



BOEM  
Office of Strategic Resources  
760 Paseo Camarillo (Suite 102)  
Camarillo, California 93010

**Re: [Docket No. BOEM–2018–0045] Commercial Leasing for Wind Power on the Outer Continental Shelf Offshore California—Call for Information and Nominations**

**[SUITABLE FOR PUBLIC RELEASE]**

Dear Sir or Madam,

Avangrid Renewables LLC (Avangrid Renewables), as a global offshore wind developer and market leader, is pleased to submit its nominations for commercial wind energy leases in the Offshore California Call Areas identified in the above notice.

Avangrid Renewables is an indirect subsidiary of AVANGRID, Inc. and part of the IBERDROLA Group. IBERDROLA, S.A., is an energy pioneer with the largest renewable asset base of any company in the world. Avangrid Renewables is headquartered in Portland, Ore.

AVANGRID, Inc. is a diversified energy and utility company with more than \$32 billion in assets and operations in 27 states. The company owns regulated utilities and electricity generation assets through two primary lines of business, Avangrid Renewables Networks and Avangrid Renewables. Avangrid Renewables Networks is comprised of eight electric and natural gas utilities, serving approximately 3.2 million customers in New York and New England. Avangrid Renewables operates more than 6 gigawatts (GW) of owned and controlled renewable generation capacity, primarily through wind and solar, in 22 states across the United States. AVANGRID RENEWABLES employs approximately 6,800 people.

Avangrid Renewables and its affiliates have considerable development experience in building and operating offshore wind farms, and most recently secured commercial offshore wind leases in federal waters near Massachusetts and North Carolina.

This letter includes our response to Point 6 *Requested Information from Interested or Affected Parties* as well as our public response to Point 7 *Required Nomination Information*.

**REQUESTED INFORMATION: 6(9)**

Call Area locations

Avangrid believes that BOEM has selected appropriate sites at Humboldt, Morro Bay, and Diablo Canyon for the development of floating offshore wind in California. Avangrid strongly supports and encourages development of additional call areas.

Scale of Projects

Avangrid Renewables strongly believes that an efficient and effective offshore wind industry can only be secured if developers are able to bring forward sufficiently-large projects. Large scale projects allow

economies of scale to be realized, supporting strategic investment in infrastructure such as ports and fabrication yards and new construction vessels. The greater certainty provided through larger projects assists development of a robust local supply chain, creating more domestic jobs.

Globally the scale of projects is increasing, wind turbines are becoming larger, and equipment and infrastructure is developing to serve this advancing industry. Very large turbines are commercially beneficial to floating offshore wind and largescale projects are necessary for the United States to compete in this new global market.

California offers an interesting challenge to the offshore wind industry as water depths are too deep for standard and commercially proven fixed-bottom foundations. California can become one of the first markets in the world that uses floating wind technology exclusively. However, to achieve this requires a sustainable and realistic growth trajectory from test and demonstrator scale projects to full multi-GW commercially viable projects. This needs the appropriate support mechanisms to enable growth and ensure development is strategically aligned with recognizable technology readiness levels. In turn this will encourage the supply-chain and the investment in growth that's both sustainable and aligned to ambitious offshore wind targets.

Avangrid Renewables believes that building test and demonstrator scale projects alone is not commercially viable over the long term, and the industry must have the opportunity to build multi-GW projects that are commercially viable and provide the necessary justification for investment. Building at this scale will provide the necessary incentive to upgrade grid capacity as needed in the future and develop the appropriate scale port infrastructure to support these projects. This requires BOEM to lease areas that are at the current Call Area scale to ensure cost-effective delivery of floating wind projects that support sustainable growth.

#### Pipeline of Projects

A visible and firm pipeline of large projects is required to achieve California's ambitious 60% renewables by 2030 and 100% renewables by 2045 goals.

Avangrid Renewables' preference is for BOEM to lease substantial wind energy areas to enable phased construction from test and demonstrator projects to multi-GW commercial scale projects. Such an approach would leverage greater economies of scale and investment, further driving down costs, and ensure power is produced at rates competitive with other alternative generation sources. The added certainty will jump-start a globally competitive supply chain, who will be willing to invest for the future growth of the United States floating wind market.

