

BETTER BUILDINGS ALLIANCE

Overview

Data centers enable organizations across a wide range of sectors to carry out their distinct missions. These integral operations represent just under two percent of overall energy consumption in the U.S.¹ However, implementation of energy efficiency measures could allow organizations to cut data center energy costs by 40 percent, resulting in substantial energy and monetary savings.²

This fact sheet summarizes some of the key needs, barriers, and opportunities related to data center management and operations in the state and local government sector.

Needs

► Demand for Capacity

With heightened demand, IT and Facilities departments must work together to close the gap between demand and capacity. Exacerbating this demand is the fact that government data centers may be responsible for storing and maintaining records for extended periods of time (possibly indefinitely) as compared to their commercial counterparts.

► Risk Management & Reliability

The mission critical nature of data centers in general, paired with the need to maintain continuity, means that reliability is a top concern that influences day-to-day data center operations. Energy efficiency improvements often are accompanied by improved reliability, enabling state and local government organizations to better meet constituent needs.

► Security

While data security is a top priority for all data center owners and operators, governmental organizations are more likely to manage personal protected information (PPI) such as social security numbers. Additional security measures may be required for data centers that contain sensitive data. Newer and more energy efficient equipment typically encompass more advanced security features.



Resources for State & Local Data Centers

- [Data Center Profiling Tools](#)
- [Master List of Efficiency Actions](#)
- [Energy Assessment Process Manual](#)
- [DSIRE Policies & Incentives Database](#)
- [Small Data Centers Page](#)
- [DCEP Training](#)
- [The Business Case for Energy Efficiency in Data Centers](#)
- [ENERGY STAR Score for Data Centers](#)
- [Portfolio Manager for Data Centers](#)

Barriers

► Equipment & Infrastructure

Local and state governments may have older, legacy data centers. While this older infrastructure can serve as an impetus for more energy efficient upgrades, it also can engender a resistance to change. If current data center operations are getting the job done, data center owners and operators may adopt a “if it isn’t broken, don’t fix it” mantra, driven by fear that change could prompt the failure of an (already) vulnerable system. While the current infrastructure may be sufficient for the time being, eventually the constraints of an outdated system could compromise future organizational needs.

¹ https://eta-publications.lbl.gov/sites/default/files/lbni-1005775_v2.pdf

² <https://www.nrdc.org/sites/default/files/data-center-efficiency-assessment-IB.pdf>

► Funding Constraints

State and local governments, can be resource constrained- and may face limited access to funding for data center improvements. Energy efficiency projects may compete against other, more visible projects for limited funding or partake in time-intensive processes (such as the issuing of bonds) to finance capital expenditures projects.

► Risk Adversity

Unlike private entities, state and local governments do not have an inherent profit motive. While these organizations are generally drawn to reduce operating costs, there are some conditions that influence the perceived benefits of doing so. For example, the underlying motivation for improvements may not be as strong if operating budgets are set at the same limits annually (whereby a reduction in operating expenses results in lower future budget allocations), or, if split incentives and informational silos exist (e.g. facilities pays a data center's monthly energy bill, while IT makes equipment purchasing decisions). These conditions can mean that a project champion has to take a more proactive role in aligning the relevant stakeholders and undertaking energy efficiency improvements.

► Diversification of Energy Management Responsibilities

State and local government data centers are unlikely to have a single point of contact tasked with managing the data center's relevant work areas (e.g., IT purchasing, facility upgrades, etc.). Work may also be designated to contractors, who may not have the same level of investment in (or insight into) the organization as employees do. Project champions must work across these different functional units to overcome organizational and informational silos and coalesce stakeholders around a common vision and goal.

Opportunities

► Access to Funding and Resources

While state and local governments may have resource constraints, there are opportunities to help mobilize data center energy efficiency projects. Utilities and state energy offices can help data center operators realize significant energy and cost savings. Utility or state-sponsored data center energy efficiency programs can offer rebate incentives, custom financing opportunities, training opportunities for staff or subject-matter expertise. State and local governments can also take advantage of alternative financing vehicles – e.g. [energy savings performance contracts](#) (ESPCs) to help offset project costs.

► Low Cost, Big Win - Savings Opportunities

State and local government data centers may be more likely to operate legacy and small data centers, however they may also have more opportunities for low cost, high efficiency improvements. Simple, yet effective measures- such as aisle containments or turning off unused servers- may deliver significant savings to data centers with minimal effort. [Learn more](#) about energy saving opportunities for small data centers.

► Outsourcing to Colocation Models & the Cloud

Outsourcing data center operations to colocation providers is a feasible alternative to the expansion or construction of new data centers as demand for capacity grows. This can be particularly attractive for state and local governments, as it can avoid lengthy processes that might otherwise be needed (such as the issuing of bonds) to finance large data center capital expenditures. Cloud computing also holds great potential to reduce a data center's energy demand and provide IT flexibility (e.g., the ability to quickly scale up capacity).

► Virtualization & Consolidation

Virtualization enables organizations to reduce the number of servers and increase server utilization. Benefits include lowering capital and operating costs on multiple fronts - for everything from physical hardware to infrastructure and real estate to energy bills. Given that state and local governments have generally not taken up virtualization opportunities as quickly as the private sector, there is plenty of room for these cost containment strategies.