

CUSTOMER CASE STUDY · GRID OPERATOR

Carbon Intensity at the County Level, Every Hour, Across 15 States

MISO's member utilities and states now have granular, publicly accessible carbon data: by hour, by county, across 15 states.

The Challenge

MISO is one of the largest grid operators in the country — 15 states from Louisiana to North Dakota. Its member utilities and states were pursuing emissions goals but couldn't get specific enough to act: which hours were cleanest, which counties had the most exposure, how much clean energy from a given source was actually reaching a given load.

"Our members and states are pursuing emissions goals both on their own behalf and on behalf of end customers. The request given to MISO is to fill that need for temporal, spatial, and timely granularity of emission estimations across our footprint."

— Jordan Bakke, Director of Strategic Insights, MISO

How It Works

CarbonFlow, Singularity's power-flow tracing methodology, maps generation across MISO's transmission network to the substations where loads are served, calculating per-generator emissions rates in real time. Because every generator's heat rate shifts hour to hour, the model updates continuously. The result is a publicly accessible consumed emissions dashboard: near-real-time at the regional and state level, with hourly county-level data available quarterly.

Expanding to Locational Marginal Emissions

In July 2026, MISO introduced Locational Marginal Emissions (LME) — a complementary signal that shows which generator is on the margin at any given moment, and the carbon cost of serving the next megawatt-hour. Where the consumed emissions dashboard shows what's in the supply mix, LME shows what's at the edge of it. Both run on the same underlying infrastructure.

Learn More

→ [View the MISO consumed emissions dashboard](#)

→ [Read the Canary Media story](#)

→ [CarbonFlow methodology documentation](#)

Learn more at singularity.energy

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