Strategies to promote sustainability in data center buildout

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The rise in data center development is expected to significantly impact and increase energy demand and put extra strain on an electric grid that is already in need of investment, expansion, and upgrade. Securing reliable sources of energy to power their facilities remains a top priority for developers of data centers, and many continue to focus on exploring options that allow for the use of clean energy sources and transitioning to a low-carbon economy.

Data centers form the backbone of today's digital economy, supporting everything from cloud computing to AI, online retail, and financial services. They can be as large 1 million square feet, housing tens of thousands of servers, with power needs that often exceed 100 megawatts. This level of demand presents unique challenges compared to other commercial or industrial developments, particularly with respect to securing continuous, reliable, and resilient energy supplies.

As data center development continues, many developers and operators are considering incorporating other energy resources and implementing strategies that work towards carbon neutrality to promote long-term sustainability goals.

In the near term, natural gas is expected to provide a significant portion of data center power, supported by executive orders and policies that have been issued since January 2025. For example, the Unleashing American Energy executive order, signed on Jan. 20, 2025, undertook regulatory reforms to expedite and simplify the federal permitting process for energy resources and directed cabinet secretaries to eliminate permitting delays.

The Accelerating Federal Permitting of Data Center Infrastructure executive order, signed on July 23, 2025, also eases federal regulatory burdens and is intended to further data center development. It directs federal agencies to streamline permitting reviews by reducing permitting timelines and encouraging interagency coordination to avoid duplicative reviews, and provides federal financial support. It also facilitates the use of federal land to support the buildout of artificial intelligence data centers and related infrastructure such as transmission lines and natural gas pipelines.

The current administration has also been very supportive of nuclear power, issuing four executive orders in May 2025 to expand and accelerate the development of U.S. nuclear energy, in part to provide reliable power to data centers.

Each of these executive orders represent a significant regulatory shift toward accelerated permitting. For developers, this potentially means faster project approvals and fewer regulatory bottlenecks, but also greater scrutiny around how streamlined reviews comply with longstanding environmental and community engagement requirements.

As data center development continues, many developers and operators are considering incorporating other energy resources and implementing strategies that work towards carbon neutrality to promote long-term sustainability goals. These strategies include (1) sourcing power from carbon-free energy resources, (2) prioritizing and promoting energy efficiency, and (3) engaging in transactions to purchase carbon offsets and other environmental attributes to offset greenhouse gas emissions that cannot otherwise be reduced through operational changes.

Sourcing power from carbon-free energy resources

Data center developers and operators will also need to consider the energy resources they will rely on to power their facilities. There are many options, including fossil fuels, renewable energy, and nuclear energy. Whether the incorporation of energy resources such as solar, wind, and nuclear can be viable options depends on multiple factors

including the location and size of the data center site, permitting timeline, available capacity, and grid interconnection and its alignment with the overall development timeline. Solar and wind projects, while carbon-free, are often intermittent, require energy storage solutions, and need a larger footprint. Nuclear power reactors provide a reliable, carbon-free source of baseload power but can have long lead times.

Small modular reactors present one option for meeting the high energy needs of data centers, with the anticipated benefit of lower up-front capital costs compared to large-scale new reactors and the ability to scale up power output by adding additional reactor modules over time. Co-locating an energy-intensive development with an existing nuclear facility or a shutdown nuclear facility that can be repowered are options with lower up-front costs and faster access to generation. Finally, the development of proven large-scale light-water reactor technology is also anticipated to address our nation's long-term energy needs.

Sourcing power through offsite independent generators can be done through a more traditional bilateral power purchase agreement (PPA). Those power sales would occur over the broader grid and would not be directly from the generator itself, as in a co-location arrangement. An existing nuclear generator that is owned by a franchised utility and sells within its service territory would not face such restrictions, but serving co-located data centers would still be subject to review for rate and reliability impacts, potentially by both federal and state regulators.

