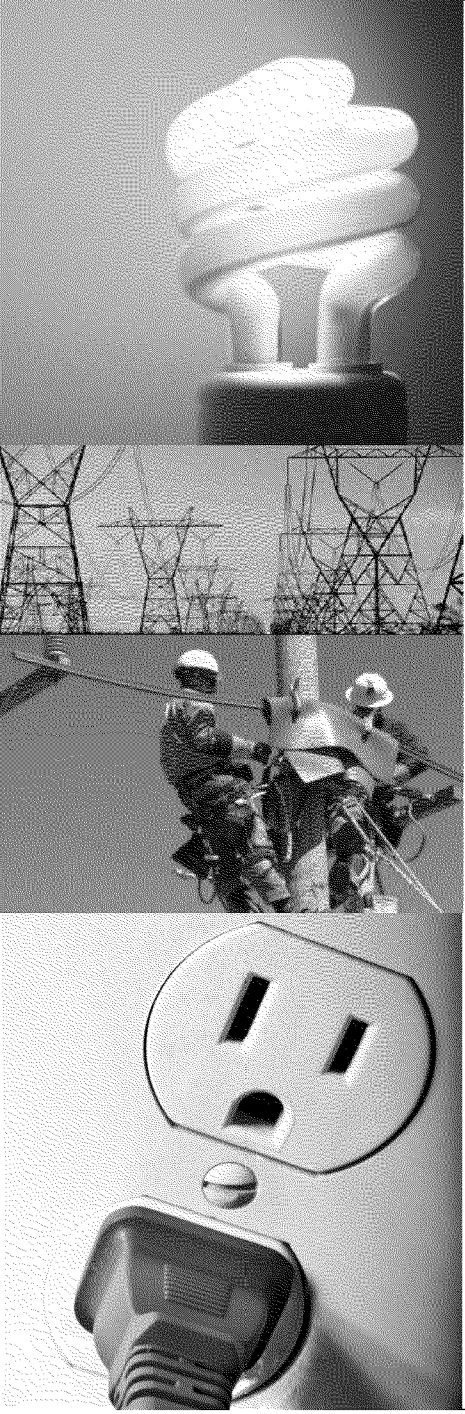
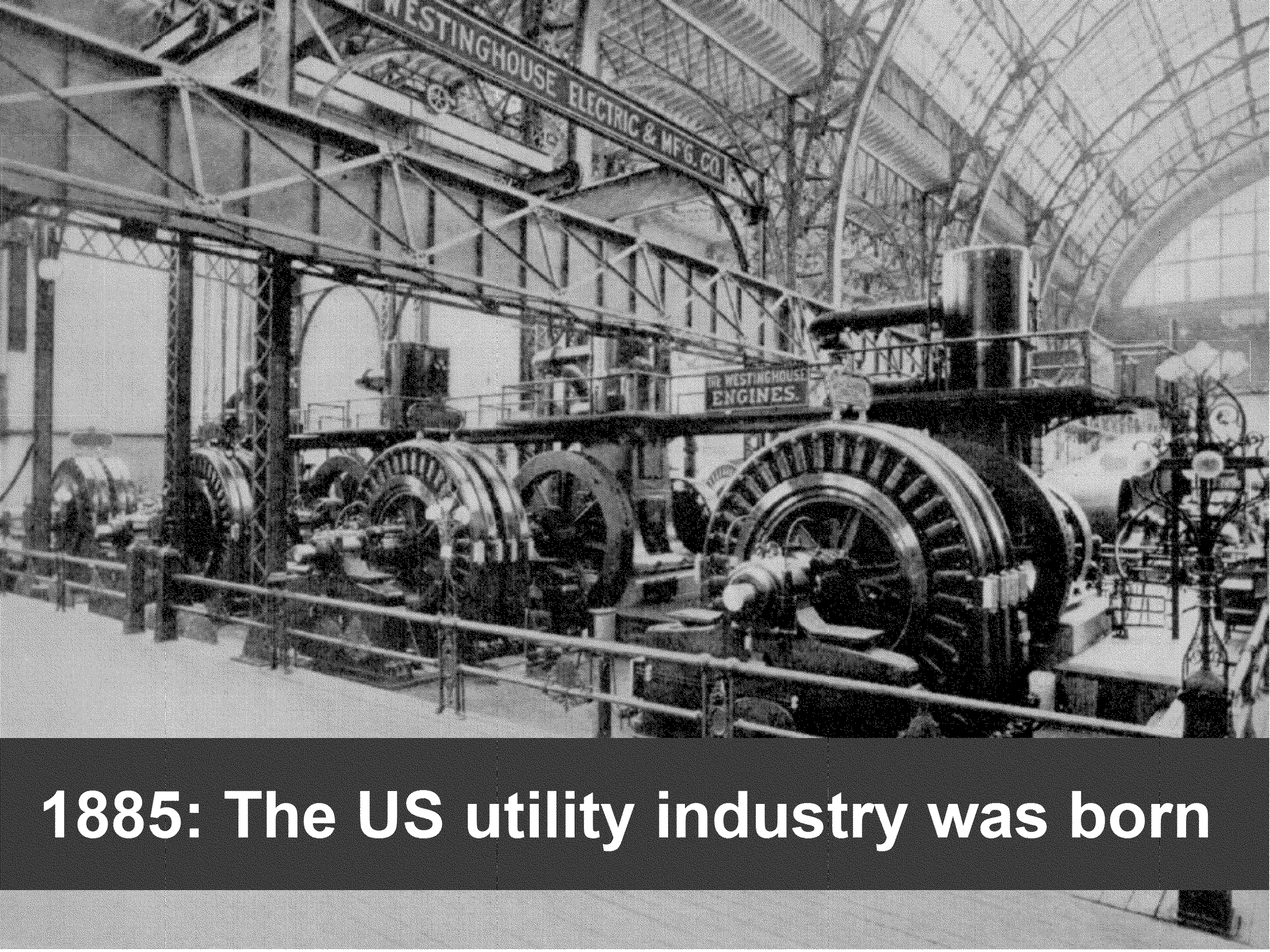