## **REQUIRED NOMINATION INFORMATION**

### **1. NOMINATIONS IN THE CALIFORNIA CALL AREAS**

Avangrid Renewables wish to submit nominations for multiple projects as follows:

Call Area	Project Name	Area (acres)	Nominal capacity (MW)
Humboldt	Humboldt	131,840	2000
Morro Bay	Morro Bay	199,266	2000
Diablo Canyon	Diablo Canyon East	111,731	2000
Diablo Canyon	Diablo Canyon West	244,456	2000

Each nomination should be considered on a stand-alone basis. However, as discussed further below, Avangrid Renewables believes that for a nascent floating offshore wind industry, several early test and demonstrator projects are required to achieve commercial scale technology readiness. These essential early projects may be scaled as follows:

- Small scale test sites of around 5-6 units (30-90 MW range): Designed for technology and deployment testing; and
- Larger scale demonstrator sites of around 50-65 units (650-800 MW range): Sufficient for supply chain engagement (> 50 units), designed for broader technology deployment at a more commercial scale.

Building these early stage projects will help to underpin the commercial case for further project investment at multi-gigawatts (GW) scale. While these early projects are not expected to be delivered without support mechanisms, they provide the pathway for incremental technology and supply chain development that will lead to future multi-GW projects that can sustain a commercially viable and visible pipeline. This growth strategy is needed to ensure the economies of scale and investment necessary to build infrastructure, manufacturing, and supply chain and reduce costs for this nascent industry.

## **2. OBJECTIVES AND FACILITIES**

### Objectives

Avangrid Renewables' objectives are to continue our trajectory as one of the largest owners and operator of offshore wind farms in the United States. We are actively developing a cumulated pipeline of approximately 5 GW in our secured offshore leases in Massachusetts and North Carolina. We are leading the growth of the United States offshore wind industry. As mentioned above, we are a diversified energy and utility company with the required facilities, resources and experience to be a leader in the United States offshore wind market with access and understanding of the global supply chain. The Iberdrola Group is a global leader in developing, constructing and operating offshore wind projects with 1.2 GW in operation or under construction and an additional 4 GW under development in Europe. Avangrid Renewables' objectives are to develop, build and operate a minimum of 2 GW within the California Call Areas by 2030 and use our vast experience and resources to deliver successful projects on time.

Avangrid Renewables is committed to the cost-effective delivery of offshore renewable energy in the United States. We have the credentials and technical knowhow to deliver large-scale offshore wind projects that will boost domestic renewable energy production. We have adopted a bold strategy for our response to the Call to advance substantial commercial wind energy leases offshore California. We strongly believe this approach will support the broader offshore wind industry in the US.

### Facilities

Avangrid Renewables intends to develop floating offshore wind (FOW). The water depths at all three Call Areas require that floating wind technology is deployed. Floating wind technology is currently in development globally with only a few concepts having been installed and tested to date. The floating nature of FOW technology leverages the extensive experience from the oil and gas industry, with more than 370 floating installations currently in service (Floating Production Systems Report and Online Database, 2018). Knowledge from the marine sector is also leveraged for the design and fabrication of the FOW foundations. Floating offshore wind has a number of key differences from fixed bottom offshore wind that in variety of cases offer unique advantages as compared to fixed bottom. Categorically these include differences in, for example:

