# State-Led Planning, Development, and Procurement

*A key lever for states in deregulated power markets to achieve long-term electricity policy targets*

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**September 2026**

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# Executive Summary

State electricity decarbonization policies are essential to drive power sector decarbonization and are responsible for a significant amount of clean energy deployment to date. States' primary electricity decarbonization policy tool is the renewable or clean electricity standard (CES), which sets legally binding clean electricity requirements for retail electricity sales. Today, CESs exist in over half of US states and are vital for driving investment in clean energy and setting long-term sector targets.

To achieve CESs, states are realizing that decarbonizing the power sector requires the addition of long-lead time, development-barrier-prone technologies, such as nuclear, geothermal, offshore wind, and long-duration energy storage. In deregulated states, however, CESs and market prices do not provide sufficient robust long-lead time price signals and are not designed to solve non-cost barriers to development of these technologies.

In addition, recent challenges regarding rapid load growth, rising market prices, and looming clean energy target deadlines have left policymakers and stakeholders in states with deregulated power markets debating the policy changes needed to complement existing CES policy, enable load growth, and promote affordability while still achieving clean energy targets. Recent proposals include returning to utility development and ownership of wholesale generation and storage; tweaks to existing market rules; updating market governance reform; improving interconnection, transmission, and permitting processes, and overhauling the purpose and role of capacity markets.

While many proposals would be beneficial, states have another substantial and underused lever that would help establish long-lead time signals and proactively address development barriers: state-led resource planning ("state-led planning"). This report explains why states in deregulated power markets and with long-term power sector decarbonization goals have and are establishing state-led planning. The report also discusses how states can setup state-led planning to work in conjunction with existing wholesale markets and CESs, which would continue to serve as the legislative pillar driving power sector decarbonization. In academic literature, this state-led planning approach is often referred to as a "hybrid market" structure.

As evidenced by existing state-led planning in California and New York and emerging state-led planning in Illinois, each state committed to decarbonization will have its own approach and institutional pathways to achieving state-led planning. At a high-level, however, state-led planning requires three key components:

1. **System Needs Assessments:** A state-agency (or similar government organization) performs periodic, scenario-based assessments to identify long-term system needs to achieve clean electricity standards (and other policy targets) and gaps in expected development.
2. **Technology Development Roadmaps:** Roadmaps that identify, characterize, and offer strategies and policy solutions to address technology development and investment barriers. These roadmaps also can incorporate non-electricity priorities of the state, such as around job creation, economic development, and public health.
3. **Development Mandates or State-Led Procurement:** Based on the system needs assessment and gaps, state mandated procurement targets for load serving entities or direct state procurement of resources that the state assesses to have long-term value for achieving clean electricity standards and local economic development goals to provide revenue certainty for investors that is not present in existing market-based mechanisms.

Together, these activities form an iterative cycle in which clean electricity standards define the goal and drive near-term deployment, and state-led planning establishes long-term plans and procurement strategies to develop long-lead time, development barrier prone projects. State-led planning would repeat on a regular cadence, allowing plans to adapt to evolving costs, load growth, and policy conditions. Where useful, this planning can be paired with reforms that improve the long-term efficiency of wholesale markets, such as long-term contracting requirements for market participants and streamlined siting and permitting. In addition, state-led planning creates state-sanctioned assessments that better involve and inform all stakeholders about the complexities of system planning in ways that open paths for innovative solutions.

Successfully establishing state-led planning will require states to carry out several significant steps. These include, but are not limited to, passing legislation and/or regulations that enable planning, give authority for state government to direct or execute resource procurement, assign implementation responsibility to government entities, setting up or enhance institutional tools and expert capacity, establishing regulatory oversight responsibilities and procedures to ensure planning is high quality, allocating budget to address technology development barriers, and establishing clear and accepted cost allocation for procurements. Several climate-ambitious states have and are taking steps to establish and enhance state-led planning. States can draw confidence from the fact that state-led planning is already established in some jurisdictions to differing degrees and draw lessons from existing hybrid market approaches such as California and New York. Illinois' ongoing effort to establish such a system serves as the most recent example of a state establishing state-led planning that states can learn from.

# Long-Term Policy Planning Gaps in Wholesale Markets

U.S. wholesale power markets are generally organized by two to three distinct product categories:

- Energy: The actual energy delivered, priced at the locational marginal price (LMP) every five minutes to an hour.
- Ancillary services (AS): A set of grid services, such as operating reserves, frequency regulation, and voltage support, that ensure system resiliency.
- Capacity (only in certain markets): A forward commitment (typically 1–3 years out) to be available during peak system stress conditions.

These markets were designed in the 1990s and early 2000s when the electricity system was organized around large, dispatchable, fuel-burning plants sited near load and run on a controllable schedule. Energy prices were largely set by the marginal generator necessary to fulfill demand, often a fuel-based generator. Capacity prices were determined by the cost of keeping online or building the marginal generator necessary to ensure that the system has sufficient capacity reserves, net of this resource's expected energy and AS earnings, with prices for forward periods typically up to three years or less.

The establishment of regional wholesale markets has resulted in significant benefits to electricity consumers via generation competition, efficiencies achieved with larger regional markets and trade, transparent market signals, and enablement of regional transmission planning over market regions.[1,2,3,4,5] Short-term energy and AS markets have effectively managed the operations of evolving electricity systems and increased efficiency and reliability via trading over broader regions. Marginal pricing allows markets to broadly reflect the physical state of the system and the costs of meeting load, informing operational and trading decisions. These price signals can also drive grid asset investment and retirement decisions, with high market prices creating a signal to increase supply and vice versa.

Despite their benefits, wholesale markets alone do not incent the coordination of and investment in the full suite of investments required to achieve climate targets. Wholesale market products compensate for generic power system attributes and do not incorporate state preferences regarding emissions, economic development, job creation, and more. As a result, there is no entity that is responsible for both setting long-term policy goals and ensuring those goals are met reliably and at scale in wholesale market regions.[6] Moreover, the quickly changing resource mix further compounds uncertainty in how market prices will behave.

The next section explains the challenges in wholesale markets states with ambitious policy targets and discusses the strengths and weaknesses of typical climate policies in these regions.

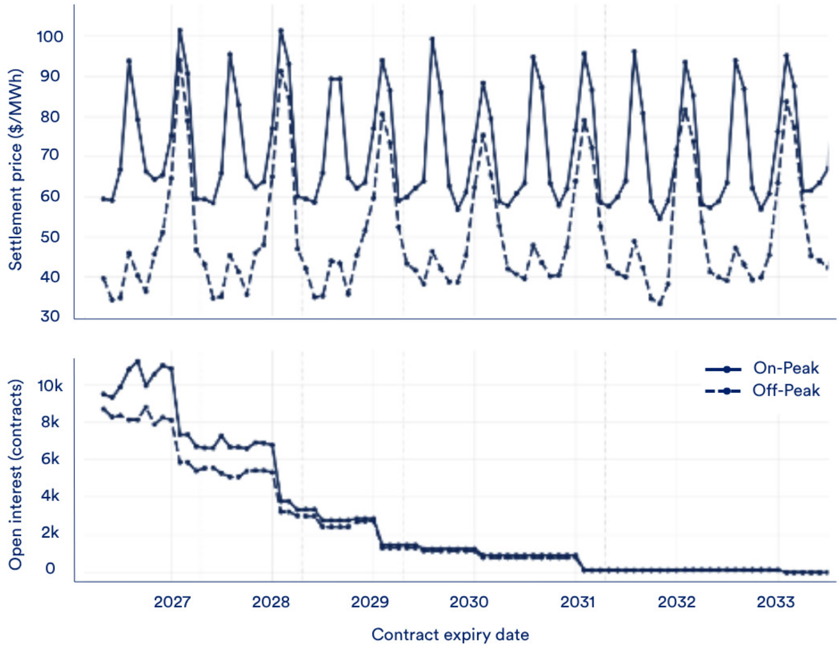
1 International Energy Agency. (2025). Electricity Market Design: Building on Strengths, Addressing Gaps. IEA, Paris. https://www.iea.org/reports/electricity-market-design
2 https://www.aeaweb.org/articles?id=10.1257/aer.20172034
3 https://energy.ec.europa.eu/topics/markets-and-consumers/electricity-market-design_en
4 https://www.westernenergymarkets.com/western-energy-imbalance-market-weim/benefits
5 https://gridstrategiesllc.com/wp-content/uploads/2024/05/whos-the-buyer.pdf
6 Joseph, K. (2023). Meeting the Reliability Challenges of the Clean Energy Transition. World Resources Institute Working Paper. https://www.wri.org/research/meeting-reliability-challenges-clean-energy-transition

**Wholesale Market Price Uncertainty Implications**

Wholesale power market prices are subject to significant future uncertainty, resulting from compounding uncertainties in fuel costs, resource costs, demand growth, and other variables. As such, wholesale markets have inherently short-term outlooks and face limitations in solving long-term challenges in the face of future uncertainty.

