

## Low-Carbon Affordable Housing: Sundance Housing Co-Op Deep Energy Retrofit

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[Webinar Recording](#)

Energy efficiency retrofits in social and affordable housing present an enormous opportunity to protect against energy price increases, reduce greenhouse gas and air pollution emissions and create more comfortable spaces for residents. There are significant benefits that can come from ensuring that experiences and lessons learned from retrofit projects are shared across the social and affordable housing and municipal corporate energy sector. In this webinar, Peter Amerongen from Retrofit Canada spoke to the partnership efforts, lessons learned, and how the Sundance housing Co-op Deep Energy Retrofit project was instrumental in the development of a Retrofit Roadmap.

### Presenters

- Peter Amerongen | Director | Retrofit Canada

### Presentation Overview

#### Defining Deep Retrofits

- Deep retrofits go beyond simple energy efficiency; they prepare existing buildings for a zero-emissions future by 2040.
- Successful projects must capture "co-benefits" such as improved indoor air quality (HRVs), increased thermal comfort (especially during heat waves), and long-term durability.

#### Case Study: Sundance Housing Co-op (Edmonton)

- Project Scope: A 59-unit, 1970s townhouse complex.
- Technical Approach:
  - Used the Dutch "Energy Sprung" system, involving LiDAR scanning to create precise digital models for off-site penalization.
  - Installed over 350 factory-built panels with windows pre-installed to wrap the buildings in a "warm blanket".
  - Replaced gas lines with cold-climate air-source heat pumps and heat pump water heaters.
  - Upgraded electrical service from 60 to 100+ amps using horizontal directional drilling to minimize site disruption.
- Outcome: The complex is now essentially net zero, generating roughly 75% of its energy needs from on-site solar.
- Social Impact: By staging the project building-by-building, the team increased their speed by 2.5 times by the end of the project. Residents in completed units reported significantly higher comfort during heat waves, encouraging the rest of the community to support the work

#### "Deep Retrofit 101" Roadmap

Peter Amerongen outlined a strategic approach for scaling retrofit projects:

- Ballpark Feasibility: Consult experienced contractors early, though they are currently a rare "cohort" in many regions.
- Information Gathering: Conduct a building condition assessment, energy model, and service capacity check for electrification.
- Avoid Customization Overload: Rather than debating insulation levels, use established research (like the RDH engineering study) to follow optimized regional standards.
- Staging: If a full retrofit isn't affordable at once, create a 2040 Plan so that every smaller repair (foundation, roof, etc.) aligns with the final net-zero goal

### **The Role of Municipalities and Industry**

- Municipal Action:
  - Cities like Edmonton have launched Clean Energy Improvement Programs to lend money to homeowners for holistic retrofits.
  - Climate Action Partnership is designing and implementing residential home energy retrofit programs for municipalities across Ontario. We work with municipal staff to develop feasibility studies, program designs, and implementation plans. We administer programs in partnership with municipalities and other strategic partners across Ontario.
- Workforce Development: There is a critical need for better contractor training. British Columbia was highlighted as a leader, using continuing education credits for contractor licensing to teach energy-efficient building standards.
- Retrofit Canada Resources: A Case Study Library with over 50 projects and a forthcoming "Selection Guide" are available to help homeowners and contractors find proven solutions for specific building archetypes

### Resources

- [Retrofit Canada Case Studies Library](#)

### Contact Information

Please reach out to us at any time with questions, input, or for additional information.

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