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The Northern Building Retrofit Economy

As mandated by the Intergovernmental Panel on Climate Change, the world needs to reduce its greenhouse gas emissions by 45% below the 2010 levels, before 2030, and 100% by 2050. This is non-negotiable in order to stay below 1.5C of global warming and ensure the survival of our species.

The cost of energy in the Canadian North is at least double that of the rest of Canada. This comes at a high price for northerners. The Government of the Northwest Territories has created numerous programs that aim at reducing diesel consumption. This report highlights the economic benefits of building on these programs.

Infrastructure represents the lowest hanging fruit and the best return in regards to tons of greenhouse gas emission reduced per dollar spent. It therefore makes sense to bring this sector down to carbon zero prior to 2050 to optimize our savings.

Ecology North et al. are proposing a series of 4 measures that will diversify the economy, reduce our dependence on diesel imports, increase our community well-being and reduce our greenhouse gas emissions:

1. **Undertake Standard Efficiency Retrofits** to improve operational performance (added attic insulation, energy-efficient appliances, LED lighting, and smart thermostats);
2. **Undertake Deep Retrofits** to high performance standards, focusing on carbon reduction (upgrading doors, windows, and adding wall insulation);
3. **Incorporate Solar** or other on-site renewable energy systems in buildings (rooftop solar panels, on-site wind energy);
4. **Switch to Low-Carbon Fuel Sources** in buildings (switch to biomass, electrification of heating systems with electric heat pumps, and biofuels).

> "It's not a political argument because it's good for people, the planet and the economy — it's a win-win-win and the do-nothing scenario is actually more expensive."
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> **William Gagnon**
> Green Buildings Specialist, B. Eng.,

Economic Benefits

The benefits of carrying out building upgrades include creating 123 new jobs, $ 19.7M in energy savings, and $ 11.8M in GDP increase, all by 2030. Additional benefits that are harder to quantify include: reduced health care costs from reduced air pollution, better building quality leading to less respiratory diseases, and others. The cost of the impacts of climate change is also not factored in, and represents the most important argument for the *Northern Building Retrofit Economy* going forward.

Demonstration project

Ecology North is currently working with the Yellowknives Dene First Nation on the creation of a *Northern Centre for Sustainability*. The building would showcase the latest green building technologies that could be adopted by a large portion of the infrastructure in the Northwest Territories. Located downtown Yellowknife, the space will also double as a coffee shop, a coworking space and an incubator for emerging professionals working on accelerating action on climate change, including programs like the *Northern Building Retrofit Economy*. Discussions with several funding entities are currently being held. Ecology North brings a sense of urgency to this project — time is quickly running : there are only 11 years left to reduce greenhouse gas emissions by 45%. The *Northern Building Retrofit Economy* represents an opportunity to develop our economy.

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more info ecologynorth.ca/NBRE
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