

BUILDINGENERGY BOSTON

They're Making Me Do What? BERDO 2.0 from the Building Owner Perspective

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BERDO Overview and Boston Resources

Aidan Callan

Carbon Neutrality Project Manager

City of Boston

What is BERDO?

The Building Emissions Reduction and Disclosure Ordinance (BERDO) addresses Boston's largest source of emissions.

- BERDO requires medium and large buildings in Boston to reduce emissions over time and achieve **net-zero emissions by 2050**.
- By complying with BERDO, the approximately 6,000 covered buildings (5% of buildings in Boston) could collectively **reduce city-wide emissions by nearly 40%**.
- There are several ways a building can directly or indirectly reduce its emissions and come into compliance with its BERDO emissions standard.



What does BERDO require from building owners?



ANNUAL REPORTING

Report total energy and water use from the previous calendar year

Due May 15



THIRD-PARTY VERIFICATION

Third-party verify reported data on the first year of reporting and every "verification year" thereafter.

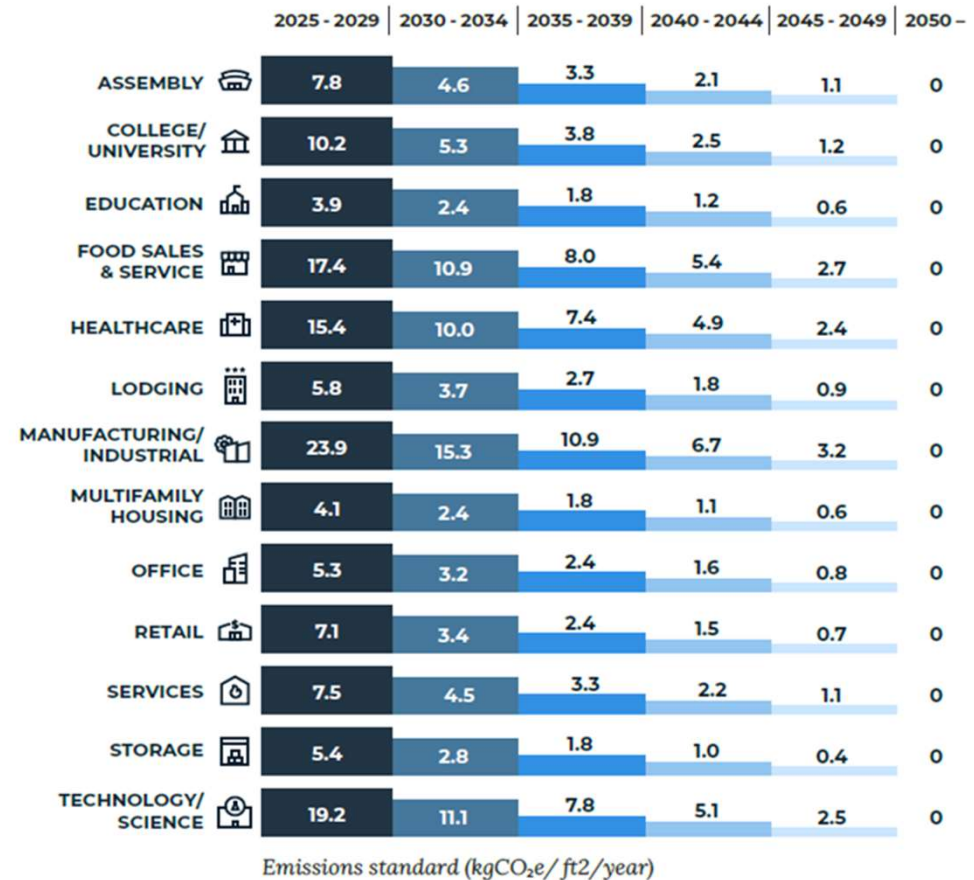


EMISSIONS REDUCTIONS

Reduce annual emissions below an emissions standard (emissions limit).

What are emissions standards?

- Emissions standards set annual emissions intensity limits for each building use type.
- Emissions standards decrease every five years.
- All building types are expected to achieve net-zero emissions by 2050.



When will buildings need to comply with BERDO?

- Reporting and third-party verification of data have been required since 2022.
- Emissions compliance will begin in 2025 or 2030, depending on the building size.

