

November 19, 2020

# Renewables and Hydrogen Update—U.S. Market and Regulatory Developments

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## Renewables Series – Part 2

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### SUMMARY

The stage is set for substantial growth of the renewables sector in the years to come. In this series, we highlight market and regulatory developments in major global renewables markets and discuss deal considerations for buyers and sellers of renewables assets globally. [Part 1](#) summarized global context and key trends and regulatory developments in Europe. This Part 2 summarizes key trends and regulatory developments in the United States that dealmakers in the renewables and hydrogen sectors should be aware of, which include:

- Projected rapid development of the U.S. offshore wind market
- U.S. energy policy developments, including:
  - Expected shift in federal energy policy under the Biden administration, including increased emphasis on reviewing projects' environmental and climate impacts
  - Uncertain future of U.S. federal renewable energy tax credits
  - Federal hydrogen policy developments
  - State energy policies and renewable energy targets
- Navigating the complex and layered federal, state and local regulatory approval framework
- Federal filing requirements and increased CFIUS oversight of renewable energy transactions

In Part 3 of this series, we will review key deal structuring and diligence considerations for renewables transactions.

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### U.S. MARKET OVERVIEW

The U.S. Energy Information Administration (EIA) forecasts that renewable energy will be the nation's fastest growing source of electricity generation in 2020, with 23.2 GW of new wind capacity and 12.8

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GW of new utility-scale solar capacity expected to come online in 2020.<sup>1</sup> At the same time, the EIA projects that the share of electricity generated by coal in the United States will fall to 20% in 2020, from 24% in 2019, while the share of renewables will rise to 20% in 2020, from 18% in 2019.

Among renewable energy sources, wind accounted for approximately 7.3% of overall electricity produced in the United States in 2019, while hydroelectric power and utility-scale solar accounted for approximately 6.6% and 1.8%, respectively.<sup>2</sup> The EIA has projected that renewables will remain the U.S.'s fastest-growing source of electricity generation through 2050.<sup>3</sup>

The U.S. energy storage market is expected to exceed USD\$1 billion in 2020 and grow to nearly USD\$7 billion with annual deployments reaching 7 GW by 2025.<sup>4</sup> Order 841 of the Federal Energy Regulatory Commission (FERC), which enables grid operators to open wholesale markets to energy storage providers, was affirmed by the D.C. Court of Appeals in July 2020 and is expected to stimulate further development of storage projects.<sup>5</sup>

In this update, we highlight several notable trends and regulatory developments in the U.S. market that dealmakers in the renewables and hydrogen sectors should be aware of, starting with the burgeoning U.S. offshore wind market.

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### U.S. OFFSHORE WIND

The nascent U.S. offshore wind market is poised for a massive expansion, from 30MW currently to over 20GW in the next decade. Figure 1 below shows the current U.S. offshore wind project pipeline.

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<sup>1</sup> U.S. Energy Information Administration, "Short Term Energy Outlook," November 10, 2020. Renewable energy growth is not expected to suffer, notwithstanding demand reductions and supply chain complications from the ongoing COVID-19 crisis.

<sup>2</sup> U.S. Energy Information Administration, "Monthly Energy Review October 2020," October 27, 2020.

<sup>3</sup> U.S. Energy Information Administration, "Annual Energy Outlook 2020 with projections to 2050," January 2020.

<sup>4</sup> U.S. Energy Storage Association, Wood Mackenzie Power & Renewables, "U.S. energy storage monitor," September 2020.

<sup>5</sup> *Nat'l Ass'n of Regulatory Util. Commissioners v. Fed. Energy Regulatory Comm'n*, 964 F.3d 1177 (D.C. Cir. 2020).

