

Sustainability Worldwide



Keanan Rush Billy Trujillo Zack Trocheck

Introduction: Three Alliance Center is located in the heart of Buckhead (3500 Lenox Rd NE). The building is 30 stories and provides the community with 502,000 ft.² of office space. Although this property is LEED Gold certified, our group was able to identify two specific initiatives to present to the property management team (Transwestern) for carbon emissions reduction. Given Transwestern's commitment to sustainability, we believe these initiatives are within their strategic alignment.

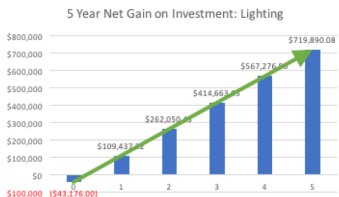
LED Lighting Efficiency

Problem: Currently there are incandescent fixtures located in all common corridors, restrooms, elevator vestibules, the fitness center, main conference center, lobby and tenant lounge (2,400 total fixtures).

Solution: Incandescent → LED Fixtures
Our team plans to assist with moving the fixtures to LED as the sole source of lighting at 3AC.



**Total CO₂ Reduction :
1,845,486 lbs.**



Carbon Calculation based on kWh usage moving from 144 kWh/day to 9.6 kWh/day for 2,400 total fixtures.

Financial Impact:

One-Time Project Cost:

\$43,176

Payback Period: **0.28 years**

NPV: **\$662,902**

ROI: **1,435%**

IRR: **353%**

**1,845,486.72 lbsCO₂=
83.71 Ford Fusions
Removed from the
Road!**

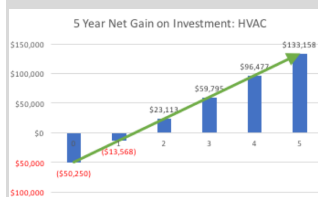
HVAC Demand Ventilation

Problem: No control method currently in place to modulate the volume exchange of fresh air into an enclosed space of Three Alliance by the HVAC unit.

Solution: Demand Controlled Ventilation will include adding sensors to measure the individuals (density) per floor to calculate the specific load of HVAC that needs to be emitted per floor.



**Total CO₂ Reduction :
443,576 lbs.**



Carbon Calculation based on total building energy consumption being reduced by 5%.

Financial Impact:

One-Time Project Cost: **\$50,250**

Payback: **1.37 years**

NPV: **\$120,243**

ROI: **139%**

IRR: **67%**

**443,575.62 lbsCO₂= 20.12
Ford Fusions
Removed from the
Road!**

Co-Benefits

- Potential for tenant retention
- Maintain or improve LEED status
- Potential to charge higher rents as the building moves towards a higher level of efficiency
- Increase engineers' productivity with less focus on HVAC & lighting

2x2 Stakeholder Analysis

Key Stakeholders	Involvement
Tenants	Will be making the final decision to adopt the new light bulbs. Have not been involved up to this point.
Building Ownership	Low involvement. Instructed the Transwestern to do more sustainability initiatives.
Property Manager	High involvement. Kristen Stappenbeck has been our main contact, and supporter of the new plans.
Chief Engineer	Jessee Kave was interviewed and had a moderate involvement. Jessee will be the one implementing the new HVAC system.
Building maintenance Group	Not involved in the decision making process, but they will be affected on their day to day with the new projects.

Current Status/Future Plans

Team has met with the Transwestern management team to present a formal plan. Our next meeting will be to discuss the implementation timeline. Our desire is for the work to begin by 4th quarter 2018.