



RECOVERY ACT SMART GRID PROGRAMS

List of Smart Grid Benefits

May 2011

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| Benefit Category | Benefit Sub-category | Benefit |
|----------------------|----------------------------|--|
| | Market Revenue | Energy Revenue Capacity Revenue Ancillary Services Revenue |
| Economic | Improved Asset Utilization | Optimized Generator Operation Deferred Generation Capacity Investments Reduced Ancillary Service Cost Reduced Congestion Cost |
| | T&D Capital Savings | Deferred Transmission Capacity Investments Deferred Distribution Capacity Investments Reduced Equipment Failures |
| | T&D O&M Savings | Reduced T&D Equipment Maintenance Cost Reduced T&D Operations Cost Reduced Meter Reading Cost |
| | Theft Reduction | Reduced Electricity Theft |
| | Energy Efficiency | Reduced Electricity Losses |
| | Electricity Cost Savings | Reduced Electricity Cost |
| Reliability | Power Interruptions | Reduced Sustained Outages Reduced Major Outages Reduced Restoration Cost |
| | Power Quality | Reduced Momentary Outages Reduced Sags and Swells |
| Environmental | Air Emissions | Reduced CO ₂ Emissions Reduced SO _x , NO _x , and PM-2.5 Emissions |
| Security | Energy Security | Reduced Oil Usage Reduced Wide-Scale Blackouts |