Indeed, legal issues arise at nearly every stage of development, from navigating federal and state permitting requirements for generation and transmission projects, to siting decisions, which can trigger environmental justice reviews and land use disputes, to PPA negotiations, which must account for factors including price, capacity, and curtailment risk. These regulatory requirements and commercial considerations necessitate integration of a strong business and legal strategy into power sourcing decisions from the outset.

Prioritizing and promoting energy efficiency

Prioritizing and promoting energy efficiency in data center development may include incorporating energy-efficient hardware and energy-efficient cooling systems that optimize airflow, utilize cooling strategies, and reduce water consumption. Data centers can also reuse the heat generated by their equipment for other purposes.

Engaging in carbon offset transactions

Many companies purchase carbon offsets through the voluntary carbon markets (VCMs) to compensate for or mitigate emissions that cannot otherwise be reduced through direct emission reductions. A carbon offset is a commodity that represents one ton of carbon dioxide emissions permanently removed from the atmosphere. Companies often purchase carbon offsets to meet emission reduction goals and/or climate commitments.

The accuracy and validity of carbon offsets have been reviewed by various bodies, including the Commodity Futures Trading Commission (CFTC). Just last year, the CFTC resolved an enforcement action for fraud in the VCMs and has demonstrated its commitment to combatting fraud and manipulation in the VCMs through various actions and initiatives. The CFTC has stated that it will exercise its anti-fraud and anti-manipulation enforcement authority over the VCMs and will investigate potentially manipulative trading in futures contracts, the validity and credibility of carbon offsets, and fraudulent statements on the material terms of a carbon offset.

Many companies purchase carbon offsets through the voluntary carbon markets (VCMs) to compensate for or mitigate emissions that cannot otherwise be reduced through direct emission reductions.

Companies that engage in carbon offset transactions should ensure that any carbon offset purchased is verifiable, permanent, additional, and otherwise unclaimed. The carbon offset holder should ensure that the purchased offset can be verified as actually resulting from a project that permanently removed carbon emissions from the atmosphere that otherwise would not have been removed but for the project. While carbon offset transactions are not immune from potential regulatory and enforcement exposure, companies that enter into such transactions will want to ensure that the carbon offsets transacted are high-quality, verifiable, and additional.

For data center operators in particular, offsets are often used as part of broader sustainability efforts. Since regulators and counterparties may scrutinize whether and how statements of "carbon neutral" or "net zero" data centers are supported, reputational and legal risk exist if the carbon offsets that back such representations are found to be overstated or invalid. Ensuring transparency and rigorous due diligence in offset transactions is therefore especially important for data centers engaging in such transactions to market themselves as sustainable infrastructure providers.

Takeaways

There are many pathways to promote sustainability and address climate change while developing an energy-intensive enterprise such as a data center. Although the strategies

discussed above are not without challenges or potential regulatory and enforcement exposure, they can be effective in furthering sustainability initiatives and promoting carbon neutrality if appropriately and diligently executed.

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Pamela Wu (L), a partner at **Morgan Lewis**, represents companies in the energy industry in a range of matters involving rates, market rules and regulation, and energy commodity trading before the Federal Energy Regulatory Commission (FERC) and Commodity Futures Trading Commission (CFTC). She advises clients seeking to reduce their carbon footprint through new infrastructure assets, clean energy technologies, and transacting carbon credits and carbon offsets. An active member of the firm's energy commodity trading and compliance working group, hydrogen working group, electric vehicles working group, and renewables working group, she is resident in the Washington, D.C., office and can be reached at pamela.wu@morganlewis.com. **Jane Accomando** (R), a partner at the firm, is a co-leader of its global energy industry team and its data center strategic initiative. She advises nuclear companies in connection with government and internal investigations, regulatory compliance, nuclear whistleblower proceedings, licensing, and spent fuel matters. She has degrees in nuclear engineering and represents nuclear industry clients. She is resident in the Washington, D.C., office and can be reached at jane.accomando@morganlewis.com.

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