RESIDENTIAL

35+ units
**Starting emissions
compliance in 2025**



15-34 units
**Starting emissions
compliance in 2030**



NON-RESIDENTIAL

35,000 ft²+
**Starting emissions
compliance in 2025**



20,000 - 34,999 ft²
**Starting emissions
compliance in 2030**



**Mixed-use buildings may adopt a blended emissions standard based on the area of each building use.*



How can building owners comply with emissions standards?



Implementing direct emissions reduction efforts in buildings

Implement building retrofits or improvements. Examples include upgrading to high efficiency electric appliances and lighting, upgrading systems for heating, cooling, water heating, and cooking, improving insulation, tightening window seals, etc.



Using local renewable energy generation or purchasing renewable energy

Use on-site or off-site local renewable generation (rooftop solar, community solar, etc.), enroll into Boston Community Choice Electricity, purchase and retire eligible Renewable Energy Certificates (RECs), or enter into eligible Power Purchase Agreements (PPAs)



Investing in environmental justice communities through Alternative Compliance Payments

Mitigate emissions from electricity and fossil fuel use by making Alternative Compliance Payments (ACPs). ACPs are collected into the new Equitable Emissions Investment Fund to support building decarbonization projects that prioritize benefits to Environmental Justice communities in Boston.



BERDO enables owners to apply for additional flexibility



Building Portfolios

Allow owners of multiple BERDO Buildings to comply with a single **portfolio-level emissions standard** instead of a building-by-building approach. This allows owners to align capital planning with BERDO compliance and get more flexibility to achieve emissions reductions.



Individual Compliance Schedules

Allows owners to comply with an alternative **absolute emissions reduction schedule** that is based on a **baseline year**. This allows owners to take advantage of emissions reductions that they have achieved prior to 2021 and adjust their emissions obligations based on their building operations.



Hardship Compliance Plans

Allows owners facing an **eligible hardship** to request with an **alternative emissions reduction target and/or schedule**.

TAKE ADVANTAGE OF NEW RESOURCES

Emissions Planning Tool

- [BERDO Emissions Calculator](#)

Free Assistance in Completing BERDO Reporting and Third-Party Verification

- Extra assistance to complete their BERDO reporting. Funding is limited and will only be provided to building owners who are self-managed residential buildings, small non-profit owners, or commercial buildings with small business tenants.
- [Application Form](#) - **Deadline March 31**

One-on-one BERDO Building Consultation

- A member of the BERDO team will help you understand your current emissions and compliance options.
- [Sign-up Form](#)

Weekly BERDO Emissions Planning Office Hours

- Weekly office hours on Fridays at 10:00 am via Zoom. Members of the BERDO team will be available to answer questions about BERDO emissions estimates and potential compliance strategies.
- [Sign-up Form](#)



BERDO Review Board and Equity Considerations

Stephen Ellis

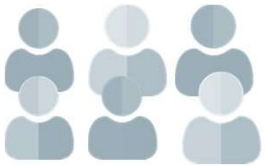
Director of Data Analytics

Boston University



BERDO Review Board

BERDO has a **Review Board** that provides community oversight over the implementation of the program



Six seats for individuals nominated by qualified community-based organizations



One seat for City Councilor or their designee.

City councilor must be the Chair of the Environmental Justice, Resiliency and Parks Committee



Two seats for individuals that are self-nominated and/or nominated by any individual or entity.

Roles and responsibilities include:

- Approving and setting conditions for flexibility mechanisms
- Allocating funding from the Equitable Emissions Investment Fund
- Enforcing the ordinance, including issuing fines and penalties.
- Recommend changes to compliance mechanisms and regulations revisions.
- Propose updates to Emissions Standards and Alternative Compliance Payments
- Approve the use of Power Purchase Agreements and on-site renewable energy systems in special circumstances for compliance



Equitable Emissions Investment Fund (EEIF)

BERDO created the **Equitable Emissions Investment Fund (EEIF)**, a new funding tool that will support emissions reduction projects in Boston buildings and environmental justice populations.



BERDO buildings that produce emissions over their emissions standard pay Alternative Compliance Payments (ACPs) to comply with BERDO



Equitable Emissions Investment Fund collects money from ACPs and fines



Funds are invested in local building carbon reduction projects reviewed and approved by the Review Board

- The Review Board will make all funding decisions and they are mandated to **prioritize benefits to environmental justice populations.**
- The Fund has been seeded by the City of Boston with **\$3.5 million dollars.**
- The first application cycle of the Fund will be launched this year.