# The Most Exciting Time in a Century:

## The Utility Model and Regulatory Framework for the Future

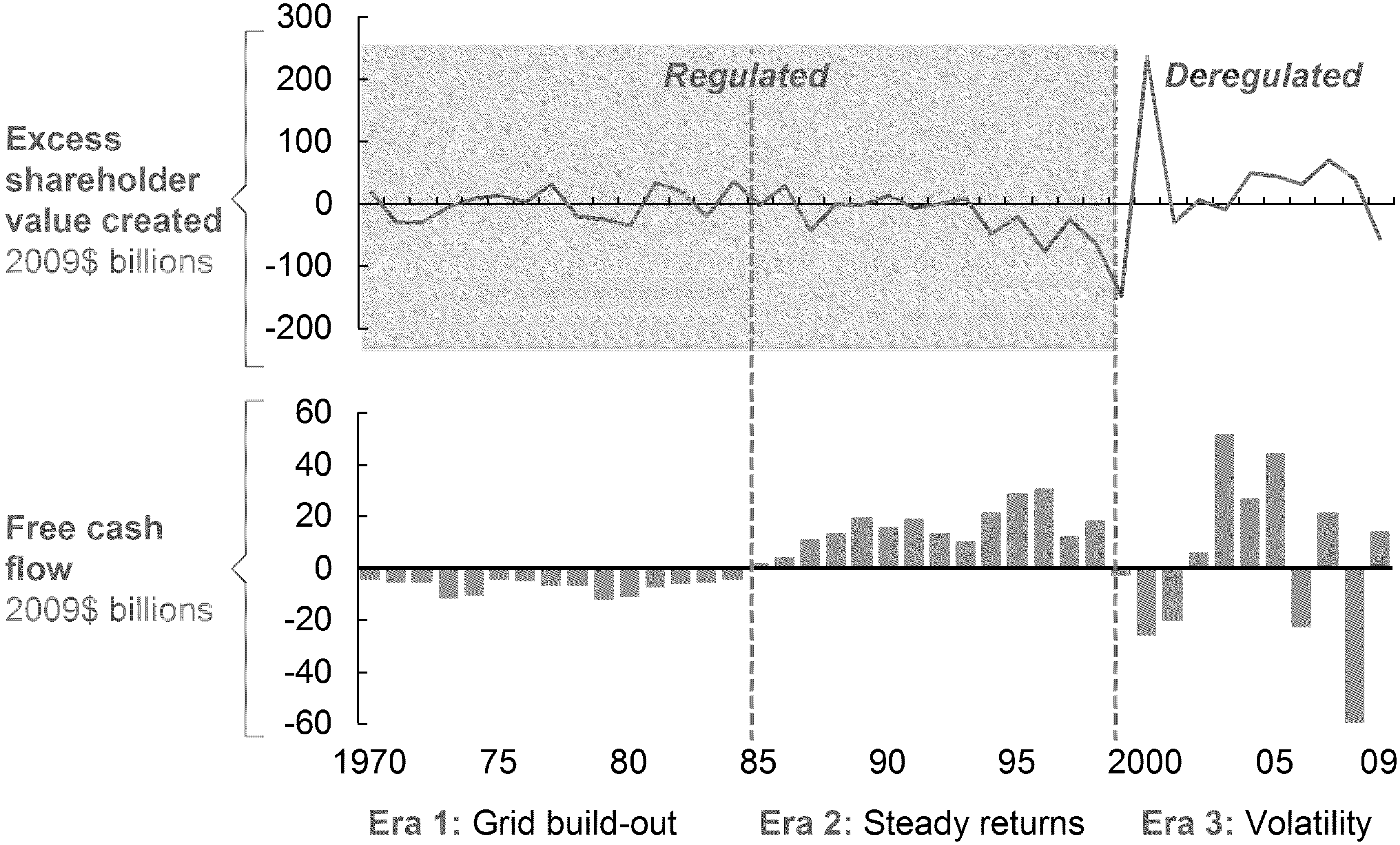
