



Efficiency: Nova Scotia's Forgotten Energy Resource

The Story of Maggy's House

Maggy owns a house in a neighbourhood near you. One year Maggy arranged to have an energy efficiency audit. A skilled energy advisor arrived and inspected her house to see how much energy was being wasted. The advisor created a list of measures that Maggy could undertake to improve her house's energy efficiency. The measures included caulking and weather stripping doors and windows, adding insulation in the basement, installing a low-flow showerhead and faucet aerators, and buying energy efficient appliances.

After Maggy followed this advice she found that her annual electricity and fuel bills were reduced by 30% - from \$2,555¹ to \$1,788.² She now saves \$767 dollars a year.

The changes cost her \$5,000. She will recoup this investment from the money she saves on her bill in 6 1/2 years, or in 5 1/2 years with help from an incentive offered.

Since Maggy is using less electricity and oil, less fossil fuel needs to be burned. Her energy efficiency measures have reduced global warming pollution by 4 tonnes a year. The money she has saved is spent in the Nova Scotia economy instead going to NSPI and Esso, who import fossil fuel from halfway across the globe. Plus, Maggy's house is now more comfortable and more attractive to prospective buyers because it is cheaper to heat.

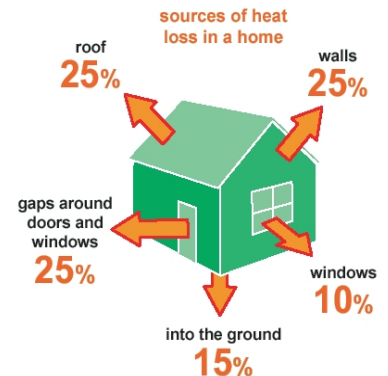
It makes both economic and environmental sense for Maggy to investment in the energy efficiency of her house. In addition to the immediate benefits to Maggy, the energy utility's costs decrease because they buy fewer fossil fuels from outside Nova Scotia and reduce their contributions to air and global warming pollution. Just as Maggy saves money from investing in energy efficiency, the province as a whole can also save money while creating local jobs. However, not enough individuals and businesses have followed Maggy's lead. People encounter barriers in the form of high up-front costs, a lack of expertise, lack of time, a scarcity of efficiency products on the market, weak government standards, or a lack of incentives. Every day we contribute to the global climate crisis and waste huge amounts of energy and money by failing to improve our energy efficiency!

How Much Can Energy Efficiency be Improved?

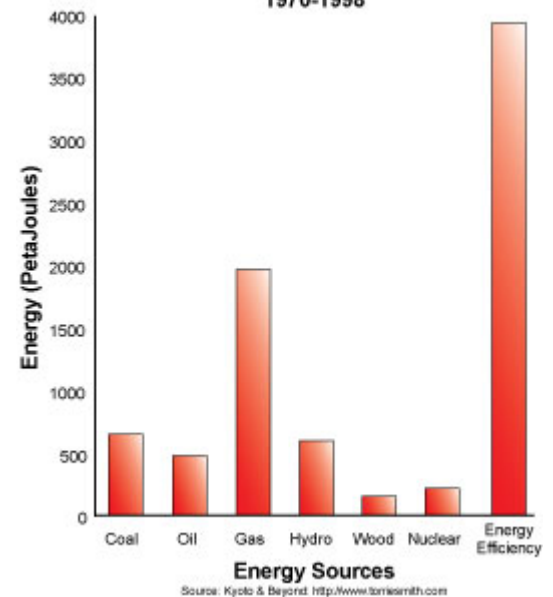
A lot! When we save energy through the measures that Maggy used, we are decreasing pollution. Instead of burning more fossil fuels to heat and light our houses, we can receive the same (or better) warmth and lighting using more energy efficient practices and technologies.

From 1970 to 1998, even with no national strategy, through energy efficiency and conservation, Canada saved more energy than the combined total of all forms of new energy that were produced. Without such efficiency, an additional 200 megatonnes of carbon a year would have entered the atmosphere and consumers would have spent over \$50 billion more.³

The energy we save is a massive resource - bigger than any oil or gas boom. Imagine what we could do if we actually developed a strategy to improve our efficiency!



