

# Investing in Energy Efficiency Up-Front Leads to Substantial Return on Investment

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*Note to reader. For the purpose of this article, energy efficient homes and Passive House are one in the same. A Passive House can be either a single family home or a multi-family or commercial building.*

**M**ost home buyers believe Passive House and other super energy-efficient homes and buildings are unaffordable. This is because they are primarily focusing on the additional up-front capital cost and the effect it will have on their monthly mortgage payment. What they are not considering are all the positive effects Passive House has on long term energy savings, reduced maintenance costs, the return on investment (ROI) <sup>(1)</sup> at the time of re-sale and, of course, climate change.

A Passive House does cost about 10% more compared to a code minimum home<sup>(2)</sup>. For example, to turn a \$400,000 code minimum home into a Passive Home would add approximately \$40,000 to its completed cost. As per Passive House Canada “The incremental cost of reaching Passive House performance depends on several factors, including the severity of the climate, the type of building and the availability of high quality building components. The cost effectiveness of doing so in any location will be affected by the local price of energy and by local building energy standards.” That stated, an investment of approximately 10% in the building’s control layers (building envelope) will pay for itself in 10 to 12 years. If energy prices go up, which current trends indicate they will, the payback will be faster.



The Conservation House in Saskatchewan was built in 1977, and was a revolutionary building design that introduced passive heating and cooling to modern Passive House construction.

## The question new home buyers should be asking is this:

*If I live in my new comfortable, healthy and energy efficient home say 10 years, and then sell it, will I be further ahead financially than if I'd purchased a code minimum home?*

The answer is a resounding yes! Energy savings and lower maintenance costs will save the homeowner money while living in their Passive House in addition to the extra profit they will make when they sell. If they're diligent enough to apply the energy saving dollars to their mortgage, they'll pay their mortgage off faster. These daily savings, combined with an enhanced return on investment when sold, will result in homeowners who invest in passive home strategies being further ahead financially over the long term.



The Nanaimo Aboriginal Passive House project<sup>(3)</sup> cost just 7 percent over conventional construction practices. It's highest heating month is not expected to exceed \$20 for a 3 bedroom townhouse. As a result, they are very affordable.

A Passive House building requires lots of insulation, superior air sealing techniques and high quality windows and doors. What it doesn't require however, is a conventional furnace or an air conditioner. Passive House buildings incorporate tiny heat sources and quality HRV (Heat Recovery Ventilator) systems. Depending on its size, location and cost of energy, it is not uncommon for a Passive House to heat for less than a dollar per day. To put that in perspective, that is about the same amount of energy a hair dryer would use if it were operating continuously 24/7. Imagine being able to heat your home with a hair dryer!

By as soon as 2025, new stringent energy codes will mandate high performance conservation upgrades for all homes and buildings with most new homes and buildings requiring an added layer of exterior continuous insulation. These superior insulated buildings will be in high demand and will sell at a premium. In a decade from now or sooner, homes built today that incorporate continuous rigid insulation and high performance windows and doors will sell for a lot more than code minimum homes built at the same time. Market research confirms that high performance homes sell for a premium (up to 9%) compared to code minimum homes. As climate change becomes more urgent and energy prices rise, the demand for, and market price of energy efficient homes and buildings will increase significantly.

## Climate Change & Millennials

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Climate change is a big deal and millennials are appalled by what's happening to their world.<sup>(4)</sup> Millennials now, will be the largest segment of home buyers in 2025. When they look to purchase a pre-owned home or building, their priorities will include: health, comfort, energy efficiency, sustainability, security against rising fuel prices in the future, ROI and the positive or negative effect their home will have on climate change.



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### 8 reasons why Passive House is a wise investment and the right thing to do!

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1. Whether you're a climate change believer or denier it doesn't matter. A strong movement towards energy conservation is happening and nothing will stop it.
2. Building codes demand it. Like it or not, drastic overhauls in building code regulations incorporating more stringent energy conservation standards will continue to impact new home construction. Canada's goal is for new buildings to be carbon neutral by 2030. This means that all new homes and buildings must not contribute to greenhouse gas emissions and climate change.
3. Climate change demands it. Buildings account for over 40% of emissions. There is simply no other alternative. Future homes and buildings must become more efficient. Owners of homes and buildings will feel a moral responsibility to do their part to fight climate change.
4. Health. Sustainability. Comfort. By focusing on building science, Passive House offers superior sustainability. Comfort and health are not a luxury, they come standard with Passive House.
5. Passive House buildings consume 80 to 90% less energy than typical homes and buildings. As climate change becomes more severe, Passive Homes will become more valuable. Millennials will likely choose energy efficiency over minimum code. To compete with energy efficient houses on the market, sellers of code minimum homes may have little choice but to upgrade their properties.
6. Return on Investment (ROI). Passive House makes dollars and sense. A Passive House is capable of cutting a \$1000 energy bill to as little as a \$100 - ten times less. This appeals to people who plan to live in the same home or building for many years. These folks realize their home will be far more valuable when its time to sell.
7. What keeps warmth and comfort inside, keeps noise outside. Thick insulation and high performance windows significantly reduce outside noise.
8. A Passive House is a great conversation piece.

#### References:

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