October 2013



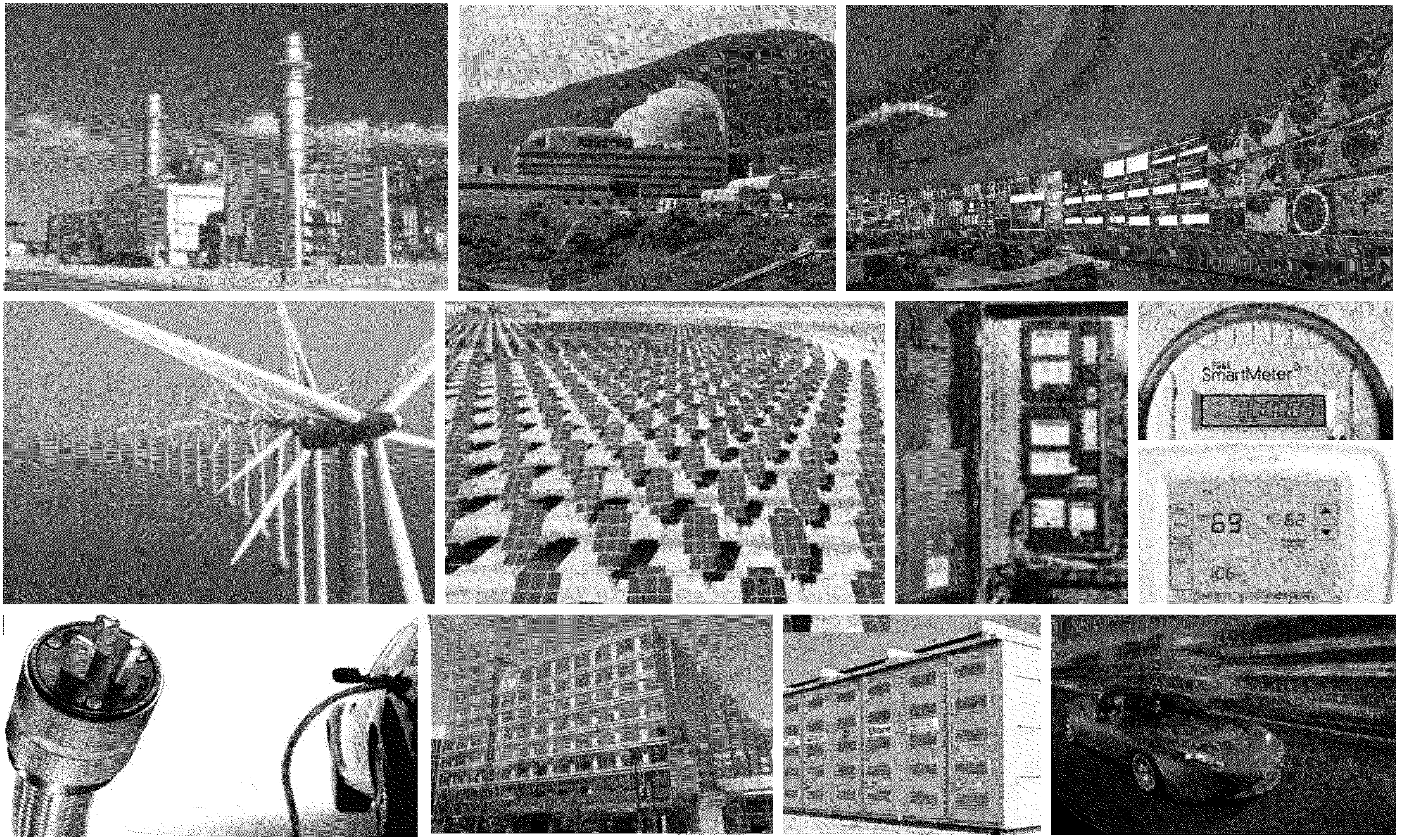

# 1885: The US utility industry was born

# The next 100 years delivered: Safe, Reliable, Low