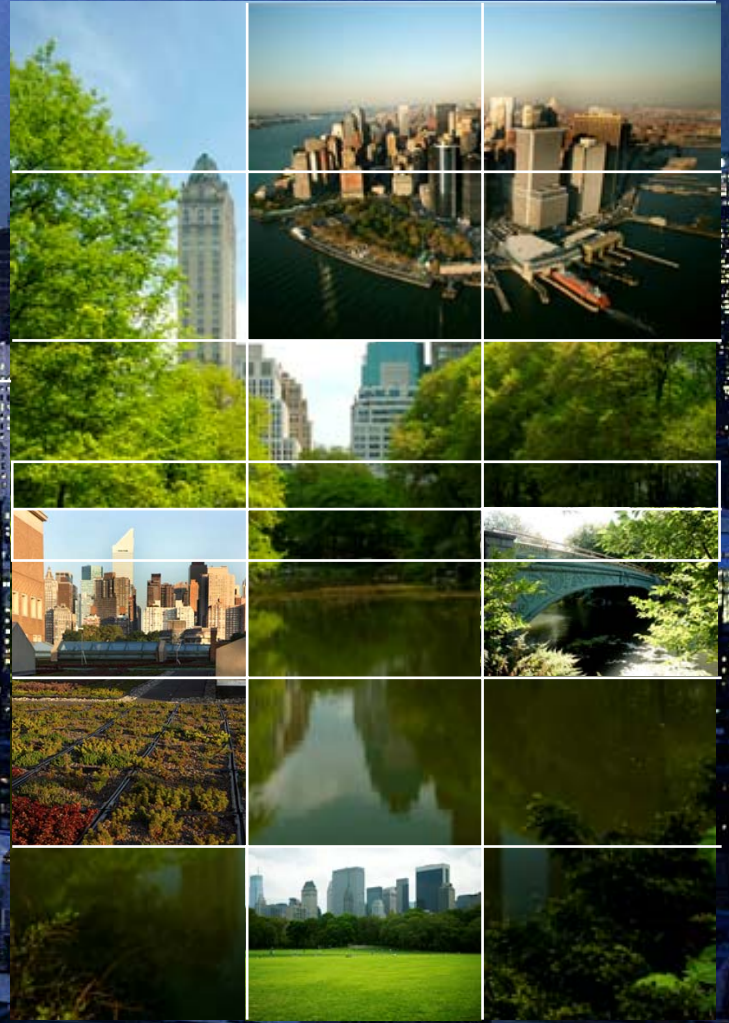


Con Edison, Inc.

