



February 26, 2025

CT GENERAL STATUTES – SECTION 16A-3A 2025 INTEGRATED RESOURCES PLAN

NOTICE OF PROCEEDING AND OPPORTUNITY FOR PUBLIC COMMENT

Pursuant to Section 16a-3a(a) of the General Statutes of Connecticut, the Department of Energy and Environmental Protection (DEEP) is required periodically to *“review the state's energy and capacity resource assessment and approve the Integrated Resources Plan for the procurement of energy resources, including, but not limited to, conventional and renewable generating facilities, energy efficiency, load management, demand response, combined heat and power facilities, distributed generation and other emerging energy technologies to meet the projected requirements of customers in a manner that minimizes the cost of all energy resources to customers over time and maximizes consumer benefits consistent with the state's environmental goals and standards, including, but not limited to, the state's greenhouse gas reduction goals established in section 22a-200a. The Integrated Resources Plan shall seek to lower the cost of electricity while meeting such environmental goals and standards in the most cost-effective manner.”*

DEEP is launching this proceeding to develop a new Integrated Resources Plan for Connecticut, which will develop strategies the state can pursue to secure an affordable, reliable and clean electric supply over the next ten years (2026-2035). Through this proceeding, DEEP proposes to focus on the strategic areas listed below. DEEP will be utilizing a process for expanded stakeholder engagement that is inclusive and interactive, to ensure the strategies developed in this IRP are relevant and informed by the ideas, needs and priorities of stakeholders across the Connecticut and ISO New England electric sector landscape. This will include not only stakeholder involvement in electric sector modeling and scenario analysis, but also the release of white papers and convening of technical meetings on key topics during the course of the RFP proceeding, beginning with a Transmission Solutions White Paper that DEEP is issuing in tandem with this Notice of Proceeding.

Making Electricity Costs More Affordable for Residents and Businesses

Securing an affordable electric supply is a top priority to attract and retain Connecticut businesses and reduce cost of living burdens on Connecticut residents. Energy affordability includes not only ensuring customers across different rate classes and income levels have the ability to pay for their energy bills, but also ensuring energy prices are not so volatile as to cause bill uncertainty for customers each month. Connecticut sources electricity supply from the regional ISO New England wholesale electricity market, the costs of which are reflected in retail generation or supply rates on customer bills. In addition, the state has invested in electric supply resources—including energy efficiency, natural gas peaking generation, grid-scale and

behind-the-meter renewables and energy storage, and the Millstone and Seabrook nuclear facilities—where necessary to lower supply rates and shore up the reliability of the ISO New England market. Those investments make up a portion of the volumetric charges, now called the “Public Policy Charge” on customer bills.

In recent years, there have been significant swings in electric rates in part due to volatile fossil fuel energy market conditions after global events like Russia’s invasion of Ukraine and supply chain disruptions following the COVID-19 pandemic. Over the last several years the ISO New England wholesale energy market has seen highly volatile pricing with swings of the annual average energy prices as low as \$23/MWh during the pandemic in 2020 to as high as \$85/MWh following Russia’s invasion of Ukraine. New England currently relies on natural gas for about half of its electricity generation, so the price of natural gas, which can be highly volatile, is closely correlated with electricity prices. There are multiple drivers of natural gas price volatility, including weather, geopolitics, supply at the wellheads, supply in storage, and constraints on natural gas deliveries—via pipeline or imports of liquified natural gas—into New England. The volatility of natural gas prices has created a situation where wholesale electricity suppliers are building in increasing risk premiums into prices to account for natural gas price spikes.¹ This IRP will consider and compare supply strategies to reduce electric price volatility, such as changes to the current resource mix and alleviating natural gas constraints, and to improve affordability, including by bringing new affordable sources of electricity supply online and diversifying our energy mix. The IRP also will consider ways the state’s grid-scale energy procurement strategies can be optimized to meet reliability and cost stabilization goals.

Growth in transmission costs on customer bills has created an additional cost burden. As discussed in the Transmission Solutions White Paper released by DEEP, as New England’s existing transmission infrastructure ages, requiring increased maintenance and replacement, the cost of transmission to ratepayers has increased 72% since 2015 and now makes up 10-11% of the typical Connecticut residential customer’s monthly electricity bill. At the same time, new investments are needed to modernize the region’s transmission system, meet growing demand reliably, and access new sources of affordable power generation. The Transmission Solutions White Paper identifies strategies, which will be further considered in this IRP, to help address transmission costs and ensure that new transmission investments benefit ratepayers.