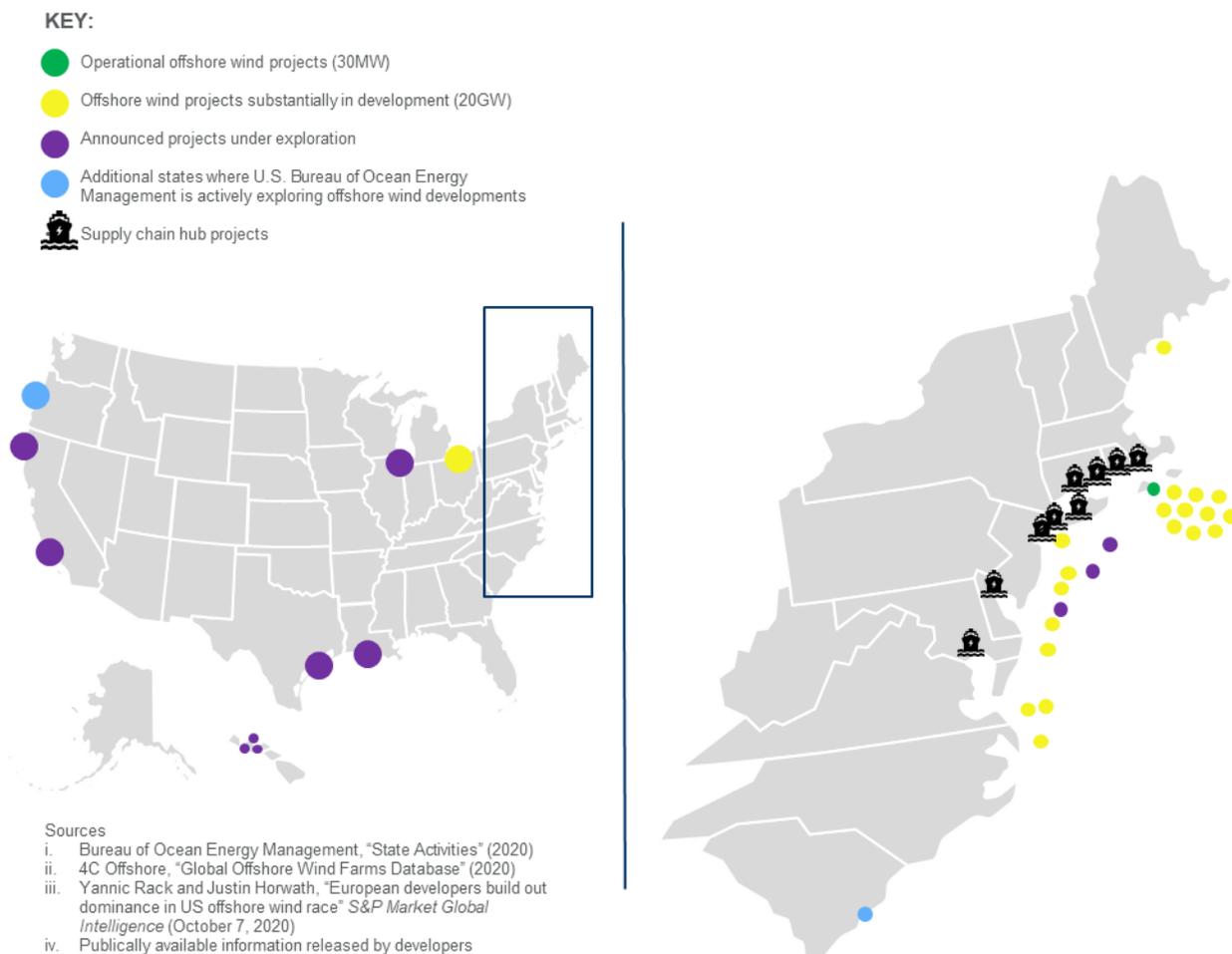


Figure 1: Current U.S. offshore wind pipeline

In July 2020, the U.S. Bureau of Ocean Energy Management (BOEM), the agency responsible for offshore wind leasing, released a draft Supplemental Environmental Impact Statement (EIS) which (in connection with the Vineyard Wind project) considered the cumulative impact of 22 GW of wind development along the U.S. northeast coast. The anticipated approval of this Supplemental EIS is expected to create a pathway for expansive domestic offshore wind development. Approval has been continually delayed and now will not occur until January 2020 at the earliest.

Although the BOEM is responsible for granting offshore wind leases, procurement of offshore wind projects has largely been a state-driven process to date. While most proposed projects are in federal waters, they need to connect onshore into a local electricity market (as there currently is no U.S. offshore grid). States seeking to increase their percentage of electricity generated by renewables (to satisfy state renewable portfolio standards) have employed competitive tender processes to provide long-term pricing support via power purchase agreements (PPAs) or offshore wind renewable energy certificate (OREC) sale and purchase contracts. The allocation of electricity and capacity market revenues and risks between the state (or regulated utility) and the offshore wind generator varies state by state. Figure 2 below shows the procurement mechanisms for the early moving states along the U.S. east coast.

