TEC-RI

THE ENERGY COUNCIL OF RHODE ISLAND

Advocating for affordable energy prices and a robust supply of power in Rhode Island

RI Public Utilities Commission
Meg Curren, Chairperson
89 Jefferson Blvd
Warwick, RI 02888

June 30, 2016

Members of the Commission,

We submit this letter and attachment as our testimony regarding the need for greater generating capacity of electricity in Rhode Island and New England.

You are most assuredly aware of the seven nuclear, coal and oil fired plants being shut down in New England over the next few years, which generate more than 4,200 megawatts a year and the potential for more to close, raising the loss to 10,000 megawatts.

While distributed generation, demand resources and imports will help in restoring some of that loss, in our opinion, it will not be enough to come on line, fast enough to replace the loss.

Our membership, large Rhode Island energy users bear the brunt of the cost of the forward capacity market in their bills now. Much has been said lately about the last forward capacity market, as a sign the market is able to replace this loss and the proposed Invenergy power plant in Burrillville is not needed.

Two days ago, TEC-RI sponsored a seminar for large energy users, specifically to discuss the forward capacity market. Andrew Gillespie, Principal Analyst at ISO-NE prepared and made a presentation, a copy of which has been made available to you tonight.

I asked him one question during his presentation and that question was, "opponents of the proposed power plant in Rhode Island point to the February forward capacity auction as a sign that the proposed power plant is not needed", his answer was that the forward capacity market is depending on that happening

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to replace the closing plants, which is why the market eased in February and he added, "you need to do everything you can on the political and regulatory front to blunt that argument".

Madam Chair, our members and other large commercial and industrial users in the state are also some of the largest employers in the State of RI. Their ability to employ our residents is contingent on their ability to compete and the cost of electricity in Rhode Island and New England is already amongst the highest in the lower 48 states.

A few weeks ago, a coalition of business and labor was able to help stop a law from passing at the State House that would have done an end run around the regulatory process that is now in place. We are here tonight to say in our opinion and apparently in ISO-NE's opinion that the need for this gas fired energy plant is dire and very much needed.

It would be unfortunate and irresponsible with so much uncertainty about the availability of future power in New England, to not build this plant, which will supply reliable power to Rhode Island and the region.

Do you really want to gamble that "maybe" we'll have enough power in the future, or do you want to guarantee it and protect the businesses and employees here in Rhode Island? That is the very simple question before you.

Thank you for allowing us to testify on this very important matter to all Rhode Islanders.

Regards,

Douglas W. Gablinske
Executive Director of TEC-RI

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JUNE 28, 2016 | CRANSTON, RI

Overview of the Forward Capacity Market

The Energy Council of Rhode Island (TEC-RI) and Best Energy Practice Capacity Market Seminar

