

HomeCarbonClean

Residential Carbon Capture for a Net-Zero Future

The Problem

Residential buildings contribute over 13% of Canada's total greenhouse gas emissions. While industrial carbon capture is scaling, households lack practical, affordable tools to reduce their carbon footprint, and indoor air quality is declining in the process.

Most climate action policies overlook this critical source. The need for scalable, direct, in-home CO₂ reduction solutions has never been more urgent. These solutions are critical for helping Canada meet its 2050 Net-Zero targets and for improving public health.

The Solution

HomeCarbonClean is developing a patent-pending, modular carbon capture appliance for residential and small commercial use.

- Captures CO₂ directly from indoor air using advanced zeolite-based filtration
- Provides co-benefit of enhanced indoor air quality (removes VOCs, particulates)
- Designed as an appliance-sized, plug-and-play device. No retrofits, permits, or major construction are required.
- Scalable across single-family homes, co-ops, and multi-unit buildings
- Aligns with Canada's Net-Zero and healthy housing policies

This is a made-in-Canada innovation that gives households a practical, appliance-based tool to reduce their carbon footprint, starting today.

Progress to Date

- US Provisional Patent filed
- Engineering design completed in SolidWorks (mechanical + chemical)
- 140-page business plan with financial model and market analysis
- Professional pitch deck and grant-ready materials prepared
- Now seeking Phase 1 prototype funding and pilot partnerships to build and test functional units for validation and certification.

Founder Background

Sorin Silivestru

- MBA, Carnegie Mellon University
- Master of Engineering, University of Toronto
- BSc Mechanical Engineering, Politehnica University of Bucharest
- 25+ years experience in mechanical engineering, operations, and project management (Westinghouse, GE, ABB, startups, professional services)
- Founder of three prior technology startups and current leader of Valley Business Centre

Current Ask

HomeCarbonClean is seeking:

- Government grant alignment (federal/provincial cleantech and housing programs)
- Pilot project partners, including municipal housing agencies, public housing providers, health authorities, utilities, and retrofit program partners
- Phase 1 funding to advance to functional prototype and certification.

Contact

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