greenhouse gas(s) (GHGs)** are the primary control knobs for the global climate. In spite of the US government spending over $40 billion since 1993 on what it calls climate science, precious little has gone into understanding the natural causes of climate change. Other governments, including our federal administration, have similarly devoted massive amounts of taxpayer's money to research human causes of climate change while refusing to entertain evidence that CURRENT EMISSIONS of carbon containing greenhouse gases MAY not be important climate drivers.

The discussion guide is full of statements based on the PROJECTIONS of Global Climate Models such as the following on Page 9: "**Climate models predict that, by 2100 New Brunswick's mean annual temperature will increase by as much as 5*C**". What I am suggesting here is that the ***Select Committee on Climate Change*** should convey to the New Brunswick government evidence that casts serious doubt concerning the usefulness of Global Climate Models.

Tremendous expenditures of taxpayer's money are being devoted to policies that are based on the PROJECTIONS of obviously flawed climate models of future climate warming as we read on Page 10: "**At the national level, the 2016 federal budget contains a Low-carbon Economy Fund that will provide $2 billion over two years, starting in 2017-18, to support provincial and territorial actions that materially reduce GHG emissions**." These expenditures are going forward even though NO THOROUGH examination of climate science OR open debate concerning new developments in climate science has occurred, while governments unquestioningly follow the IPCC's single minded and unproved hypothesis that human emissions

are driving climate change while paying no attention whatsoever to evidence showing natural phenomena such as solar variation are the primary drivers of changes in global temperature.

Here (below) are data showing that more than 30% of the total human contribution to increase in atmospheric carbon dioxide concentration has occurred during the last two decades.

Year	Law Dome*	Cumulative % of Emissions^	Year	Law Dome*	Cumulative % of Emissions^	Year	Law Dome*	Cumulative % of Emissions^	Year	Law Dome*	Cumulative % of Emissions^
	ppm	**%**		**ppm**	**%**		**ppm**	**%**		**ppm**	**%**
1751	277	0.0	1818	284	0.1	1884	291	1.5	1950	311	15.4
1752	277	0.0	1819	284	0.1	1885	291	1.6	1951	312	15.9
1753	277	0.0	1820	283	0.1	1886	291	1.7	1952	312	16.3
1754	277	0.0	1821	283	0.1	1887	292	1.7	1953	312	16.8
1755	277	0.0	1822	283	0.1	1888	292	1.8	1954	313	17.2
1756	277	0.0	1823	283	0.1	1889	293	1.9	1955	314	17.7
1757	277	0.0	1824	283	0.1	1890	293	2.0	1956	314	18.3
1758	277	0.0	1825	283	0.1	1891	294	2.1	1957	315	18.8
1759	277	0.0	1826	283	0.1	1892	294	2.2	1958	315	19.4
1760	277	0.0	1827	283	0.1	1893	295	2.3	1959	316	20.0
1761	277	0.0	1828	284	0.1	1894	295	2.4	1960	316	20.6
1762	277	0.0	1829	284	0.1	1895	296	2.5	1961	317	21.3
1763	277	0.0	1830	284	0.1	1896	296	2.6	1962	317	21.9
1764	277	0.0	1831	284	0.2	1897	296	2.7	1963	318	22.6
1765	277	0.0	1832	284	0.2	1898	296	2.8	1964	318	23.4
1766	277	0.0	1833	284	0.2	1899	296	2.9	1965	319	24.2
1767	277	0.0	1834	284	0.2	1900	296	3.0	1966	320	25.0
1768	277	0.0	1835	284	0.2	1901	296	3.2	1967	321	25.8
1769	277	0.0	1836	284	0.2	1902	296	3.3	1968	322	26.7
1770	277	0.0	1837	284	0.2	1903	297	3.5	1969	323	27.6
1771	277	0.0	1838	284	0.2	1904	297	3.6	1970	324	28.6
1772	278	0.0	1839	284	0.2	1905	297	3.8	1971	325	29.7
1773	278	0.0	1840	284	0.2	1906	298	4.0	1972	326	30.8
1774	278	0.0	1841	284	0.2	1907	298	4.2	1973	327	31.9
1775	278	0.0	1842	285	0.2	1908	299	4.3	1974	329	33.0
1776	278	0.0	1843	285	0.2	1909	299	4.5	1975	330	34.2
1777	278	0.0	1844	286	0.3	1910	299	4.7	1976	331	35.4
1778	278	0.0	1845	286	0.3	1911	300	4.9	1977	332	36.6
1779	278	0.0	1846	286	0.3	1912	300	5.2	1978	333	37.9
1780	278	0.0	1847	287	0.3	1913	300	5.4	1979	335	39.2
1781	278	0.0	1848	287	0.3	1914	301	5.6	1980	336	40.5
1782	278	0.0	1849	287	0.3	1915	301	5.8	1981	337	41.8
1783	278	0.0	1850	287	0.3	1916	302	6.0	1982	339	43.1
1784	278	0.0	1851	287	0.3	1917	302	6.3	1983	340	44.3
1785	279	0.0	1852	287	0.4	1918	303	6.5	1984	342	45.6
1786	279	0.0	1853	287	0.4	1919	303	6.7	1985	343	47.0
1787	279	0.0	1854	287	0.4	1920	303	6.9	1986	345	48.4
1788	279	0.0	1855	286	0.4	1921	304	7.1	1987	346	49.8
1789	280	0.0	1856	286	0.4	1922	304	7.3	1988	348	51.3
1790	280	0.0	1857	286	0.4	1923	304	7.6	1989	349	52.8
1791	280	0.0	1858	286	0.5	1924	304	7.8	1990	351	54.3
1792	281	0.0	1859	286	0.5	1925	305	8.1	1991	352	55.8

