The Digital Shift in Energy: Driving Efficiency, Collaboration and Sustainability

The energy sector is evolving rapidly, driven by the need for efficiency, collaboration and sustainability. Explore how digital tools are transforming workflows, enhancing safety and supporting global decarbonization goals.



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The Energy Sector's Digital Revolution

The energy sector is undergoing a seismic shift, moving from traditional oil and gas to renewable solutions like wind, solar and nuclear. As global energy demands rise—set to increase by 50% by 2050—decarbonization and efficiency have become urgent priorities. Digital tools are critical to meeting these goals, and Bluebeam stands at the forefront, empowering energy professionals to streamline workflows, enhance collaboration and drive sustainability.

For years, energy projects relied on paper-based workflows, leading to delays, miscommunication and costly rework. As projects grow more complex and teams more dispersed, traditional document management no longer works.

Ted Sabinas, a digital delivery specialist at Burns & McDonnell, has worked extensively as a piping designer in oil and gas project workflows.

"When I first started in the oil and gas sector, engineers would handmark PDFs and pass them to me for revisions," Sabinas said. "The same documents would come back days later—marked up again, sometimes with conflicting changes. The process was slow, frustrating and prone to errors. That's when I started looking for a better way."

Why the Energy Sector Must Evolve

The energy sector's reliance on paper-based systems creates costly inefficiencies, delays in permitting and heightened safety risks. Digital tools provide a transformative solution, streamlining workflows, reducing errors and cutting project costs. By transitioning to digital, energy companies can improve collaboration, ensure regulatory compliance and meet growing demands for sustainable practices.

Philippe Herve, a veteran in the energy industry and a Bluebeam executive, has led digital transformation initiatives across multiple energy sectors.

"Paper-based systems are inefficient, costly and increase safety risks," Herve said.



Digital vs. Paper



Streamlining Workflows with Automation

Automation is revolutionizing the energy sector, saving time and reducing costly errors. Digital tools like Bluebeam simplify complex workflows, from design to construction, ensuring teams stay aligned and efficient. Real-world applications show how automation accelerates processes, enhances collaboration and delivers measurable project improvements, empowering energy professionals to achieve more with less.





The Importance of Version Control

Version control is vital for avoiding costly mistakes in largescale energy projects. With real-time updates and collaboration, teams ensure everyone works with the latest information, reducing errors and project delays. Bluebeam's automated updates keep workflows seamless and teams aligned, empowering energy professionals to deliver accurate results on time and within budget.

> Without a centralized digital workflow, I had engineers marking up the same document with conflicting instructions—one telling me to move something left, another saying to move it right. Digital tools allow teams to see each other's comments in real time, preventing errors before they happen."

- Ted Sabinas





Breaking Silos with Digital Tools

Coordinating teams across different locations is one of the biggest challenges in the energy sector. Disconnected workflows and outdated documents can lead to inefficiencies and errors. Bluebeam solves these issues with centralized document management, enabling real-time collaboration and seamless communication. With everyone working from the same platform, projects are completed faster and more efficiently.

By using digital tools, we're improving efficiency, safety and sustainability."

– Philippe Herve



Quick Tip: Streamline Collaboration with Bluebeam

Take your team's collaboration to the next level:



Centralize Files: Store project documents in one place for seamless, real-time updates.



Use Version Control: Ensure everyone is always working from the most up-to-date data.



Automate Workflows: Reduce errors and boost efficiency with powerful automation tools.

Reducing Environmental Impact with Digital Tools

Digital tools are transforming sustainability efforts in the energy sector by eliminating paper-based workflows, which reduces waste and lowers carbon emissions. With advanced features for carbon tracking and sustainability reporting, Bluebeam enables energy professionals to adopt greener practices and align with global decarbonization goals, creating a measurable impact on environmental performance.

Did You Know? The Energy Sector's Sustainability Challenge



25% of global energy is still powered by coal.



Renewables like wind and solar are projected to grow by more than 50% by 2050.



