

What's the Plan?

Webinar Series

zeb
Vancity

Planning for Building Decarbonization: Affordable Housing

Mar 8, 2023
9.30 - 11am PST
zeb.org

DECARBONIZED



Metro Vancouver
Zero Emissions
Innovation Centre



Edmonton

Calgary



zeb_x



Our Podcast

available on apple, spotify & google



RESOURCES

SORTING:



Categories:

- ☐ Articles
- ☐ Case Studies
- ☐ Past Events
- ☒ Podcasts
- ☐ Reports
- ☐ Videos & Slides

Series:

- ☐ Decarb Lunch
- ☐ Deep Emissions Retrofit Dialogue
- ☐ NZER Challenge Playbook Series
- ☐ NZER Challenge Winners Series
- ☐ Tech Demonstration

Systems:

- ☐ Building Enclosure
- ☐ Domestic Hot Water Heat Pump
- ☐ Geothermal
- ☐ Mechanical
- ☐ Solar Energy



PODCAST & SLIDES

**The ZEB^x Podcast
Decarb Lunch****Reducing Embodied Carbon
for Step Code Homes**

Season 2 Episode 1

The ZEBx Podcast Decarb Lunch
Jan 2022: Reducing Embodied
Carbon for Step Code Homes

PODCAST & SLIDES

**The ZEB^x Podcast
Decarb Lunch****From Net-Zero Energy to
Near-Zero Emissions**

Season 1 Episode 6

The ZEBx Podcast Decarb Lunch
Oct 2021: From Net-Zero Energy to
Near-Zero Emissions

PODCAST

**The ZEB^x Podcast
Decarb Lunch****Developer/Builder Recipes for
Low-Cost, All-Electric, Step 4
Residential Construction**

Season 1 Episode 5

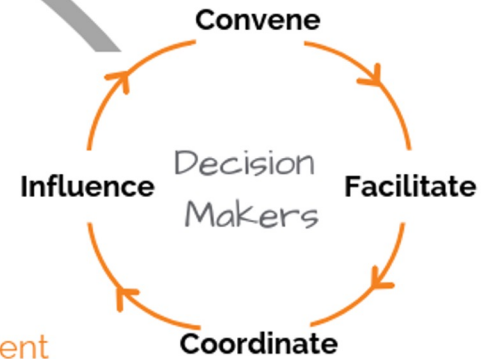
The ZEBx Podcast Decarb Lunch
Jul 2021: Developer/Builder
Recipes for Low-Cost, All-Electric,
Step 4 Residential Construction

COLLABORATE
Accelerate Solutions

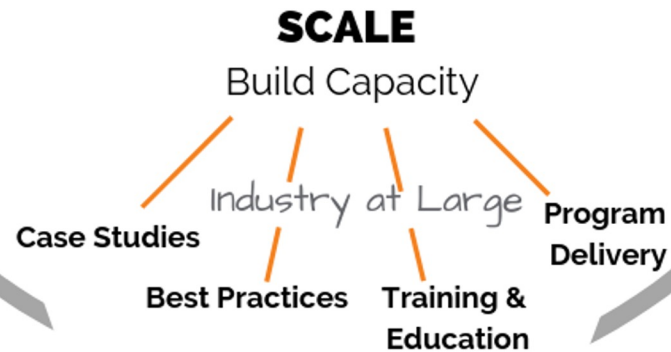


zebx
"connecting industry to solutions"

~~ADVANCE~~ **ACCELERATE**
Remove Barriers &
Identify Opportunities



We're in a
climate
emergency!



zebx.org

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.



b2electrification.org



Carbon
Leadership
Forum
Vancouver

joins



ZEBx is proud to announce the **Carbon Leadership Forum, Vancouver** has joined our organization.

clfvancouver.com

Annual Carbon Pollution Limits for Existing Large Commercial and Multifamily Buildings



REPORT RECOMMENDATIONS

- A. THAT Council approve, in principle, an Annual Greenhouse Gas and Energy Limits By-law (the “new By-law”) as proposed in this report.
- B. THAT Council instruct the Director of Legal Services to bring forward for enactment the proposed new By-law, to implement Recommendation A, with certain key provisions to come into force and take effect on January 1, 2023.
- C. THAT, Subject to the approval of Recommendation A, Council approve, in principle, an amendment of the Building By-law generally in the form attached as Appendix A, which includes the removal of energy upgrade requirements for all buildings except one and two family houses.
- D. THAT Council instruct the Director of Legal Services to bring forward for enactment amendments to the Building By-law as set out in Appendix A, to implement Recommendation C, with certain provisions to come into force and take effect on January 1, 2023.
- E. THAT Council endorse the Regulatory Roadmap found herein, direct staff to continue to research and consult with stakeholders on the actions contained within it and update the Regulatory Roadmap as required.
- F. THAT Council direct staff to convene a Technical Advisory Committee and a Community Accountability Advisory Committee to advise staff on future policy and program development as set out in Appendix D.

Annual Carbon Pollution Limits for Existing Large Commercial and Multifamily Buildings

Initial Regulation Timeline

Initial Year	Regulation
2023	Annual energy and carbon reporting: Commercial $\geq 9,290 \text{ m}^2$ (100,000 ft^2)
2024	Annual energy and carbon reporting: Commercial $\geq 4,645 \text{ m}^2$ (50,000 ft^2) Multifamily $\geq 9,290 \text{ m}^2$ (100,000 ft^2)
2025	Annual energy and carbon reporting: Multifamily $\geq 4,645 \text{ m}^2$ (50,000 ft^2)
2026	GHGi limits come into effect for commercial office and retail buildings $\geq 9,290 \text{ m}^2$ (100,000 ft^2): Office = 25 $\text{kg CO}_2\text{e/m}^2\text{/year}$ Retail = 14 $\text{kg CO}_2\text{e/m}^2\text{/year}$
2040	GHGi limits for Office and Retail $\geq 9,290 \text{ m}^2$ (100,000 ft^2): 0 $\text{kg CO}_2\text{e/m}^2\text{/year}$ Heat Energy Limit for Office and Retail $\geq 9,290 \text{ m}^2$ (100,000 ft^2): 0.09 $\text{GJ/m}^2\text{/year}$

Annual Carbon Pollution Limits for Existing Large Commercial and Multifamily Buildings

Table: Potential Regulatory Requirements - Phasing, 2022-2050

Phase	Details
2022 - 2024	<ul style="list-style-type: none"> • Analysis and stakeholder consultation on performance and prescriptive regulations • Launching of initial Multifamily owner supports and Multifamily/Commercial demonstration programs • Recommendations for 2026 – 2040 brought to Council
2026	<ul style="list-style-type: none"> • Time-of-Replacement Requirements come into effect for select, secondary and amenity heating equipment, e.g.: <ul style="list-style-type: none"> ○ Pools ○ Fireplaces and decorative gas appliances ○ Rooftop heating units ○ Make-up-air units • Sub-metering requirements for major heating and hot water equipment
2030	<ul style="list-style-type: none"> • Updated GHGi for Office and Retail > 9,290 m²
2030	<ul style="list-style-type: none"> • GHGi Limit effective for: <ul style="list-style-type: none"> ○ Office & Retail > 4,645 m² ○ Hotels > 4,645 m² ○ Assembly > 32,500 m² ○ Other Commercial building types > 4,645 m² (to-be-determined) ○ Multifamily buildings > 9,290 m²

Metro Vancouver Climate 2050 Roadmap for Buildings

CLIMATE 2050 BUILDINGS ROADMAP ACTION TIMELINE

STRATEGY	2021-2023	2024-2029	2030-BEYOND
STRATEGY 1 Signal the Transition to Zero Emission Buildings Through Requirements and Standards		GHG Performance Requirements for Existing Large Buildings	
		GHG Performance Requirements for Existing Houses & Townhomes	
	New Buildings Efficient and Electric		
		Require Greenhouse Gas Reductions During Renovations	
	Building Electrification Mandate for BC Hydro		
	Energy Labels for Homes and Buildings		
	Manage Indoor Air Quality in Building Codes		
			High Perform. Heating and Cooling Equip.
	Significantly Reduce Refrigerant Leaks in Building Equipment		
		Accurately Value Zero Emissions and Resilient Buildings	

If you're interested in decarbonization planning, you may be interested in





POLL 1

Tell us about yourself!

Three-part anonymous poll



BCNPHA

BC Non-Profit Housing Association

zebx



BCNPHA

BC Non-Profit Housing Association

SECTOR OVERVIEW

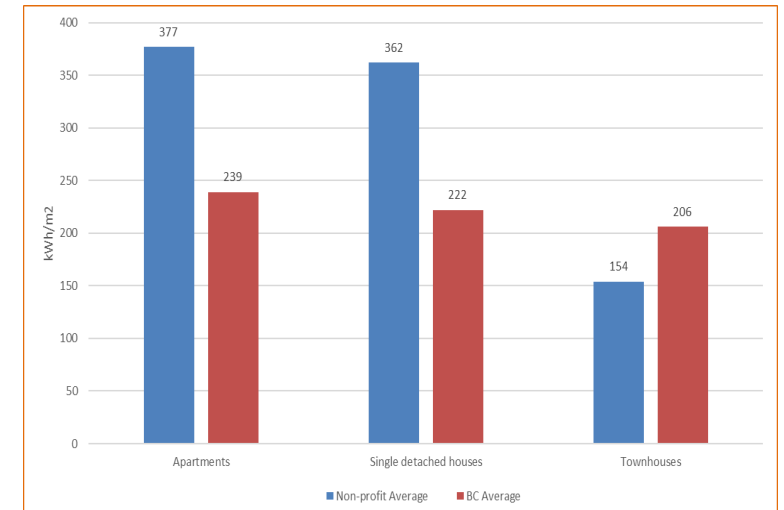
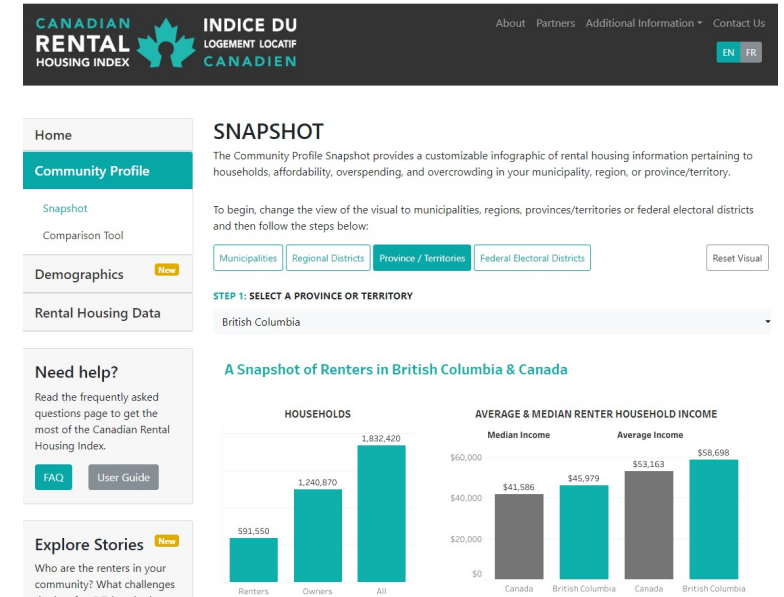
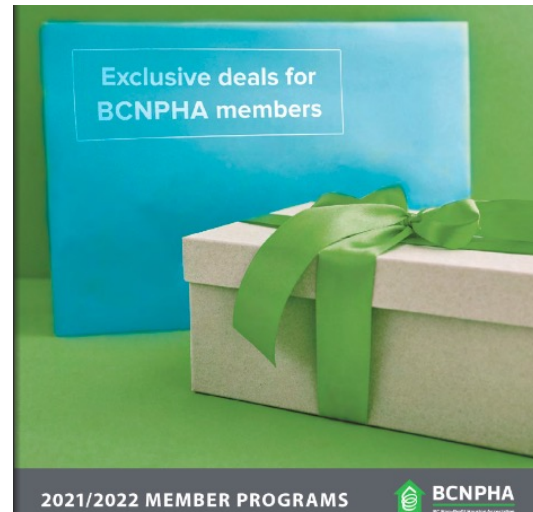
BCNPHA

Mission;

