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EWC VALUE STORY

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2014 ANALYST DAY  
JUNE 5, 2014

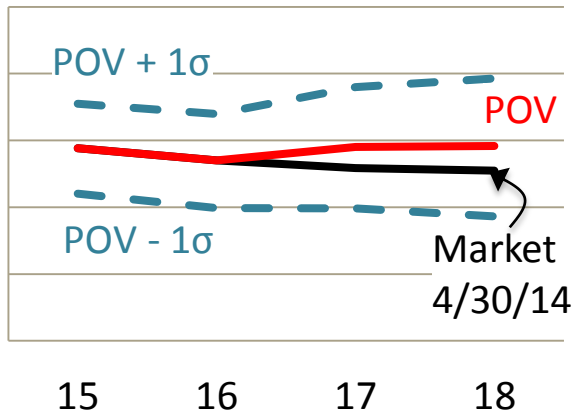
# EWC Strategy

*To preserve optionality and manage risk in the business*

## Manage Risk

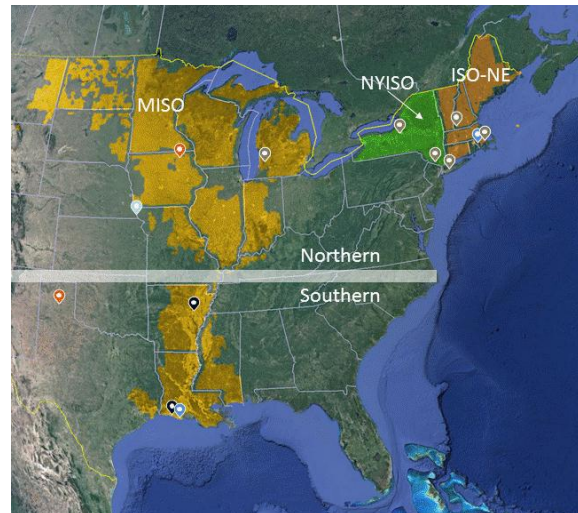
Overall POV for power prices remains bullish based on views for natural gas and heat rates

Northeast Power Prices<sup>1</sup>; \$/MWh



## Market Structure

Pursue fair and competitive wholesale markets that provide proper compensation for needed plants



## Indian Point

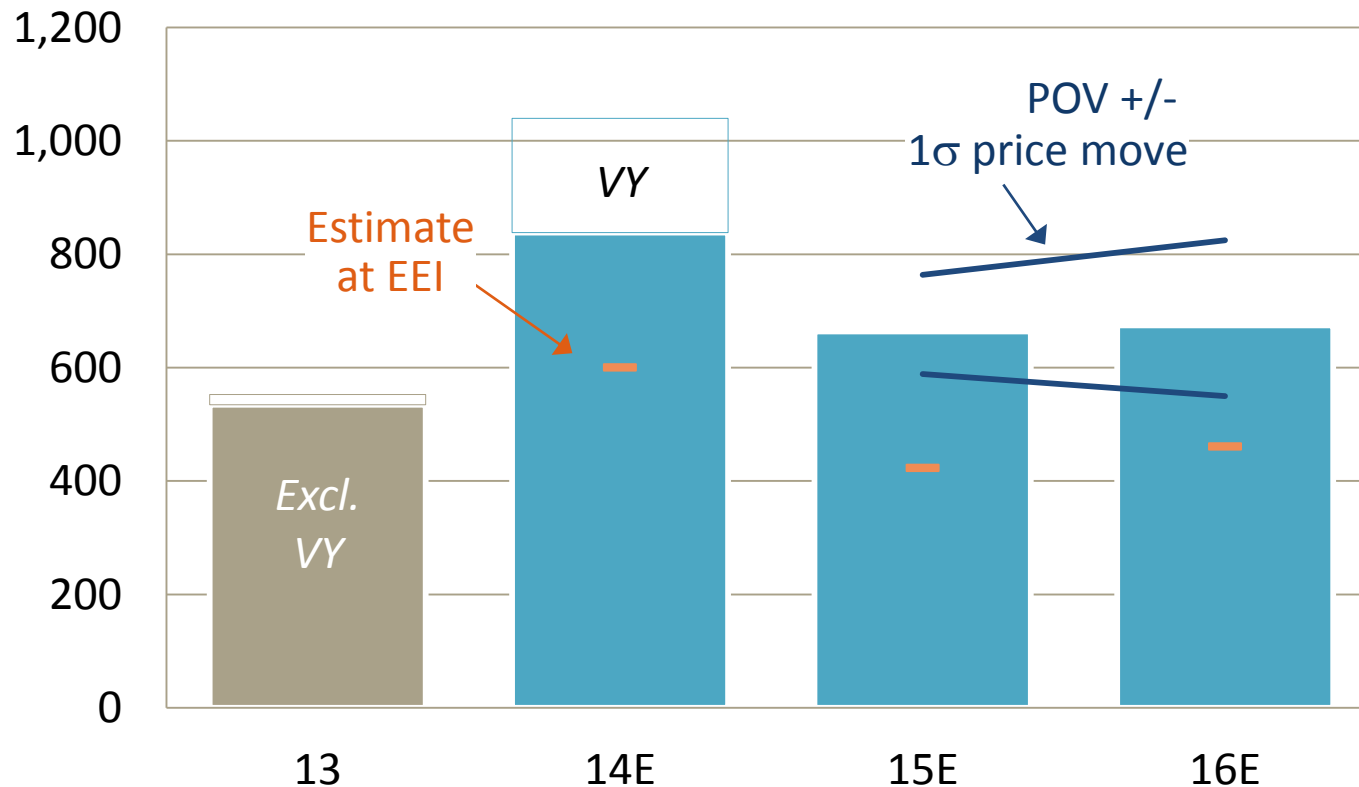
EWC's most valuable asset,  $\frac{3}{4}$  of portfolio value, is critical to safely and reliably serve demand in the region



# Return to Earnings Growth...

*Recap: Utility and EWC financial outlooks*

EWC Operational Adjusted EBITDA<sup>1</sup>; \$M



*POV adds  
\$125 – 150M uplift  
in 2017 and 2018  
versus  
April 30, 2014  
market forwards*

