



Draft Program Details: **HomebuildersCAN**

September 2023



Problem statement:

Embodied carbon and scope 3 emissions are suddenly on everyone's radar, from regulators to investors to home buyers...

How can homebuilders take the leading role in understanding, measuring, reporting and acting strategically to adopt and scale profitable, low-embodied carbon building practices?

A solution:

HomebuildersCAN

HOMEBUILDERS CARBON ACTION NETWORK

WHAT IT IS:

A **supportive action network** for builders to learn about embodied carbon and develop capacity for incorporating into strategic plans and reports.

A program providing a standardized carbon footprint **reporting framework** for homebuilders.

A **network to advocate** for alignment with regulators, lenders and energy efficiency programs.

A repository of resources dedicated to supporting homebuilders **measure, benchmark, and reduce their carbon footprint**.

WHAT IT IS NOT:

Another labelling program indicating and verifying different levels of performance.

What is the program?

HomebuildersCAN

HOMEBUILDERS CARBON ACTION NETWORK

OwnersCAN



MaterialsCAN



CAN groups at Building Transparency:

- Improve embodied carbon **awareness** amongst peers, industry, and external partnerships through best practice sharing
- Promote use of the **EC3 tool**, and other embodied carbon tools that support accounting for and reducing embodied carbon emissions
- Highlight **case studies** on successfully implementing embodied carbon policy and processes within building projects and realizing embodied carbon savings.
- Keep abreast of emerging **policy and legislation** regarding embodied carbon
- Use collective influence as owners to **advocate** for industry action on embodied carbon. For example, better availability of EPDs and more transparency in embodied carbon data

HomebuildersCAN will support homebuilders to:

1

Increase performance on embodied emissions from new homes

HOW:

- Support energy raters, designers & builders understand how to **quantify** embodied carbon using forthcoming **RESNET/ANSI/ICC standard**
- Assist homebuilders to **benchmark** their current designs and understand where they stand
- Work with energy efficiency programs to **balance and align** increases in embodied with operational performance
- Help create **demonstration homes** at different levels of performance, share case studies & construction details

2

Advocate for alignment across the sector including: regulators, lenders and energy efficiency programs

HOW:

- Provide **standardized reports** for home buyers, regulators & ESG
- Adopt **RESNET/ANSI/ICC standard** for embodied carbon measurement
- **Expand support** from customers, investors, and regulators for climate smart homes
- Host and **promote success stories** of members and demonstration homes
- **Conduct policy work** to align commitment with new regulations
- Provide **common definitions** of terms like 'net zero' and 'zero carbon'

3

Adopt and scale profitable climate-smart building practices

HOW:

- Assist participants in meeting performance commitments with **education, training, technical support**
- **Ensure affordability** of performance increases with resources and consultation
- **Expand supply chain engagement** by matching builders with material suppliers
- **Support design & construction** of archetype projects
- **Share best practices**, exemplary projects, and lessons learned

What are the benefits for homebuilders?

Telling a clear and positive story as a company and in alignment with others

Sales & Public Relations

- Let buyers know about your improved performance
- Highlight your commitments and turn them into relatable stories
- Provide trusted third-party promotion and support

Strategic Alignment

- Meet regulator needs with a format that works for builders across jurisdictions
- Work for embodied carbon alignment with all energy efficiency programs
- Standardize reporting for programs and incentives
- Advocate for inclusion of embodied carbon performance in green mortgages

