



Qualification Criteria to Acquire and Hold Renewable Energy Leases and Grants and Alternate Use Grants on the U.S. Outer Continental Shelf.



A WORLD ELECTRIFIED BY RENEWABLE ENERGY



January 25th, 2019

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

Dear Sir or Madam,

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

Mainstream Renewable Power, as a global developer of renewable energy, is pleased to submit its nominations for commercial wind energy leases in the California Call Areas identified in Docket No. BOEM-2018-0045.

Mainstream’s mission is to lead the global transition to renewable energy by delivering cost effective utility scale renewable energy to customers and governments through a set of cohesive company values.

Contained in the letter is our response to section 6 under “*Requested Information from Interested or Affected Parties*” within the Call for Information and Nominations.

This document contains confidential information, which we do not regard as suitable for public release.

If you have any questions or need any additional information, please contact:

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Sincerely,

Paula Major

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MAINSTREAM | REACTIVE

1. Introduction

Mainstream Renewable Power (“Mainstream”) is very pleased to provide a response to Bureau of Ocean Energy Management’s (“BOEM”) Call for Information and Nominations for commercial leasing in California.

California recently made history with the signing of Senate Bill No. 100, a bill committing the state to an accelerated Renewable Portfolio Standard target of 60 % by 2030 and additionally committing the state’s electricity to being sourced 100 % from clean energy by 2045. To meet both near-term goals and the longer-term targets, the state is charting a path forward that sets it up to be a global leader of offshore wind. Mainstream applauds the initiative made by BOEM as well as the state of California to initiate the floating offshore wind market on the West Coast of the United States and are excited to be a part of it.

After completing a wind resource analysis and site characterization, Mainstream found that California offers several opportunities for the development of offshore wind. We believe that California’s wind resource, commitment to maintaining the environmental integrity of its coastline and oceans, and commitment to renewable energy will provide an opportunity for the development of the first floating offshore wind farms in the United States (“US”).

In accordance with the Required Nomination Information set forth in the Notice and in 30 CFR 585 and our interest in the California Call Areas, Mainstream has included the following information:

- BOEM Protraction name, number and Outer Continental Shelf (“OCS”) blocks within the Call Areas that we nominate for leasing
- An ArcGIS 10.5 spatial file containing the coordinates of the blocks we are nominating for leasing
- Our methodology and justification for each nominated area
- A description of our objectives and the facilities we would use to achieve these objectives
- A preliminary schedule of proposed activities for each nominated area
- Documentation demonstrating that we are legally, technically and financially qualified to hold a lease
- Comments on the Requested Information

1.1 Background on Mainstream

Mainstream is an independent global developer of renewable energy with almost 6,500 megawatts (“MW”) in development, 550 MW in construction and 804 MW delivered into commercial operation. Our mission is to work in collaboration with strategic partners and local communities to accelerate progress towards a sustainable future and a low carbon economy. Through our innovative approach to development, Mainstream has forged a reputation as a company that goes beyond the traditional role of project developer.

Mainstream is a world leader in the development of offshore wind projects with a track record of over 7.5 gigawatts (“GW”) in development in Northern Europe. Mainstream won two sites in competitive tender processes in the UK to develop a total of 4,450 MW of offshore wind. The 4,000 MW Hornsea offshore wind farm off the coast of England and the 450 MW Neart na Gaoithe (“NnG”) offshore wind farm in Scotland.

Mainstream also has a strong onshore track record. We are the market leader in Chile with over 1.2 GW contracted with local distribution companies and in South Africa we have been awarded 850 MW through the renewable energy independent power producer programme. In Vietnam, Mainstream has 1 GW under development with local and international partners and we have late-stage development projects identified in Mexico and the Philippines.



Figure 1: Mainstream's values

2. Proposed Nomination Areas

Following an extensive analysis of the three Call Areas, Mainstream has selected three potential Nomination Areas. Full lists of protraction numbers, block numbers and sub block numbers are listed for each nominated area Sections 1, 1, and 1 below. Each nomination should be considered on a stand-alone basis. For an overview of these areas, please refer to Table 1

Table 1. Summary of Nominations (All Call Areas)

BOEM Call Area	Nominated Area (Acres)	Nominal Capacity (MW)
Humboldt	80,062	800
Morro Bay	80,062	800
Diablo Canyon	79,706	800

3. Nomination #1: Nomination in the Humboldt Call Area

3.1. Introduction

Based on our site characterization analysis, considering the methodology described in this section, Mainstream will nominate 80,062 acres as represented in Figure 2 and Table 2.

