



CAISO IPE Track 3A
September 4, 2024 workgroup meeting
Development Alignment Proposal
For LLT DNU Projects



Processes Alignment Shifts

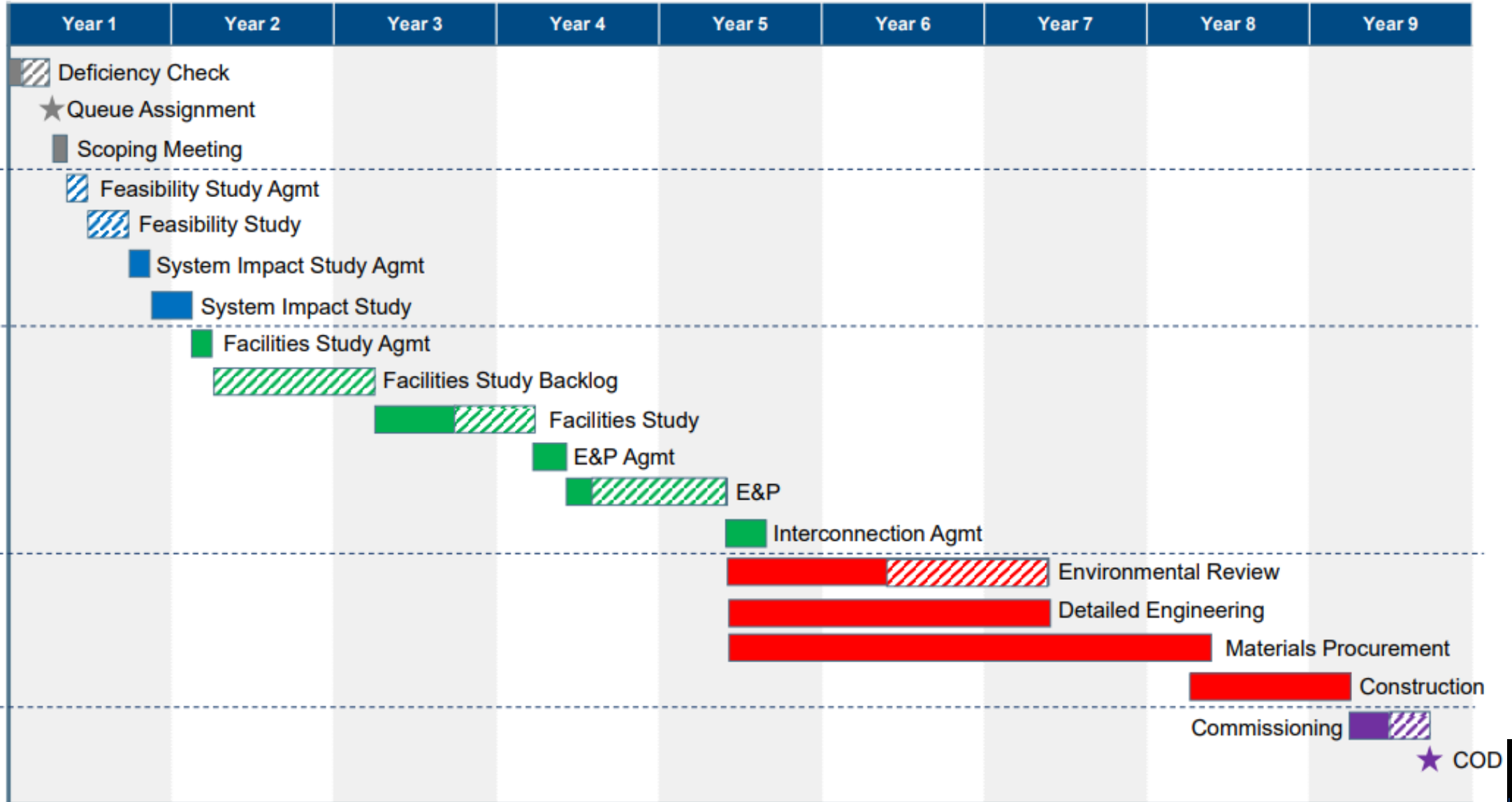
- Historically, interconnection study process provided a lower barrier to entry.
- Required less NUs approvals to support RPS targets of 20% by 2020, 33% by 2020, 50% by 2030, 60% by 2030. RETI 2.0 report provided confirmation.
 - Followed by clean energy targets of 90% by 2035, 95% by 2040, & 100% by 2045.
- The CPUC, CEC & CAISO MOU (Dec 2022) recognizes the important process alignment refinements needed to meet CA's clean energy policies.
- With the substantial NUs approved in the 2022-23 TP reflected in the 2024 TPD Report, some deliverability will not be available for 8 to 10+ years.
 - Appears to be a norm moving forward for newly approved DNU.
- Using the queue intake scoring criteria and 150% cap based on available and planned transmission capacity, any upgrades with specified time to construct dates intend to support CPUC resource portfolio busbar mapping needs using a 10-year planning horizon.