Wholesale energy market futures contracts, which can provide revenue certainty into the future, are only liquid two to four years forward (Figure 1),[7] indicating the lack of market mechanisms to lock in long-term revenues. Wholesale capacity markets, meanwhile, only provide price signals as little as one month ahead and, at best, up to three years into the future in the U.S.[8,9]

**Figure 1: Prices and volumes for PJM Western Hub real-time energy market futures, illustrating the rapid drop-off in forward liquidity**




*Source: Nodal Exchange. End-of-Day Futures Report, April 29, 2026. https://www.nodalexchange.com/resources/market-data/*

Compared to what the wholesale market incentivizes, important grid assets like transmission, power generation, and storage assets typically have longer investment horizons and require credible signals over time to ensure bankability (i.e., their investors have expectations of sufficient revenue streams with minimal risks). Most infrastructure investors have low risk tolerances.[10] Without a credible signal that sufficient revenue will be available, investors require higher risk premiums[11,12] or refuse to commit capital at all.[13]

Uncertain revenue or policy support is especially challenging for technologies and projects that face long-lead-times, are long-lived assets, or face non-revenue development barriers. For example, new nuclear power plants face cost-overrun risks that require both long-term revenues guarantees and cost-overrun risk protection. New enhanced geothermal faces natural resource exploration risks that often constrain development.

7 Nodal Exchange. (2026). End-of-Day Futures Report, April 29, 2026. https://www.nodalexchange.com/resources/market-data/
8 In the United Kingdom and certain European countries, capacity markets or auctions offer long-term offtake contracts. For example, the United Kingdom's Capacity Market offers one, three, and 15 year contracts for existing plants, refurbishments, and new builds, respectively.
9 Capacity market design varies by system operator. See Aagaard, T. & Kleit, A. (2022). Electricity Capacity Markets. Cambridge University Press, Chapter 4: Reliability and the Missing Money Problem.
10 Andonov, A., Kräussl, R., & Rauh, J. (2021). Private investigations: Can institutional investors fill the infrastructure gap?" Stanford Institute for Economic Policy Research (SIEPR). https://siepr.stanford.edu/publications/policy-brief/private-investigations-can-institutional-investors-fill-infrastructure
11 OECD/IEA. (2003). Power Generation Investment in Electricity Markets.
12 Pierpont, B. & Nelson, D. (2017). Markets for Low Carbon, Low Cost Electricity Systems. Climate Policy Initiative.
13 Hausker, K. & Palmer, K. (2021). Power Market Design for an Era of Rapid Decarbonization. NRRI Insights. https://pubs.naruc.org/pub/96C4BEAF-1866-DAAC-99FB-D4C1060DDF7D

Historically, projects have attracted investment in a variety of ways. New solar and wind projects have secured long-term offtake contracts with load serving entities (often required to procure clean energy via standards – more on that below) or private customers. Many gas power plants were developed in the early 2000s when a combination of deregulation and reduction in natural gas fuel prices overwhelmingly supported new gas plant economics and shortened project payback periods. Transmission, meanwhile, is developed primarily via central planning and cost of service regulation that guarantees revenue, which supports transmission development even in wholesale markets.

Reforms to wholesale markets can partially, but not fully, address challenges.[14] Long-term contracts like power purchase agreements (PPAs) can make projects bankable and attract private investment by guaranteeing fixed revenue streams that meaningfully reduce or eliminate the project sponsor's exposure to price risk and future market volatility (although transferring that risk onto ratepayers).[15,16] Policies that require long-term contracting for energy or policy compliance, as are used in several European countries and Japan and have recently been proposed by PJM in the United States, can help address some consequences of the lack of long-term price signals in wholesale electricity markets, including bias against high-capital cost resources.[17]

Requiring this kind of hedging, however, does not fully address the market failures and uncertainties that cause market actions to diverge from a government's desired future outcomes. Even if long-term contracts are mandated, investment will still be directed toward resources that have the clearest near-term market value and away from those that would be more valuable as contributors toward long-term risk resilience or achievement of policy goals. Long-term contracts alone also fail to resolve infrastructure coordination gaps or non-revenue technology development barriers.

**Clean Electricity Standards**

State-level clean electricity standards (CES) set clean electricity requirements for retail electricity sales and exist in over half of U.S. states.[18] CES are vital for driving investment in clean energy, as they set legally binding requirements that reduce power sector emissions. Most CES policies are structured to target a percentage of annual retail sales, with compliance verified year-by-year and met through purchases of various kinds of clean energy credits such renewable energy credits (RECs), zero-emission credits (ZECs), or Index Storage Credits (ISCs).[19] While most state CESs uses this energy-based approach to standards, five state have emission-based standards, which require declines in emissions over time.[20] CES have provided revenue for investors in solar and wind projects, and have resulted in significant amounts of clean energy deployment.

CESs reward the procurement of the lowest-cost qualifying clean energy available in the compliance period. CESs have provided revenue for investors in solar and wind projects and have resulted in significant amounts of clean energy deployment. However, additional technologies such as clean firm generation and long-duration energy storage are needed to achieve decarbonization targets at least-cost. CES policies that include 100% clean energy or emission-reduction standards provide some incentives for clean firm resources, and updates to CES policies can help increase market signals for clean energy and reliability, such as clean capacity standards, hourly-matching CES targets, and more.[21] However, because CESs largely incent resources within near-term compliance periods, CESs alone in deregulated states do not provide sufficiently certain long-lead time signals for technologies that have long development timelines,[22,23,24] and do not address non-cost technology development barriers. Moreover, CESs alone do not fully support early-stage above-market deployment that are aimed at realizing learning-by-doing cost reductions.