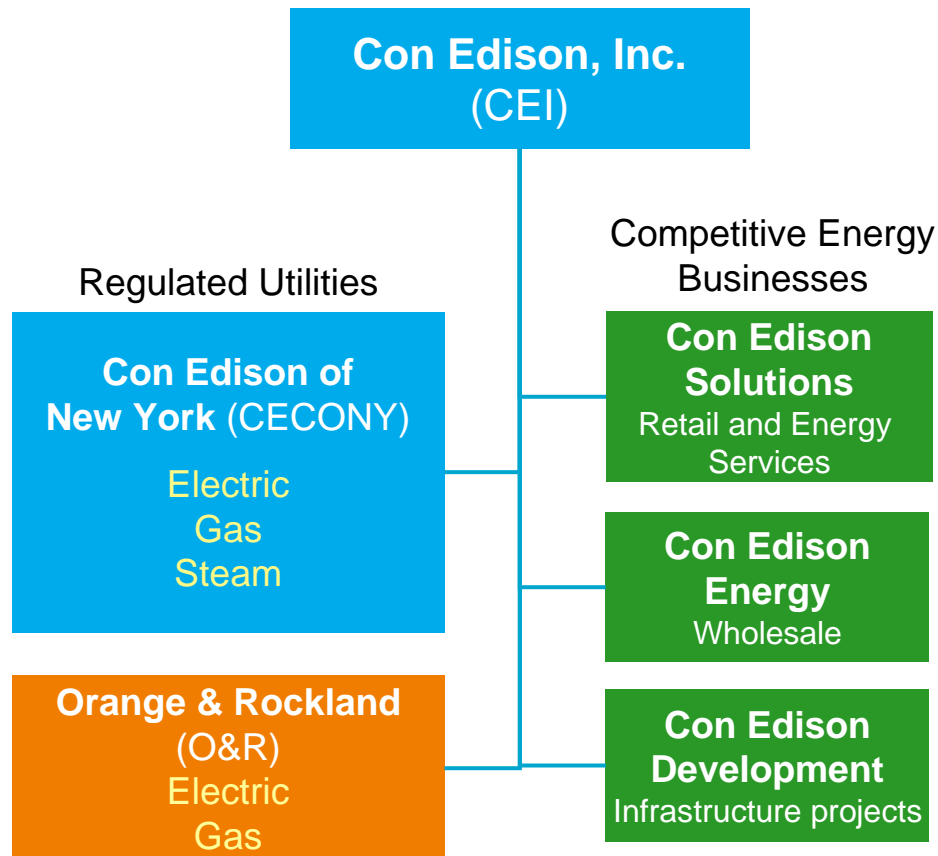
February 2010

Smart Grid Demonstration

Dr. Reza Ghafurian



Corporate Structure



Con Edison Inc. (CEI)

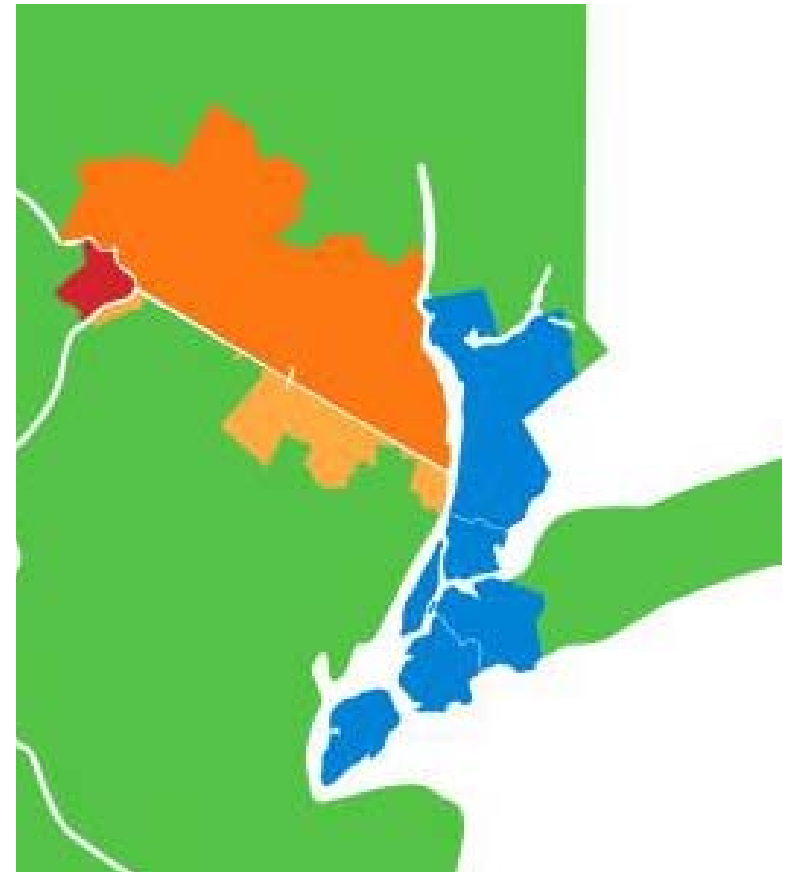
Revenue	\$14,000 Million USD
Assets	\$34,000 Million USD
Employees	15,600