Environmental Justice Populations



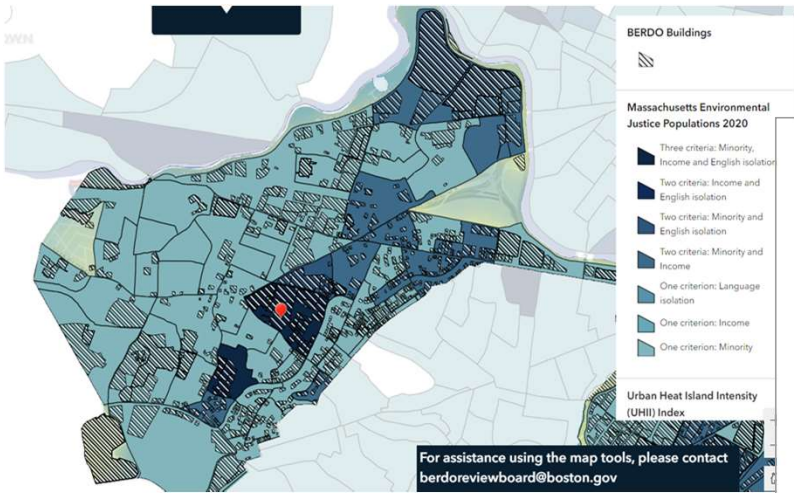
What is an Environmental Justice Population?

In Massachusetts, an environmental justice population is a neighborhood where one or more of the following criteria are true:

1. the annual median household income is 65 percent or less of the statewide annual median household income
2. minorities make up 40 percent or more of the population
3. 25 percent or more of households identify as speaking English less than "very well"
4. minorities make up 25 percent or more of the population and the annual median household income of the municipality in which the neighborhood is located does not exceed 150 percent of the statewide annual median household income.



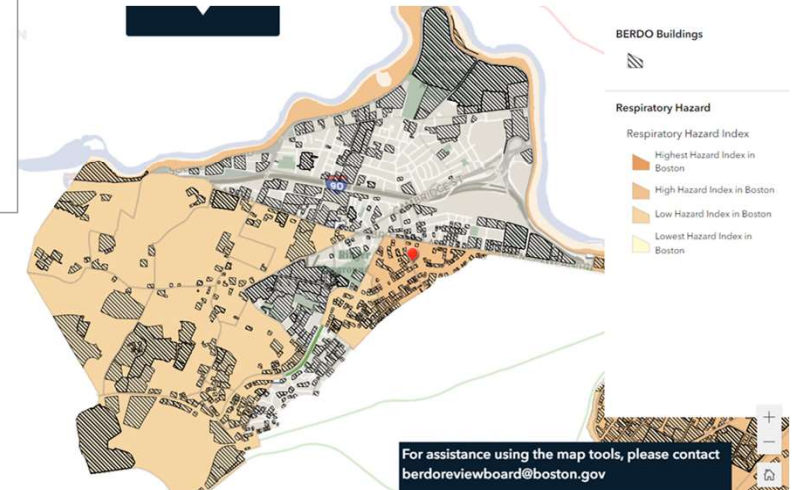
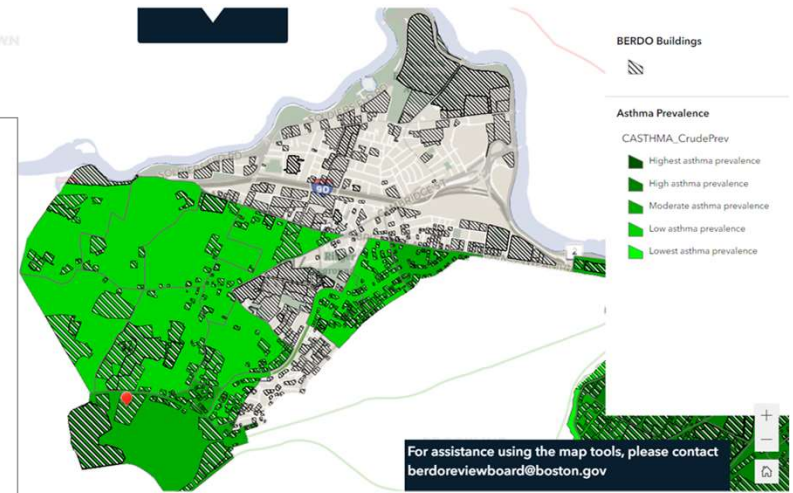
Environmental Justice Populations - Map Tool



