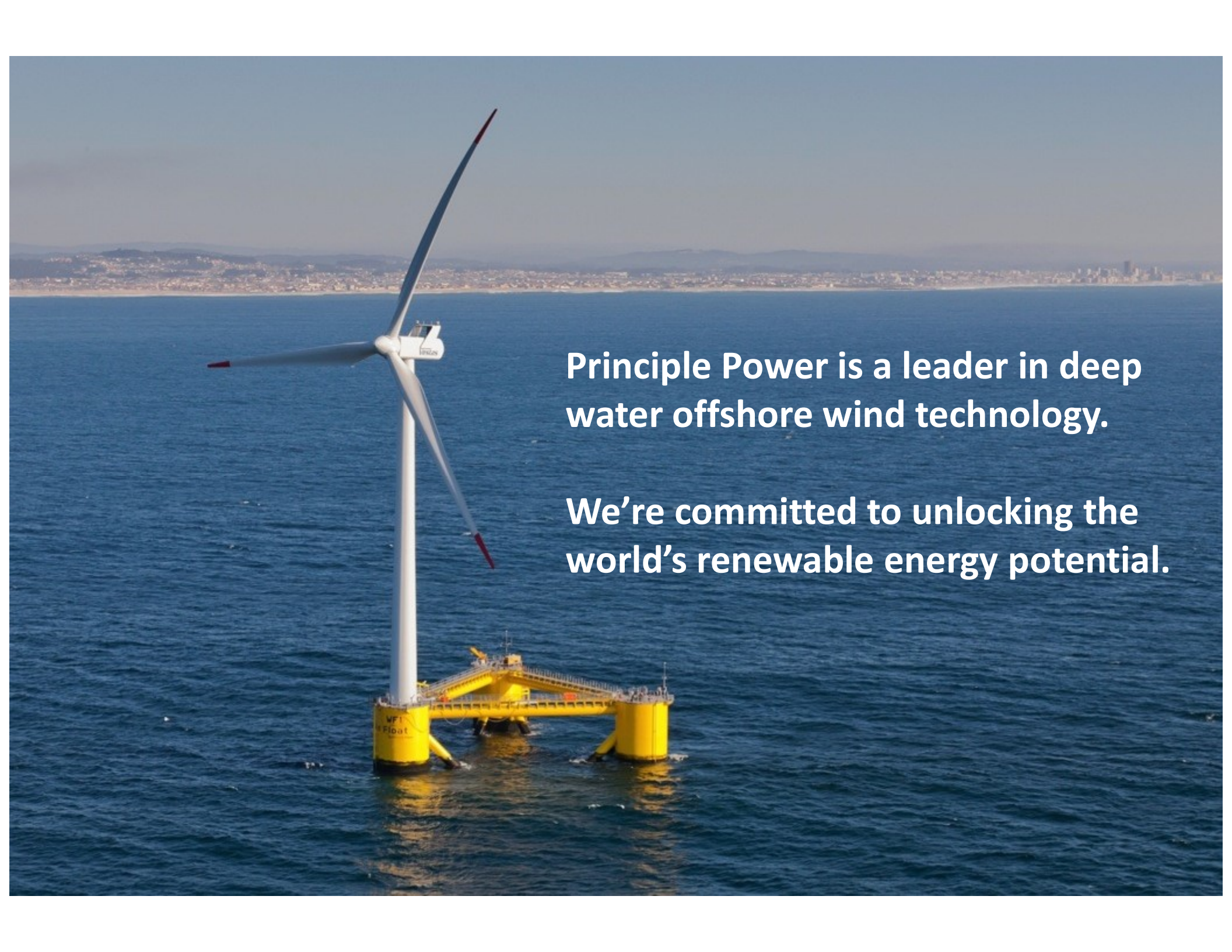




California Offshore Wind Update Principle Power, Inc.

September 2017



A large white offshore wind turbine with three blades, each with a red tip, is mounted on a yellow floating platform. The platform has a complex structure with multiple legs and a central hub. The turbine is situated in the middle of a vast blue ocean. In the background, a distant city skyline is visible on the horizon under a clear blue sky. The text "WF1" and "Float" are visible on the yellow platform.

Principle Power is a leader in deep water offshore wind technology.

We're committed to unlocking the world's renewable energy potential.