Table 2. Identification of OCS Lease Blocks of Interest (Humboldt Nomination)

BOEM Protraction Name	BOEM Protraction Number	Block Number	Sub Block
Crescent City	NK10-07	7023	L, M, N, O, P
Crescent City	NK10-07	7024	C, D, E, F, G, H, I, J, K, L, M, N, O, P
Crescent City	NK10-07	7025	E, I, M, N
Crescent City	NK10-07	7072	D, G, H, K, L, O, P
Crescent City	NK10-07	7073	All
Crescent City	NK10-07	7074	All
Crescent City	NK10-07	7075	A, B, E, F, G, I, J, K, M, N, O, P
Crescent City	NK10-07	7122	C, D, G, H, K, L, O, P
Crescent City	NK10-07	7123	A
Crescent City	NK10-07	7124	All
Crescent City	NK10-07	7125	All
Crescent City	NK10-07	7126	E, I, M, N
Eureka	NK10-10	6023	D
Eureka	NK10-10	6024	A, B, C, D, E, F, G, H, I, J, K, L, N, O, P
Eureka	NK10-10	6025	All
Eureka	NK10-10	6026	All
Eureka	NK10-10	6027	A, B, E, F, G, I, J, K, M, N
Eureka	NK10-10	6074	B, C, D, H
Eureka	NK10-10	6075	A, B, C, D, E, F, G, H, K, L
Eureka	NK10-10	6076	A, B, C, D, E, F, G, H, I, J, K, L, N, O, P
Eureka	NK10-10	6077	A, B, E

Spatial information is submitted separate in a format compatible with ArcGIS 10.5 in a geographic coordinate system (NAD 83).

3.2. Nomination Description

Within the Humboldt Call Area, Mainstream is looking to develop one project area. The nominated area is approximately 80,000 acres and is located in the central region of the Call Area. This area satisfies two phases of development with total capacity of 800 MW. The location is located 20 nautical miles from the substation in Eureka.

3.3. Map of Nomination

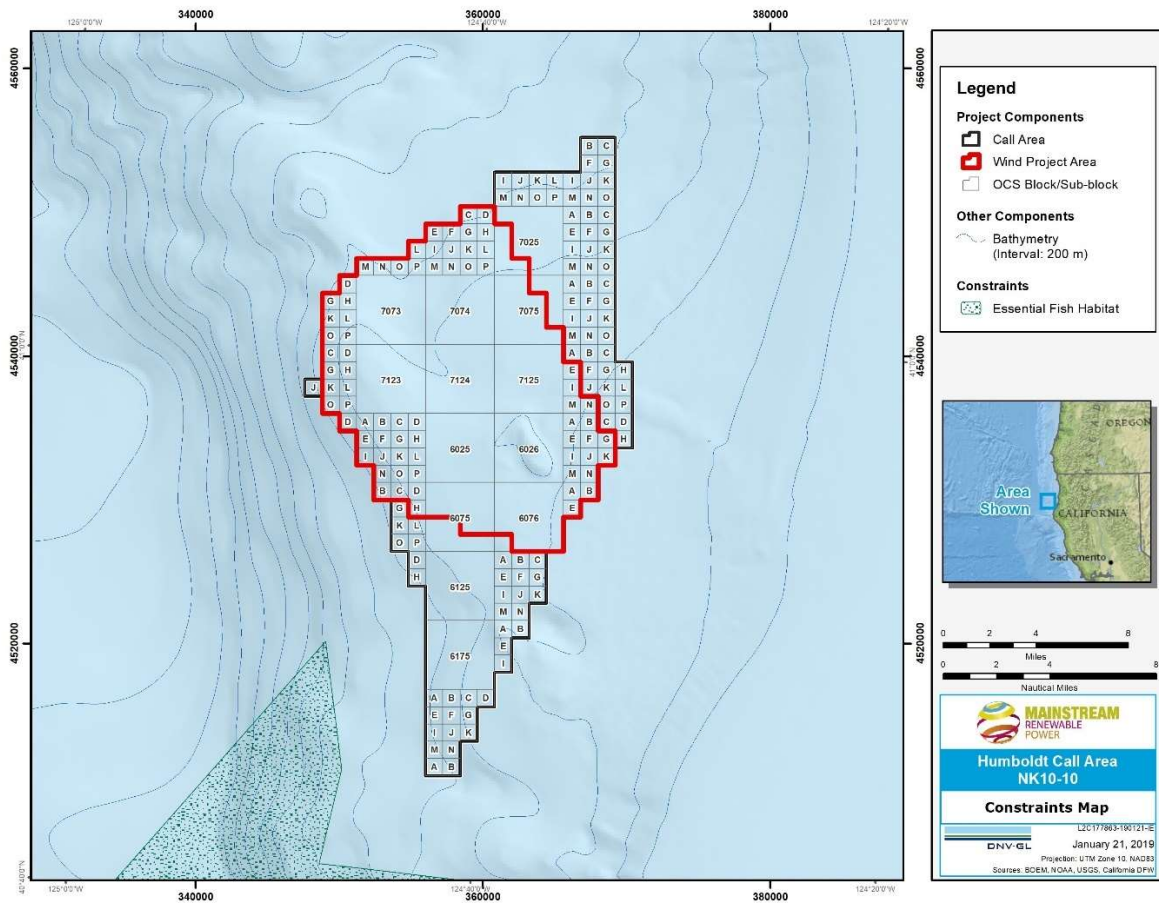


Figure 2: Map of Mainstream Nomination in the Humboldt Call Area

3.4. Methodology for Nomination

(redacted)

3.5. Justification for the Nomination

(redacted)

3.6. Preliminary Project-Level Schedule of Proposed Activities

(redacted)

4. Nomination #2: Nomination in the Morro Bay Call Area

4.1. Introduction

Based on our site characterization analysis, considering the methodology described in this section, Mainstream will nominate 80,062 acres as represented in Table 3 and

Figure 3.

