

Decarb Lunch

Series



Commercial Building Electrification Guide Launch

Thu Nov 14, 2024
12 - 1pm PST
Free Webinar
zebx.org



Powered by **zeic** MORE SOLUTIONS, LESS CARBON.



B2E
Building to
Electrification



Carbon
Leadership
Forum
British
Columbia



ZERO EMISSIONS BUILDING EXCHANGE

**BC Retrofit
ACCELERATOR**



NearZero

We are a broad coalition working together to electrify buildings in British Columbia in order to reduce their climate impacts and reliance on fossil fuels.



B2E
Building to
Electrification

Powered by **ZEIC**



BC Commercial Building Electrification Guide



Project Supporters:





We are Canada's
voice for building
electrification



Building
Decarbonization

Alliance

pour la décarbonation
des bâtiments



Building Decarbonization Alliance

Creating an alliance of leaders across the entire building eco-system who share interest in advancing electrification of heating end-uses in all of our buildings.

Issue and Activity Areas



**Economic and
Market
Development**



Affordability



**Energy System
Readiness**



**Consumer and
Building Owner
Demand**



Issue and Activity Areas



Some of Our Work

1. Policy Analysis

- I. Cool Way to Heat Homes
- II. Building Heating Decarbonization Jurisdictional Scan

2. Sector Engagement and Capacity

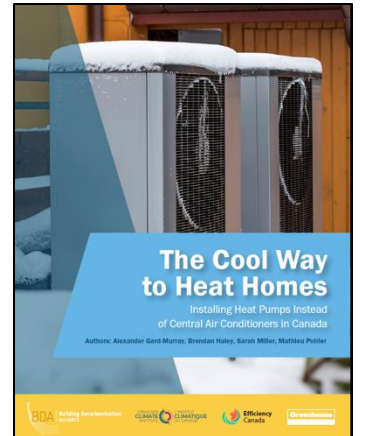
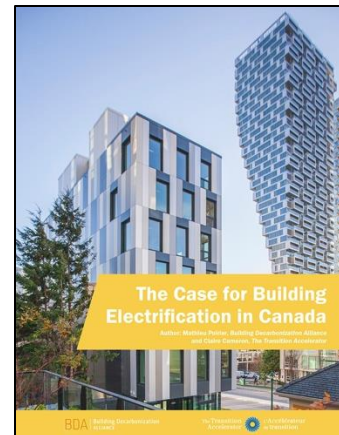
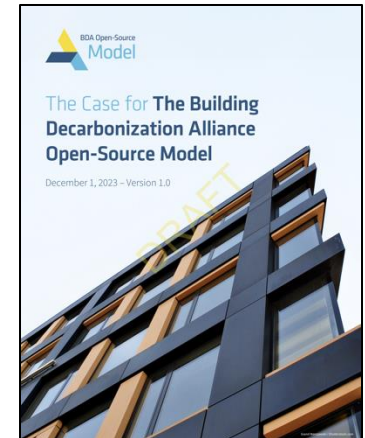
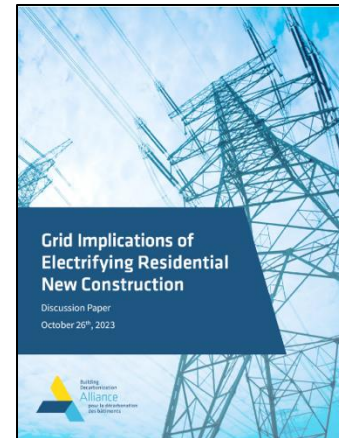
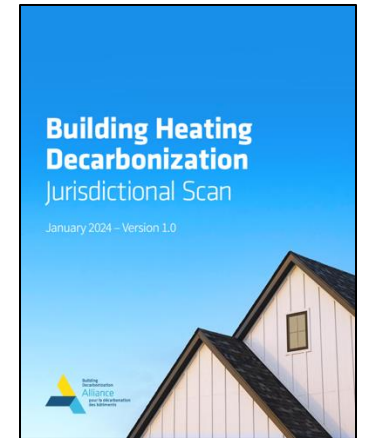
- I. National Building Decarbonization Forum
- II. Regional Engagement
- III. Webinar Series

3. Techno-Economic Analysis

- I. Grid Impacts of Residential New Construction
- II. Case for Building Electrification
- III. Pace of Progress

