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KEY CONSIDERATIONS FOR ENERGY STORAGE PROCUREMENTS

December 13, 2023

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Presenters



Neeraj Arora



Casey S. August



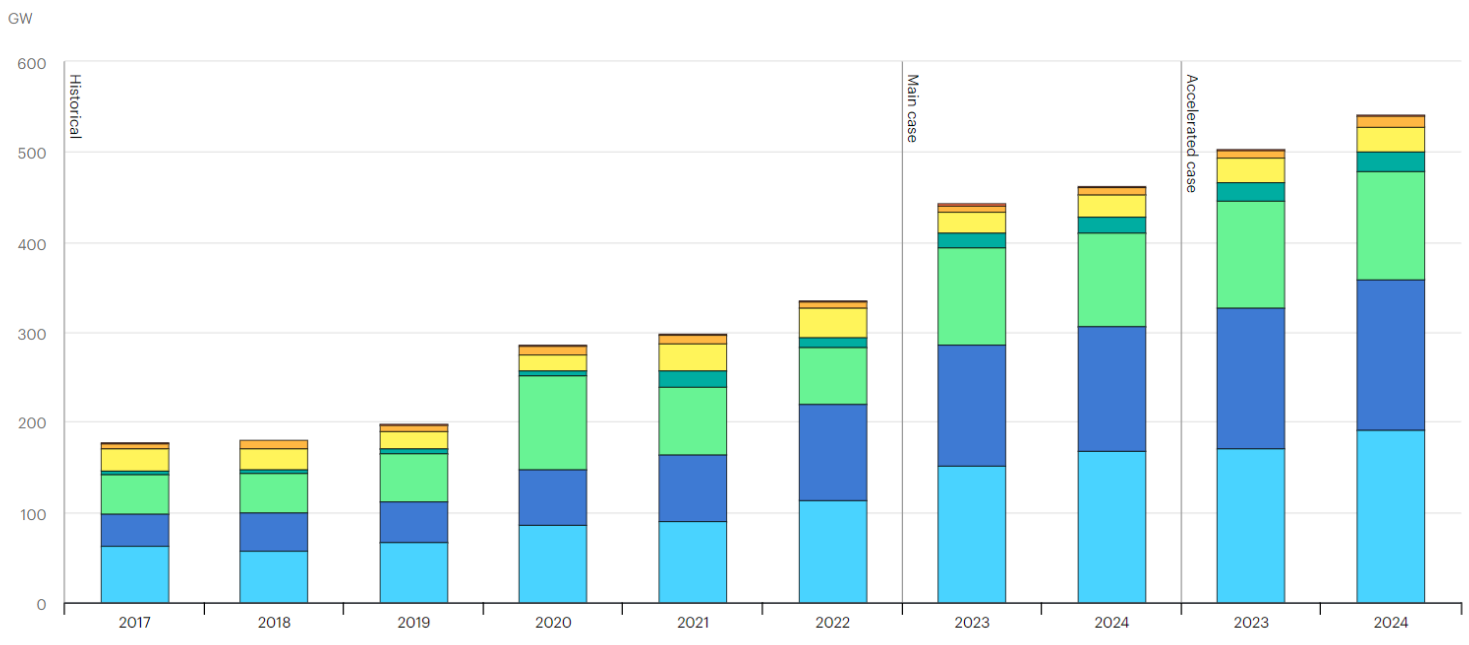
Mark A. Lazaroff

Agenda

- Market Overview
- Contracting for Utility Scale Energy Storage
- Negotiating Storage Equipment Supply Agreements
- Inflation Reduction Act Updates

Market Overview

Net Renewable Electricity Capacity Additions by Technology, 2017-2024 (IEA)



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● PV-utility ● PV-distributed ● Onshore wind ● Offshore wind ● Hydropower ● Bioenergy ● Others

Need for Reliability Results in Extensions for Conventional Generation

Southern California's natural gas plants to stay open through 2026

California officials agreed today to extend operations at three natural gas plants on the Southern California coast in an effort to shore up California's straining power grid and avoid rolling blackouts.

