DOE selected 7 projects for initial engineering and environmental surveys
   - $4 million per project

In 2014, DOE will select 3 projects for final design and construction
   - $47 million per project
   - Project operations date by 2017

Goals of the Advanced Technology Demonstration Project
   - Install innovative offshore wind systems in U.S. waters in the most rapid and responsible manner possible.
   - Expedite deployment of innovative offshore wind energy systems with a credible potential for lowering the levelized cost of energy (LCOE) below the local "hurdle" price.
Innovative Project
Pathway to Commercial Development

- Two 6 MW Haliade 150 Alstom turbines on innovative foundations

- Located in federal waters, close to the Wind Energy Area
  - Will inform commercial development

- Comprehensive testing and data collection plan to lower future costs and deployment timelines
Turbine Key for lowering Cost of Energy

**Alstom HALIADE™: new paradigm for offshore**
- LM 73.5-m GloBlade one of the largest in world.
- Optimum Energy Production to Nacelle Weight Ratio.

**Advanced Turbine Controls**
- Individual blade pitch control strategies.
- Platform to test feed-forward controls, LIDAR.

**Alstom PureTorque™ and Permanent Magnet Direct Drive (PMDD) system**
- Bending loads transmitted safely to tower.
- Robust drivetrain improves availability and reduces cost.
Innovative substructures derived from offshore oil & gas experience have emerged from Carbon Trust Offshore Wind Accelerator and been successfully installed as offshore wind met masts in Europe.

Twisted Jacket
Keystone Engineering, Louisiana

Gulf of Mexico Oil & Gas Platform
Installed 19-Sep-2011

Titan Jack-Up
Offshore Wind Power Systems of Texas

Cantilevered Jack-Up
Oil & Gas Drilling Rig

UK Round 3 North Sea Met Mast

E.ON Baltic Sea Met Mast “Emma”
Installed 28-Mar-2012
# Schedule & Key Milestones

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<td>Environmental Studies</td>
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<td>Federal/State/Local Permitting</td>
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**Milestones**

1. DOE Selection of VOWTAP for 50% Front-End Engineering & Design (FEED)
2. DOE Down-Selection of 3 Projects Nationwide to Proceed with 100% FEED and Construction
3. Budget Period 2
4. SCC Approval of Cost Recovery
5. Commissioning