These electricity price increases and challenges are not unique to or more extreme in Connecticut: New England rates are generally higher than the rest of the country, with neighboring states’ rates occasionally exceeding Connecticut’s. Other areas of the country are also experiencing price increases because of tight power supplies and growing demand. But

¹ See Eversource Energy, “Alternative Standard Service Procurement Constructs” (Sep. 14, 2023), PURA Docket No. Docket No. 17-12-03RE10, [https://www.dpuc.state.ct.us/2nddockcurr.nsf/8e6fc37a54110e3e852576190052b64d/71570d2e74f2e9f285258a27006dc204/\\$FILE/Eversource%20Presentation%2009.11.2023%20\(Doc.%2017-12-03RE10\).pdf](https://www.dpuc.state.ct.us/2nddockcurr.nsf/8e6fc37a54110e3e852576190052b64d/71570d2e74f2e9f285258a27006dc204/$FILE/Eversource%20Presentation%2009.11.2023%20(Doc.%2017-12-03RE10).pdf), slide 2.

high rates are not compatible with maintaining a competitive economy and affordable cost of living for Connecticut residents and businesses. It is imperative to address energy prices in Connecticut and to improve affordability.

Catalyzing Investment in Electric Supply Resources

ISO New England's 2024 forecast of regional load projected that over the next ten years, New England's annual electric demand could grow 17%, with peak load growing 10% in the summer and 32% in the winter over this period, due to growth in manufacturing and other economic development, as well as increased consumer adoption of electric vehicles and heat pumps.² Data center deployment has the potential to add to this demand significantly: a single 300 megawatt (MW) data center installation could increase Connecticut's load by roughly 10%. ISO New England is in the process of developing its next demand forecast and these specific forecast numbers may change given uncertainties around the pace of electric vehicle and heat pump adoption under the new federal administration. However, the trend across forecasts from ISO New England and others in recent years shows an expectation of growing electric demand in Connecticut and New England in the coming years.

Increasing Connecticut and the New England region's supply of affordable energy resources is critical to address rates and reliably meet this growing demand. This IRP will focus on "all-of-the-above" options that can increase electricity supply affordably, while maintaining reliability, continuing progress towards clean energy goals, and ensuring regional coordination and equitable sharing of costs across New England.

Meeting anticipated increases in regional winter peak demand is particularly challenging because the regional electricity system is already energy constrained during peak winter times. Currently, the region significantly relies upon natural gas generators to supply electricity. However, most natural gas generators in the region do not have firm contracts for natural gas supply, but rather purchase surplus gas as needed from gas utilities or liquified natural gas in either the spot market or under short term contracts. Because gas generators do not sign firm long-term contracts for pipeline capacity, New England's natural gas pipeline system has been built to serve building thermal needs rather than the power system. This dynamic necessarily means that excess gas supply for power generation is particularly limited during cold winter days when thermal gas demand is highest and uses the majority of pipeline gas. In addition, around 6,000 MW of aging fossil generation, mostly oil units, which the region relies on when gas supplies are constrained, are at risk of retiring over the next several years and will need to be replaced with new resources to maintain reliability. ISO New England's Probabilistic Energy Adequacy Tool (PEAT) study notes there is a potential need for 9,500 MW of new renewable

² ISO New England, "2024-2033 Forecast Report of Capacity, Energy, Loads, and Transmission." Comparing 2024 and 2033 projections.

energy sources, including onshore wind, offshore wind, battery storage, and grid-scale solar, to be online by 2032 to maintain regional reliability in the short term.³

This IRP will consider a range of potential energy supply policy cases to meet Connecticut's anticipated electricity needs reliably over the next three, five, and ten years. Such cases will consider potential state and/or multistate/regional investments in new energy resources needed to address gaps in the ISO New England markets or otherwise ensure electric affordability and reliability and achievement of state policy targets and goals. As further discussed below, DEEP is requesting stakeholder input on the range of cases to be considered in this IRP. New energy resource types that DEEP anticipates considering in IRP cases include, among potentially others, energy efficiency, demand response, solar, onshore and offshore wind, hydropower, nuclear, energy storage, natural gas or dual fuel oil and natural gas, transmission, and fuel delivery infrastructure or options, in various combinations and quantities. Key considerations in evaluating different energy supply portfolios include reliability, costs, environmental impacts, resource viability, regional cost sharing opportunities, federal policy opportunities and risks, and geographic factors or limitations. A key focus of this IRP will be on ensuring that the costs of energy resources needed to meet regional electric demand and ensure regional grid reliability are shared equitably across the region.