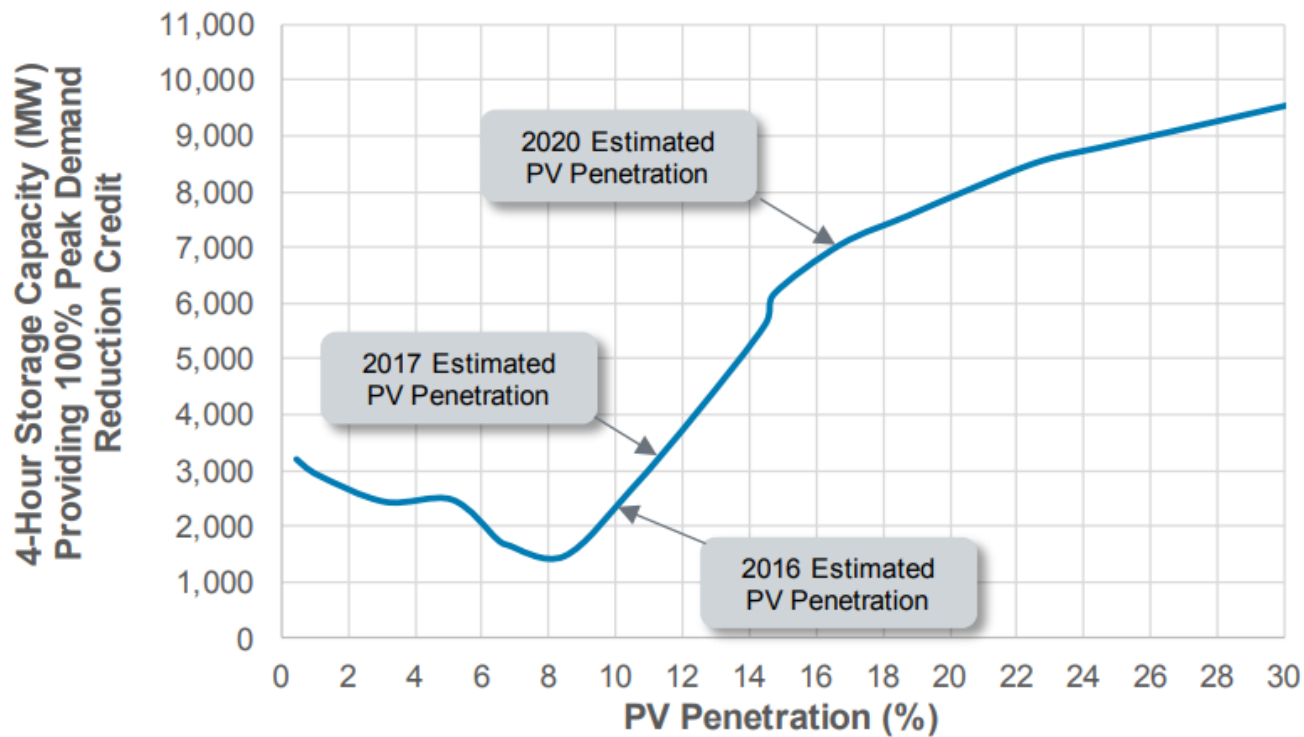
Texas voters approve amendment putting billions toward gas power plants

Texas voters on Tuesday decided to put billions of dollars into natural gas power plants as part of an effort aimed at increasing the reliability of the state's electric grid.

New York postpones retiring four power plants to maintain NYC supply

Nov 20 (Reuters) - The New York Independent System Operator (NYISO) said on Monday it will postpone the retirement of four floating natural gas-fired power plants by two years to keep the power supply reliable in New York City.

"The wind energy and solar energy industries are writing checks that energy storage is going to cash."