Cost, Universal Service

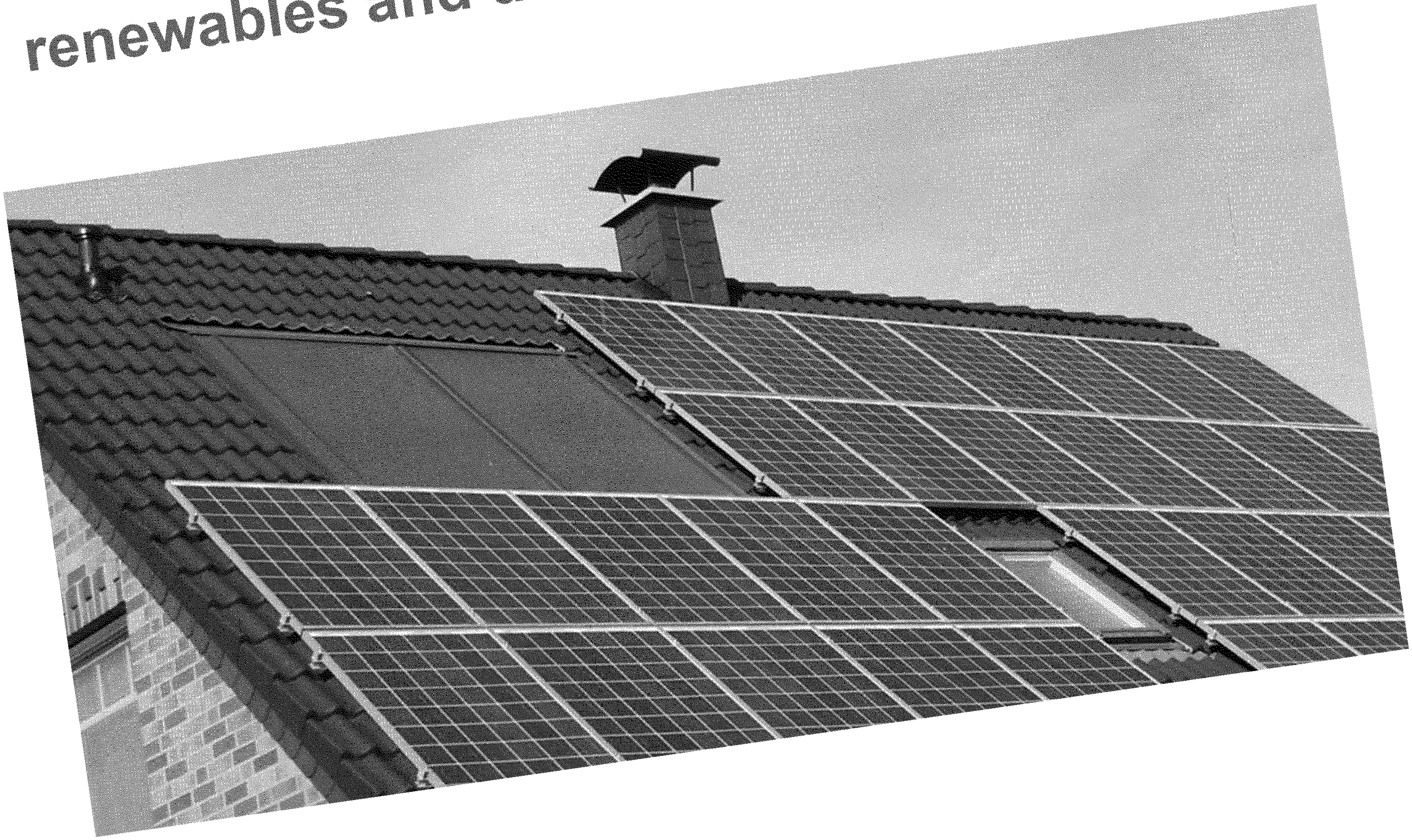
# In 1985, the industry collected more cash than it spent in capital for the first time



