

Climate Change and Energy –

Comments to the GNWT Energy & Climate Change Consultations

Ecology North

Ecology North is a charitable, non-profit organization, based in Yellowknife, Northwest Territories, that was formed in 1971 to support sound environmental decision-making on an individual, community, and regional level.

We focus on five priorities: climate change, environmental education, water, waste reduction, and local food production. A common thread throughout all of our programming is an emphasis on environmental, social, and community well-being.

Based on our mandate, Ecology North is positioned to contribute to help the GNWT transition to a sustainable future that fits our culture and our people. These comments reflect our strategic recommendations to achieve this vision.

Main points

- NWT should take a leadership position globally in alerting the world to the effects of climate change in the north. Reduced emissions can and will have a substantial global effect if we stand up and roar in national and international venues. We must be climate leaders!!
- Renewable energy is a viable and essential option that is well-suited to the north and to the people of the north
- A bold transition to 100% renewable energy with today's technology is feasible in the NWT by 2050
- GNWT has a critical role to provide regulatory, know-how, and subsidy support to lead and ensure the transition across the NWT
- Ecology North fully supports a carbon tax in the NWT to help transition off fossil fuels and protect vulnerable populations
- The oil and gas industry in the NWT is ready to be strategically phased out, and tax dollars should be reallocated to the innovative renewable energy sector
- Mitigation efforts will have the most impact when focused on heating, transportation, and industrial sectors in the NWT
- As infrastructure and assets turnover, and are built or replaced, the NWT must take the opportunity to invest in innovation using low carbon technologies

Important facts

- Climate science is indisputable – all societies need to rapidly switch to less carbon intensive energy sources in order to stop greenhouse gases from accumulating in the atmosphere
- Climate change is already affecting the world's environment, economy and social systems, and the NWT in particular is very vulnerable to impacts
- Employment and investment in clean energy are skyrocketing, while the opposite trend is visible with fossil fuels
- Solutions and adaptations to climate change create good jobs and provide lasting economic benefits: in 2014, the number of Canadians employed in clean energy surpassed those employed in the oil sands

A global picture

The climate science is clear and no longer disputable; burning fossil fuels is increasing the amount of greenhouse gases in the atmosphere, causing the global climate to warm at an unprecedented rate. We are experiencing the highest level of global atmospheric carbon seen in human history. This is causing negative impacts to delicate ecosystems, as the temperature is rising faster than most biological systems can adapt.

Because this change is unprecedented in human experience, there is much uncertainty about the effects this will have on climate dynamics, but scientists are clear that impacts on humans and the ecosystems that support them will be costly and severe. Ecology North recommends that the NWT take a precautionary and regulatory approach to ensure reduction greenhouse gas emissions throughout the NWT.

At the 2015 COP 21 meeting in Paris, world leaders agreed to focus on limiting warming to 1.5 degrees C. The most progressive climate models available show that even with aggressive emission reduction scenarios, the planet will warm beyond this target. The hope is that, by greatly reducing greenhouse gas emissions as quickly as possible, the planet will cool back down to 1.5 degrees total temperature rise by 2100. This scenario is only possible if every jurisdiction works together to meet the science-based targets for carbon emissions.

It is time for the world to act in unison to prevent climate change in order to ensure the survival of our species and others. The conditions are right for the north to be a leader - changes in climate are affecting the north much faster than the rest of the world. Because of that, our actions are being watched by the world. If we work together, we can set a positive example that will affect change across the globe.

Benefiting from a carbon tax

A carbon tax is a tax paid by those who use fossil fuels, according to the carbon content of the fuel and the amount consumed. It is a strategy that is proven (see British Columbia) to shift society towards innovative solutions, while simultaneously reducing negative behavior. The concept of pricing pollution fits well with the land-based culture of the NWT, as we can reallocate money spent on fossil fuels and development towards clean energy development- which will reduce CO₂ emissions. Ecology North believes that a progressive, escalating carbon tax is necessary if we are to make the transition to renewable energy. It is an elegant and simple way to generate funds that can then be allocated to the expenses of this transition. The tax needs to be levied in a way that protects people with low incomes, but this can be easily done.

