

Demand Resources in New England Forward Capacity Market (FCM)

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ISO New England's Role – Three Primary Areas of Responsibility

Maintain day-to-day bulk power generation and transmission system reliability

- “Air traffic controller”
- Provide centrally dispatched direction for the generation and flow of electricity across the region's interstate high-voltage transmission lines

System
Operations

Oversee and administer New England's wholesale electricity marketplace, through which bulk electric power is bought, sold, and traded

- Similar to a “stock exchange” for wholesale electricity purchases and sales

Wholesale
Market

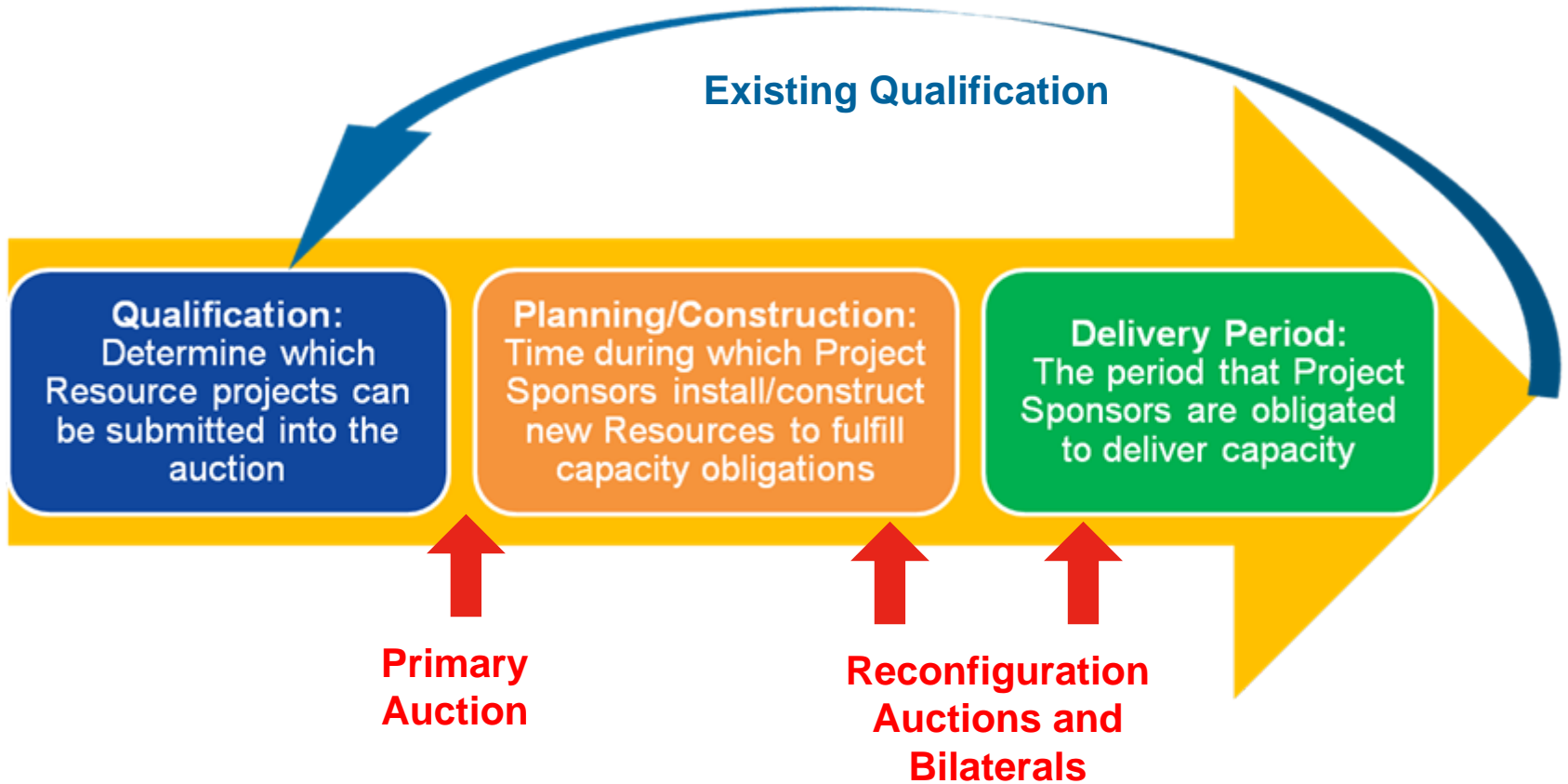
Plan and ensure the development of a reliable and efficient bulk power system to meet New England's current and future power needs

System
Planning

Forward Capacity Market – Objectives

- Procure enough capacity to meet New England's forecasted demand and reserve requirements three years in the future
- Provide a long-term (up to 5 year) commitment to resources to encourage investment
- Select a portfolio of Supply and Demand Resources through a competitive ***Forward Capacity Auction (FCA)*** process
- The selected resources are paid the market-clearing price

FCM Participation



Eligible Resources

- **Supply Resources**

- Traditional Generation (Oil, Coal, Natural Gas, etc)
- Intermittent Generation (Wind, Solar, etc.)
- Renewable Generation