Table 3. Identification of OCS Lease Blocks of Interest (Morro Bay Nomination)

BOEM Protraction Name	BOEM Protraction Number	Block Number	Sub Block
San Luis Obispo	NI09-03	6102	L, P
San Luis Obispo	NI09-03	6103	M
San Luis Obispo	NI09-03	6152	D, L, P
San Luis Obispo	NI09-03	6153	A, B, E, F, I, J, K, M, N, O
San Luis Obispo	NI09-03	6202	D, G, H, K, L, N, O, P
San Luis Obispo	NI09-03	6203	All
San Luis Obispo	NI09-03	6204	I, M
San Luis Obispo	NI09-03	6251	D, H, K, L, O, P
San Luis Obispo	NI09-03	6252	All
San Luis Obispo	NI09-03	6253	All
San Luis Obispo	NI09-03	6254	A, B, E, F, G, I, J, K, L, M, N, O, P
San Luis Obispo	NI09-03	6301	C, D, G, H, K, L, O, P
San Luis Obispo	NI09-03	6302	All
San Luis Obispo	NI09-03	6303	All
San Luis Obispo	NI09-03	6304	All
San Luis Obispo	NI09-03	6305	A, E, I, M
San Luis Obispo	NI09-03	6351	D
San Luis Obispo	NI09-03	6352	A, B, C, D, F, G, H, K, L

San Luis Obispo	NI09-03	6353	All
San Luis Obispo	NI09-03	6354	All
San Luis Obispo	NI09-03	6355	A, B, E, F, I, J, M, N
San Luis Obispo	NI09-03	6403	B, C, D, H
San Luis Obispo	NI09-03	6404	A, B, C, D, E, F, G, H, I, J, K, L
San Luis Obispo	NI09-03	6405	A, B, E, F, I, J

Spatial information is submitted in a format compatible with ArcGIS 10.5.

4.2. Nomination Description

The nominated area is approximately 80,000 acres in the northern portion of the Call Area. This area satisfies two phases of development totaling 800 MW.