- A safe, secure, and affordable home for everyone

What we do

- Research
- Programs
- Education
- Advocacy
- Supports



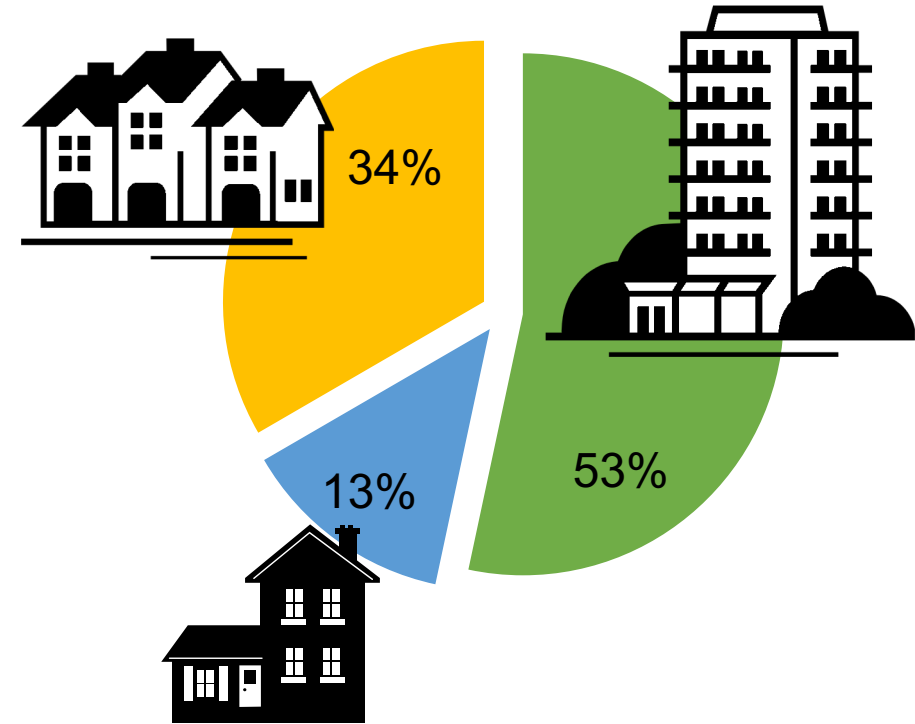
Non-Profit Housing Sector in BC

Housing Sector

- 800 societies
- 3,200 properties
- 65,000 units

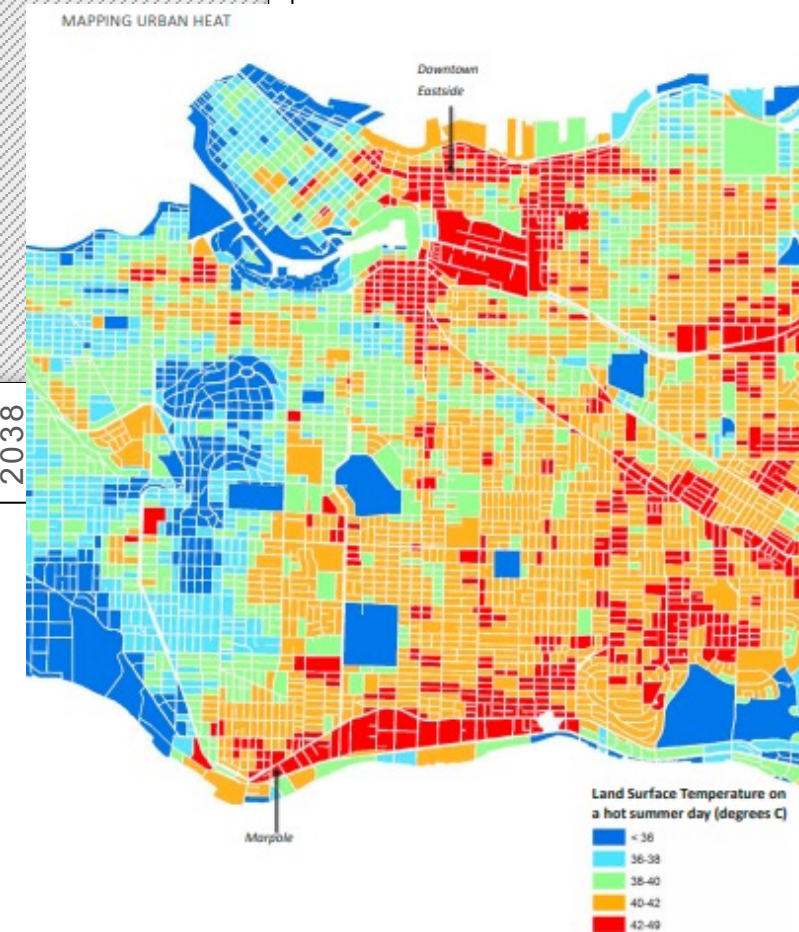
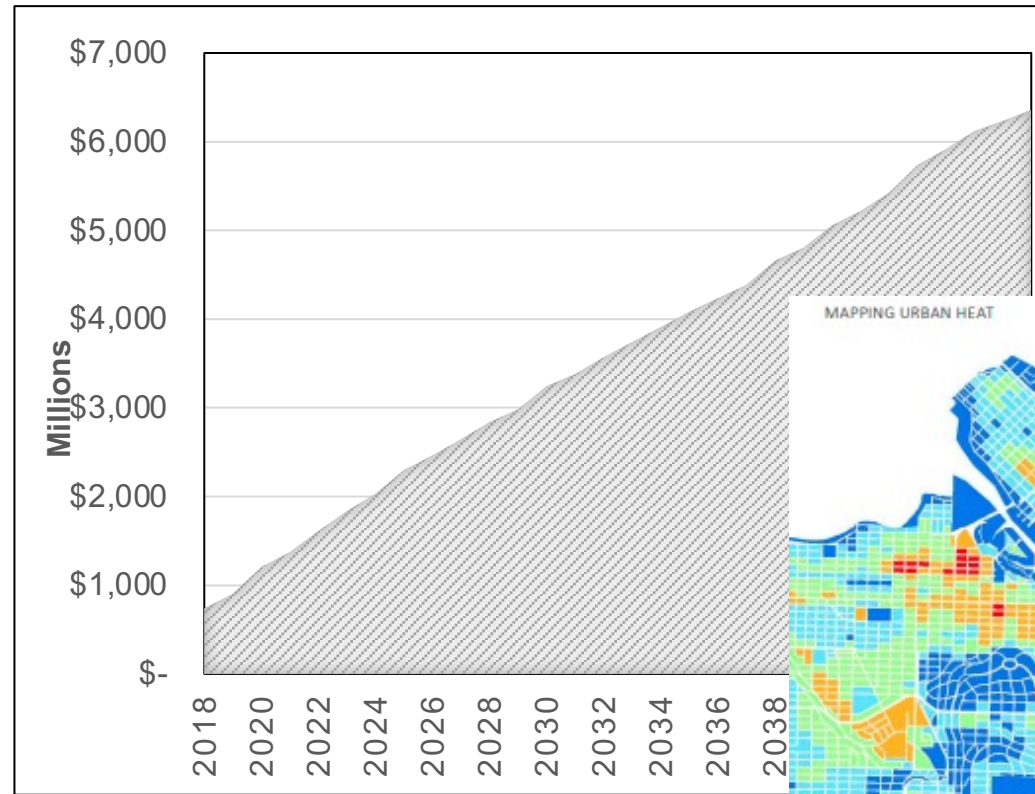
Existing buildings

- Most built between 1970 & 2000
- Predominantly apartments
- Many single family homes
- Aging envelopes & mechanical equipment



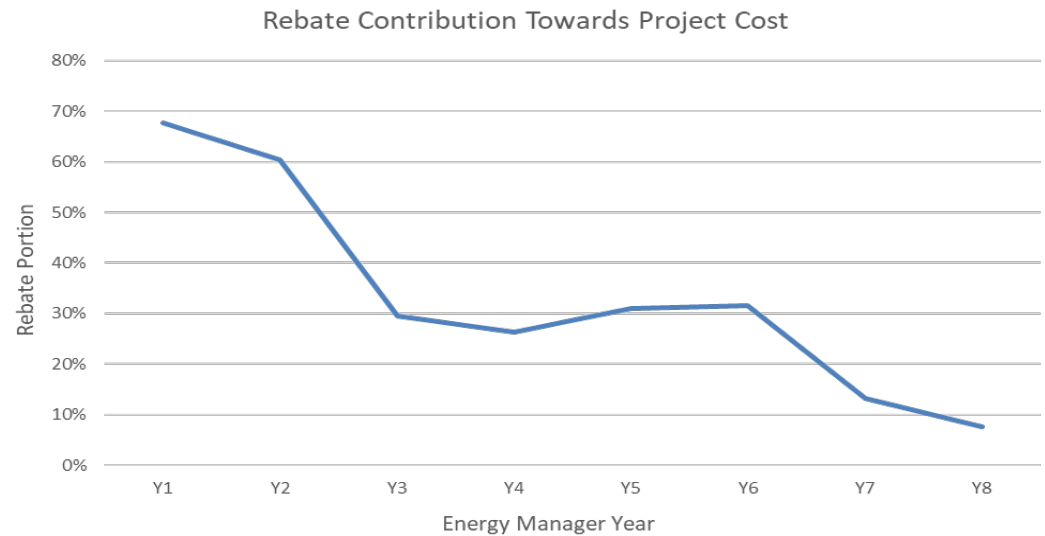
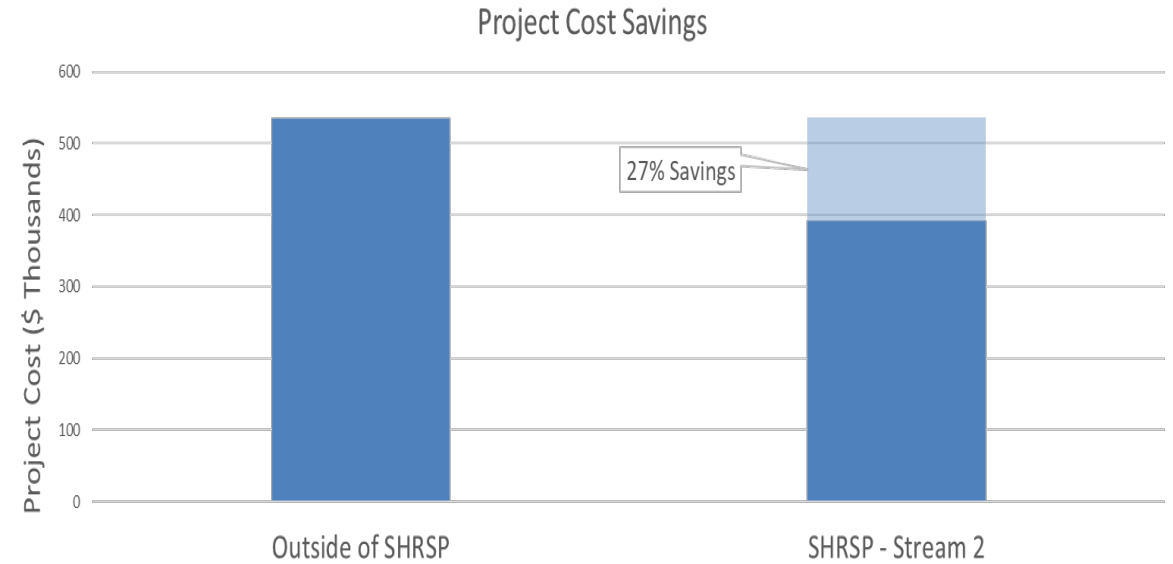
Sector Risks

- Tenant population
 - Most at risk
 - Complex needs
 - Lowest capital
- Built Environment
 - Overheating
 - Mould
- Building systems
 - Ageing buildings/systems
 - Complex funding programs
 - Decreasing DSM funding



Transformation

- Solutions
 - Programs
 - Concierge
 - Collaborate
 - Aggregate
 - Capital funding
- Examples;
 - City of Vancouver
 - Columbia Basin Trust



POLL 1

What did you tell us about yourself?



BCNPHA

BC Non-Profit Housing Association

zebx

Brightside Community Homes Foundation

ZEBx Decarbonization Planning – March 8, 2023



- Founded in 1952 – affordable housing for seniors

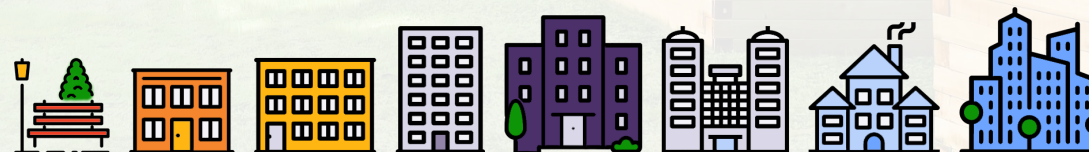



- 22 Buildings throughout Vancouver – 800+ residents



- 4 sites currently under redevelopment – 488 new units

Brightside Community Homes Foundation is a charitable, non-profit housing society that provides subsidized independent-living housing for low-income seniors, adults with disabilities, and low-income families. We emphasize community development that fosters strong social connections and resilience among residents.





Brightside Community Homes Foundation, as a place-based organization, is privileged to provide affordable homes for over one thousand people on the traditional and unceded territories of the xʷməθkʷəy̓əm (Musqueam), Sk̓wx̓wú7mesh (Squamish), and səlilwətaɫ (Tsleil-Waututh) Peoples.