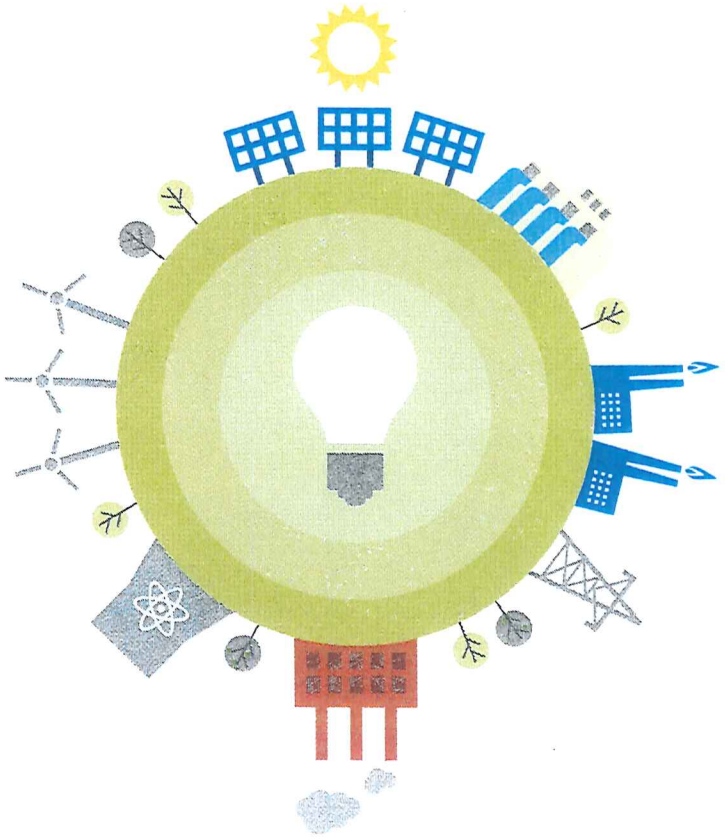
Andrew Gillespie

PRINCIPAL ANALYST, MARKET DEVELOPMENT

ISO-NE PUBLIC

Overview of Presentation

- About ISO New England
- Major Responsibilities
- Forward Capacity Market Overview
- Forward Capacity Market Mechanics
- Who Pays for Capacity



ISO New England (ISO) Has Two Decades of Experience Overseeing the Region's Restructured Electric Power System

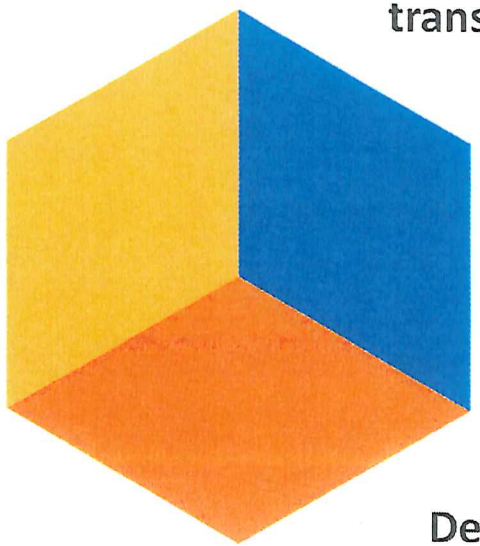
- **Regulated by** the Federal Energy Regulatory Commission
- **Reliability coordinator** for New England under the North American Electric Reliability Corporation
- **Independent** of companies in the marketplace and neutral on technology

Reliability Is the Core of ISO New England's Mission

Fulfilled by three interconnected and interdependent responsibilities

Overseeing the day-to-day operation of New England's electric power generation and transmission system

Managing comprehensive regional power system planning



Developing and administering the region's competitive wholesale electricity markets