4.3. Map of Nomination

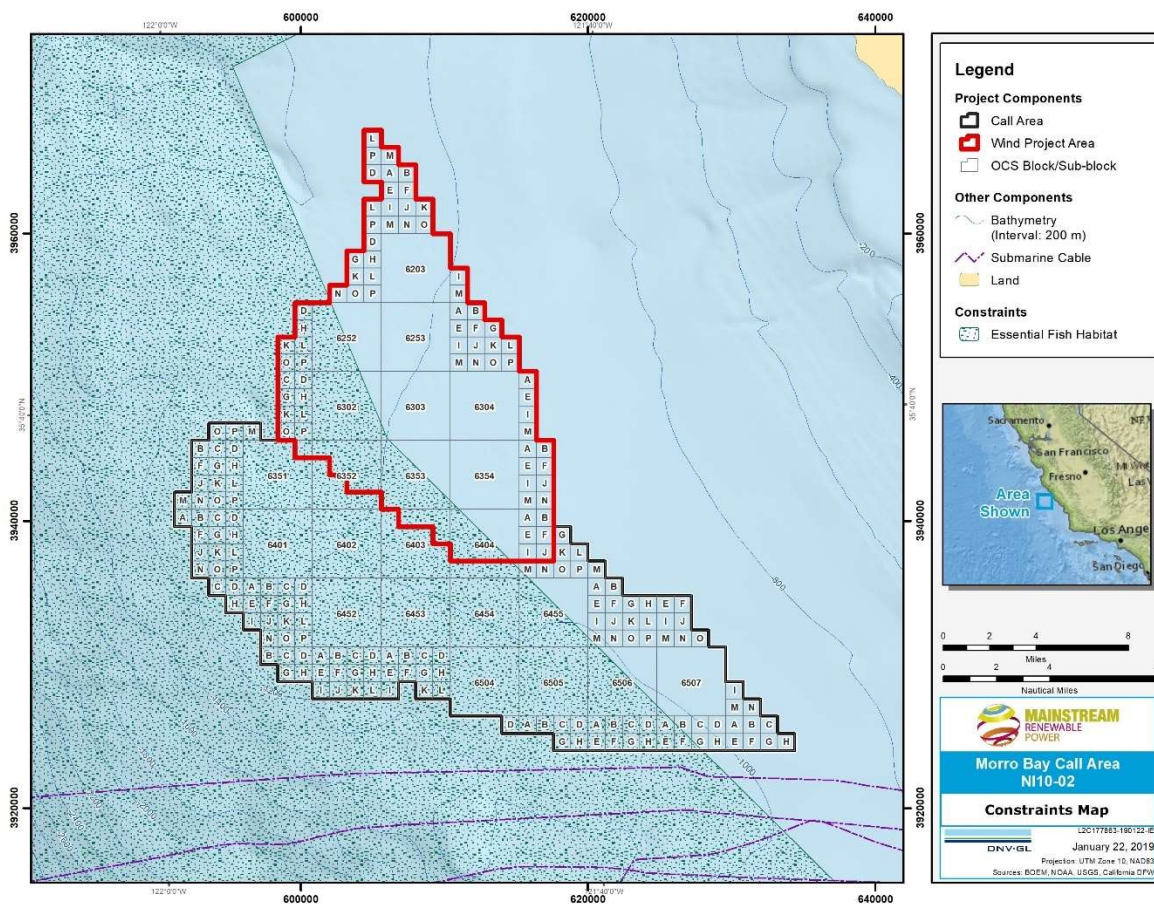


Figure 3: Map of Mainstream Nomination in Morro Bay Call Area

4.4. Methodology for Nomination

(redacted)

4.5. Justification for the Nomination

(redacted)

4.6. Preliminary Project-level Schedule of Proposed Activities

(redacted)

5. Nomination #3: Nomination in the Diablo Canyon Call Area

5.1. Introduction

Based on our site characterization analysis, considering the methodology described in this section, Mainstream will nominate 79,700 acres as represented in Table 4 and Figure 4.

Table 4. Identification of OCS Lease Blocks of Interest (Diablo Canyon Nomination)

BOEM Protraction Name	BOEM Protraction Number	Block Number	Sub Block
San Luis Obispo	NI09-03	6812	O, P
San Luis Obispo	NI09-03	6813	J, K, L, M, N, O, P
San Luis Obispo	NI09-03	6814	E, I, M
San Luis Obispo	NI09-03	6859	P
San Luis Obispo	NI09-03	6860	K, L, M, N, O, P
San Luis Obispo	NI09-03	6861	D, F, G, H, I, J, K, L, M, N, O, P
San Luis Obispo	NI09-03	6862	All
San Luis Obispo	NI09-03	6863	All
San Luis Obispo	NI09-03	6864	A, B, E, F, I, J, M, N
San Luis Obispo	NI09-03	6907	L, P
San Luis Obispo	NI09-03	6908	G, H, I, J, K, L, M, N, O, P
San Luis Obispo	NI09-03	6909	B, C, D, E, F, G, H, I, J, K, L, M, N, O, P
San Luis Obispo	NI09-03	6910	All
San Luis Obispo	NI09-03	6911	All
San Luis Obispo	NI09-03	6912	A, B, C, D, E, F, G, H, I, J, K, L, M, N, O
San Luis Obispo	NI09-03	6913	A, B, C, D, E, F, G, I
San Luis Obispo	NI09-03	6914	A
San Luis Obispo	NI09-03	6957	D, H, L, P
San Luis Obispo	NI09-03	6958	All

San Luis Obispo	NI09-03	6959	All
San Luis Obispo	NI09-03	6960	A, B, C, D, E, F, G, H, I, j, K, L, M
San Luis Obispo	NI09-03	6961	A, B, C, D, E, F
San Luis Obispo	NI09-03	7007	D, H
San Luis Obispo	NI09-03	7008	A, B, C, D, E, F, G, H, I, J, K, M
San Luis Obispo	NI09-03	7009	A, B, C, E

Spatial information is submitted separately in a format compatible with ArcGIS 10.5.

5.2. Nomination Description

The nominated area within the Diablo Canyon Call Area is approximately 80,000 acres in the north east of the Call Area stretching to the edge of the critical fish habitat. It is aligned with the primary wind direction in a configuration that minimizes impact when viewed from shore.

(redacted)

