



LOCKHEED MARTIN 
We never forget who we're working for®

WindOptimizer™



WindOptimizer™ – *Operational Intelligence to Reduce Wind Energy Costs*

Unpredictable winds, hundreds of turbines spread over remote sites, a fire hose of real-time telemetry from across the wind farms, variable energy market prices, and systematic operational rhythm that requires quick decisions – these are daily challenges of wind energy companies.

Lockheed Martin's WindOptimizer™ provides intelligence to help wind farm managers and operators make the right decisions and optimize management of energy generation assets. WindOptimizer predicts the power output of wind turbines at least 30 minutes in advance for best use of backup generation assets, informed energy trading decisions and avoidance of site control error penalties.

WindOptimizer monitors wind turbine activity with comprehensive evaluations and notifications, allowing for accurate tracking and control of turbine performance. It produces reliable data for complete site management, ensuring that wind farm assets are maintained and operated to maximize energy production.

WindOptimizer provides unsurpassed real-time operations services and performance analysis across sites for wind farm managers to achieve the right actions at the right time, stabilizing energy generation output and increasing profit.

WindOptimizer provides decision aids for wind energy managers

Forecasting and Planning

- **Forecasts turbine output power with WindTracer® Lidar wind measurements**
- **Produces wind ramp alarms to enable proper action in advance**

Asset Management

- **Organizes and assesses telemetry from across the turbine fleet**
- **Analyzes forensics to determine root cause of turbine problems**
- **Evaluates the economic impact of operation and maintenance actions**

Situational Awareness

- **Generates wind and turbine alarms with decision intelligence through mobile communication devices**
- **Enables the operational wind energy staff to take action on the run**

Visualization

- **Provides a view of the turbine fleet, the geography and the weather at a glance**
- **Drills down to individual wind farms, turbines, and weather sensors at the touch of a fingertip**
- **Generates automated reporting of operational status**



Lockheed Martin Coherent Technologies
135 South Taylor Avenue • Louisville, CO 80027 USA
Ph (303) 729-5431 • Fax (303) 379-3145
Email: lmct.info@lmco.com

© 2011 Lockheed Martin Corporation

05-2011



*WindTracer® Doppler Lidar – Unparalleled
Wind Resource Assessment Capability*