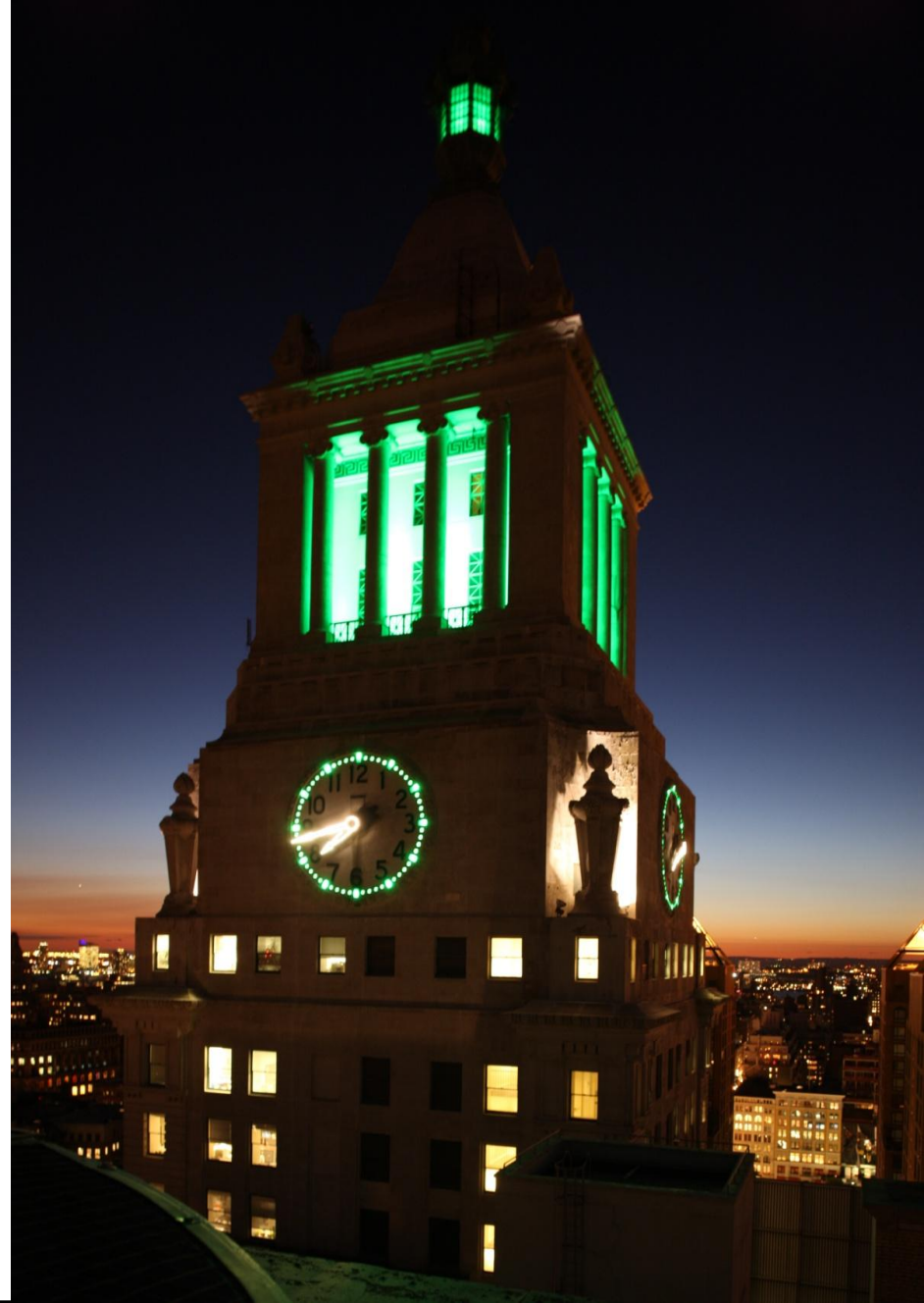


# **Network Deferral Benefits of Energy Efficiency**

**Rebecca Craft**

**Director, Energy Efficiency  
and Demand Management**

**Con Edison**

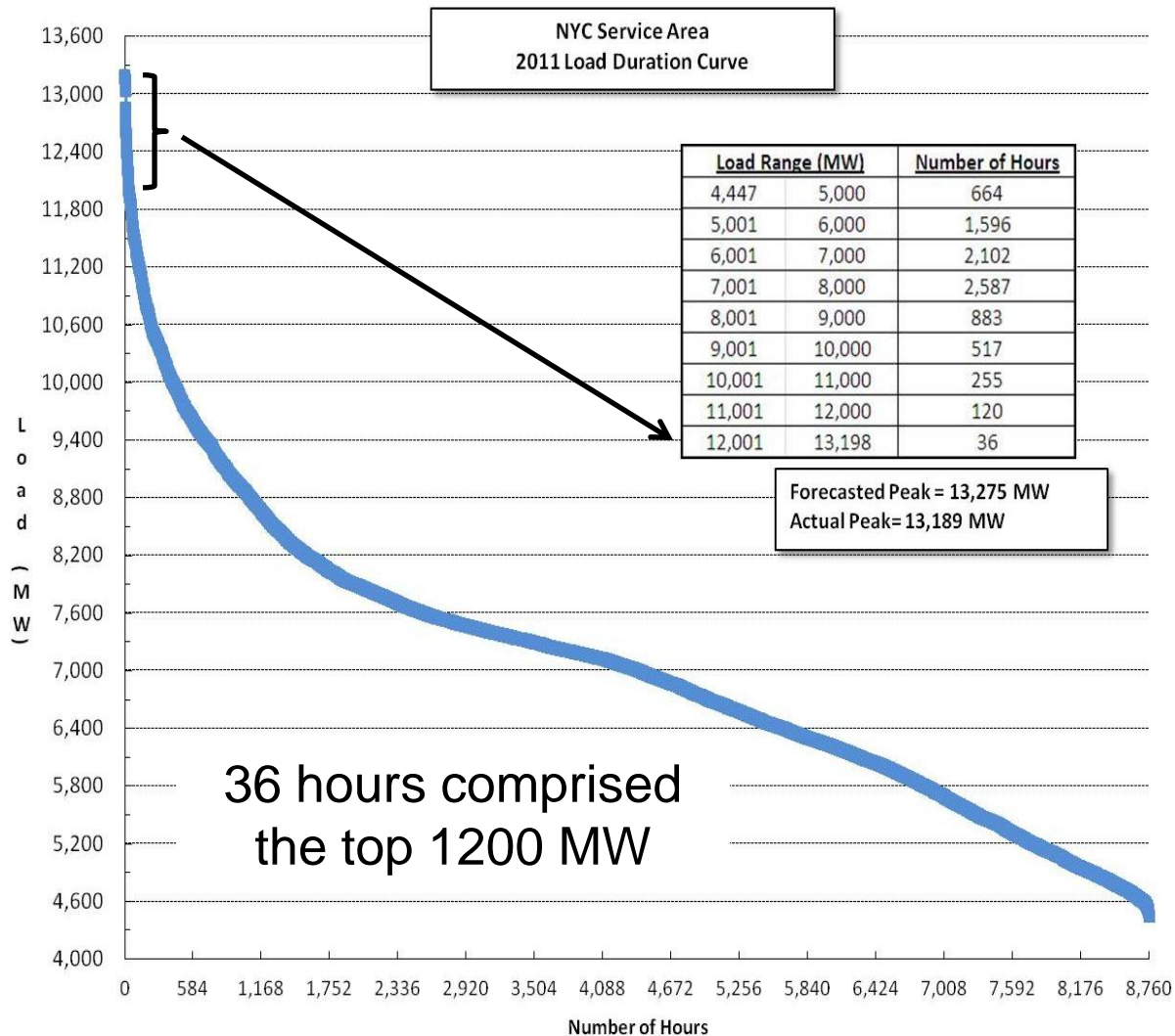


# Con Edison – The Landscape

- 70,000 people/sq. mile
- 2000 MW/sq. mile

- 660 sq. mile service territory
- 133,000 miles of T&D cable (over 96,000 miles are underground)
- 13,825 people/sq. mile
- 20 MW/sq. mile
- 3.3 million electric, 1.1 million gas, and 1,700 steam accounts; serve about 9 million people
- Over 650,000,000 sq. ft. of office space
- 462,000 businesses
- 900,000 residential buildings
- 58 billion kWh of electric consumption

# Demand Reduction Significance



# Over the last 12 years...

## ...CHANGE

2000

- Market Restructured
- Generation assets divested
- Transmission assets under NYISO
- Con Edison distribution only

2002-2004

- Targeted DSM Program begins
- Demand Response programs begin

2004-2008

- Targeted DSM contracts for cap ex deferrals
- Contracted MW included in forecasts and planning