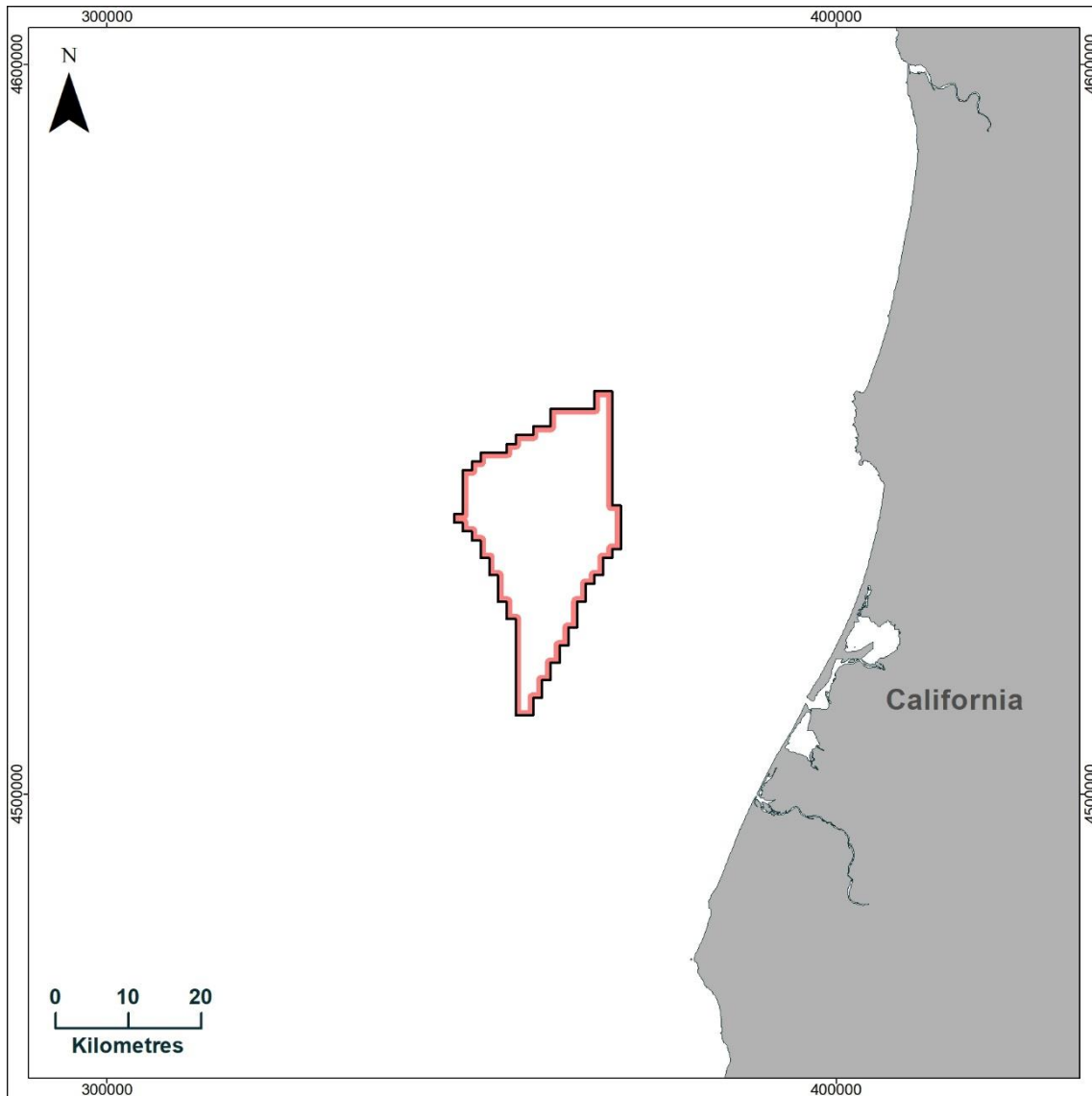
- Fabrication and supply chain requirements
- Port considerations and technical requirements
- Installation concepts
- O&M strategies
- Power cable considerations

FOW is expected to continue to progress towards commercialization globally, and California's deep-water offshore environment presents a unique opportunity for development.

**3. OCS BLOCKS NOMINATED IN RESPONSE TO BOEM'S CALL FOR INFORMATION AND NOMINATIONS IN CALIFORNIA – BOEM PROTRACTION NAME, NUMBER, AND OCS BLOCKS WITHIN THE CALL AREAS**

**a) Humboldt Call Area**

*Figure: Avangrid Renewables' nominated area Humboldt.*





**b) Morro Bay Call Area**

Figure: Avangrid Renewables' nominated area Morro Bay.



Protraction	Block No.	Aliquot Blocks Covered															
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
NI10-02	6340															x	x
NI10-02	6390		x	x	x		x	x	x		x	x	x	x	x	x	x
NI10-02	6440	x	x	x	x		x	x	x		x	x	x		x	x	x
NI10-02	6490			x	x				x								
NI10-03	6102												x				x
NI10-03	6103													x			



Protraction	Block No.	Aliquot Blocks Covered															
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
NI10-03	6506	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
NI10-03	6507	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
NI10-03	6508								x				x	x			
NI10-03	6554				x												
NI10-03	6555	x	x	x	x			x	x								
NI10-03	6556	x	x	x	x	x	x	x	x								
NI10-03	6557	x	x	x	x	x	x	x	x								
NI10-03	6558	x	x	x		x	x	x	x								

