NET Power Overview Presentation 2022

NETPOWER

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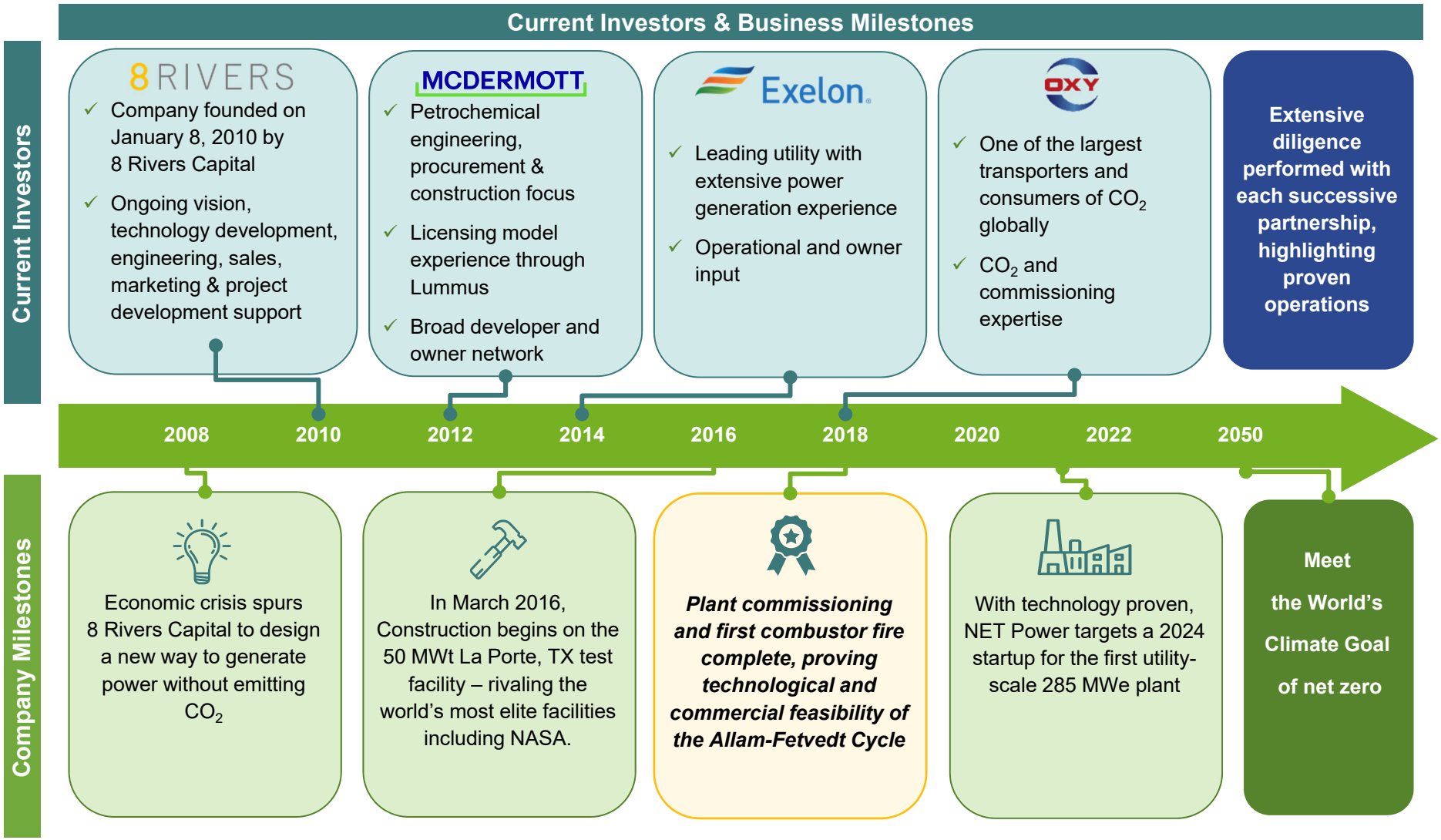
Meeting the World's Climate Goals by 2050

Strategic engagement with industry partners helped to advance NET Power's technology from concept to reality in under 10 years



NET Power Enables the Green Economy

Comprehensive solution to solve the global emissions problem and makes complementary clean energy technologies viable

NET Power and Complementary Technology Solutions

Lowest Cost	✓
Commercially Viable	✓
Accelerates Development in All Countries	✓
24/7 On Demand Power	✓
Decarbonizes Industrial Sector	✓

Renewables
NET Power's reliable power complements intermittent renewables

Clean Hydrogen
NET Power provides a clean source of energy to produce clean hydrogen

Battery Storage
NET Power provides a cheap, reliable, grid-level storage solution

Direct Air Capture
NET Power provides clean power and CO_2 handling services

Key Achievements and Lessons Learned at Test Facility

Profound learning took place and continues in extensive vetting cycle

Key Testing Achievements

- ✓ **~900 fired hours of testing with ~300 at sCO_2 conditions** (required 100 hours for process validation)
- ✓ **2,000+ hours on BOP equipment** (required 1,000 hours to confirm mechanical integrity)
- ✓ **~1,000°C turbine inlet temperature** (exceeded commercial design target)
- ✓ **Synchronization to the grid**
- ✓ **Stable and controlled ramp and shutdown as designed**
- ✓ **Achieved all expected BOP operational design pressures**
- ✓ **Chemistry control down to the <10 ppmv level**

