ONYX Insight identifies $450k in annual lost revenue at 281MW Evergy wind farm

$450k of lost revenue identified

Utilised existing SCADA data

ONYX Insight was tasked with detecting energy inefficiencies, optimising O&M, and recovering lost energy at Kansas wind farm.

A partnership between US, Kansas' largest Electric Company Evergy and data analytics and engineering consultancy ONYX Insight to analyse efficiency issues and bolster O&M across an ageing 281MW Western Plains Wind Farm has uncovered nearly half a million USD in lost energy.

Continuing a track record of fleet-wide O&M optimisation in US wind, the partnership has seen ONYX Insight identify and quantify yearly costs of individual lost energy issues across 122 of Evergy's 2.3MW onshore Siemens turbines.

The findings have empowered Evergy's smart O&M decision-making, allowing the utility to prioritise spending on specific maintenance cases, increasing its overall operational profitability.

ONYX detected rotor overspeed protection systems triggering regular shutdowns in certain turbines, requiring adjustments to their sensitivity. Power reduction was recommended to extend the life of turbines whose bearings wore down too quickly — allowing follow-up projects to optimise accordingly. Yaw misalignments, which can drastically reduce speed and power, were identified and calculated for correction.

> No turbine is perfect. We knew energy was being lost somewhere along the way, but needed to uncover the specific issues responsible and the precise actions needed to recover it.
>
> ONYX's SCADA data and analytics expertise helped us advance to the next level of O&M, giving us the means and foresight to plug the leaks in our wind energy pipeline in the most efficient way possible.

Sam Larsen
Asset Manager, Evergy

The result has been a data-led, joined-up approach to increasing turbine health and output. With wind farm efficiencies across the industry averaging 30-45%, untold gigawatts and financial returns will continue to be left on the table as long as inefficient approaches to lost energy problems persist.

In parallel with their efforts to recover that energy, 62% of wind industry stakeholders believe that access to data is their biggest barrier to advancement.

Ashley Crowther of ONYX Insight, said: "We're delighted to have been able to help Evergy with their lost energy issues. Armed with our data and the building blocks to create a fleet-level O&M strategy, we've been able to give Evergy the tools to target maintenance investigations and unmask the true performance of its portfolio by benchmarking against industry standards."