Brightside's Redevelopments

- 4 projects currently underway
- 3 will be Passive House Certified (fourth is LEED Gold)
- Partnerships with/funding from variety of agencies



Ground-breaking ceremony for Timbre & Harmony at 1425/1451 East 12th Avenue, April 23, 2022



488 new rental homes



Green buildings reduce carbon footprint



Planned community amenities facilitate social connectedness



Hundreds of new homes for seniors



68 new two- and three-bedroom homes for families



Dozens of new, fully accessible homes for people with physical disabilities

Planning for Sustainability

- Strong alignment on ESG approach within Brightside Board of Directors
- Ambitious net-zero targets driven by Board and Leadership Team Strategic Planning



Made possible by funding from



Community Housing
Transformation Centre
Centre de transformation
du logement communautaire

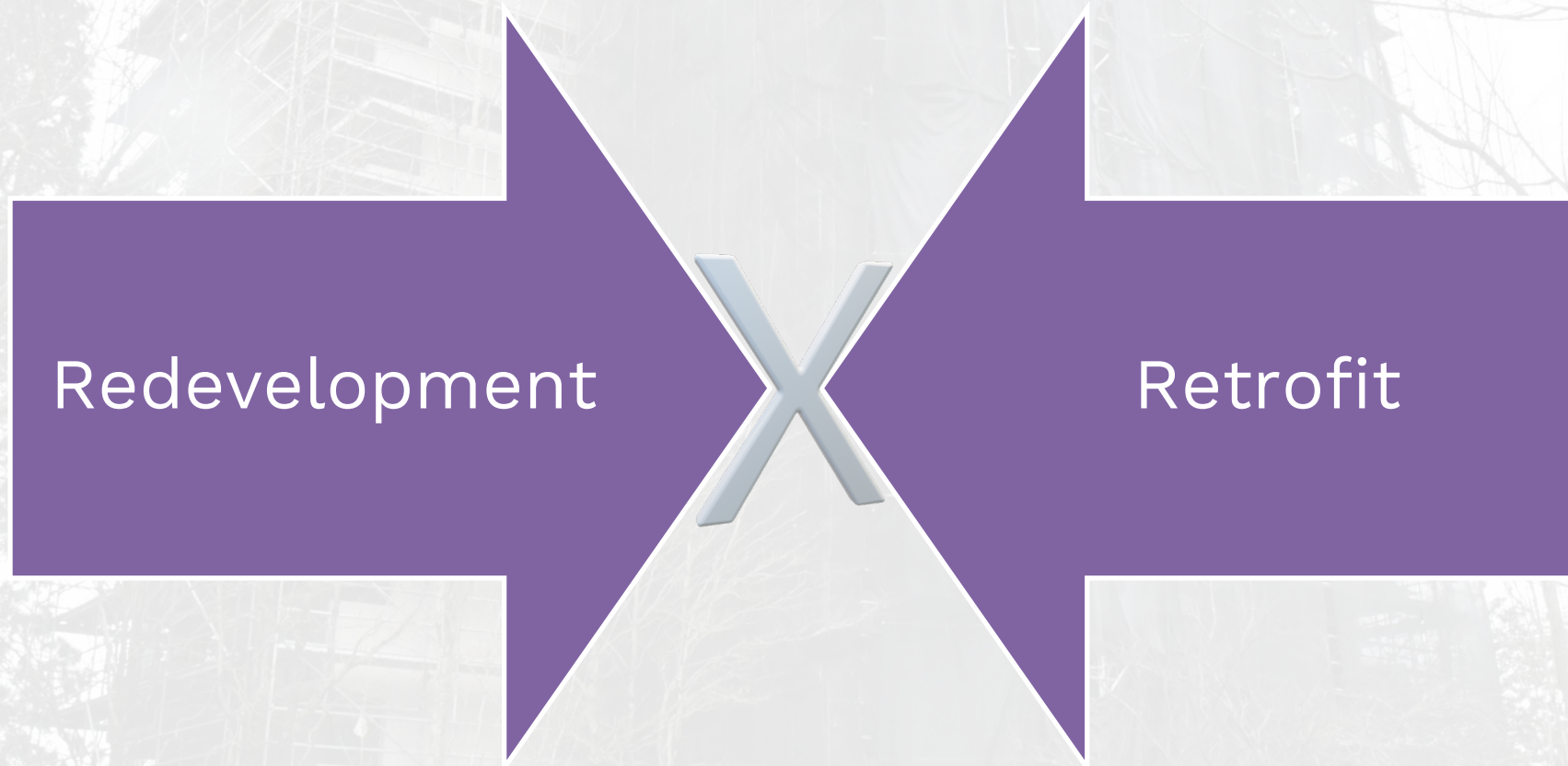
Vancity

Decarbonization Planning: Community Housing Specifics

- Mortgages on older buildings are often low or sometimes paid off
- Vulnerable populations; climate resilience is critical
- Low-income residents; focus on affordability with an equity lens
- Deferred maintenance can be of help when planning retrofit projects
- Federal programs: low-cost loans available through CMHC & FCM
- EUI & GHGI higher than typical MURBs in BC
- Need to build internal capacity for this work

Getting to Net-Zero

Getting to net-zero will involve redeveloping some properties, retrofitting many, and dealing with anomalies over time.



Setting Targets

- Ambition over certainty
- Net-zero Targets include new developments
 - Zero emissions new construction policy / standards
- Acquisitions may impact baseline / targets

Background

Brightside engaged Affine in early 2022 to develop the first organizational Net-Zero Strategy spanning emissions from:

- buildings
- vehicles
- the value chain

Type	Description	Examples
Scope 1	<u>Direct</u> emissions from sources owned by Brightside	<ul style="list-style-type: none">• Natural gas burned in our buildings• Fuel burned in vehicles
Scope 2	<u>Indirect</u> emissions from purchased electricity and steam	<ul style="list-style-type: none">• Electricity used in buildings' common areas
Scope 3	Emissions from sources <u>not owned or controlled by</u> Brightside	<ul style="list-style-type: none">• Emissions from purchased goods, employee commuting, investments, and energy used by residents



Scope 1 & 2 Emissions

Climate Solutions
Affine

EMISSIONS SUMMARY BUILDING PORTFOLIO

2019	Amount	Unit	Percentage
------	--------	------	------------

Scope 1	1514	tCO2e	79%
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Scope 2	216	tCO2e	11%
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Scope 3	191	tCO2e	10%
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Total	1,920	tCO2e	100%
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2020	Amount	Unit	Percentage
------	--------	------	------------

Scope 1	1514	tCO2e	77%
---------	------	-------	-----

Scope 2	209	tCO2e	11%
---------	-----	-------	-----

Scope 3	236	tCO2e	12%
---------	-----	-------	-----

Total	1,959	tCO2e	100%
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2021	Amount	Unit	Percentage
------	--------	------	------------

Scope 1	1481	tCO2e	83%
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Scope 2	210	tCO2e	12%
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Scope 3	84	tCO2e	5%
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Total	1,775	tCO2e	100%
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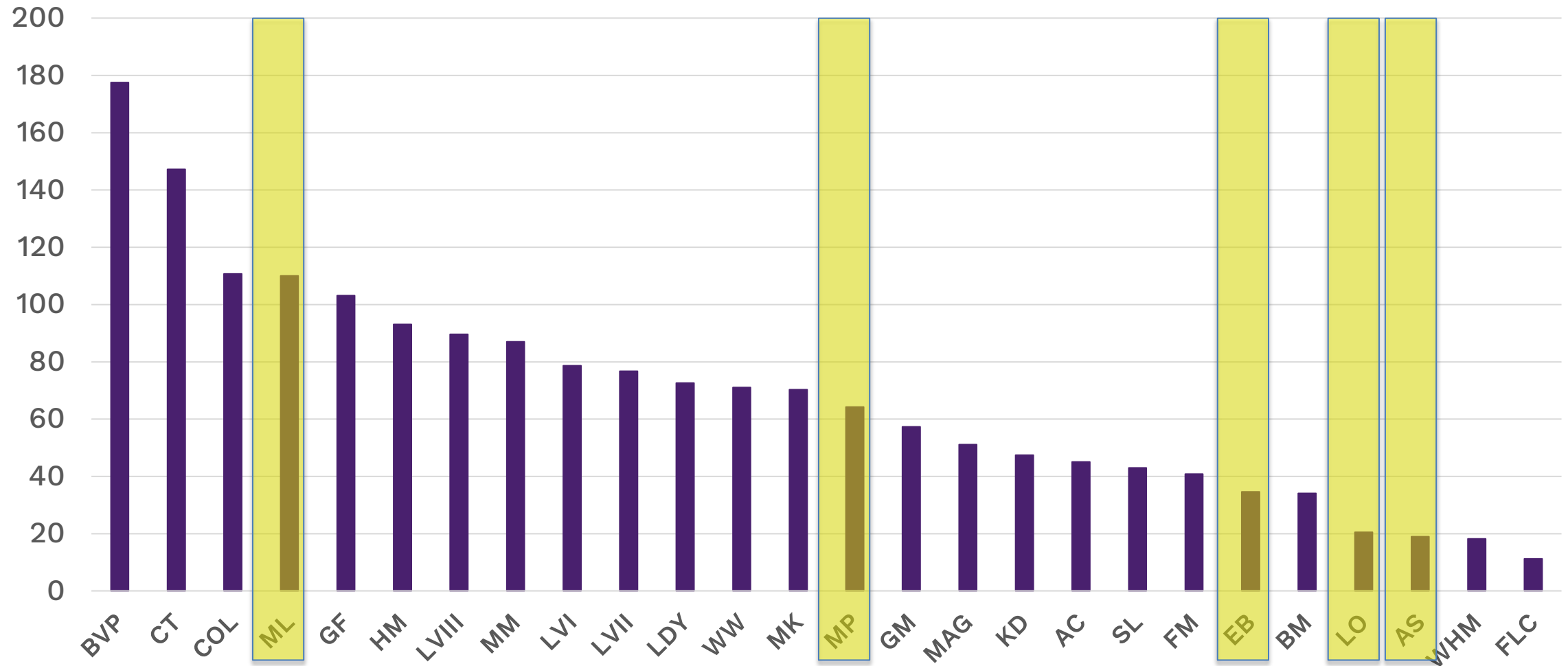
Buildings:

2019 - 2021 Emissions Baseline

- Scope 1: Gas
- Scope 2: Electricity & Steam
- Scope 3: Tenant energy use

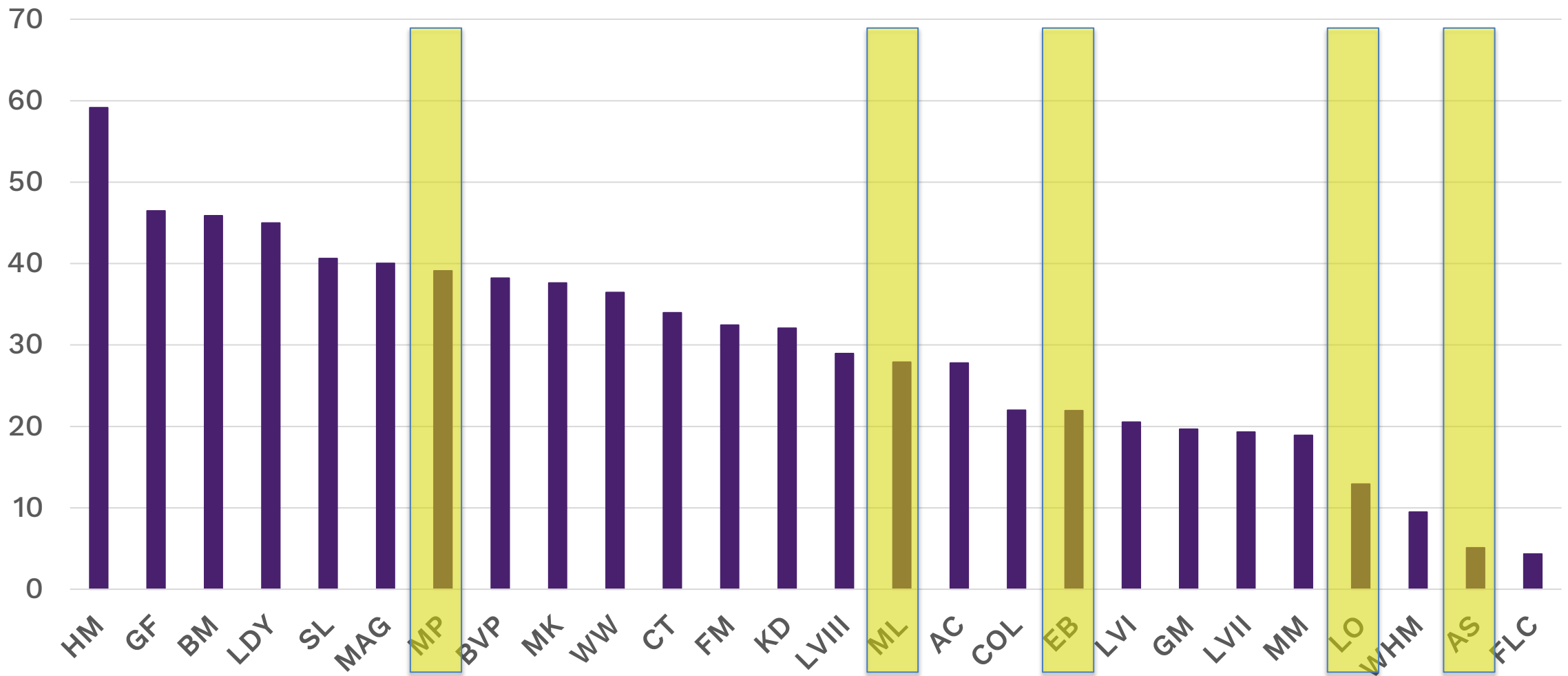
Building Portfolio: Total GHG Emissions

2021 TOTAL GHG EMISSIONS
(tCO2e)



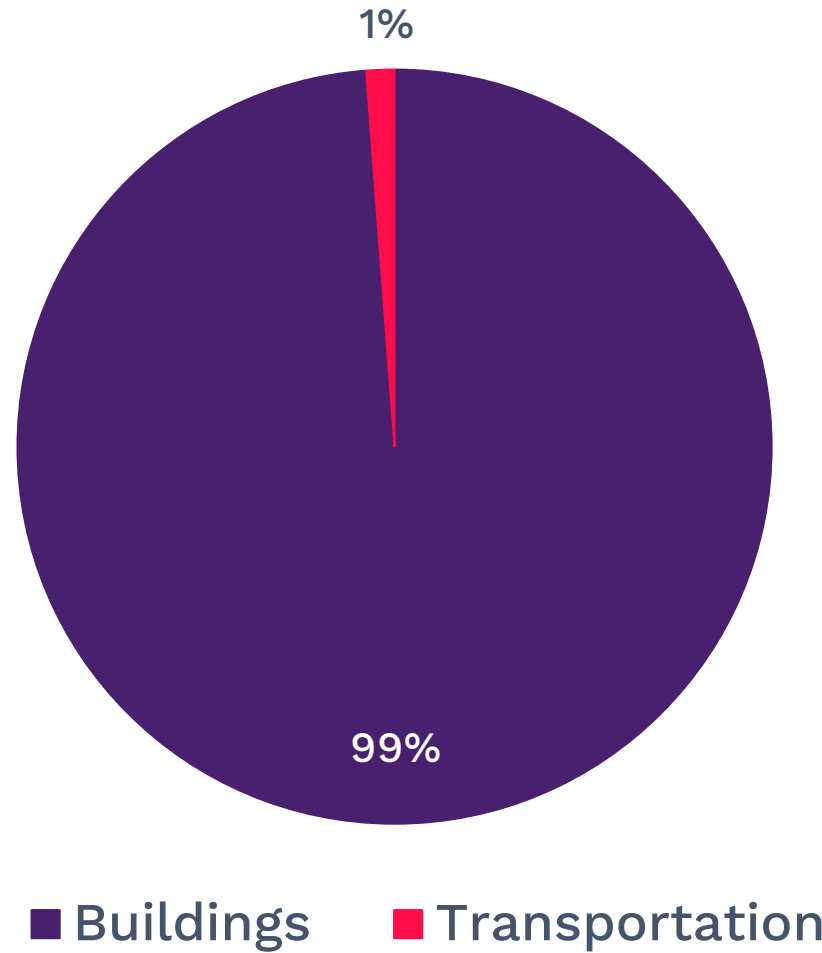
Building Portfolio: Emissions Intensity

2021 TOTAL GHG EMISSIONS INTENSITY
(kgCO₂e/m²)



2021 GHG Emissions: Buildings vs Transportation

Total Emissions: Scope 1 & 2



Possible Emission Reduction Targets

2035 Net-Zero Pathway – 2 retrofits per year

Year	Target emissions (tCO ₂ e)	Percent reduction	# Retrofits
2021 (base year)	1690		
2027	919	46%	8-9
2035	20	99%	21