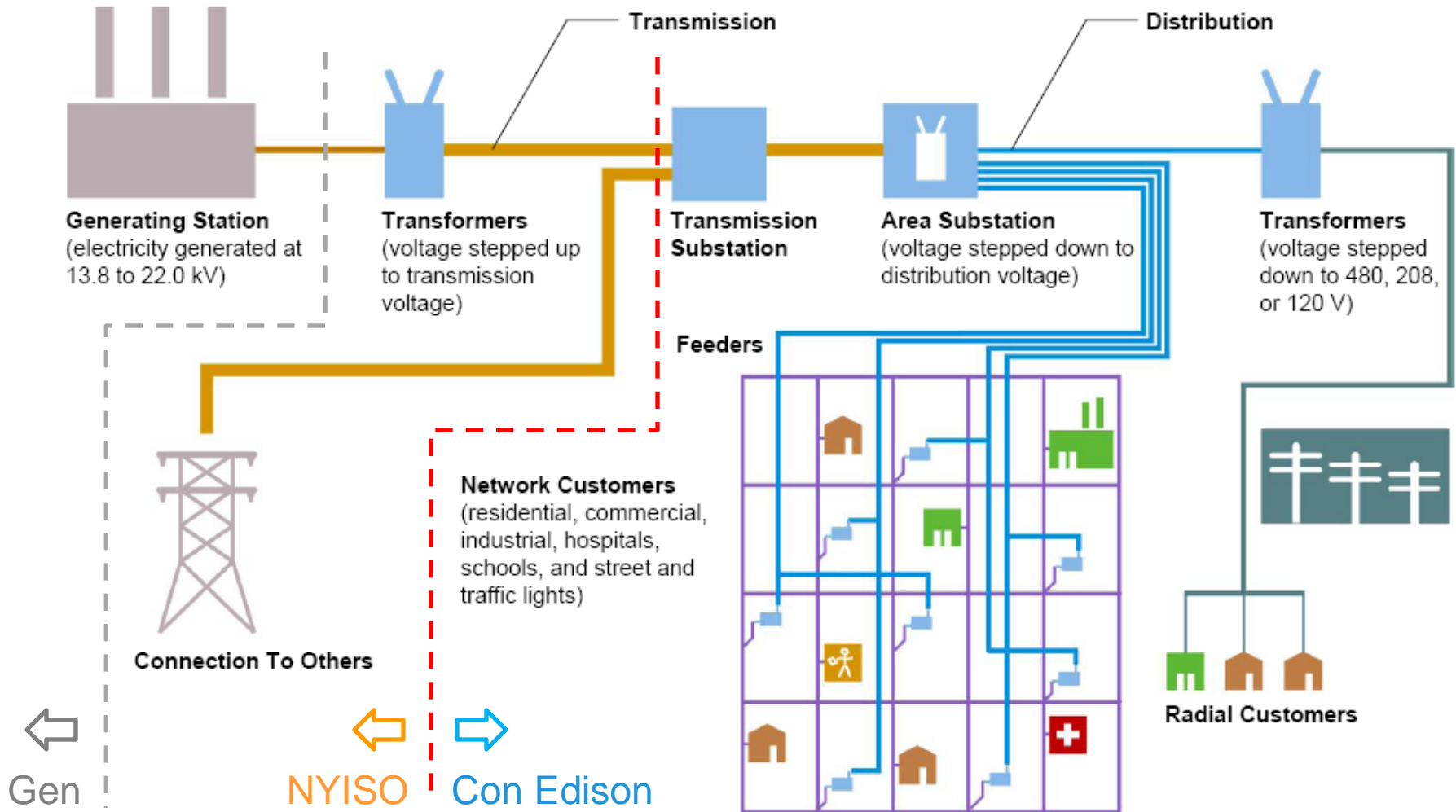
2009-2010

- EEPS Programs begin
- Forecasting incorporates all EE programs in service territory

2011-

- DR & DG included in forecasting and system planning
- CVO
- 3G system design
- Portfolio approach
- Load Shaping

# The Electric System - Restructured



# Targeted Demand Side Management

## EXAMPLE PROJECT:

**Project:** Install 3<sup>rd</sup> transformer and 138 kV supply feeder

**Cost:** \$29 million

**Deferral:** 2007 to 2010

Shortfall (MW)*	May 1 2006	May 1 2007	May 1 2008	May 1 2009	May 1 2010
Shortfall (Incremental)	0	3	4	4	3
Contracted (Cumulative)	0	3	7	11	14
Achieved (Cumulative)	2	4	8	12	14