# Discussion Outline

Manage Risk

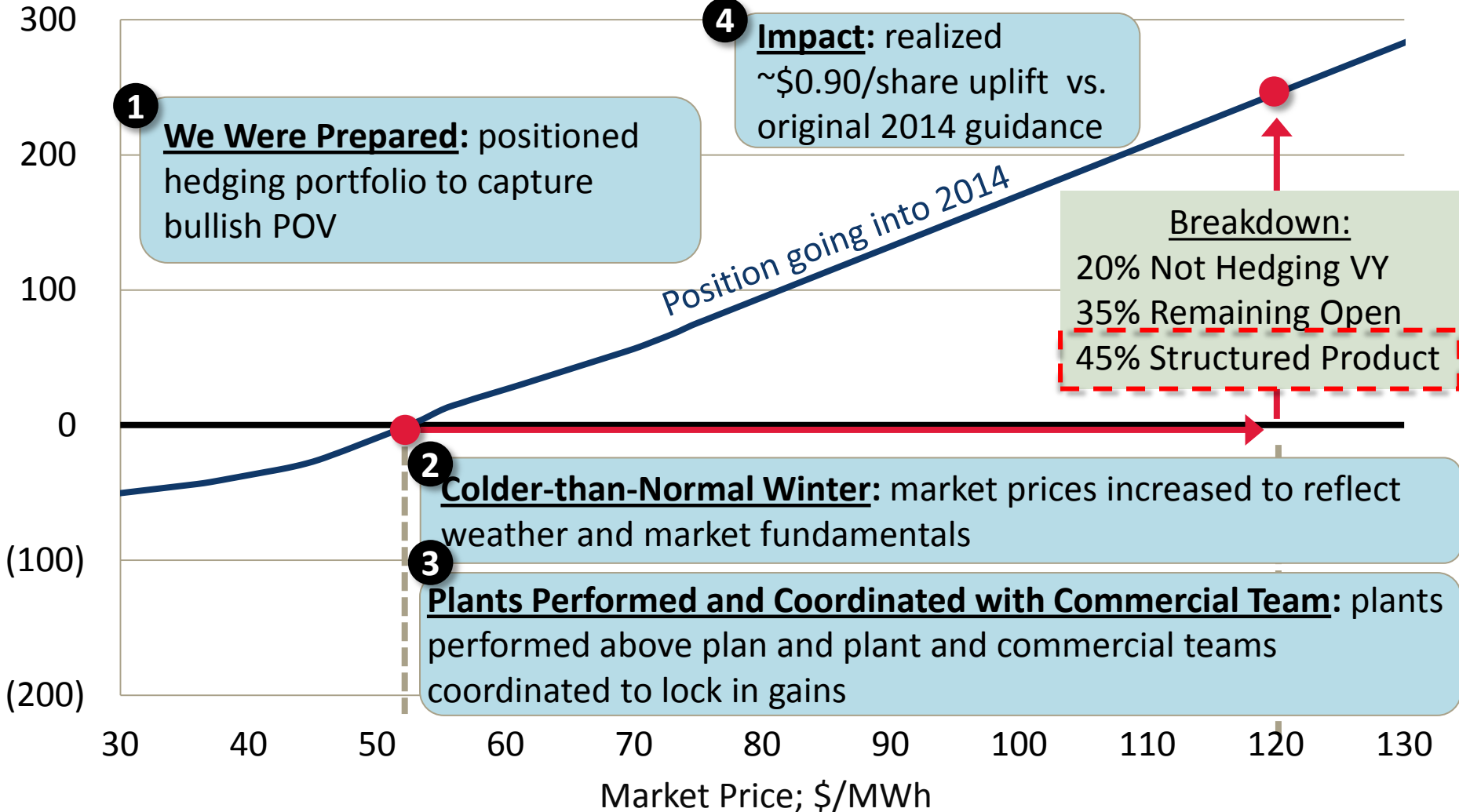
**Hedging strategy insights and upside potential from a high level perspective**