Distributed generation is growing in Connecticut, including over 1,000 MW of distributed solar and fuel cells deployed across ratepayer-funded programs. These programs support distributed projects through ratepayer-funded long-term tariffs that result from a competitive process or utilize an administratively set price, both of which are structured and set by PURA. As discussed in DEEP's April 2024 Report on Select Energy Supply Issues, grid-scale renewable deployment has increased because of procurements that result in long-term contracts as opposed to relying on the Renewable Portfolio Standard (RPS).⁴ As part of this IRP, DEEP intends to expand on the discussion in that study and release a White Paper on RPS reform.

As demand for renewable energy grows, siting these resources further presents an increasing challenge, particularly for resources with larger footprints like grid-scale solar projects that may overlap with resources of particular public interest such as core forests and prime farmland. Over the past five years, the Connecticut Siting Council has considered 65 petitions and 4 applications for siting solar facilities of greater than 1 MW at various sites around the state.⁵

³ ISO New England, *Operational Impact of Extreme Weather Events: Final Report on the Probabilistic Energy Adequacy Tool (PEAT) Framework and 2027/2032 Study Results* (Dec. 11, 2023), https://www.iso-ne.com/static-assets/documents/100006/operational_impact_of_exteme_weather_events_final_report.pdf.

⁴ DEEP, *Report on Select Energy Supply Issues* (Apr. 26, 2024), available at [https://www.dpuc.state.ct.us/DEEPEnergy.nsf/c6c6d525f7cdd1168525797d0047c5bf/80a83147d89f741285258b0b0068b6f5/\\$FILE/Section%2035%20PA%2023-102%20Study%20Final.pdf](https://www.dpuc.state.ct.us/DEEPEnergy.nsf/c6c6d525f7cdd1168525797d0047c5bf/80a83147d89f741285258b0b0068b6f5/$FILE/Section%2035%20PA%2023-102%20Study%20Final.pdf).

⁵ Connecticut Siting Council, *2024 Connecticut Siting Council Report, Public Act 24-144, Sec. 12* (Dec. 31, 2024), <https://portal.ct.gov/-/media/deep/planning/ct-siting-council-report/final-csc-report/csc-report--final-123124.pdf>.

Although the vast majority of these solar proposals have been approved within statutory timeframes, there are often legal, grid connection and other challenges that can slow the siting and implementation of these systems. As required by Section 5 of Public Act 24-31, DEEP is developing a mapping tool to help developers identify potential challenges or opportunities for siting solar in Connecticut. This mapping tool will also create a more transparent and efficient siting and permitting process through an easy-to-access GIS format that displays environmental and natural resource characteristics, as well as land use, interconnection, and demographic information. DEEP is getting feedback on the tool from an advisory group of representatives from over 20 organizations, spanning academia, municipalities and regional councils of government; community-based organizations advocating for farmland, open space, wildlife, and renewable energy outcomes; electric utilities; solar developers; and others. This IRP will consider the siting and interconnection challenges presented by new energy resources needed to meet our state goals, including siting increased solar as deployment levels increase and land opportunities without challenges decrease.

The region also has potential to support deployment of new energy sources like new nuclear facilities, including small modular reactors, to bring baseload, carbon-free generation online. While new nuclear resources have the potential to contribute to our supply needs, as further discussed in DEEP's April 2024 Report on Select Energy Supply Issues, they are capital intensive due to high construction costs and may not be financeable through Connecticut's traditional policy structure for bringing new resources online, in which a competitive procurement results in a fixed-price contract to pay for the output from a facility once it achieves commercial operation. As part of this IRP, DEEP intends to discuss what financial and other policy mechanisms could be used to bring these new capital-intensive energy generation sources online in a deregulated electricity market like Connecticut's.

