



The Lloyd District is in transition. The commuter-focused neighborhood in Portland, Oregon was once filled with office towers and parking lots. Now, residential high-rises are being built and Lloyd Center mall, the commercial anchor of the district, is undergoing a major renovation. In this new landscape, Lloyd 700, a prominent 16-story commercial building, was at risk of falling behind.

American Assets Trust (AAT), a vertically integrated real estate investment trust from San Diego, purchased the Lloyd 700 building in 2011. After looking at the changing dynamics of the neighborhood, they decided a renovation was in order. Since the building was built in 1970, that renovation would need to be deep.

“What we were looking at was an existing building that was almost 45 years old and was not operating at peak efficiency and we knew that,” said Wade Lange, Vice President/Regional Manager at AAT. “Our goal wasn’t just energy efficiency. We were really looking at trying to reposition our building in the marketplace, to make it more competitive with newer buildings.”

BUILDING RENEWAL

AAT sought out the help of BetterBricks, a commercial building program of the Northwest Energy Efficiency Alliance (NEEA), to provide expertise and guidance in their efforts to modernize Lloyd 700. The goal of BetterBricks is to accelerate the adoption of energy-efficiency best practices in the commercial industry.

AAT decided to pursue a real estate strategy created by BetterBricks called building renewal. This strategy helps owners, investors and managers conduct whole-building, deep energy-efficiency retrofits of existing buildings. Building renewal achieves significant energy savings of 35% or more.

AAT used a customized plan with an integrated measure package designed around Lloyd 700’s climate, market and desired payback rate. This plan enhanced the building’s market position, repositioning Lloyd 700 from a Class B building to a Class A building. The plan also increased the building’s asset value and transformed Lloyd 700 into a competitive leader in the marketplace.

The Building

Lloyd 700, Portland, Oregon

Size: 16 floors, 247,385 square feet

Built: 1970, AAT purchased in 2011

The Integrated Measure Package

The integrated measure package for Lloyd 700 is a comprehensive set of strategies that includes:

- Recommissioning of HVAC and controls
- Sealing the envelope
- New interior lighting fixtures and controls
- New dual duct VAV terminal units
- Retrofit of air handling units
- New chiller and boiler plant
- Occupant education initiative

STAGE ONE: TECHNICAL AND FINANCIAL ANALYSIS

NEEA's BetterBricks team, through collaboration with two Integrated Design Labs (IDLs) at the University of Idaho (Boise IDL) and the University of Washington (Seattle IDL), presented AAT with an integrated measure package and corresponding financial estimates on project costs to guide them in the transformation of Lloyd 700.

In contrast to a traditional, single-system retrofit, this integrated measure package offered Lloyd 700 a holistic, building-wide improvement plan that addressed the building's immediate problems—then went much further.

This big-picture approach addressed the building and its various systems as a whole, revealing connections that resulted in more opportunities for improvements and savings. In developing the integrated measure package for Lloyd 700, contractors and consultants used energy modeling to estimate the savings that would come from adopting specific measures. Then, a cost estimator provided estimates of the capital costs of making the improvements.

Coordinating the technical analysis with the financial analysis to accommodate tenant rollovers and other changes was a complex process. Nevertheless, the integrated measure package came together smoothly.

AAT used this integrated measure package to guide their major retrofit of Lloyd 700.

COMPETITIVE ADVANTAGE AND OTHER NON-ENERGY BENEFITS

AAT wanted to increase the long-term value of the Lloyd 700 building and become more competitive in the market. As a result, non-energy benefits from improvements were integral to the business case. A financial analysis was performed to assess the potential value of non-energy benefits at a floor-by-floor and lease-by-lease level; evaluate the risks; and calculate the returns. Key benefits included:

- The market caché and higher profile that comes with “best-in-class” and/or “greenest building” status
- Greater capacity to keep current tenants and attract new, high-quality ones
- Improved ENERGY STAR® and LEED ratings, which attract higher-credit-quality government and corporate tenants that require such certifications for their office space
- Reduced maintenance calls, and less time and money spent responding to them
- Tenant comfort



Boilers



Chillers

AAT's Goals For The Lloyd 700 Building

- Solidify Lloyd 700's competitive position as a Class A building in an evolving market
- Produce best in class space and returns
- Increase long-term property value
- Maximize and ensure consistent and reliable cash flow and return on investment
- Demonstrate a leadership role in the Lloyd EcoDistrict and the Kilowatt Crackdown
- Position AAT as a preeminent sustainability organization
- Reinforce AAT's standing as “best in class”

AAT wanted to implement measures tenants could touch and feel, or that would improve the market perception of the building, such as ground-floor lighting in retail spaces, window coverings and interior improvements. Additionally, AAT wanted to optimize the central heating and cooling plant to accommodate new construction at the same site as the existing building retrofit, so they took particular interest in a chiller replacement.