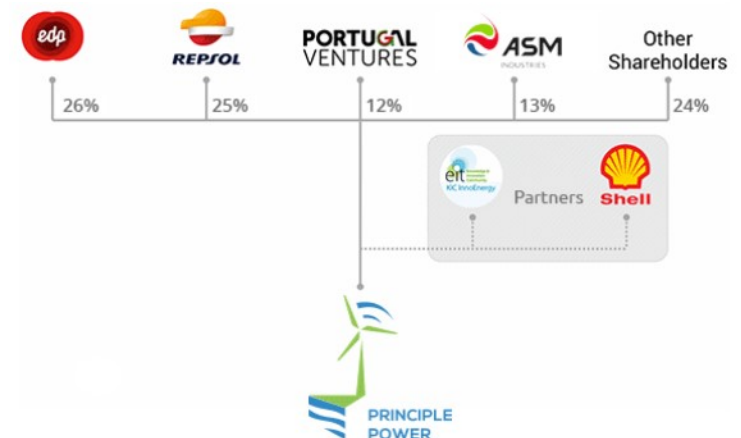
Principle Power is a global technology leader for floating offshore wind energy



- Headquartered in Emeryville, California with offices in Portugal and France
- Backed by global energy and utility leaders
- Globally patented, proven floating platform technology: the WindFloat
- Global project development based on low cost of energy and low technology risk



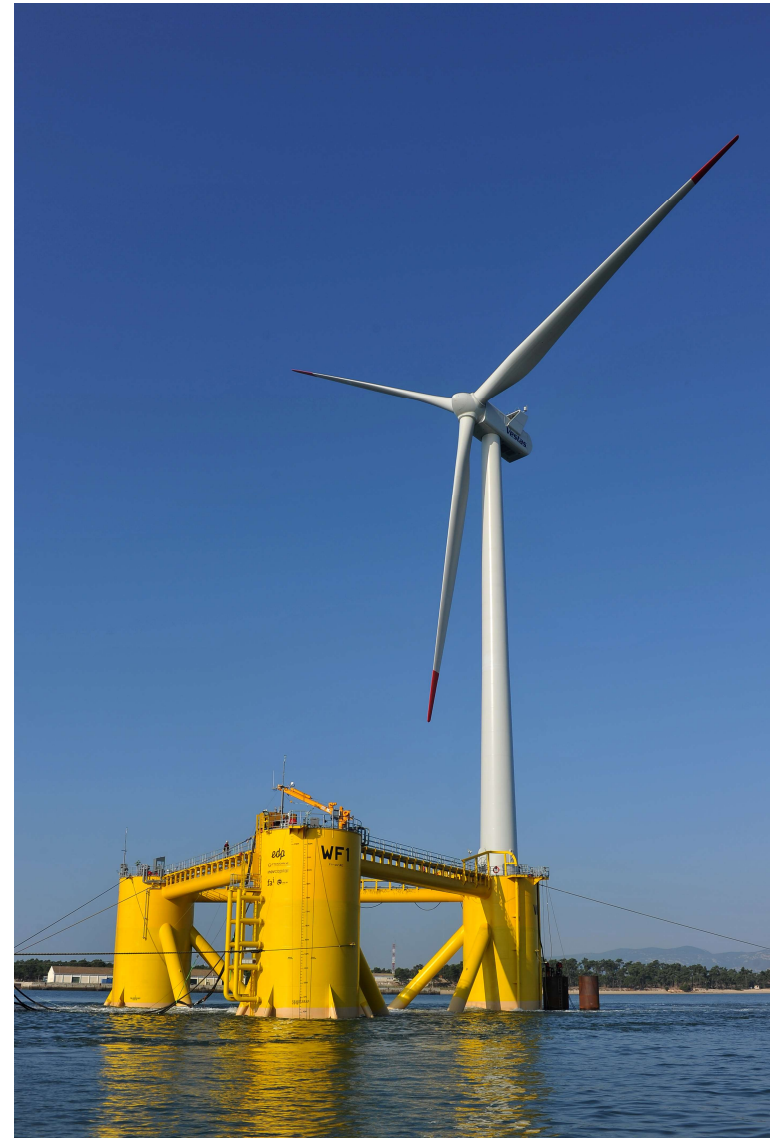
● - Principle Power Offices
○ - Active Markets



WindFloat is a proven technology: Successful 5 year Lifecycle Demonstration in North Atlantic



- 2011-2016 WindFloat 1 (2 MW)
- Successfully proved floating platform technology
- Generated over 17 GWh of clean energy
- Endured intense storms: 55' waves, 60 knot winds
- Incorporated lessons to improve next generation of technology



The WindFloat foundation creates platform stability in all weather conditions

1 Turbine Agnostic

- Any conventional commercial Turbines
- Minimum redesign in:
 - Control system – software
 - Tower – structural interface