NEW PRIMARY ENERGY IN CANADA 1970-1998



¹ 2003 NS average – Statistics Canada

² Average savings from EnerGuide for Houses Program

³ Kyoto and Beyond - <http://www.torriesmith.com/>

How Much does Energy Efficiency Cost?

In contrast to the coal and oil currently imported into Nova Scotia, efficiency can be viewed as an abundant and domestic form of energy that reduces air and carbon pollution while providing local economic development benefits. It is also cheap!

Well-run efficiency programs typically return \$2-\$4 of value for every \$1 invested. Other jurisdictions are finding that it costs them only 3 cents to save a kilowatt-hour of electricity by creating standards, programs and incentives. This is about 67% cheaper than the costs of supplying more energy! Efficiency is a smart investment because it is cheaper than buying fossil fuels and spending money on new power plants.

In Nova Scotia we have been wasting energy and wasting money for years by not harnessing the efficiency resource to its full potential.

How Much Should Nova Scotia Invest in Energy Efficiency?

To save money we should invest in programs that set standards, provide expertise, outreach, and financial incentives to Nova Scotians if the cost of these programs is less expensive than buying other forms of energy. Usually an *efficiency potential study* is conducted to assess how many savings are available in one region.

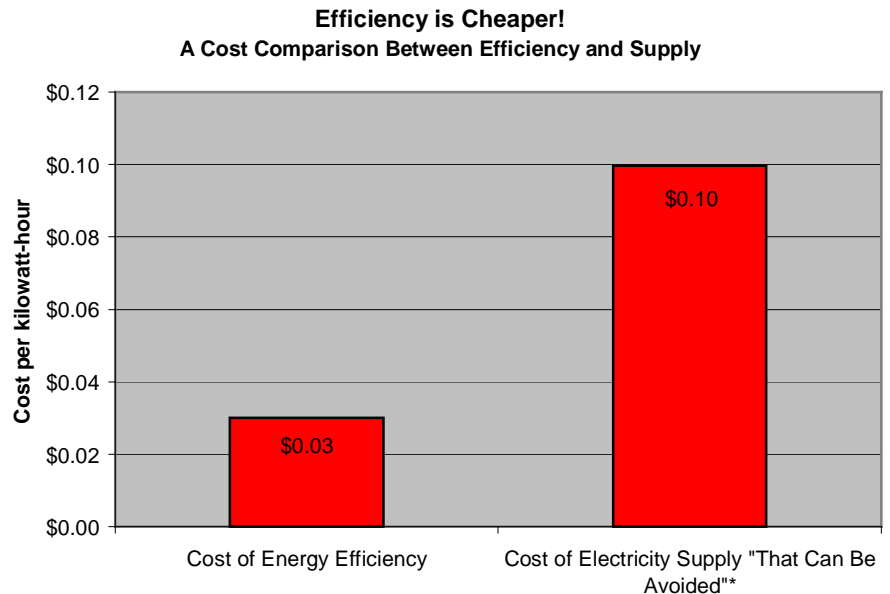
In some jurisdictions, they have found that they can *cost-effectively* hold electricity demand flat and begin to reduce it, and to reduce gas and oil consumption by 1% per year in the near term. Based on this experience, if Nova Scotia were to invest \$30-\$50 million per year in energy efficiency, we would all save money!

This is not even considering the benefits to the environment and society from energy efficiency. To meet our international commitments to reduce global warming pollution by 2010 and achieve at least a 30% cut from 1990 levels by 2020, efficiency will be the biggest part of the solution. Efficiency is also integral to reducing the burden energy costs place on low-income Nova Scotians.⁴

What is the Best Way to Deliver Energy Efficiency?