- **Demand Resources**

- Energy Efficiency
- Load Management
- Distributed Generation



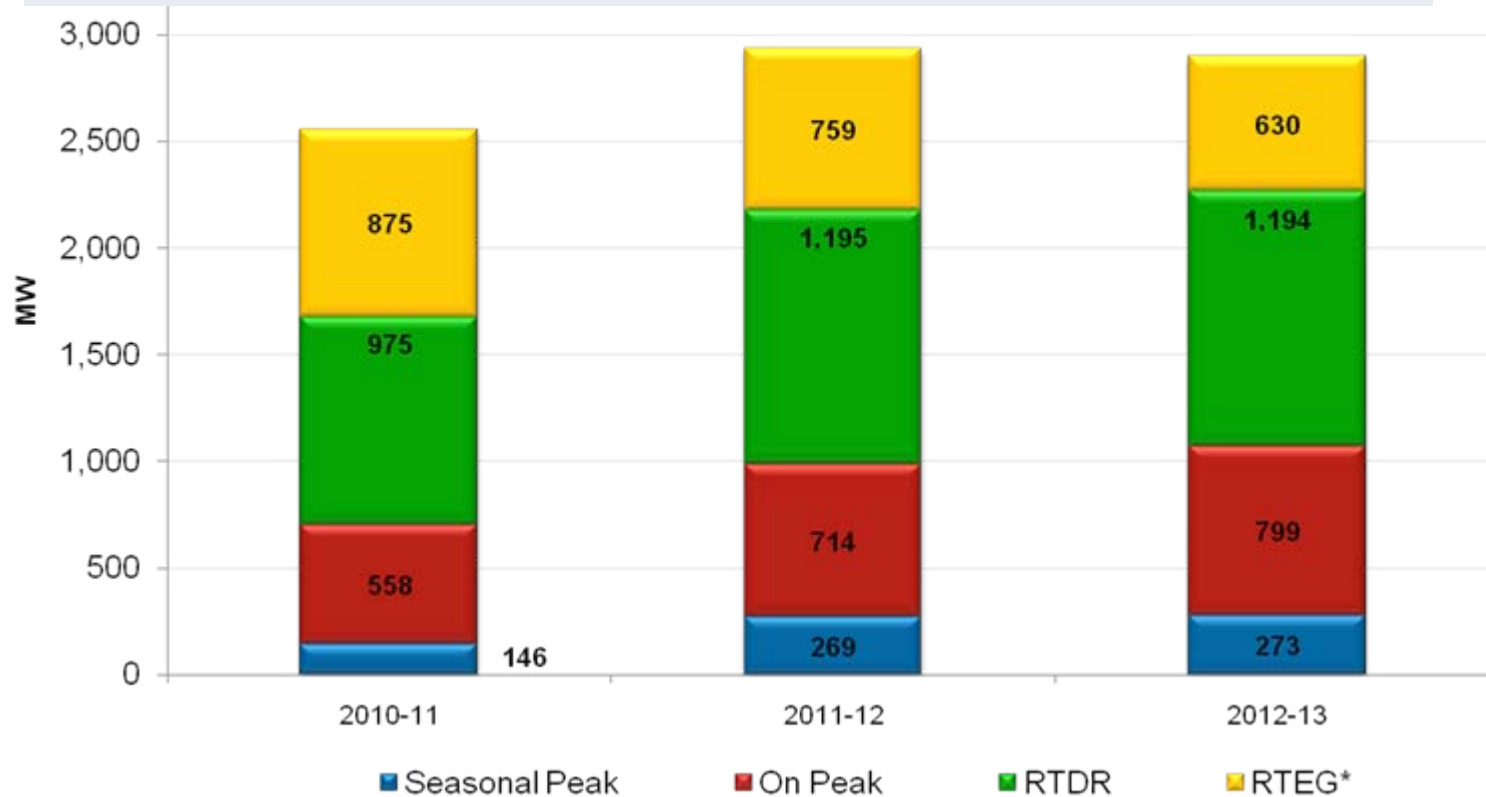
Demand Resources Under FCM

- Installed measures that result in verifiable reductions in end-use consumption of electricity
- Passive Demand Resources (Passive DR)
 - Save energy (MWh) during peak hours
 - Are not dispatchable
 - Include **On-Peak** and **Seasonal Peak** FCM Resources
- Active Demand Resources (Active DR)
 - Are designed to reduce peak loads (MW)
 - Reduces load based on ISO Instructions
 - Include **Real-Time Demand Response (RTDR)**, **Real-Time Emergency Generation (RTEG)** in the FCM

Demand Resources

New and Existing Cleared Capacity

Clearing Price	\$4.50	\$3.60	\$2.92
Proration Rest	\$4.26	\$3.12	\$2.47
Proration RTEG	\$2.95	\$2.54	\$2.41