# Hedging Portfolio Performance

*Strategy proved profitable last two winters*

EWC Nuclear Revenue Sensitivity for 1Q14; \$M

*Illustrative*

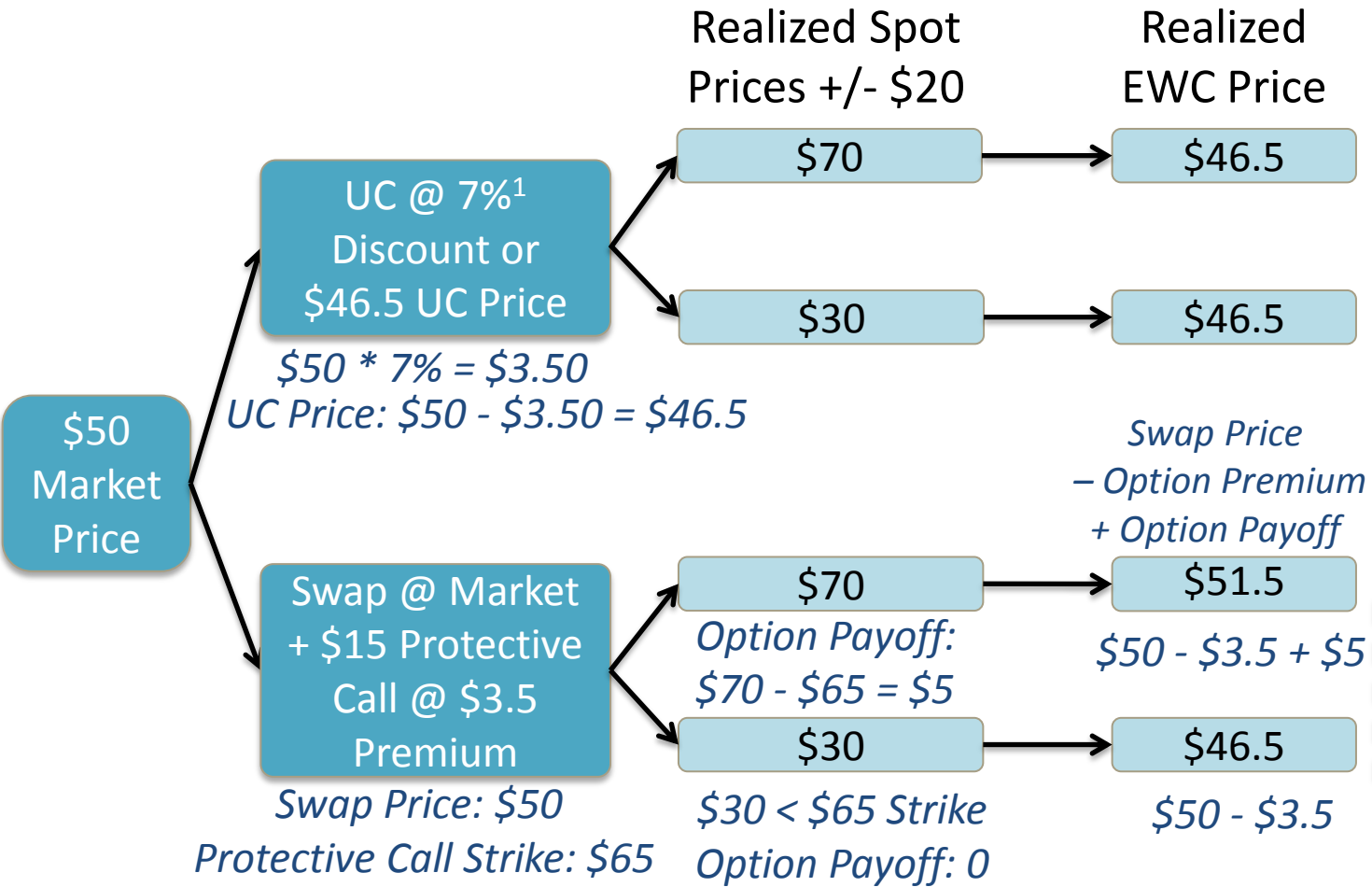


# Hedging Product Comparison

*Structured products provide potential upsides to hedged positions*

## Hedging Product Comparison

*Illustrative*



### Impact

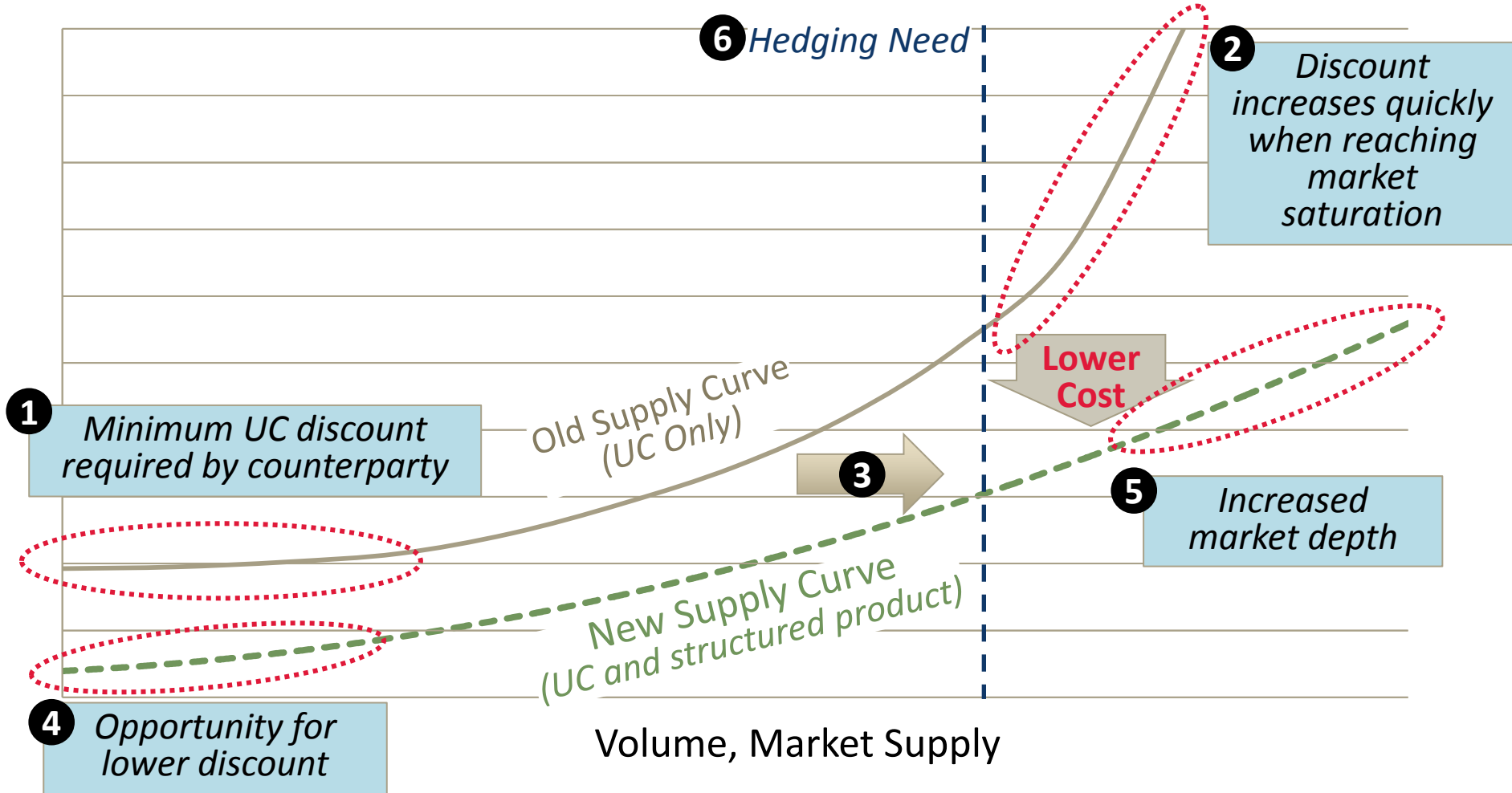
- Potential for upside
- Lower margining requirement
- More ways to align to POV
- Lower expected hedging cost (i.e., < \$3.5)

# Hedging Product Options

*Product diversity lowers overall hedging costs*

*Illustrative*

Hedging Product Supply Curves; Hedging Cost % Discount to Market



# Hedging Strategy

## Looking ahead

### Favorable Factors

- Bullish POV in 2017 and 2018
- Existing positions hedged at attractive upside to downside exposure (as shown earlier)
- Increased volatility → Existing option positions more valuable

### Challenges Ahead

- Increased volatility → New options hedges more expensive
- Reduced market liquidity / counterparties in exiting business (e.g., Barclays, Deutsche Bank)

This will not be the first time we face reduced market liquidity.

