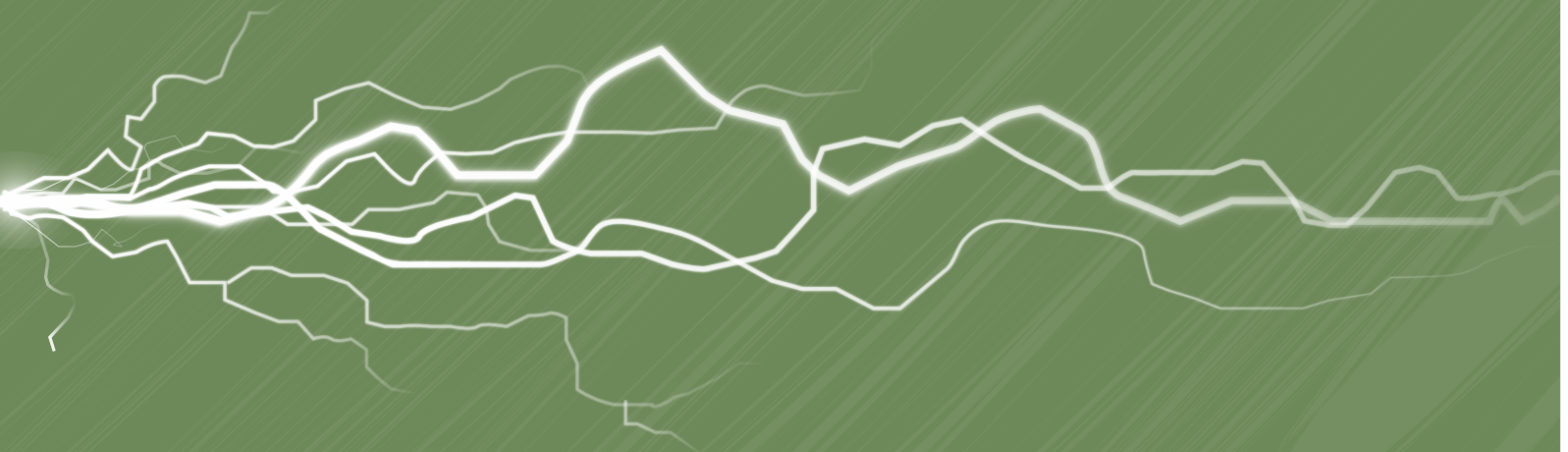




Skeena Watershed  
Conservation Coalition

# UPPER SKEENA ROADMAP TO RETROFITS

August 2025





# SKEENA ENERGY RETROFIT STRATEGY

## A STRATEGIC APPROACH TO HOME RETROFITTING

Improving the energy performance of homes across the Skeena region is one of the most practical and cost-effective strategies available for reducing greenhouse gas emissions, lowering household energy costs, and strengthening long-term energy security. As communities in areas such as Kispiox Valley, Hazelton, and the surrounding Northwest face rising energy prices, aging housing stock, and the growing impacts of climate change, the need for a coordinated and well-informed approach to home retrofitting has become increasingly important.

This section outlines a structured, step-by-step strategy for residential retrofits that prioritizes energy efficiency, comfort, and affordability. Retrofitting is not a one-size-fits-all solution, especially in rural and Indigenous communities and requires thoughtful planning, clear goals, and implementation that reflects both technical best practices and community-specific conditions. By starting with the fundamentals of building envelope performance, improving mechanical systems, and integrating renewable energy where feasible, the region can move toward greater self-reliance, improved health outcomes, and measurable emissions reductions.

## A PHASED APPROACH TO RETROFIT PLANNING:

Retrofitting is most successful when approached as a phased and deliberate process. Effective planning helps ensure that upgrades are implemented smoothly, with fewer delays and unanticipated costs. It allows homeowners and communities to identify the most appropriate technologies, clarify objectives, estimate timelines, and secure the necessary resources. A strategic approach also increases the likelihood of long-term success and supports a more resilient, healthier built environment.

The home plays a central role in energy security. The building envelope and the systems within protect residents from the elements and influence indoor air quality, comfort, and long-term operating costs. When planned properly, retrofitting can significantly reduce energy demand while improving living conditions and contributing to climate goals. To ensure retrofits are both practical and cost-effective, the process should generally follow this sequence:

- Improve the building envelope's resistance to energy transfer (e.g. insulation, air sealing)
- Optimize the efficiency of mechanical systems (e.g. HVAC upgrades)
- Integrate renewable energy systems where appropriate and feasible

This order ensures that each stage enhances the effectiveness of the next. For example, sealing air leaks and insulating a poorly performing home can result in energy savings equivalent to installing a high-efficiency furnace — at a much lower cost. Conversely, installing a heat pump in a drafty, uninsulated home will greatly limit its performance, possibly resulting in comfort issues and unnecessary strain on the system. Similarly, renewable systems like solar arrays in inefficient homes may struggle to meet demand, undercutting their intended benefits.



## ROADMAP TO RETROFITTING: *Step-By-Step Guidance*

- 1. Start with an Energy Audit:** The first step is to understand how and where your home is losing energy. An energy audit whether conducted by a professional or completed using an online tool will assess insulation levels, window performance, HVAC systems, and appliances. This assessment identifies areas of greatest need and helps prioritize next steps. *(See Chapter 10 for Service Providers)*
- 2. Set Clear Goals and a Budget:** Based on audit findings, determine your primary goals: lowering heating costs, improving comfort, or reducing emissions. Establish a budget that reflects these priorities while factoring in the long-term value of energy savings and available incentives.
- 3. Seal Leaks And Upgrade The Envelope:** Addressing gaps and cracks in doors, windows, walls, and floors is one of the most affordable and effective energy-saving measures. Use weatherstripping, caulking, or spray foam insulation to reduce air leaks and improve overall thermal performance.
- 4. Prioritize High-Impact Areas:** Focus on upgrades that yield the greatest returns. These often include attic and wall insulation, high-performance windows, and energy-efficient HVAC systems. Improving these core components can significantly reduce energy consumption and improve year-round comfort.
- 5. Invest In Efficient Appliances And Lighting:** Replace outdated appliances with ENERGY STAR-certified models that offer the same performance with lower energy use. Transitioning to LED lighting throughout the home is another low-cost upgrade with immediate benefits.

- 1. Consider Renewable Energy Options:** If budget permits, renewable systems like solar panels can further reduce reliance on external energy sources. In some cases, incentives or rebate programs can help offset the upfront investment. *(See Chapter 10 – Funding Opportunities)*
- 2. Take Advantage Of Incentives:** A wide range of federal and provincial grants, rebates, and low-interest loans are available to support energy retrofits. Navigating these programs can unlock significant cost savings and increase project feasibility. *(See Chapter 10 – Funding opportunities)*
- 3. Hire Professionals as Needed:** While many improvements can be done by homeowners, some — such as HVAC replacement or solar panel installation — are best left to certified contractors. Always verify credentials to ensure safe and effective work. *(See Chapter 10 for Service Providers)*
- 4. Track Savings and Performance:** Once retrofits are complete, monitor your energy usage using utility tools, smart thermostats, or energy monitoring systems. Tracking performance over time helps validate savings, identify additional opportunities, and inform future decisions.

*By following this strategic, step-by-step approach, homeowners and communities across the Skeena region can make informed decisions that lower energy costs, improve comfort, and support broader climate and resilience goals. When grounded in strong planning and supported by accessible resources, retrofitting becomes not just a technical upgrade but a long-term investment in personal and community well-being and sustainability.*









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