2 Hull Trim System (Active ballast)

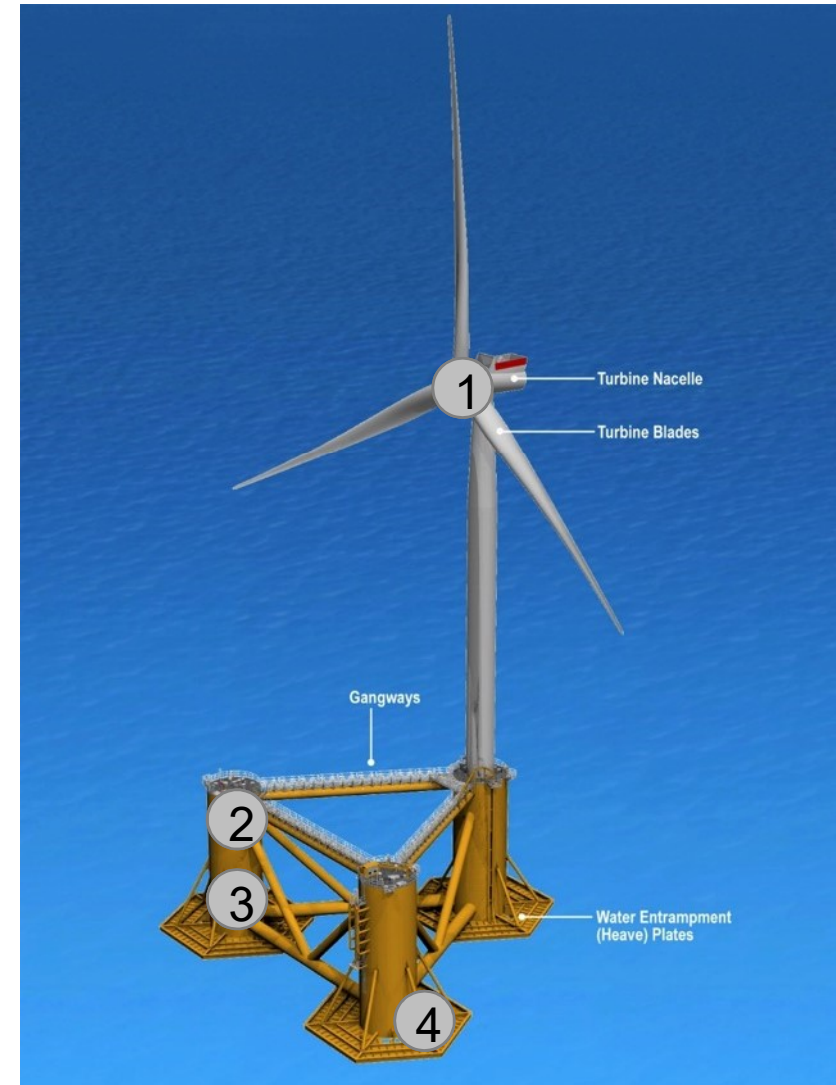
- Displaces some water between columns to compensate for changes in mean wind velocity and direction

3 Water Ballast (Operational draft)

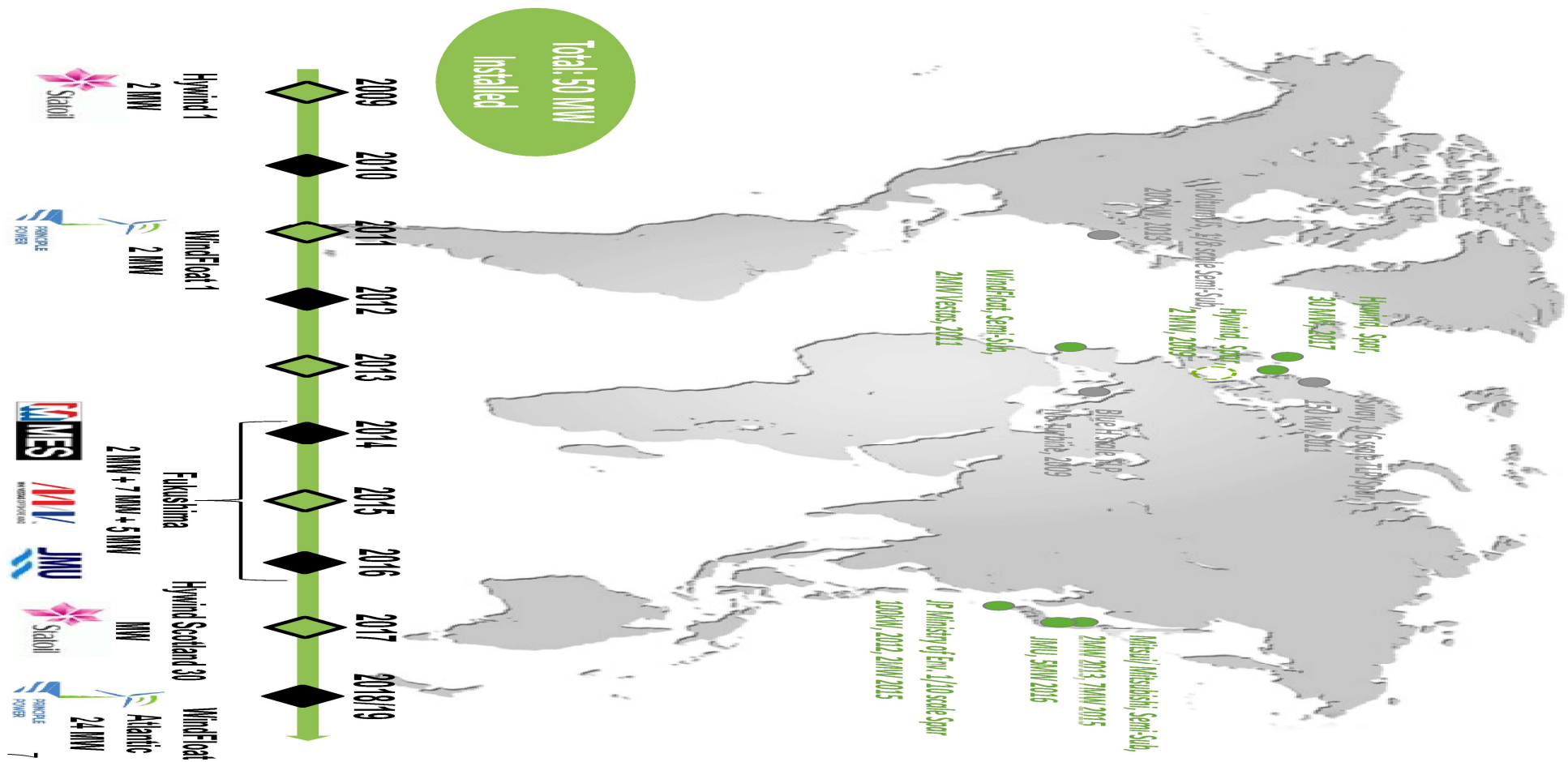
- Located at the bottom of each column and used to achieve operating draft
- More water in the columns not supporting the turbine

