

## **Forward Clean Energy Market (FCEM) Framework Document**

Except as specifically defined within this Forward Clean Energy Market (“FCEM”) Framework Document (the “FCEM Framework Document”), the capitalized terms are from the ISO New England Inc. Transmission, Markets and Services Tariff (the “Tariff”) or other operative documents, and are subject to change from time to time pursuant to those documents.

### **I. General Understandings**

- A. The intention of this FCEM Framework Document is to provide a conceptual framework that would be used to develop, design and implement a forward clean energy market in New England’s wholesale electricity markets.
- B. It is intended for the FCEM, including any payments, obligations and requirements, to be governed and assured under FERC-approved Tariff rules.
- C. The intended goal of FCEM is to procure clean energy delivery commitments to efficiently achieve desired state [clean energy][carbon emission] policy goals.<sup>1</sup> Over the long-run, such a construct is intended to help the New England States to achieve their [clean energy][carbon emission] goals through the competitive wholesale power markets.<sup>2</sup>
- D. FCEM could be a complement to other concepts, such as carbon pricing in the energy market and/or an energy storage proposal and/or FCM two-tiered pricing and/or other potential market constructs, or could be considered as a stand-alone construct.

### **II. Create a Forward Clean Energy Market (“FCEM”)**

- A. Similar to the existing Forward Capacity Market (“FCM”) construct, FCEM proposes the procurement of forward commitments to deliver clean energy through a competitive auction-based central procurement administered by ISO New England (ISO-NE).
- B. Product Definition:
  - 1) Eligible Resource Type(s):  
New and existing zero-carbon emitting generating resources

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<sup>1</sup> Term “goal(s)”, once clarified, would become a defined term in this FCEM Framework Document.

<sup>2</sup> The FCEM concept could potentially work without regard to whether the States are also pursuing “outside-of-the-market” actions, such as the procurement of resources through long-term contracts, or other state-sponsored mechanisms, such as RPS standards and RGGI. FCEM could potentially provide an efficient market construct to assist the States in managing and achieving public policy objectives through competitive market mechanisms.

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- 2) Time of day (load shape) distinctions:  
**OPTION B.2A.** Any hour product  
**OPTION B.2B.** Off-peak, mid-day peak, and peak products
- 3) Annual product

**C. Procurement Requirements**

- 1) The process for establishing the total quantities of energy to satisfy FCEM would be set forth in ISO-NE Tariff.
- 2) The FCEM auction purchasing requirements would be established by the States. [Under **OPTION B.2B** with a time-of-day differentiated product, the ISO-NE would translate those requirements into requirements distributed across off-peak, midday and late-day peak products.<sup>3</sup>]
- 3) No requirement distinctions/auction clearing constraints, other than meeting product definition.<sup>4</sup>
- 4) Demand curve:  
**OPTION C.4A.** Vertical curve  
**OPTION C.4B.** Vertical curve with price collar  
**OPTION C.4B.** A sloped demand curve(s) or other form of mechanism could be considered as part of the FCEM design

**D. FCEM Auction**

- 1) FCEM auction would procure forward commitments to deliver targeted MWh of clean energy.
- 2) Annual FCEM auctions would be conducted approximately 3.5 years prior to commitment period, and prior to the annual Forward Capacity Auction (FCA) for the same commitment year, with results determined and communicated in time so that FCEM clearing prices can be factored into the offering and potential review of resource bids into the FCM.
- 3) Eligible FCEM resources would be subject to qualification schedules and processes and financial assurance requirements as established in the Tariff and administered by ISO-NE.
- 4) ISO-NE would determine, as part of the FCEM qualification process, the qualified MWh for each eligible resource, adjusted annually based on actual performance.

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<sup>3</sup> This optional, additional language reflects FirstLight Power Resources' proposal to procure time-differentiated products in a FCEM.

<sup>4</sup> Proponents of this FCEM Framework Document propose to have a single product definition that maximizes the opportunities for competition in satisfying the clean energy requirements. If the States wish to have more differentiated product definitions and, therefore, submarkets, we request that they provide that additional information as soon as possible.