Ensuring Fair and Efficient Wholesale Markets Is a Major Responsibility

Energy Market

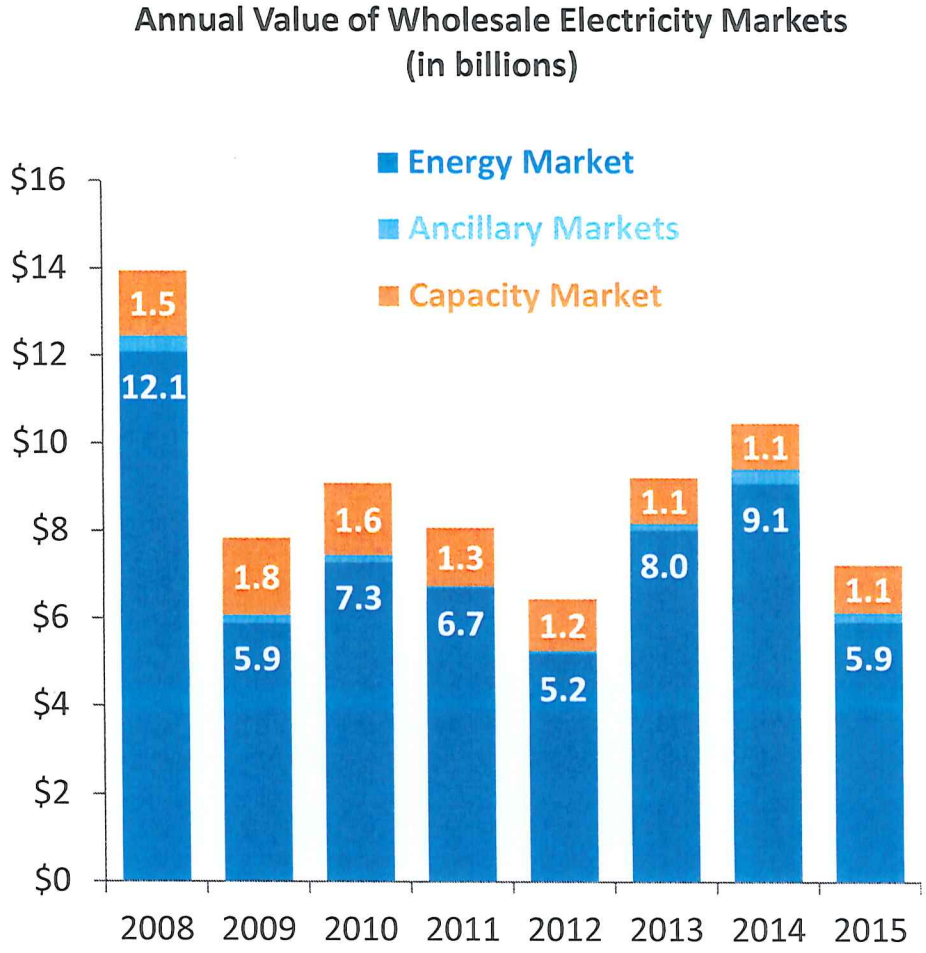
Daily market for wholesale customers to buy and sell electric "energy"

Forward Capacity Market

ISO determines capacity needs three years into the future and resources compete to sell capacity to the system through annual forward capacity auctions

Ancillary Markets

Resources are compensated for providing regulation services and reserves to ensure reliability in real time



FORWARD CAPACITY MARKET OVERVIEW

Important Information

- It is important that you read the rules and understand them; this is a brief introduction to the **Forward Capacity Market**
- The rules that govern the Forward Capacity Market are extensive – most are included in Market Rule 1, Section III.13
- The rules govern, but there are often proposals to modify the rules in various stages
  - Some are still in stakeholder discussions
  - Some are pending at the Federal Energy Regulatory Commission (FERC)
  - Some have future effective dates (e.g., *Pay for Performance*)

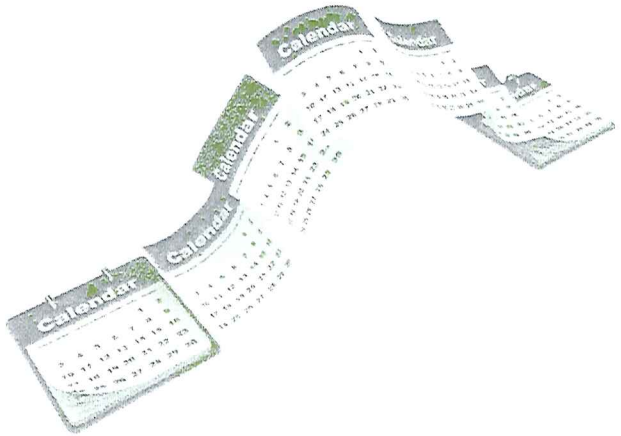
Forward Capacity Market Overview

- The **Forward Capacity Market (FCM)** is a long-term (three-year forward) wholesale electricity market that assures resource adequacy, locally and systemwide
- The market is designed to promote **economic investment** in supply and demand resources where they are needed most
- Capacity resources may be **new** or **existing** resources, and include supply from power plants, import capacity, or demand resources