We will continue our strategy of counterparty and product exploration/development coupled with rigorous analytics, market POV and corporate risk oversight.



# Discussion Outline

Market Structure

**Market structure initiatives and opportunities to increase transparency**

# Market Structure Objectives

*Aligning objectives and creating win-win*

## Long Term Policy Objectives

### Reliability

- Sufficient capacity the system can count on
- Fuel diversity

### Economic Sustainability

- Low cost/efficient system
- Reasonable return/sustained investments

### Environmental Sustainability

- Achieve carbon targets
- Reduce other pollutants

**Alignment**

**What's Needed?**

## Our Objectives

- Proper compensation (price signals) for attributes provided by all resource types. For nuclear:**
- Baseload energy/price stabilization
  - Effectively zero greenhouse gas emissions
  - On-site fuel supply

# The Wholesale Markets Today

*Current Northeast market structures are broken*

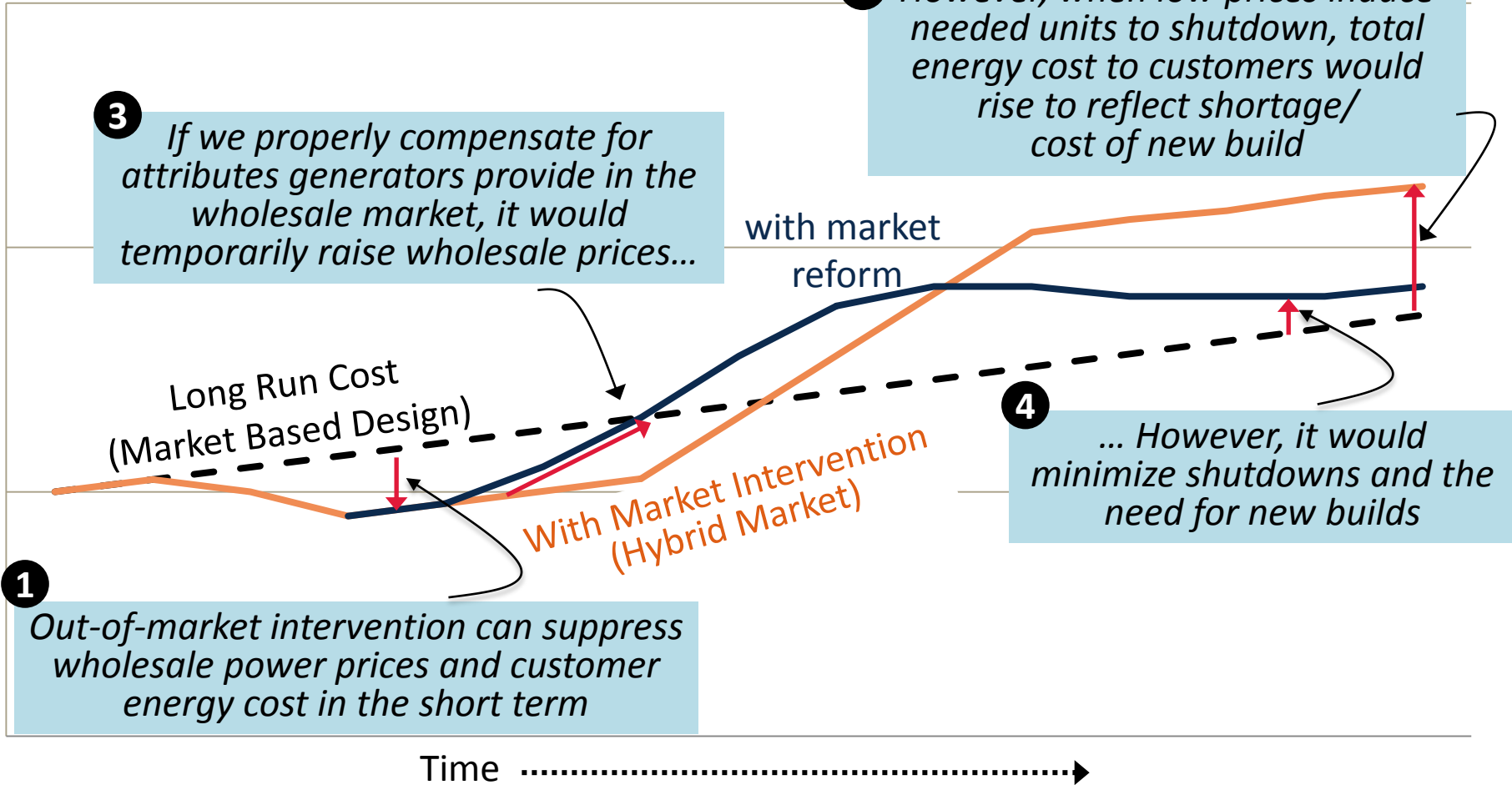
Design	Description	Characteristics
Regulated / Rate-Based	<ul style="list-style-type: none"> <li>• Utility planned generation development through rate base</li> <li>• Regulators approve projects based on economics, reliability, social and environmental benefits</li> </ul>	<ul style="list-style-type: none"> <li>• Customers pay for prudently-incurred costs approved by regulators (who represent the market)</li> </ul>
Market Based <b>(Objective of Our Effort)</b>	<ul style="list-style-type: none"> <li>• ISOs set long term policy objectives for reliability and market economics</li> <li>• Legislators and regulators set environmental goals</li> </ul>	<ul style="list-style-type: none"> <li>• Markets determine most efficient resources to meet these long term objectives</li> <li>• New and existing generators receive proper compensation for attributes provided</li> <li>• Financial risk borne by shareholders</li> </ul>
Hybrid <b>(NYISO, ISO-NE Today)</b>	<ul style="list-style-type: none"> <li>• Artificially low “market” prices for existing generators</li> <li>• Growing out-of-market contracts to entice new generation based on case-by-case regulatory approval</li> <li>• Continued state interventions</li> </ul>	<ul style="list-style-type: none"> <li>• Shutdown of otherwise economic units</li> <li>• Higher retail prices due to excessive uneconomical out-of-market contracts and special charges</li> <li>• Volatile market prices</li> <li>• Financial risk borne by ratepayers</li> </ul>