4 Heave Plates (Dynamic Stability)

- Move platform natural response above the wave excitation (mass of entrained water)
- Viscous damping reduces wave induced motions



Floating Wind has Emerged as a Legitimate Energy and Industrial Opportunity



Already executing on projects in different geographies, which fully prove low risk and cost competitiveness



WindFloat Atlantic

25 MW, Portugal, Operational 2019

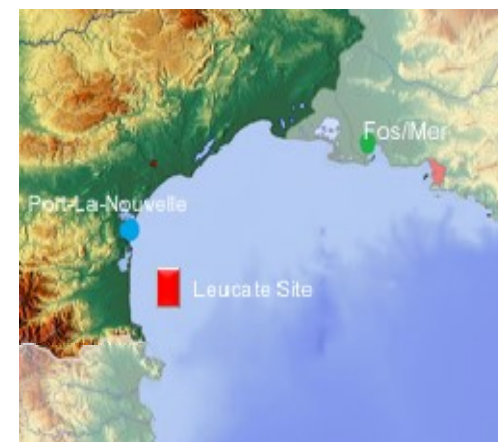
- 3x 8.3 MW MHI Vestas
- 20 km out; 100 m deep
- Local Shipyard Construction
- Certified by ABS
- Feed-In Tariff
- Equity Financing complete w/ strong international sponsors
- First on-Recourse Project Finance of a Floating Wind Farm (Financial Investment decision in summer 2016)



Golfe du Lion

24 MW, France, Operational 2020

- 4x 6 MW GE
- 18 km out; 70-100 m deep
- Local Shipyard Construction
- Certified by BV
- Feed-In Tariff (through competitive process)
- Very strong consortium with major energy companies and industrials
- Major innovations to advance technology to the next level of competitiveness



MINISTÈRE DE L'ENVIRONNEMENT,
DE L'ÉNERGIE ET DE LA MER

Deep waters off Pacific Coast require floating technology

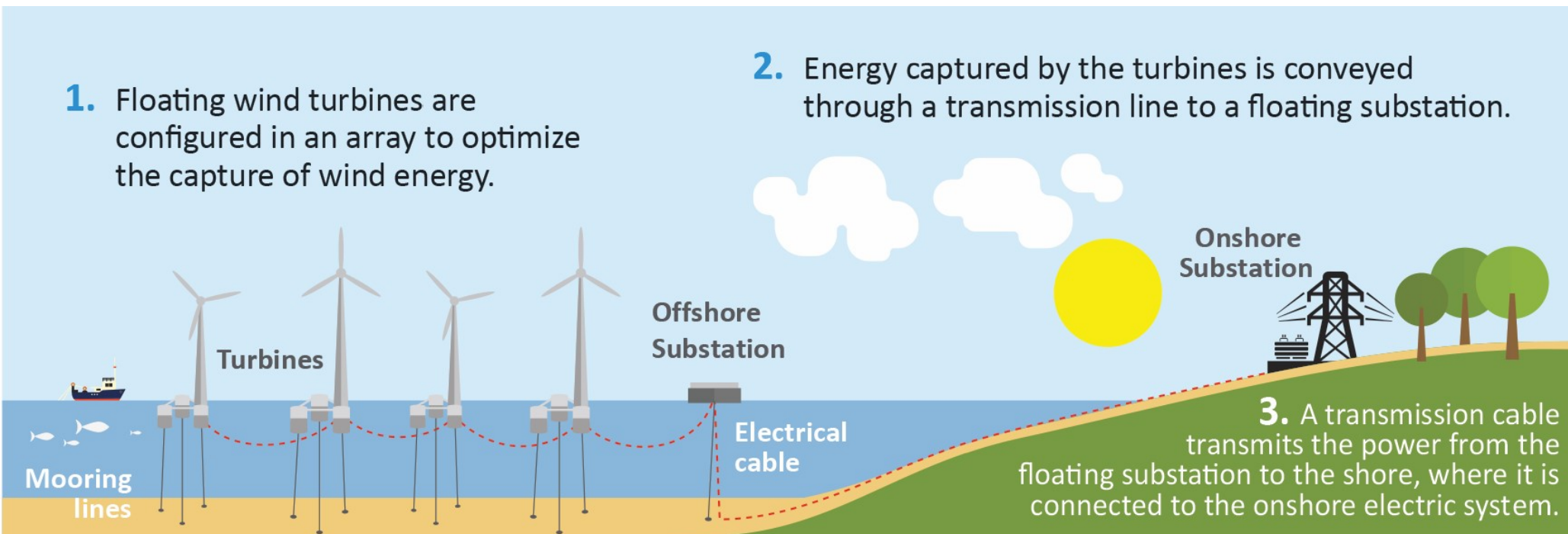
220 GW of potential offshore wind along Pacific Coast; 95% in waters deeper than 60 m.