Source: Con Edison Inc. 2008 Annual Report

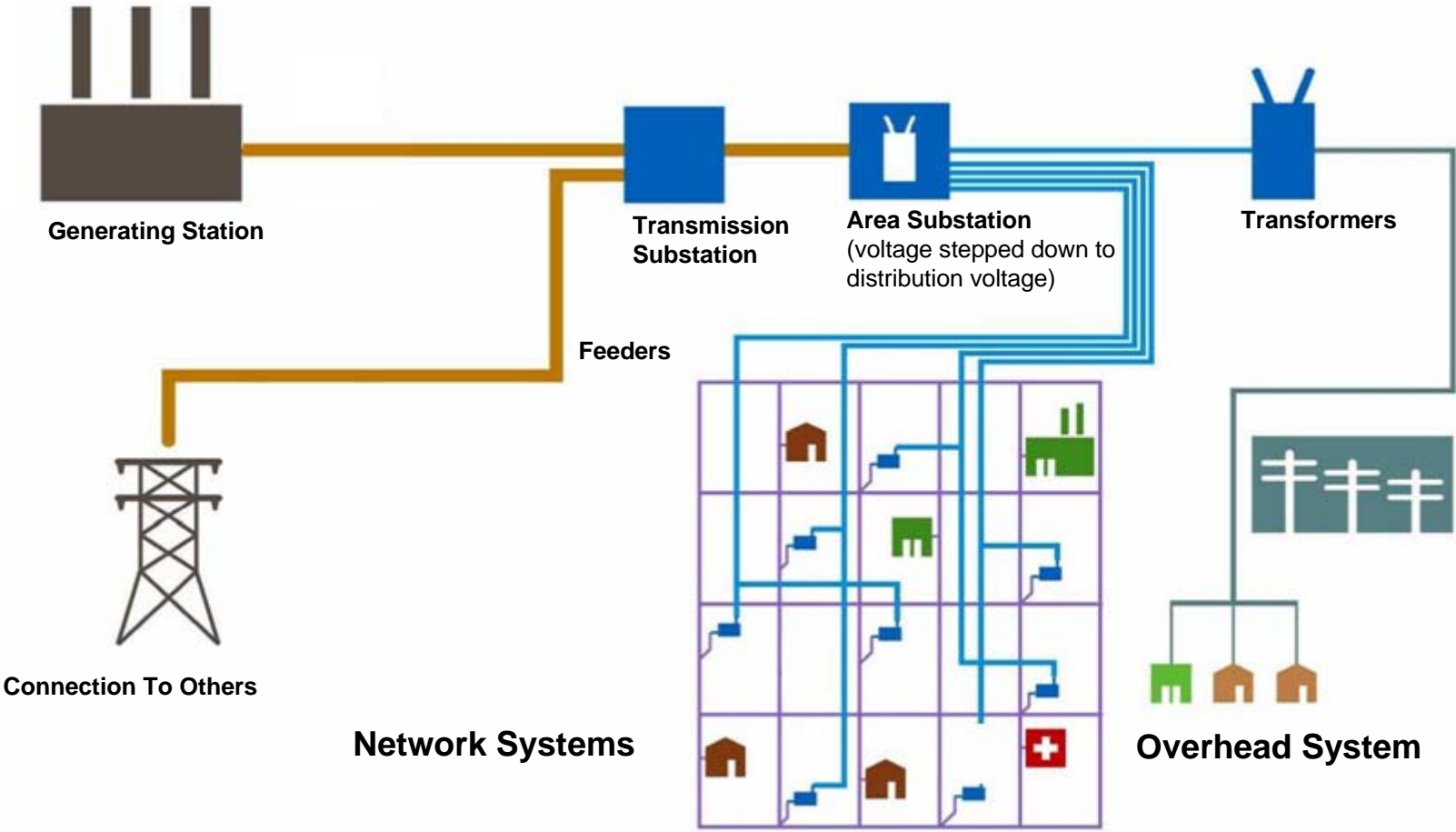
Regulated Utilities are the Core of Con Edison, Inc.

Customers	3,300,000
Peak Demand	13,141 MW (Aug. 2006)
System Density	19.8 MW/mi ²

Urban Territory	Manhattan
Urban Area	23 mi ² (37 km ²)
Urban Demand	5,222 MW
Urban Density	221 MW/mi ² up to 2,500 MW/mi ²