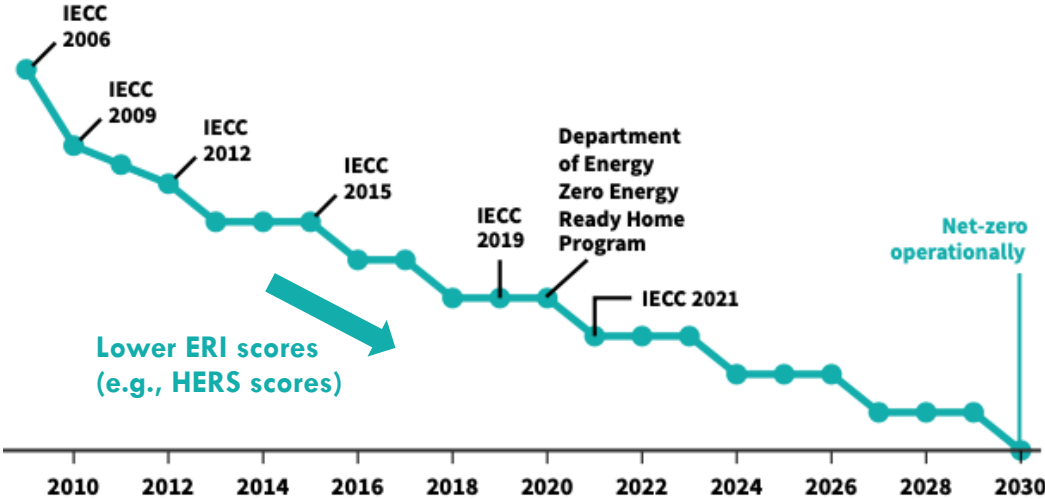
ESG Reporting

- Create data & reports suitable for scope 3 ESG reporting
- Commitment recognized by investors as reliable reporting

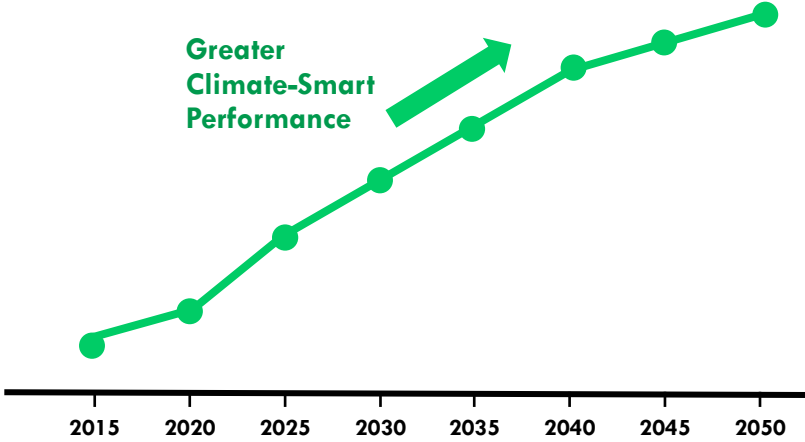
A story of improvement, not reductions

Decreases in emissions framed positively as increases in performance

A reduction in emissions means...



...an improvement in climate-smart performance



What does HomebuildersCAN offer?

Custom support and training and extensive resources tailored to the sector

Support from HomebuildersCAN includes:

- Training on calculating and reporting emissions
- Standardized reporting template (guidance how it fits in with other programs and reporting frameworks)
- Assistance to achieve goals (guidelines, webinars, custom support, consultation on demonstration projects)
- News of funding opportunities and capital (connecting homeowners to green mortgages)
- Advocacy for recognition by regulators and initiation of incentive programs for high climate performance

Resources:

- Custom consultation (design, construction, cost)
- Guidelines (design, retrofit, reuse, EC primer, ESG, balancing operational and embodied carbon, costing and affordability, more as needed)
- Program database and participants directory
- Forums and conferences
- Educational certification programs
- EPD request templates
- Media kits for participating builders
- Calculation tools and data sources
- Case studies of prototype homes demonstrating how performance pathways can be achieved
- Case studies of existing exemplary homes
- Database of relevant incentives, rebates, and financial support for climate-smart housing

What does HomebuildersCAN offer?

