

Neutral Ø

Ethical and Responsible Business Network
Consulting Report - Spring 2025

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Executive Summary

This report presents the outcomes of the Spring 2025 consulting engagement between Neutral and ERBN which focused on developing a capital sourcing strategy to support Neutral's decarbonized real estate model. Recognizing the growing relevance of impact investing, our work centered on aligning Neutral's sustainability efforts with the financial and strategic interests of green capital sources.

The team conducted a comprehensive analysis of the impact investing landscape, outlining how climate-conscious practices—such as the use of mass timber, brownfield redevelopment, passive house certification, and Walkscores—can simultaneously drive profitability and attract capital. We detailed how sustainability initiatives not only generate measurable environmental and social benefits but also reduce long-term operational costs and mitigate financial risk, making Neutral highly appealing to modern impact investors.

The core deliverables of the project include:

- An **Impact Investing Whitepaper** exploring how Neutral's initiatives intersect with major investor priorities like climate tech, ESG metrics, and sustainable return on investment (S-ROI).
- An **Investor Resource Booklet** showcasing Neutral's value proposition through technical insights and marketing strategies targeted at impact investors.
- An **Impact Capital Database** identifying green capital streams most aligned with Neutral's goals. Highlighted capital partners include Brookfield Asset Management, Ares Management, and Macquarie Asset Management—each selected for their strong ESG portfolios, investment history in sustainable infrastructure, and alignment with Neutral's long-term vision.

Capital Sourcing Strategy

As Neutral explores capital sources in the Impact Investing space, it's important to understand the state of the industry as a whole. The following whitepaper explores the financial targets of modern impact investors, climate tech in the real estate space, how Neutral can build ethos using walkscores and certifications, and the economic theory around using brownfield redevelopment sites for low carbon intensity construction. This whitepaper informed our investor marketing materials and can give Neutral insight into potential new selling points and marketing avenues to pursue with impact investors.

Connecting Sustainability to Profitability - What drivers impact investors?

The relationship between revenue and sustainability in impact investing is fundamental to ensuring that financial performance aligns with social and environmental goals. Sustainable practices have been shown to drive financial performance by appealing to shifting consumer behaviors, particularly among younger investors such as millennials and Gen Z, who prioritize environmental and social responsibility when making financial decisions. A 2022 Fidelity Charitable study found that 61% of Millennial investors are engaged in impact investing, with 62% believing it has greater potential than traditional philanthropy to create long-term positive change. The rising demand for impact-focused financial products, including green bonds, social bonds, and sustainability-linked instruments, reflects a broader trend toward integrating sustainability into investment strategies (GlobeNewswire, 2025). Additionally, global sustainability goals, such as those outlined in the Paris Agreement, continue to mobilize private capital toward initiatives that generate both financial returns and measurable positive outcomes (HBS, 2025).

Beyond market demand, sustainable investments often lead to significant operational cost savings, contributing to long-term financial success. The concept of Sustainable Return on Investment (S-ROI) quantifies the economic, environmental, and societal benefits of sustainable practices (ScienceDirect, 2024). Companies that implement energy-efficient technologies, waste reduction programs, and resource optimization strategies benefit from lower operational costs while simultaneously reducing their environmental footprint.

- North American Waste Company: Faced with a 15% rise in operational costs due to outdated technologies and inefficient processes, the company began to integrate sustainable waste processing methods. Their shift not only aligned with new environmental regulations and consumer demand but also reduced costs and improved profitability (Medium, 2024).
- Ethical Coffee Roaster: To address a 20% rise in operational costs from ethically sourced coffee beans and eco-friendly packaging, the company focused on

refining its business model for sustainable growth. By doing so, it aimed to reduce expenses and recapture market share while staying true to core values (Medium 2024).

- Coastal Food and Beverage Chain: Facing a 20% spike in supply chain costs and a 5% annual decline in foot traffic, the company turned to sustainable practices—focusing on locally sourced products and operational innovation. This strategy aimed to rebuild customer loyalty, meet shifting consumer values, and recover profit margins (Medium 2024).

Furthermore, impact investors can leverage non-financial strategies—such as fostering innovation, improving brand reputation, and strengthening stakeholder relationships—to create additional value. These operational efficiencies not only enhance profitability but also ensure that investments remain resilient in the face of evolving regulatory and market conditions.