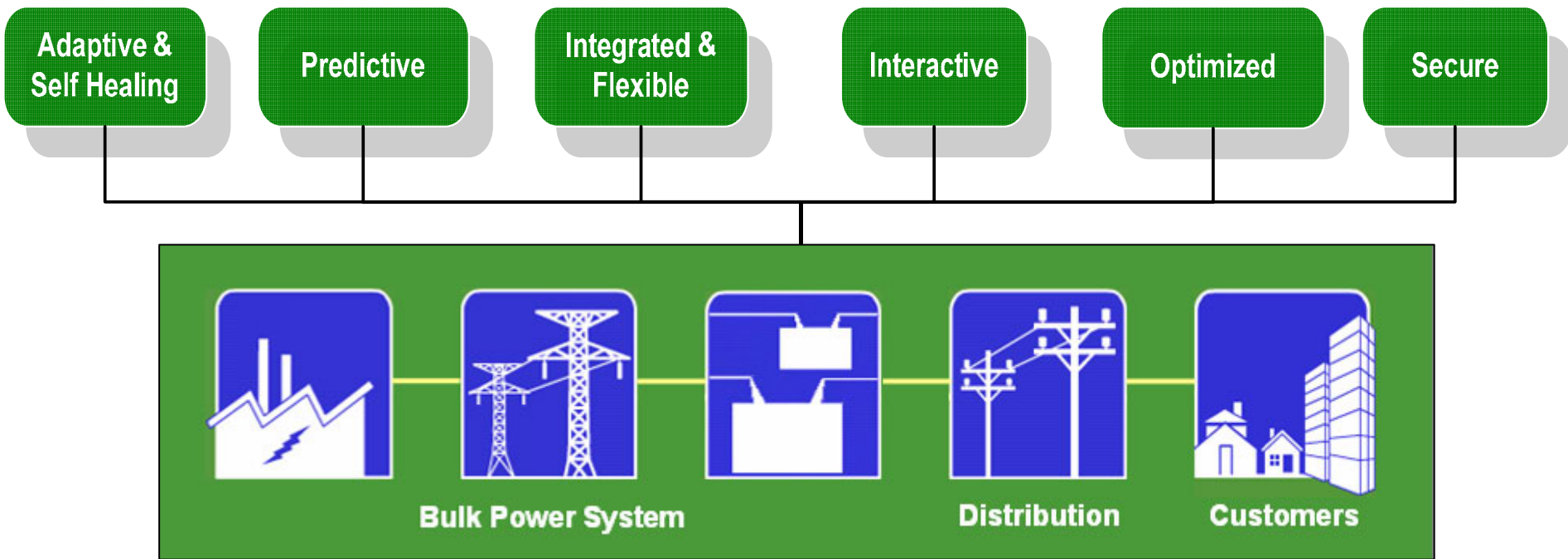


Electric Distribution System

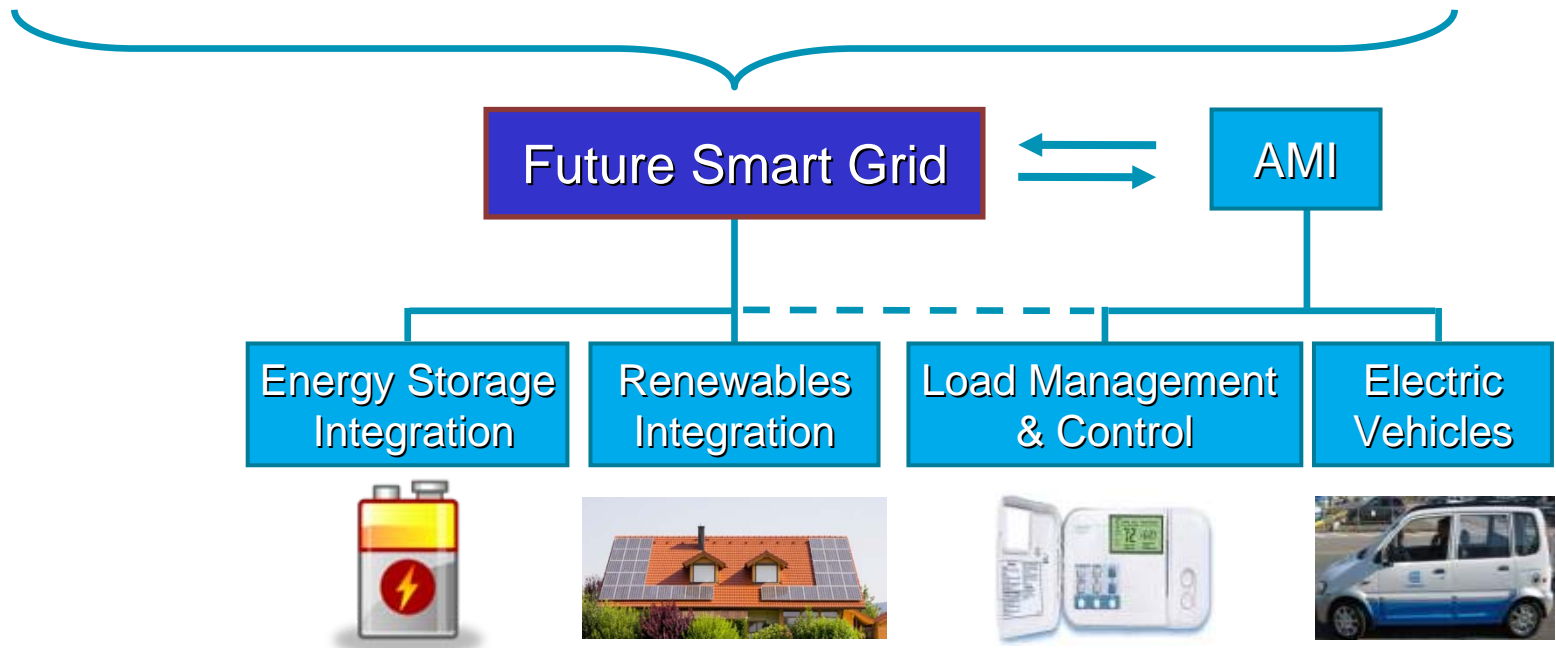


Smart Grid Capabilities

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



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

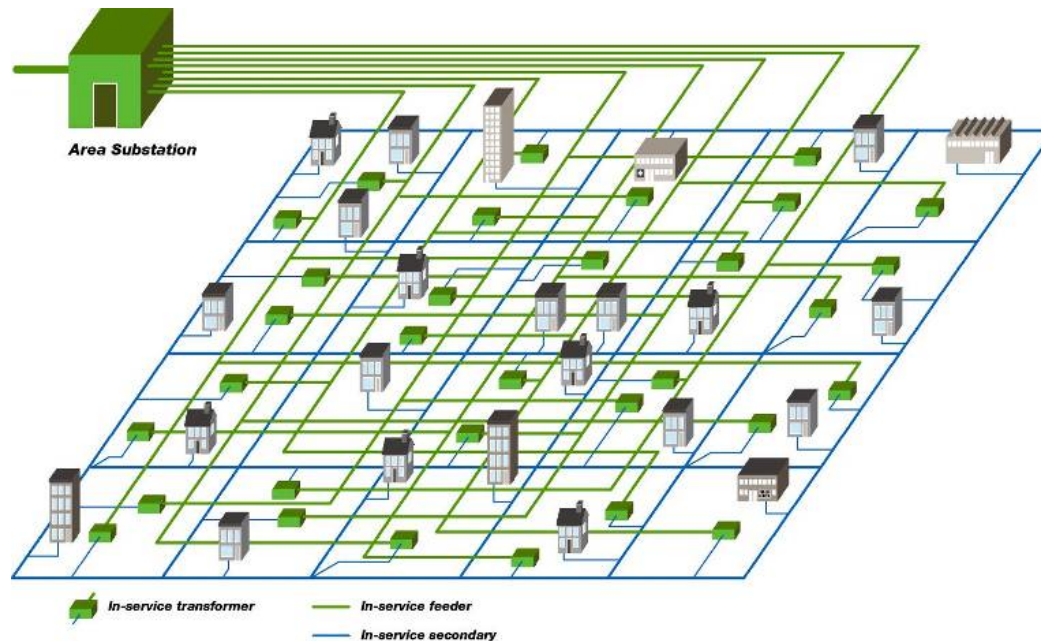


Smart Grid Demonstration Project

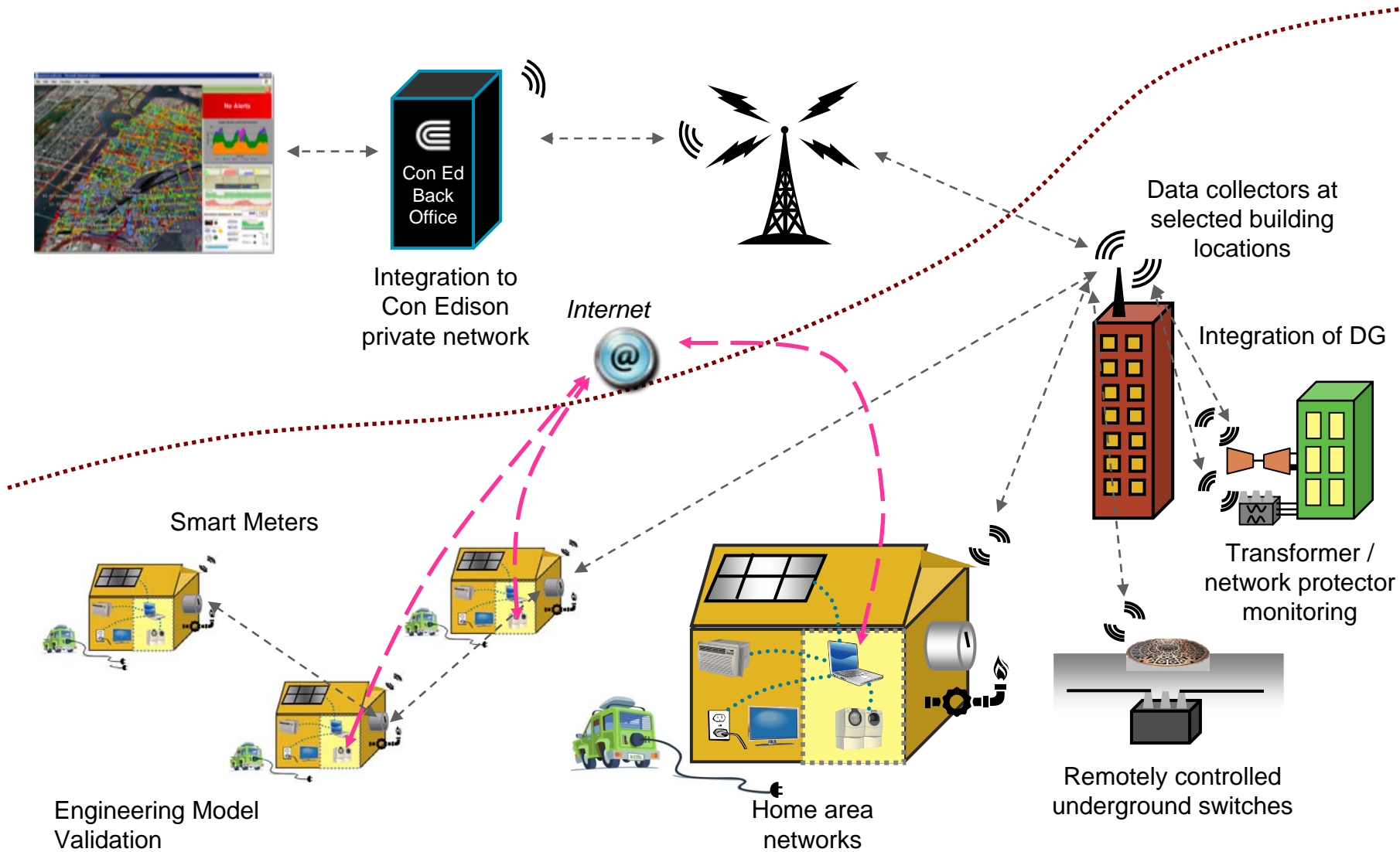
- Installation of software and equipment at control centers
- Installation of energy storage equipment and photovoltaic devices
- Command and control for demand response
- Electric vehicle charging stations
- Building management system
- Decision support system

Smart Grid Demonstration

- Demonstration of key smart grid functionalities in a distributed network
- 18 month, \$6 million project



Smart Grid Pilot Demonstration



Smart Technology

- Smart Meters
 - Metering & outage management
 - Modeling & engineering
 - Customer portal
- Home Area Networks
 - Dynamic usage information
 - Incentives for energy efficient behavior
 - Demand response

Con Edison, Inc.

February 2010

Smart Grid Demonstration

Dr. Reza Ghafurian