This IRP will also consider other policy and market developments. New England's energy market is constantly evolving, and with rapid technological innovations, there are many opportunities to capture ratepayer savings and address reliability. In addition to Connecticut's initiatives, other states in the region are also continuing to deploy renewable energy to diversify the fuel mix and address winter reliability issues associated with inadequate natural gas delivery infrastructure. Advancements in energy storage technologies present an opportunity to pair with variable renewable energy and align energy production with demand. New regulatory paradigms like performance-based ratemaking have the potential to optimize utility performance and incentivize activity that is in the interest of ratepayers. States across New England have also increasingly coordinated to grow our energy supply, secure needed transmission investments, and address winter reliability challenges, including through coordinated procurements. This regional cooperation is critical to ensure the costs of needed energy investments are fairly apportioned across all of the New England states that benefit.

I. Proposed Modeling Scope

Through this IRP, DEEP intends to develop forecasts of the electric sector and make projections about the amounts and types of resources the state will need to meet its electric demand over the next ten years, taking into account energy affordability, reliability, and environmental goals.

DEEP will make these projections for several policy cases that assume different amounts of significant energy resources both in front of and behind the meter that could affect the pace of purchases of other energy resources. DEEP will also assume different load growth scenarios for each policy case to account for uncertainty around future electrification levels, including but not limited to the rates of electric vehicle and heat pump deployment and potential data center development.

The modeling of these policy cases will help inform the recommendations and conclusions included in the final IRP.

II. Stakeholder Input

Development of this IRP will include robust stakeholder sessions to give the opportunity to provide input on the assumptions and modeling portfolios that will inform this IRP. DEEP intends to convene a kickoff meeting to outline a preliminary scope for this IRP based on public comments on this Notice. DEEP also intends to solicit stakeholder feedback on the modeling assumptions and policy cases tested in the modeling. DEEP intends to have more stakeholder meetings and opportunities for input early on in this IRP process and provide more opportunities for stakeholder engagement than in previous IRPs.

III. Opportunity for Written Comments

By way of this Notice, DEEP requests written comments regarding the scope of this IRP, the Transmission Solutions White Paper, and responses to the questions outlined below. Written comments may be filed electronically on DEEP’s website or submitted to DEEP.EnergyBureau@ct.gov with “Integrated Resources Plan Scoping Comments” in the subject line no later than **March 31, 2025 at 4:00 PM EST**. All materials submitted by stakeholders in this proceeding will be posted on DEEP’s Energy Filings page under the proceeding title “CT General Statutes – Section 16a-3a – 2025 Integrated Resources Plan.” Any questions can be directed to DEEP.EnergyBureau@ct.gov.

1. What sensitivities around load growth should DEEP assume in its modeling? What are the reasonable potential outcomes through 2035 of: electric vehicle deployment; heat pump deployment; and data center installations across the region?
2. DEEP will conduct modeling of business as usual and policy cases to meet electricity supply needs over the ten-year planning horizon of the IRP. What policy cases should DEEP analyze in its modeling beyond business as usual? Potential policy case examples include:

- a. Demand-side resource alternatives including behind the meter solar, storage, energy efficiency, and/or active demand response;
 - b. Different pace and/or quantity of new renewable energy resource additions;
 - c. Increased deployment of long duration energy storage and/or energy storage paired with variable energy resources like solar;
 - d. Removing transmission constraints to unlock additional zero carbon resources in New England, like offshore wind or onshore wind in Northern Maine;
 - e. Additional interregional transmission lines to increase hydropower and/or other imports from outside of New England;
 - f. Deployment of new nuclear resources, such as small modular reactors or other advanced nuclear technologies;
 - g. Changes in regional fossil fuel generation and/or regional fuel delivery infrastructure with evaluation of the impacts on affordability and winter energy constraints.
3. What commercially available zero carbon resources should DEEP factor into its forecasting as potential resources that could help meet the state's climate targets?
4. How can the state modify or restructure its existing policy mechanisms to align with the zero carbon electric sector target, including but not limited to the Renewable Portfolio Standard, grid-scale procurements, and behind the meter programs?
5. What policy mechanisms can be utilized to support newer high-cost technologies that can support electric sector decarbonization (e.g., small modular nuclear)? Provide examples of mechanisms used in other jurisdictions to support these resources. Does the state's existing power purchase agreement structure for procurement of new energy resources work for high capital cost resources such as nuclear or offshore wind? If not, please describe potential alternative approaches to consider.
6. Comment on how DEEP should investigate using contracted resources for standard service or other ways of more efficiently using contracted resources to lower costs and volatility.

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