**BERDO HOW-TO-GUIDE:
ENVIRONMENTAL JUSTICE
MAP TOOL**

A guide to use and interpret the
BERDO Environmental Justice Map Tool

Last updated February 2024



EEIF Environmental Justice benefits



Criteria	Description
Emissions reductions	The expected timeline and scale of direct Emissions reductions produced by the proposed project. Review Board members may consider metrics such as expected absolute Emissions reductions or expected Emissions reductions achieved per dollar spent.
Benefits to affordable housing	The expected timeline and scale of direct benefits provided to low-income residents or residents of affordable housing, including, but not limited to, whether projects will support the development or protection of low-income or affordable housing.
Benefits to tenants	The expected timeline and scale of direct benefits provided to low-income residents or residents of affordable housing, including, but not limited to, whether projects include anti-displacement measures, such as rent stabilization, rent assistance, and/or relocation assistance.
Benefits to labor and workforce development	The expected timeline and scale of benefits to local labor and workforce development, including equitable employment and contracting standards, living wage standards, and the hiring of local contractors, cooperative contractors, Minority, Women, and Disadvantaged Business Enterprises, and/or trainees or recent graduates from local workforce development programs.
Benefits to outdoor air quality	The expected timeline and scale of direct emissions reductions of criteria air pollutants, including carbon monoxide, lead, ground-level ozone, nitrogen dioxide, particulate matter, and sulfur dioxide.
Benefits to indoor air quality and quality of life	The expected timeline and scale of improvements related to indoor air quality, thermal comfort, and/or reduced energy bills for building occupants produced by the proposed project.
Climate resilience benefits	The expected timeline and scale of climate resilience benefits produced by the project, including heat resilience, energy resilience, and coastal and stormwater flood management.
Energy justice benefits	The expected timeline and scale of benefits related to reducing Energy bills for building occupants and/or contributing to community ownership or control over Energy infrastructure.
Other benefits	Other benefits presented by the applicant and evaluated at the discretion of the Review Board. This may include the proposed project's replicability, scalability, uniqueness, urgency and timeliness.

BPS In Action - BERDO From the Building Owner Perspective

Neetu Siddarth

Sustainability Manager

BXP

Building Performance Standards



Navigating Building Performance Standards



Identify

- What's coming and when*
- What are the available compliance pathways*
- Which assets are impacted*



Analyze & Plan

- Understand your data and risk*
- Prioritize at risk assets*
- Plan for resource efficient electrification*
- Apply learnings to the portfolio*