Forward Capacity Market Overview, *continued*

- To purchase enough qualified resources to satisfy the region's future electricity needs and allow enough time to construct new capacity resources, **Forward Capacity Auctions** are held each year approximately three years in advance of when the capacity resources must provide service
- That delivery period is called the **Capacity Commitment Period (CCP)**
- The CCP is a **12-month period** that begins June 1 and ends May 31



Forward Capacity Market Overview, *continued*

- Capacity resources compete in an annual auction to obtain a commitment to supply capacity in three years' time; this commitment is called a **Capacity Supply Obligation (CSO)**
- Suppliers with the lowest-priced offers clear the auction and receive capacity payments based on the auction clearing price—these payments are in addition to what resources receive in the energy and reserve markets
- In exchange for capacity payments, the resources have an **obligation** to be ready to run when called on

Why Have a Forward Capacity Market?

- For some resources, **infrequent** dispatch provides limited opportunities to fully recover fixed costs
  - Energy prices may not be high enough for long enough
  - Expenditures not recovered in the energy and ancillary service markets are often called the "missing money"
- Not just a peaking resource problem - resources with **frequent** dispatches may not make enough money in the energy markets to cover their costs
  - Base-load generation can be very capital intensive - there may still be a "missing money" problem due to the size of the investment/costs

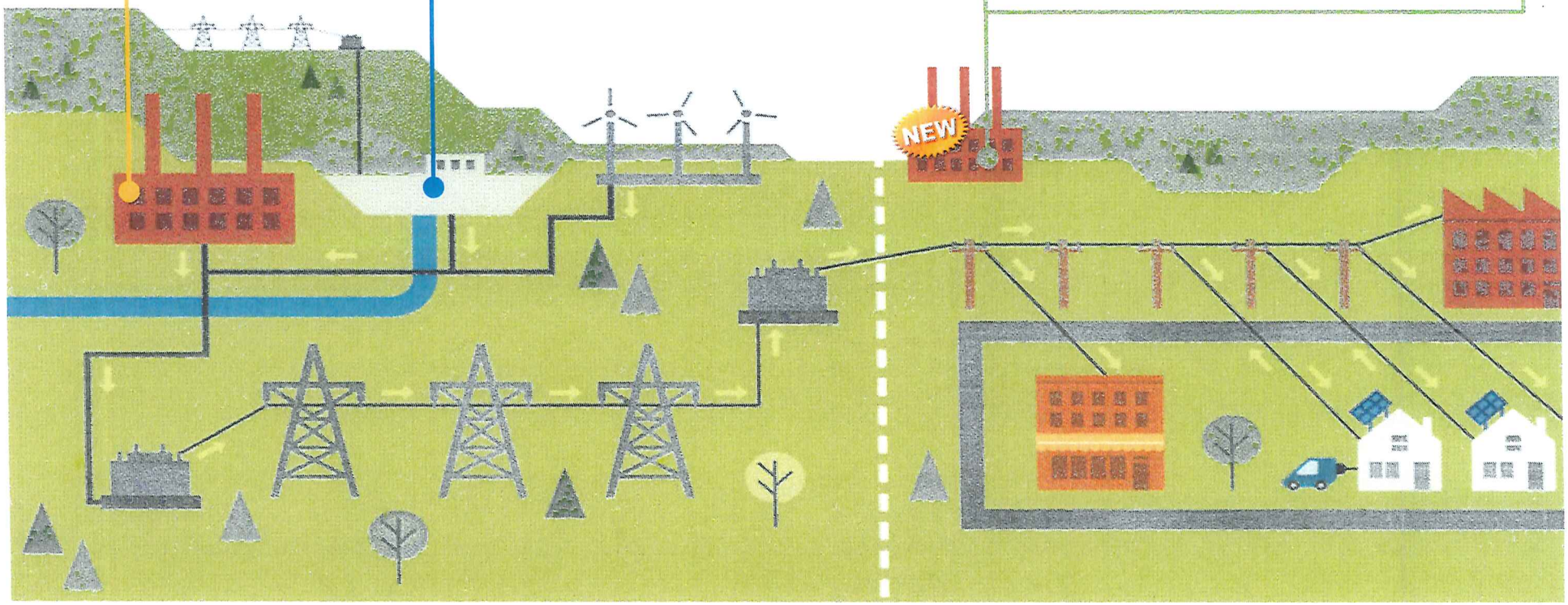
Objectives of a Capacity Market

Provide an opportunity for existing capacity to recover the "missing money"