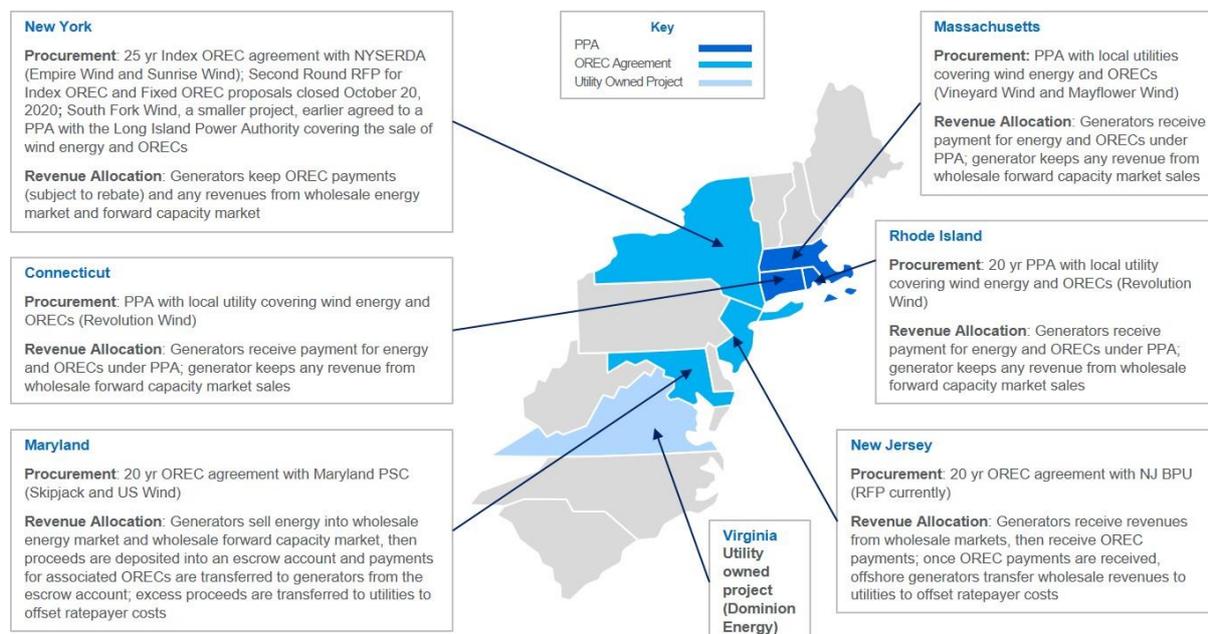


Figure 2: Current U.S. offshore wind procurement mechanisms

## U.S. ENERGY POLICY DEVELOPMENTS

### Expected Biden Administration Priorities

U.S. President-elect Joe Biden has made a number of policy statements in support of achieving climate and clean energy goals, centered around overall targets of a 100% “carbon pollution-free power sector” by 2035 and net-zero emissions in the United States by no later than 2050. Some policies he intends to implement by executive action in the first days of his administration in 2021, while others will require legislative action by the U.S. Congress.

President-elect Biden’s stated clean energy policy intentions, which could be accomplished at least in part by executive or regulatory action (without congressional involvement), include:

- immediately cause the United States to re-join the Paris Agreement on climate change (by executive order);
- use the federal government procurement system to drive towards 100% clean energy and zero-emissions vehicles and ensure all U.S. government installations, buildings, and facilities are more efficient and climate ready;
- develop renewable energy facilities on U.S. federal lands and waters with the goal of “doubling” offshore wind by 2030 (although it is unclear what the baseline figure is for this, given that current operating capacity is only 30MW);
- require public companies to disclose climate risks and the greenhouse gas emissions in their operations and supply chains; and
- develop new fuel economy standards aimed at ensuring 100% of new sales for light- and medium-duty vehicles will be electrified and work with governors and mayors to support the deployment of more than 500,000 new public charging outlets by the end of 2030.