Notes:

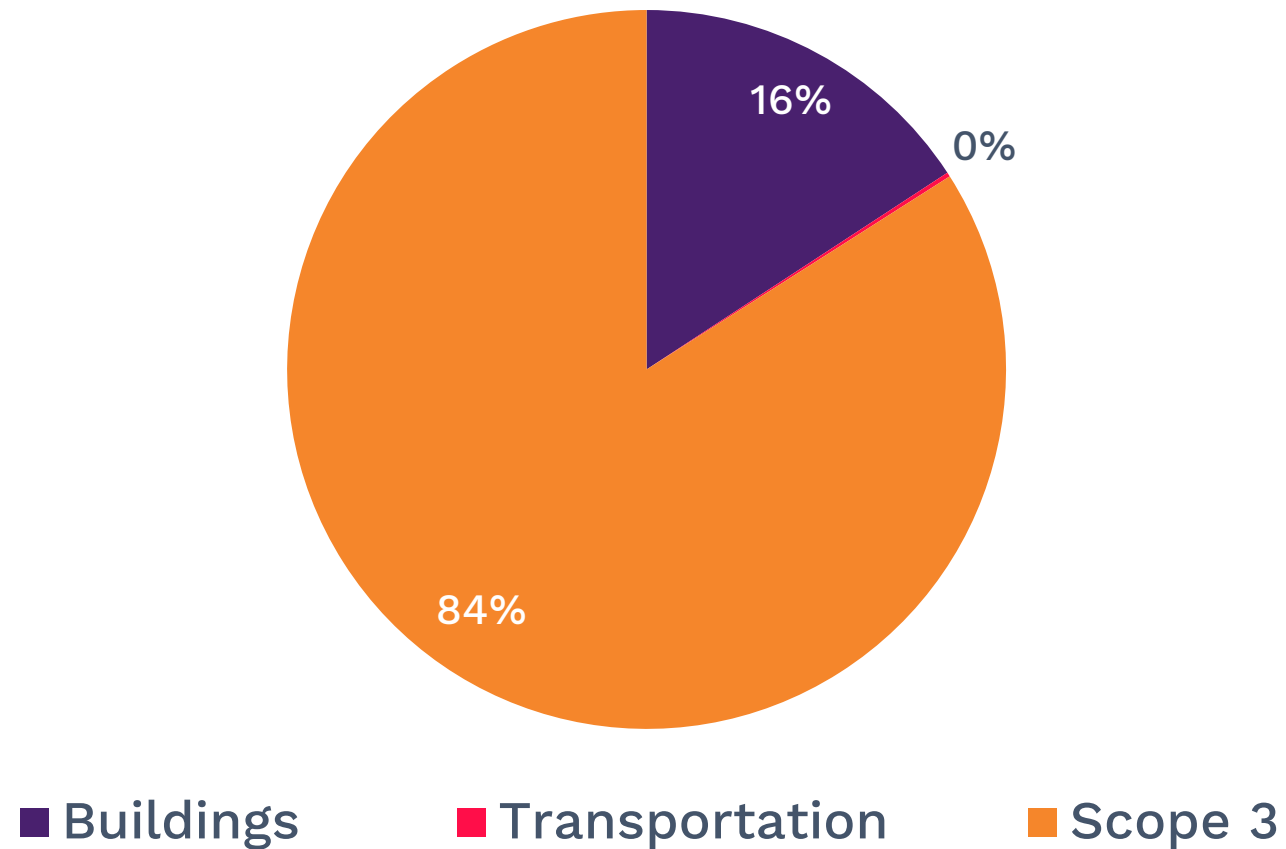
Includes scope 1 & 2 emissions for buildings only.
Includes 4 new properties constructed in 2022-24.
Assumes zero-emission electricity by 2027.

Targets

- Set a **37% reduction target for 2027** to allow time to build capacity.
- Set a **2035 net-zero target** based on accelerated implementation.

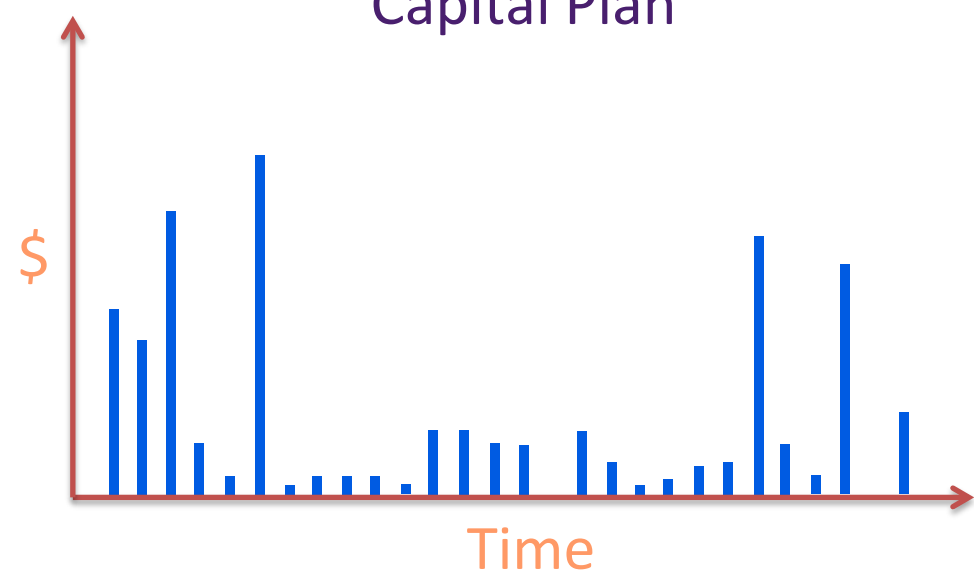
2021 GHG Emissions: Scope 1, 2 & 3

Total Emissions: Scope 1, 2 & 3 (tCO₂e)

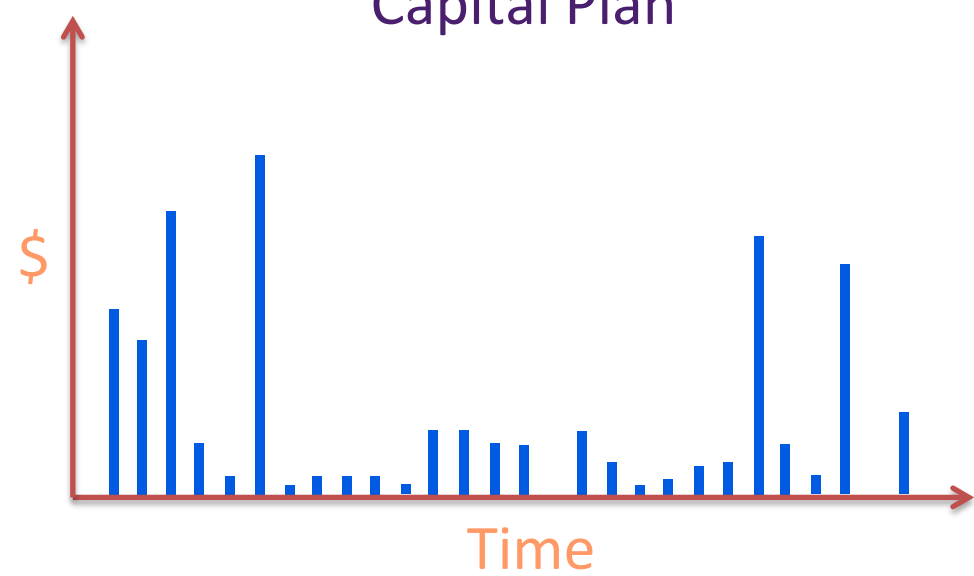


Note: Scope 3 estimate based on BC emissions and Brightside vendor spend.

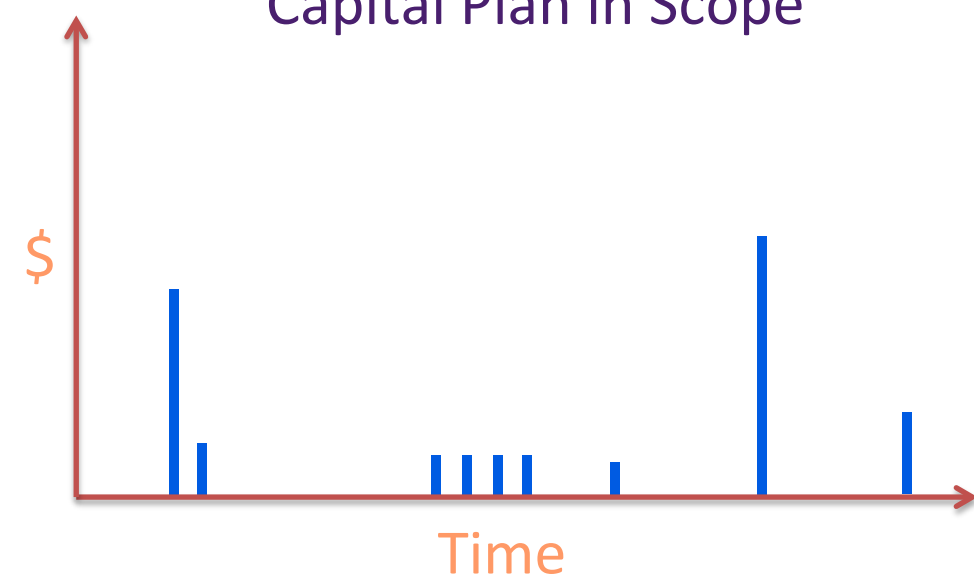
Capital Plan



Capital Plan



Capital Plan in Scope



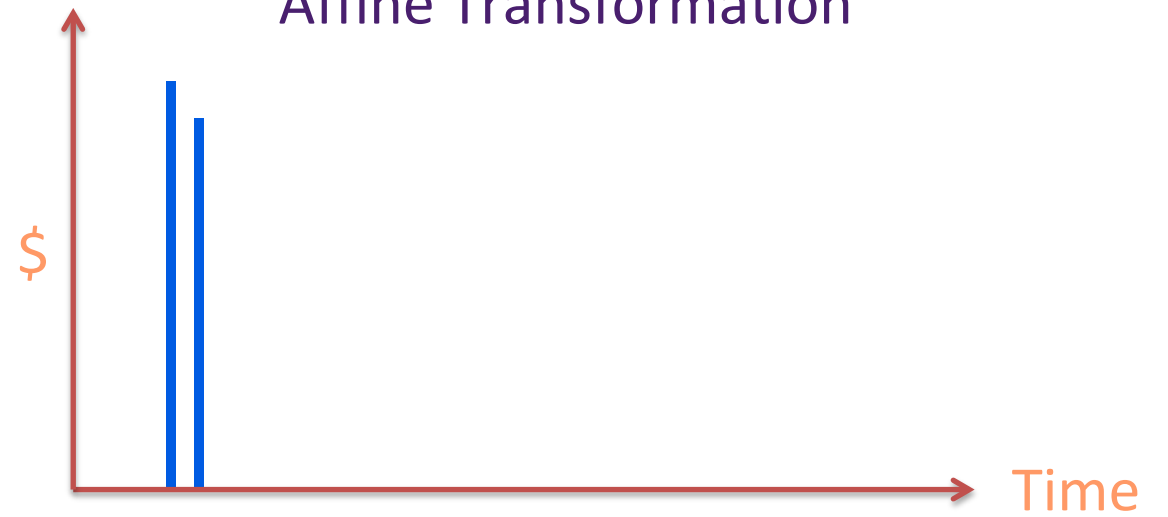
Capital Plan



Capital Plan in Scope



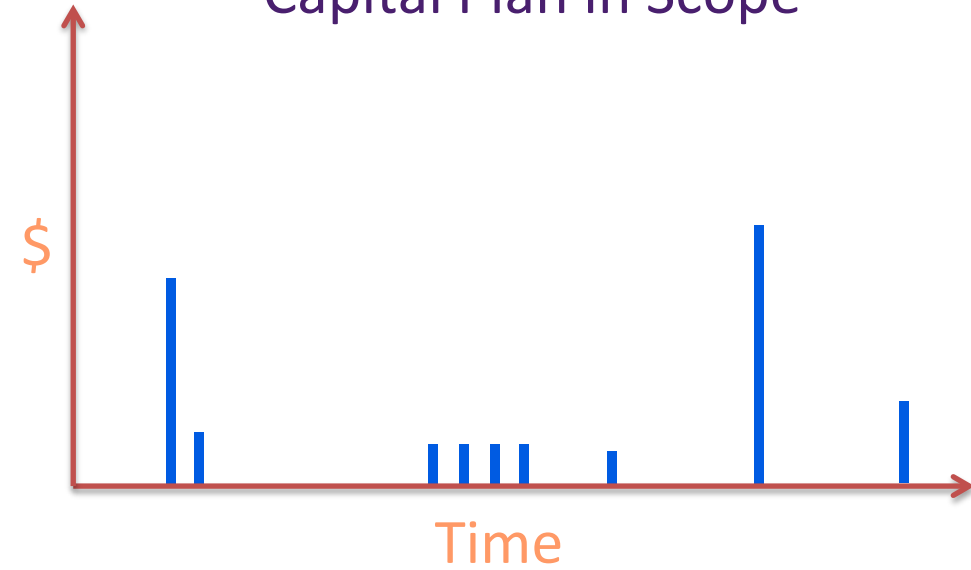
“Affine Transformation”