1793	281	0.0	1860	286	0.5	1926	305	8.3	1992	354	57.4
1794	281	0.0	1861	286	0.5	1927	305	8.6	1993	355	58.9
1795	281	0.0	1862	286	0.5	1928	306	8.8	1994	356	60.4
1796	282	0.0	1863	286	0.6	1929	306	9.1	1995	358	62.0
1797	282	0.0	1864	286	0.6	1930	307	9.4	1996	360	63.7
1798	282	0.0	1865	286	0.6	1931	307	9.6	1997	361	65.3
1799	282	0.1	1866	287	0.7	1932	307	9.8	1998	363	66.9
1800	283	0.1	1867	287	0.7	1933	308	10.0	1999	365	68.6
1801	283	0.1	1868	287	0.7	1934	308	10.3	2000	367	70.2
1802	283	0.1	1869	288	0.8	1935	308	10.5	2001	369	72.0
1803	283	0.1	1870	288	0.8	1936	309	10.8	2002	371	73.7
1804	283	0.1	1871	288	0.8	1937	309	11.1	2003	373	75.5
1805	284	0.1	1872	289	0.9	1938	310	11.4	2004	375	77.4
1806	284	0.1	1873	289	0.9	1939	310	11.7	2005	377	79.4
1807	284	0.1	1874	289	1.0	1940	311	12.0	2006	379	81.5
1808	284	0.1	1875	290	1.0	1941	311	12.3	2007	381	83.6
1809	284	0.1	1876	290	1.1	1942	311	12.7	2008	383	85.8
1810	284	0.1	1877	290	1.1	1943	311	13.0	2009	384	88.0
1811	284	0.1	1878	290	1.2	1944	311	13.4	2010	387	90.3
1812	284	0.1	1879	290	1.2	1945	311	13.6	2011	389	92.6
1813	284	0.1	1880	290	1.3	1946	311	14.0	2012	391	95.0
1814	284	0.1	1881	290	1.3	1947	311	14.3	2013	394	97.5
1815	284	0.1	1882	290	1.4	1948	311	14.7	2014	396	100.0
1816	284	0.1	1883	290	1.5	1949	311	15.0			
1817	284	0.1									

* The CO2 level at Law Dome in ppm to 2004 (when the series ends), then the CO2 level at Mauna Loa (which begins in 1959) less 2.85 ppm (the average difference between Maunu Loa and Law Dome for 1995 – 2004, from 2005 on).