# Impact of Out-of-Market Market Intervention and Reform

*Out-of-Market interventions lead to higher cost in the long run*

*Illustrative*

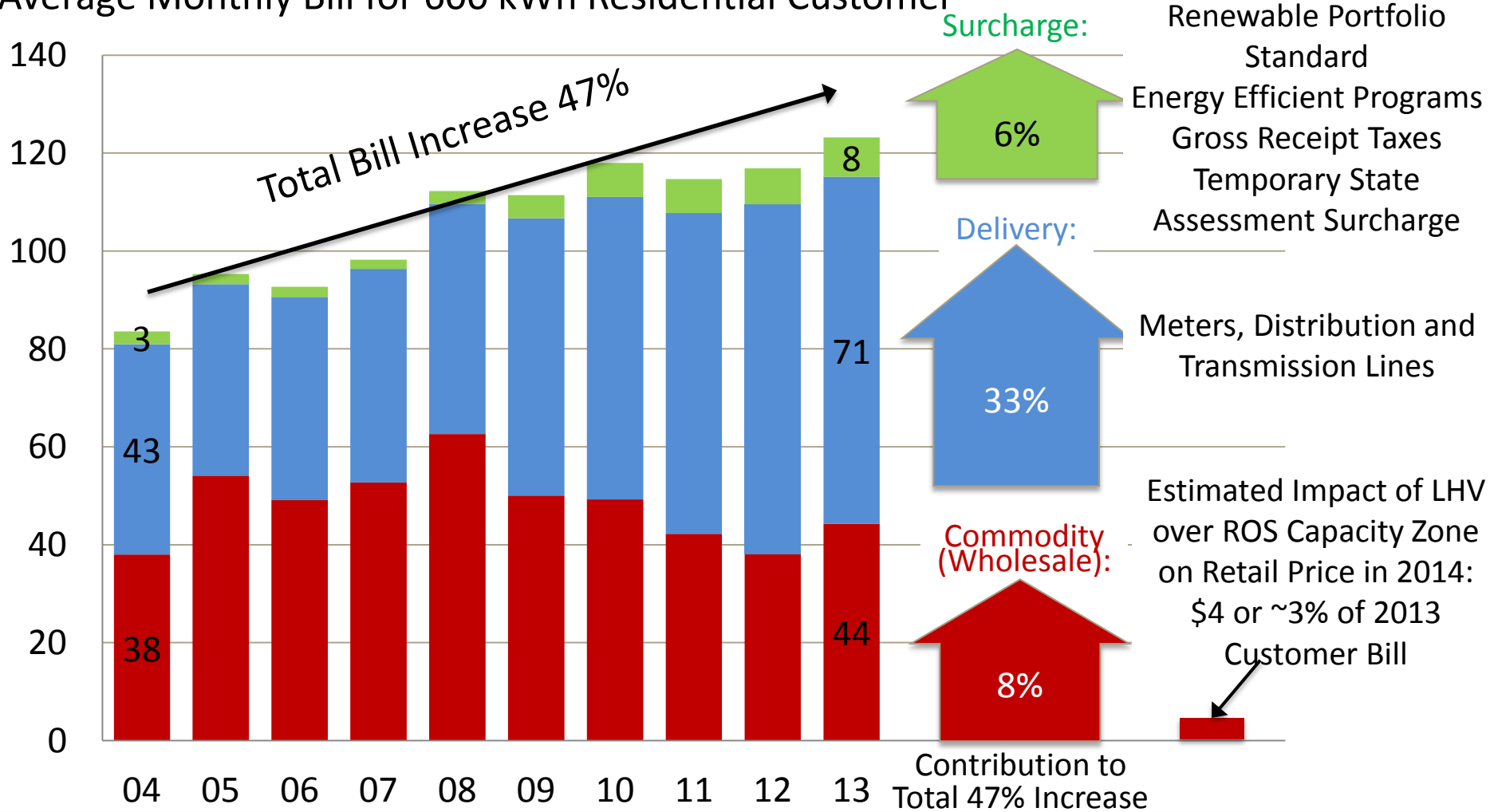
Customer Energy Cost



# Wholesale vs. Retail Rates

*Cost of out-of-market intervention beginning to show*

New York Lower Hudson Valley Retail Electricity Prices; \$  
Average Monthly Bill for 600 kWh Residential Customer



# EWC Market Structure Initiatives

*Ensure proper compensation for all attributes provided by nuclear*

Initiatives (Target ISO)	Target Market		
	Energy	Capacity	Attributes
Ensure new/repowered projects are subjected to fair and competitive market treatment (NYISO)	✓	✓	
Ensure 2014/2015 winter reliability program applies to all fuel types and is market-based (ISO-NE)	✓	✓	
Improve day-ahead/real-time energy price formation (ISO-NE)	✓		
Minimize uplift charges (ISO-NE)	✓		
Support continued effectiveness of Lower Hudson Valley capacity zone (NYISO)		✓	
Apply minimum offer price rule (MOPR) to preclude uneconomic market entry (both)		✓	
Explore market-based mechanisms with FERC, ISOs and regional stakeholders for currently uncompensated nuclear attributes (both): <ul style="list-style-type: none"> <li>• Baseload resource / Price stability</li> <li>• On-site fuel supply</li> <li>• Effectively zero greenhouse gas emissions</li> </ul>			✓

# Discussion Outline

Indian Point  
Continued Operation

**Indian Point license renewal paths  
and value of Indian Point**

# Indian Point License Renewal Proceedings

- **NRC/ASLB**
- **Water Quality Certification**
- **Coastal Zone Management**

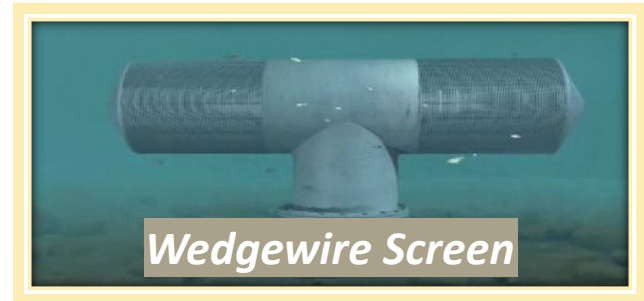


# Cooling Water Issues at Indian Point

*Wedgewire screens are available; cooling towers are not*

*We believe IPEC does not adversely affect water quality, so no new cooling water technology is needed*