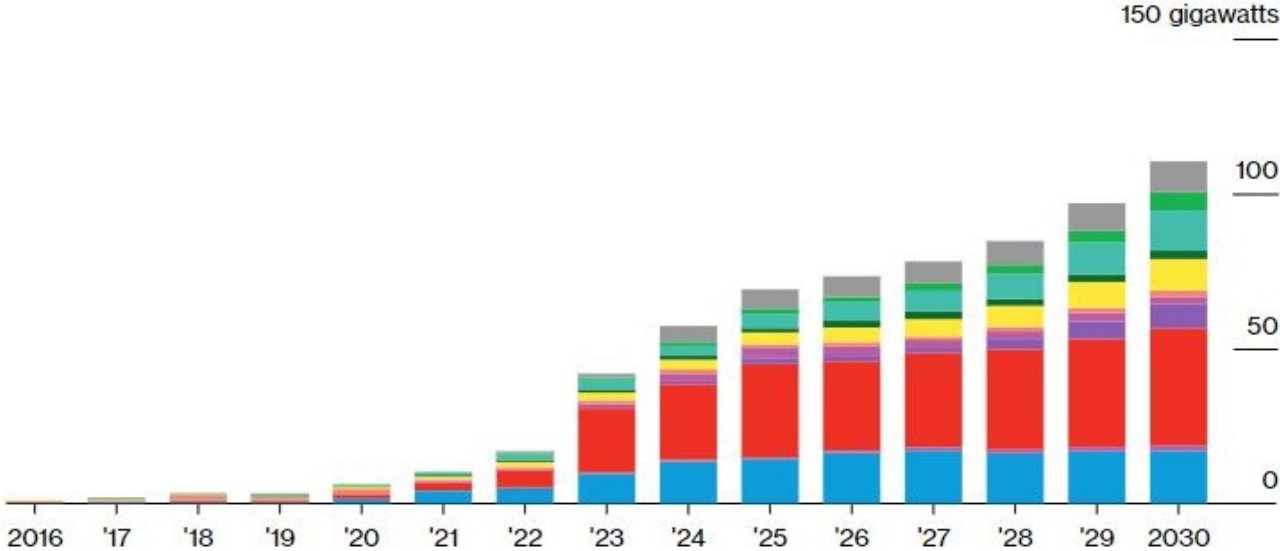


Quote from Daniel Finn-Foley, energy storage director at Wood Mackenzie.
National Renewables Energy Laboratory, "The Potential for Energy Storage to Provide Peaking Capacity in California under Increased Penetration of Solar Photovoltaics, March 2018

Growth of Energy Storage

Global gross energy storage capacity additions by key market

■ US ■ Latin America ■ China ■ India ■ Australia ■ South Korea and Japan
■ Germany ■ UK ■ Other Europe ■ Rest of the world ■ Buffer

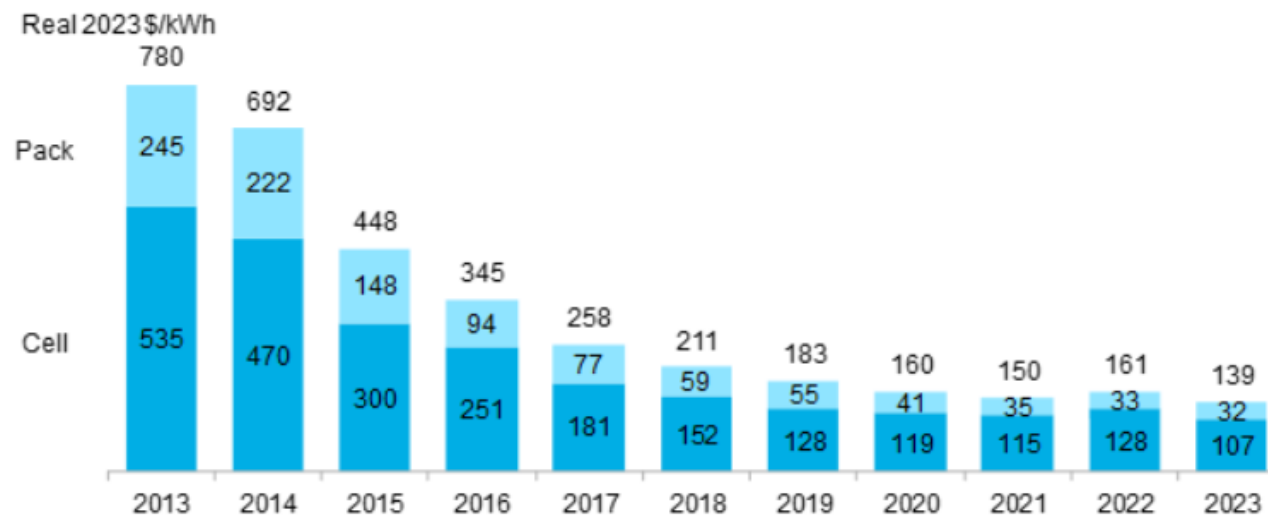


Source: BloombergNEF. Note: Buffer = headroom not explicitly allocated to an application.

