

# CAN WE AFFORD TO BUILD LIVING BUILDINGS? WE CAN'T AFFORD NOT TO

JULY 8, 2021 | IN CORENET GLOBAL NEWS | BY CORENET GLOBAL



Guest post by Kathy Berg, Partner, ZGF Architects and Paul Schwer, President, PAE

Living buildings, designed to the most rigorous sustainability standards in the world, are often disregarded as a viable investment option because they are considered expensive; a one-off scenario suitable for foundations and universities but not yet feasible for developer-driven models. The PAE Living Building is changing this narrative.

Currently under construction in Portland, Oregon, the PAE Living Building will not only be the first fully certified Living Building in the city, but the first developer-driven Living Building in the world. And with a financial analysis that demonstrates it is a worthwhile investment, we certainly don't expect it to be the last.

How did we pencil out the first developer-driven Living Building? The answer is simple: a 10% internal rate of return over a 10-year hold and a 10% rent premium. This model developed for our five-story, 58,700 SF office building may be replicable in markets across the country.

### **Future of Living Buildings**

Why should a developer pursue a **Living Building Challenge** project? Here again is a simple answer: the most sustainable buildings are the only option for our future and to mitigate against future costs often not considered in today's real estate analysis.

Considering that buildings currently **generate 40%** of annual greenhouse gas emissions, and that the global building stock will double in area by 2060, it's critical that all new structures target ambitious sustainability goals in both their construction and operation to eliminate net carbon emissions, insulate the owner from rising operational costs, and protect our limited resources. The Living Building Challenge provides a framework to translate these goals into specific and impactful performance areas. The long-term benefits of resilient Living Buildings are numerous:

- **Climate Benefits:** Living buildings are not just "less bad." They go beyond reducing carbon emissions to create a "carbon negative" building through a combination of a one-time offset of all embodied emissions and a net positive energy design that produces more renewable energy than the building uses over the course of a year. Many cities and countries have long term carbon reduction goals and Living Buildings meet those goals on the first day of occupancy.
- **Occupant Benefits:** Increased rates of health and wellbeing are reported among workers in buildings with biophilia strategies, including natural daylight, operable windows and healthy indoor air quality. This in turn, reduces absenteeism and increases productivity, paying back in real dollar with improved employee performance.
- **Resiliency Benefits:** These structures offer enhanced resiliency through onsite energy production and batteries as well as onsite water and waste treatment. These features future-proof the building by reducing reliance on external systems and minimizing potential damage from adverse events. Consider that the PAE

Living Building is designed to be a 500-year building and can operate in a low energy mode completely disconnected from the grid for up to 100 days over the summer.

- **Community:** The benefits of highly sustainable buildings reach far beyond the building occupants. Living Buildings reduce negative impacts on air quality and habitat through considerably lower embodied and operational carbon footprints. The Living Building Materials Petal stipulates that materials used in construction and finishes must consider health and equity within their supply chain. Transportation distances are minimized – less than 500 miles for most of materials – with many selections, such as timber, supporting local economies. Additionally, the Living Building Challenge includes an equity component to foster greater inclusivity in development work. In our case, we are supplying \$600,000 of PV panels to a nearby affordable housing project. The energy generated by those panels will save the housing project approximately \$20,000/year in electricity costs, while our project will receive Renewable Energy Credits, or RECs.



### Investor Return

For the PAE Living Building, we had a group of investors with available “patient” capital and who were willing to wait 10 years to achieve their desired return.

The project was made possible in part by reducing need for outside capital. The project team, including architect (ZGF), engineer (PAE), developer (Edlen and Co), broker (Apex Realty), and contractor (Walsh Construction Co.) reduced the need for equity by half by agreeing to invest their fees, and the landowner (Downtown Development Group) to invest their land. That agreement made it easier to secure commitments from investors and those investors didn't need to supply their funds until after we received our building permit.

A simple 10% premium on rent was enough to make the proforma work. In all, the project has a projected IRR of ~10% based on a 10-year hold, though exact return will be dependent on final sale price. Considering that the building far exceeds current code minimums and is designed to last 500 years, the projected cost savings extend out into the future. For an investor planning to hold the asset for a longer term, a Living Building becomes even more profitable.

The longer hold period also provided tax benefits, as the building is in one of the many Opportunity Zones in cities throughout the United States. Opportunity Zones are designed to increase economic activity in certain areas of the city and provide capital gains tax advantages, which are attractive to investors.

### **Tenant Demand**

For many organizations, Living Buildings can be a great way to visibly live company values while providing employees with an attractive and healthy work environment. The anchor tenant, which happens to be PAE, agreed to pay a 10% rent premium realizing that it could quickly pencil out in two different, achievable scenarios:

- **Retention:** Retaining just three to four employees and thereby avoiding the need to train replacements would cover the entire annual rent premium. This would mean retaining 2% of PAE's employees per year, a goal that data shows is achievable with healthy buildings in which **occupants report greater satisfaction**.
- **Productivity:** The premium is also paid for by a 1%-2% increase in employee productivity, which research shows is bolstered by access to healthy air, views, operable windows and the many other benefits offered within this Living Building.



If both scenarios are realized, it becomes *less* expensive for a tenant like PAE to move into a Living Building rather than a traditional Class A office. In addition, recruiting staff that are passionate about the environment is much easier if your office is in a Living Building.

The urgent need to respond to climate change is already accelerating the adoption of net positive energy and resiliency strategies. Like other energy efficient approaches that were once considered novel, we anticipate cost premiums will continue to decrease as more Living Building projects are realized.

Does a Living Building pencil out today? We believe it does on every level: investors, tenants, and health of our planet.

#### **About the Authors:**

##### **Kathy Berg**



##### **Paul Schwer**