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14 Gramlich, Rob. Ensuring Low-Cost Reliability: Resource Adequacy Recommendations for a Clean Energy Grid. Grid Strategies LLC, Nov. 2021, gridstrategiesllc.com/wp-content/uploads/2024/05/ensuring-low-cost-reliability-resource-adequacy-recommendations-for-a-clean-energy-grid.pdf
Gramlich, Rob, and Frank Lacey. Who's the Buyer? Retail Electric Market Structure Reforms in Support of Resource Adequacy and Clean Energy Deployment. Grid Strategies LLC and Electric Advisors Consulting, Mar. 2020, gridstrategiesllc.com/wp-content/uploads/2024/05/whos-the-buyer.pdf

15 Kamine, J., et al. (2023). "Long term for US renewable offtakes." Project Finance International, November 27, 2023. https://www.pfie.com/pfi-awards/1491743/long-term-for-us-renewable-offtakes

16 Byun, S.J. (2026). "Shift from utility to corporate financing for renewables presents risk." Federal Reserve Bank of Dallas, February 10, 2026. https://www.dallasfed.org/banking/pubs/dfb/2026/2601

17 https://www.pjm.com/-/media/DotCom/library/reports-notices/special-reports/2026/20260506-powering-reliability-through-market-design.pdf

18 https://www.catf.us/us/state-policy/clean-electricity-standards/ ; https://www.catf.us/resource/state-clean-electricity-standards/

19 Clean Air Task Force (2025), State Clean Electricity Standards. https://www.catf.us/resource/state-clean-electricity-standards/

20 https://www.catf.us/clean-electricity-standards-map/

21 https://www.catf.us/resource/state-clean-electricity-standards/

22 Hausker, K. & Palmer, K. (2021). Power Market Design for an Era of Rapid Decarbonization. NRRI Insights. https://pubs.naruc.org/pub/96C4BEAF-1866-DAAC-99FB-D4C1060DDF7D

23 Joseph, K. (2023). Meeting the Reliability Challenges of the Clean Energy Transition. World Resources Institute Working Paper. https://www.wri.org/research/meeting-reliability-challenges-clean-energy-transition

24 Joseph, K. (2024). Coordinated Policy and Targeted Investment for an Orderly and Reliable Transition. Kleinman Center for Energy Policy, University of Pennsylvania. https://kleinmanenergy.upenn.edu/research/publications/coordinated-policy-and-targeted-investment-for-an-orderly-and-reliable-energy-transition/

As a result, additional clean energy policies are needed to incentivize investment in projects that face long-lead times, that are capital heavy with long lives, or that face non-revenue development barriers to unlock the diverse set of technologies needed to achieve climate targets. This has led some states to create technology-specific development mandates, such as offshore wind targets. Other proposed clean energy market reforms, such as the Forward Clean Energy Mechanism[25] or the Integrated Clean Capacity Mechanism[26] offer mechanisms that are better integrated into wholesale markets and could result in longer-term price signals, but they are still based on near-term information and do not assess what combination of resources the system needs over a 10-to-30-year horizon, sequence procurement across resource types, or coordinate state policy goals with RTO reliability planning.

**Remaining Gaps in Wholesale Markets and Market-Based Clean Energy Mechanisms**

For technologies that have long-lead times, have near-term cost premiums, or face their own non-revenue development barriers, CESs and wholesale market price signals are insufficient to motivate action.

**Table 1: Summary of market failures and unintended consequences caused by the short-term nature of wholesale market incentives**

| Market and Policy Limits | Unintended Consequences |
|---|---|
| **Wholesale Market Price Signals are Short-Term:** Existing energy and capacity markets and other market mechanisms to incentivize investment in new power assets provide price signals, but these tend to be for short durations (e.g., one to three years for capacity markets). | **Mismatch Between Price Certainty and Investment Horizon:** There is no certain long-term price signal that is aligned with the significant capital outlays for, and long lives of, new generation, storage, or transmission, which can span decades; new entrants (and their investors) do not have confidence that costs can be recovered (especially with caps on scarcity pricing). |
| **Market Signals are Inherently Uncertain:** Short-term market signals are subject to future uncertainty. Uncertainty may arise from external factors (e.g., fuel price changes due to conflict), technology competition, administrative process uncertainty (e.g., interconnection queue reform, changes in design), and more. | **Investor Risk Exposure May Not Align with State Needs:** When relying solely on wholesale market prices for revenue adequacy, investor risk appetite may not align with broader societal needs, including investment in new assets to meet growing demand or achieve long-term policy targets or the supportive infrastructure required to scale. |
| **Clean Electricity Standards (CES) are Bulk Targets, Not System Plans:** CES policies are structured as energy-based standards that require increases in clean energy sales or emission-based standards that require emission reduction over time. However, without additional planning, they do not provide a certain long-term signal for long-lead time resources. | **Lowest-Cost Procurement with Long-Term Gaps:** CESs and regulations in deregulated markets typically incentivize load serving entities to procure the cheapest qualifying MWh available now rather than build a long-term resource portfolio. They also do not encourage coordination across resources, time horizons, or reliability needs. |
| **Market and Policy Incentives Do Not Guarantee Non-Cost Technology Barriers are Resolved:** Market and CESs provide broad incentives for clean energy technologies, but these incentives do not guarantee that non-cost barriers (e.g., siting, early-stage exploration risk, etc.) are sufficiently incentivized to be resolved. | **Non-Cost Technology Barriers Prevent Technologies from Being Developed:** Technologies that face non-cost barriers (e.g., siting) are not developed, stalling technology progress, even if long-term incentives would support their projects. |

*Our assessment builds on a rich field of academic and industry literature. Please see the "Other Suggested Reading" section to learn more.*

25 https://www.utilitydive.com/news/forward-clean-energy-markets-a-new-solution-to-state-rto-conflicts/571151/
26 https://www.brattle.com/wp-content/uploads/2021/05/20353_the_integrated_clean_capacity_market.pdf

### The Critical Importance of Long-Term Planning and Current State of Planning

Beyond the structural limitations of wholesale markets and CESs themselves, states in deregulated regions face a more fundamental capacity problem: they often lack the authorities and tools to address market shortcomings in a way that both supports policy targets and meets system reliability needs.

In vertically integrated regions a single regulated utility, overseen by the state public utilities commission, conducts long-term planning through an integrated resource planning (IRP) process that incorporates state requirements and is overseen by that same state commission. Via the IRP, utilities forecast load, evaluate resource options, identify system needs necessary to meet state and federal requirements, procure new generation in tandem with developing supporting infrastructure, and can sign long-term contracts that hedge costs against fuel price volatility and market swings. If the IRP planning horizon is sufficiently long-term (e.g., 20 years or more) and utilities commissioners' consent, utilities can address long-term uncertainty barriers and procure long-lead time and/or long-lived assets.

In deregulated regions, this critical planning function was disaggregated (and largely atrophied) when the industry was restructured. Load is served by competitive retailers and load-serving entities (LSEs) that procure generation on short cycles; the regional transmission organization (RTO) designs and operates the energy markets and conducts reliability planning that sets procurement targets for LSEs to achieve but does not itself procure resources or commit capital; and the state itself typically has no agency authorized to assess long-term system needs, run competitive solicitations, or sign multi-decade contracts on behalf of customers. Moreover, RTOs are charged with transmission and interconnection planning and development; these processes are generally conducted independent of each other and of wholesale market operations. RTOs have largely permitted incumbent transmission owners to build billions of dollars of local transmission without oversight[27] and failed to conduct long-term, holistic transmission system analysis that accounts and plans for meeting state policy requirements.[28]

The result is a four-part gap. Most states don't have the capacity and processes to (1) assess power system needs over the 10-to-30-year horizons that matter for capital-intensive resources; (2) procure those resources directly when wholesale market signals fail to call them forth; (3) contract to lock in stable prices that would protect consumer costs against volatility; and (4) ensure that necessary transmission infrastructure will be there to connect these resources to the grid.

As a result of these gaps, states in wholesale market regions face challenges when it comes to meeting state policy goals, protecting customers from rising costs, ensuring reliability, meeting long-term demand growth, and commercializing new technologies.

### Order 1920's Impact on State Planning

The Federal Energy Regulatory Commission's (FERC or "the Commission") Order 1920 regulation is designed to improve long-term regional electric transmission planning and cost allocation. The Commission found that the absence of "sufficiently long-term, forward-looking, and comprehensive transmission requirements" was causing transmission providers to fail to adequately anticipate future system conditions, leading to inefficient transmission buildout and unreasonably high electricity rates. The Commission also found that the lack of regional transmission was thwarting the ability of states to achieve their policy goals.

As relevant to state planning, Order 1920 requires transmission providers to incorporate into their long-term planning scenarios factors such as state and local laws and regulations affecting resource mix, demand, and decarbonization, as well as state-approved IRPs and state policy goals that influence transmission needs (such as designated clean energy zones). Transmission providers are required to work with relevant state entities to determine both relevant state requirements and to establish cost allocation frameworks. States will thus need to develop system planning capacity to participate in the Order 1920 planning process, and those states that are better prepared and organize collectively stand to have greater influence over Order 1920 process outcomes.