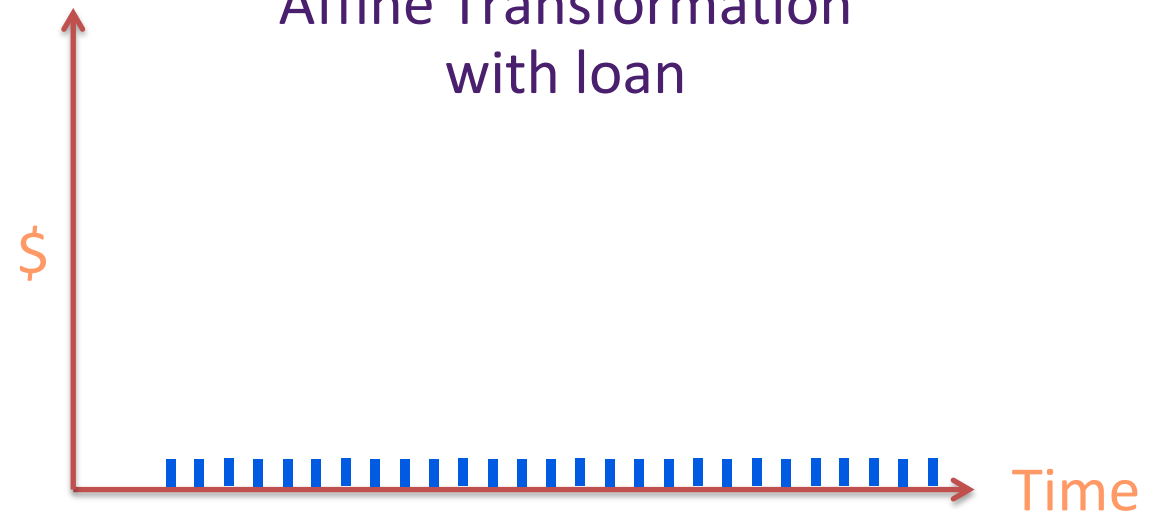
Capital Plan



Capital Plan in Scope



“Affine Transformation”
with loan





Affine Climate Solutions

Decarbonization Planning for Affordable Housing

March 8, 2023



Forestry Innovation
Investment®

Vancity

ABOUT US

Mission

Provide tangible,
inspiring
decarbonization
solutions for climate
recovery.

We are a climate consultancy specializing in building decarbonization and the implementation of practical action plans.

Our team is experienced in green building design, construction, project management, financing, and education across Canada.

We pair scalable climate solutions with a pragmatic approach to implementation.

Affine Climate Solutions

Affine's Retrofit Approach



Deliver Turnkey Solutions

End-to-end retrofit services from planning, financing, design, and construction project management, to commissioning.



Develop Business Case

Financial analysis incorporating incremental cost, incentives, and non-monetary benefits (health, comfort, resilience).



Move forward with Uncertainty

Avoid analysis paralysis. Know when you know enough to advance the project.

Vancity Non-Profit Housing Retrofit Program



Retrofit Grants & Financing

- Aimed at deep energy and climate resilient retrofit projects
- Grants up to \$80,000 for retrofit planning
- Grants for project implementation and retrofit financing pilot in development in 2023
- Eligibility: need to be a non-profit housing society & Vancity member
- Simple application process: email housingretrofits@vancity.com

Financing needs to make sense for both the borrower and lender

01

Strategy

Choose a building from your portfolio that could feasibly be retrofitted for zero carbon operations and climate resilience.

02

Design

Optimize a whole-building solution based on past performance, future context, system options, site constraints, and opportunities.

03

Financing

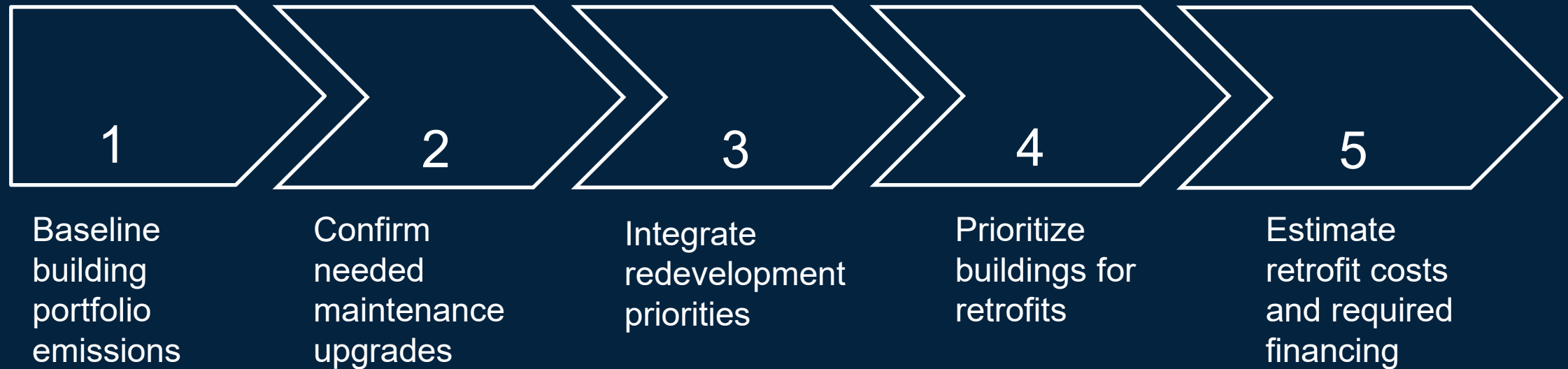
Bundle the retrofit solutions into a financeable project that is attractive to the lender.

04

Total Cost

Consider total costs over building lifetime and intangible benefits (health, resilience, productivity, avoided upgrades).

Climate-aligned Portfolio Plan



- Portfolio plan informs retrofit scheduling, phasing, and financing.
- Retrofit transition plan needs to be developed for each property.

Brightside Net Zero Retrofit Pilots

	Moreland Kennedy	Gordon Fahrni
Construction Year	1974	1969
Number of units	31 bachelor & one-bedroom	42 bachelor & one-bedroom
Heating & hot water	Gas boiler	Gas boiler
Climate Resilience	No cooling Original single-pane windows	No cooling Original single-pane windows
GHG Intensity	37.6 kg CO ₂ e/m ²	46.5 kg CO ₂ e/m ²
EUI	0.93 GJ/m ²	1.40 GJ/m ²

Moreland Kennedy House



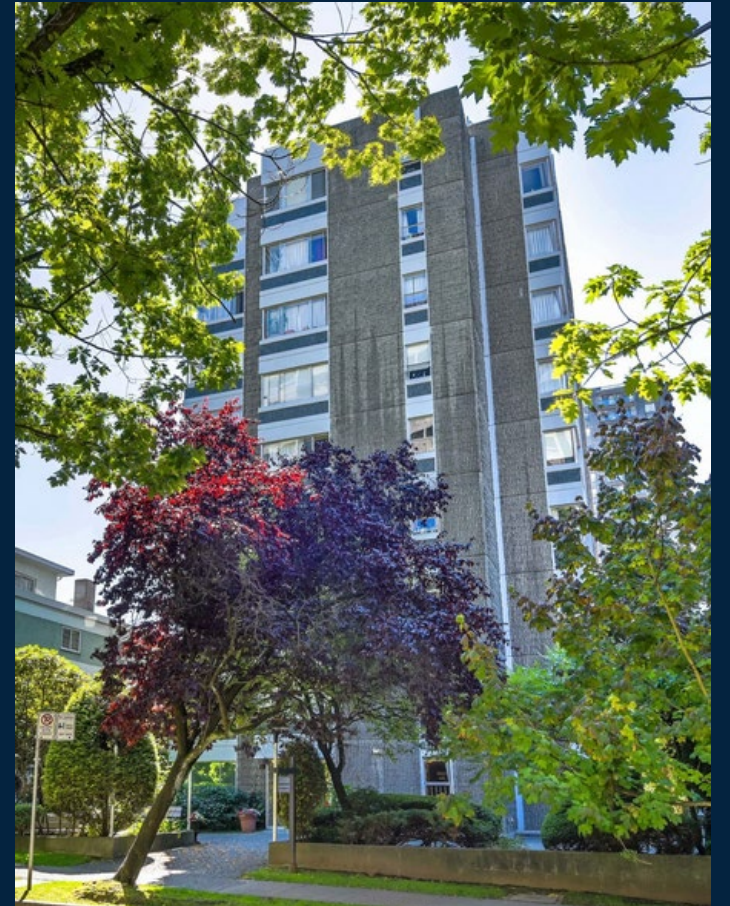
Building Benchmark BC multi-family buildings GHGI: 29.4 kgCO₂e/m² | EUI: 0.82 GJ/m²

Brightside Net Zero Retrofit Pilots

Gordon Fahrni House

Pilot scope:

- Heat pump conversions for space heating & domestic hot water
- Window upgrades
- Lighting upgrades & appliance electrification
- Major electrical upgrades likely not required



Brightside Net Zero Retrofit Pilots

Moreland Kennedy Pilot affordability, costs and benefits:

- Retrofit cost estimated at \$1.4M (incremental cost: \$600K)
- Financial model forecast \$5K additional energy costs per year.
- All energy costs paid by Brightside.
- Grants and low-cost financing to offset retrofit expenses.
- Benefits of cooling, reduced health risks, and avoided costs for cooling centres must be included in the financial analysis.