President-elect Biden has also stated he intends to seek congressional legislation to:

- establish an enforcement mechanism for the 2035 100% clean electricity and 2050 net-zero emissions goals that includes interim milestone targets no later than the end of 2025;

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- authorize federal investments of \$1.7 trillion in clean energy and environmental justice over the next 10 years, with the goal of leveraging additional private sector and state and local investments to total more than \$5 trillion; and
- fund research and development aimed at developing, among other things, grid-scale energy storage at one-tenth the cost of lithium-ion batteries, small modular nuclear reactors at half the construction cost of current reactors, zero net energy buildings at zero net cost and cost competitive carbon-free hydrogen.

The outlook for congressional action depends in part on the outcome of the U.S. Senate special elections in Georgia to be held in early January, which will determine if Democrats control both houses of Congress or if they will need the cooperation of a Republican-controlled Senate to pass legislation.

### Uncertainty Around Federal Tax Incentives

Federal tax credits for renewable projects have been a foundational component of most U.S. projects' financial viability to date, but their future for new projects is uncertain. These credits facilitate project funding by financial institutions and other businesses which have significant tax liabilities. The Production Tax Credit, a credit based on the amount of energy produced by a project and mostly utilized by wind projects, was extended in late 2019, but projects must start construction by December 31, 2020 in order to qualify for the tax credit. The Investment Tax Credit (ITC) is based on project capital costs, as opposed to production, and is used mostly by solar projects but is also expected to be used by offshore wind projects. The ITC is beginning to phase out in 2020. It is not clear whether President-elect Biden and Congress will extend either tax credit and, if so, at what rates. However, even without an extension, utility-scale solar projects will be eligible for a 10% ITC benefit from 2022 onward.

Table 1 shows the current ITC status for solar and wind projects. Although the COVID-19 crisis has somewhat constrained tax equity financing, JPMorgan expects the renewables tax equity market to reach \$15 billion in 2020, up from \$13 billion in 2019.<sup>6</sup>

*Table 1: Current ITC Phase-out Schedule*

Current ITC Schedule			
Year construction begins:	2020	2021	2022+
Commercial & Utility-Scale Solar	26%	22%	10%
Residential Distributed Solar	26%	22%	0%
Wind	18%	0%	0%

### U.S. Hydrogen Market and Policy

In a series of recent memos (available [here](#) and [here](#)),<sup>7</sup> we provided an overview of the current global hydrogen market, the key opportunities and challenges and announced government hydrogen policies. The United States is currently a leading hydrogen market, with over 10 million metric tonnes (MMT) per year of hydrogen consumed and over 145 retail and industrial hydrogen refuelling stations.

<sup>6</sup> Fotios Tsarouhis, "Financing markets for renewable energy rebound, tax equity could top 2019," S&P Global Market Intelligence, September 11, 2020.

<sup>7</sup> See Sullivan & Cromwell LLP, "[Hydrogen – Fuel of the Future or Just Hot Air?](#)" September 23, 2020 and "[Hydrogen – Recent Developments in Hydrogen Projects](#)," September 28, 2020.

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Under the Trump administration, the U.S. Department of Energy (DoE) recently released a Hydrogen Program Plan,<sup>8</sup> which summarizes the current challenges and opportunities to grow the U.S. hydrogen market and the DoE's hydrogen research and development targets. These targets include reducing electrolyzer and fuel cell system costs while improving system durability and efficiency. The DoE projects that the U.S. market could quadruple by 2050 if sufficient research and development progress is made.

One program highlighted in the DoE Hydrogen Program Plan is the DoE Loan Program Office, which currently has over \$20 billion in lending capacity for U.S. energy projects that reduce greenhouse gas emissions. Developers of energy projects utilizing new technologies and/or new monetization structures should keep in mind LPO funding, which is often structured as limited recourse project financing.

As noted above, President-elect Biden has proposed government-supported research and development aimed at making carbon-free "green" hydrogen (produced with renewable electricity) cost competitive with "grey" hydrogen (hydrogen produced with natural gas).

### U.S. State Policies and Targets

Government support for renewables development varies from state to state. Many states have set ambitious targets for renewable energy consumption. For example, California has committed to using 100% clean energy by 2045, with incremental commitments beginning with 44% clean energy usage by 2024. New York has committed to 70% usage of renewables by 2030 and 100% zero-emissions electricity by 2040. Currently, more than half of U.S. states have renewable portfolio standards (RPS) that set targets for a minimum percentage of electricity to be sourced from renewables. An additional seven states have voluntary standards or targets, and 14 states have committed to obtaining at least 50% of electricity from renewable sources.<sup>9</sup> States are generally still formulating implementation plans to achieve their renewables targets, and project developers, utilities and investors need to monitor the policy environment in each state that their projects will be operating in and/or selling electricity into.

