IRON MOUNTAIN LEVERAGES REAdaptive’S EFFICIENCY-AS-A-SERVICE PROGRAM FOR ENERGY AND CARBON REDUCTIONS

SOLUTION OVERVIEW
In an effort to accelerate facility efficiency upgrades beyond their available capital, Iron Mountain’s global records management business (parent company to Iron Mountain Data Centers) partnered with Better Buildings Financial Ally Redaptive to implement energy efficiency measures at 174 of its corporate sites in North America, totaling 17 million square feet, using an efficiency-as-a-service financing solution. Efficiency-as-a-service is a pay-for-performance, off-balance sheet financing solution that allows customers to implement efficiency projects with no upfront capital expenditure. Iron Mountain utilized Redaptive’s flexible financing program to earn $750,000 in operating expense savings in 2021 alone and will save over $4 million annually in future years.

This implementation model is part of the Better Buildings Efficiency-as-a-Service Toolkit.

CHALLENGE
Desire to accelerate efficiency upgrades beyond available capital.

FINANCING SOLUTION
Enacted an efficiency-as-a-service plan that included energy efficiency upgrades, vendor network management, and navigation of regional rebate programs to maximize savings.

OUTCOME/PROJECT SAVINGS
Over $4 million in future operating expense savings, and $750,000 in 2021 after shortening the contract terms.

POLICIES
In mid-2018 Iron Mountain committed to 100% renewable energy and set a target to reduce greenhouse gas emissions approved by the Science-Based Target initiative to help meet the Paris Climate Accord. Their target was an absolute reduction in scope 1, 2, and 3 GHG emissions of 20% by 2025 from a 2016 base year. Currently, 81% of Iron Mountain’s global electricity use is renewable and 100% of its data center energy use is renewable.

https://betterbuildingssolutioncenter.energy.gov/implementation-models/iron-mountain-leverages-readaptive%E2%80%99s-efficiency-a-service-program-energy-and-carbon-reductions
Iron Mountain Leverages Redaptive’s Efficiency-as-a-Service Program for Energy and Carbon Reductions - Better Buildings Solution Center

**PROCESS**

In 2016 Iron Mountain reached out to Redaptive, a provider of efficiency-as-a-service (EaaS) solutions, through their property manager (CBRE) to engage in an as-a-service agreement for energy efficiency projects across its portfolio. Redaptive’s efficiency-as-a-service solution typically involves five main steps:

1. **Planning & Audit:** Redaptive develops a strategic plan for the project and audits the customer’s sites to gather necessary data and information.
2. **Design, Review, & Approve:** Once Redaptive has all the project information, their team works with the customer to optimize the project design and scope.
3. **Efficiency Upgrade & Meter Install:** Redaptive manages a network of installation partners and crews to procure and install all the efficiency and system metering equipment at the customer’s sites.
4. **Customer Acceptance:** Once the project is completed, Redaptive reviews the installations with the customer to ensure that all criteria and expectations are met.
5. **Measurement & Savings:** Following acceptance of the project, the resultant energy savings are measured by Redaptive and the customer is billed on a monthly basis for a portion of the energy saved.

The team at Iron Mountain already had a good understanding of which sites would benefit the most from energy improvements and it provided a list of candidate sites to Redaptive for further auditing and analysis. The final project scope included LED lighting retrofits for 174 sites in the United States, Canada, and the United Kingdom, with a total footprint of 17 million square feet. This scope of work included upgrading 137,000 lighting fixtures, achieving a 10-year gross energy savings of $55 million. Redaptive financed all project costs and worked with Iron Mountain and installation partners to design efficiency upgrades, manage vendor networks, and navigate regional rebate programs to maximize savings.

Per the EaaS agreement, Redaptive is responsible for measuring and verifying system performance across the sites in the project scope. For example, after the initial deployment of the LED lighting projects, Redaptive monitored the systems to determine the effectiveness of the retrofit. Using sensors and meters on individual lighting circuits, Redaptive was able to see the difference between the new lighting systems and the old ones based on energy use and performance. Additionally, Redaptive is responsible for maintenance of the installed measures as it owns the equipment for the duration of the agreement.