The Government of Canada has recognized the importance of reducing greenhouse gases and stimulating energy innovation, and has acted by implementing a Pan-Canadian approach to pollution pricing. The NWT is well positioned to rise to the occasion and be proactive – leading the way in Canada. Every province and territory has the freedom to create their own plan and implement it before 2018 – at which point a plan will be provided to them. The price on carbon pollution is expected to start at a minimum of \$10 per tonne in 2018 and rise by \$10 a year to reach \$50 per tonne in 2022. Ecology North supports meeting or exceeding this suggested amount. Recent research by the Conference Board of Canada chief economist suggests that even a \$100/tonne carbon tax only will have a very modest 0.15% impact on annual economic growth (this is if the US does not implement a carbon tax).

Ecology North believes that the best fit for the north – both economically and culturally - is to use tax revenues generated to support local climate and energy substitution action initiatives. Vulnerable communities would benefit from this funding, to reduce dependence on diesel fuel and the high cost of energy. NWT businesses would also benefit from the upward price signal on fossil fuels and revenue from the carbon tax to fuel innovation. In this way, the NWT would be investing in our environment and our people - our most valuable assets. Given that recent fuel prices of two years ago were so high they had the equivalent of a 200 dollar carbon tax on them compared to today's prices, there is clearly economic room for a modest tax without detriment to our economy.

A carbon tax is a progressive tool that can contribute to a transition to a low carbon economy in the north – a transition that fits with northern values and culture, one that will serve us increasingly well in the future. Ecology North has developed a discussion paper on how to develop an NWT Carbon Tax, please review at <http://ecologynorth.ca/project/carbon-tax-nwt/>

Steps for northern success

Ecology North supports continuing a progressive transition to a sustainable future by addressing both mitigation and adaptation.

Mitigation efforts should initially be focused on the biggest emission sources in the NWT – heating, transportation, and industry. While there is financial motivation, The current over-emphasized focus on thermal communities' diesel generation of electricity is misplaced as a climate action, given that they only account for about 4% of GHG emissions.

As impacts multiply and become more severe, there will be increasing need to adapt to big changes. Ecology North supports consultations towards the identification of suitable actions of adaptation, but we stress the need to build community resilience. It is important to build and maintain communications, and to provide and support actions based on local knowledge. Improved communication between GNWT departments, communities and NGO's will improve coordination and reduce duplication of efforts.

Renewable energy and northern values

The NWT is in a unique position to benefit from the opportunity to invest in renewable energy and to lead the way by example.

The north is experiencing climate change impacts now and on a broad scale, and the high cost of conventional energy means substituting improved efficiency and renewable energy can mean short pay-back times and savings. With our experience of a changing climate the NWT public is supportive of new policies, legislation, and implementation measures that slow that change. In doing so, we would be supporting our people, our economy, and our planet.

In the Northwest Territories, we are people of the land. The population of the territory is 50% Indigenous, and so the worldview and traditional Indigenous way of life plays strongly into modern NWT culture. It has not been long since the people of the NWT lived nomadic lifestyles – there are Elders alive today that were born on the land. Our ties to the environment run deep, and even newcomers to the territory are quick to understand and adopt these values.

Renewable energy is relevant to NWT culture because it presents an opportunity to live modern life in harmony with the environment, it supports local economies, and it supports community and family self-reliance. Fossil fuel use is affecting our ecosystems (see: the global picture), while renewable energy investment offers an economic path forward that is sustainable and in keeping with traditional values. It is a way to be 'strong like two people' – a way to keep traditional values thriving in a modern economy.

The same principle applies for a carbon tax or for any other investments in sustainable living. People of the north understand how the wellbeing of humans is tied to the wellbeing of the ecosystems that sustain us. Investing in our environment aligns with distinct northern values, and taking a lead on sustainability has great potential to be empowering for our people.

Investing in renewable energy

Ecology North supports the bold vision of 100% renewable energy in the NWT by 2050, as outlined in the report by Alternatives North. We believe it is possible to reach this target and that it is of net value to pursue this goal. It will be a challenge, but the important thing is that we urgently act to implement an NWT-made plan that will benefit our environment and our people for many years to come.

The cost of living in the NWT is high. The main reason is that communities are isolated, so many of our basic needs are imported from afar, and getting supplies and energy adds to the cost of everything. Instead of flying or trucking in heavily subsidized and hazardous diesel fuel or other fossil fuels, our communities could be running on clean power, deriving more of our basic needs locally and regionally, and creating much-needed skilled jobs.