STAGE TWO: BUILDING OWNER APPROVAL

AAT was presented with two integrated measure packages and opted for the package with a larger potential energy savings.

“We got excited about the ability to reposition and rebrand the project. Market conditions also going on within Portland that helped push the rents. Class A rental rates were increasing, but with the improvements on Lloyd 700, we also put ourselves in position to capitalize on that momentum.”

STAGE THREE: IMPLEMENTATION

AAT cited the holistic analysis as the most valuable aspect of building renewal. BetterBricks’ analysis offered a model that exceeded simple measure-payback estimates, enabling the building’s owner to take a tired building in a rapidly changing neighborhood to a new level.

AAT pursued changes to the central plant that resulted in an expanded HVAC system while keeping the energy footprint roughly the same. These measures focused on replacement of the existing cooling tower with three new open tower cells, installation of two new high-efficiency centrifugal chillers and the installation of 6000 MBH of gas-fired condensing hot water boiler capacity.

Direct digital control improvements have been made and are ongoing. AAT continues upgrades to the electric lighting system to coincide with tenant rollover.

AAT received the maximum incentives provided by Energy Trust of Oregon, an independent nonprofit organization dedicated to providing utility customers with low-cost, clean energy solutions.

“In the end, energy pieces gave a significant bang for the buck – about \$400,000 coming back to us in Energy Trust incentives,” said Lange.



“Making the business case was the easy part because BetterBricks did it for us. They brought forth the report that said ‘here’s where the opportunities are.’ All we had to do is carry that report down to our executives in San Diego and say ‘look at these opportunities.’”

– Wade Lange

The Numbers

ESTIMATED ENERGY COST SAVINGS:
30% annually/more than \$89,000
a year with some measures left to
be implemented

COST PER SQUARE FOOT:
Leasing rates increased from \$23
to \$30

OCCUPANCY
Increased from 73% to 98%

ABOUT BUILDING RENEWAL STRATEGY

Building renewal is a commercial real estate strategy to modernize a building and improve its competitive position by focusing on an integrated, comprehensive package of upgrades. Building renewal delivers energy savings of 35% or more. This holistic and financially sound approach positively impacts the market perception of the property.



STAGE FOUR: MEASUREMENT AND VERIFICATION

The effort was a success, transforming the aging Lloyd 700 building into a leader in the commercial real estate market in Portland.

In concert with an affiliated local strategic energy management program, AAT reported that the building's overall energy consumption dropped 30 percent from 2014 to 2015, saving almost \$89,000. AAT expects to reduce consumption by another 10 percent as they finish the last parts of the measure implementation, which will allow them to reach their project goal of 40 percent energy reduction.

The building has already met its key financial performance targets. Rents increased from an average of \$23 per square foot to \$30 per square foot, and occupancy increased from 73 percent before the retrofit to 97 percent after the retrofit. AAT felt the retrofit was instrumental to their ability to increase rents, particularly considering the age of the building.

Despite the ongoing construction, tenant complaints about comfort decreased by eight percent, and management expects these to fall further when the project is complete.

"In the past year, there have been only two weeks there hasn't been a tour scheduled on site," said Lange. "It's great! I've never seen anything like this."

AAT's decision to pursue a deep energy retrofit transformed the Lloyd 700 building, contributed to a rapidly changing neighborhood and enhanced AAT's global reputation as a sustainable development firm. The green credentials the project provided allowed AAT to secure a major environmentally conscious commercial tenant.

"We're seeing the ability to adjust quicker and more economically to diverse weather situations – cold or hot. We used to run the building 24 hours a day – now we're not doing that."

– Wade Lange



GET STARTED WITH SPARK

Using lessons learned from demonstration projects in the Northwest that used the building renewal strategy, NEEA developed Spark, a free, online, early assessment tool, that provides an overview of integrated project costs and financial benefits. Spark creates a customized report with an integrated measure package and evaluates if a building is positioned for a deep energy retrofit. Learn more at www.BuildingRenewal.org.

BetterBricks. Powerful Energy Ideas. Delivered by NEEA.
Connect to powerful energy ideas at BetterBricks.com