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## COMPLEX AND LAYERED U.S. REGULATORY APPROVALS

Developers, investors and lenders evaluating renewable energy generating projects should be aware that various permits and approvals are potentially required from a range of federal, state and local government agencies. The timeline for project development and completion in the United States can therefore be longer and/or more uncertain than in other jurisdictions. Projects often must undergo an environmental review at the federal level under the National Environmental Policy Act (NEPA), which sets out baseline environmental policies for federal government activities and requires completion of an EIS for certain projects. The Trump administration issued an executive order that aims to reduce permitting and approval delays under NEPA in an effort to accelerate infrastructure project development, although the legal basis for the order is disputed.

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<sup>8</sup> U.S. Department of Energy, "Department of Energy Hydrogen Program Plan," November 12, 2020, available at <https://www.hydrogen.energy.gov/pdfs/hydrogen-program-plan-2020.pdf>.

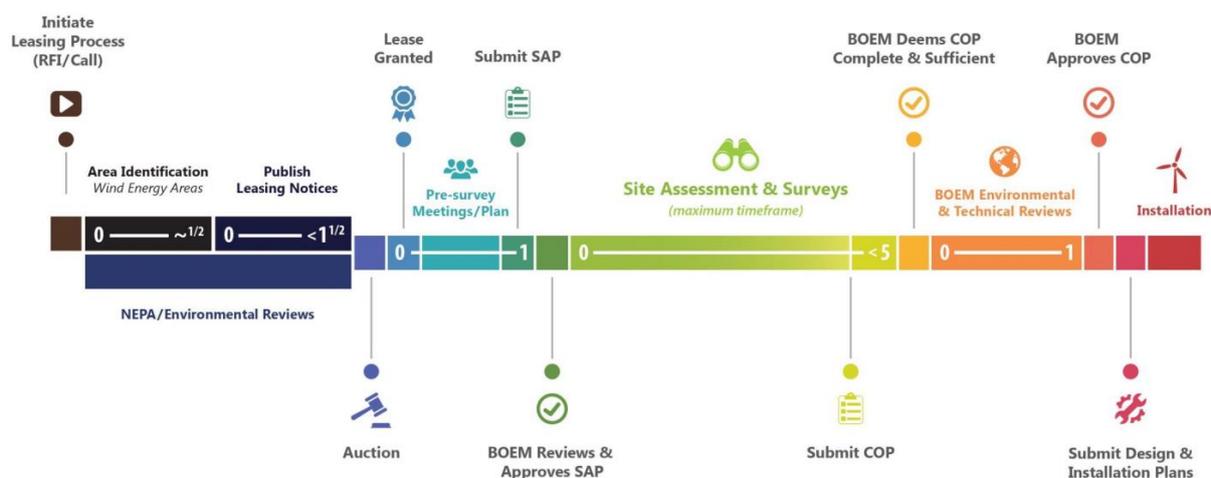
<sup>9</sup> National Conference of State Legislatures, "State Renewable Portfolio Standards and Goals," March 17, 2020.

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President-elect Biden has indicated his administration will focus on climate change and environmental justice in federal permitting decisions, but it remains to be seen what specific changes he will propose and whether he will attempt to make changes via executive order, which has legal limitations, or via legislative action.

In addition to federal permitting, project developers and operators may need to obtain state and local government approvals. These approvals often require interaction with the relevant Independent System Operators and Regional Transmission Organizations, which manage regional electric grids and operate wholesale electricity markets. In addition, approvals for siting of facilities and other land use matters are typically handled at the state and local government level. In certain situations, project developers may also need to undertake tribal consultations.

As an example of the complex, layered regulatory landscape in the United States, Figure 3 below shows the typical regulatory approval process and expected regulatory stakeholders for a U.S. offshore wind project.