**RFP:** Sept 2005

**Contract:** Nov 2005 – May 2010

**Savings:** \$44 million (\$13.5 T&D savings)

**TRC:** 2.6 (benefit/cost)

\* Shortfalls, contracted, and achieved MW are as of May 1<sup>st</sup> each year (prior to the need each summer period)

# Forecasts include Energy Efficiency and Demand Response Programs

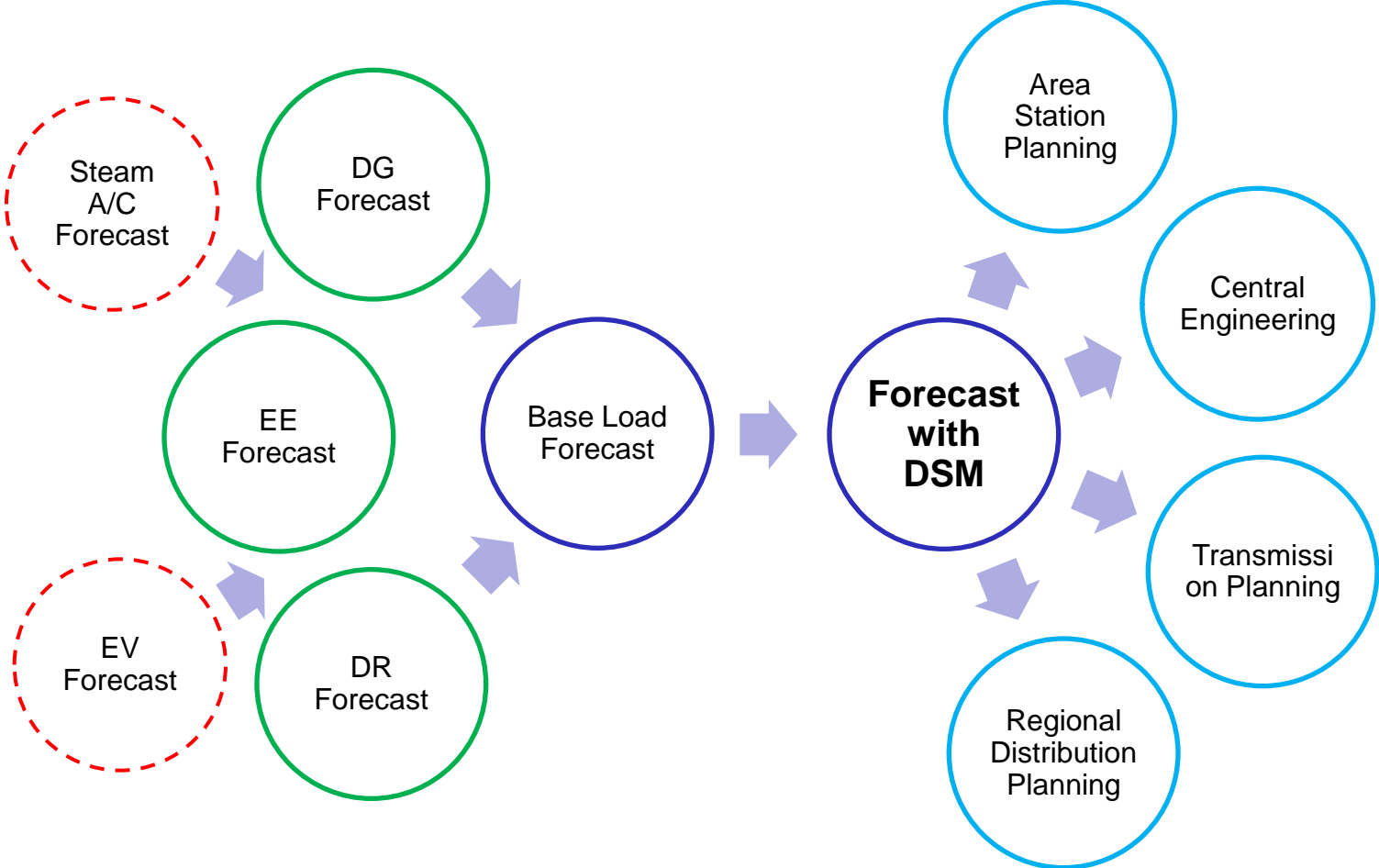
Network locations known

- CE Targeted
- NYPA projects
- DR Customers
  - DG Assets

Network locations unknown

- CE EEPS programs
- NYSERDA programs

# Forecasting and Planning Groups





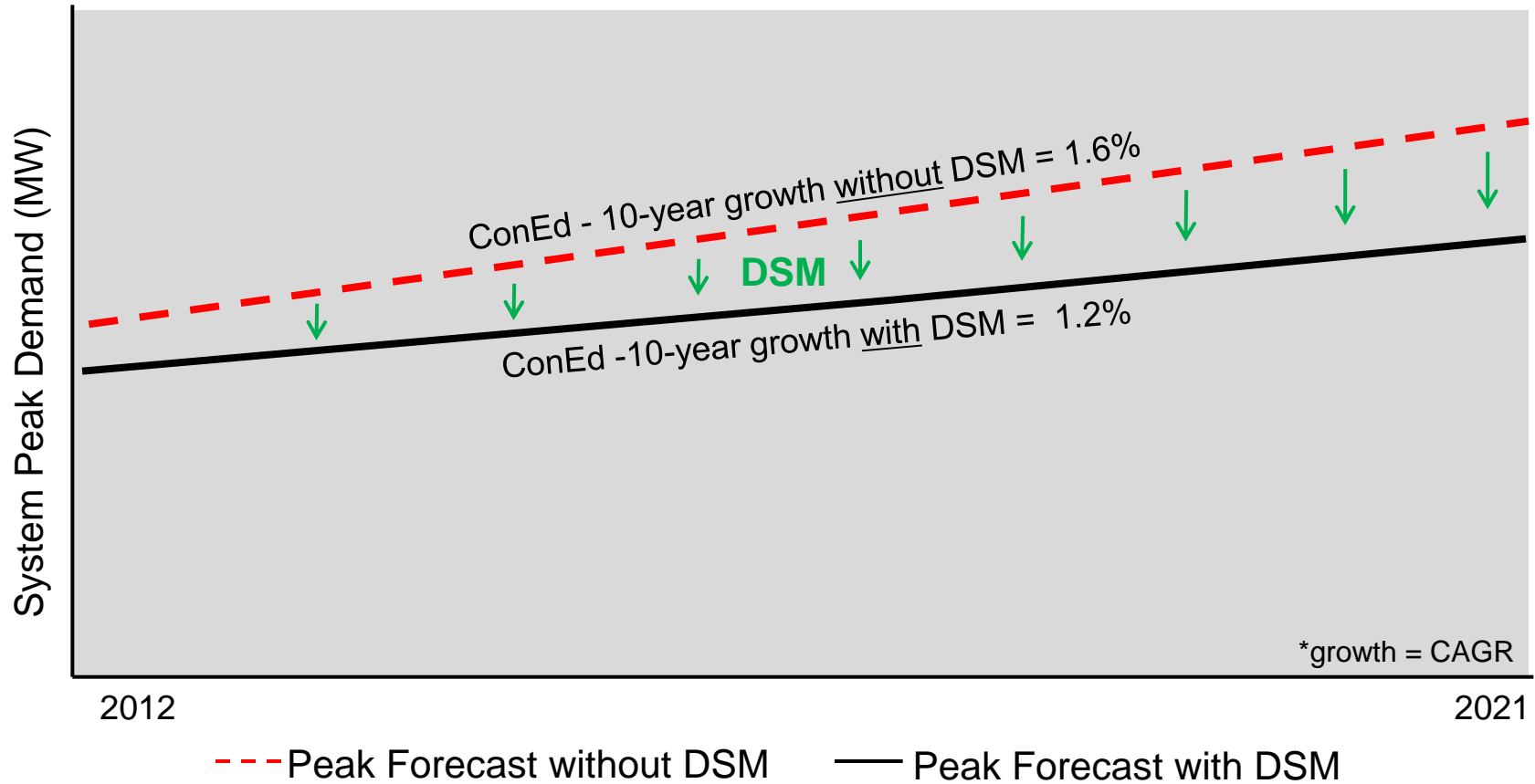
# Forecasted EE, DR, and DG are included in electric system planning

- Sample network information from the load relief program, including forecasted DSM (EE/DR/DG)

Example Sub-Station	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	RELIEF WORK
Example Network	252	256	259	262	264	266	255	258	261	264	2018 - Transfer 15 MW
Less DSM	-3	-4	-4	-5	-5	-6	-6	-6	-6	-6	
Net Load	249	252	255	257	259	260	249	252	255	258	Baseline includes DR and DG resources
Capability	261										
Feeder Capability @ 70.1 kV (1)	263										

Includes EE Programs  
Con Edison  
NYSERDA  
NYPA

# Long-Term Impact of DSM



# The Future

