



Powering smarter energy operations

How connected intelligence helps energy companies scale with speed and efficiency

Executive summary

The rise of AI has rewritten the world's energy equation. **Demand from data centers is climbing faster than any previous wave of industrial growth**, placing new pressure on grids, infrastructure, and the people who keep them running. To meet this challenge, energy companies need to scale output, strengthen resilience, and do it all while navigating complex regulatory and sustainability goals.

The key lies in intelligence: the ability to connect, understand, and act on the knowledge already inside the organization. Today, critical information about production, maintenance, and compliance is spread across countless disconnected systems. This fragmentation makes it harder to see what's working, slows response times, and limits how quickly teams can adapt.

AI can change that. With the right foundation, energy companies can unify their knowledge, gain real-time visibility into operations, and empower teams to make faster, more informed decisions. They can preserve institutional expertise as experienced workers retire and maintain strict oversight in one of the most regulated industries in the world.



Across utilities, oil and gas, and renewables, energy leaders use Glean to streamline field operations, strengthen compliance, and improve service reliability.”

Glean brings this intelligence to life. Its secure Work AI platform natively **connects to more than 110 enterprise systems**, and can even integrate engineering databases and field management tools, to create a single, trusted source of knowledge for every employee. The platform's **model-agnostic design** allows organizations to choose the AI technologies that best fit their needs while maintaining complete control over their data.

Across utilities, oil and gas, and renewables, energy leaders use Glean to streamline field operations, strengthen compliance, and improve service reliability. By modernizing their knowledge infrastructure, they can **scale responsibly, boost efficiency, and turn growing AI demand into an opportunity** to build a smarter, more sustainable energy future.

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Fragmented data is holding energy back

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Across utilities, oil and gas, and renewables, energy leaders use Glean to streamline field operations, strengthen compliance, and improve service reliability.”

The surge in AI adoption has intensified every pressure point in the energy industry. Supply and demand are becoming harder to balance, while aging infrastructure, decarbonization mandates, and growing regulatory scrutiny continue to reshape long-term strategies. In oil and gas, geopolitical and supply chain disruptions have increased global volatility.

For utilities, a major challenge will be meeting the massive power requirements driven by the rapid expansion of AI and data centers. In the United States, demand for AI-ready data center capacity is projected to rise by more than **30% annually through 2030¹**, with data centers expected to account for **7 to 12% of total electricity consumption by 2028**. By 2026, their electricity demand could equal that of a country the size of Germany, twice what it was in 2022².

To keep up, the industry needs to work smarter and move faster. Yet one issue continues to slow progress: data fragmentation. Energy organizations collect vast amounts of information from engineering systems, maintenance records, trading platforms, and customer tools, but most of it remains locked in silos. Without a unified view, critical context is lost, and opportunities to improve efficiency slip through the cracks.

Key challenges include:

Limited visibility across operations: Separate systems for generation, transmission, production, trading, and maintenance make it difficult to achieve a single operational view. Proprietary vendor formats and disconnected data flows limit real-time awareness. Oil and gas operators often lack a consolidated view of field performance, slowing responses and reducing production efficiency. Utilities face similar hurdles reconciling grid and asset data across engineering, procurement, and field operations, extending downtime and driving up costs. Power outages already cost U.S. utilities an estimated **\$150 billion annually in lost productivity and damages³**.

1 US Department of Energy, [DOE Releases New Report Evaluating Increase in Electricity Demand from Data Centers](#)

2 Forrester, [AI And The Green Market Revolution Will Intertwine](#)

3 US Department of Energy, [Grid Modernization Initiative](#)

Inefficient planning and financial forecasting: The energy sector is capital-intensive, and accurate forecasting depends on unified data. Yet critical inputs, from geological and drilling data to production and financial systems, often remain disconnected. In utilities, planners must also anticipate demand fluctuations tied to electric vehicle charging and grid feedback cycles. Without a clear data strategy and strong governance, capital planning and forecasting remain slow and uncertain.

Disconnected customer and service systems: Legacy technology solutions across billing, outage management, and communications makes it harder to deliver consistent, digital-first experiences. Fragmentation also limits progress on digital transformation, with **74% of companies reporting challenges in scaling AI projects beyond the pilot stage** due to siloed data and unclear ownership⁴.

Compliance and knowledge risk: Regulations have grown increasingly complex, with **85% of energy executives reporting higher compliance burdens** over the past three years⁵. Maintaining audit-ready documentation across multiple systems can consume thousands of staff hours. At the same time, **nearly half of the energy workforce is expected to retire within a decade**, and more than half of utility employees have less than ten years of experience⁶. Without systems that capture and share institutional knowledge, expertise is at risk of being lost for good.

4 [BCG, AI Adoption in 2024: 74% of Companies Struggle to Achieve and Scale Value](#)

5 [PwC, PwC's Global Compliance Survey 2025](#)

6 [U.S. Department of Labor, Navigating 4 key trends and challenges shaping the power industry](#)

02

Turning data into decisions with AI

Operational excellence

AI is becoming an essential part of how energy companies modernize operations and make faster, more informed decisions. Glean's Work AI platform makes this practical by creating a single, secure workspace that can connect to the systems companies already rely on, including SCADA, ERP, GIS, and document repositories. With more than 110 pre-built connectors and flexible APIs, Glean **unifies access to knowledge** across the enterprise **while maintaining governance, security, and control**.

Energy companies are using Glean to gain unified, AI-powered visibility across field, engineering, and planning functions, turning information into action where it matters most.