To ensure the financial viability of sustainable investments, robust impact measurement and reporting standards are crucial. Investors rely on various metrics to assess the financial and non-financial impacts of their portfolios, allowing them to track progress and make data-driven decisions (HBS, 2025). Commonly sought financial indicators include return on investment (ROI), internal rate of return (IRR), and net present value (NPV). For environmental and social metrics, investors often examine carbon dioxide equivalent reduced per year (CO₂e/year), energy savings in kilowatt-hours, number of jobs created, water usage reduction, and social return on investment (SROI). Case studies of successful impact investments, such as private equity firms that have generated strong returns through sustainability-driven strategies, further demonstrate the potential for positive financial outcomes (ScienceDirect, 2024). Conversely, unsuccessful ventures highlight the importance of rigorous due diligence, clear impact objectives, and adaptable strategies. As impact investing continues to evolve, the ability to balance revenue generation with sustainability goals will remain a key determinant of success.

Rising Climate Tech

Climate technology refers to the technologies and innovations aimed at mitigating the effects of climate change, reducing GHG emissions, and enhancing environmental sustainability. This sector encompasses a wide range of solutions including renewable energy, energy storage, carbon capture, water conservation, and much more (Sutovsky, 2024). Climate technology is crucial in addressing the global climate crisis while simultaneously transitioning to a low-carbon economy.

One of the largest and most well known types of climate tech is renewable energy, such as solar, hydro, wind, and geothermal energy technologies that have the potential to replace fossil fuels to reduce carbon emissions. Neutral is currently incorporating

energy efficient design, through passive house certification, which can lead up to 70% energy savings in their buildings. Neutral aims to use sustainable building materials, such as mass timber, a low-carbon alternative to commonly used materials. Also incorporated in their practices are geothermal systems, which are becoming increasingly popular, as their effects for renewable heating and cooling are a cutting edge technology.

Specifically, carbon technologies within real estate aim to measure, reduce, and manage carbon emissions associated with buildings and construction. As the real estate sector accounts for about 40% of global carbon emissions, carbon tech plays a crucial role in making building more sustainable (World Economic Forum, 2022). There are many ways carbon tech is being utilized as the demand for unsustainable buildings are becoming less desired due to the difficulty of financing them. Carbon measurement and software tracking such as CarbonCure, Measurabl, and Cove.tool to analyze a building's carbon footprint. By analyzing carbon output, buildings can ensure compliance with regulations that qualify them for green certifications (LEED, WELL, Passive House, etc). As the real estate industry continues to increase monitoring tools and carbon reduction technologies, real estate developers and property managers will be able to use data-driven solutions. Some buildings have already implemented a type of carbon capture, the process of capturing or removing CO₂ from the environment and storing it. Carbon capture startups are a growing industry, as many companies are realizing they provide invaluable products in the form of carbon offsets which help them obtain subsidies like carbon credit (Siebert, 2025). *Graphyte*, founded in 2023 uses carbon casing, a carbon capture method which uses biomass to be “dried, compressed, sealed into bricks, and stored underground for the rest of time,” (Siebert, 2025). The biomass comes from wood-byproducts and crop residues, making this process one of the cheapest carbon capture methods in the industry (Siebert, 2025).

Climate tech is playing a transformative role in addressing climate change and reshaping the investment landscape. As the urgency to combat climate change grows, climate investing is expected to expand further, driven by technological innovation, policy support, and increasing demand for sustainable solutions. Investors who prioritize climate tech are not only contributing to a greener future but also position themselves to benefit from the economic opportunities of the low-carbon transition.

Walkscores and Their Value to Investors

Impact investing, which aims to generate positive social or environmental effects alongside financial returns, has increasingly recognized the importance of walkability in urban development and real estate investments. Walk Score, a popular metric for assessing neighborhood walkability, has been shown to have a significant positive correlation with property values and rents (Cortright). During a study done in 15 markets, Cortright found that “walkability had a significant impact on home values in 13

of the 15 markets.” (Cortright) This correlation proves a connection between market value and walkability. This aspect remains even more prevalent in urban centers like Madison, Wisconsin. According to *608 Today*, Madison’s walkability score 50 classifies it as **somewhat walkable**. This alignment between walkability and financial performance makes it an attractive consideration for impact investors. It highlights the importance of seeking to create “sustainable communities” while achieving “market-rate returns” (Pivo & Fisher). However, it’s important to note that the relationship between walkability improvements and neighborhood outcomes can be complex, particularly in lower-income areas where upscaling concerns may arise (Rigolon & Németh).

