**Corporate Structure**

Con Edison, Inc. (CEI)

- **Regulated Utilities**
  - Con Edison of New York (CECONY)
    - Electric
    - Gas
    - Steam
  - Orange & Rockland (O&R)
    - Electric
    - Gas

- **Competitive Energy Businesses**
  - Con Edison Solutions
    - Retail and Energy Services
  - Con Edison Energy
    - Wholesale
  - Con Edison Development
    - Infrastructure projects

**Con Edison Inc. (CEI)**

- **Revenue** $14,000 Million USD
- **Assets** $34,000 Million USD
- **Employees** 15,600

Source: Con Edison Inc. 2008 Annual Report
Regulated Utilities are the Core of Con Edison, Inc.

Customers 3,300,000
Peak Demand 13,141 MW (Aug. 2006)
System Density 19.8 MW/mi²

Urban Territory Manhattan
Urban Area 23 mi² (37 km²)
Urban Demand 5,222 MW
Urban Density 221 MW/mi²
up to 2,500 MW/mi²
Electric Distribution System

- Generating Station
- Transmission Substation
- Area Substation (voltage stepped down to distribution voltage)
- Transformers
- Feeders
- Network Systems
- Connection To Others
- Overhead System
Smart Grid Capabilities

Smart grid integrates information and communication technology into electricity generation, delivery, and consumption, making systems cleaner, safer, and more reliable and efficient.
System Wide Smart Grid

Future Smart Grid

- Energy Storage Integration
- Renewables Integration
- Load Management & Control
- Electric Vehicles

AMI
Con Edison Smart Grid Program

- Leverage existing Smart Grid components
- Comprehensive demonstration in UG distribution network
- DOE Stimulus Smart Grid Deployment Program
- DOE Stimulus Smart Grid Demonstration Program
- Recommendation for future Smart Grid implementation
Stimulus Awards

• Smart Grid Investment
  – Con Edison granted $136 million for Smart Grid Deployment
  – Con Edison granted $4.1 million for transmission projects through NYISO

• Smart Grid Demonstration
  – Con Edison granted $45 million for Smart Grid Demonstration - partnership with others
Smart Grid Investment Project

- Distribution automation (OH & UG)
  - intelligent SCADA-controlled switches
  - remote monitoring system upgrade
  - dynamic modeling & simulation
  - automated system restoration
  - expanded two-way communication

- Energy efficiency

- Distributed generation interconnection
Smart Grid Demonstration Project

- Installation of software and equipment at control centers
- Installation of energy storage equipment and photovoltaic devices
- Command and control for demand response
- Electric vehicle charging stations
- Building management system
- Decision support system
Smart Grid Demonstration

• Demonstration of key smart grid functionalities in a distributed network
• 18 month, $6 million project
Smart Grid Pilot Demonstration

Con Ed Back Office

Integration to Con Edison private network

Data collectors at selected building locations

Internet

Integration of DG

Transformer / network protector monitoring

Smart Meters

Engineering Model Validation

Home area networks

Remotely controlled underground switches

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Smart Technology

• Smart Meters
  – Metering & outage management
  – Modeling & engineering
  – Customer portal

• Home Area Networks
  – Dynamic usage information
  – Incentives for energy efficient behavior
  – Demand response