An important step is towards a low carbon economy is to implement a carbon tax that would increase annually in a transparent and predictable fashion. It would supplement the revenue needed for the transition, while creating a market mechanism to reduce high-carbon fuel use. New programs, and strategic investments in clean energy and climate change adaptation are also urgently required, with strategic decisions being made in the government reflecting a **triple bottom** line approach.

Renewable energy technology and development is spreading rapidly across the world while dropping in cost, providing an opportunity to invest in it now. The urgency of the issue requires re-allocation of GNWT resources and attraction of federal investments towards development of a robust renewable energy infrastructure.

The Arctic Energy Alliance is an arms-length institution that helps the NWT public deal with some of the energy-related challenges in today's world. This organization provides a vehicle for GNWT to increase its outreach and support to NWT residents and businesses as they turn to renewable energy to meet their demands, and as such, should receive greater government funding and support to promote and effect the transition.

Some specific areas that Ecology North believes that northern businesses and the GNWT could work on improving right away:

Food Systems

An often-overlooked contributor to climate change is agriculture. Internationally, this sector produces a third of all greenhouse gases, including almost all methane and nitrous oxide. The NWT is in the early stages of developing its agriculture sector, and science predicts continued warming and movement north of agricultural opportunities. In other words, with the NWT may gradually develop a thriving agricultural sector.

Given the early stage of development, and the potential and great need for growth, there is an opportunity to take steps now to ensure the NWT develops best organic/permaculture agricultural practices that sidestep the current industrial agricultural model, while avoiding the greenhouse gas emissions associated with conventional agricultural practices. Producing our own food reduces transportation emissions associated with shipping our food from the south. Developing truly sustainable agriculture in the NWT would further enhance our 'brand' as a pristine northern territory.

Transportation

Most products used in the NWT are transported by truck or plane. There is currently very little effort being made to reduce the fuel intensity of this huge sector of greenhouse gas emissions in the NWT. Fortunately, cars, trucks and planes have relatively short life spans, and the next generation of vehicles will by necessity have much lower carbon intensity.

NWT must position itself now as a leader in transportation infrastructure. Starting with electrifying transportation in the South Slave (where MWs of excess hydro spills over the Talston system daily). GNWT should invest in electric vehicles and recharging infrastructure, promote more efficient trucking options, mandate biofuels, and assess alternative transportation options (airships, etc.).

Investments in new roads are expensive, they are the responsibility of the Government of Canada, and they often do not provide significant benefits to NWT residents compared to the costs to the taxpayer, and given the escalating impacts of climate change they are rapidly leading to greater and accumulating long-term O&M costs. This capital and operational money could be better spent on renewable energy, and transforming and modernizing our transportation infrastructure.

Waste Reduction

Another sector worthy of discussion is the waste sector. There are many opportunities to reduce greenhouse gas emissions associated with landfilling waste in particular. Diverting organics (including cardboard and paper) from landfill reduces greenhouse gas emissions and produces valuable by-products (compost, recyclables). Composting is an inexpensive way to reduce greenhouse gas emissions, and communities are interested in the opportunity to divert their waste.

Mandating producer responsibility for end-of life materials (like the GNWT e-waste initiative) is another move forward, but often requires a national or federal/provincial/territorial action to be implemented. We urge GNWT to support the Federal/Provincial/Territorial ambitions to move forward with extended producer responsibility legislation across Canada.

In the short term, used fossil fuels, where available in sufficient quantity could be used to heat local buildings. This can be promoted in locations with large demand, where maintenance staff are well trained. Waste fuels otherwise end up stockpiled in very unsafe conditions, until they are transported to the south and disposed of (generally incinerated), which adds up to a lot of greenhouse gas emissions. Turn this liability into a benefit for our larger communities (it is important to note that capacity needs to be available to maintain these systems, used oil burners have been tried and failed in many communities due to lack of maintenance).

A great way to make projects like these happen is for communities that reduce greenhouse gas emissions through diversion get credit through a carbon tax.

Oil and Gas Divestment

There is a strong case to be made that the oil and gas industry is no longer a safe place to invest money. As of December 2016, investors across the world have divested (or pledged to divest) \$5.2 trillion from fossil fuel investments, a doubling from the previous year. Scientists suggest that much of the identified reserves worldwide cannot be extracted without reaching the 2°C warming that the science community and world leaders agree is a safe zone of climate change (it is now considered to be 1.5 °C, even more problematic).