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- 5) **OPTION D.5A.** Resource-specific bidding (like FCM).  
**OPTION D.5B.** Similar to the existing locational Forward Reserve Market, FCEM offers could be submitted on a portfolio basis so that seller would be permitted to designate output from one or more resources to meet its clean energy delivery obligation.
- 6) Similar to the FCM, FCEM resources would be able to trade or shed their FCEM commitments with other FCEM qualifying resources through bilateral arrangements.
- 7) The FCEM offer price would be the price in \$/MWh at which a participant is willing to accept a clean energy supply obligation, which would be defined in the Tariff.
- 8) FCEM clearing price = \$/MWh
- 9) To facilitate financing and construction, new clean energy resources clearing the auction could choose to lock-in the FCEM clearing price for up to:  
**OPTION D.9A.** One annual commitment period  
**OPTION D.9B.** Seven annual commitment periods (like FCM)  
**OPTION D.9C.** Ten or more annual commitment periods
- 10) FCEM Auction mechanics:  
**OPTION D.10A.** Use descending clock auction process like FCM.  
**OPTION D.10B.** Use sealed bid auction process.
- 11) FCEM Mitigation:  
**OPTION D.11A.** Apply a Minimum Offer Price Rule (MOPR) to new resource offers in the FCEM.  
**OPTION D.11B.** No mitigation with possible price collar or other price sensitive demand index (e.g., sloped demand curve).

**E. FCEM Payments & Obligations**

- 1) FCEM payments would be provided only when the energy is delivered from a resource with a FCEM supply obligation. Total payment dependent on volume of MWh of delivered energy from that resource.
- 2) Energy cleared in the FCEM auction would be paid:  
**OPTION E.2A.** a fixed payment per megawatt-hour delivered; additional and separate from ISO New England energy market or capacity market payments.  
**OPTION E.2B.** the higher of the FCEM auction clearing price or Day-Ahead LMP or Real-Time LMP (applicable to market that resource cleared in) at the time the energy is delivered in the applicable commitment period.
- 3) Each resource with a FCEM obligation would be required to produce within the [commitment period][year] the MWhs of clean energy that corresponds to its obligation.
- 4) If the resource fails to satisfy its obligation, the following would occur<sup>5</sup>:  
**OPTION E.4A.** The FCEM resource would incur a non-performance charge where obligations are not satisfied [(e.g., fails to satisfy at least [90%] of its

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<sup>5</sup> Market design/rules will need to address how import resources in the FCEM would be treated.

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annual delivery commitment)], in addition to lower FCEM payments because fewer MWhs were delivered than the corresponding obligation.

**OPTION E.4B.** The FCEM resource would receive lower FCEM payments if it delivered fewer MWhs than its corresponding obligation<sup>6</sup> and its qualified MWh for future commitment periods would be adjusted to reflect its actual production levels.

F. Relationship to the Forward Capacity Market

1) Participation in the FCM:

**OPTION F.1A.** Voluntary participation: Resources clearing in the FCEM could, but would not be obligated to, participate in the subsequent FCM auction for the same commitment period.

**OPTION F.1B.** Mandatory participation: Resources clearing in the FCEM would be obligated to participate fully in the subsequent FCM auction for the same commitment period.<sup>7</sup>

2) FCM mitigation adjustments<sup>8</sup>:

**OPTION F.2A.** FCEM revenues would be treated as “in-market” in the MOPR determination for FCEM resources also seeking qualification for participation in the FCM.

**OPTION F.2B.** FCEM revenues would be treated as “out-of-market” for MOPR purposes.

3) ISO-NE would continue to be responsible for the qualification/determination of the resource adequacy contribution of FCEM resources participating in the FCM, regardless of the amount of clean energy cleared by such resources in the FCEM auction.

G. Cost Allocation

1) FCEM charges would be allocated to the appropriate load-serving entities (“LSEs”) in the state for which the clean energy was procured in the FCEM.

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<sup>6</sup> [If the FCEM resource delivered more MWhs than its corresponding obligation, that resource may receive higher FCEM payments.]

<sup>7</sup> Some FCEM resources might not initially be able to qualify for FCM depending on their ability to pass ISO-NE’s overlapping impact test.

<sup>8</sup> Whether FCEM revenues are considered “in-market” or “out-of-market” would likely depend on whether the product definition or distinction requirements are changed in Sections II.B.1 and II.C.3 (as well as whether there are related mitigation changes made as part of the IMAPP effort, such as a two-tiered pricing mechanism in the FCM). As an example, vintage and locational distinctions may require FCEM revenues associated with such requirements to be treated as “out-of-market” for purposes of the MOPR in the FCM.