However, Order 1920 transmission planning alone will not fully solve state energy policy needs. For one, Order 1920 does not require transmission providers to assess all relevant benefits (whether health, environmental, or economic) associated with clean energy access or the benefits of compliance with state laws in their cost-benefit analyses that govern which transmission projects meet selection criteria. Consequently, states will either have to ask their RTOs to do those calculations or do them themselves. Moreover, benefits calculations and ultimate project selection are the responsibility of the transmission planners, which may not choose to advance projects needed for a particular state to

27 See, e.g., Consumer Advocates of the PJM States et al., Transmission Planning in PJM 5-6, July 2025; at: https://www.dgardiner.com/wp-content/uploads/2025/09/CAPS-Transmission-Handbook-Volume-4_Version-2-Updated-July-2025.pdf.

28 CITES (prob O1920).

meet its policy goals, even if the benefits of such projects exceed their associated costs. Nor does Order 1920 require that identified transmission projects actually be built; rather, planners and states are given considerable discretion on what projects advance and how their costs are allocated. Last, Order 1920 does not guarantee a state will proactively plan for long-lead time, long-lived projects that face other development barriers.

Having state expertise on system analysis can help ensure fair cost allocation and prevent economic free riding on the system-wide economic benefits that policy-related transmission often provides. States that arrive at the start of the Order 1920 planning process with firm generation and transmission plans in place are more likely to see their infrastructure needs included as part of more efficient regional transmission projects and the associated costs more fairly allocated. Proactive state long-term planning will be a critical complement not only to ensure that regional planning is successful but to implement essential transmission solutions in the state context that do not move forward at the RTO level. Perhaps most importantly, state-led planning can provide long-overdue oversight to ensure that local transmission projects are right-sized into more efficient regional solutions and that remaining local transmission prudently and efficiently serves state policy needs.

# State-Led Planning, Development, and Procurement

States in deregulated wholesale markets can fill structural gaps that such markets and CESs cannot with an additional layer of state-led planning, development, and procurement ("state-led planning") to solve long-term challenges and achieve decarbonization, while continuing to leverage the ability of wholesale markets to optimize short- and medium-term efficiency.[29,30,31,32,33]

**What is state-led planning?**

State-led planning adds government long-term resource planning, development, and procurement to existing wholesale markets, which continue to operate to deliver operational. This structure combines short-term competitive wholesale markets with long-term planning and contracting, creating what academics call a "hybrid market."[34] Notably, adding state-led planning targets addresses long-term gaps without retreating to vertically integrated utilities. Roques and Finon (2017) frame hybrid markets as combining "competition for the market" — i.e., periodic competitive procurement of long-term contracts that finance new investment — with "competition in the market" — i.e., short-run dispatch and balancing through wholesale spot pricing.[35] With state-led planning, a state government agency would be tasked, via legislation, to perform periodic long-term power system needs assessments (considering load and cost forecasts, development barriers, policy targets, etc.) via power system modeling and characterize long-term gaps. Similarly, a government agency would also be tasked with identifying, characterizing, and proposing solutions to technology development barriers, such as siting, financing, and others.

Based on assessments, states would direct load serving entities to procure or directly procure long-lead or long-lived assets that are deemed necessary to meet long-term state goals, given the limitations of wholesale markets and CES incentives. To minimize public risk, state procurements can be structured such that the state is only responsible for differences between project costs and market and credit revenues, so long as these are designed to respect constraints imposed by federal law.[36]

29 Lo Prete, C., Palmer, K., & Robertson, M. (2025). "Time for a Market Upgrade? A Review of Wholesale Electricity Market Designs for the Future." Energy Economics 148, 108640. https://doi.org/10.1016/j.eneco.2025.108640

30 Roques, F. & Finon, D. (2017). "Adapting Electricity Markets to Decarbonisation and Security of Supply Objectives: Toward a Hybrid Regime?" Energy Policy 105: 584-596. https://doi.org/10.1016/j.enpol.2017.02.035

31 Joskow, P. (2022). "From Hierarchies to Markets and Partially Back Again in Electricity: Responding to Decarbonization and Security of Supply Goals." Journal of Institutional Economics 18(2): 313-329. https://doi.org/10.1017/S1744137421000400

32 Pierpont, B. (2020). A Market Mechanism for Long-Term Energy Contracts to Support Electricity System Decarbonization. Resources for the Future. https://media.rff.org/documents/pierpont-long-term-electricity-markets-paper-dec-2020-final.pdf

33 Joseph, K. (2025). The Limits of Markets: A Reliable Transition Needs Planning. ESIG Electricity Markets Under 100% Clean Electricity Task Force Whitepaper. https://www.esig.energy/market-evolution-for-100-percent-clean-electricity/

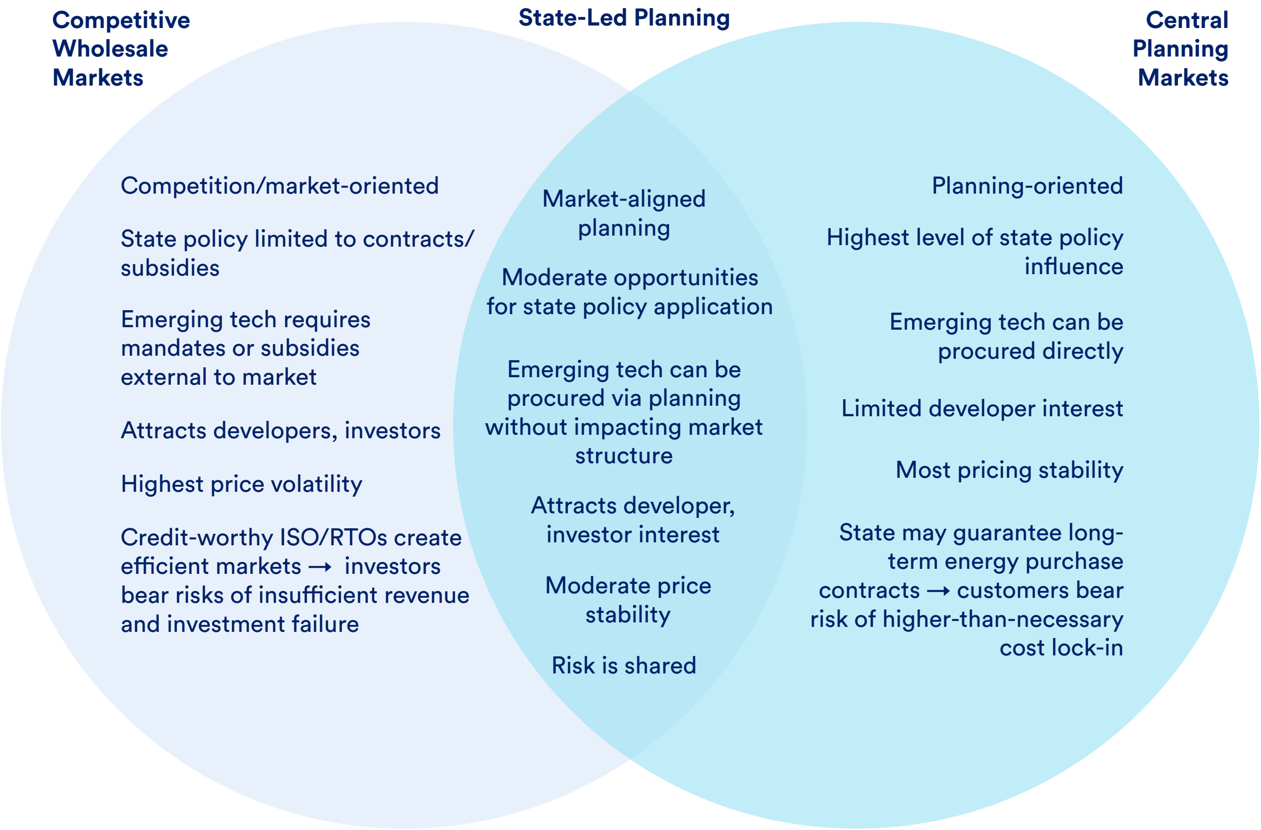
34 Joskow, P. (2022). "From Hierarchies to Markets and Partially Back Again in Electricity: Responding to Decarbonization and Security of Supply Goals." Journal of Institutional Economics 18(2): 313-329. https://doi.org/10.1017/S1744137421000400