BloombergNEF


Energy Storage Prices are Declining Again

Figure 1: Volume-weighted average lithium-ion battery pack and cell price split, 2013-2023



Source: BloombergNEF. Historical prices have been updated to reflect real 2023 dollars. Weighted average survey value includes 303 data points from passenger cars, buses, commercial vehicles, and stationary storage.

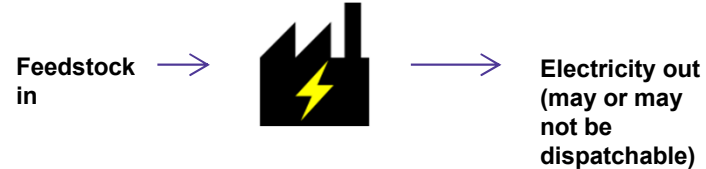
Battery costs expected to continue their decline - BloombergNEF projects the price of an average battery pack to be around \$113/kWh by 2025 and \$80/kWh by 2030



Contracting for Utility Scale Energy Storage

Complexity of Energy Storage

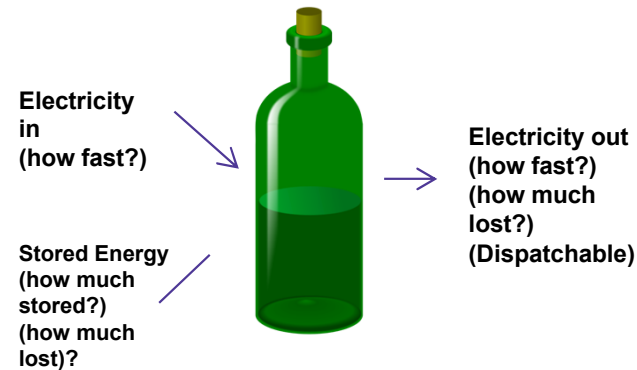
Conventional Generation



Considerations:

- Availability
- Total Storage Capacity
- Output Capacity
- Charging Capacity
- Self-Discharge Rate
- Ramp Rate
- Response Time
- Round-Trip Efficiency
- Operating Limitations

Energy Storage



Procurement - Contract Structures

- **Engineering, Procurement and Construction Agreement**
 - Offtaker owns Project
- **Build-Own-Transfer Agreement**
 - Developer retains ownership through Substantial Completion (or Mechanical Completion) and then transfers Project
- **Power Purchase Agreement and Hedges**
 - Developer retains ownership of Project and sells output to offtaker
- **Merchant / Partially Merchant Projects**

Key Trends Across Contracts

- Execution Risk
 - Supply chain issues, interconnection and pricing made development more difficult for developers
 - Requirement for reliability resources made the needs for utilities more acute
- Key Contract Impacts:
 - Increased development security
 - Increased delay damages
 - More scrutiny on milestones
 - Termination rights

Key Trends Continued

- Conditions Precedent
 - Interconnection related delays
 - Other development milestones
- Changes in Law
 - Compliance Expenditure Cap
- Capacity Buydowns

Build-Own-Transfer of Build-Transfer Agreements

- Opportunity for Utility Rate Base
- Impact of IRA
 - Pricing Split
 - Responsibilities post-Closing
 - Security for Obligations
 - Other IRA related provisions
- Long-Term Services Agreement
 - Performance Guaranties

PPAs and Hedges

- Majority of Contracting Activity
- Tolling Arrangements
 - Performance Guaranties
- Capacity Only Contracts
 - Partially merchant
- Hedges / Financial Contracts
 - Revenue Put Option / Swap
 - Performance Risks
 - Basis Risk
- Hybrid Projects



Negotiating Storage Equipment Supply Agreements

Options for Structuring Storage System Procurements

- Individual Purchase Agreements
 - Agreement between Supplier and Buyer for storage system for an individual project.
- Master Supply Agreements
 - Framework agreement setting forth master terms and conditions that will be applicable to purchase orders entered into pursuant to that agreement (but Seller may be under no obligation to accept a future PO and key terms such as price and delivery dates can be subject to negotiation in connection with individual POs).
- Capacity Reservation Agreements
 - May contain master terms and conditions, similar to an MSA, but will also guarantee availability within the Supplier's pipeline for a specified period of time, which Buyer will pay for, even if a PO is ultimately not executed.
- Long-Term Services Agreements
 - Can be entered into with a supply agreement. Will govern Supplier's long-term O&M obligations and contain guarantees for performance of the storage system.