In addition to operational savings, a motivating factor in Iron Mountain using the EaaS model was carbon reduction. By allowing a third party to own and install savings measures, Iron Mountain was able to quickly retrofit a large number of low-performing properties. Although Iron Mountain shares a portion of cost savings with Redaptive to pay for the project over time, it fully captures the carbon emission reductions from day one. As a result of using the EaaS model, Iron Mountain was able to establish its current carbon reduction goals with confidence and begin making progress right away.

Many organizations delay in implementing energy efficiency projects due to a lack of immediate capital. Looking to overcome this common barrier, both Iron Mountain and Redaptive strove to break the cycle of waiting for internal capital instead of moving forward with an EaaS solution that could

[For more information, visit https://betterbuildingssolutioncenter.energy.gov](https://betterbuildingssolutioncenter.energy.gov)
provide instant results. In Iron Mountain’s case, delays in implementing the service were costing the organization tens of thousands of dollars daily in lost savings from energy efficiency projects. Iron Mountain decided to move quickly in implementing the EaaS solution to begin to see the savings immediately after installation.

FINANCING
Efficiency-as-a-service is a pay-for-performance, off-balance sheet financing solution that allows customers to implement energy and water efficiency projects with no upfront capital expenditure. The provider pays for project development, installation, and maintenance costs. Once a project is operational, the customer makes service payments that are based on actual energy savings or other equipment performance metrics, resulting in immediate reduced operating expenses.

The energy team at Iron Mountain initially faced some challenges with obtaining internal approvals for the efficiency-as-a-service model given its non-traditional structure and off-balance sheet approach. Iron Mountain engaged its internal accounting and finance teams to ensure that off-balance financing was aligned with organizational accounting procedures in order to revisit the topic with management. The resulting arrangement between Iron Mountain and Redaptive guarantees a savings rate of 5% over a 5-year term across the first phase of sites.

One of the key benefits of the EaaS approach is that building owners can avoid using internal capital to achieve operational savings. However, Iron Mountain can use internal capital to buy down the contract, shorten the term, or buy it out completely if desired.

MEASURING SUCCESS
Iron Mountain was looking to achieve reductions in energy and carbon each year to meet its Science-Based Target for a reduction in scopes 1, 2, and 3 emissions. The EaaS solution provides energy, carbon, and financial savings which Iron Mountain can use to measure against.

OUTCOMES
As of 2020, the savings from projects financed by EaaS include:

- 41 million kWh of energy annually
- Significant savings on MRO costs (maintenance, repair, and operations)
- Over 20% savings on energy costs
- 29,000 metric tons annually of CO₂ emissions

After the energy efficiency improvements were completed, Iron Mountain benefitted from a 25% reduction on their utility bill; a portion of these savings was used to pay CBRE and Redaptive for the initial project cost. Iron Mountain is using much of its realized cost savings to buy down the existing EaaS contract. Another direct result of the upgrades is decreased emissions; the team at Iron Mountain is seeing those continued benefits as more projects come online.

With the success of the first round of projects, Iron Mountain is focusing on operational efficiency for future projects. As the initial pursuit of lighting has been completed through most of the portfolio, Redaptive and Iron Mountain are now looking at opportunities at more than 700 sites in the U.S., Canada, and the U.K. related to:

https://betterbuildingssolutioncenter.energy.gov/implementation-models/iron-mountain-leverages-redaptive%E2%80%99s-efficiency-a-service-program-energy-and
For more information, visit https://betterbuildingssolutioncenter.energy.gov
Iron Mountain Leverages Redaptive’s Efficiency-as-a-Service Program for Energy and Carbon Reductions - Better Buildings Solution Center

- HVAC system optimization: installing higher-efficiency units and controls to optimize energy use during unoccupied times
- Tuning building energy management systems
- Plug loads management solutions
- Roof replacements

TOOLS AND RESOURCES

YouTube video - Iron Mountain Accelerates Savings with Energy-as-a-Service from Redaptive and CBRE

https://betterbuildingssolutioncenter.energy.gov/implementation-models/iron-mountain-leverages-redaptive%E2%80%99s-efficiency-a-service-program-energy-and
For more information, visit https://betterbuildingssolutioncenter.energy.gov