Platform to highlight successes toward improved climate performance

Public-facing program website includes:

- Your company's logo and link to website
- Completed demonstration projects and exemplary homes (upon participant's consent)
- Independent promotion of members' achievements (news, success stories, collaborations, awards)
- Company stories and testimonials ('How we met our commitment,' 'What inspired our commitment')
- Newsletters to participants and subscribers highlighting similar news and relevant information to the sector



HomebuildersCAN performance pathways

Minimal, simple requirements

YEAR 1

Measure, report, and develop a plan

- Measure and report baseline embodied carbon intensity via ANSI/RESNET Standard
- Submit high-resolution logo for website
- Elect a primary point of contact
- Make external public announcement of participation (channels include website, social media, and newsletters).

YEARS 2-6

Implement plan and report annually

- Beginning of year 2: develop decarbonization plan and choose performance pathway
- Annual reporting of climate performance according to provided reporting template
- TBD: Fulfil some amount of electives per year (simple, prescriptive requirements aimed to reduced embodied carbon and share knowledge)
- Optional: apply for the opportunity to receive consulting and potential financial support to construct full-scale prototype representing year 6 of pledged reductions

YEAR 6

Renew and/or adjust performance pathway

- Review of climate performance and renew or adjust performance pathway

HomebuildersCAN performance pathways

Flexible performance pathways twinned with existing energy and green building programs

5X5

5% reduction/year
for 5 years

Achieve 5% per year embodied carbon reduction from current baseline **and** demonstrate action on operational emissions*

10X5

10% reduction/year
for 5 years

Achieve 10% per year embodied carbon reduction from current baseline **and** demonstrate action on operational emissions*

_X5

_% reduction/year for
5 years

Achieve self-selected % per year embodied carbon reduction from current baseline **and** demonstrate action on operational emissions*

**CLIMATE
NEUTRAL**

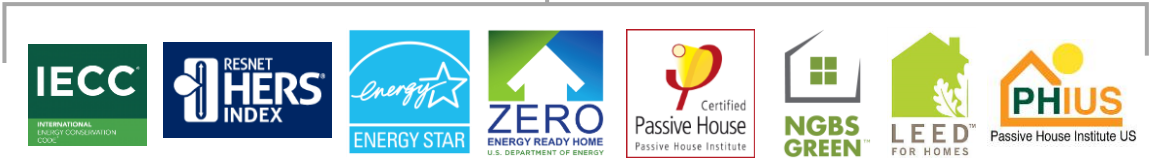
Achieve net zero material carbon emissions (with carbon storage) and net zero operational carbon

*See 'Operational Emissions' section for more details.

HomebuildersCAN reporting template

Standardized and simple table

	Scale: Single Home / Community / Portfolio							
	Building Stages							
	Site Impact Factor	Products	Transport	Install	Operation	Future Impact Factor	Total Emissions	Emissions Intensity
	--	A1-A3	A4	A5	B6	B1-B5, C1-C4	kg CO2e	kg CO2e/ft ² cfa
Structure & Enclosure Foundations, exterior walls, roof, windows, insulation								
Interior Elements Partitions, framing, flooring, wall and ceiling coverings, paint								
Building Services Mechanical, electrical, plumbing								
Totals								
Carbon Storage / Carbon Displacement								



Operational Carbon

Integration with existing energy performance programs

Proposal:

- **In 2024, simply require the reporting of an energy rating / performance**
 - % better than IECC baseline, ERI score, HERS score, DOE Home Energy Score, energy use intensity, operational carbon intensity
- **Optionally list relevant energy efficiency certifications**
 - ENERGY STAR, Zero Energy Ready, PHIUS, ILFI Zero Carbon, GHI Zero Carbon
- **Optionally list relevant Green Building certifications**
 - NGBS Green, LEED for Homes, Built Green, Living Building Challenge, Green Globes, BREEAM, GHI GreenStar, Enterprise Green Communities
- **Self-selected reduction pathway based on the energy metric reported**
- **Introduce (in 2026?) a protocol for estimate operational carbon from energy performance to plug into the emissions reporting table**