^ From the Carbon Dioxide Information Analysis Center (CDIAC), in the US Department of Energy (DOE), who give total estimated human emissions from fossil fuel consumption and cement production (does not include land clearing, which is likely less than 10% of the CDIAC emissions).

The advancing ice sheets increase the Earth's albedo, reflecting sunlight and resisting natural cyclic warming. As the ice sheets grow and the seas cool, **CO2 in the atmosphere reduces as it is absorbed by the oceans**. Most plants suffer severe stress at 190 ppm CO2 and die at 150 ppm, because CO2 is a primary plant-food. The concentration finally reaches the critical 190 ppm level where world flora begins to die and the Gobi steppe-lands turn into a true sand desert. The ensuing dust storms dump thousands of tonnes of dust onto the northern ice sheets each year. Ice core data shows that every interglacial warming period is preceded by about 10,000 years of intense dust storms. The dust on the ice absorbs solar radiation. When the next natural warming (or Great Summer) comes along, the dusty polar ice sheets can warm and melt and the next interglacial is born. Low concentrations of CO2 near the end of an ice age causes a die-off of plants leading to dust storms, reducing the ice sheet albedo, resulting in warming and the initiation of the next interglacial period.....
see: http://www.sciencedirect.com/science/article/pii/S1674987116300305

While efforts (based on Global Climate Models that have attributed climate warming exclusively to carbon containing greenhouse gases) have been made especially by the Obama administration in the US to brand Carbon Dioxide as a "pollutant"-- this gas is an essential plant nutrient whose increasing concentration in the atmosphere (from human and natural sources) has increased the productivity of plants world wide and been responsible for much of the increasing agricultural and forest growth we have seen in recent decades.

Quoting: "**The greening over the past 33 years is equivalent to adding a green continent about two-times the size of mainland USA (18 million km2**)". The news release with a greening map is accessible using the following link..... see:
http://www.nature.com/nclimate/journal/vaop/ncurrent/full/nclimate3004.html

I offer examples of scientific evidence /documentation - showing that there has been no significant climate warming during the last two decades in spite of the fact that more than 30% of total carbon dioxide increases in the atmosphere (from human emissions AND natural sources) have occurred during this period, and that there is very little relationship between CURRENT carbon containing GHG emissions and the global climate.

The weight of analytical evidence is mounting-- against the decades-old climate scare promulgated by the massively taxpayer financed Intergovernmental Panel on Climate Change (IPCC) backed by Global Climate Models that do not match climate observations.

Meanwhile we do not see a recognition of the wrongheadedness of the very expensive (and ineffective) initiatives designed by governments to lower carbon containing greenhouse gas emissions by governments.

The disastrous consequences of governments instituting initiatives designed to lower carbon containing greenhouse gas emissions to avoid the imagined and model projected specter of catastrophic global warming is most obvious in the cases of the UK and Germany where the cost of financial incentives /subsidies for solar, wind and biomass generation have caused considerable hardship for domestic power customers and the actual closure of large companies that have found themselves uncompetitive in the global market due to the skyrocketing cost of electricity.

Unfortunately Canadian federal and provincial governments persist in parroting the [*now obviously failed*] hypothesis that attributes climate change to human emissions of carbon containing greenhouse gases while putting in place policies and regulations in regard to the climate issue that have moved us away from a market driven energy economy in favour of a centrally planned, command and control energy economy..... see expert analysis at:

The Battle Against Global Warming: An Absurd, Costly and Pointless Crusade
French scientists of the Paris-based Mathematical Calculation Society, SA have published a 195-page white paper with the above title. Some quotes from the paper: “There is not a single fact, figure or observation that leads us to conclude that the world‘s climate is in any way disturbed. It is variable, as it has always been, but rather less so now than during certain periods or geological eras.” “Rising sea levels are a normal phenomenon linked to upthrust buoyancy; they are nothing to do with so-called global warming. As for extreme weather events – they are no more frequent now than they have been in the past.” “We are fighting for a cause (reducing