### **Federal: Offshore leasing and easements, environmental and national security reviews, customs, Jones Act**

- Bureau of Ocean and Energy Management, Department of the Interior (lead federal agency and offshore lessor)
- US Army Corp. of Engineers
- National Oceanic and Atmospheric Administration (including NOAA Fisheries)
- US Fish and Wildlife Service
- Environmental Protection Agency
- US Coast Guard
- US Customs and Border Patrol
- Federal Energy Regulatory Commission
- Department of Defense
- Federal Aviation Administration

### **Regional: grid interconnection, energy and capacity sales**

- Regional Transmission Organization (RTO) or Independent System Operator (ISO)

### **State: Offtake/subsidy (OREC/PPA), environmental reviews, nearshore easements, employment/labor and local benefit arrangements**

- Renewable Energy Agency, Department or Commission
- Department of Environmental Conservation or Protection
- Department of Public Services or Public Utilities
- Department of General Services or General Procurement
- Department of State
- Department of Transportation
- Department of Parks and Recreation
- Historic Preservation Office

### **Local: Zoning approvals and building permits for onshore facilities**

- Local Planning Commission or Zoning Board
- Local Board of Commissioners or Board of Adjustment
- Local Environmental Commission
- Historic Preservation Office

Figure 3: Example BOEM regulatory approval process (top) and typical regulatory stakeholders (bottom) for a U.S. offshore wind project

## FERC, HSR AND CFIS Filing Considerations

Filings with FERC may be necessary in connection with transactions involving U.S. renewable assets, such as when a change of control occurs with respect to a company engaged in interstate sales of

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electric energy or in wholesale interstate electric transmission. Large acquisitions of renewables assets may also require pre-merger filings and approvals under the Hart-Scott-Rodino Act (HSR).<sup>10</sup> Significant amendments to the HSR filing requirements are currently under consideration by the Federal Trade Commission and the Antitrust Division of the Department of Justice.<sup>11</sup>

In addition, transactions involving acquisitions of U.S. renewable assets (potentially including assets that are not yet operational)<sup>12</sup> by non-U.S. persons may be subject to review by the federal Committee on Foreign Investment in the United States (CFIUS), which has [recently](#) been empowered to look at foreign investment in critical energy infrastructure with greater scrutiny.<sup>13</sup> This includes not only direct project sales but also indirect/offshore transactions and minority investments. Market participants in the renewables sector should note that CFIUS and its partner federal agencies have taken an increasingly robust role in reviewing, approving and (in some cases) potentially unwinding investments in the renewables sector when they are deemed to present national security risks.<sup>14</sup>

Experienced U.S. counsel should be consulted to determine which regulatory filings are required for any proposed investment or sale and the timing implications associated with obtaining the necessary approvals.

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## CONCLUSIONS

Utilities, developers and interested buyers and investors need to understand and monitor the diverse, multi layered U.S. energy policy and regulatory landscape. The expected shift in federal energy policy under the Biden administration towards emphasizing carbon-free energy sources has bolstered the market outlook, which already looked strong even further, notwithstanding the COVID-19 pandemic and ongoing headwinds faced by the broader energy sector.

In the next installment of this series, we will cover key diligence, financing and JV governance considerations for dealmakers in renewables transactions.

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<sup>10</sup> See Sullivan & Cromwell LLP, "[Hart-Scott-Rodino Act: Revised Jurisdictional Thresholds](#)," January 28, 2020.

<sup>11</sup> See Sullivan & Cromwell LLP, "[Proposed Amendments to HSR Rules Would Impact Hostile Acquirers, Activist Investors, Investment Funds and MLPs](#)," September 29, 2020.

<sup>12</sup> Sullivan & Cromwell LLP, "[The New CFIUS After Implementation of Expanded Authorities](#)," February 13, 2020. The memorandum notes that CFIUS now has jurisdiction over certain types of real estate transactions that do not also involve the acquisition of an interest in a U.S. business, explaining that acquisitions of certain real estate assets that relate to airports or maritime ports or that are proximate to U.S. military installations or other properties of the U.S. Government that are sensitive for national security reasons may be subject to CFIUS jurisdiction. As explained in the memorandum, analysis of jurisdiction in such cases would be intensely fact-based.

<sup>13</sup> *Ibid.*

<sup>14</sup> See for example, *Rails Corp. v. Comm. on Foreign Inv.*, 758 F.3d 296 (D.C. Cir. 2014), in which the decision of CFIUS to unwind a Chinese investment in a wind installation located near a U.S. Navy facility was upheld by a federal appeals court.

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