



Integrated DER: Operational & Planning Assessing IDER Firmness Planning Tool Gap Analysis Reliability Impacts on Ops, Planning, Forecasting

EPRI SMART GRID DEMONSTRATION
TASK 1.3 DESCRIPTION

DYNAMIC ENERGY GROUP LLC

JUNE 23, 2009



DYNAMIC ENERGY GROUP LLC

Task 1.3 Overview



- Section 1** Traditional Planning vs. Integrated Resource Planning (IRP)
- Section 2** IRP for Distributed Energy Resource (DER) Integration
- Section 3** Identification of Reliability Impacts on System Ops, Planning and Forecasting
- Section 4** Planning Tool Gap Analysis
- Section 5** Approaches for Assessing IDER Firmness



DYNAMIC ENERGY GROUP LLC

1

Integrated Resource Planning (IRP)

- IRP is a planning process for electric utilities that evaluates many different options for meeting future electricity demands and selects the:
 - optimal mix of resources that,
 - minimizes the cost of electricity supply while,
 - meeting reliability needs and,
 - other objectives
- IRP considers all supply and demand as potential delivery system contributors and integrates them into a common framework

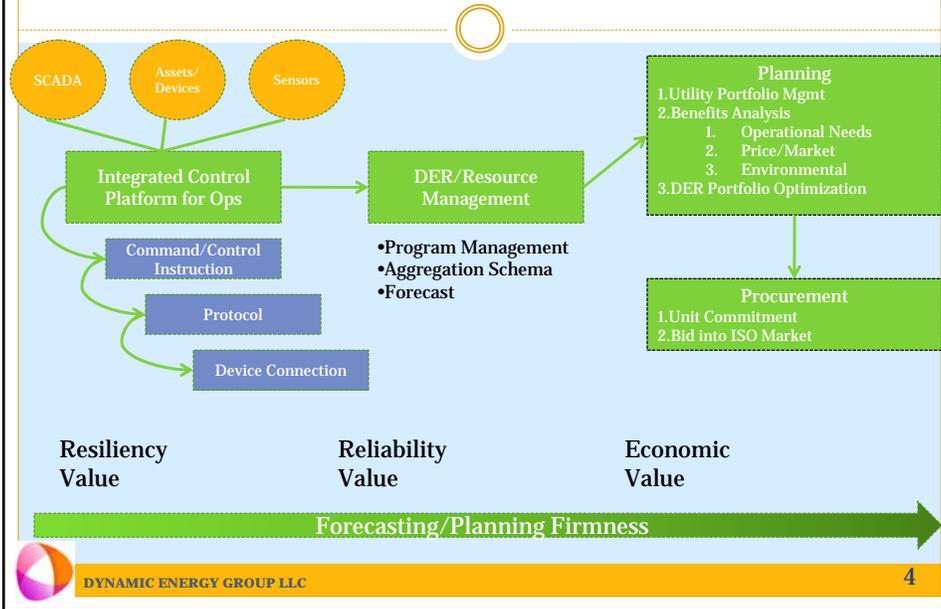


IDER Into IRP Forecasting Model

- | | |
|--|---|
| 1. Identify plan objectives | Expanded to include supply and demand |
| 2. Collect data | |
| 3. Developing demand forecasts | Deterministic Load Profiling; Strategic Load Growth |
| 4. Resource evaluation: | |
| 1. calculating avoided costs | Site specific (POD) evaluation of resources |
| 2. conducting benefit-cost analysis | |
| 3. considering environmental externalities | |
| 5. Select most promising options | Consequential operation benefits |
| 6. Conduct uncertainty/scenario analyses | |
| 7. Identify contingencies | |
| 8. Develop action plan | Real time capability expands plan design |
| 9. Implement plan | Real time data collection and analysis |
| 10. Monitor and revise | "Fine tuning" in real time |



IDER Evaluation for Forecasting/Planning



IDER Integrated into IRP Planning Model