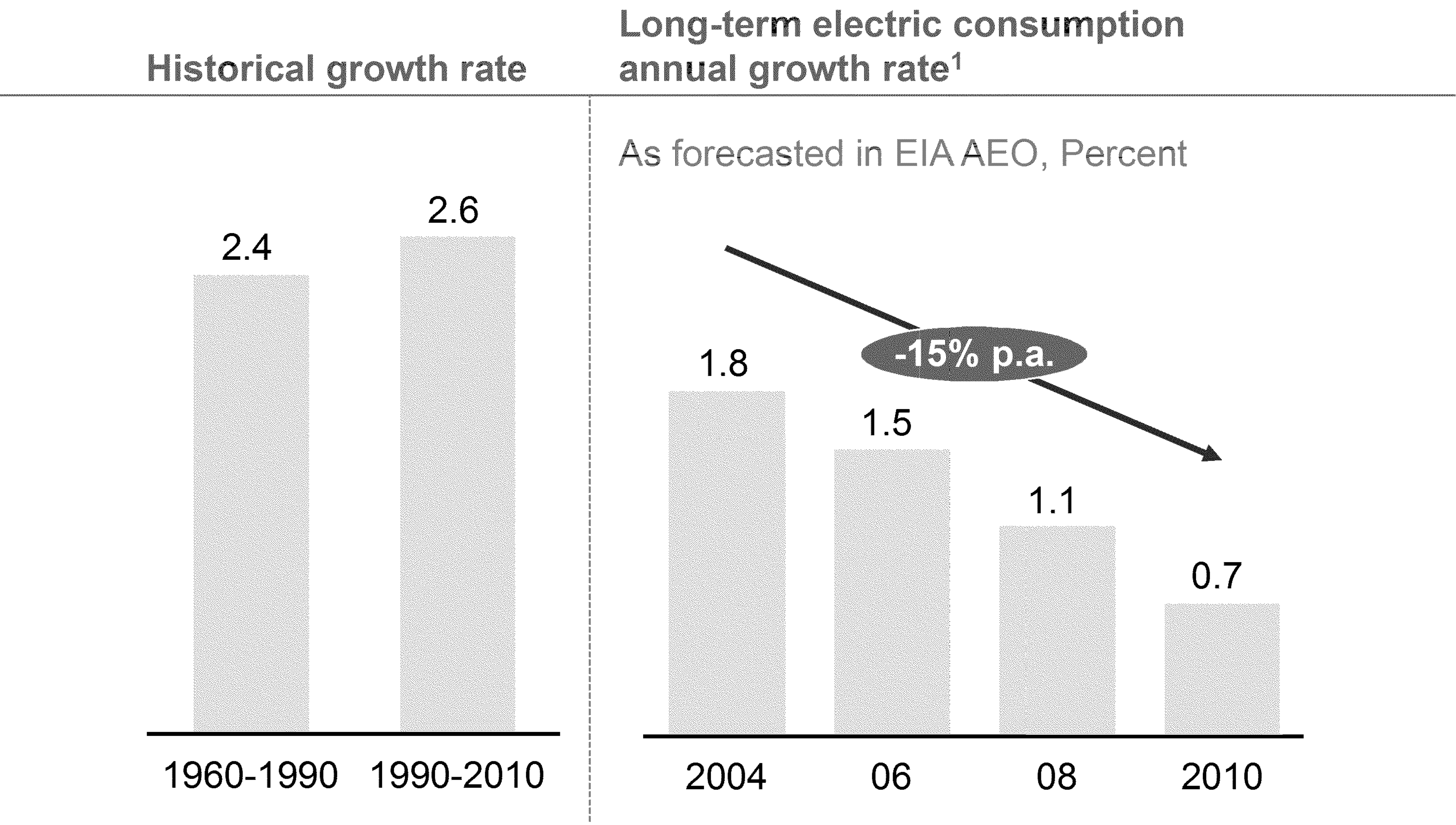
# Rapidly changing network structure complicates future regulatory choices



