



Cenovus

Cenovus Brings New Approaches to Emissions and Energy Management Across 1,000 Facilities

Cenovus Energy is proud of being a new company with new ideas and new approaches. This Canadian oil company began independent operations in December 2009 and is committed to using fresh, progressive thinking to safely and responsibly unlock energy resources the world needs. Its operations include oil sands projects in northern Alberta that use specialized methods to bring oil to the surface. It also owns established oil and natural gas properties in southern Alberta and Saskatchewan, as well as interests in two major U.S. refineries. Cenovus is demonstrating a commitment to innovation and responsibility while addressing the interrelated challenges of environmental compliance, greenhouse gas (GHG) emissions and improving energy efficiency within its own operations.

With more than 1,000 facilities spread across a vast geographic area, the process of collecting, aggregating and reporting emissions and energy consumption data is complex and difficult.

“Conventional upstream oil and gas production operations are characterized by many small emissions sources. Some of the emission sources are supplied by measured fuel streams, but many are not,” said Lee Wagner, Coordinator, Cenovus Energy Efficiency.

Initially, Cenovus used numerous spreadsheets and systems to compile emissions data and reports. It was an onerous and labor-intensive process, involving collection and aggregation of data from multiple sources for a very large number of facilities. Much of the data would require additional pre-calculation or other conditioning to be suitable for emissions calculation and compliance report compilation.

Challenge

- Detailed emissions reporting across widely dispersed facilities
- Monitor air emissions, identify potential improvement areas.
- Streamline data input and reporting while providing more detailed data
- Improve energy efficiency and benchmark improvements across multiple facilities

Solution

Environmental Performance and Compliance Assurance Solutions

- Air & GHG Emissions
- Compliance Assurance

Results

- Established one integrated, automated emissions system across more than 1,000 facilities
- Eliminated the input spreadsheets and legacy systems
- Traceable emissions to individual equipment level.
- Incorporates energy-efficiency and facility operations efficiency metric reporting
- Saves time by automatically downloading data from internal measurement systems – eliminates need for manual data conditioning
- Forecasting and what-if scenario generation facilitate planning
- Increased confidence in emissions program through standardization, integration and transparency.

Cenovus envisioned a single, automated integrated enterprise-wide solution to manage air environmental reporting. “We wanted to transition to a self-contained, all-inclusive internal reporting system that would be much more granular in terms of emissions data. We wanted an emissions reporting tool that provided a lot of detailed output with minimal effort on the data input task,” Wagner said. The system would use “more science and fewer estimates”, and receive physical operating data directly from existing platforms wherever possible. All necessary calculations, such as fuel apportionment between multiple consumers from a single metered source, would be totally accomplished within the system, and would be based on traceable operational measurement.

Today, Wagner and his team are saving time by using their enterprise-wide *opsInfo* platform to aggregate data from the bottom up – including public databases, data from internal measurement systems and data from production accounting systems – and automatically integrate all of that data into a detailed emissions data set, with no additional calculation, conversion, or conditioning required outside of the application. They simply enter operational measurements, and the system provides up-to-date air emissions statistics.

“Now all of our data is in one place. We have production data and emissions data in one system. This gives us a more complete picture of air emissions and many aspects of facility operational efficiency,” Wagner continued. “We have the detailed data for each individual emissions source within each facility – the emissions, fuel, vent, flare volumes, efficiency trends, and more – derived from science, with less reliance on bulk estimates. It was important for us to have an accurate and standardized methodology for all facilities. The standardization and detail allows us to compare facility to facility emissions intensity and other efficiency measures regardless of facility type or size.”

“Beyond just reporting, we wanted to build a total emissions management tool,” Wagner said, “so we went extremely granular on our input data. With *opsInfo*, we can reasonably trace facility emissions to each the individual piece of equipment. Knowing that a facility has a high volume of CO₂ emissions is one thing, but knowing exactly how much is being emitted by each specific equipment type and processes is another. If you don’t measure it, you can’t control it.”

The new emissions and energy management system supports a strong corporate culture of continuous improvement. “*opsInfo* brings out a lot of indicators on various pieces of equipment that highlight their overall efficiency,” Wagner said. Our business planners are very interested in what we can provide because it’s much more data than we’ve ever had and it tracks emissions

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Cenovus

and processes at a much lower level. It allows them to do a much better job in forecasting their future.”

Cenovus staff can also develop what-if scenarios within the solution; forecasts that can help them determine the overall impact of production and facility growth, or forecasts that show the effect of facility optimization and energy-efficiency initiatives.

The Cenovus team can now also ensure greater accountability and data integrity, because *opsInfo* tracks all edits and changes to the data. If data required change, the system has an automatic audit trail that shows when the change was made and who made it. By implementing its new information system from Sphera, Cenovus has achieved a higher level of confidence in its own emissions and energy management capabilities.

“From a process measurement of pressure or flow to an air emissions volume, every calculation from end to end is in *opsInfo*, in one place and visible. That transparency has increased the comfort factor of the transition.” Wagner emphasized. “It’s a quantum leap to be able to quickly go from a facility emissions overview to drill down to a very, very granular look at each emissions source. You can see the trends and you know where you’re going.”