35 Roques, F. & Finon, D. (2017). "Adapting Electricity Markets to Decarbonisation and Security of Supply Objectives: Toward a Hybrid Regime?" Energy Policy 105: 584-596. https://doi.org/10.1016/j.enpol.2017.02.035

36 State policies affecting wholesale electricity sales must fall within constraints imposed by the Federal Power Act and Public Utility Regulatory Policies Act. See, e.g., Hughes v. Talen Energy Marketing, 136 S.Ct. 1288 (2016); Winding Creek Solar v. Peterman, 932 F.3d 861 (9th Cir. 2019)

These contracts provide the fundamental long-term revenue certainty for needed energy projects that would otherwise remain out of reach.[37] Long-term fixed price power supply contracts also offer price stability for consumers in times of energy price volatility, while maintaining secure revenue streams for generators and mitigating the risk of lower power prices.[38]

**Figure 2: State-led planning merges competitive markets with long-term planning**




A key foundation to inform state-led planning is the existence of long-term targets and policy goals, which many states already have in statute, such as clean electricity standards.[39] State energy goals, priorities, mandates, and unaddressed challenges should be reviewed and clarified, particularly where potential contradictions in state energy policy exist (e.g., reliability mandates that may conflict with emission reduction timelines). Targets should be explicit about what outcomes the planning process is intended to achieve (whether that is meeting a clean energy standard, hedging ratepayer costs, maintaining resource adequacy, or some combination) and should specify the planning horizon (typically 20-30 years), the update cycle, and the responsible agencies. Illinois's Clean and Reliable Grid Affordability Act ("CRGA"), for example, directs planners to study the state power system through 2045, with the first IRP due by November 2026 and subsequent updates every four years.

Targets and state-led planning form an iterative cycle: targets frame what the state is trying to achieve, planning identifies which resources are needed and when, technology roadmaps help reduce investment and development barriers, and procurement translates planning findings into contracted capacity. The cycle repeats on a regular cadence — typically every two to four years — so that plans adapt to evolving technology costs, load growth, and policy conditions.

37 Ason, A. & Dal Poz, J. (2024). "Contracts for Difference: the Instrument of Choice for the Energy Transition." Oxford Institute for Energy Studies. https://www.oxfordenergy.org/wpcms/wp-content/uploads/2024/04/ET34-Contracts-for-Difference.pdf
38 Newbery, D. & Tudball, M. (2026). "Contracts for Difference and the economics of renewable energy deployment." UK Parliament Rapid Response. https://doi.org/10.58248/RR95
39 https://www.catf.us/resource/state-clean-electricity-standards/

**State-Led Planning Components**

State-led planning consists of three main components (Figure 2): (1) system needs and gaps assessment, (2) technology development roadmaps, and (3) procurement and cost allocation:

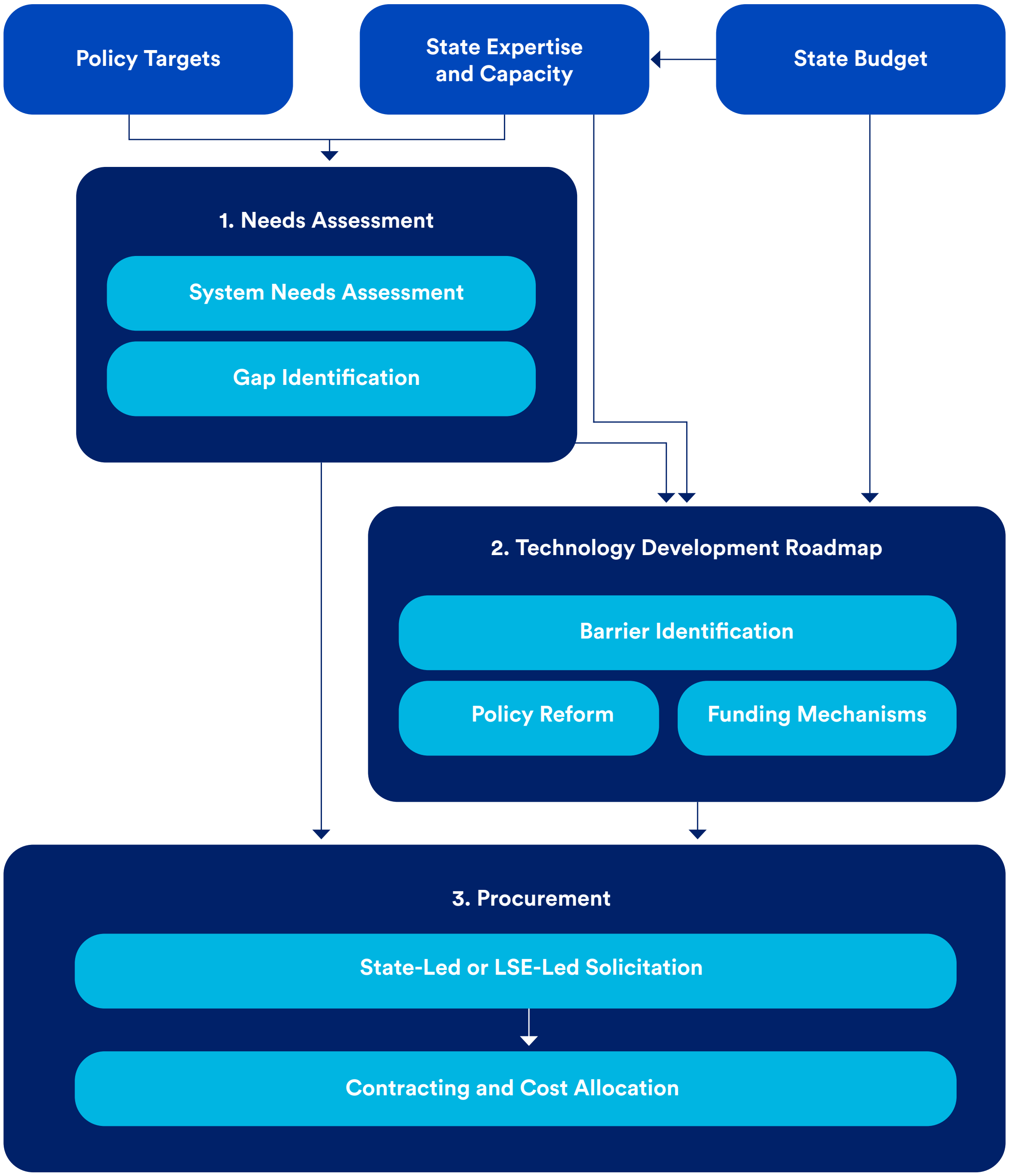
1. **System needs and gaps assessment:** State-led planning begins with assessing power system needs through modeling, the analytical backbone of resource planning. It translates forecasts and targets into resource needs by evaluating the cost, reliability, and emissions performance of alternative portfolios under multiple scenarios. Key inputs include load forecasts (incorporating electrification and large-load growth such as data centers), fuel price projections, technology cost and performance assumptions, transmission constraints, and resource adequacy metrics. To the extent possible, this analysis should be done in collaboration with regional experts like RTOs (see below). Effective planning processes use scenario-based or uncertainty-aware analyses — not a single-point forecast — to test portfolio performance under a range of futures, reducing the risk of over-commitment to any one technology or demand trajectory. Illinois's CRGA requires structured stakeholder participation, including data collection from load-serving entities and publication of public draft plans with comment periods. The goal is to identify system needs — by type, quantity, location, and timing — that inform procurement solicitations, which should be done in coordination with RTOs.[40] The goal of the needs assessment should be to identify resources that have significant long-term value, but that are not currently experiencing sufficient market uptake to deliver that value.