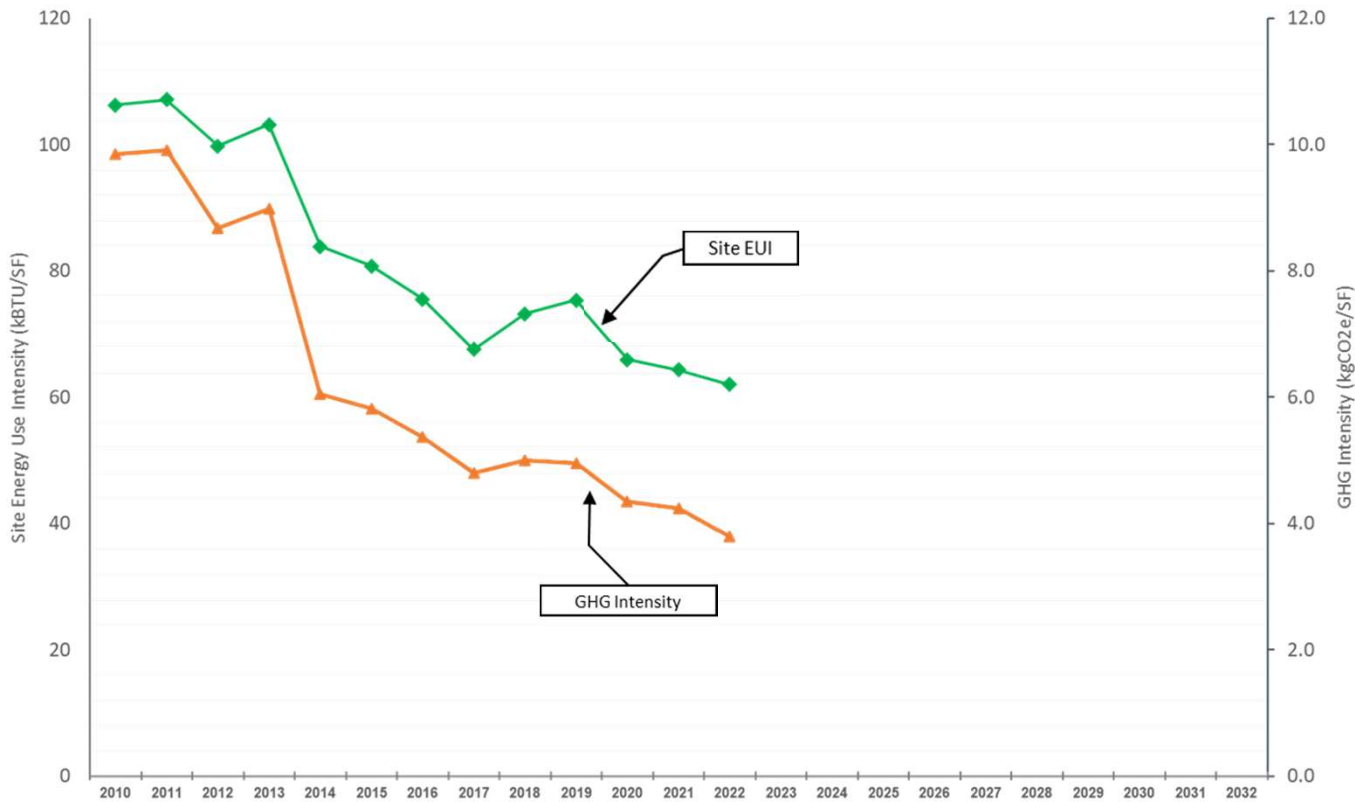


Engage

- Internal Stakeholders*
- External Stakeholders*

Understanding Building Energy Data

BERDO Compliance Analysis*

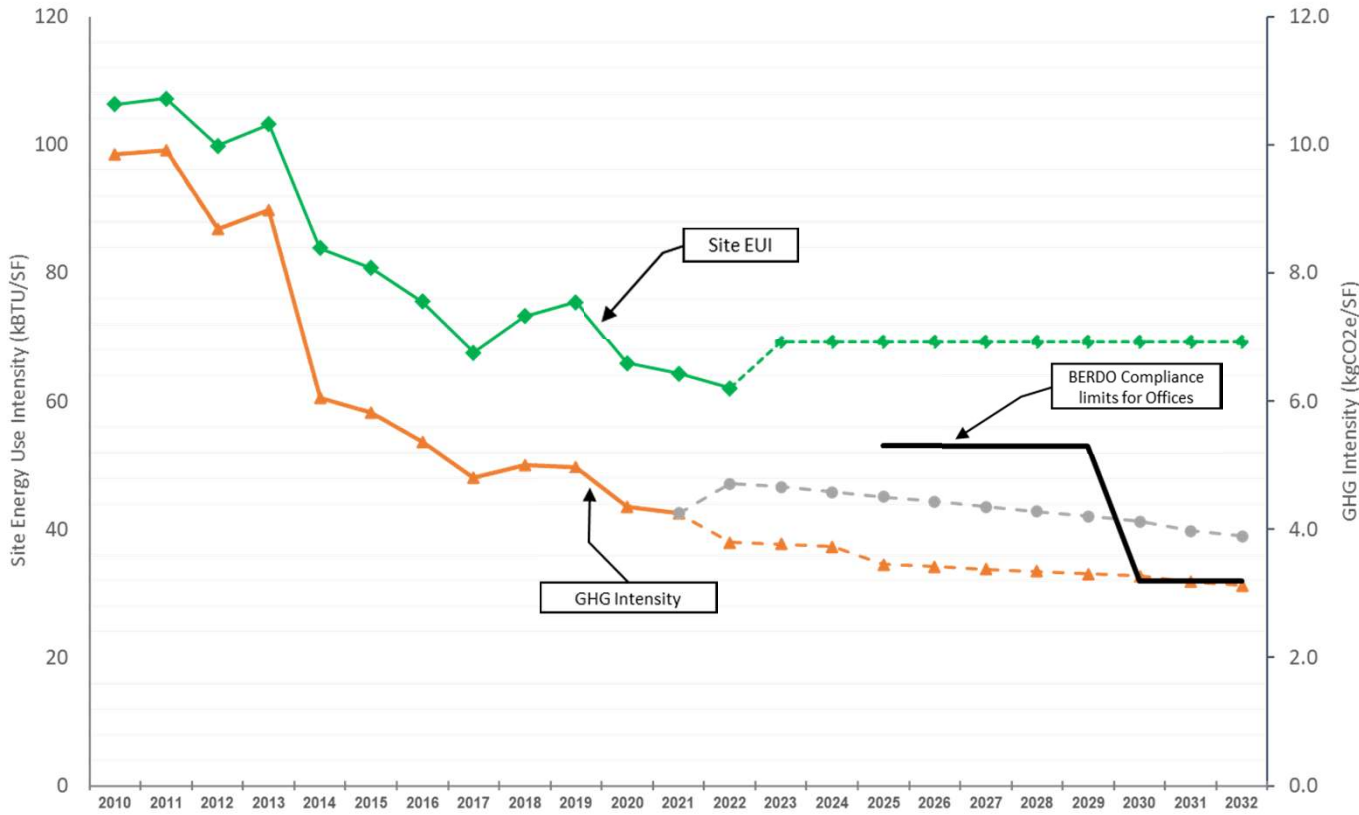


* Hypothetical Building Energy Use Data for Illustration Purposes Only

- *What are the source of energy?*
- *Largest contributor to emissions?*
- *Has the building performance improved overtime?*
- *Are there low-hanging fruits that the project can benefit from?*

Understanding Building Energy Data

BERDO Compliance Analysis*



* Hypothetical Building Energy Use Data for Illustration Purposes Only

- Identify benefits of using blended emission limits?
- Understand the impact of utility emissions on compliance?
- Engage with the City?
- Utilize portfolio or ACPs, if applicable

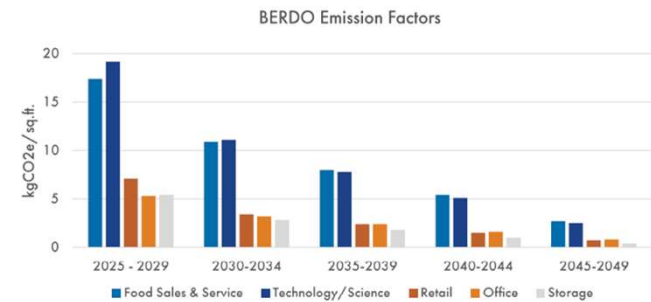


Image courtesy JB&B

Compliance Process - Investigation & Planning