Thank you

hello@affineclimate.ca

www.affineclimate.ca



Kelly Court – Full Building Envelope Rehabilitation 2022

Planning for Building Decarbonization – Affordable Housing

PORTFOLIO PLANNING

Jade Hume, P.Eng, PMP

Division Manager, Housing - Capital Maintenance and Development

Adrian Lynch, P.Eng, PMP

Project Engineer, Energy Management

March 08, 2023

Orbit

metrovancouver

Metro Vancouver Housing Portfolio

67%
TOWNHOMES



33%
APARTMENT
BUILDINGS



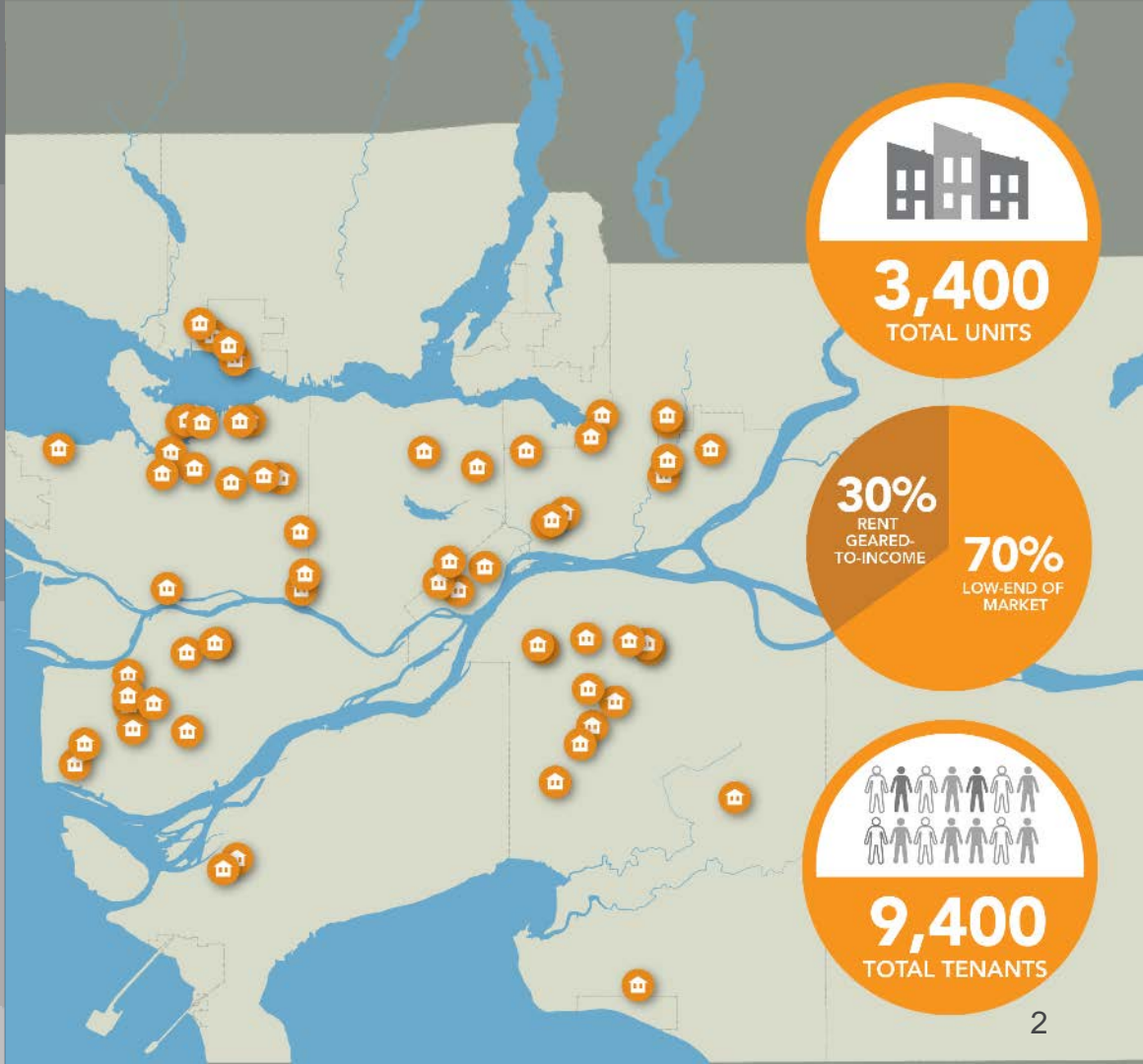
metrovancover

0 – 1 BDRM
18%

2 BDRM
41%

3 BDRM
40%

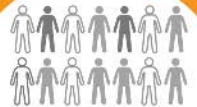
4 BDRM 1%



3,400
TOTAL UNITS

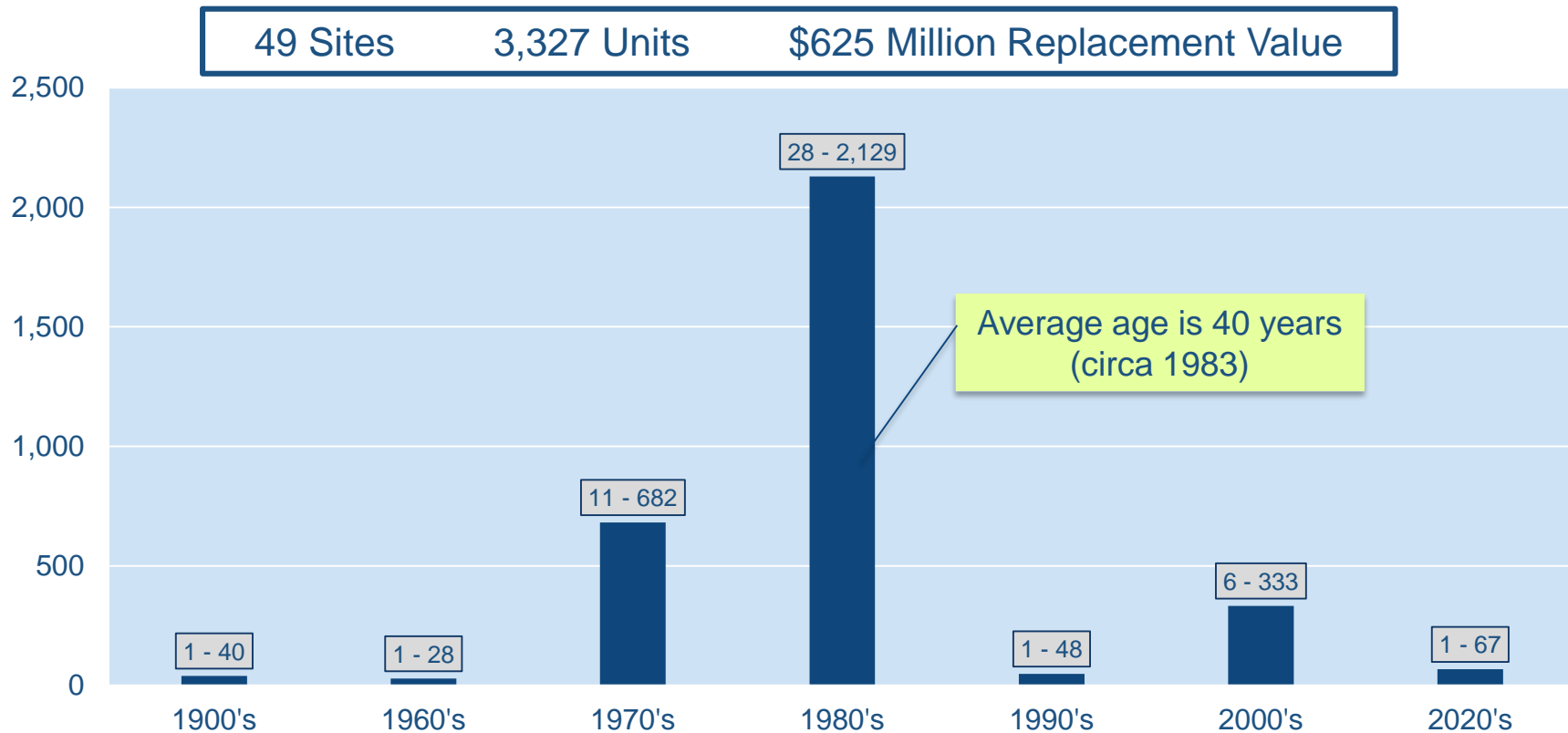
30%
RENT
GEARED-
TO-INCOME

70%
LOW-END OF
MARKET



9,400
TOTAL TENANTS

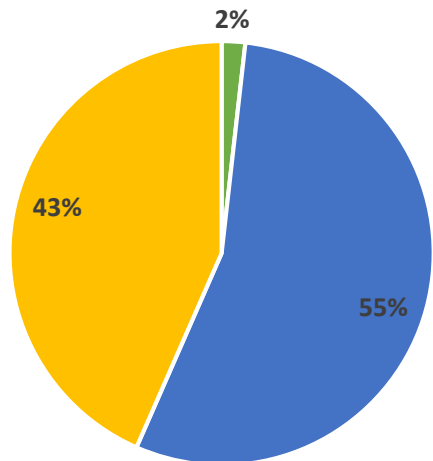
MV HOUSING – PORTFOLIO AGE PROFILE



HOUSING ENERGY AND GREENHOUSE GAS (GHG) 2021 DATA

Housing Energy Costs (\$)

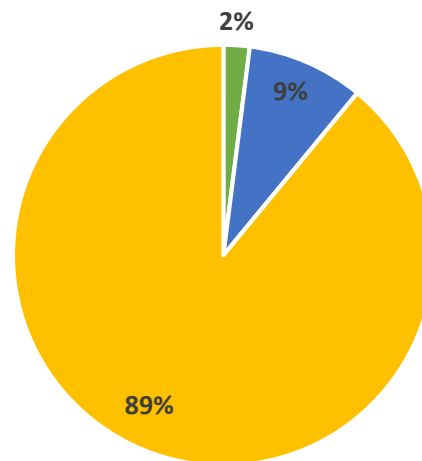
■ Steam ■ Electricity ■ Natural Gas



Total Energy Costs: \$1.27 million

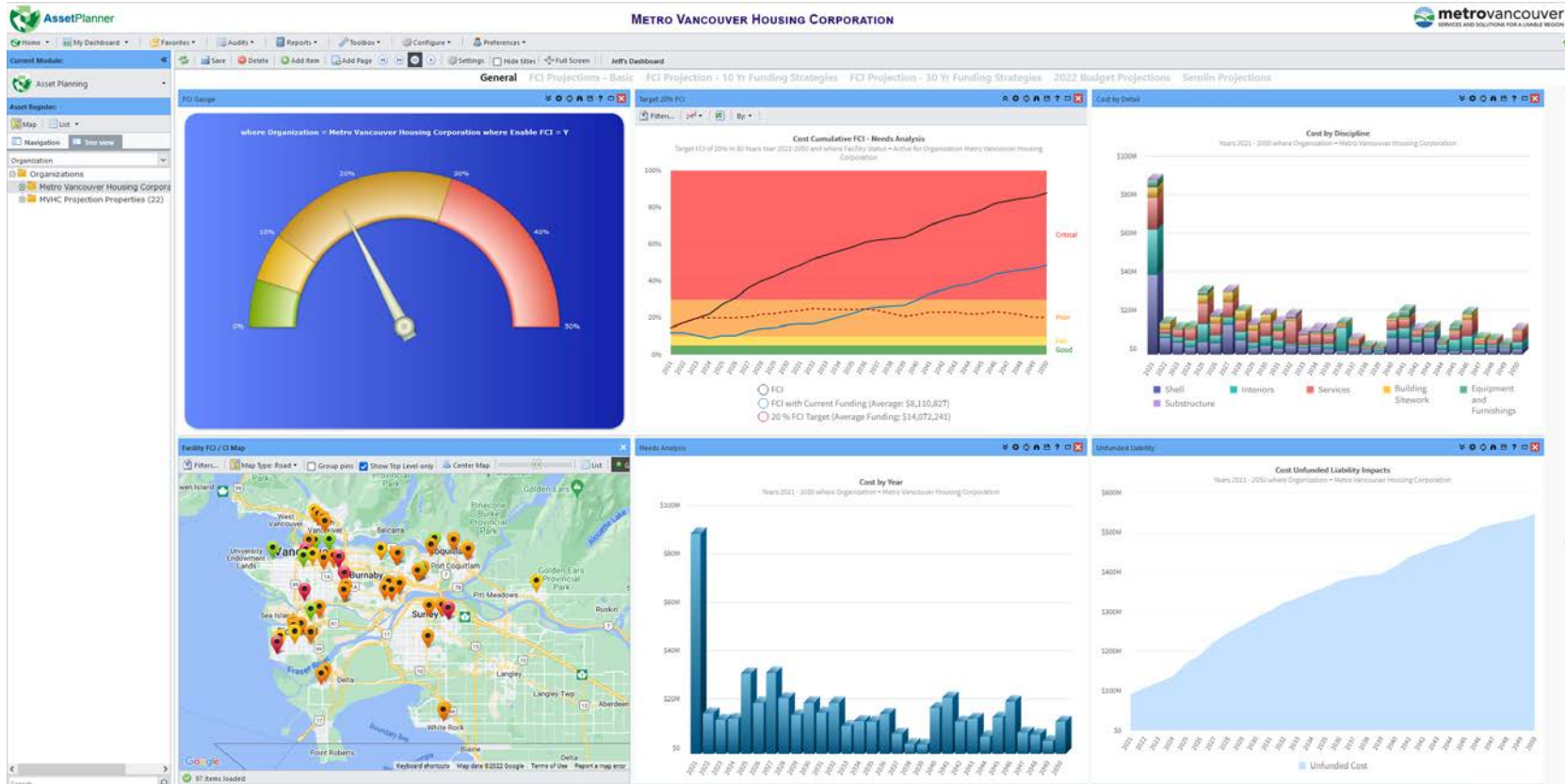
Housing GHG Energy Emissions (tCO₂e)

■ Steam ■ Electricity ■ Natural Gas



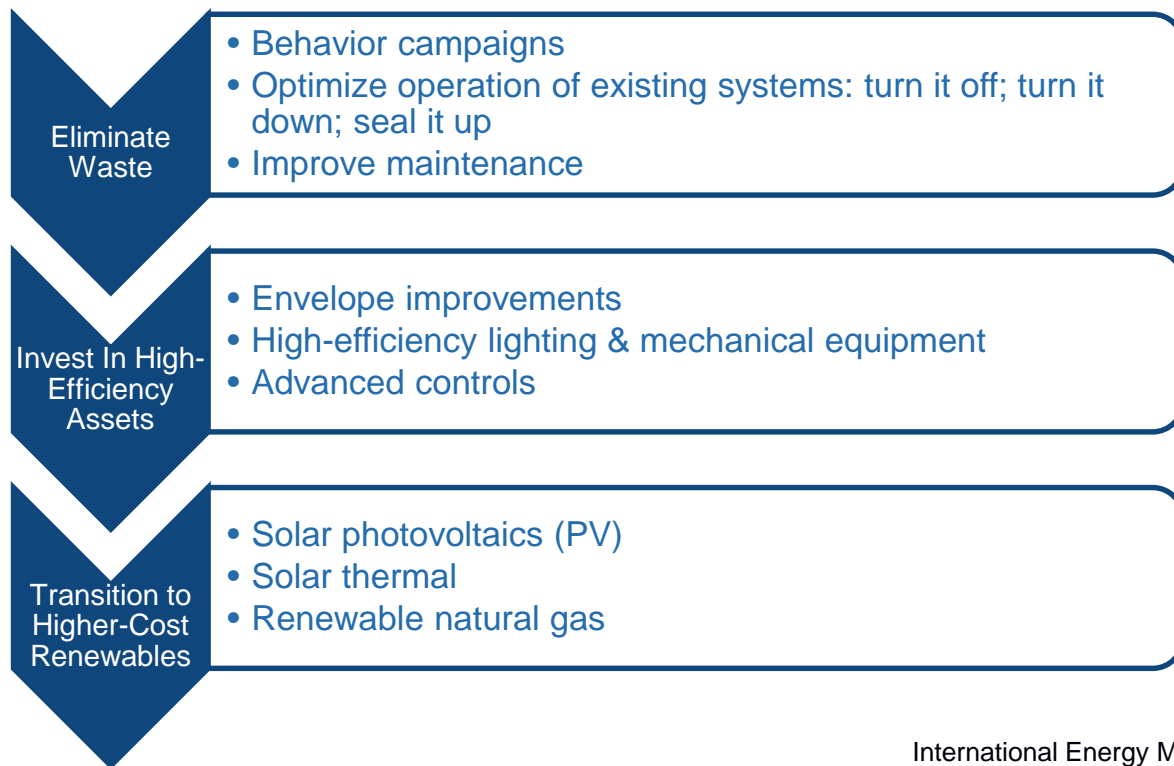
Total GHG Emissions: 2440 tCO₂e

MVH ASSET MANAGEMENT PROGRAM



ENERGY MANAGEMENT PROGRAM

Best Practices Approach



International Energy Management Standard: ISO50001

CAPITAL INVESTMENT DECISION-MAKING PROCESS

Triple Bottom Line Options Analysis

- Financial
- Environmental
- Social



2019 METRO VANCOUVER HOUSING 10-YEAR PLAN

Targets

🎯 Mixed-income

Maintain at least 30% of our portfolio as Rent-Geared-to-Income to support a range of affordability needs and ensure long-term financial sustainability.