Scale: Single Home / Community / Portfolio

	Building Stages						Total Emissions	Emissions Intensity
	Site Impact Factor	Products	Transport	Install	Operation	Future Impact Factor		
	--	A1-A3	A4	A5	B6	B1-B5, C1-C4	kg CO2e	kg CO2e/ft ² cfa
Structure & Enclosure <small>Foundations, exterior walls, roof, windows, insulation</small>								
Interior Elements <small>Partitions, framing, flooring, wall and ceiling coverings, paint</small>								
Building Services <small>Mechanical, electrical, plumbing</small>								
Totals								
Carbon Storage / Carbon Displacement								



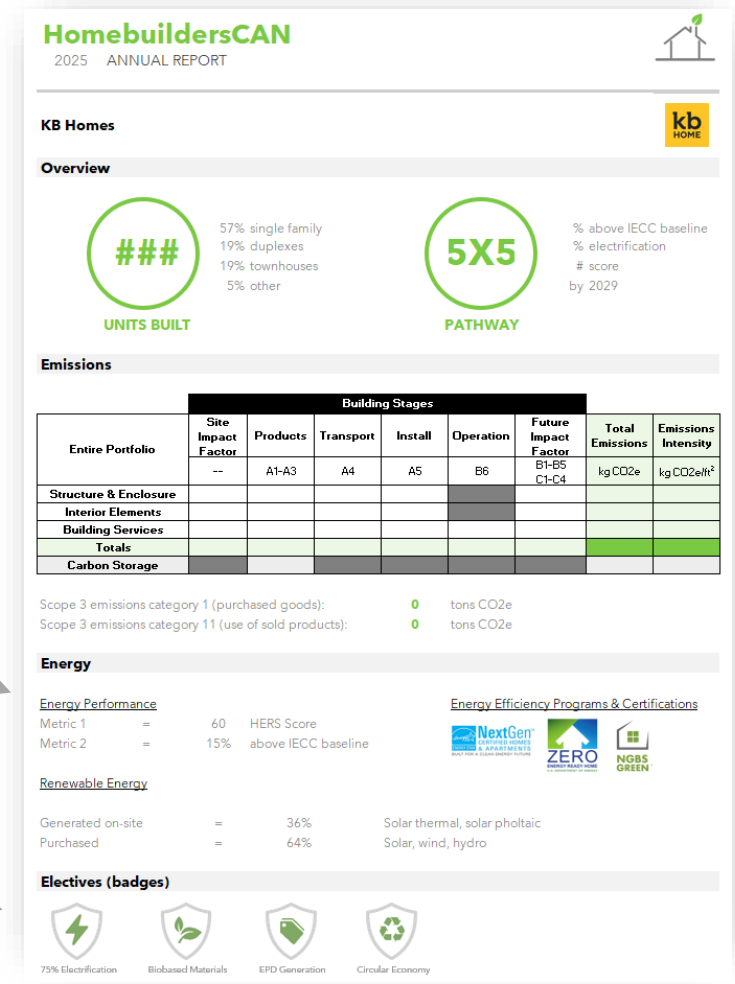
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Annual Report

Emissions and energy targets and progress

Main report includes:

- **Company overview** (units built, building types, performance pathway and targets)
- **Emissions overview** table (per standard report template, summation for scope 3 emission categories)
- **Energy overview** (labels, certifications, scores, renewable energy)
- **Electives** (badges for fulfilled electives)



ESG Reporting

How the commitment enhances corporate sustainability reporting

Company ESG Report

Dedication to Emissions Reductions

Fulfills: Various frameworks' management for climate-related risks disclosure including the ISSB and SEC;

Emissions Reductions and Performance Tracking

Fulfills: GRI Emissions disclosure, TCFD's targets and risk management disclosure, SBTi's emissions targets and performance submission

GHG Emissions

Scope 1 Emissions (MT CO2)	
Scope 2 Emissions (MT CO2)	
Scope 3 Emissions (MT CO2)	