2. **Technology development roadmaps:** If system analysis identifies the need for technologies that might face non-revenue development barriers, the state should assess what policies could help resolve these barriers proactively or concurrently with procurement efforts. For example, next-generation geothermal faces several siting, permitting, and exploration investment risks in California that limit development.[41] States can proactively identify and address these barriers via a development roadmap. For example, New York published a state-led energy storage roadmap to assess needs and barriers to storage development in the state.[42] Similarly, New York published a Blueprint for Consideration of Advanced Nuclear Energy Technologies that identified development barriers in the state. In response, the state is performing its Master Plan for Responsible Advanced Nuclear Development to develop policy recommendations for the implementation of advanced nuclear technologies in New York State. These roadmaps should be combined with streamlined siting and permitting processes, staffing at key permitting and deployment-related agencies, and meaningful community engagement and public consultation, among other things, to work toward overcoming deployment barriers.

3. **Procurement:** Needs identified in the first step and technology development roadmaps inform market gaps and what additional competitive procurement of new resources is needed. Procurement could be state-led via direct state contracting or via legally mandated procurement mandates via load serving entities. Regardless of the structure, state-directed procurement should be additive to wholesale market outcomes, targeting resources that market signals alone have not delivered but that the planning process has identified as necessary. Solicitations should be competitive and primarily defined by attributes (firm capacity, clean energy, flexibility, duration) rather than by specific technology, preserving price discovery and developer innovation. Bid evaluation should consider both price and alignment with state goals (reliability contribution, economic development, environmental justice). To ensure that technological and regional portfolio needs unlikely to be met by such solicitations are also met, narrower competitive procurements should also be developed. NYSERDA's attribute-based contracts illustrate how planning-directed competitive procurement can target specific resource gaps while preserving market-based price discovery and allowing resources to participate fully in wholesale energy and capacity markets. Contracts can be structured to cover only the gap between project costs and market and credit revenues. Last, cost allocation should direct the net-costs (or benefits) to customers, and states should use existing regulatory tools (e.g., phased cost recovery, rate design) to manage bill impacts. To lessen bill impacts, states should evaluate public finance tools, public development and other proposals targeting workforces and supply chains help ensure that procurements can be made cost-effectively.

40 Joseph, K. (2025). The Limits of Markets: A Reliable Transition Needs Planning. ESIG Electricity Markets Under 100% Clean Electricity Task Force Whitepaper. https://www.esig.energy/market-evolution-for-100-percent-clean-electricity/
41 https://www.catf.us/resource/unlocking-californias-geothermal-potential/
42 https://www.ethree.com/wp-content/uploads/2018/06/NYS-Energy-Storage-Roadmap-6.21.2018.pdf

**Figure 3: Indicative process chart showing the (1) planning, (2) development, and (3) procurement and cost allocation components**



## Additional Opportunities for State-Led Reforms: Permitting and Financing

While state-led planning is a big part of the equation in meeting state energy policy targets, these plans can be derailed by the inability to secure permits or financing necessary to put transmission and resource plans into action. Case in point: the leading causes of cancellation for solar and wind projects are permit denials, community opposition, or lack of available transmission.[43] New transmission capacity is also necessary to bring planned generating resources of all types online, but transmission projects routinely face lead times of 5 to 10 years, with much of the delay tied to permitting challenges.[44] Even when approved, financing for major shared infrastructure projects can fall through. Here again, states are in the best position to address localized development barriers.

Smart permitting reform and direct state coordination in permitting key clean energy and transmission projects can ensure the feasibility of state plans while maximizing social benefits, reducing ratepayer costs, and minimizing environmental impact. Key reforms include:[45]

- Centralize permitting with one entity that employs standardized requirements and review methodologies with transparent and predictable permitting timelines
- Promote coordination among the agencies responsible for state-led planning and permitting to ensure that plans account for permitting realities, and permitting timelines are aligned with planned targets
- Proactively develop, clarify, or reform permitting practices for novel technologies to fill gaps identified in technology development roadmaps
- Work with developers, utilities and communities to plan renewable energy zones that centralize and streamline renewable energy planning and permitting in resource-rich regions identified through the planning process
- Require early local stakeholder and government engagement, beginning in the state-led planning process, that empowers affected communities to help guide siting and design decisions to minimize negative impacts and gain community trust
- Enable public financing mechanisms for transmission projects

**Why state-led planning is the right fit for policymakers with long-term targets**

Aside from leaving markets altogether and sacrificing their benefits, state governments cannot unilaterally redesign federally regulated wholesale markets to support their policy goals. While there are some market reforms that could better account for desired attributes, states cannot direct their RTOs to adopt them without years of regional consensus-building and FERC approval.

State-led planning, on the other hand, sits squarely within state authority: the state legislature can mandate a state agency to plan and direct or procure, assign a public entity (e.g. a public utilities commission) to review planning and procurement to be prudent and in the interest of ratepayers, and enable the state agency to implement or direct procurement without requiring FERC action on new wholesale market products. By contrast, most of the wholesale market reforms considered to date[46] would either require RTO-level action or would not be a substitute for integrated long-term system planning. For states whose preferences are not being reflected in their RTO's market outcomes, state-led planning is the action that can be taken now to produce desired results without sacrificing the benefits of markets.[47]

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43 https://ncelenviro.org/resources/clean-energy-siting-and-permitting-fact-sheet/
44 https://www.iea.org/data-and-statistics/charts/average-lead-times-to-build-new-electricity-grid-assets-in-europe-and-the-united-states-2010-2021
45 See, e.g., https://www.ethree.com/wp-content/uploads/2024/04/Renewable-Siting-and-Permitting-Policies-E3-Public-Version-04.17.2024.pdf; https://acadiacenter.org/new-report-finds-that-improved-community-engagement-for-clean-infrastructure-projects-is-critical-to-new-englands-energy-transition/; https://www.catf.us/resource/beyond-the-wires-community-benefits-from-transmission-projects/; https://docs.nlr.gov/docs/fy17osti/69043.pdf; https://www.catf.us/2026/05/new-analysis-finds-public-financing-could-save-new-england-customers-billions/
46 Lo Prete, C., Palmer, K., & Robertson, M. (2025). "Time for a Market Upgrade? A Review of Wholesale Electricity Market Designs for the Future." Energy Economics 148, 108640. https://doi.org/10.1016/j.eneco.2025.108640
47 Joseph, K. (2025). The Limits of Markets: A Reliable Transition Needs Planning. ESIG Electricity Markets Under 100% Clean Electricity Task Force Whitepaper. https://www.esig.energy/market-evolution-for-100-percent-clean-electricity/

A key consideration for states will be the procurement mechanism. Decentralized procurement mandates (e.g., as in California) are compatible with state-led planning, but they introduce a coordination problem at the procurement stage. When dozens of load-serving entities each procure individually to meet their own compliance obligations, the result is a patchwork: each load serving entity optimizes for its own load shape, risk tolerance, and credit profile, but no entity is responsible for ensuring that the aggregate portfolio of contracted resources matches the system's long-term needs across resource types, locations, and time horizons. States can mandate procurement of specific resource classes identified in state-led planning, but some resources may have large minimum project sizes or non-market development barriers that make procurement by small load-serving entities impractical.

