

Maine Aqua Ventus Project Proposed Turbine Locations
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Prepared for:
Northeast Regional Ocean Council (NROC)
www.northeastoceanata.org

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1. INTRODUCTION

This layer shows the Maine Aqua Ventus project New England Aqua Ventus I, as located in the test site. In 2009 state legislature established this site to be used for offshore wind energy demonstration projections conducted by or in cooperation with the University of Maine. Usage of the site is limited to a maximum of 2 wind turbines, 3 meteorological towers per wind turbine, one submerged utility line with up to 25 MW capacity, up to 2 wave energy converters, and an ocean sensor package.

The UMaine Deepwater Offshore Wind Test Site is located approximately 3 miles south west of Monhegan Island, ME, more than 12 miles off the coast of Maine. The site was selected due to its distance from the mainland, strong and consistent winds, a limited number of fishermen, and its proximity to an island with high energy costs.

Maine Aqua Ventus I, GP, LLC, is leading a demonstration project called New England Aqua Ventus I, a 12 MW floating offshore wind pilot project to develop a renewable energy source off Maine's shores. Project participants include Cianbro Corporation, the University of Maine, and DCNS. This demonstration project will deploy two 6 MW turbines on VoltturnUS, the floating concrete semi-submersible hull designed by UMaine, south of Monhegan Island, off the coast of Maine. Each floating hull/turbine is held in position in the ocean by three marine mooring lines securely anchored to the seabed, with the electrical generation connected by subsea cable to the Maine power grid on shore. The floating offshore wind turbine platforms and column segments will be fabricated and assembled at an existing industrial facility

adjacent to the Penobscot River in Hampden. Turbine components will be assembled on the hull in Searsport and subsequently towed to the UMaine Deepwater Offshore Wind Test Site at Monhegan Island. An interconnection alternate current (AC) cable will join the turbines, and then connect to a 34.5 kilovolt (kV) subsea power cable extending from the test site to a proposed onshore transition point. Several routes to the mainland are currently being evaluated. Once installed, the turbines are expected to produce clean renewable energy for the duration of a 20-year power purchase agreement (PPA). Below is a project timeline. For more information about the project, visit: MaineAquaVentus.com.

Project Timeline

- 2017-2018: Conduct additional ecological studies, secure all appropriate permits
- 2019: Start VoltturnUS platform fabrication
- 2019: Install onsite anchors, lay cable
- 2020: Commercial Operation Date (COD)

2. PURPOSE

To represent the location of renewable energy projects in the northeastern U.S. in support of coastal and ocean use planning.

3. SOURCES AND AUTHORITIES

- The University of Maine Deepwater Offshore Wind Test Site at Monhegan Island (<https://umaine.edu/offshorewindtestsite/>)

4. DATABASE DESIGN AND CONTENT

Native storage format: ArcGIS File Geodatabase – simple feature class

Feature Types: Vector Point

Data Dictionary:

| Line | Name | Definition | Type | Size |
|------|-------------|---|----------|------|
| 1 | OBJECTID | Uniquely identifies a feature | OBJECTID | * |
| 2 | Shape | Geometric representation of the feature | geometry | * |
| 3 | Id | Unique Numeric Identifier | Long | * |
| 4 | StructureID | Structure Name | Text | 254 |
| 5 | Water_Dept | Water Depth | Double | * |
| 6 | Latitude | Latitude Degrees Minutes Seconds | Text | 254 |
| 7 | Longitude | Longitude Degrees Minutes Seconds | Text | 254 |
| 8 | Lat | Latitude in Decimal Degrees | Double | * |
| 9 | Long | Longitude in Decimal Degrees | Double | * |

| | | | | |
|---|------|----------------|------|----|
| 9 | Type | Structure Type | Text | 25 |
|---|------|----------------|------|----|

Feature Class Name: ProposedTurnbineLocations

Total Number of Unique Features: 2

Dataset Status: Complete

5. SPATIAL REPRESENTATION

Geometry Type: vector point

Reference System: GCS North American 1983

Horizontal Datum: North American Datum 1983

Ellipsoid: Geodetic Reference System 1980

XY Resolution: 1000000000.0000001

Tolerance: 0.0000000089831528411952117

Geographic extent: 43.722, -69.338

ISO 19115 Topic Category: environment, oceans, energy

Place Names: Place Names:

Atlantic, Monhegan Island, Gulf of Maine,

Recommended Cartographic Properties:

(Using ArcGIS ArcMap nomenclature)

Picture Marker Symbol:

Image: Green 3-blade turbine on white background

Scale range for optimal visualization: 72,000 to 373,840

6. DATA PROCESSING

Processing environment: ArcGIS 10.1 SP1, Windows 7 Professional, Intel Core i5 CPU

| | Process Steps Description |
|---|---|
| 1 | Projected provided shapefile from NAD_1983_UTM_Zone_19N_USft coordinate system to GCS_North_American_1983 coordinate system |

7. QUALITY PROCESS

Attribute Accuracy: Descriptive information was acquired from authoritative sources.

Logical Consistency: Point features are topologically consistent.

Completeness: This data is complete based on information from the developer team.

Positional Accuracy: Accurate based on source material.

Timeliness: Up to date as of November 2017

Use restrictions: Not for Navigation.

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