Digital tools are essential for decarbonization, streamlining workflows and achieving sustainability goals.





Enhancing Safety and Operational Efficiency

Digital tools are revolutionizing safety and asset management in the energy sector. Tablets and mobile devices enable inspectors to access critical information on site, reducing risks and improving efficiency. Al-powered predictive maintenance leverages sensor data to identify issues before they occur, minimizing downtime and ensuring smoother operations. Together, these tools enhance safety and streamline workflows across projects.

Digitized protocols allow inspectors to work more safely and efficiently."



Driving Change with Emerging Technologies

The energy transition is accelerating with the growth of renewables like wind, solar and innovative solutions such as small nuclear reactors. These technologies are shaping a cleaner, more sustainable future. Engineering, procurement and construction (EPC) companies play a pivotal role in this transformation, leveraging tools like digital twins to integrate systems, optimize workflows and support decarbonization efforts. Together, these advancements are driving the energy sector toward a smarter and greener future.

> Small nuclear reactors are going to grow tremendously, powering remote areas, data centers and even ships."





Real Results from the Energy Sector

McCarl's, a leading industrial contractor, embraced Bluebeam to transition from paper-based workflows to a fully digital approach. By adopting Bluebeam Revu, McCarl's created streamlined turnover packages that drastically improved permitting timelines and project delivery. This digital transformation enhanced collaboration across teams, reduced errors and supported sustainability efforts by eliminating reliance on paper-based systems.



Key Outcomes



Permitting timelines reduced by 50%.



Collaboration streamlined across project stakeholders.



Significant reduction in paper usage, supporting sustainability goals.

Scaling Success Across the Industry

Bluebeam is transforming the energy sector by enabling EPC companies to deliver efficient, sustainable projects across diverse applications—from nuclear plants to solar farms. Companies like Plant Integrity Management have leveraged Bluebeam to enhance collaboration, streamline document management and optimize workflows. By using Bluebeam, EPCs ensure project precision, reduce environmental impact and meet the growing demands of a transitioning energy landscape.

EPCs are at the forefront of driving sustainable energy projects with Bluebeam."







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Real world insights from Ted Sabinas on the power of digital transformation in energy projects.

Q: What was the biggest challenge you faced before switching to digital workflows?

Sabinas: Managing markups was a nightmare. Engineers would hand-mark PDFs, and I'd spend hours making changes—only for another engineer to mark up the same document differently. It created confusion, wasted time and led to costly rework. We needed a way for everyone to see and collaborate on the same document in real time.

Q: How has digital collaboration changed the way projects are managed?

Sabinas: It's been a game-changer. With tools like Bluebeam, multiple team members can work on a document at the same time, from anywhere. It eliminates version control issues, speeds up reviews and keeps everyone aligned—whether they're in the office, on-site or working remotely.

Q: What's a common misconception about transitioning to digital workflows?

Sabinas: People think it's going to take forever to learn or that it'll slow them down at first. The truth is, the return on investment happens fast—within weeks, not years. Once teams see how much time and effort they save, they never want to go back.

Q: Where do you see the energy sector in terms of digital adoption?

Sabinas: Design teams are mostly digital, but construction teams still rely on paper. That's changing fast though, especially with companies embracing digital twins and model-based construction. The firms that lead in digital adoption are the ones gaining a competitive edge.

Q: What advice would you give to firms hesitant about going digital?

Sabinas: Start small. You don't have to overhaul everything at once. Even shifting document markups to a digital platform like Bluebeam can make a big impact. The key is getting people comfortable with the change—once they see the benefits, they'll be on board.

Join the Digital Revolution in Energy

The energy sector is evolving—and digital tools are leading the way. By adopting solutions like Bluebeam, you can enhance efficiency, improve sustainability, strengthen safety protocols and foster seamless collaboration across teams. Don't get left behind—join the companies transforming the future of energy with smarter, greener workflows.



For more information about Bluebeam, contact Topcon Solutions Store.

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Ready to Experience Bluebeam for Yourself?

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