Principle Power's WindFloat system is the leading technology to deploy offshore wind in deep waters at large scale and low cost.

1. Floating wind turbines are configured in an array to optimize the capture of wind energy.

2. Energy captured by the turbines is conveyed through a transmission line to a floating substation.

3. A transmission cable transmits the power from the floating substation to the shore, where it is connected to the onshore electric system.



Offshore wind energy in California offers numerous benefits

Valuable complement to solar & “Duck Curve”

Offshore wind reduces curtailment, ramping, and storage needs of large solar deployments.

Cost savings

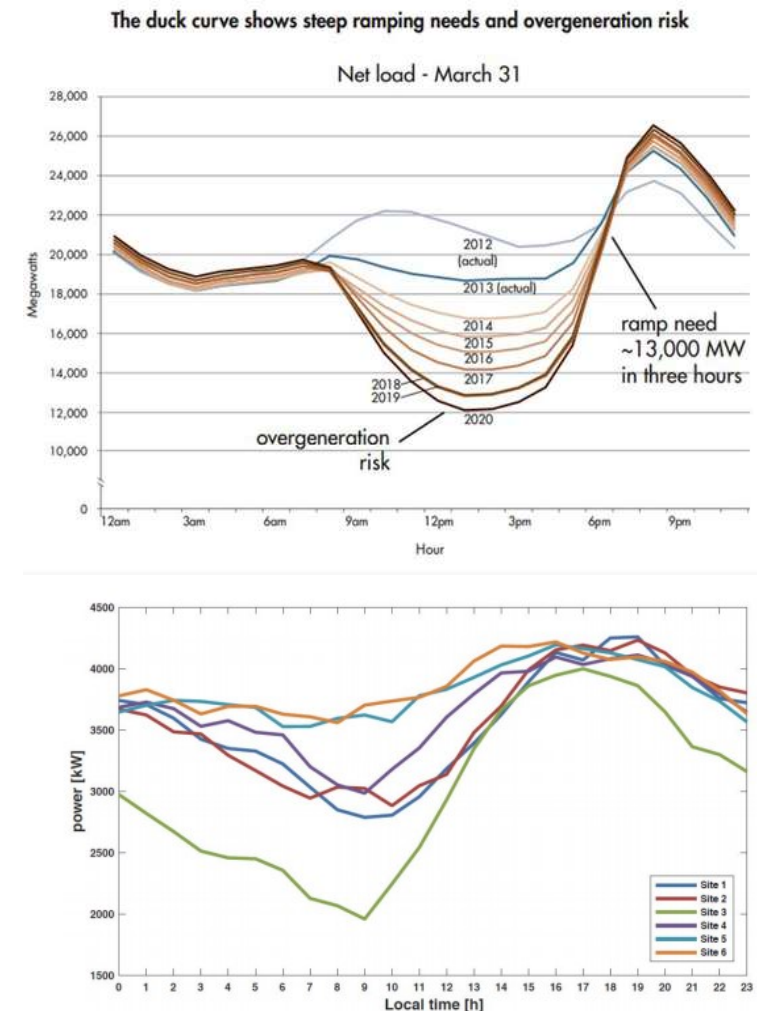
Competitive cost of energy and avoids expensive transmission upgrades.

Economic development

Revitalization of coastal industrial areas.
Investment in port infrastructure and shipyards.

Grid stability and resilience

System is designed to withstand natural disasters, reducing vulnerability to extreme events.