While Walk Score provides a valuable tool for evaluating the “pedestrian-friendliness” of an area, impact investors should be aware of its limitations, especially when considering health outcomes (Tuckel & Milczarski). The “multifaceted nature of urban development” means that improving walkability alone may not guarantee the desired social or environmental impacts. Nevertheless, the growing body of research supporting the benefits of walkable neighborhoods, including increased physical activity and reduced car dependency, continues to make it a key factor in sustainable urban planning and responsible real estate investment strategies (Speck).

At 31 stories, **Neutral.Edison** will be among the tallest mass timber residential buildings globally—and one of the most significant LBC-certified residential developments (Helbach). LBC represents one of the most rigorous regeneration and sustainability certifications. The system is based on seven petals, one being Place. Neutral’s Edison development has secured a 100-year lease for land adjacent to the Milwaukee Riverfront, which will be turned into a park that will remain open 24/7 for the city residents. Milwaukee is considered a “walkers paradise” according to the official *WalkScore* website. Their LBC commitment includes restoring the Milwaukee riverfront’s native landscape by replanting native plants and restoring natural habitats that would have been found pre-development right in the urban downtown (Helbach). These features indirectly impact the surrounding environment, which aids in increasing and encouraging walkability.

Walk Score also contributes to the ‘Sustainable’ portion of the Environmental, Social, and Corporate Governance (ESG) goals. In *Freakonomics* episode 546, the host explores ideas regarding a significant imbalance in how ESG goals are pursued, noting an overemphasis on the ‘Environmental’ aspect (Dubner, Shue). Economists suggest that much more attention should be paid to the ‘Social’ and ‘Governance’ components, which are often overlooked. Because of its focus on walkability, community connectivity, and urban planning that encourages social interaction and accessibility, Walk Score addresses not just environmental sustainability but also supports the 'Social' component of ESG. It promotes healthier lifestyles, equitable access to amenities, and stronger local economies—making it a multi-faceted tool.

Brownfield Constructions and Green Building Certifications

Investing in brownfield sites provides a vast number of economic and environmental benefits. The term brownfield refers to a property being expanded, or reused typically complicated by the existence or potential risk of some sort of hazardous substance, pollutant, or contaminant. Estimates state that there are likely more than 450,00 brownfields in the U.S. Reusing and investing in these properties reaps immense benefits to local communities by increasing tax bases, harboring job growth, and utilizing existing infrastructure(US EPA, 2016). In terms of aligning with typical ESB investment goals, brownfields attain these standards through a few ways. For one, brownfields often contain health hazards, such as uncovered holes and unsafe structures, or leftover chemical contaminants. Cleaning up such areas is beneficial to local communities(Wisconsin, n.d.). These sites also represent an opportunity for the accommodation of environmentally responsible population growth, as for every 1 acre of redeveloped brownfields it is estimated that they conserve 4.5 acres of greenfields sprawl development. Because these properties reduce said sprawling development patterns, they also decrease air quality impacts and greenhouse gas emissions, and are said to save 20-40 vehicle miles traveled as a result(Paull, n.d.). Along with the benefits seen in surrounding communities, brownfields also have characteristics which make them beneficial to investors. For one, because brownfields contain existing infrastructure, facilities and network, brownfields provide lower fixed costs, as well as lower staffing and training costs if existing staff still exists(Brownfield Investment, n.d.).

Investing in companies with green certification can offer similar benefits as those seen through brownfields in terms of ESG priorities. Green buildings can refer to a multitude of certifications, the most common being LEED certification, ENERGY STAR for buildings, the Living Building Challenge Green buildings, or the Passive House Core 2021 Standard. All of them contain similar guidelines to obtain, and strive to encourage the reduction of the use of carbon, water, energy and waste. After 22 LEED-certified buildings were reviewed by the Department of Energy, they found that CO₂ emissions were reduced by 34%, 25% less energy was consumed, 11% less water used, and they diverted more than 80 tons of waste from landfills when compared to average commercial buildings(USGBC, 2024). As for the benefits they offer to investors, they are also abundant. For one, they report a decrease in day-to-day costs year after year, creating a nearly 20% lower maintenance cost than typical commercial buildings.