Conceptual Proposal

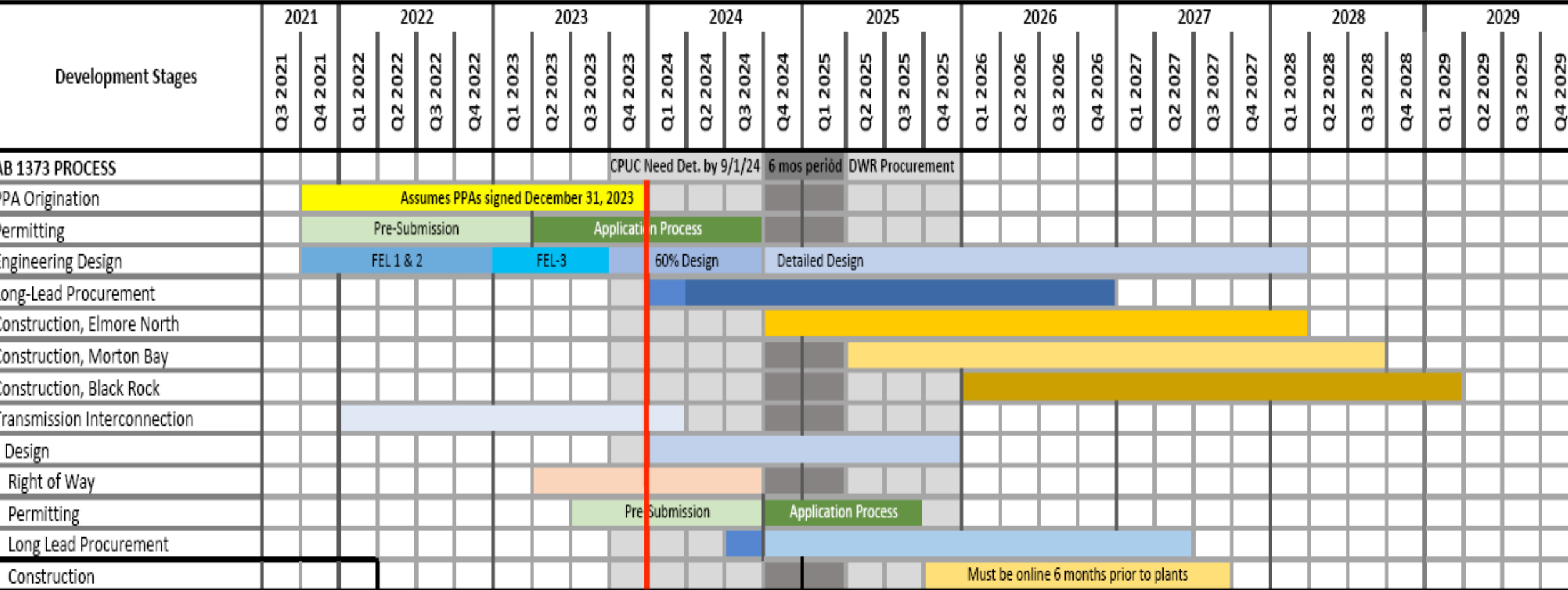
- Qualifying Event: LLT DNUs are assigned to specific transmission constraints and associated queued projects.
- Is a PPA a good measure of project viability for TPD allocation and retention with FCDS assigned 7+ years out?
- Proposal: Align queued projects commercial development milestones with the CPUC busbar mapping and DNU approvals for TPD allocation and retention.
- Projects that meet CAISO's (filed) queue intake reforms should be allowed to continue achieving development milestones aligned with the time to construct schedule of approved DNU.
- Alternative Contract Options can increase certainty for LSE & IPP, prior to traditional PPA execution.