Key Commercial Terms

- Price
 - Pass-through charges for risks related to commodity costs, tariff/trade issues, delivery costs
- Scope of Work/Services
 - Design requirements and/or commissioning, or simply deliver to site?
- Delivery Requirements
 - Buyer ability to shift date/location
- Performance Guarantees
 - Scope, ability to buy-down
- Warranty Terms
 - Scope, length

Key Contract Terms in Procurement Agreements

- Purchase Orders under MSAs and Capacity Reservation Agreements
 - Supplier ability to reject or renegotiate commercial terms upon issuance of a PO.
- Payment Terms
 - Allocation of payments between execution of an agreement or PO and commissioning. Typical milestones include:
 - Execution of Agreement/PO
 - Issuance of NTP
 - Delivery of Engineering/Design Deliverables
 - Factory Acceptance Testing
 - Delivery
 - Substantial Completion/Commissioning

Key Contract Terms in Procurement Agreements (Cont'd)

- Completion Stages
 - Partial Completion/Delivery
 - Delay Liquidated Damages
 - Substantial Completion, which will typically include commissioning and demonstration that the storage system meets specified performance requirements. A point of contention may be the requirement that the parties have entered into an LTSA as a condition of achieving Substantial Completion.
 - Performance Guarantees and Payment of Performance Liquidated Damages
 - E.g.: Availability, Power Capacity, Energy Capacity, Charge Time, Round-Trip Efficiency, Auxiliary Load, Self-Discharge Rate, Standby Self-Discharge Rate
- Liquidated Damages Cap

Key Contract Terms in Procurement Agreements (Cont'd)

- Transfer of Title – incorporation into the project vs. payment.
- Intellectual Property – extent that Buyer will be able to sub-license/utilize Supplier's IP.
- Excused Performance
 - Change in Law
 - Force Majeure
 - Definition
 - Foreseeability as of the Effective Date
 - Notice Requirements

Key Contract Terms in Procurement Agreements (Cont'd)

- Warranty Terms
 - Defects
 - Serial Defects
 - Term
- Limitation of Liability
- Termination Rights and Fees
 - Buyer offramps / CPs
 - Termination for Uncured Default
 - Termination for Convenience

Key Contract Terms in Procurement Agreements (Cont'd)

- Performance Assurance
- Incentives (e.g., compliance with Prevailing Wage and Apprenticeship Requirements; satisfaction of domestic content requirements)

Key Contract Terms in LTSAs

- Term
- Scope of “Covered Services” vs. “Additional Services”
 - Will augmentation be required?
- Payment Terms
 - Typically agreed upon fixed fee for Covered Services, with Additional Services billed as agreed to by the parties, or on a T&M basis plus agreed upon percentage for overhead and profit.
- Owner Obligations
- Warranty Obligations and Performance Guarantees

Key Contract Terms in LTSAs (cont'd)

- Limitation of Liability
- Termination Rights
- Incentives



Inflation Reduction Act Updates

Certain IRA Guidance

- ITC
 - Proposed Regulations – REG-132569-17 (Nov. 22, 2023)
- Prevailing Wage and Apprenticeship
 - IRS Notice 2022-61 (Nov. 30, 2022)
 - Proposed Regulations – REG-100908-23 (Aug. 29, 2023)
- Domestic Content
 - IRS Notice 2023-38 (May 12, 2023)
- Energy Community
 - IRS Notice 2023-29 (Apr. 4, 2023), as clarified and updated by IRS Notice 2023-45 (June 15, 2023)
- Credit Transferability / Direct Payment
 - Temporary and Proposed Regulations – REG-101610-23 (June 21, 2023)
- Still awaiting guidance under the Section 45X advanced manufacturing credit

ITC Proposed Regulations

- Retains expansive statutory definition of qualifying “energy storage technology”
 - Provides non-exclusive list of technology-specific examples for eligible electrical, thermal and hydrogen energy storage systems
- Confirms ITC eligibility for project co-located with PTC-generating energy production facility
 - ITC on shared facilities (power conditioning and transfer equipment)
- ITC on “qualified interconnection property”
- ITC recapture for prevailing wage non-compliance during 5-year ITC recapture period

Prevailing Wage and Apprenticeship (PWA) Guidance

- IRS Notice 2022-61 – PWA does not apply for facilities/projects that “begin construction” before January 29, 2023
- PWA Proposed Regulations:
 - Continues to rely heavily on Davis-Bacon Act standards
 - Confirms that PWA compliance issues may be cured upon audit in later years (provides for 180-day period for cure following IRS determination of failure)
 - Adds certain *de minimis* compliance exceptions to avoid imposition of IRS cure penalty (e.g., correction before filing of relevant return & underpayment by not more than 2.5%)
 - Businesses may avoid IRS cure penalty if there is a Qualified Project Labor Agreements (“QPLA”) for the applicable project.