Considering this confluence of economics, supply, and demand - along with concern for the Earth and its people - expensive, low return on energy invested, hard to reach NWT fossil fuels are not likely to ever be extracted. It is time to stop promoting, subsidizing and investing in a resource that has very little chance of ever getting to market. An immediate review of oil and gas industry subsidies and GNWT expenditures on the industry should be completed. Money saved should be re-directed to renewable energy installation and promotion.

Industry

Industry is the biggest source of GHG emissions in the NWT. A single project (e.g. mine development) can negate all other efforts unless it is managed to be done in a low-carbon way. Government has a role to provide industry with mandatory standards, including transparent and predictably ramped-up requirements for the installation of renewable energy to meet ever greater proportions of their energy demands (renewable energy portfolios). Industry should be given the opportunity to meet the requirements with carbon offsets, recognizing that the cost of those offsets will rise in an unpredictable but possibly steep curve.

Carbon Pricing Policy vs. Energy Cost of Living Policy

“Cost of Living” and “GHG Emissions” are not currently handled separately in GNWT policy and programming. From our standpoint, this makes it difficult to set clear targets and achieve results on either issue.

The smaller, remote communities where the costs of energy are the highest are also the lowest absolute sources of greenhouse gas emissions, yet they attract the most attention and funding. Some raise concern that a carbon price would drive up the (already heavily subsidized) cost of living in small communities. If the two policy areas were clearly separated, it would be clear that small communities actually have the most to gain from implementation of a carbon tax. As the NWT switches to renewable energy (partially underwritten by carbon tax revenue), the GNWT will be in a better position to help those who cannot afford their heating and power bills.

A Territorial Energy Building Code

Any new infrastructure built in the NWT should be built to the highest environmental and energy (efficiency) standards, including CO₂ emissions. New buildings, and energy infrastructure, will be around for a long time, and so will Northerners will get the most benefits if they are highly efficient and energy demand is met with renewable energy.

Yellowknife has its own building permitting/ inspections system and has created its own energy related building code, but no other community has the capacity to do this. A territorial energy building code should expand this capacity, and include:

- EGH-80 for homes
- Model National Energy Code of Canada for Buildings plus 40% for buildings
- 50% of a building's energy requirements be met with renewable energy
- EnergyStar appliances
- Low-flow toilets & showers
- No electric water heaters in diesel communities
- District heat with mandatory connection

- GNWT taking responsibility to inspect and enforce building codes throughout the NWT

The GNWT has committed to implementing an *Energy Efficiency Act*. This is a way to implement many important changes to keep the NWT moving forward with innovations in building standards. Ecology North recommends that the GNWT require all GNWT-funded building infrastructure – including all new municipal government infrastructure – to exceed the territorial energy standard where possible, and rely on renewable energy to meet demand.

Encourage Wood Pellet Infrastructure through PPD

Biomass (chipped wood, hog fuel, wood pellets, logs) should be promoted for heating throughout the NWT with the possible exception of Sachs Harbour, Uluhaktok and Paulatuk (though even there, waste wood could supplement heating demands).

GNWT's [Petroleum Products Division now has a new name, reflecting its understanding of the need to incorporate other fuels like wood] currently, subsidizes the cost of fossil fuel infrastructure throughout smaller NWT communities.

Wood fuels can be stored much more easily, cheaply, and safely than heating oil. Fuel spills, barging and other environmentally liabilities would be eliminated. Millions previously spent annually in tank farm upgrades would provide for considerable wood fuel infrastructure in many communities (a silo costs \$30,000). The supply would enable community infrastructure to change over and the cost savings and greenhouse gas emission reductions would be large. Savings from reduced fuel costs and reallocated fossil fuel infrastructure costs, supplemented with carbon tax revenues, would pay for these system changes.

Carbon Offsets

The residential, commercial, institutional and industrial sector should go 100% renewable/carbon neutral by purchasing carbon offsets for their share of non-renewable energy use. Going carbon neutral will affect quick change! The way this works is that money from offset charges will be used to develop renewable energy projects in other parts of the world that are ready to be built, and just need funding. Purchasing 25 tons of offsets per year per person (~\$625) will more than cover most NWT residents.

Thank you for contemplating these ideas, we would like to conclude by reiterating the need for a voice from the North, strongly advocating for climate action. We must back up this voice with real and strong actions on climate change!