*But if a new technology is required...*



- Major, unresolved challenges to feasibility and siting (e.g., air quality, aesthetics, zoning)
- Reduced safety margins, especially during construction
- Significant adverse impacts on output, particularly at peak demand period
- Capital costs at least \$1.19B (direct overnight cost, 2009\$) + lost revenue (~14 TWh)
- Bottom line – in operation in 2033 at the earliest

*Cooling towers are not available*

- No challenges to feasibility and siting
- Achieve most of the impingement/entrainment reduction that cooling towers could provide on a substantially advanced timeline
- No adverse impact on output
- Capital costs (2013\$) ~\$250 – \$300M
- Bottom line – in operation no later than 2021 for first unit and 2023 for second unit

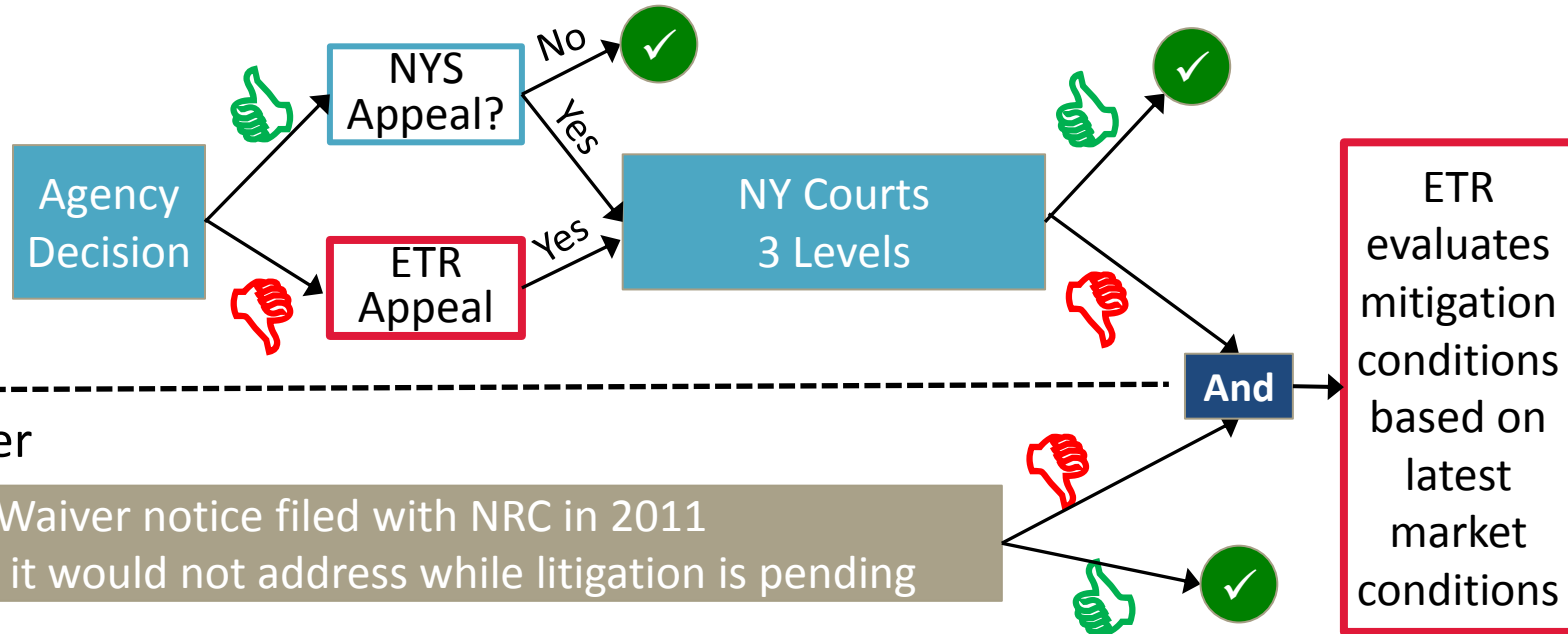
*Wedgewire screens are available*

# State Challenges to Indian Point Continued Operation

*Water Quality Certification initiatives already underway*

IPEC proceedings will take time and have multiple success paths

## Path 1: NYSDEC Litigation (2018+)



## Path 2: Waiver

Waiver notice filed with NRC in 2011  
NRC stated it would not address while litigation is pending