Engineering and field efficiency

Glean brings together technical documentation, maintenance logs, and operational data so engineers and field teams can **find what they need instantly**. **Semantic and generative search surfaces answers across structured and unstructured data**, from SCADA logs to GIS files, helping teams respond faster and minimize downtime.

- **A U.S. oil and gas producer** consolidates operational data and maintenance histories from wells, generating daily “troubled wells” reports that optimize production scheduling.
- **A European utility** gives teams instant access to grid-asset documentation and as-built drawings across generation, transmission, and retail operations, improving predictive maintenance and reducing downtime.
- **A global wind energy company** equips field technicians with digital access to safety manuals and troubleshooting guides through Glean, cutting resolution time and improving turbine uptime.

Planning and forecasting

Reliable forecasts depend on connected data. Glean integrates financial, operational, and environmental information to give planners a **comprehensive view of performance drivers**.

- **A North American pipeline operator** aggregates data for major capital projects, reducing preparation time and improving forecast accuracy.
- **A large utility** combines operational data, weather patterns, and customer demand forecasts for rate case development, shortening preparation cycles that once took months.
- **A renewable developer** synthesizes project documents, bid packages, and environmental analyses to monitor progress across dozens of solar and storage initiatives.

Governance and knowledge continuity

Customer and service operations

Glean connects CRM, billing, outage, and communication systems to create a complete view of the customer experience.

- **An Asia-Pacific energy retailer** unifies knowledge across Microsoft 365 and Atlassian workspaces, enabling support teams to resolve inquiries faster.
- **A power plant operations provider** uses Glean's AI agents to triage service tickets and evaluate standard operating procedures, saving hours every day while improving consistency and compliance.

Glean helps energy organizations strengthen compliance, preserve institutional expertise, and maintain trust in a highly regulated environment.

Regulatory and safety compliance

Glean's permissions-based platform enforces access controls and preserves document lineage, reducing the time required for audits and regulatory reviews.

- **A Canadian energy infrastructure company** retrieves decades of legal and regulatory documentation within hours, cutting external counsel costs and improving compliance readiness.
- **An oil and gas operator** uses Glean agents to locate and evaluate HSE procedures and audit records, completing reviews in hours rather than months.
- **An engineering and construction firm** automates compliance scoring against environmental and quality standards, improving accuracy and accelerating client deliverables.

Institutional knowledge retention

As experienced workers retire, Glean ensures continuity by indexing data across systems and surfacing it through AI assistants.

- **A U.S.-based oil and gas investment firm** extracts and indexes thousands of legacy well files, allowing geologists to locate and analyze data in minutes.
- **A renewable manufacturer** accelerates onboarding with role-specific learnings drawn from existing documentation and troubleshooting logs.

Security and model flexibility

Glean is built for enterprise trust, offering real-time permissions, role-based access, and detailed audit trails. Its model-agnostic architecture lets organizations choose the AI models that best fit their needs without sacrificing governance or data security.

- **A global solar technology leader** uses Glean as a secure AI layer across existing enterprise systems, deploying no-code agents to automate quality control workflows and saving more than 2,000 hours each year.

03

Laying the foundation for intelligent transformation

A four-step path to responsible AI adoption

AI's potential in the energy sector is immense, but realizing it requires a deliberate foundation. The organizations seeing the most impact approach adoption as a phased journey, grounded in clear priorities, measurable outcomes, and strong governance.

1. Define the business case and roadmap

Begin with an audit of systems and workflows to identify where AI can create the greatest operational or compliance impact. Opportunities often start in field operations, predictive maintenance, and reporting, where inefficiencies are measurable and immediate. Mapping these areas to corporate priorities and quantifying value potential establishes a roadmap for investment and sustained momentum.

2. Pilot and measure

Transformation builds on early proof points. Start with focused pilots that demonstrate tangible results, such as knowledge management or document retrieval. One North American utility began its Glean journey by consolidating documentation across grid operations and customer service. The success of that pilot laid the groundwork for expansion into engineering and field maintenance.

3. Align on metrics

Clear metrics sustain adoption and reinforce accountability. Operational uptime, mean time to repair, forecast accuracy, staff hours saved, and audit-readiness cycle time are among the most telling indicators of value. Establishing these KPIs early helps cross-functional teams such as operations, engineering, compliance, and finance stay aligned around shared outcomes.

4. Integrate securely

AI delivers the greatest impact when it connects seamlessly with existing systems and safeguards sensitive data. Integration strategies should prioritize permissions, data protection, and auditability to maintain trust and compliance at every stage.

With this foundation in place, energy leaders can lay the groundwork for intelligent, scalable growth.

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The path forward for intelligent energy

AI is transforming the energy landscape in real time. As data centers expand and global demand grows, the industry is being asked to deliver more power, more efficiently, and with greater accountability. **The challenge is scale; the solution is intelligence.**

Energy companies hold the knowledge they need to meet this moment, but that knowledge often remains fragmented across disconnected systems. **Unlocking it is what enables faster decisions, safer operations, and smarter growth.**

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Glean helps make that possible. Its secure Work AI platform connects to more than 110 enterprise systems, giving every employee unified access to information without disrupting existing workflows. By bringing context and visibility into daily operations, Glean helps organizations scale responsibly and respond to growing energy demand with confidence and control.

The future of the energy industry will be defined by intelligent action – **the capacity to understand, decide, and move at speed.** With Glean, that future is within reach.

To see how Glean can help your organization accelerate AI adoption and power the next era of energy, [request a demo](#) today.