Price is \$/kW-Month, capacity values grossed up 23% FCA#1, 25% FCA#2, 8% FCA#3

FCA #3 Cleared MW

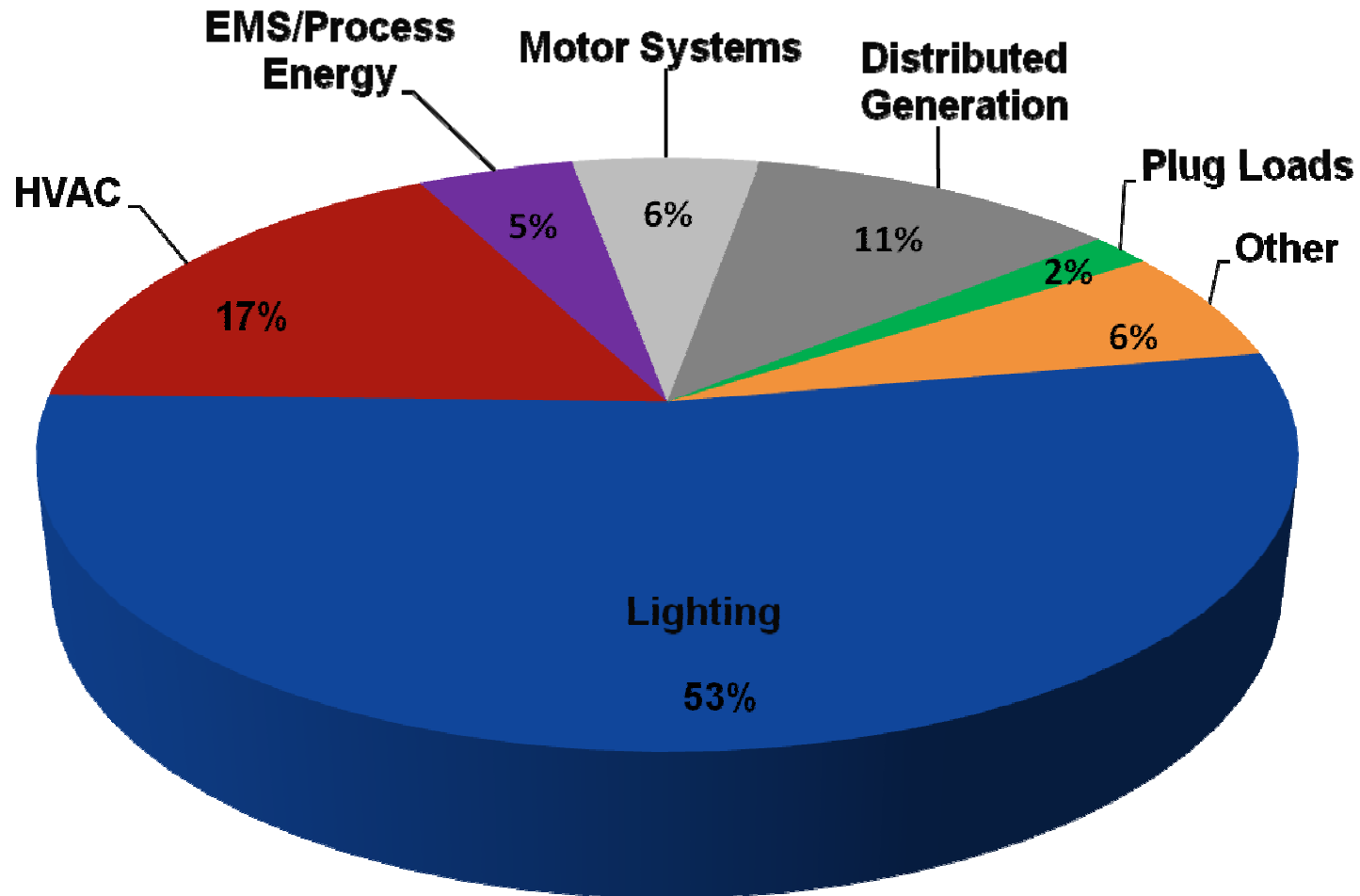
Measure Type by Participant Type - Total

Participant Type	Distributed Generation Fossil Fuel	Distributed Generation Renewable	Energy Efficiency	RTDR & Load Management	RTEG	Total Cleared MW
Merchant	23.894	0.000	57.113	1022.887	502.002	1605.896
Quasi Gov	27.817	0.682	149.302	2.350	0.000	180.151
Utility	34.525	0.000	768.220	180.551	128.295	1111.591
Grand Total	86.236	0.682	974.635	1205.788	630.297	2897.638

Notes:

- Merchant = includes competitive (non-regulated) demand response providers, energy service companies, retail suppliers, and non-government customers.
- Government = includes government and quasi-government entities. Does not include municipal utilities.
- Utilities = includes all utility companies (investor-owned and public power).

Energy Efficiency (EE) Measure Distributions On-Peak and Seasonal Peak Demand Resources



Opportunities and Challenges

- Greater Energy Efficiency Penetration
- Increased Investment
- Supporting Role for Intermittent Resources
- Smart Grid Implementation
- Expanded Market Space
- New Wholesale Products

- Pricing and Transaction Costs
- Deliverability/Operable Capacity
- Increased Investment in Transmission
- Standards, Interoperability and Security

Thank You

