

# Dynamic Monitoring, Alerting and Industry leading Commercial Smart Grid Analysis – Getting More From Energy



## Background

- EnerNOC ([NASDAQ: ENOC](#)) is transforming the way the world uses energy. They help commercial, institutional and industrial organizations use energy more intelligently, pay less for it, and generate cash flow that benefits the bottom line
- EnerNOC's technology-enabled energy management solutions help meet the needs of utilities/grid operators that deliver energy and are responsible for maintaining the real-time balance between supply and demand. They bring proven expertise and innovative ideas to both groups through a full suite of energy management solutions
- EnerNOC's world-class energy management applications unlock the full value of energy management for utilities, commercial, institutional, and industrial customers
- EnerNOC's ability to scale quickly proves immensely beneficial to utility and grid operator customers, who could be facing a "snap back" effect in a rising demand environment
- EnerNOC's innovative solution infrastructure and expert industry team can rapidly and effectively scale their demand response network dynamically satisfying their customers needs, Anytime, Anywhere.



## Transformation

- Monitoring and Managing the dynamics of an energy grid presents a wealth of challenges:
- The projected long-term trend is towards higher electricity costs, increasing fuel prices and the need for new capacity with demand projected to rise over the next 10-20 years, probably due to population growth and wasteful usage
  - Supply side infrastructure is extremely capital intensive, and in most cases do not include either the cost of carbon or the necessary transmission/distribution costs to tie supply side resources into the grid
  - The grid has an increasing exposure to intermittent renewable projects like solar and wind, while clean, they are difficult to manage in terms of supply and demand
  - With more power plants and renewables being added to the system, the grid often changes with additional investments in the poles and wires necessary to deliver needed MWs to constrained areas



## Outcome

- **Oracle** Complex Event Processing is the real time integrated solution platform choice, designed to detect event pattern fluctuations in streaming energy data from a potentially unlimited collection of commercial event source venues (Manufacturing, Medical and Educational facilities)
- **Oracle** Complex Event Processing increases the effectiveness and dynamic aspects of the EnerNOC Application solution infrastructure to detect disconnected devices / meters based on real time event patterns within dynamic temporal conditions
- **Oracle** Complex Event Processing further enhances the EnerNOC solution by the detection of non-conforming curtailments from clients after an "demand and response" event, immediately monitoring for transgressions over thresholds for the program duration generating and visualizing alert events
- Complete solution reliability and scalability leveraging this Event Server and integrated **Oracle** Coherence