PWA Guidance

- PWA Proposed Regulations (continued)
 - PWA Regulations require much more expansive substantiation and recordkeeping requirements as compared to Notice 2022-61. Must include, at a minimum, *payroll records for each laborer and mechanic* (including each qualified apprentice) employed by the taxpayer, contractor or subcontractor in the construction, alteration or repair of a qualified facility. Additional examples provided of documentation that “may” be included among records sufficient to demonstrate compliance.
 - For transferred credits, IRS cure penalty obligation for failure of the PWA Requirements applies to *transferor* (notwithstanding that recapture risk and excessive credit transfer penalty rests with buyer). This means transferee’s credit amount may be contingent on a transferor’s cure through penalty payments.

Domestic Content Guidance – IRS Notice 2023-38

- Establishes relatively high bar for satisfying domestic content standard
- Contains safe harbor list categorizing (as either “manufactured” or “steel or iron”) certain common components and equipment included in battery energy storage technologies (among others).
- Manufactured product percentage calculation based on manufacturer’s own costs
- Includes recordkeeping and certification requirements

Applicable Project Component	Category	Manufactured Product Components
Steel or iron rebar in foundation (e.g., concrete pad)	Steel/Iron	
Battery Pack	Manufactured Product	cells, packaging, thermal management system, and battery management system
Battery Container/Housing	Manufactured Product	
Inverter	Manufactured Product	

Energy Community Guidance – IRS Notices 2023-29 2023-45

- Post-2022 “begin construction” qualification
- Safe harbor list for brownfield sites.
- Published lists and maps for qualifying Coal Closure Category and Statistical Area Category locations.

Transferability Guidance

- **Proposed and Temporary Regulations issued June 14, 2023 (collectively, the “Transferability Guidance”)**
 - Each item of credit-generating property must be separately registered and subject to a separate transfer election
 - Payment must generally be made in taxable year that credit is produced (prior to filing relevant return) – can not pre-pay
 - Buyer does not recognize taxable income if it buys the credit at a discount
 - Passive activity loss and credit limitation rules do not limit amount of credit that may be sold, but do limit amount of purchased credit that may be used by buyer.
 - Regulations confirm that project-level recapture event is imposed on buyer.
 - Additional 20% penalty on credit buyer for “excessive credit transfers.” Reasonable cause defense based on “facts-and-circumstances” that depends on amount of diligence performed.
 - Flexibility afforded to partnerships/partners in transfer of credits
 - Establishes pre-filing process requiring entities to register with the IRS to obtain a registration number prior to transferring credits.

Biography



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Neeraj Arora serves as a co-leader of the firm's internationally recognized global energy industry team and is a deputy practice leader of the firm's energy and project development practice. He represents sponsors, financial institutions, and utilities in connection with the development, acquisition, disposition, and financing of significant infrastructure projects, including conventional (gas and coal) and renewable (energy storage, solar, wind, biomass, and geothermal) power generation projects, transmission lines, and pipelines, and advises clients seeking innovative business opportunities related to climate change. Neeraj partners with clients to successfully execute bank and institutional investor debt financing transactions (including tax equity bridge loans), equity investments and joint ventures, and project mergers and acquisitions, as well as a broad array of project development commercial transactions.

Biography



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Casey S. August's practice focuses on US federal tax planning and implementation matters. Representing clients across industries, he advises on structuring and documentation issues for mergers and acquisitions, energy project financings, joint venture collaborations, and intellectual property transfers. Casey also counsels clients on issues involving choice of entity and cross-border structuring and planning, as well as on IRS private letter ruling submissions and securities filings.