Offshore wind industry in California offers significant economic development potential

- 14,000+ potential direct construction and operations jobs from offshore wind in California.
- \$20-50B in state GDP growth from construction, operations, and support functions.
- Additional shipyard infrastructure investment and ship construction can revitalize industrial port areas.

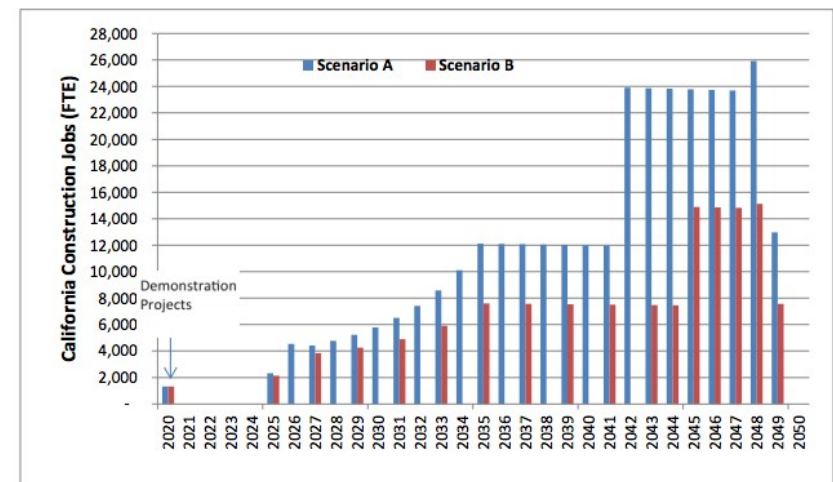


Figure 4-1. Construction-phase California Jobs for both scenarios

California Market: Offshore wind development is moving ahead with significant state/market interest



- California has a renewable energy requirement of 50% by 2030; likely to increase to 100% soon
- Existing proposals that use the WindFloat: 1 GW site off Morro Bay (Trident Winds)
- Global energy companies are examining the market (ex: Statoil and DONG from Europe)
- California and U.S. Federal government created an Intergovernmental Task Force to examine offshore wind siting in California
- Auction process expected to begin in 12-18 months

