CASE STUDY

utiliVisor

Integrating Granular Metering for Energy Efficiency in Complex Research Facilities

LOCATION

Legacy Labs
Atlanta, GA

UTILITIES INVOLVED

Electricity, water, gas

GOALS

Submetering for cost allocation, energy efficiency, and ESG reporting

BUILDING DESCRIPTION

5-story Class A life science facility, including

- Office space
- Vivarium
- Wet labs
- Fume hoods
- Clean rooms

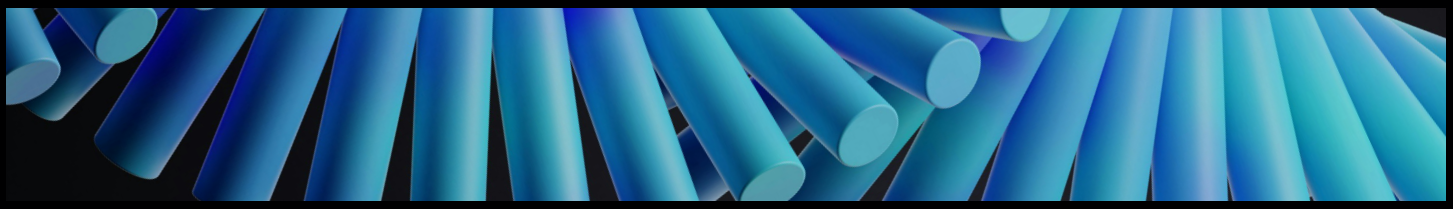
EQUIPMENT AND SERVICES USED

- 7 multi-channel electric meters
- 30 sets of CTs
- 3 gas meters
- 2 BTU meters (monitoring chilled and hot water)
- 3 data collectors
- Complete reference testing, point-to-point commissioning and validation of meters and data collection system
- Walkthrough and demo of new system with onsite operations staff
- Monthly utility billing services that confirm accuracy of bills from the utility provider and prepare tenant packages according to usage and lease terms
- Engineering consultation on ECM opportunities and validation of impact

Background

A forward-thinking real estate investor, developer, and operator, Ancora L&G (ALG) specializes in creating cutting-edge research facilities that empower scientific innovation while warranting environmental stewardship and social responsibility.

Recently, ALG purchased the 15-year-old Legacy Labs at Science Square, a life science building near Georgia Tech. Peter Roy, Vice President of Development at ALG, has taken on the challenge of reducing Legacy Labs' electrical/natural gas efficiency from ~800 kWh/m^2/yr to ALG's internal benchmark for commercial labs of 400 kWh/m^2/yr. But because metering in the building was limited, he had little data to help ALG identify the most promising pathways toward greater efficiency. After researching several submetering options, Roy called Tim Angerame, COO at utiliVisor, to help retrofit a new submetering system onto this complex property.



The Challenge

Legacy Labs is a 128,000-square-foot research facility with gas boilers and chillers for four chemistry and biotech tenants with demanding air-exchange, power, and climate requirements. Built 15 years ago, the building did not distribute power to tenants through panels organized by tenant, which made it difficult to see precisely how much electrical energy each tenant consumed. Instead, tenants were billed for power and other utilities by means of a formula in the tenant leases, which, among other factors, was weighted to account for offices vs. labs.

Rather than guesstimating consumption each month, ALG wanted a system that would not only i) provide accurate energy consumption data but also ii) could provide the detail needed to reduce the facility's carbon footprint and iii) help tenants better understand the consequences of their laboratory protocols and other operational behaviors.

The utiliVisor Solution

The property had a few electrical submeters here and there, but nothing that afforded a meaningful view into the building's and tenants' utility consumption. Angerame and his team surveyed the building; designed a holistic submetering system; purchased the meters, CTs, and data collection equipment; worked with the electrician and plumber to have the equipment installed; programmed the meters to send data uniformly; and then reference-tested and validated each meter's readings.

> "It's never exactly what you think it is. You might think that you just put a meter on, and you measure meaningfully. It's just not that simple if you want it really done accurately."
>
> **Peter Roy**
> Vice President of Development
> Ancora L&G

Results

Now ALG has visibility into how much of the utilities are consumed per floor and how much hot and chilled water is being produced. An early finding was that the boilers were oversized, at/near their end-of-life, and therefore good ROI candidates for an energy-efficiency capital investment. Another discovery was that a small gas account billed to just one tenant actually served multiple tenants. Findings like this help ALG identify efficiency opportunities and justify operational changes to tenants. In addition to more accurate measurements of their respective utility usage, the tenants will get the financial benefit of increased energy efficiency. ALG now has easy access to accurate emissions data for carbon reporting, which is an important aspect of ALG's ESHG (environmental, social, health and governance) plans and profile.

And should ALG decide to capture even more detail in the future, utiliVisor designed the system to be expandable, so ALG can add more meters and CTs later without additional infrastructure costs.

About utiliVisor

Founded in 1978, utiliVisor offers comprehensive energy monitoring and submetering services, not just software. Our Operations Center is staffed with expert engineers, billing analysts, and meter technicians who review your data for accuracy to deliver insights and save you money.