Interconnection Timeline - Typical Solar w/ Ring Bus (6-9 years)

Legend: Solid – Required duration. Hashed – Potential reduced duration based on scenario.



Development Schedule example



Power Purchase Agreement Parameters

- A Power Purchase Agreement (PPA) is a contract between two parties—typically a power producer and a purchaser (often a utility company or a large industrial or commercial entity).
- In a PPA, the producer agrees to generate and deliver electricity, and the purchaser agrees to buy it at a predetermined price over a specified period. This contract is fundamental in electricity markets, especially in the renewable energy sector.
- PPAs are crucial in reducing the risk for both the producer and the buyer.
 - The producer gains a stable revenue stream, which is essential for securing financing for projects, particularly in capital-intensive renewable energy projects.
 - The buyer, on the other hand, benefits from long-term price certainty, which can protect against volatility in electricity prices.
- Renewable energy PPAs are often long-term (10-25 years) due to the high upfront capital costs and low operational costs of these technologies.
- *Does CAISO's wholesale market have a viable EO path to cover costs to finance and operate until NUs are in-service? Possibly construct an initial phase of the project as EO, and commence full construction to align with DNUs schedule?*

Fixed Priced Contracts (Ten Years Out) – Power Producer Pros & Cons

Pros for the Power Producer:

- **1. Financial Security:** - Stable Revenue Stream: The PPA guarantees a buyer for the electricity once the generator becomes operational, which can be crucial for securing financing. Investors are more likely to fund a project with a long-term contract in place. - Price Lock-In: If the PPA includes a fixed price for electricity, the producer is protected against future fluctuations in electricity prices, which could be advantageous if market prices decrease.
- **2. Project Development Confidence:** - Long-Term Planning: With a PPA in place, the producer can confidently proceed with long-term planning, including permitting, construction, and technological development, knowing there is a secured demand for the power.

Cons for the Power Producer:

- **1. Market Risks:** - Price Risk: If electricity prices increase significantly over the next ten years, the producer might be locked into selling power at a lower rate than the market price, potentially losing revenue or vice versa. - Regulatory Changes: Over a decade, regulatory environments could change, potentially affecting the profitability or viability of the project. The producer might be locked into terms that no longer reflect the current market conditions.
- **2. Technological and Project Risks:** - Technological Obsolescence: The technology planned for today might become outdated in ten years, affecting the efficiency and profitability of the project. - Delay Risks: Any delays in project development or grid connection (DNU development) could lead to penalties or renegotiation of terms, impacting the project's financial viability.

Fixed Priced Contracts (Ten Years Out) - LSE

Pros & Cons

Pros for the LSE:

- **1. Long-Term Supply Security:** - Guaranteed Supply: The PPA ensures that the utility will have a guaranteed source of electricity from a specific generator once it becomes operational, aiding in long-term resource planning and meeting future demand. - Price Stability: If the PPA includes a fixed price or a favorable pricing structure, the LSE can hedge against future price volatility, which can help in managing retail electricity prices for customers.
- **2. Regulatory and Sustainability Goals:** - Renewable Energy Targets: If the PPA is for renewable energy, it helps the LSEs meet regulatory requirements or corporate sustainability goals and compliance with environmental policies.

Cons for the LSE:

- **1. Uncertainty and Risk:** - Delayed Benefits: The utility won't see the benefits of the PPA for a decade, during which time market conditions and demand could change significantly. - Opportunity Cost: By committing to a long-term PPA now, the utility might miss out on better deals or technological advancements that could arise over the next ten years. - Counterparty Risk: If the power producer faces financial difficulties or other challenges and the project doesn't come to fruition, the LSE might not receive the contracted power, potentially leading to shortages or the need to source power elsewhere at higher costs.
- **2. Regulatory Risks:** - Changing Regulations: Over a ten-year period, regulatory frameworks could change, potentially making the terms of the PPA less favorable. The LSE might be locked into an agreement that no longer aligns with future regulatory or market conditions.

Alternative Options to Increase Certainty

1. Option Contracts:

- The parties could agree on an option to enter into a PPA closer to the generator's operational date, with pre-agreed terms. This would give both sides flexibility while providing a framework for future collaboration.