Unlike building a power plant and purchasing coal from overseas to produce energy, we can save energy house-by-house, business-by-business, and industry-by-industry. This requires legislated efficiency standards, consistent annual investments, a team of energy experts, and an overall strategy with targets and timetables. Efficiency programs are sometimes run by energy utilities (such as Nova Scotia Power). However, this can create conflicts of interest. Why? Because utilities make money by selling energy and are not always rewarded if energy usage is reduced.

It's in the best interest of the public to have an independent agency with proper public oversight administering energy efficiency programs. Many jurisdictions have such separate, independent agencies (e.g. Efficiency New Brunswick, Efficiency Vermont, Efficiency Maine, New Jersey Clean Energy Programs, Wisconsin Focus on Energy). Here in Nova Scotia the government has recently created *Conserve Nova Scotia* – a quasi-independent efficiency agency.



The graph above shows that it costs us \$0.10 to produce the energy that could be saved at a cost of \$0.03.
Source: NSPI/ Summit Blue Consulting & Typical Efficiency Costs in other jurisdictions

⁴ See Affordable Energy Coalition - http://www.ecologyaction.ca/energy_issues/EPSE.pdf

Will my Utility Bill Increase to Pay for Energy Efficiency?

No – bills will be lower as a result of energy efficiency over the long-term. This is because:

- 1) The programs funded create opportunities to decrease individual utility bills by using less energy
- 2) Efficiency investments are less costly than energy production. This means fewer surprise rate increases to pay for polluting fossil fuels and their power plants.

Energy efficiency programs are best paid for through a dedicated user fee on electricity and fuel oil rates. Typical energy efficiency charges are about \$0.0024 per kilowatt-hour of electricity or \$0.013 per litre of oil. The efficiency charge is paid for everyone who consumes energy in exchange for incentives, and programs that ensure fewer rate increases and reduced pollution from fossil fuels and power plants. The annual cost to the average Nova Scotian household can be recouped by changing 2-3 incandescent light-bulbs to more efficient compact fluorescents.

What is Currently Happening in Nova Scotia?

Two very important efficiency policies are currently being developed in Nova Scotia:

- 1) **Conserve Nova Scotia** has been created as a new agency of the Provincial government. The EAC wants the new agency to set targets and establish a financing mechanism to implement all cost-effective energy efficiency improvements in Nova Scotia.⁵
- 2) The **Nova Scotia Utility and Review Board** has ordered Nova Scotia Power Inc. (NSPI) to create an efficiency policy (called **Demand Side Management**). The EAC wants NSPI to contribute *at least* 3-5% of its revenues towards energy efficiency.⁶

What Can I Do?

- 1) **Have yourself, your business, or organization sign the Nova Scotia Energy Efficiency Resolution** at http://www.ecologyaction.ca/energy_issues/resolution.htm
- 2) **Write to the Premier and tell him you want Conserve Nova Scotia to set targets and establish a funding mechanism to implement all cost-effective energy efficiency improvements in Nova Scotia:**

The Honourable Rodney MacDonald
Office of the Premier
PO Box 726
Halifax, Nova Scotia B3J 2T3
FAX: 902-424-7648

Write to the Nova Scotia Utility and Review Board to tell them you want Nova Scotia Power to contribute to improving energy efficiency:

Re: Demand Side Management

Nova Scotia Utility and Review Board
Box 1692, Unit "MP"
Halifax, Nova Scotia B3J 3S3
Fax: 902-424-3919
Uarb.board@gov.ns.ca

- 3) **Get a Home or Business Energy Audit**
See <http://www.gov.ns.ca/energy/> under (Smart Energy Choices)
- 4) **Join the Ecology Action Centre to help us work for a more efficient Nova Scotia**
<http://www.ecologyaction.ca/membership.shtm>

⁵ To see the EAC recommendations for this agency visit -

http://www.ecologyaction.ca/energy_issues/ConserveNSRecommendations.pdf

⁶ See EAC Priorities for the NSPI plan at http://www.ecologyaction.ca/energy_issues/EACPrioritiesEEES.pdf