Conclusion

While Neutral embraces climate tech and pushes for maximal efficiency throughout its projects, the marketability of its walk score and social health improvement metrics should also be marketed further. Additionally, using brownfield redevelopment in the future could allow Neutral to make even more carbon-efficient

constructions while maintaining local community hallmark infrastructure and reducing construction times. Based on these findings on what impact investors desire from their investments, the following marketing booklet was made to cover Neutral's biggest selling points for green capital. By discussing the technical elements of Neutral constructions (as done below), we believe impact investors will have more tangible interest points than the typical metric-based marketing strategy used to market to investors.

Investor Resource Booklet (IRB) - [link to PDF](#)

Neutral.



LEED-certified buildings such as the **Baker's Place** consistently achieve **11.1% higher rents** than non-LEED counterparts on average. Since 2020, occupancy rates for LEED-certified assets have increased to **92% occupancy**. LEED certification has also been found to reduce utility costs to residents and LEED-certification has been found to improve buildings' air quality and pollutant control.

In addition to sharing LEED's quality of life benefits, studies show Energy Star certified buildings hold a correlation with higher resale values and better marketability, suggesting energy efficient constructions in general tend to bring a desirable price premium.

Living Building Challenge (LBC) is widely considered one of the **highest standards of social and environmental performance** available in the world by mandating sustainable construction, renewable building processes to reduce lifetime emissions, and targets to make low-negative buildings. Additionally, LBC certification ensures construction embraces outdoor green spaces, indoor community gardens and biophilic design, resident and walkability or access to local small businesses (imperatives 16 to 18). Both **329 S Duncan Ave** and **The Marcus Center** are seeking LBC certification.

Passive House certification is a set of rigorous energy-efficiency, sustainability, and comfort-oriented building standards designed to make buildings hold **long-term value**. Neutral's Passive House portfolio includes **The Edison**, **329 S Duncan Ave**, and **The Marcus Center**. In addition to everything above, also tries to promote healthy food (such as through shared gardens) and fitness opportunities while using noise reduction strategies to promote positive health outcomes for residents.



"Neutral is paving the way to use more sustainable, carbon-neutral construction materials like mass timber, and is employing passive house design methods to reduce carbon emission in built environment."

USA TODAY

"Wisconsin Set to Receive World's Tallest Mass Timber Tower"

YAHOO! FINANCES

"Reimagining sustainable living and democratized investing: Neutral's vision for a thriving future"

WISCONSIN STATE JOURNAL



Design & Pre-Construction Elements:

Cross-Laminated Timber (CLT): Type of mass timber made of layered wood panels with alternating grain directions, providing strength and fire resistance while avoiding toxic bonding agents in other mass timber.

Sustainable Material Sourcing: Using reclaimed and salvaged materials from other constructions to reduce carbon footprint. Can also be the use of low-emitting paints, flooring, tiles, and sealants that release minimal Volatile Organic Compounds (VOCs), improving indoor air quality before improving indoor air filtration systems.

Thermal Design: Insulation that resists the flow of heat (R-value) and lowers the rate of heat transfer (U-value) to keep buildings HVAC efficient. This also avoids thermal bridges, creating a continuous structure to minimize heat loss. Thermal Design paired with air barrier systems that control air leakage from building envelopes, significantly improves building's energy efficiency and allows Neutral to pursue industry-leading certifications.

Cool and Green Roofs: Reflective or vegetative roof systems designed to reduce heat gain during hot summers and sustainably manage any excess stormwater.

Low-E Coatings: Thin metallic coatings on glass that reduce heat transfer while allowing light, referred to as "low-emissivity" windows due to their efficiency.