CO2 emissions) that serves absolutely no purpose, in which we alone believe, and which we can do nothing about. You would probably have to go quite a long way back in human history to find such a mad obsession."..... read the report at:
http://www.scmsa.eu/archives/SCM_RC_2015_08_24_EN.pdf

Indeed, regarding the statement in the report above that climate has always been variable "**but rather less so now than during certain periods or geological eras."** --- it is well documented that the Earth has experienced severe glaciation every 100,000 years for at least the last 800,000 years and that during the last glaciation that ended about 30,000 years ago, New Brunswick was covered by over a kilometer of ice. It would take a great leap of faith to believe that another severe glaciation cycle will not return. During this 800,000 year period global warming, as demonstrated by Antarctic ice core analysis, always preceded the increase in atmospheric concentrations of carbon containing greenhouse gases ---- showing that increases in atmospheric concentrations of carbon containing greenhouse gases ARE CAUSED by warming as ocean water (by dissolution) and land based ecosystems (by increased biological decomposition) outgas as a result of naturally increasing temperature events.

In the face of these massive repeated glaciations -- the very moderate 1*C climate warming that has occurred since the end of the Little Ice Age in the late 1850s -- global climate warming can not be seen as a **significant challenge of our generation**.

The following graph, extracted from the link https://wattsupwiththat.com/2016/06/22/climate-and-human-civilization-for-the-past-4000-years/ - using temperatures recorded in the Greenland ice sheet representing the last 3000 years - puts global warming since the end of the Little Ice Age in the context of global warming periods of similar magnitude to that which we are now experiencing that have occurred during the last few thousand years when warm periods such as last one in the Medieval (between 500 and 1000 AD) were associated with considerable human progress and well being while cold periods were associated with human suffering, crop failure and starvation.

Yet another graphical representation (below) demonstrates the considerable natural variability of temperatures stored in Greenland ice during the last 1200 years. Clearly, the warming of the climate since the end of the Little Ice Age that the discussion guide identifies as "**the single most significant challenge of our generation**" has many historical precedents and is a concern that has been overblown by (now widespread) worry about model projected Catastrophic Anthropogenic Global Warming.

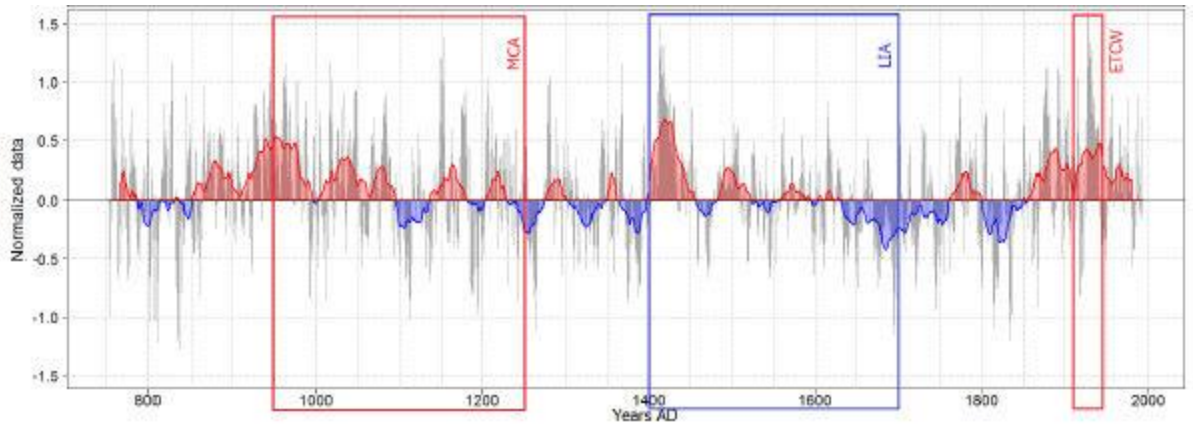


Figure 6. Annual stacked $\delta^{18}O$ (grey) and smoothed record (30 year running mean). Values more enriched compared to the mean (1953–1505 AD) are red, values less enriched are shown in blue. Known climate anomalies are marked: medieval Climate Anomaly (MCA, 950–1250 AD, Mann et al., 2009), the Little Ice Age (LIA, 1400–1700 AD, Mann et al., 2009), Early Twentieth Century Warming (ETCW, 1920–1940) (Semenov and Latif, 2012; Wood and Overland, 2010). At top of the figure the standard deviation (SD, gray: annual values, black: 30 year running mean) of all times and the number of cores used for the stack is given.