4. Technology Alternatives

- I. Thermal Energy Networks

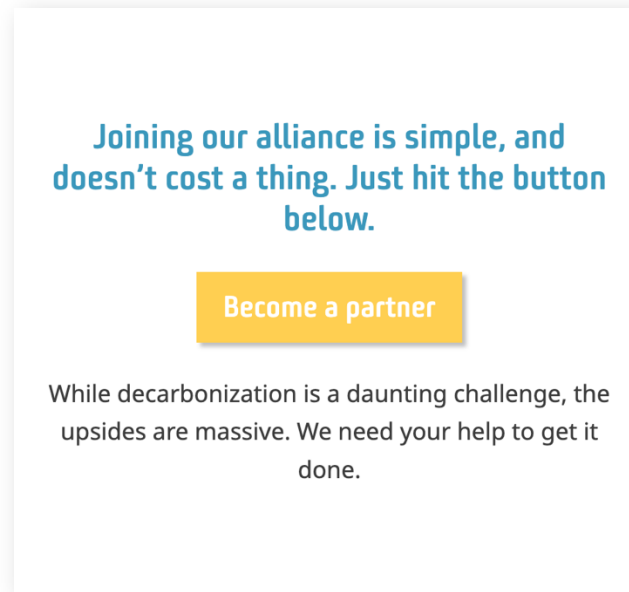


Becoming a Partner is Easy (and Free)

1. Visit buildingdecarbonization.ca



2. Click 'Become a Partner'



3. Sign the Declaration





Thank you!

Get more information:

Info@buildingdecarbonization.ca



SES CONSULTING
Decarbonizing the Built Environment



FirstLight
Energy Solutions

B2E COMMERCIAL BUILDING ELECTRIFICATION GUIDE

WHY ANOTHER GUIDE?



DER and electrification projects ≠ standard retrofits

Retrofits involve unique challenges/complexities
Requires a distinct approach (ex. Mechanical as Prime)



Industry Lacks Retrofit Expertise

Underperformance of low-carbon technologies
Oversized systems leading to higher costs and lower adoption rates



Market is Ready

New GHGi limits, voluntary standards (e.g., ZCB), and incentives
Accumulated knowledge, established best practices, and growing industry consensus

WHO CONTRIBUTED?

- **Engineering Experts**
 - » Mechanical, Electrical, Structural, and Architectural specialists
- **Equipment Manufacturers**
- **Industry Contractors**
- **Building Owners**



WHO IS IT FOR?

