**St. Louis City Building Energy Project**

**Washington University in St. Louis Sustainability Exchange**

**Stakeholders**

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**Objectives**

1. Understand the motivations of benchmarking
2. Create video case studies featuring energy efficient buildings to improve the public’s understanding of benchmarking
3. Promote engagement in benchmarking to assist St. Louis’s energy reduction targets

**Why Building Efficiency?**

- The tracking and reporting of annual energy and water use
- Mandatory for buildings greater than 50,000 sq. ft
- Self-reporting and self-submitting
- Buildings are scored based on their energy performance and efficiency
- Measured in Energy Use Intensity (EUI)
- An index of comparison and a driver of future improvement

**What is Benchmarking?**

- The tracking and reporting of annual energy and water use
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**Incentive Programs**

- Utility companies provide rebates and incentives that encourage customers to switch to more energy efficient systems, such as:
  - Changing Fluorescent T-8s to LEDs: $2-4/lamp
  - HVAC Systems: $13-20/ton
  - Variable Frequency Drives: $80-100/horsepower
  - Boiler Heating Systems: $525-15,000/unit
  - Gas Furnaces: $200-500/unit
  - Energy Audit Rebates: 50% of cost up to $500

**Next Steps**

- Energy cohort – small coalition of building owners
- 100% clean energy by 2035
- Pursue 100% Benchmarking Compliance

**Case Studies**

**Embassy Suites in Downtown St. Louis**

**Actions Taken:**

- Installed automation system and occupancy sensing thermostats
- Used BizSavers Lighting Program from Ameren to transition to LED lights

**Motivations:**

- Corporate commitment to sustainability (Light Stay Program, LEED Silver certification)
- Customer comfort and satisfaction
- Cost cutting initiatives

**500 N Broadway**

**Actions Taken:**

- Installed new reliable control automation system to monitor the building’s energy use
- Transition to LED lighting
- Installed new frequency drive on a 500-ton chiller

**Motivations:**

- Tenant comfort, satisfaction, and retention
- Revitalization of the downtown area
- Utility cost reduction

**Old Post Office**

**Actions Taken:**

- Retro-commissioning study of Direct Digital Control system
- Calculated the utility usage and cost of the building

**Motivations:**

- Better intake air control and Tenant retention
- Sustainability for future generations and preserving the building’s historic nature

**Our Process**

- Select buildings for case studies
- Develop interview scripts
- Conduct onsite interviews
- Create case studies
- Finalize deliverables

**Stakeholders**

- Benchmarking is crucial for learning the current state of a building’s energy use and the efficiency of its operating systems.
- For building owners, benchmarking enables them to make informed decisions about managing and improving their building’s energy usage.
- Benchmarking can not only be used internally, but can also help building owners compare their energy usage to other buildings of similar size, industry, etc.
- “Benchmarking is the first, best tool an owner has to challenge themselves and say, what am I leaving on the table?” - Tim Michaels
- "The city benchmarking ordinance is a great opportunity to help foster knowledge and a response to that knowledge.” - Tim Michaels