Why is **1°C of global warming** since the end of the Little Ice Age thought of as a **problem** when we humans have lived through large temperature swings in the past without any great disruption? Again history shows that warm periods were associated with human progress and prosperity while cold periods were associated with privation.

The following very short article will introduce you to the importance of the sun as the primary driver of the global climate.. see: http://www.sott.net/article/300316-Solar-activity-is-declining-what-to-expect

During my reading of climate science - the best relationship I have found to temperature variations is associated with variations in the length of the solar cycles -- with longer cycles being followed by colder temperatures.

An important published paper regarding the relationship of ***sunspot cycle length*** to temperature for over 100 years of observations in Ireland is as follows: Max and Min Temp and Sunspot Cycle - Armagh Observatory***climate***.*arm.ac.uk/publications/484.pdf*

... AND THE **LENGTH** OF THE **SUNSPOT CYCLE** C.J. **BUTLER** ... the Earth's **climate** is influenced by **solar**... and the **sunspot cycle length**

---- there are many other papers concerning the relationship of ***sunspot cycle length*** to temperature.

Climate change is a scientific issue that has been corrupted by the massive government funding that supports the IPCC and the decades old 'groupthink' associated with the hypothesis that climate change is primarily influenced by human emissions of carbon containing greenhouse gas emissions.

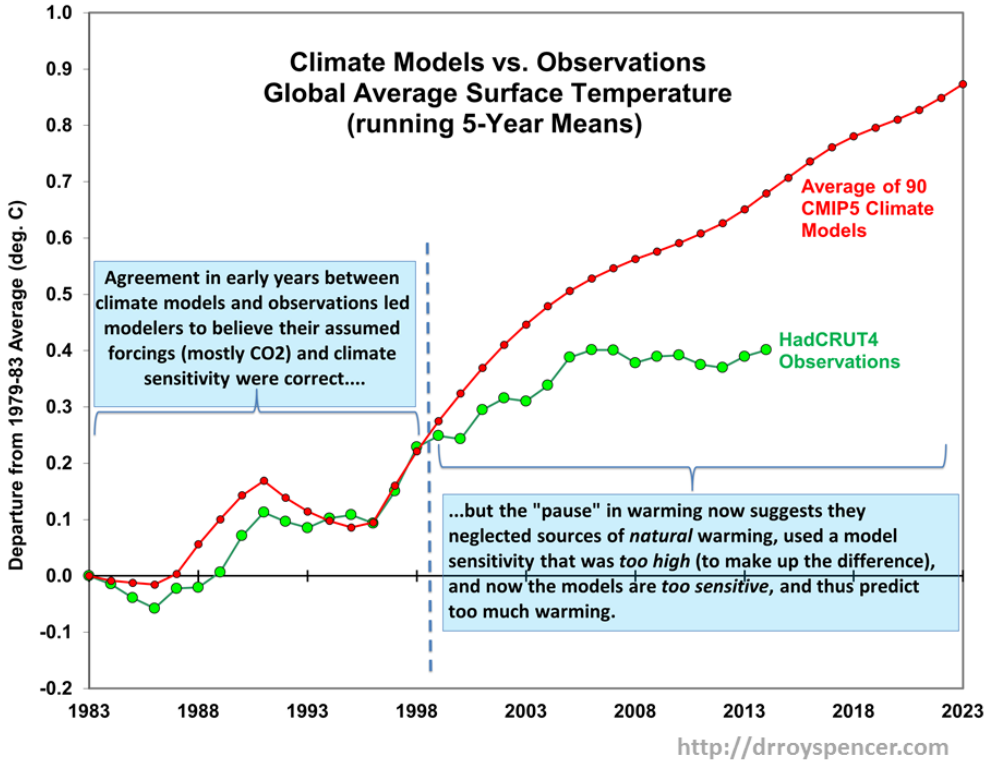
Most people on Earth appear to have taken as gospel the opinion of the Intergovernmental Panel on Climate Change (IPCC) and the projection by the Global Climate Models (GCMs) associated with the IPCC ---- that we risk catastrophic global warming due to CURRENT and FUTURE carbon emissions resulting from the burning of fossil fuels.