Additional Climate-Related Strategies

Fulfills: SASB's resource efficiency incorporation disclosure, TCFD's metrics to assess climate opportunities, ISSB's management of climate-related risks and opportunities, various GRI disclosures like energy, materials, and waste reduction

Claim **participation in an initiative** to measure GHG emissions from home construction; actively partake in measures to reduce them; educate and support the sector to decarbonize

Self-selected **performance pathways** with guidance and support by the program

Emissions totals and intensities (per home, per area, per bedroom) for a builders' portfolio calculated according to best practices in industry

Technical details in development

Self-selected electives with **strategies that impactfully reduce emissions** such as reuse and electrification that can be included in other required disclosures

HomebuildersCAN
2025 ANNUAL REPORT

KB Homes

Overview

UNITS BUILT: 57% single family, 19% duplexes, 19% townhouses, 5% other

PATHWAY: 5X5 (5% above IECC baseline, % electrification, # score by 2029)

Emissions

Entire Portfolio	Building Stages						Total Emissions kg CO2e	Emissions Intensity kg CO2e/ft²
	Site Impact Factor	Products	Transport	Install	Operation	Future Impact Factor		
Structure & Enclosure	--	A1-A3	A4	A5	B6	B1-B5 C1-C4		
Interior Elements								
Building Services								
Totals								
Carbon Storage								

Scope 3 emissions category 1 (purchased goods): 0 tons CO2e
Scope 3 emissions category 11 (use of sold products): 0 tons CO2e

Energy

Energy Performance
Metric 1 = 60 HERS Score
Metric 2 = 15% above IECC baseline

Energy Efficiency Programs & Certifications
NextGen, ZERO, NGBS GREEN

Renewable Energy
Generated on-site = 36% Solar thermal, solar photovoltaic
Purchased = 64% Solar, wind, hydro

Electives (badges)
75% Electrification, Biobased Materials, EPD Generation, Circular Economy

What would demonstration projects involve?

Built prototype representing the final year of pledged reductions

Built prototypes will:

- Demonstrate what a lower-carbon home looks like for the chosen performance pathway
- Serve as educational case studies for the industry that are featured in the program
- Receive custom design and construction consulting report from experts at RMI (builders, engineers, architects)
- Upon project completion be submitted through the 'Demonstration Project Data' worksheet (not publicized unless consent is provided by the participating company)

Fill out for demonstration project information as part of annual reporting, or as optional project data submission elective.

Project Overview:

Name of project	=	
Building type	=	Duplex
Building location	=	San Diego, CA
Gross external floor area (sq-ft)	=	3,500
No. stories above ground	=	2
Total emissions (kg CO ₂ e)	=	685,200
Emissions Intensity (kg CO ₂ e/sq-ft)	=	196
Reduction from baseline	=	23%

Emissions Profile:

	Single Home						Total Emissions kg CO ₂ e	Emissions Intensity kg CO ₂ e/ft ²
	Building Stages							
	Site Impact Factor	Products	Transport	Install	Operation	Future Impact Factor		
	--	A1-A3	A4	A5	B6	B1-B5 C1-C4		
Structure & Enclosure								
Interior Elements								
Building Services								
Totals								
Carbon Storage								

What does it mean to be an early supporter?

Joining HomebuildersCAN as an early supporter

Early supporters are:

- Recognized on the program website
- Supported in initial benchmarking efforts
- Supported in goal-setting
- Provided with access to extensive resources
- Publicized and promoted with media outreach ('Share Your Story' opportunities) and case study opportunities



Next steps

"Soft launch" at EEBA & PHIUS conferences (Fall 2023):

- Trade show booths with HomebuildersCAN materials
- Promoting introductory webinars
- Announcing early supporters (maybe your company?)

"Hard launch" in late January 2024:

- Announcing initial members
- Full website
- Start of regular meetings



Thank you.

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