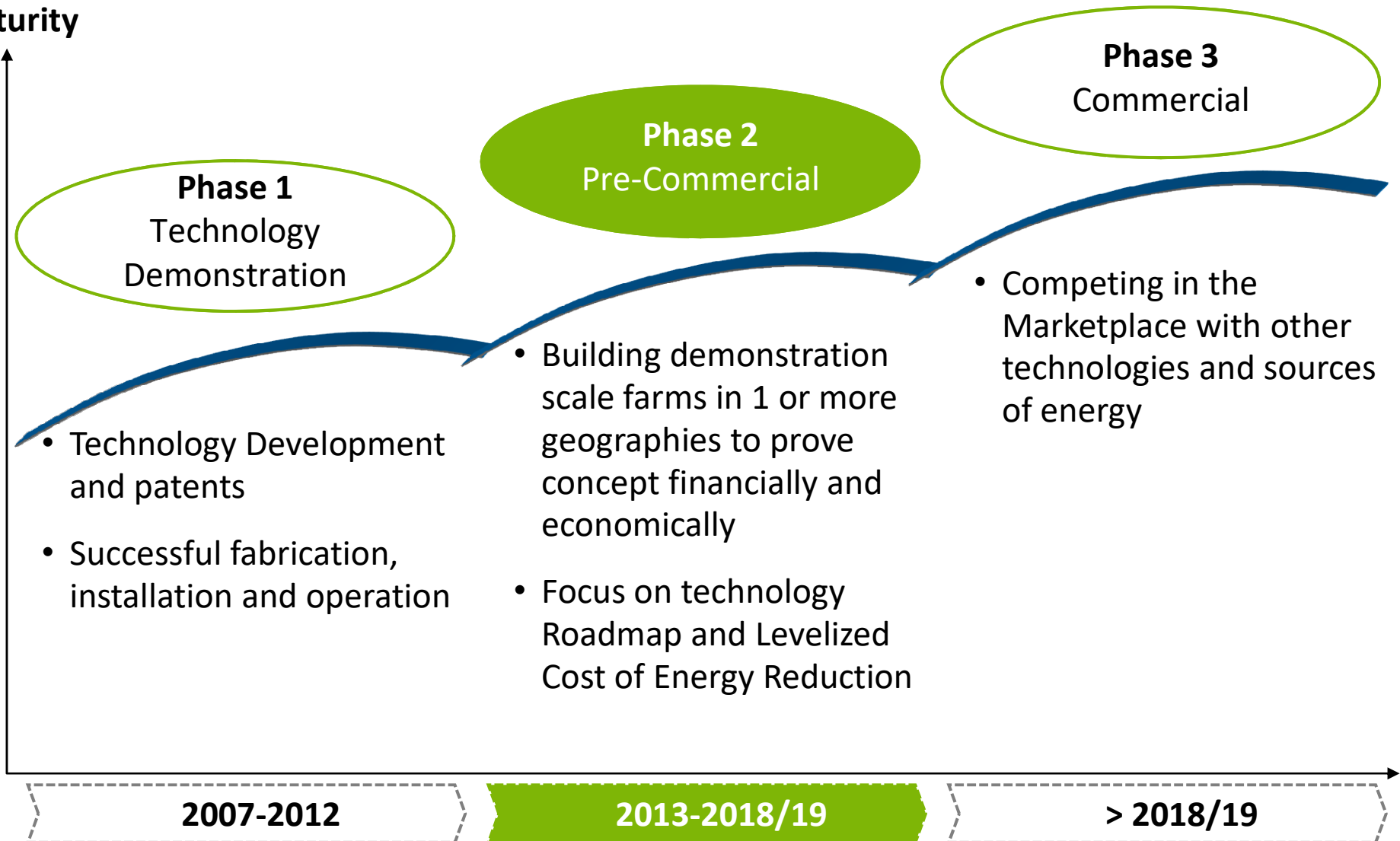


Average wind speed along California coast

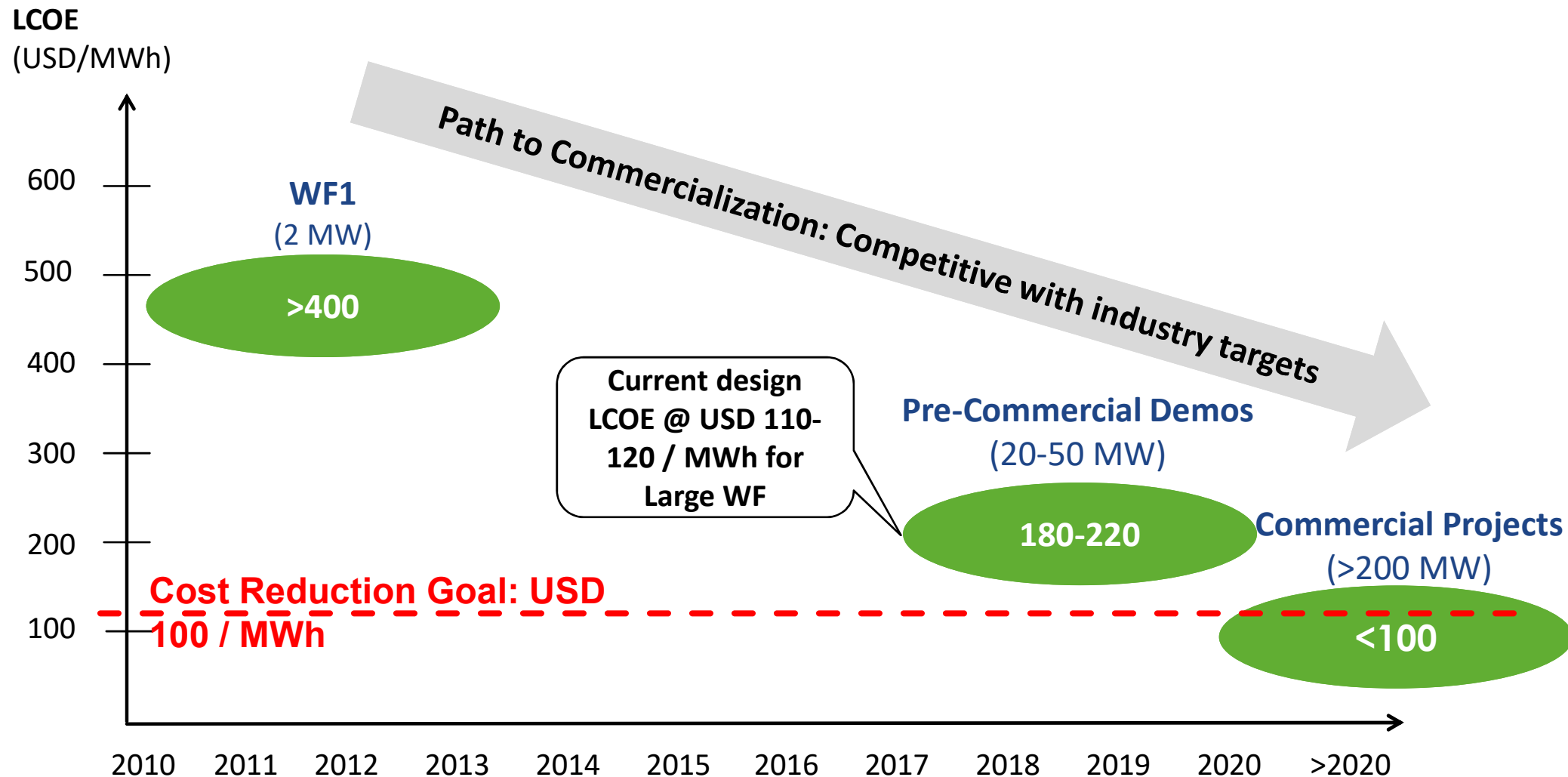
Proving the industry is technically viable; now showing economic and financial viability to be commercial end of decade