I suggest that most of the people on planet (including politicians and policy makers) have been misinformed by a massively taxpayer financed. so-called scientific body (the IPCC) whose mandate has from the outset been to **only** study 'human caused climate change'. This so-called scientific body (IPCC) has refused to entertain evidence that climate change is a phenomenon driven by natural forces such as solar variation.

The following URL is a comprehensive climate data update that Dr. Humlum issues monthly. I trust you will you will find in the collection of graphs, an indication that **increases in atmospheric concentrations of CO2** are always preceded by an increase in temperature**.....** see: http://www.climate4you.com/Text/Climate4you_April_2015.pdf

----- so that the assumption of the IPCC and its associated Global Climate Models (GMCs) -- that CURRENT carbon containing greenhouse gas emissions are the control knob for the global climate -- appears to be in serious error.

..... the GMCs can not even match the actual climate OBSERVATIONS of the last two decades ..... do inspect the graph provided here:



In case you wish to examine climate science that flies in the face of IPCC prognostications and the PROJECTIONS of the models associated with the IPCC ..... you can access a fairly thorough short course at: <www.friendsofscience.org> (CLIMATE SCIENCE SECTION).

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Finally the ability of CURRENT 'carbon' additions into the atmosphere to drive CURRENT global temperature decreases exponentially as atmospheric concentration goes up because it's ability to drive the global temperature becomes more and more saturated. See the paper '***The Effect of a Doubling of the Concentration of CO2 in the Atmosphere as Depicted by Quantum Physics***' at:
http://www.searchanddiscovery.com/pdfz/abstracts/pdf/2014/90172cspg/abstracts/ndx_kalman.pdf.html

.....to assess the ***the basic physics***, which are also well explained in the following link see:
http://www.friendsofscience.org/index.php?id=681#Introduction

- in the Introduction to the FoS 'Science Essay' --- where the saturation of both the ability of CO2 and methane preclude any major effect on climate by further increases in the atmospheric concentration of these two greenhouse gases.

I do hope this material helps the Select ***Committee on Climate Change*** understand the influence of CURRENT human carbon containing greenhouse gas emissions on the CURRENT global climate ---- this information has been shielded from your attention by the single minded massively taxpayer funded and government supported conviction of the IPCC that climate change is driven by human activities .

On Page 12 we read that "**New Brunswick has a wealth of existing and potential renewable energy sources including biomass.... wind, tidal and solar energy**". Obviously our access to the temporarily available stores of fossil fuels, that have driven our economic development for the last couple of centuries, will end as geological deposits are exhausted so that we will in fact be forced to run our economy on renewable energy, however using **a** government planned command and control energy economy in order to rapidly switch to renewables based on a wish to lower carbon containing greenhouse gas emissions due to their supposed influence on the global climate can not be justified by existing climate science however the discussion guide offers a multitude of goals, measures and regulatory policies aimed at fleshing out a government planned command and control energy economy.

On Page 20 the question is posed: "**What climate information, science and tools are needed to support decision-making**". I hope it is clear from the evidence AGAINST human caused climate change that I have presented above that government should commission a THOROUGH REVIEW of climate science before spending any more of our scarce monetary resources to combat the largely imagined effects of human caused climate change based on the PROJECTIONS of Global Climate Models that have no predictive power whatsoever.

After having read and digested this [possibly new to you] information, the ***Select Committee on Climate Change may*** be influenced to recommend that the government should call for a dissolution of the Intergovernmental Panel on Climate Change and the setting up of an international organization whose goal would be to develop strategies to cope with and adapt to NATURAL (*both warming and cooling*) climate changes. the

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