# Today, on the supply side: growing renewables and distributed generation



# From a demand perspective, decelerating growth




1 Normalized to 2005-25 CAGR for all AEOs

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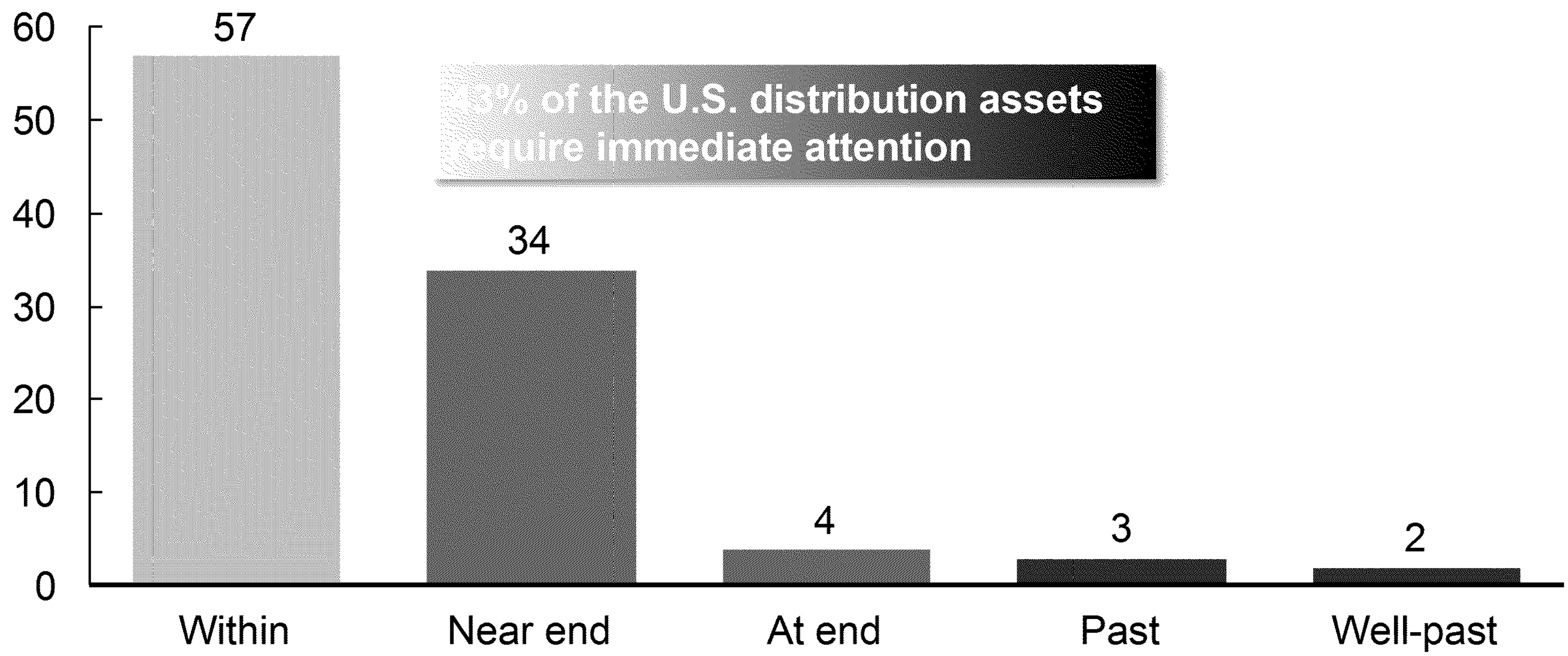
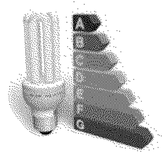
# Meanwhile, the grid is rapidly aging after 20+ years of underinvestment

## U.S. distribution assets are getting old

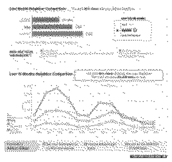
Age of U.S. distribution assets compared to their expected lifetimes
%



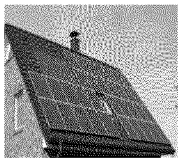
# Customer needs and expectations are changing rapidly