Procure enough capacity to meet load and reserve requirements

Provide incentives to deliver energy when it is needed

- Provide financial incentives to invest in new capacity
- Attract capacity where it is needed – location matters



FORWARD CAPACITY MARKET MECHANICS

Who Can Participate as Supply in the FCM?

- **Supply-Side Resources**
  - Traditional generation, like coal, oil, nuclear, and natural gas
  - Intermittent generation, like wind and solar
  - Imports
- **Demand-Side Resources**
  - Energy efficiency
  - Load management
  - Distributed generation





Resources Must Qualify to Compete in the Auction

The FCA is designed to procure only those capacity resources that will be commercial and available at the beginning of each capability year.

New

Existing

FCA treats new and existing capacity resources differently

New Capacity Resources

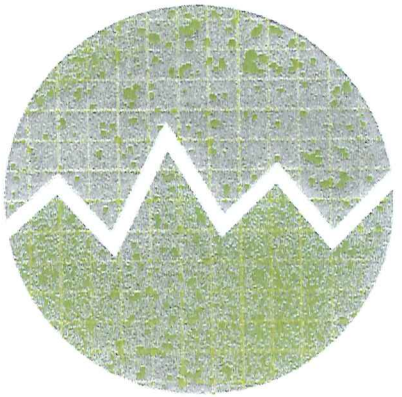
- For *supply-side* resources, project sponsors must:
  - Submit a Show of Interest (SOI) form
  - Submit a completed qualification package
  - Provide detailed documentation (import interface, source of capacity, summer/winter capability)
- For *demand-side* resources, project sponsors must:
  - Undergo a feasibility review
  - Outline how demand reduction will be achieved
- Financial Assurance is required
- New resources offer into market, but cannot submit an offer at a price that is below the resource's minimum offer price

Existing Capacity Resources

- ISO determines summer and winter qualified capacity for each resource
- Existing resources are automatically entered into the capacity auction based on their qualified capacity
- To opt out of the capacity market, existing resources can submit a de-list bid
  - Can be for one year or permanently
  - Internal Market Monitor provides oversight of most de-list bid types
  - System Planning will review reliability impact