NY Decision

NYS Action

Federal Decision

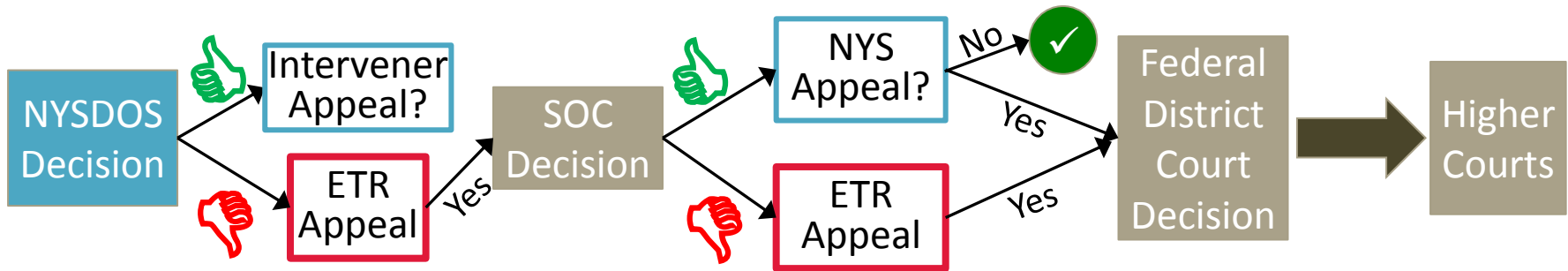
ETR Action

WQC Favorably Resolved

# State Challenges to Indian Point Continued Operation

*Coastal Zone Management proceedings already underway*

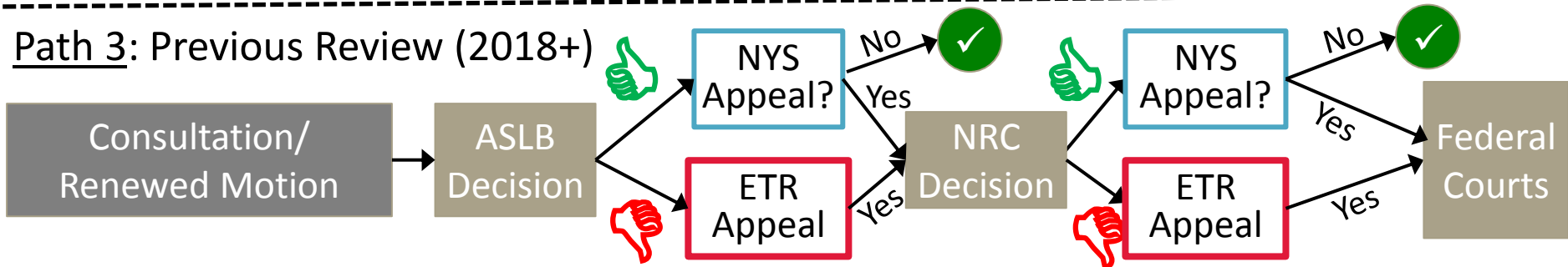
## Path 1: Consistency Determination (2017+)



## Path 2: Grandfathering (2016+)



## Path 3: Previous Review (2018+)



# Indian Point Benefits

*Indian Point plays a critical role in its community*

## **Indian Point is beneficial to New York**

Supplies 25% of power for New York City and Westchester

Employs ~1,000 full-time employees

Made \$1.85B in payments to New York State since acquisition: purchase price, PILOT payments, value sharing and charitable contributions

## **Indian Point has broad support in New York**

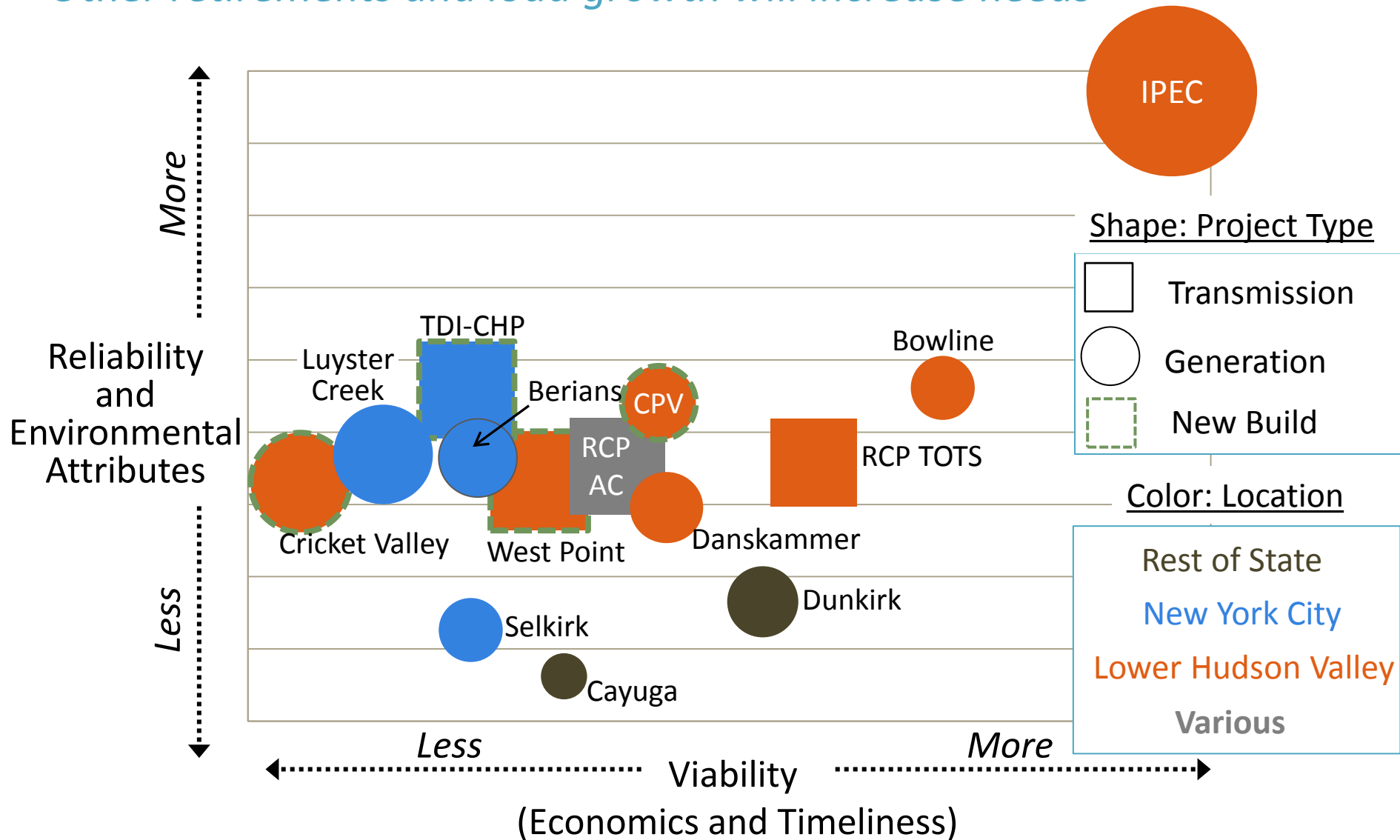
Supporters of license renewal outnumber opponents by more than 2 to 1;  
1 in 5 undecided<sup>1</sup>

## **Indian Point shutdown will be costly to New York**

“IPEC’s retirement will increase the cost to New York’s consumers under every feasible scenario,” according to a Charles River Associates study commissioned by NYCDEP