2. Indexed PPAs:

- Instead of fixing the price for the next ten years, the PPA could include an indexation mechanism that adjusts the price based on inflation, fuel prices, or other market indicators, ensuring that the terms remain fair over time.

3. Development Milestones:

- The PPA could be structured with specific milestones that the producer must meet over the development period. If milestones aren't met, the utility could have the option to renegotiate or exit the agreement, reducing the risk of project delays.

4. Conditional PPAs:

- The PPA could be conditional on certain regulatory approvals, technological benchmarks, or grid developments, which would allow the utility to back out or renegotiate if these conditions aren't met within a specific timeframe.

5. Shorter Initial Term with Extensions:

- The parties could agree on a shorter initial PPA term (e.g., 5 years starting from the operational date) with options for extensions. This allows for flexibility in renegotiating terms based on the market situation closer to the project's operational date.

6. Financial Guarantees or Insurance:

- The power producer could provide financial guarantees, such as performance bonds, or take out insurance to cover the risks of project delays or failures. This would offer the utility some financial compensation if the project doesn't proceed as planned. Vice versa for PTO delays.

7. Strategic Partnerships or Joint Ventures:

- The utility and power producer could form a joint venture or strategic partnership, sharing risks and rewards more equitably. This would align both parties' interests more closely and allow for greater collaboration during the development phase.

Securing the Future of Energy Development

1. Ensuring Financial Viability and Project Certainty:

- Alternative contracting options can provide the financial security necessary to move forward with large-scale, capital-intensive projects.
- By locking in future revenue streams, these agreements can enable power producers to secure financing and make the necessary project development investments.
- Without such agreements, the financial risk is disproportionately borne by power producers, potentially stalling the development of projects that are vital to the long-term stability and diversity of our energy supply.

2. Protecting Against Market Volatility:

- Committing to alternative contracting options today allows both power producers and utilities to hedge against future market volatility.
- As we look ten years into the future, the unpredictability of electricity prices and regulatory changes becomes a significant concern.
- In the absence of such agreements, utilities and consumers may face increased exposure to price spikes and market fluctuations, ultimately leading to higher costs and greater instability in the energy market.

Aligning with Long-Term Regulatory and Clean Policy Goals

1. Meeting Future Regulatory Requirements:

- As California's regulatory landscape evolves, there will be increasing pressure on LSEs to meet increased renewable energy targets and greenhouse gas reduction commitments.
- Legally binding agreements for future projects ensure that utilities are well-positioned to meet these requirements by securing access to sustainable energy sources well in advance of the operational date.
- By proactively entering into these agreements, utilities can demonstrate their commitment to regulatory compliance and environmental stewardship, while power producers can align their projects with the long-term energy policy objectives.

2. Encouraging Innovation and Technological Advancement: (CPE by CADWR)

- Supporting legally binding agreements for projects with long development timelines fosters innovation by allowing power producers to invest in the latest technologies.
- The assurance of a committed buyer gives producers the confidence to explore new technologies and approaches that might otherwise be deemed too risky.
- This forward-looking approach not only benefits the power producer but also ensures that the energy market remains at the forefront of technological advancement, ultimately leading to more efficient, reliable, and sustainable energy solutions.

Solution: Mitigating Risks Through Strategic Flexibility

Incorporating Milestones and Conditional Clauses into the TPD Retention Process:

- To address concerns about the long timeline before achieving deliverability, legally binding agreements can be structured with clear milestones and conditional clauses to receive and retain Conditional Deliverability.
- Such flexibility ensures that both parties remain committed to the project's success while providing a mechanism to adjust to unforeseen circumstances, thus maintaining the integrity and viability of the agreement.
- Ultimately, aligning with the California regulatory processes to achieve 100% clean energy by 2045.

Conclusion

- The energy challenges of the future require bold, forward-thinking solutions today. Alternative Contracting Options for projects that will not achieve deliverability for up to ten years are a critical tool in ensuring the continued development of a clean energy projects.
- By supporting these agreements, LSEs and regulators can secure a stable energy future, align with long-term policy goals, and foster the technological advancements necessary to meet the demands of tomorrow.
- The adoption of these agreements can serve as a cornerstone of our collective energy strategy, ensuring that power producers, utilities, and regulators can work together to build a resilient and sustainable energy future.

Q&A