Variety of electricity packages

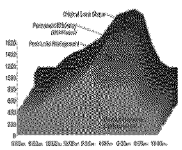


Detailed consumption data with user-friendly apps

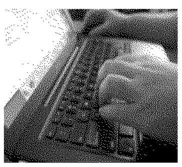


Turnkey solutions for distributed generation

Simple bundles for Evs



Access to automated or voluntary DR programs

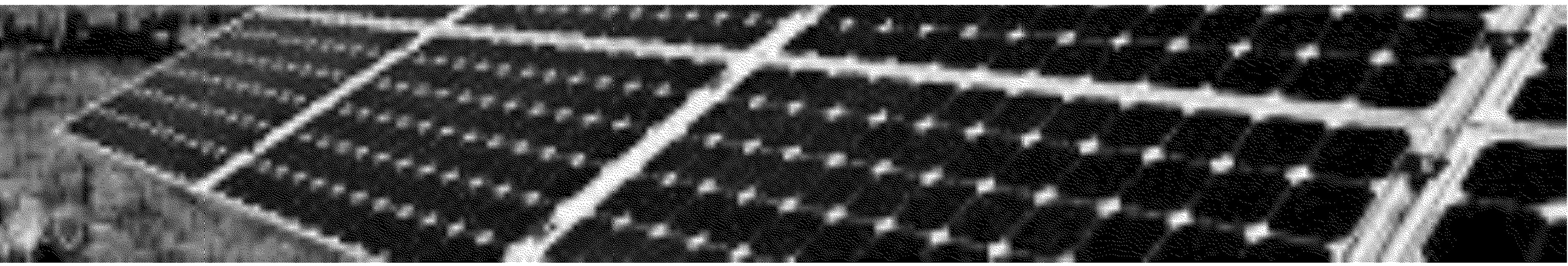


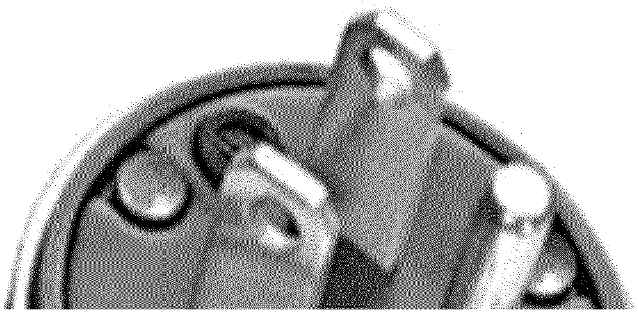
Portal to monitor and program smart home appliances'

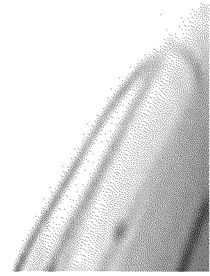
- New profit pools emerging
- New capabilities required
- Opening for non-traditional players to compete

# Key regulatory supply side questions to consider:

- **Who should pay for grid integration costs for new renewable sources?**
- **What is the appropriate approach to cost allocation for integrating new distributed generation sources?**
- **How should ancillary services be priced?**
- **What incentives will attract new capital for load following and grid resilience?**