Make informed decisions and allocate resources effectively to achieve energy and carbon reduction goals!

- *Benchmark against other properties to understand performance gaps*
- *Identify assets with exposure*
- *Create short-term, mid-term and long-term plans*
 - *Energy Audits*
 - *Retro-Commissioning for high energy use buildings*
 - *Implement no-cost/low-cost measures*
 - *Understand cost of capital measures and impact on compliance*
- *Engage with the utilities and other agencies to utilize available incentives*

Asset Scoring Criteria	Weights	Asset 1	Asset 2	Asset 3	Asset 4	Asset 5	Asset 6	Asset 7
EUI	20%	2.1	2.9	3.4	4.1	5.0	1.3	2.3
GHG	20%	2.1	1.9	3.4	2.6	3.2	0.8	2.8
ECI	20%	1.3	3.1	3.8	2.5	5.0	1.9	0.6
Exposure	30%	1.5	3.6	4.1	3.3	3.8	1.7	2.5
Age	10%	2.1	1.9	4.3	3.8	2.3	1.1	1.8
Weighted Average		1.8	2.9	3.8	3.2	4.0	1.4	2.1

Image courtesy JB&B

**TOP 3 Assets
Opportunity Score by Criteria**

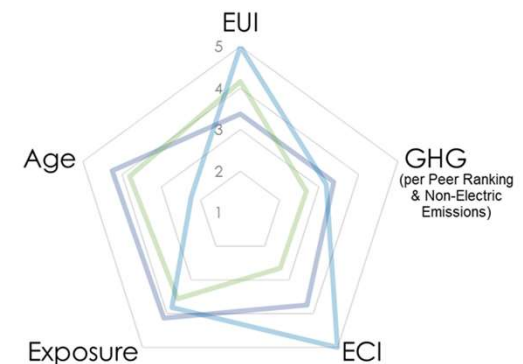


Image courtesy JB&B