Triple Glazing: Windows design that uses three panes of glass separated by gas designed for superior insulation

Biophilic Materials: Natural design elements connecting occupants to nature (through indoor living green walls, usage of natural light in shared spaces, etc)

Indoor Community Gardens: Green community third spaces within buildings to reduce lifetime building carbon intensity while improving quality of residents' lives

How does Neutral achieve these certifications?

A Brief Green Real Estate Rosetta Stone





Based on the findings from our whitepaper, we created the above sample brochure. As you can see, this one is designed to translate technical sustainability terminology into more accessible language for impact investors. By bridging this terminology gap, we believe impact investor audiences will be more likely to grasp real-world impacts of Neutral's design decisions and some of the decisions that make Neutral constructions uniquely ESG-focused.

Impact Capital Database

After investigating the motivations behind impact investors and creating our brochure, our team created an [Impact Investor Database](#) full of green capital sourcing streams. The attached spreadsheet covers these investors in general detail, however the following is a list of the three major capital sources we believe could be of most value to Neutral:

Brookfield

Brookfield Asset Management is an ideal partner for Neutral due to its deep expertise in sustainable urban development and commitment to high-impact, low-carbon projects. Brookfield has demonstrated a strong alignment with environmental, social, and governance (ESG) principles, making it a natural fit for Neutral's mission of decarbonizing real estate through mass timber construction, passive house certification, and brownfield redevelopment. Their real estate business currently manages \$271B assets, including \$172B across 12,256 North American properties. The firm's global portfolio includes numerous green-certified properties, reflecting its focus on energy efficiency and carbon reduction—key priorities for Neutral's developments. Additionally, Brookfield's emphasis on walkable, transit-oriented communities aligns with Neutral's urban projects, which prioritize high Walk Scores and community-centric design.

Brookfield's investment strategy also emphasizes long-term value creation through sustainable practices, mirroring Neutral's approach to combining profitability with measurable environmental impact. By leveraging its extensive capital resources and operational expertise, Brookfield can help scale Neutral's innovative construction methods, such as geothermal energy integration and Living Building Challenge (LBC) certification, while ensuring strong financial returns. Furthermore, Brookfield's experience in brownfield redevelopment supports Neutral's potential future projects, optimizing underutilized urban sites to minimize sprawl and maximize sustainability. Given Brookfield's track record in climate-conscious real estate and its alignment with impact-driven investment criteria, a partnership would accelerate Neutral's growth while reinforcing shared commitments to a low-carbon built environment.

Brookfield's existing partnerships with sustainability-focused organizations further reinforce its alignment with Neutral's mission. The firm has collaborated with leading climate-tech innovators, green building certifiers, and impact-driven investors—such as the Carbon Leadership Forum, the U.S. Green Building Council (USGBC), and renewable energy providers—demonstrating a shared commitment to decarbonizing real estate. Additionally, Brookfield's involvement in initiatives like the Net Zero Asset Managers Initiative and its investments in mass timber projects with groups such as SmartLam and Structurlam highlight its dedication to low-carbon

construction methods. These partnerships not only validate Brookfield's sustainability credentials but also provide Neutral with access to a network of like-minded organizations that can amplify its impact and marketability in the green building space. By aligning with Brookfield, Neutral would gain a strategic investor with both the financial strength and the ESG expertise to accelerate its vision for sustainable urban development.

Ares

Ares Management is another ideal capital provider to Neutral due to its refined infrastructure and real estate expertise paired with a passionate ESG initiative. A partnership between Ares and Neutral would be mutually beneficial considering their near identical investment thesis centered on responsible long-term climate practices paired with considerable returns. Stated in their recent ESG reports, Ares has emphasized a focus on decarbonization and climate risk management. These areas align closely with Neutral's decarbonization efforts through utilization of mass timber in construction of real estate projects. Ares has built impressive industry experience through many real estate investments all around The Americas, Europe, and Asia-Pacific comprising their 58.2B assets under management. Paired with a highly experienced tenured team, Neutral would build familiarity with no shortage of sophistication and efficiency provided they decide to pursue a relationship.