5.3. Map of Nomination

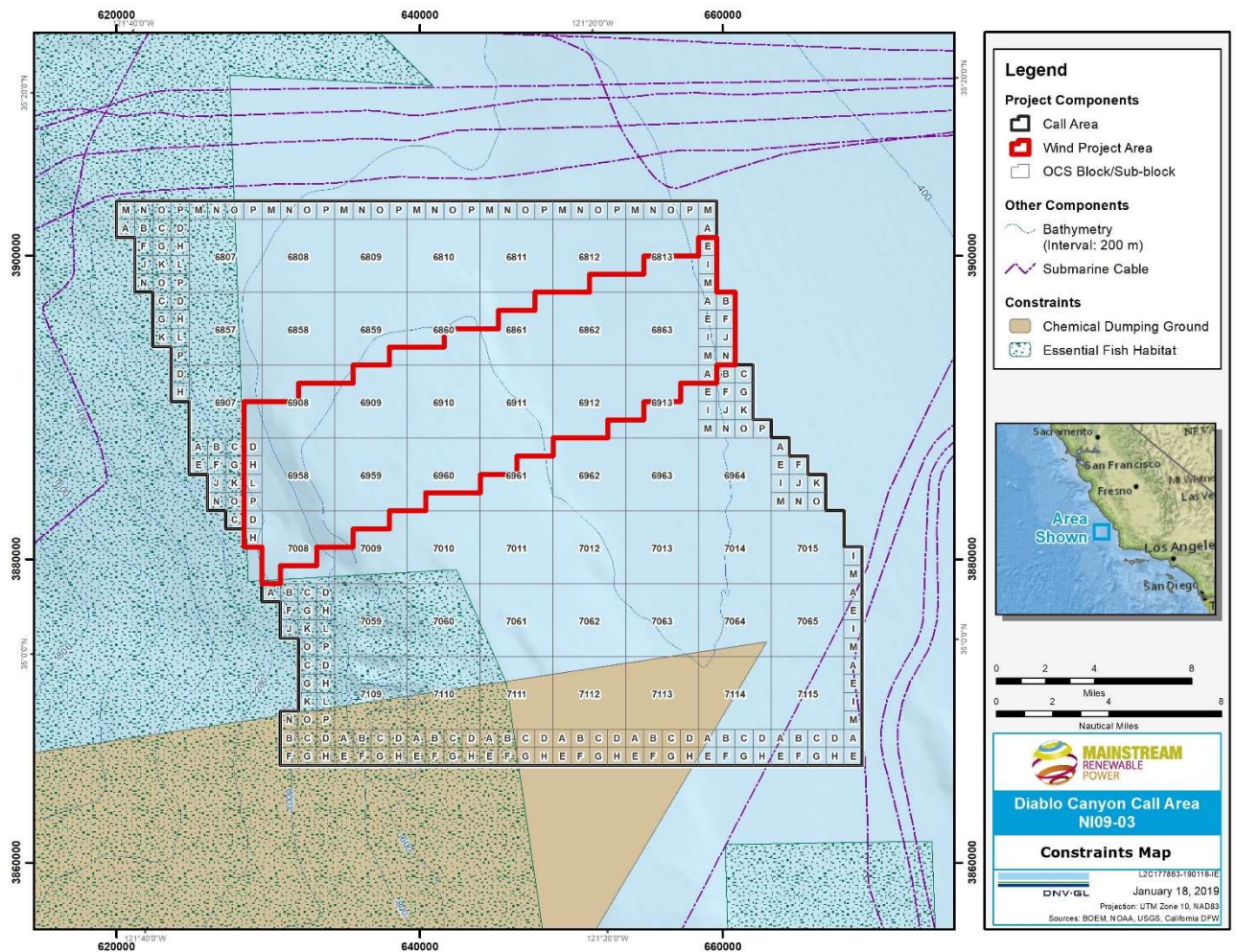


Figure 4: Map of Mainstream Nomination in Diablo Canyon Call Area

5.4. Methodology for Nomination

(redacted)

5.5. Justification for the Nomination

(redacted)

5.6. Preliminary project-level schedule of proposed activities

(redacted)

6. Objectives and Facilities

Mainstream's objective is to develop a floating offshore wind energy site capable of producing 800 MW, in two 400 MW phases, to assist with the energy needs of California.

Mainstream is the world's leading pure-play renewable energy developer in high growth markets. We are the market leader in Chile with over 1.2 GW contracted with local distribution companies and in South Africa we have been awarded 850 MW through the renewable energy independent power producer program. In Vietnam, Mainstream has 1 GW under development with local and international partners and we have late-stage development projects identified in Mexico and the Philippines.

Mainstream's success in offshore wind is widely acknowledged. Our Scottish team developed the 450 MW Neart na Gaoithe offshore wind farm that was sold to EDF Energy in May 2018. The team received both onshore and offshore consent for the projects as well as a 15-year inflation-linked CfD for the project.

Our project off the East Coast of England, the 4 GW Hornsea zone was developed by SMart Wind – a joint venture between Mainstream and Siemens. In 2010, it won The Crown Estate's Round 3 tender to develop the zone. The project reached a number of milestones including consent for Project One (1,200 GW) and the delivery of the very successful SMart Futures schools program. In February 2015, DONG Energy bought 33% of the Hornsea zone and in August 2015 they exercised the right to purchase the remainder of the Hornsea zone.

The water depths at all three nominated areas will require floating wind. In the sections below, Mainstream will describe the facilities planned to use to build a floating wind project in the nominated areas off the coast of California. Floating platforms have yet to be deployed commercially in the US but are currently being demonstrated in Europe. We expect that by the time of lease sale, floating wind will be commercially viable enough to develop a financially sound project.