🎯 Diverse housing types

Maintain at least 70% of portfolio as 2-bedroom units or larger to support family-friendly housing and provide a mix of unit sizes to allow flexibility and suit a range of needs.

🎯 Energy Efficient

Reduce energy consumption by 25% for major rehabilitations, such as building envelope upgrades, and for new construction (from 2015 National Energy Code for Buildings).

🎯 Low emission

Reduce GHG emissions in housing portfolio by 45% (from 2010 levels) over the next 10 years to work towards the region's goal of being carbon neutral by 2050.

🎯 Well-maintained

Maintain a portfolio-wide Facility Condition Index at or below 20% over the next 10 years to support safe and healthy homes for existing tenants.

🎯 Age-friendly

Work towards 20% of units as adaptable or fully accessible to support people of all ages and abilities.

🎯 Growth

Increase housing portfolio with 1,350 new and redeveloped units approved over the next 10 years.



OUR JOURNEY TO DECARBONIZATION

2014 – Component Failures - Reactive Maintenance

2015 – 10 year Capital Maintenance Budgets / Plans

2016 – Energy Management Program

2017 – Asset Management

2018 – Building Condition Assessments

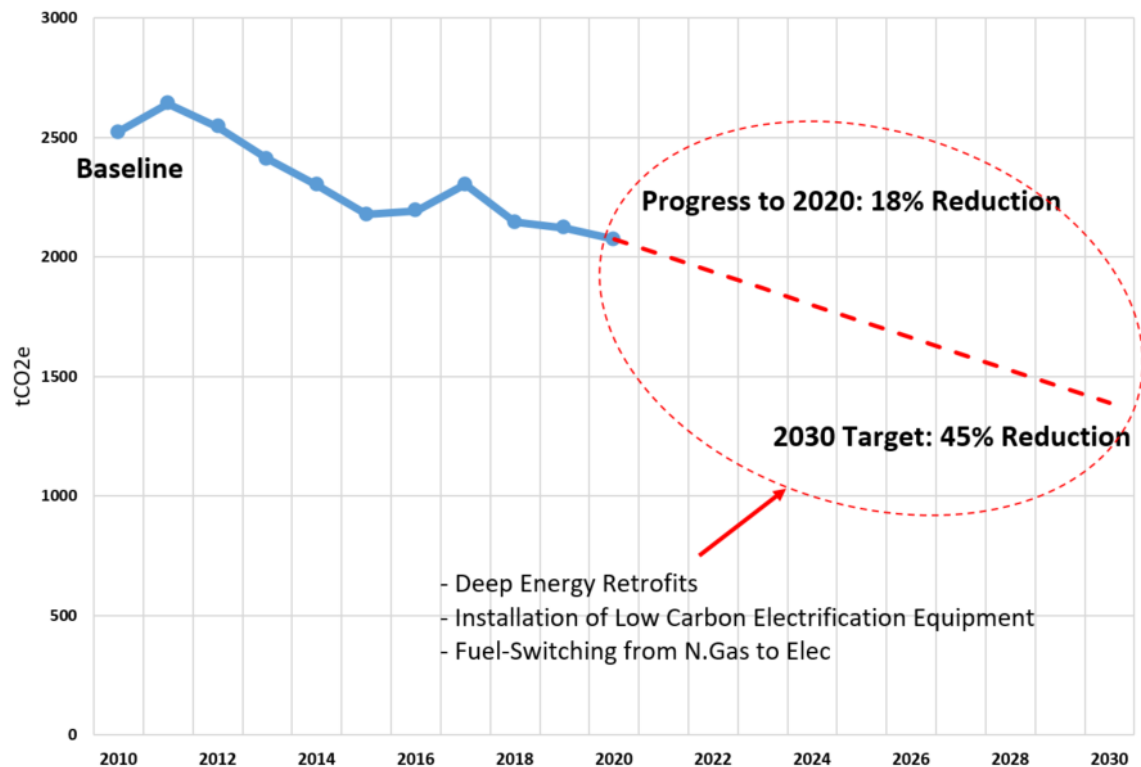
2019 – 10 Year Plan

2020 – Reframed Initiative

2022 – Portfolio GHG Reduction Plan

REDUCING GHG EMISSIONS

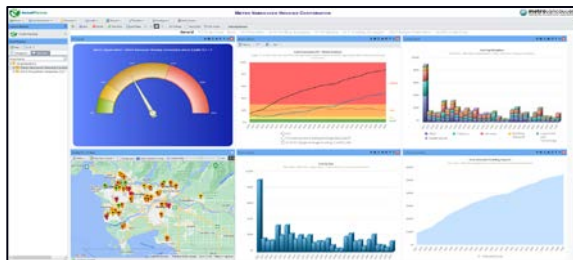
Metro Vancouver Housing GHG Emissions



Low emission

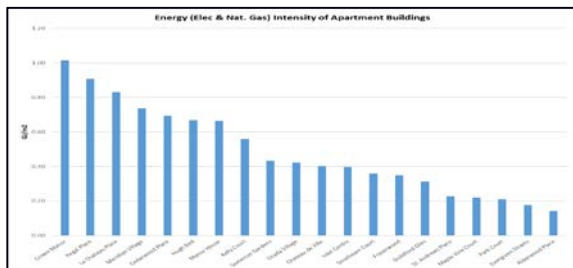
Reduce GHG emissions in housing portfolio by 45% (from 2010 levels) over the next 10 years to work towards the region's goal of being carbon neutral by 2050.

GETTING TO OUR 2030 GHG EMISSIONS TARGET



Capital Maintenance Budget Plan with Combined Capital Projects
Last updated: April 26, 2021

Asset	Project Type	Distribution	Location	2022	2023	2024	2025	2026
0041	Building Envelope - Comprehensive	Monthly	Building 1	\$ -	\$ -	\$ 4,000,000	\$ 4,000,000	\$ 4,000,000
0041	Large Project Loan Repayment	Monthly	Building 2	\$ 756,164	\$ 1,623,317	\$ 2,476,097	\$ 2,755,491	\$ 3,114,884
0038	Roofing/Targeted (Bldg. 1000000)	Monthly	Building 3	\$ -	\$ -	\$ 1,900,000	\$ 2,200,000	\$ 2,200,000
0041	Building Envelope (TMS)	Monthly	Building 4	\$ -	\$ -	\$ 2,300,000	\$ 2,200,000	\$ 2,200,000
0038	Roofing/Targeted (Bldg. 1000000)	Monthly	Building 5	\$ -	\$ -	\$ -	\$ 1,150,000	\$ 1,150,000
0038	Roofing/Targeted (Bldg. 1000000)	Monthly	Building 6	\$ -	\$ -	\$ 600,000	\$ 600,000	\$ 600,000
0038	Roofing/Targeted (Bldg. 1000000)	Monthly	Building 7	\$ -	\$ -	\$ -	\$ 250,000	\$ 250,000
0040	Roofing/Targeted (Bldg. 1000000)	Monthly	Building 8	\$ -	\$ -	\$ 200,000	\$ 200,000	\$ 200,000
0040	Roofing/Targeted (Bldg. 1000000)	Monthly	Building 9	\$ -	\$ -	\$ 200,000	\$ 200,000	\$ 200,000
0040	Roofing/Targeted (Bldg. 1000000)	Monthly	Building 10	\$ -	\$ -	\$ 200,000	\$ 200,000	\$ 200,000
0040	Roofing/Targeted (Bldg. 1000000)	Monthly	Building 11	\$ -	\$ -	\$ 200,000	\$ 200,000	\$ 200,000
0032	Exterior Painting	Monthly	Building 12	\$ -	\$ -	\$ 20,000	\$ 20,000	\$ 20,000
0033	Fire Panels	Monthly	Building 13	\$ -	\$ -	\$ 15,000	\$ 15,000	\$ 15,000
0032	Exterior Painting	Monthly	Building 14	\$ -	\$ -	\$ 10,000	\$ 10,000	\$ 10,000
0041	Building Envelope - Comprehensive	Monthly	Building 15	\$ -	\$ -	\$ -	\$ -	\$ -
0041	Building Envelope - Comprehensive	Monthly	Building 16	\$ -	\$ -	\$ -	\$ -	\$ -
0041	Building Envelope - Comprehensive	Monthly	Building 17	\$ -	\$ -	\$ -	\$ -	\$ -