Ares Management's real estate debt strategy focuses primarily on direct lending investments to owners of commercial real estate. This type of debt structure pairs extremely well with the capital raising preferences Neutral is currently experiencing. These debt commitments are obtained through senior and subordinated debt investments, in which Ares has an expansive multi-asset track record and expertise. Through its value proposition Ares has pledged their commitment to flexibility in growing capital requirements as their client's needs change overtime. With recent tariff scares, production channels have experienced intense macroeconomic effects in paranoia of future costs. Considering Neutral's dependence on material prices for construction of their real estate projects, having a capital provider who is willing to work through that volatility instead of writing it off as a liability is essential.

Ares has recently taken on a risk mitigation initiative following a string of natural disasters that have impacted returns on their current sustainable real estate portfolio. The main risk factors identified are: wildfires, flooding, hurricanes, and earthquakes. To mitigate further risks Ares has devoted time and resources into the installation of floodgates, updated architectural designs to decrease wind loads, impact rated windows and doors, roof connection tie downs, and raised site/building elevations. This process has been incredibly capital intensive, and might be seen as a detractor for Ares to

currently suspended sustainable real estate investments. However, these risk factors are only prevalent considering the location of Ares Management's current sustainable real estate portfolio, consisting exclusively of east and west coastal states. It is not without basis to surmise the likelihood of receptive enthusiasm if Ares was presented the opportunity to expand their sustainable real estate portfolio to the midwest, a geographical area in which these risk factors are entirely nullified.

Macquarie

Macquarie Asset Management, headquartered in Sydney Australia, is another great potential capital provider for current and future Neutral projects. Macquarie centers their investment thesis around decarbonization and ESG initiatives, with an incredibly successful current portfolio of relevant investments in these sectors. One such investment is Goodstone living, a portfolio company of Macquarie focused on producing energy-efficient rental homes across the UK. Decarbonization centric companies like Goodstone showcase Macquaries commitment to sustainability on a global scale. As of their 2024 sustainability report, Macquarie has \$A369.8B (\$236.4B USD) Assets under management in the Americas, the largest AUM% out of all their investment regions. This commitment to american based sustainability projects works to make Macquarie favorable and preferred capital relationship fit for Neutral.

Regarding more specifics on Macquarie's sustainability practices, their focus lays on identifying megatrends driving demands and disruption in profitable markets. As of recently, Macquarie has determined that sustainability and low carbon footprint real estate are major trends requiring attention, pledging a focus on real estate based sustainable solutions on their FY24 Sustainability Report. These commitments by Macquarie pair well with the decarbonization initiative Neutral has centred through its focus on mass timber construction.

Carbon Credits

Green Financing and Private-Sector Support

An ecosystem of private and non-profit financial mechanisms is emerging to support sustainability, including specialized loans, subsidized financing, certifications and innovative investment models. Mass timber developers should not overlook these options, which can provide cheaper capital or upfront funding in exchange for the future environmental value of projects:

- Compeer Financial, a Farm Credit association serving Wisconsin, Illinois, and Minnesota, has a dedicated timber lending arm. Compeer provides operating loans, equipment financing, and leases tailored to forestry operations and wood product companies. They understand the timber harvest cycles and the value of sustainable management. By working with such lenders, a mass timber manufacturer or a rural timber-building project might secure below-market interest rates or flexible terms (effectively a subsidy via reduced financing costs). Compeer also partners on programs like the Carbon Access Program to help landowners monetize climate-smart forestry practices— an indication that these lenders see carbon and timber projects as the future. In practice, this means a mass timber developer could package a project's sustainable forestry supply chain story to get favorable loan terms. Another Farm Credit institution, AgCountry, has similarly co-funded rural innovation grants alongside Compeer. A hypothetical CLT plant in rural Minnesota might combine a Compeer equipment loan with state grants, enabling it to offer cheaper CLT panels for building projects, thus indirectly subsidizing those projects' costs.
- Compeer won access to the IRA, giving them two strategic benefits when thinking about a Neutral carbon credit system:
 - 1) If a timber farmer or processor in the Great Lakes area wanted to pursue SFI certification to become a Neutral vendor, Compeer's IRA access could heavily subsidize loans. Therefore, having Compeer as a partner would be a huge networking source if Neutral wanted to hedge against potential tariffs using domestic partnerships.
 - 2) Compeer could sign on to Neutral loans to partially subsidize funds. For example, if Neutral needs \$100m in loans on top of equity investments to fund a new construction, and they take the \$100m loan out from Bank of America at 10% interest, BOA could sell \$5m of that loan to Compeer, who would subsidize that interest rate for BOA using its Inflation Reduction Act money. By creating a direct Compeer to Neutral relationship, we could cut out the middleman and

Neutral benefits from that subsidization, and Neutral's total interest paid on development loans falls heavily.