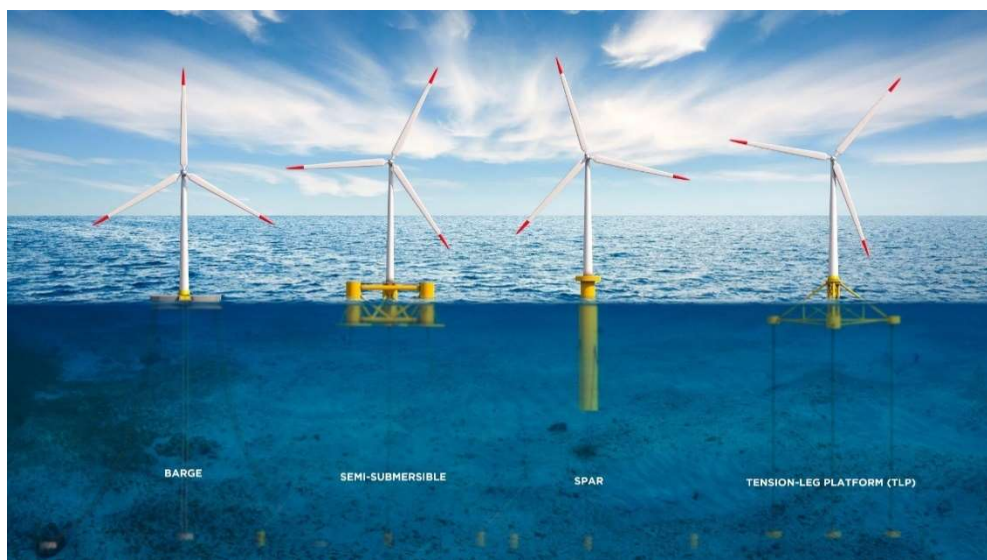


Figure 5: Floating Wind Concepts (Source: WindEurope 2017)

6.1. Wind Turbine Generator

(redacted)

6.2. Foundations

(redacted)

6.3. Interconnection

(redacted)

6.4. Ports and Logistics

(redacted)

6.5. O&M Strategy

(redacted)

7. Comments on the Requested Information from Interested or Affected Parties

The site selection process that BOEM under took to identify the Call Areas was very thorough. Mainstream believes that the Call Areas identified are suitable for large scale development. Mainstream is supportive of BOEM and this process and encourages BOEM to consider additional Call Areas for commercial offshore wind development.

8. Legal Qualification

(redacted)

9. Technical Capabilities

Mainstream's track record, described in detail below, shows that it is technically capable to develop, construct, operate and maintain an offshore windfarm, Figure 6 provides a brief visual summary.

This section is divided in two parts, the first highlights Mainstream's key personnel who will directly be involved in the offshore windfarm and the second shows current and prior projects.