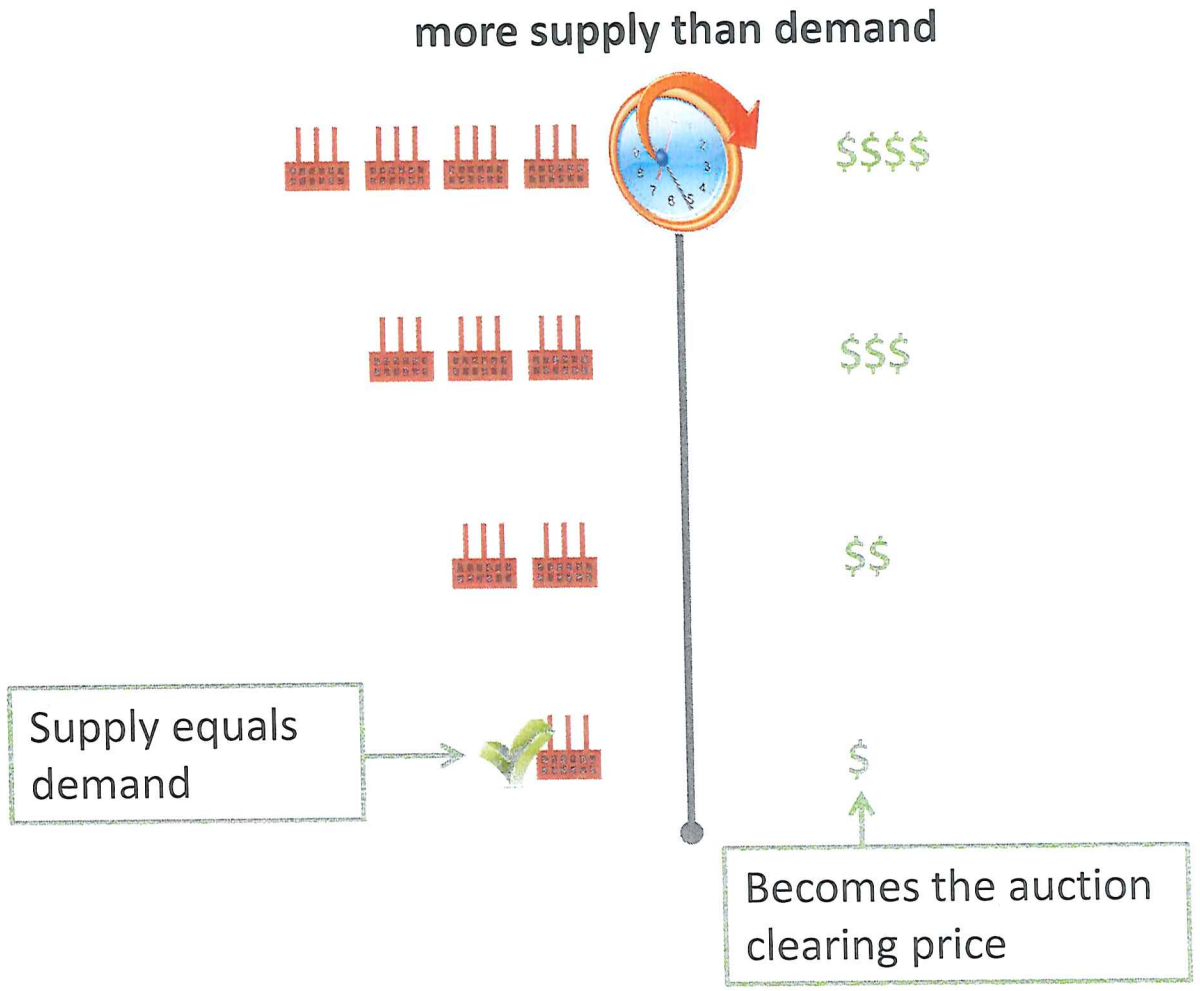
New and Existing Resources Compete to Satisfy the Installed Capacity Requirement

- The Installed Capacity Requirement (ICR) is the amount of capacity needed such that the probability of disconnecting non-interruptible customers due to resource deficiency is no more than once in ten years
- Some of the factors considered in determining the ICR amount are:
  - Weather variations on load forecasts
  - Resource equivalent forced outage rates
  - Reliability benefits from interconnections with adjacent control areas



Auctions Use a Descending Clock Format

- Auction starts at a high price
- Price is lowered in increments
- Price continues to drop in increments until supply meets demand
- Auction stops