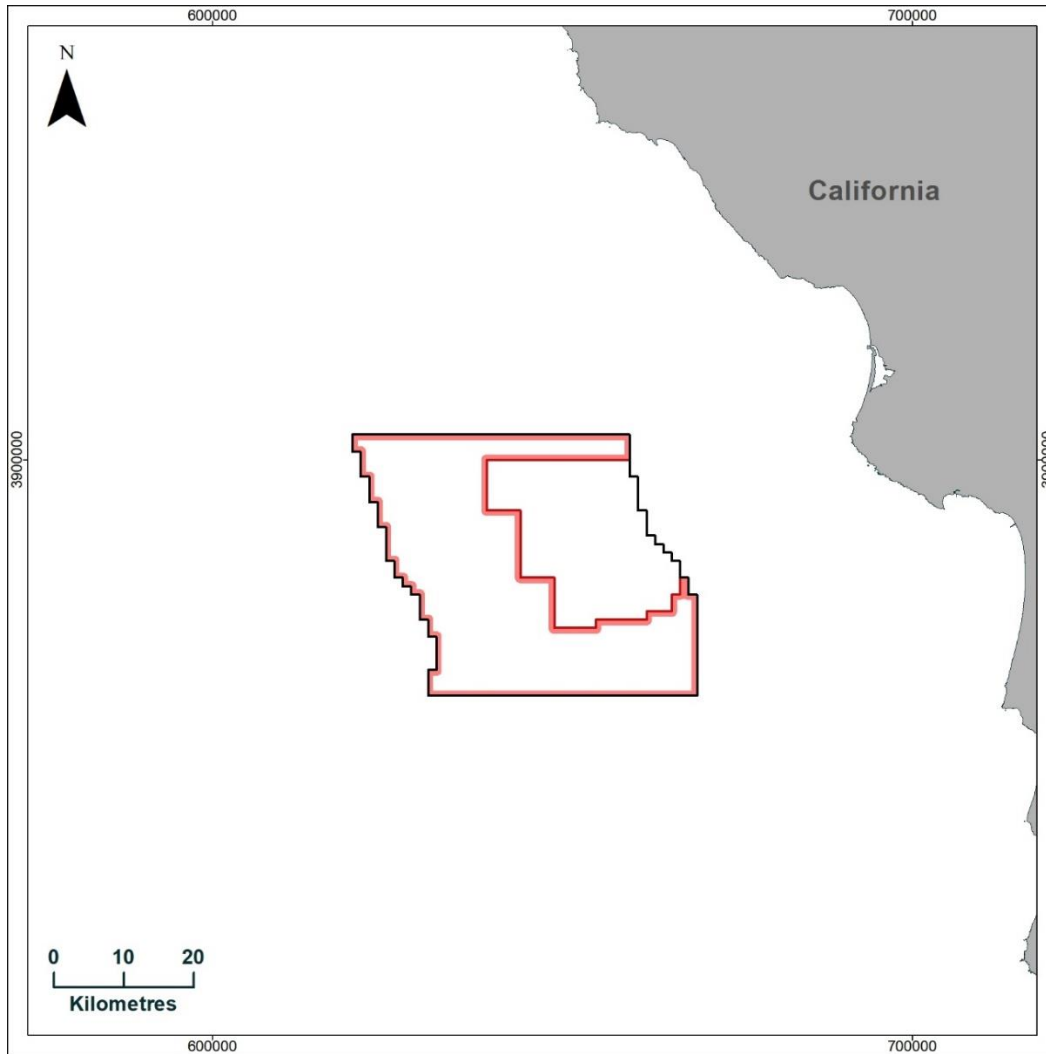






**d) Diablo Canyon Call Area West**

Figure: Avangrid Renewables' nominated area Diablo Canyon West.



Protraction	Block No.	Aliquot Blocks Covered																
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	
NI10-03	6756														x	x	x	x
NI10-03	6757														x	x	x	x
NI10-03	6758														x	x	x	x
NI10-03	6759														x	x	x	x
NI10-03	6760														x	x	x	x
NI10-03	6761														x	x	x	x
NI10-03	6762														x	x	x	x
NI10-03	6763														x	x	x	x



Protraction	Block No.	Aliquot Blocks Covered															
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
NI10-03	7064				x	x	x	x	x	x	x	x	x	x	x	x	x
NI10-03	7065	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
NI10-03	7066	x				x				x				x			
NI10-03	7108			x	x			x	x			x	x		x	x	x
NI10-03	7109	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
NI10-03	7110	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
NI10-03	7111	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
NI10-03	7112	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
NI10-03	7113	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
NI10-03	7114	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
NI10-03	7115	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
NI10-03	7116	x				x				x				x			
NI10-06	6008		x	x	x		x	x	x								
NI10-06	6009	x	x	x	x	x	x	x	x								
NI10-06	6010	x	x	x	x	x	x	x	x								
NI10-06	6011	x	x	x	x	x	x	x	x								
NI10-06	6012	x	x	x	x	x	x	x	x								
NI10-06	6013	x	x	x	x	x	x	x	x								
NI10-06	6014	x	x	x	x	x	x	x	x								
NI10-06	6015	x	x	x	x	x	x	x	x								
NI10-06	6016	x				x											

**CONCLUDING REMARKS**

Avangrid Renewables is committed to the cost-effective delivery of renewable energy in the United States.

We have the credentials and technical knowhow to deliver large-scale offshore wind projects that will boost domestic energy production. We have adopted a bold strategy for our response to the Call to advance substantial commercial wind energy leases off the California coast. We strongly believe this approach will support the broader offshore wind industry in the United States.

Thank you for your consideration of our nomination. If you require any clarifications concerning our nomination, please contact us.

Yours sincerely,

*S/ Toan Nguyen*

Toan Nguyen  
Deputy General Counsel