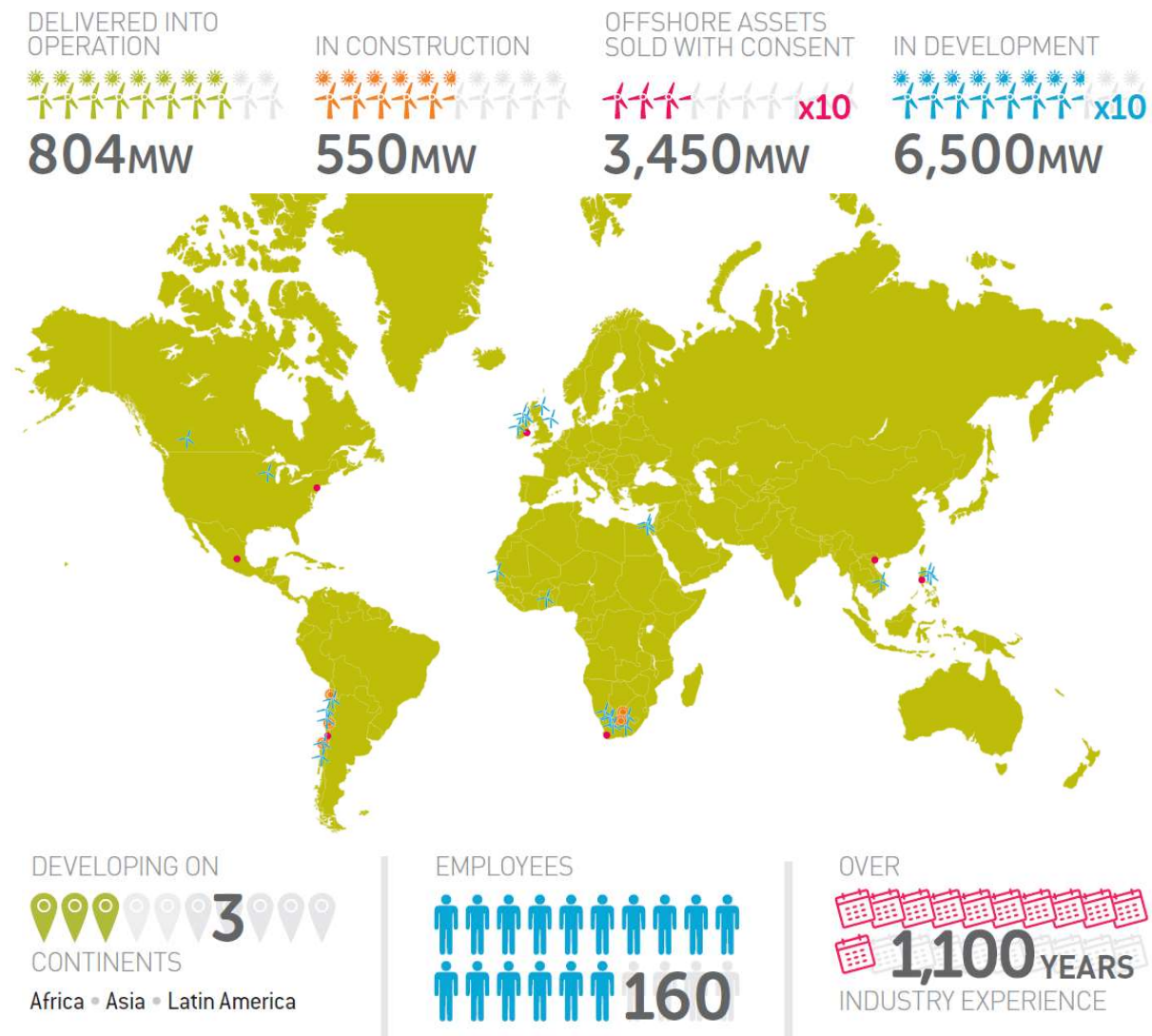


Figure 6: A snapshot of Mainstream's track record and capabilities

9.1 Key Personnel

(redacted)

9.2 Prior and current projects

(redacted)