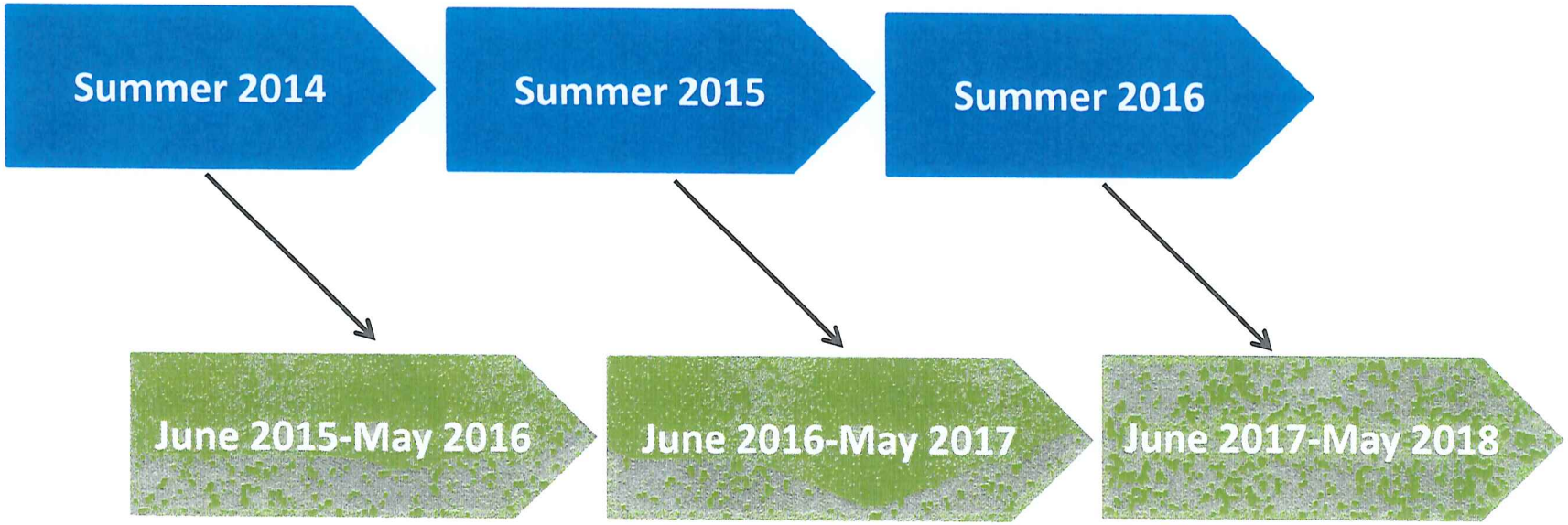


Who Pays for Capacity?

- Wholesale customers ultimately pay for the capacity required to serve their loads
- Customers with an interval meter are assigned an Installed Capacity (ICAP) Tag based on their demand during the ISO-NE annual system peak hour
- This is called the customer's "coincident peak contribution value"
- Each customer will get an ICAP Tag based on their coincident peak contribution value, but there is a lag between setting an ICAP tag and actually paying for it

The Payment Period for a Customer's ICAP Tag Takes Effect One Year Later

Customer ICAP Tag Set Based on Energy Use During System Peak Hour



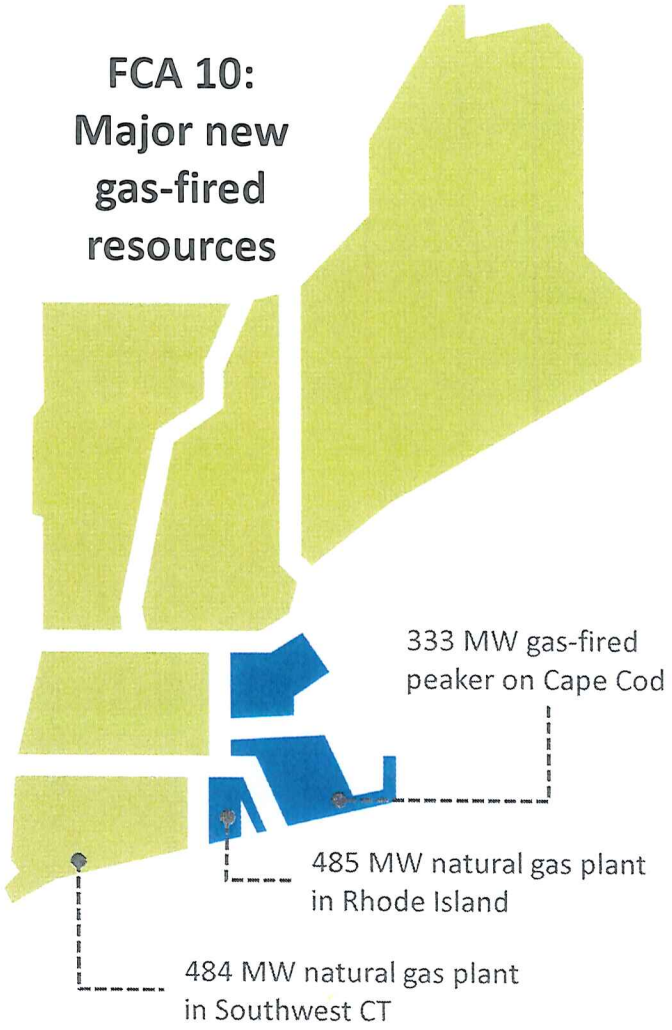
Customer Payment Period for Associated ICAP Tag