Maturity



WindFloat Commercialization Pathway on track to reduce LCOE below \$100/MWh by the early 2020s



California BOEM Leasing Process – Renewable Energy Leasing: Leasing auctions within 12-18 months



Planning and Analysis



Leasing



Site Assessment



Construction and Operations



- Intergovernmental Task Force
- Call for Information & Nominations (Call)
- Area Identification
- Environmental reviews

Publish lease sale notices

- » Proposed
- » Final
- Issue lease(s)

Site Characterization

Site Assessment Plan (SAP) developed by Lessee

- Construction and Operations Plan (COP) reviewed under NEPA
- Facility Design Report & Fabrication and Installation Report
- Decommissioning

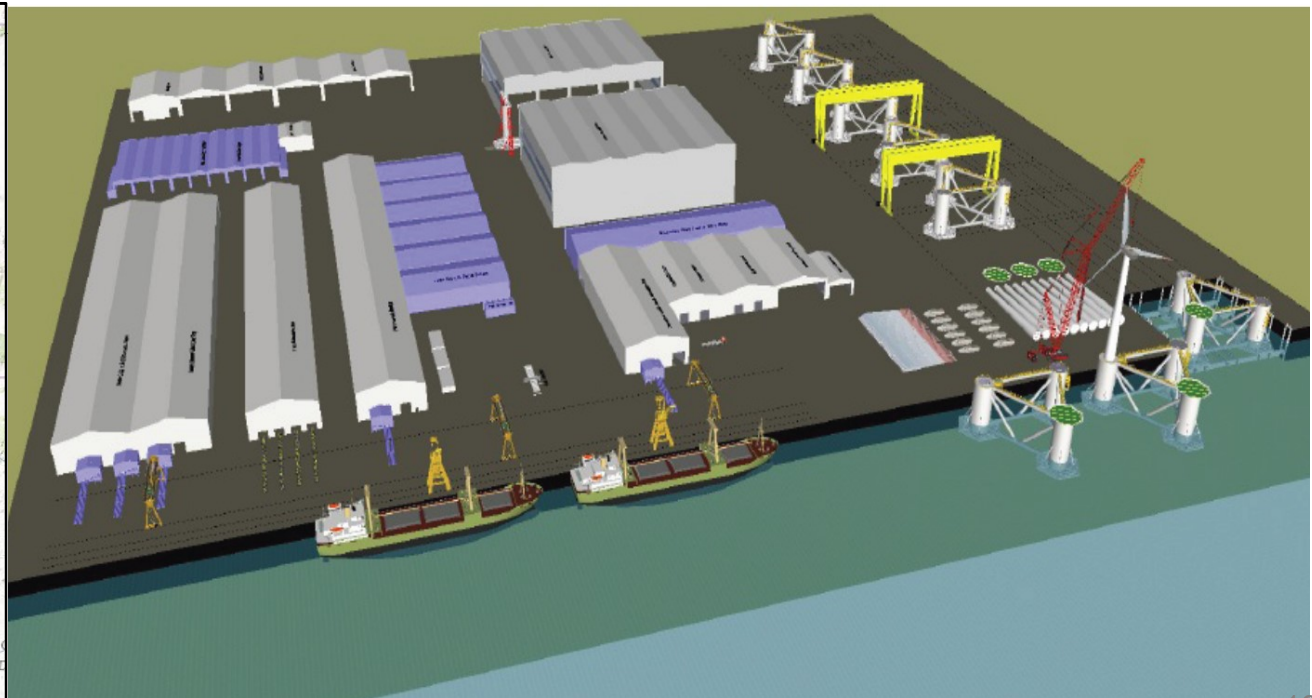
Multi-Year Process

LEGEND: Public Input Opportunity

Still very early in process. Call for Information expected this summer.

Planning for commercial WindFloat projects in California

- Can't change where the winds are...
- WindFloat units supporting future Wind Turbines of 10+ MW capacity
- Hull Fabrication Site = anywhere in the world but preferably on West Coast (CA)
- Hull Assembly and Turbine Erection Site = Assembly Port in CA
- Throughput: 1 platform completed/week



Key Take-Aways

1

The WindFloat, developed in California, is already proven technically, and is now proving its financial and economic viability

2

Several Projects are ongoing worldwide, both in execution in the near term and in commercial pipeline globally

3

Floating Wind competitive with current offshore wind levels and on track to be competitive to deploy at large commercial scale after 2020

4

Offshore Wind can play a key role in the energy mix in CA, with a steady resource close to load centers, complementing solar, avoiding transmission costs from out-of-state wind and In-State Economic potential

5

Current focus is to identify the supply chain in California, and to understand and advance development opportunities for the WF



www.principlepowerinc.com