Carbon Credits: Monetizing the Carbon Benefits of Timber

One of the most intriguing opportunities for mass timber construction is the ability to generate carbon credits by virtue of stored carbon and avoided emissions. To understand this, it's important to distinguish between two broad categories of carbon markets:

- **Compliance Carbon Markets:** These are regulated cap-and-trade systems or carbon tax markets where credits/allowances are used for compliance with law. Examples include California's Cap-and-Trade program, the Regional Greenhouse Gas Initiative in the Northeast, and international systems like the EU Emissions Trading Scheme. In compliance markets, only certain approved project types can produce offset credits (for instance, California allows credits from forestry, manure digesters, etc., under strict protocols). As of today, no U.S. compliance market explicitly recognizes mass timber buildings as an offset project type. However, forestry projects that supply the timber can generate compliance credits – e.g., improved forest management offsets under the California system (administered by the Climate Action Reserve and American Carbon Registry) have been a major source of credits. In theory, a mass timber building that sourced wood from a forest which earned compliance offsets (for sustainable harvesting practices) could *indirectly* claim some carbon benefit, but the building itself isn't issuing credits (we will get to that later). That said, policymakers are starting to contemplate how building materials could play a role in compliance frameworks. Unfortunately, this type of policy is largely beginning in Europe, or could require some patience and action in the domestic political field. For instance, there are proposals to allow credits for stored carbon in harvested wood products in future state-level progress.
- **Voluntary Carbon Markets:** Contrasting to the compliant market, these are less regulated, less stringent markets. If a company sets a personal goal, for reasons involving: achieving sustainability goals, enhancing brand reputation and recognition, and appeals to investors or consumers. In this way, Neutral may appeal to companies wishing to claim some sort of neutrality on its own, or announce an investment and participation in a cleaner construction. The market, in general, appeals to companies wishing to promote their branding, neutrality, or ESG goals.

Carbon Benefits and Credit Protocols for Mass Timber

What would a carbon credit for a mass timber building encompass, and how can we understand this? Essentially, two things need to be measured: (1) Carbon stored in the wood itself, and (2) Emissions avoided by not substituting more carbon-intensive materials. A crediting methodology would calculate the net carbon benefit of the timber building relative to a baseline (usually a functionally equivalent concrete/steel building). Research by the USDA Forest Products Laboratory and others confirms that these benefits are significant and quantifiable.

“Mass timber construction offers potential carbon benefits through both carbon storage and avoided emissions... A carbon offset credit for mass timber construction would recognize these dual advantages and incentivize a transition to mid- and high-rise buildings based on renewable materials.”

In other words, if we can measure it, we can monetize it (economics at its finest). The Forest Products Laboratory analysis in 2023 illustrated this by examining case studies of U.S. mass timber projects and estimating how many tons of CO₂ were stored/avoided. They found ranges of a few hundred up to many thousands of tons per building, translating (at prevailing carbon prices) to carbon credit values potentially in the millions of dollars for large projects. Problems arise in standardizing this, and the industry and economy must first catch up to that. To successfully issue credits, certain challenges must be addressed:

- **Additionality:** The project must show that the use of mass timber (and thus the carbon benefit) is not business-as-usual or required by law. Given that mass timber is still an alternative approach, a developer could argue that without the incentive of carbon credits (or other monetary support), they would have built in concrete/steel. The credit is thus an extra push making the timber choice viable – satisfying additionality. As mass timber becomes more common, this argument will weaken, so standards will have to adapt to future baselines or only credit the portion of carbon benefit that exceeds the norm.
- **Permanence:** Carbon stored in a building is not necessarily permanent forever – the wood could eventually decay or be burned at end-of-life. Credit systems can insure for this with buffers or guarantees. Approaches might require a portion of credits to be set aside in a buffer pool to insure against the risk that the building is demolished prematurely or other. Nonetheless, building storage is considered relatively long-term (decades at least), and if coupled with strategies for reuse or recycling, the carbon could be kept out of the atmosphere for even longer. Credits from mass timber would be “non-leaky and permanent for the life of the structure” by design, as the FPL⁷ puts it – meaning unlike some land-based

storage, it's not vulnerable to disaster once in the building. The developers do not want it to burn down any more than investors.