Asset
Management



Capital
Planning



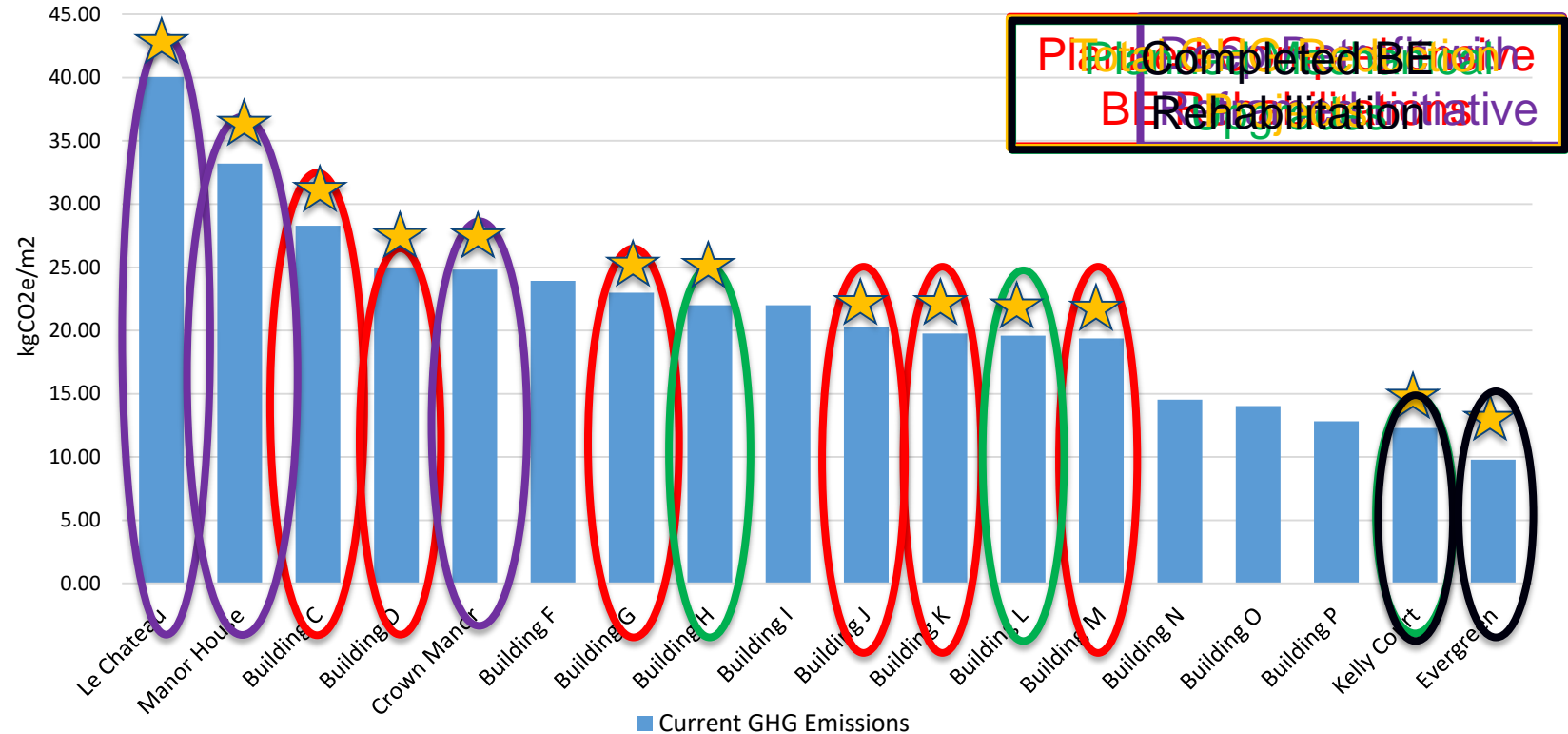
GHG
Portfolio
Reduction
Plan



Energy
Management

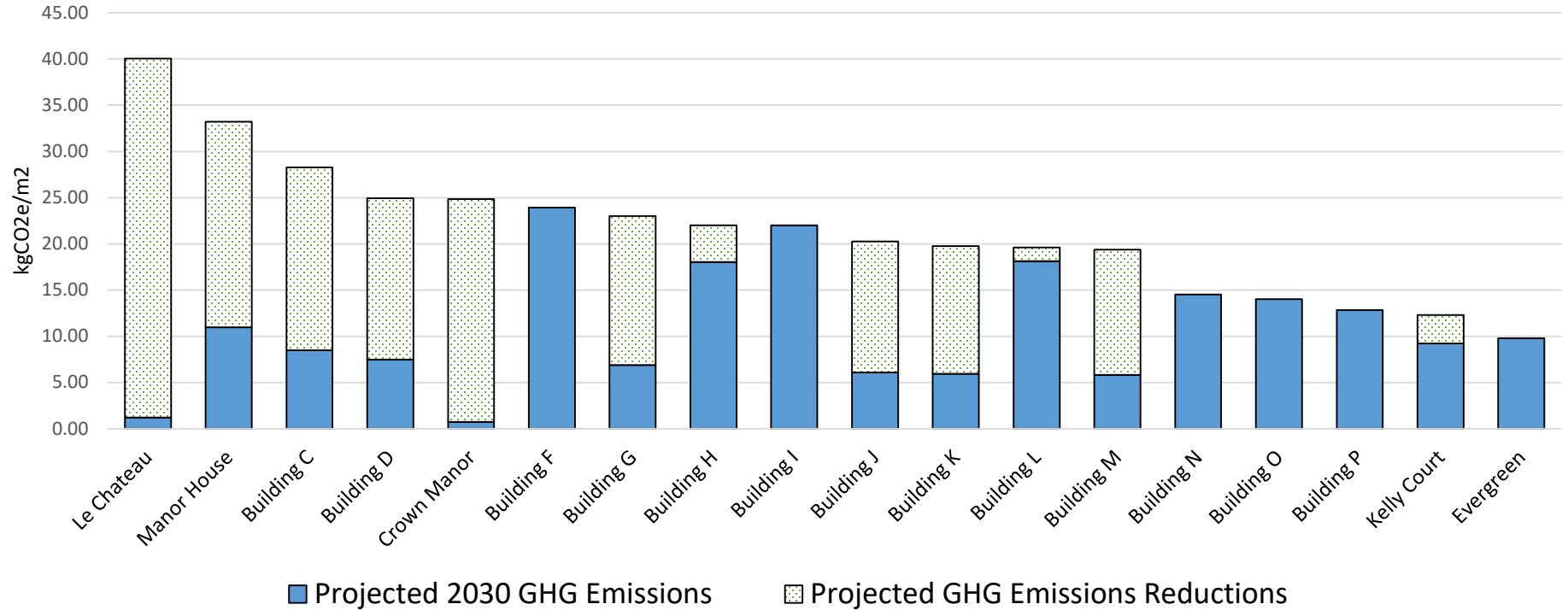
CURRENT BUILDING BENCHMARKING

MVH GHG Emissions Building Benchmarking



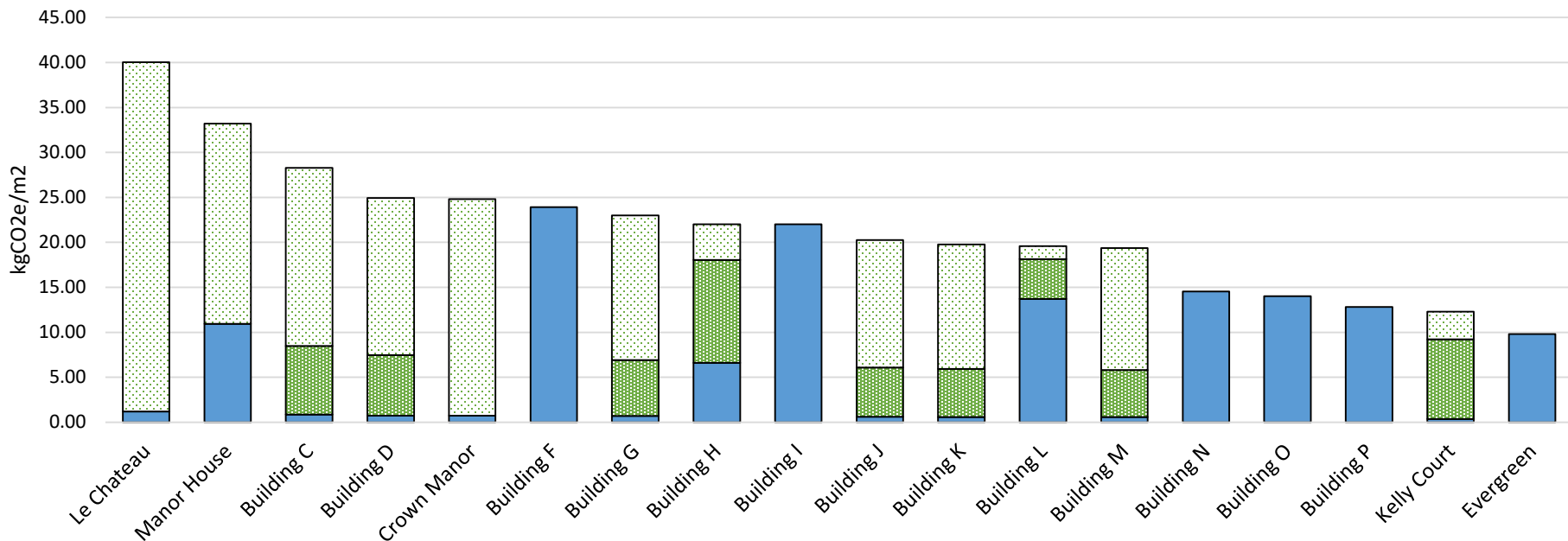
PROJECTED 2030 BUILDING BENCHMARKING

Projected 2030 MVHC Building GHG Emissions



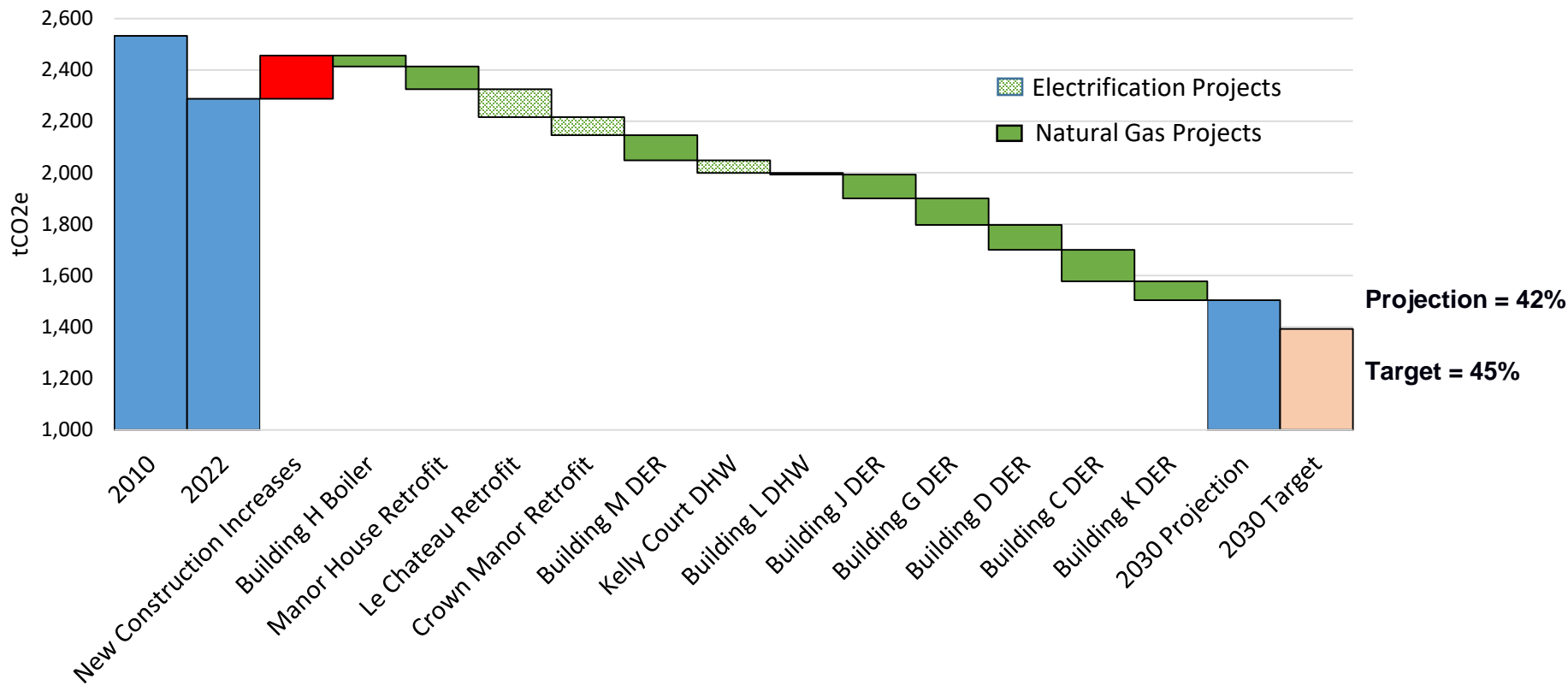
ELECTRIFICATION PROJECTED 2030 BUILDING BENCHMARKING

Projected 2030 MVHC Building GHG Emissions

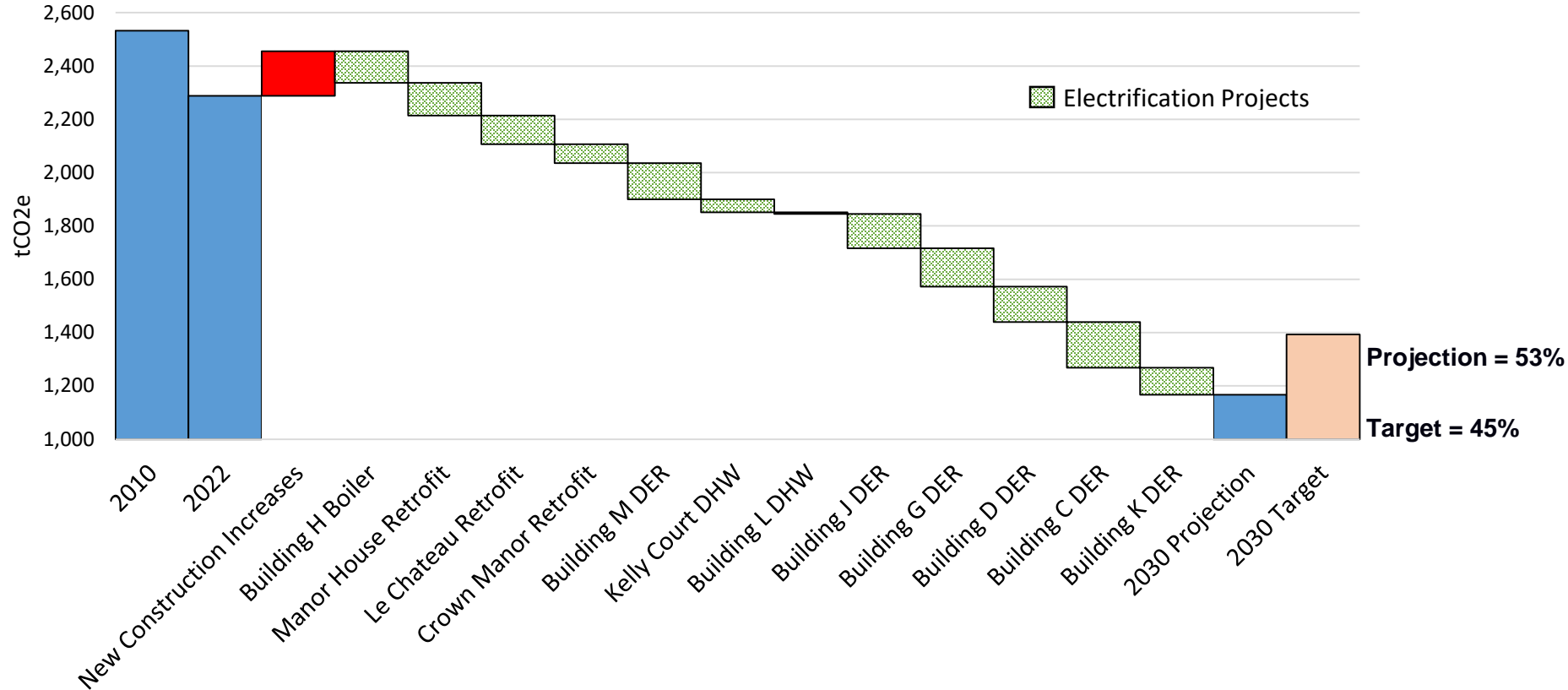


■ Projected GHG Emissions ■ Additional Electrification Reductions ■ Current Projected GHG Emissions Reductions

MVHC PORTFOLIO GHG REDUCTION PLAN



MVHC PORTFOLIO GHG REDUCTION PLAN (ELECTRIFICATION)



FINANCING & AFFORDABILITY OF DECARBONIZATION PROJECTS

- Capital Maintenance Budget
- External & Internal Grant and Financing Supports
 - CMHC
 - FCM
 - CleanBC
 - FortisBC
 - BC Hydro
 - SIF



ADDITIONAL BENEFITS TO MVHC APPROACH TO DECARBONIZATION PROJECTS

- MVH 10 Year Plan - Targets
- Maintain Quality, Safe Homes
- Improve Tenant Comfort
- Enhance Sustainability
- Maintain Deeper Affordability
- Provide new building life cycle
- Reduce Energy Use
- Tenant Engagement & Collaboration



Evergreen Downs



Questions



metrovancouver
SERVICES AND SOLUTIONS FOR A LIVABLE REGION