**Risks and tradeoffs of long-term planning**

Introducing long-term planning presents tradeoffs in risk and who bears the impact of risks. In wholesale markets, short-sighted outcomes can produce errors such as capacity under- or over-procurement, revenue inadequacy for new entry, and price volatility at scale. The burden of these failures falls on a mix of private investors and the public. Government-led long-term planning shares similar risks, however the impact falls more on state taxpayers or ratepayers. Ontario's feed-in tariff experience, where the province signed costly fixed contracts with generators, and other historical examples of utility commitment to suboptimal technologies illustrate these risks.[48,49]

The question for policymakers is not whether to accept some risk of imperfect outcomes, but rather how to set up institutional structures and processes that assess various risks, motivate the lowest-cost and lowest-risk portfolio for consumers while meeting policy and reliability targets, and minimize tax or ratepayer exposure while still addressing long-term market and policy gaps.[50]

For state-led planning, three risks deserve specific attention (Table 2).

48 Joskow, P. (2022). "From Hierarchies to Markets and Partially Back Again in Electricity: Responding to Decarbonization and Security of Supply Goals." Journal of Institutional Economics 18(2): 313-329. https://doi.org/10.1017/S1744137421000400

49 Hausker, K. & Palmer, K. (2021). Power Market Design for an Era of Rapid Decarbonization. NRRI Insights. https://pubs.naruc.org/pub/96C4BEAF-1866-DAAC-99FB-D4C1060DDF7D

50 Joseph, K. (2025). The Limits of Markets: A Reliable Transition Needs Planning. ESIG Electricity Markets Under 100% Clean Electricity Task Force Whitepaper. https://www.esig.energy/market-evolution-for-100-percent-clean-electricity/

**Table 2: State-Led Planning Risks and Mitigation Strategies**

| Risk | Consequence | Mitigation Strategy |
|---|---|---|
| Forecast Risk | Plans built on inaccurate load, fuel price, or technology cost forecasts can lead to procurement that does not address needs optimally. | Require scenario-based or uncertainty-aware planning (not a single point forecast); update plans on a fixed periodic cycle (every two to four years); include explicit decision triggers and off-ramps in long-term contracts.[51] |
| Technology Lock-In | Procurement that specifies particular technologies risks locking ratepayers into solutions that are surpassed by faster-moving alternatives. | Default to all-source, technology-neutral solicitations defined by attributes (firm capacity, clean attributes, flexibility); reserve technology-specific procurements for cases where market gaps are clearly identified (e.g., emerging firm clean technologies that will not otherwise be financed).[52,53] |
| Cost-overrun and counterparty risk | Long-term contracts shift price risk from generators to ratepayers; if contract prices are set above eventual market values, ratepayers absorb the difference. | Design contracts with performance-based payments tied to delivery; use one-way or capped contracts for differences (CfDs) where appropriate; require credit support and project milestone protections; ensure that benefits flow to ratepayers if future market prices exceed the contract price.[54,55,56] |

51 Tierney, S. (2020). Wholesale Power Market Design in a Future Low-Carbon Electric System: A Proposal for Consideration. Analysis Group, prepared for World Resources Institute and Resources for the Future. https://media.rff.org/documents/tierney-white-paper-on-wholesale-market-design-12-15-2020-final-to-wri-rff.pdf
52 Thompson, A. & Spees, K. (2025). Clean Security of Supply in Europe: Models for Market-Aligned Contracting and Procurement. The Brattle Group for Clean Air Task Force. https://www.brattle.com/insights-events/publications/new-brattle-report-outlines-strategies-for-aligning-europes-capacity-mechanisms-with-clean-energy-transition-goals/
53 Lo Prete, C., Palmer, K., & Robertson, M. (2025). “Time for a Market Upgrade? A Review of Wholesale Electricity Market Designs for the Future.” Energy Economics 148, 108640. https://doi.org/10.1016/j.eneco.2025.108640
54 Newbery, D. (2024). “Contract Design in Electricity Markets.” DTU PES Summer School Working Paper.
55 Billimoria, F. & Simshauser, P. (2023). “Contract Design for Storage in Hybrid Electricity Markets.” Joule 7(8): 1663-1674.
56 Ason, A. & Dal Poz, J. (2024). “Contracts for Difference: the Instrument of Choice for the Energy Transition.” Oxford Institute for Energy Studies. https://www.oxfordenergy.org/wpcms/wp-content/uploads/2024/04/ET34-Contracts-for-Difference.pdf

# Establishing State-Led Planning

**Process and Conditions to Establish State-Led Planning**

At a high level, the transition from to a hybrid market with state-led planning involves (1) initiation via legislation, (2) implementation, and (3) oversight. Several state government entities will be involved in state-led planning, though the exact structure of responsibility varies from state to state.

- **Initiation:** A state government body must authorize or mandate state-led planning. Ideally, the state legislature passes legislation that connects to long-term energy goals, specifies the parties responsible for implementation and oversight, and paves the way for an adequate budget and staffing needs. The governor may lead this effort through an executive order, but legislative codification provides greater durability across political transitions that state-led planning will occur.
- **Implementation:** The work of implementing state-led planning will likely fall to the state energy agency or similar, which will require staffing. Ideally, an implementing agency separated from the oversight agency will increase accountability for both.[57] The implementing agency will need funded institutional capacity for resource planning and procurement, which will likely entail hiring and training new staff and consulting support, and may require modeling software and infrastructure. Maintaining transparency and engaging non-governmental stakeholders — load serving entities, power producers, and consumer advocates — leads to the best outcomes.
- **Oversight:** A government regulator, such as a public utilities commission, should oversee the government agency responsible for planning and procurement decisions. Oversight is important to maintain stakeholder confidence, particularly that of energy customers, taxpayers, and procurement participants. Ideally, oversight resides with the public utilities commission or agency already responsible for state energy regulation and is housed separately from the implementing agency.

Table 3 provides an overview of stakeholders and responsibilities for establishing state-led planning. Key to establishing state-led planning and procurement are state capability and resources including staff, budget, and information systems. Even well-managed governments will need to train, hire, and/or bring on expert advisors to conduct state-led planning appropriately. Energy modeling software is necessary as well as the infrastructure to run models. Hiring an energy consulting firm to build out the planning process can support a smooth transition, but in-state expertise is necessary for continuity and durability. State staff should also develop strong coordination with RTOs to understand RTO reliability needs to derisk investments. The public entities leading planning processes will require a budget, which informs staff capacity, technical resources, and the chosen approach to planning and procurement.

57 In New York, for example, the New York State Energy Research and Development Authority is a public benefit corporation that performs planning and procurement for New York's clean energy law. Oversight, however, sits with the New York Public Service Commission.

**Table 3: Overview of Stakeholder Responsibilities in State-Led Planning**

| Stakeholder | Planning Responsibilities | Technology Development Responsibilities | Procurement Responsibilities |
|---|---|---|---|
| State Legislators and Governors | Pass legislation to establish requirements, roles, and responsibilities for state-led resource planning or to authorize agencies and commissions to do so. Allocate budget for procurement and/or development support. | Pass legislation to allocate budget for technology development roadmaps. | Pass legislation to specify roles and responsibilities for state-led or state-directed procurement, allocate budget for project procurement (if necessary), and establish guidance for project cost allocation. |
| State Energy Agency (or similar) | Establish regulations to implement a transparent and regular state-led resource planning process, including holistic, scenario-based system needs assessment and resource portfolio recommendations that maximize economies of scale around use of geographic resources, transmission infrastructure, and existing rights of way. Conduct stakeholder outreach and establish participation procedures. | Identify technology and resource development barriers, including siting, permitting, and finance mechanisms. Implement and support technology and infrastructure development roadmaps. | Implement procurement process to balance need for competition and contract flexibility (if necessary). |
| State Utility Commission | Provide oversight and approval of state-led resource planning, siting, and permitting processes. | Provide oversight of technology and resource plan implementation and coordinate issuance of necessary permits. | Provide oversight and approval of procurements. |
| Regional Transmission Organization/ Independent System Operator | Provide direct data sharing and expertise to inform system needs assessment, and incorporate state-led planning and procurement into RTO-based transmission planning. | Works with states to resolve RTO-based barriers such as interconnection reform. Can solicit bids for state-based transmission projects. | Expert that informs project valuations. Allocates costs for state-led transmission incorporated as part of RTO-based planning and allocation processes. |
| Load Serving Entitites | Provide public comments to planning inputs. | Provide public comments to development and implementation efforts. | If responsible for procurement, lead resource procurement. |
| Project Developers | Provide public comments to planning inputs, non-public RFI responses. | Provide public comments to technology roadmaps. | Submit project proposals to solicitations. |
| Other Public Stakeholders | Provide public comments. | Provide public comments. | Provide public comments. |