- **Leakage:** In the context of carbon projects, leakage refers to reducing emissions in one place but causing an increase elsewhere (e.g., protecting one forest but wood harvest shifts to another forest). For mass timber buildings, leakage concerns would be minimal if the wood is sourced from sustainably managed forests. In fact, increased demand for sustainable timber could theoretically cause more tree planting or better forest management – a positive side effect. Proper sourcing (FSC or equivalent) is important to ensure the building isn't indirectly causing deforestation; certifications like FSC help mitigate that risk by verifying sustainable harvests. Transportation and supply chain emissions are currently optimized, as transatlantic deliveries emit less than ground shipping domestically.

Currently, the most immediate path to monetize carbon in mass timber is through the voluntary market. Even before official methodologies are approved, some voluntary transactions have occurred. The major standards are catching up too: American Carbon Registry (ACR), for instance, has expertise in harvested wood product accounting and could adapt a methodology for buildings. Verra has signaled interest by entertaining methodology development proposals (the Verra VCS process allows outside proponents to draft and submit new methodologies for approval). As noted, a group is working on one with Verra's platform. When that goes live, a U.S. mass timber building could theoretically register as a carbon project, get third-party validated, and issue VCUs (Verified Carbon Units) that it can sell to buyers anywhere in the world.

Opportunities in Compliance Markets

While direct participation in compliance markets by buildings is not yet a reality in the U.S., there are a few angles to watch:

- The California Building Code and others are beginning to require embodied carbon disclosure (through tools like EC3) for larger projects. If future regulations put a cap on embodied carbon per square foot (a policy some are considering in CA), a project that comes under the cap might be allowed to sell or transfer its “excess savings” to another project that is over the cap – creating a credit-like system for materials. This is speculative, but parallels how energy codes sometimes allow trade-offs or how renewable energy credits work for power. A mass timber building could in theory overachieve on embodied carbon and monetize that difference in a compliance-like credit if such schemes develop.

- Carbon Border Adjustments and Material Taxation: There is talk of penalizing high-carbon materials (mostly cement) via taxes or import fees in the future. If that happens domestically, it indirectly makes timber more cost-competitive (as concrete/steel costs go up). Additionally, if timber can show stored carbon, perhaps it could get credits to offset such fees. The compliance angle here is indirect – it's more about leveling the playing field by internalizing carbon costs of other materials, effectively crediting mass timber by comparison.

In summary, carbon credit opportunities for timber construction are moving from conceptual to reality. Developers and owners can keep an eye on these developments and be early movers, or create the action. For instance, a university or company investing in a new timber building might decide to certify it under a voluntary carbon standard to claim “carbon neutrality” for the structure itself. That could either yield sellable credits or be used for the owner’s own carbon accounting (somewhat like “retiring” the credits for their footprint). The key protocols and standards to watch and possibly engage with are Verra Verified Carbon Standard (mass timber methodology in pipeline)

Notably, the Living Building Challenge now requires projects to account for and offset their embodied carbon impacts as part of achieving full certification. LBC’s Zero Carbon Certification also addresses this explicitly. Mass timber’s role here is pivotal – by drastically reducing embodied carbon up front, it minimizes how much must be offset at the end.

Noteworthy Early Examples

University of Washington’s Founders Hall (Seattle, USA): In 2022, startup Aureus Earth partnered with UW to quantify and monetize the CO₂ stored in this new mass timber campus building. Using a custom protocol, they determined the six-story, 96,000 ft² timber structure stores over 1,000 tons of CO₂ long-term. Carbon offsets equivalent to that biogenic carbon storage were then issued and sold, raising about \$150,000 in funding. The offsets were purchased by sustainability-focused stakeholders (interested in decarbonizing construction) and ultimately gifted back to the university for retirement. This pilot demonstrated real demand and monetary value for carbon credits from mass timber construction, effectively giving the building owner a rebate on the green building premium.

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