- Some customers may be able to influence this charge by managing their loads on the hottest days of the year

APPENDIX

ISO-NE's Capacity Market Has Attracted New Peaking and Combined-Cycle Gas Generation to Load Centers

- **3,000 MW** of gas-fired generation have come forward in recent auctions (FCAs 7–10) with commitments to be available in 2017–2019
- A mix of existing and new resources cleared in FCA 10, including three new, gas-fired, dual-fuel power plants totaling **1,300 MW**
- FCA 10 also attracted new renewable resources, demand resources, and imports:
  - Solar: 40 MW
  - Wind: 27 MW
  - Hydro: 2 MW
  - Demand resources: 371 MW
  - Imports from New York/Canada: 1,361 MW



Recent Forward Capacity Auction Results

Auction Commitment Period	Total Capacity Acquired (MW)	Capacity Required (MW)	Surplus/Deficit (MW)	New Demand Resources[1] (MW)	New Generation (MW)	Auction Zones [2]	Clearing Price ($/kW-month)
FCA 6 2015/2016	36,309	33,456	2,853	314	79	ROP	$ 3.43 (floor price)
						ME	
FCA 7 2016/2017	36,220	32,968	3,252	245	800	ROP	$3.15 (floor price)
						CT	
						ME	
						NEMA/Boston	$14.99/new & $6.66/existing
FCA 8 2017/2018	33,712	33,855	-143	355	27	ROP	$15.00/new & $7.025/existing
						CT	
						ME	
						NEMA/Boston	$15.00
FCA 9[3] 2018/2019	34,695	34,189	506	367	1,060	ROP	$9.55
						CT	
						NEMA/Boston	
						SEMA/RI	$17.73/new & $11.08/existing
FCA 10 2019/2020	35,567	34,151	1,416	371	1,459	ROP	$7.03
						SENE	
						Quebec imports	
						New York imports	$6.26
						New Brunswick imports	$4.00

[1] Demand resources include energy efficiency, demand-response resources, and real-time emergency generation (RTEG).

[2] Capacity pricing zones: In **FCAs 1 through 6**, Rest-of-Pool (ROP) included western and central Massachusetts (WCMA), Northeast Massachusetts/Boston (NEMA/Boston), Southeast Massachusetts/Rhode Island (SEMA/RI), Connecticut (CT), New Hampshire (NH) and Vermont (VT); Maine (ME) was a separate zone. **In FCA 7 and 8**, ROP included WCMA, SEMA/RI, NH, and VT. In **FCA 9**, ROP included WCMA, VT, NH, and ME. In **FCA 10**, ROP included WCMA, CT, ME, NH, and VT; the new Southeast New England (SENE) zone combined NEMA/Boston and SEMA/RI.

[3] From **FCA 9 on**, a sloped demand curve has been used, allowing more or less than the capacity requirement to be procured, depending on price and reliability needs.