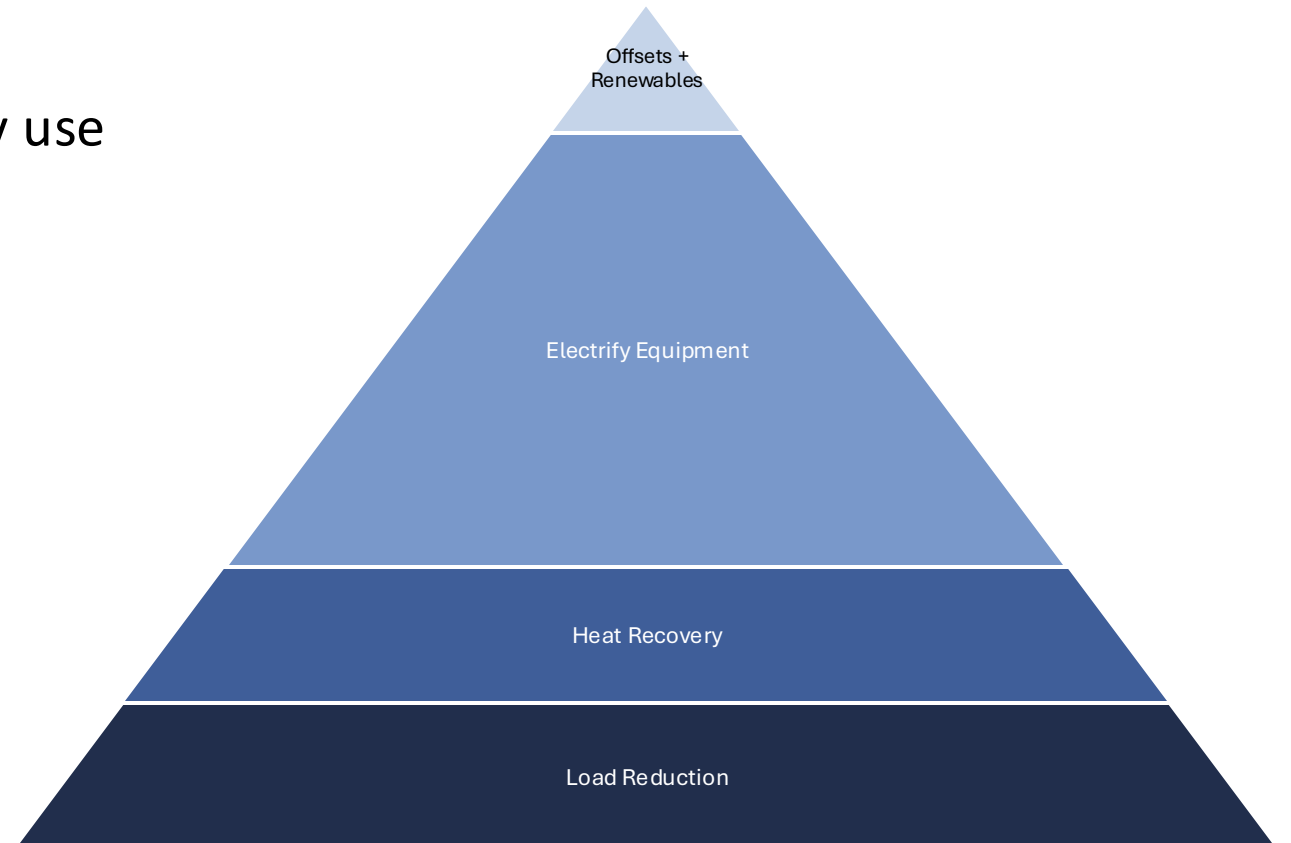
			Building Owner	Owner Advisor / Energy Manager	Prime Consultant	Designer
No.	Part	Chapter	Primary Audience			
1	Introduction	1. Overview 2. Market Drivers and Barriers	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
2	Planning	3. Electrification Planning Process 4. Effective Decarbonization	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
3	Implementation	5. Prime Consultant Role 6. Implementation Considerations		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
4	Design	7. Heat Pumps 8. Heating, Ventilation, and Air Conditioning Systems 9. Domestic Hot Water Systems 10. Electrical Considerations 11. Structural Considerations 12. Architectural Considerations				<input checked="" type="checkbox"/>
5	Appendices	13. Example Pathways 14. Technical Appendices 15. Case Studies 16. Glossary 17. References	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