# No IPEC Equivalent Replacement on Horizon

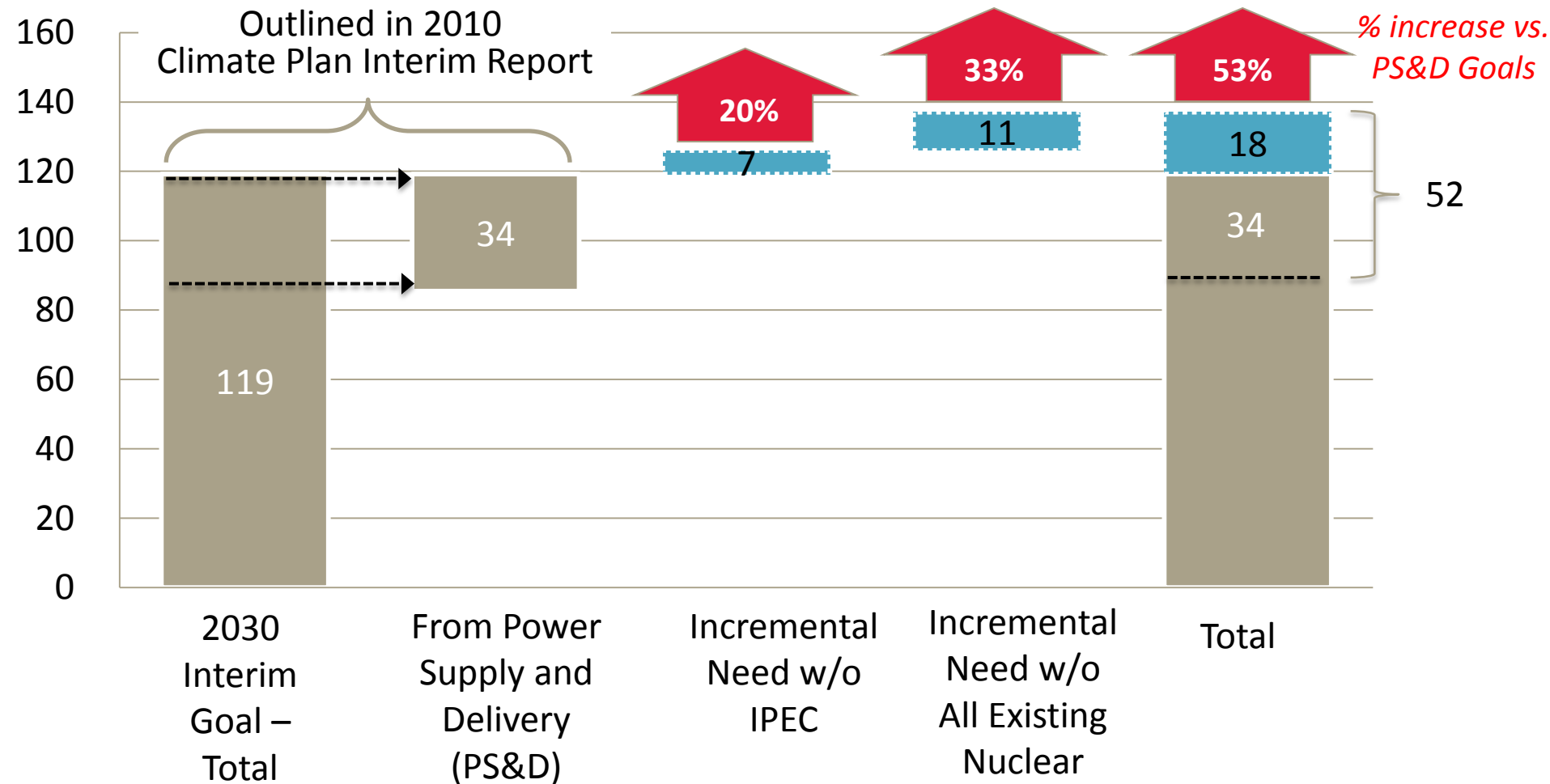
*Other retirements and load growth will increase needs*



# Nuclear is Important in Meeting New York GHG Goals

*Nuclear shutdown substantially increases threshold in meeting goals*

New York Greenhouse Gas Reduction Framework; MMTCO<sub>2</sub>e



# Key Points

## *Indian Point remains a vital asset*

- Indian Point plays a critical role in its community
  - Reliability: Baseload unit with on-site fuel
  - Economic Sustainability: Price-stable baseload energy
  - Environmental Sustainability: Important to meeting New York's greenhouse gas reduction goals
- There are no Indian Point Energy Center-equivalent replacements on the horizon
- There are multiple paths to favorably resolve WQC and CZM

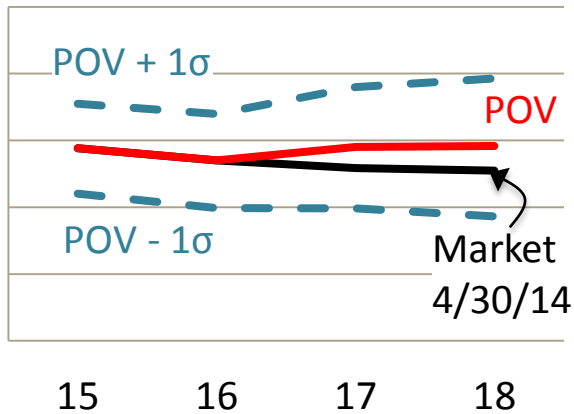
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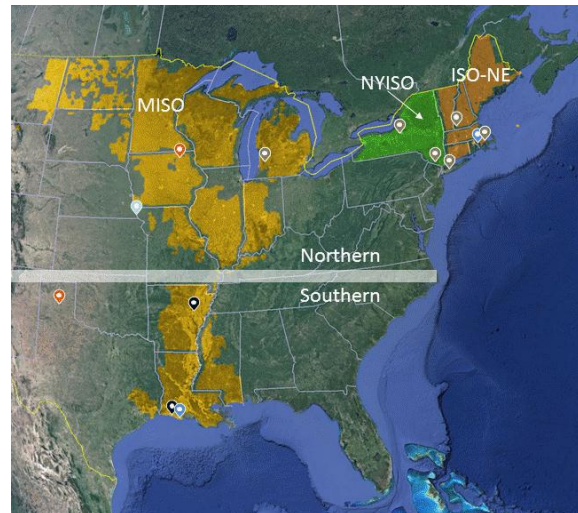
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