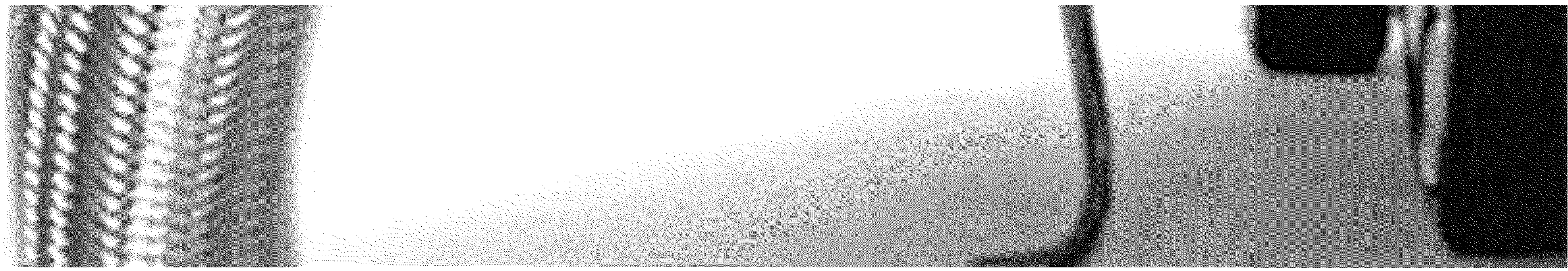




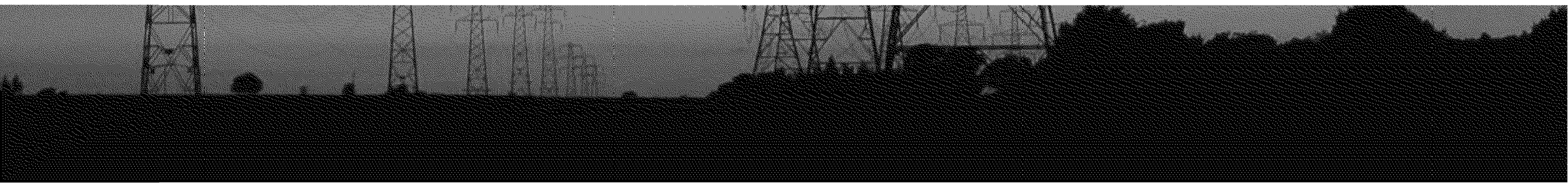


# Key regulatory demand side questions to consider:

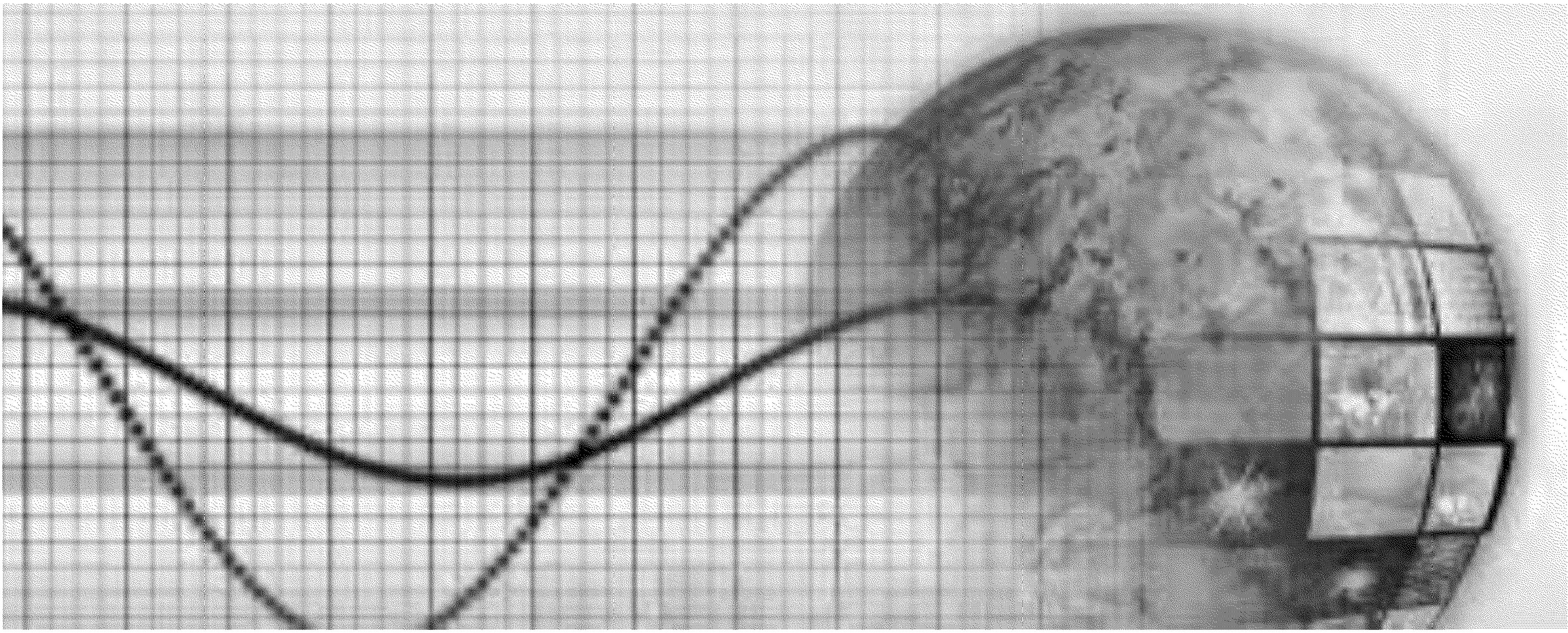
- Who should pay for the infrastructure to fuel the transportation fleet and other high impact new demand sources?
- How should energy efficiency programs be structured if demand isn't growing?
- How can demand response capabilities integrate into thegrid without creating major instabilities?



- How can new capital be attracted to finance grid replacement cycles and new supply source build outs?
- How can the grid ensure timely ROW development for new transmission and distribution lines?
- What if different users want to – and are willing to – pay for different service?
- How should the market think about investments in resiliency?
- Who should carry the obligation to serve?
- Should regulations create incentives for technological innovation?
- What happens to the rate structure if the grid renewal programs grow while aggregate demand begins to fall?



# The commission will be asked to consider myriad alternatives



# Today's discussion represents a start to an important deliberative process

## A deliberative path forward:

- Understand the changing market landscape – supply, demand technology, customer preferences
- Define alternative regulatory models
- Evaluate alternatives under potential market scenarios
- Find ways to test new models empirically
- Select a preferred model
- Define an implementation roadmap to move from the current state to a new model