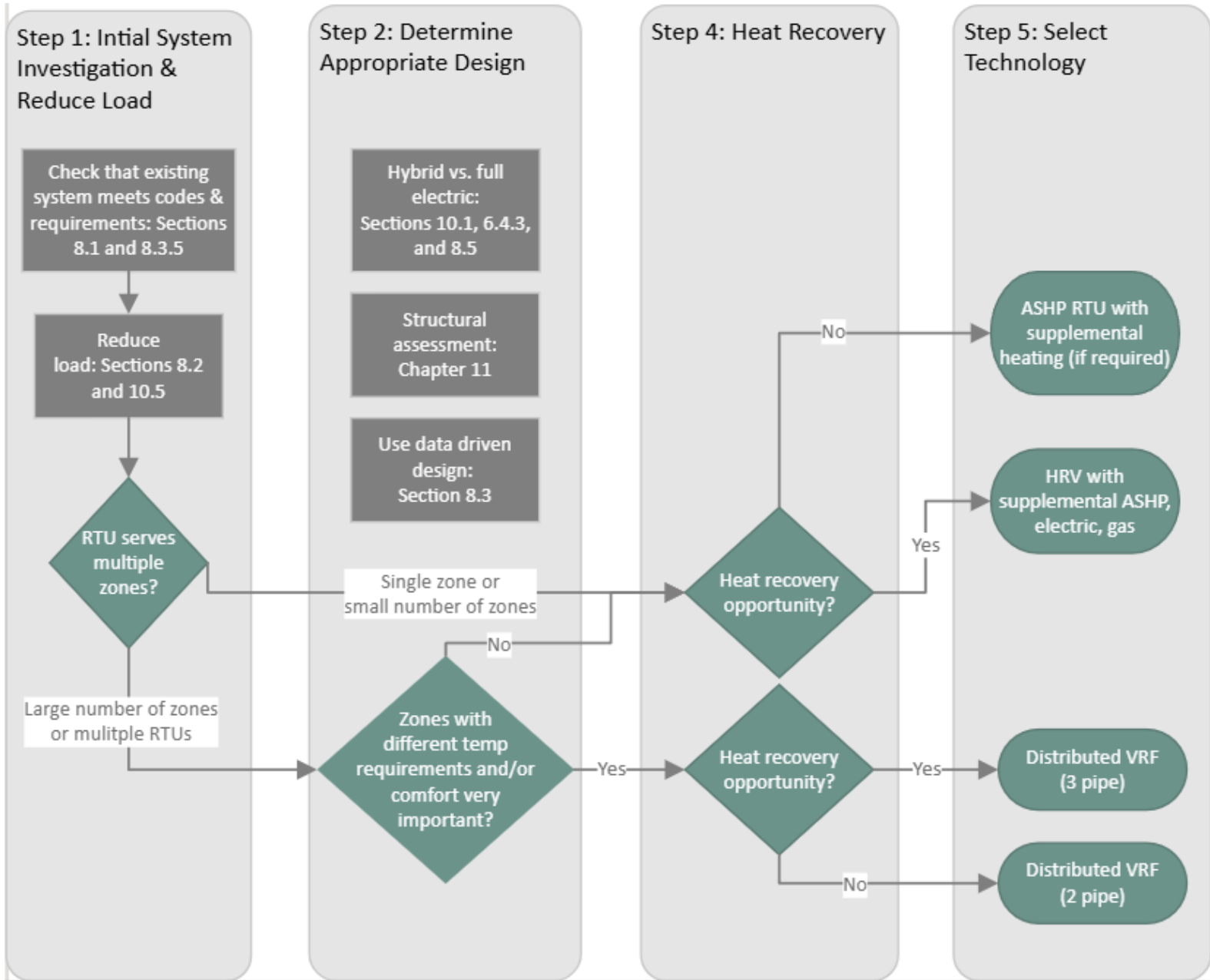
HOW IS THIS GUIDE DIFFERENT?

- **Comprehensive**
 - » Cover process and technical considerations
- **Holistic Electrification Strategy**
 - » Electrification offers a chance to optimize the entire building
 - » Focuses on understanding and improving current systems
 - » Followed by effective heat pump integration
- **Collaborative and Iterative Approach**
 - » Draws from industry expertise and designed to evolve with user feedback and technological progress

ELECTRIFICATION PRINCIPLES

- Increases efficiency, reduces overall energy use
- Right sizes equipment based on real data
- Complementary improvements (resilience, comfort)
- Includes multiple building systems
- Achieves on long term performance





WHERE TO GET IT?

B2E Commercial Building Electrification Guide

Oct 2024

The first edition of the B2E Commercial Building Electrification Guide was created by practitioners with practical experience with deep retrofits, in consultation with leading mechanical, electrical, and structural engineers, as well as building owners, and equipment suppliers. It is intended to be a resource that will enable consultants to design and construct successful building electrification projects and build the sector's capacity to reach our emissions reduction targets.

The guide is divided into three sections: Electrification Process, Technical Considerations, and Resources.

The Electrification Process

For consultants with a new construction background or with experience in traditional system replacement projects, this section provides guidance on how to approach the electrification of key mechanical systems in existing buildings, including:

- a high-level planning process that can be tailored to virtually any building or portfolio, and
- a project-level implementation roadmap that includes considerations specific to the electrification implementation

[» Download Guide](#)

...engineer as prime consultant – a potentially unfamiliar role with new responsibilities
...successfully implement electrification projects – and offers guidance for the engineer's
...high design, procurement, construction and ongoing operations.



<https://b2electrification.org/b2e-commercial-building-electrification-guide>



Thank You!

Embodied Emissions

 **Stream 2**

An applied research project for low-rise homes that minimize embodied emissions.

Utility Data

Stream 4

A ZEBx utility data collection initiative to determine the real emissions and energy profiles of BC homes.

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British
Columbia

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**Avoiding Common Pitfalls of
Green Material Specification**
Concrete, Steel, and Mass Timber

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