### Coordinating with the RTO

State-led planning should not occur in isolation from the RTO that operates the grid. Out-of-market procurements, those that pay generators outside the RTO's energy and capacity markets, have historically generated friction with RTOs.[58,59,60] Two design principles can reduce this friction:

- Make procurement attribute-specific, not energy-displacing: Procuring clean attributes (RECs, ZECs, ISCs) separately from energy and capacity provides a legally durable form of support and allows resources to participate fully in wholesale markets while still receiving compensation for the unique products they provide.[61]
- Coordinate through formal channels: State energy agencies should engage with RTO planning processes (e.g., NYISO's Comprehensive Reliability Plan, MISO's Long-Range Transmission Plan) so that state procurements are informed by reliability planning needs to complement rather than override regional reliability planning.[62]

Moreover, RTOs are the entities with grid reliability responsibilities and house system experts that should help state planners better understand system dynamics, resource contributions, and more. As Kelli Joseph writes:[63]

"States should rely on the RTOs to provide planning studies that help inform their policy planning and shape targeted investment incentives for the resources needed to maintain grid reliability, because bulk electric system reliability, a critical public good, requires an orderly transition.

RTOs can analyze various state policy targets for renewable resources and help states understand the types of technologies needed now to enable their integration, including transmission, natural gas, or batteries, and the locations and types of zero-emission resources needed over the longer-term to enable a reliable, decarbonized grid.

The RTOs can play an important role informing states about the reliability needs corresponding to various policy options. This could help focus and target investment into the mix of resources needed along with the existing and new infrastructure required to meet state policy targets. Many of the RTOs already conduct these kinds of studies, but states need to use them to inform their policy, in support of changing grid reliability requirements."

Last, RTOs should work with reference to state plans (see more in the section about Order 1920).

58 Joskow, P. (2022). "From Hierarchies to Markets and Partially Back Again in Electricity: Responding to Decarbonization and Security of Supply Goals." Journal of Institutional Economics 18(2): 313-329. https://doi.org/10.1017/S1744137421000400

59 Spees, K. (2020). The Integrated Clean Capacity Market: A Design Option for New England's Grid Transition. The Brattle Group, presented to the New England Power Pool. https://www.brattle.com/insights-events/publications/new-jersey-board-of-public-utilities-to-explore-resource-adequacy-alternatives-featuring-integrated-clean-capacity-market-framework-by-brattle-consultants/

60 Silverman, A. (2026). Governance of multi-state electricity markets for the 21st century: The electrons are the same, everything else is different. John Hopkins University. https://livejohnshopkins-my.sharepoint.com/personal/asilve39_jh_edu/_layouts/15/onedrive.aspx?id=%2Fpersonal%2Fasilve39%5Fjh%5Fedu%2FDocuments%2FDocuments%2FISO%2DRTO%20Governance%20in%20the%2021st%20Century%20%2D%20Final%2Epdf&parent=%2Fpersonal%2Fasilve39%5Fjh%5Fedu%2FDocuments%2FDocuments&ga=1

61 Spees, K. (2020). The Integrated Clean Capacity Market: A Design Option for New England's Grid Transition. The Brattle Group, presented to the New England Power Pool. https://www.brattle.com/insights-events/publications/new-jersey-board-of-public-utilities-to-explore-resource-adequacy-alternatives-featuring-integrated-clean-capacity-market-framework-by-brattle-consultants/

62 Joseph, K. (2024). Coordinated Policy and Targeted Investment for an Orderly and Reliable Transition. Kleinman Center for Energy Policy, University of Pennsylvania. https://kleinmanenergy.upenn.edu/research/publications/coordinated-policy-and-targeted-investment-for-an-orderly-and-reliable-energy-transition/

63 Joseph, K. (2024). Coordinated Policy and Targeted Investment for an Orderly and Reliable Transition. Kleinman Center for Energy Policy, University of Pennsylvania. https://kleinmanenergy.upenn.edu/research/publications/coordinated-policy-and-targeted-investment-for-an-orderly-and-reliable-energy-transition/

### Illinois' Recent Establishment of State-Led Planning with the Clean and Reliable Grid Affordability Act

Illinois will soon be the first U.S. state with a deregulated electricity market to implement comprehensive, actionable state-led integrated resource planning. The CRGA,[64] a comprehensive energy bill that aims to address Illinois's rising electricity costs and grow clean energy in the state, was enacted in January 2026 and goes into effect June 2026.

The law calls for the development of an Illinois IRP to guide state actions toward ensuring a reliable, affordable, clean electric grid. Results from the long-term study will support state resource planning by informing Illinois Power Agency ("IPA") procurements, state advocacy positions, and transmission planning. The initial Illinois IRP will be published by November 2026 and will study the Illinois power system through 2045. A key set of inputs have already been prepared in the five-year 2025 Illinois Resource Adequacy Study, and CRGA directs planners to incorporate structured participation, such as collecting data from load-serving entities and publishing public draft plans with comment periods. The Illinois Commerce Commission (ICC) and IPA are holding a series of stakeholder workshops to communicate proposed assumptions and plans and to gather stakeholder feedback.

Illinois agencies are empowered to act on IRP findings, with the IRP explicitly linked to procurement policy and program design. The results of the Illinois 2026 IRP will be incorporated into the IPA's next Long-Term Renewable Resources Procurement Plan in 2028. The next Illinois IRP is due by September 2029, with subsequent reports to be issued every four years. (IPA[65]; ICC[66])

64 2025 Ill. Legis. Serv. P.A. 104-458 (S.B. 25).
65 Illinois Power Agency. (2025). "IPA, ICC, IEPA Issue the 2025 Resource Adequacy Study." https://ipa.illinois.gov/announcements/ipa--icc--iepa-issue-the-2025-resource-adequacy-study.html
66 Illinois Commerce Commission. (2026). "Integrated Resource Plan (IRP) Process." https://www.icc.illinois.gov/informal-processes/Integrated-Resource-Plan

# Conclusion

Wholesale electricity markets and market-based clean energy standards have delivered real and durable benefits: competitive dispatch, regional trade efficiencies, and transparent short-term price signals. These benefits should be preserved. But wholesale markets were not designed to plan for a 30-year asset buildout, to coordinate across reliability, affordability, and climate objectives. Clean electricity standards have driven significant renewable development, but they too operate on short compliance cycles and do not produce an integrated system plan or drive investment in technologies that face long-lead times and non-revenue development barriers. The result, in most deregulated states, is a planning gap that no existing institution is mandated to fill.

State-led planning helps states fill that gap. It does not replace wholesale markets; it complements them with the long-term planning layer they were never built to provide. The risks of long-term planning – forecast error, technology lock-in, above-market contracts – are real but manageable through scenario-based planning, technology-neutral solicitations, performance-based contract design, and coordination and alignment with RTO planning. The risks of continued reliance on short-term markets alone are also real and arguably less manageable: underinvestment in needed resources, continued consumer exposure to volatile capacity and energy prices, and failure to meet long-term policy targets. But to set up successful state-led planning, states will need to adopt new policies, oversight regulations, and expert capacity. While this is no small task, versions of state-led planning already exist and offer learnings.