

Why Doesn't New Construction Lower Emissions?

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New construction is not what drives a portfolio's emissions, because most buildings in a portfolio, an institution or a city have been standing long before any new projects break ground. Roughly 80 percent of the buildings that will exist in 2050 are already built today (Chang, Fornara & Sanghvi, Harvard Kennedy School Belfer Center, 2024). Their operational emissions savings barely reduce overall emissions, while their embodied carbon adds to Scope 3 emissions for a portfolio owner. Capital used on new construction projects does solve a problem, but a larger one looms ahead.

That asymmetry of action to results shows up among companies whose entire holdings are buildings. Seventy-six percent of REITs report LEED-certified property, 40 percent an ENERGY STAR certification (Nareit, REIT Industry Sustainability Report 2024, June 2024). It shows investment concentrated in the newest assets. A certification is a point-in-time badge, not a measure of the portfolio's trajectory over time. Most of us assume that decarbonization scales through new construction, since sustainability is written into a ground-up budget from day one. But is that really the case?

THREE RUNGS

Each rung performs an essential step

Skipping a rung leaves gaps in the overarching strategy



Three rungs of emissions reduction maturity. Organizations at rung three must use creative cross-disciplinary strategies to amplify effect.

The majority of a portfolio consists of buildings already standing, often battling for capital. A project team delivering a new project is busy with a fixed budget and has barely any room to handle any

strategy in service of the owner's existing portfolio. Most projects are risk-averse for a defensible reason: incorporating an untested strategy adds a high bump in the road nobody has time or resources to take on. A low-carbon strategy (say concrete, or a thermal energy storage tank, or low-GWP refrigerants) sits on the table but the owner hasn't executed it before; a contractor won't commit to a reasonable number without a precedent to point to; the owner has told the board the project is on budget, and the schedule has no slack for a surprise. The team reverts to the known system, not for lack of imagination or analysis, but because a single project now must look for precedents. Sounds familiar? Precedent is exactly what a portfolio strategy manufactures in advance.

Organizations take on three important projects to reduce portfolio emissions, indicated by rungs in the image above.

1. Rung one is compliance tracking: measuring emissions because it's required for reporting, with some action items identified.
2. Rung two is a new construction pipeline: funded reliably but evaluated project by project. Also, the first line item to be cut when there are budgetary struggles. This leaves most of the portfolio, and most of its emissions, with no plan.
3. Rung three is portfolio strategy: the organization sequences and finances innovation across the asset base, so no project must carry the burden alone, and capital recycles out of laggards into acquisitions that already clear the bar.

Three questions for organizations:

1. Does your retrofit budget survive the ups and downs of capital planning, or does it get raided first?
2. Can you name the ten worst-performing assets by carbon intensity and climate risk intensity without commissioning a study?
3. Does a low-carbon spec proven on one project become the default on the next, or does it get re-argued from scratch?

A portfolio strategy enables taking on something a single project cannot. Split a strategy into bite-sized interventions: pilot one measure on two or three assets with a well-defined, tight scope to get real cost data. Then translate the lessons into the standard spec so other assets inherit it. An unsuccessful pilot provides a lesson at a manageable cost; ten successes help every project manager and contractor with the precedent they need.

California's mandates, including SB 253's disclosure clock, are already turning inaction into a cost: carbon penalties and internal carbon pricing are underway, and leaving emissions-reducing strategies out of new buildings today already carries a real market cost. I'll explore this in the next few posts.

Decarbonizing at the portfolio level is not a bigger version of doing it project by project:

- It is where lower-GWP limits for high-carbon materials, procurement criteria that local suppliers can meet, a pre-vetted vendor list of low-GWP equipment, centralization of loads, and financing get built for quick, easy deployment on new and existing projects.
- Financing becomes structurally possible through: C-PACE loans for envelope and HVAC, green bonds where large-scale aggregation is possible, and an internal carbon fund to pay for projects that do not have a budget. Bonus: these are all worth a conversation with lenders and insurers to lower the cost of insurance and debt.

Portfolio strategy sets off a domino effect: embodied-carbon procurement, retrofit financing, and climate-risk management start compounding once one decision runs through all three.

WHERE TO START

Owners and asset managers: rank the portfolio by energy and carbon use intensity per square foot and key climate hazards, not by age or asset class, using the utility and site data you already have. The bottom of the list is your priority.

Developers: take one measure that has already worked — low-carbon concrete, thermal storage, low-GWP refrigerant — and standardize the logic of including it across projects, so the next project inherits a cost precedent and a how-to, rather than a risky proposition.

Design teams and architects: ask the owner for the portfolio, and for what standardization would help the next new-construction project. A successful basis of design, together with a written record of how it was reached, is worth far more.

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BENEATH THE HOOD

The 80 percent.

The Belfer Center paper frames the 2050 stock in aggregate terms across the U.S. building sector, not per portfolio. A portfolio with lots of new development shows that new construction matters more; one holding older stock will show that existing buildings matter more. In any case, existing assets outnumbering new ones in any given portfolio is the assumption based on observation and experience.

The REIT certification numbers.

Nareit reports the share of REITs that hold at least one LEED or ENERGY STAR certified property, but it doesn't share the floor area certified or the performance. Existing buildings making up a higher percentage of typical portfolios is the basis for treating certification as a point-in-time badge.

SOURCES

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