Biography



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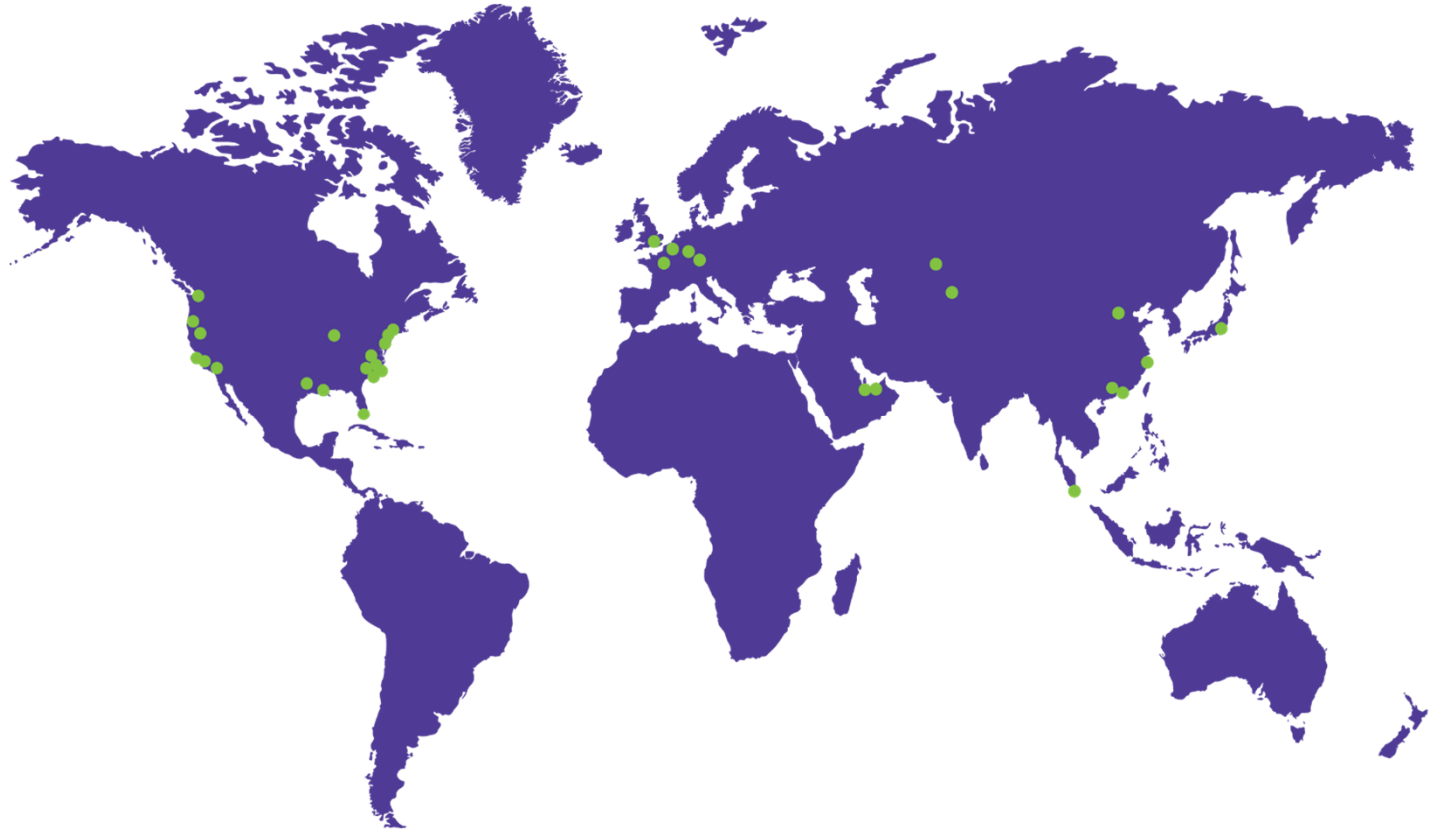
Mark A. Lazaroff counsels public utilities, energy companies, and other clients on regulatory issues and transactional matters. He represents natural gas, water, and wastewater utilities in regulatory proceedings, including ratemaking proceedings, before public utility commissions, in matters before the Federal Energy Regulatory Commission, and in litigation. Mark also represents clients in the development of renewable energy projects (primarily solar, storage, and wind) to meet their sustainability goals and reduce their carbon footprints. He is an active member of the firm's energy industry team, Climate Change and Sustainability Working Group, and Electric Vehicles Working Group.

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