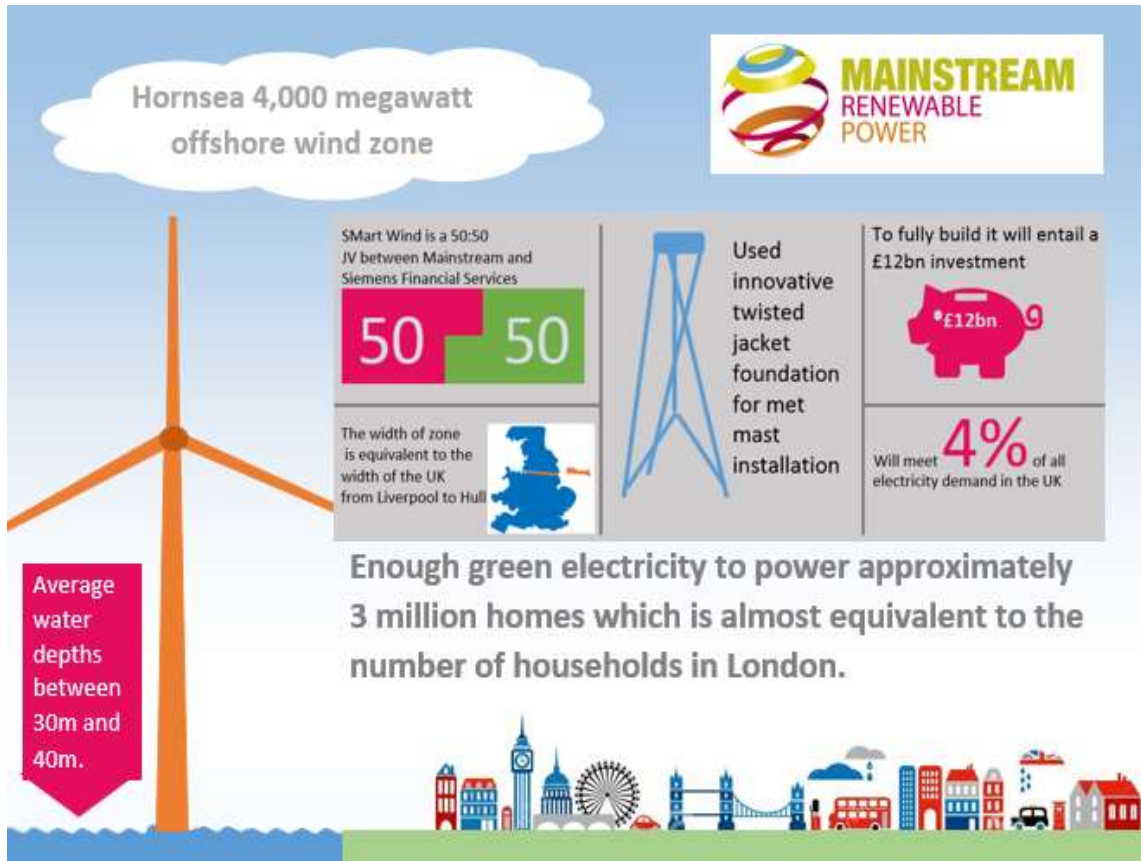


Figure 7: Hornsea offshore windfarm quick facts

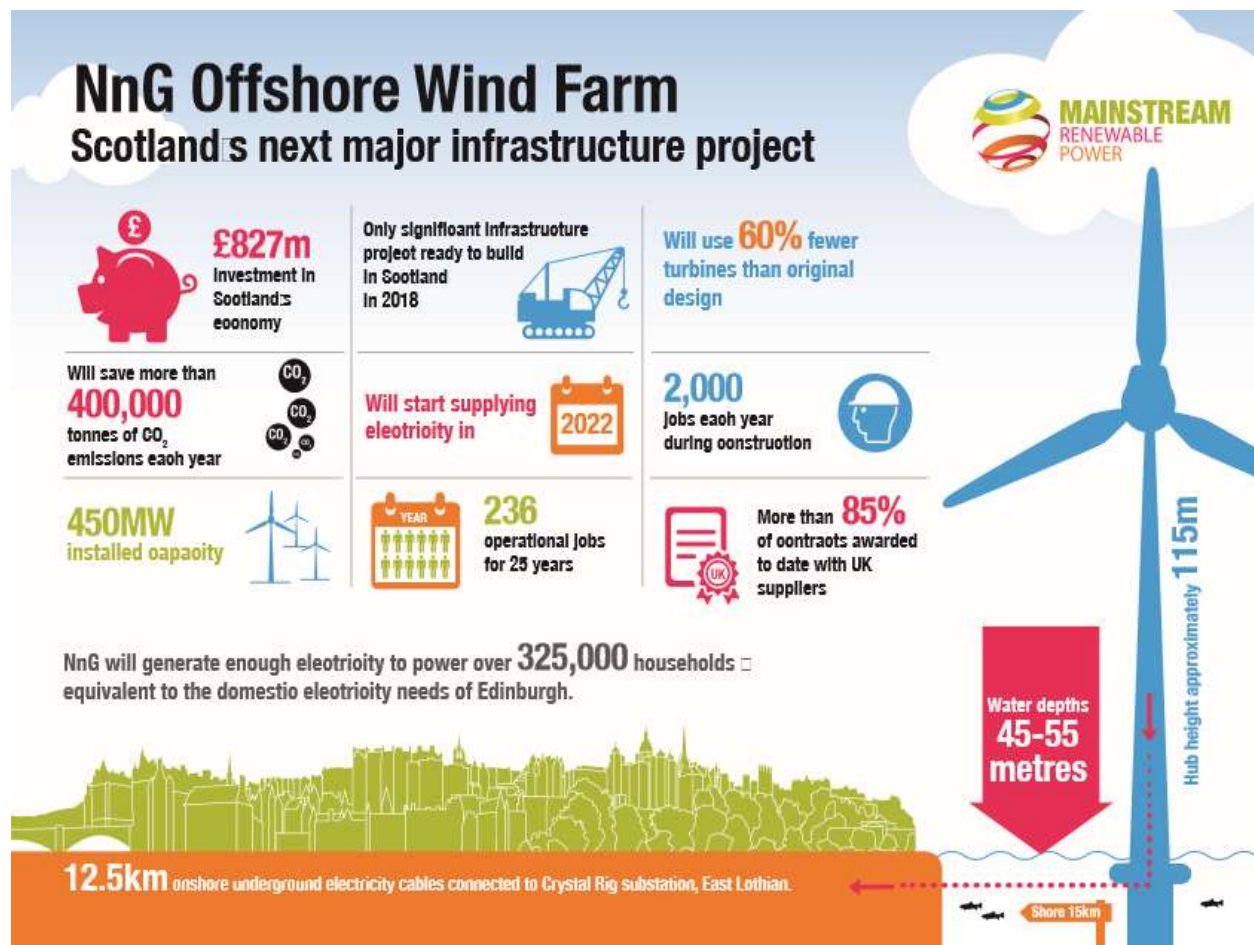


Figure 8: NnG offshore windfarm quick facts

9.3 Legal action

Mainstream has not had any adverse legal or regulatory action taken against it in the last 5 years.

10 Financial Capabilities

(redacted)

11 Abbreviations

Abbreviations	
BOEM	Bureau of Ocean Energy Management
CAISO	California Independent System Operator
CT Company	Corporation Trust Company
CTV	Crew Transfer Vessels
DoD	Department of Defense
EPC	Engineering, Procurement & Construction
ESA	Endangered Species Act
GIS	Geographic Information System
GW	Gigawatt
Km	Kilometer
Mainstream	Mainstream Renewable Power
MSL	Mean Sea Level
MW	Megawatt
NnG	Neart na Gaoithe
OCS	Outer Continental Shelf
O&M	Operations and Maintenance
SOV	Service Operations Vessel
TLPs	Tension Leg Platforms
US	United States
USCG	United States Coast Guard
WTGs	Wind Turbine Generators