Improvements Informed by Experience

Technology

- Identified and re-tested improvements on various facility equipment
  - Demonstrated novel commercial scale combustion system
  - Implemented first-of-a-kind compact nickel heat exchanger
  - Optimized dry and multi-phase sealing concepts
  - Developed high energy pipe welding program
  - Iterated key control valve concepts

Processes

- Identified critical procedures for start-up, commissioning and operation of all BOP equipment
- Proved and managed key controls and safety systems
  - Determination of stable, repeatable combustion at low and high pressures as well as at variable chemistries
  - Tuning of instrumentation concepts for improved commercial flexibility
- Enhanced layout optimization concepts for saving space, reducing costs and improving operator safety

People

- Development of multi-disciplinary team and structure to plan, address and analyze problems
- Implementation of vendor qualifications and servicing programs
- Identification of key SMEs for support in critical engineering and operations efforts
- Cross-training of operators on field and board

World's first direct-fire supercritical CO_2 cycle validated

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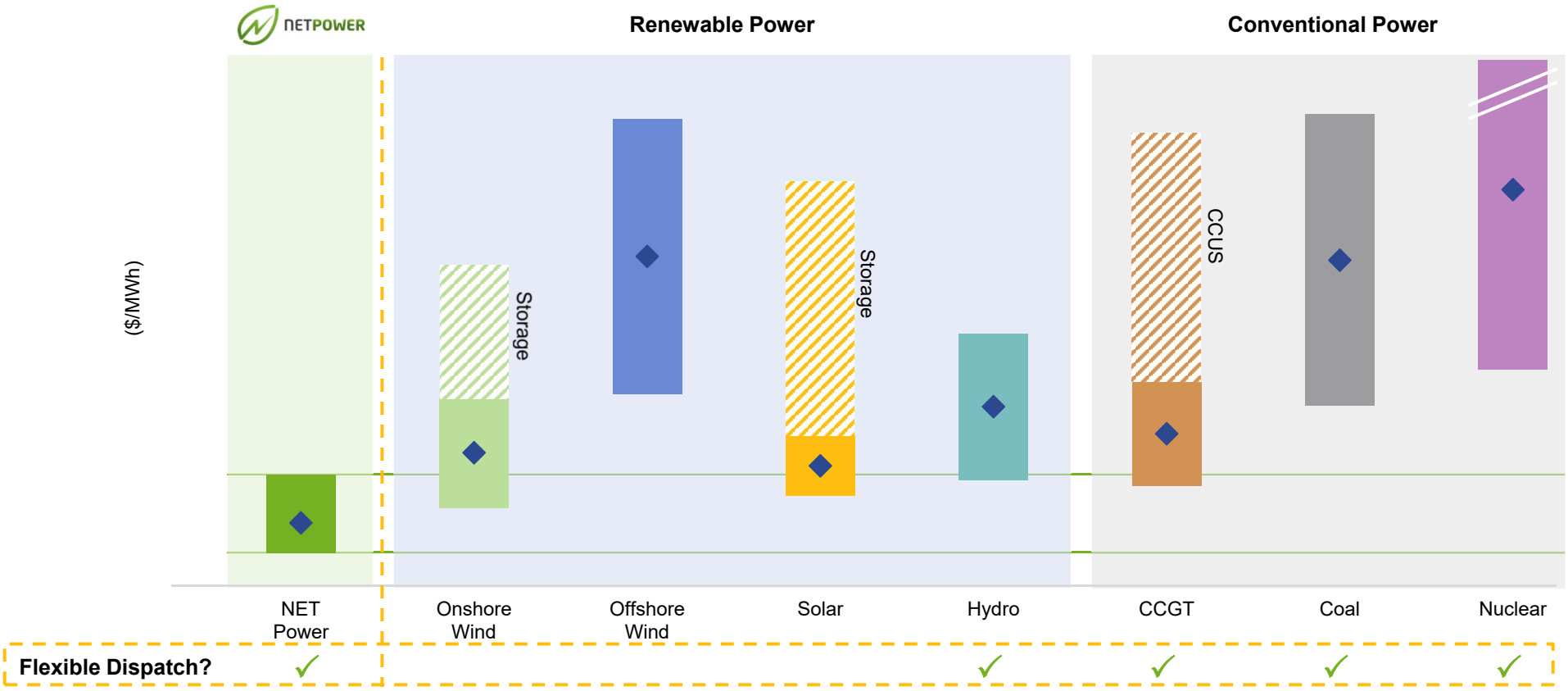
Proven Technology Makes Clean Cheaper than Dirty

NET Power's low-cost technology delivers on the primary advantages of renewable and conventional power in one optimal solution

Overview

- The NET Power technology captures and recycles the CO_2 it uses to generate power in a revolutionary semi-closed loop, zero-emissions system
- Load-following capability, in addition to reliable base load power
- Fuel efficiencies and multiple revenue streams contribute to a low cost of energy compared to peer technologies

Levelized Cost of Energy[1]



Source: BNEF 2020 LCOE Update, EIA 2020 Annual Energy Outlook, Lazard 2019 LCOE Analysis

Commercial Projects In Progress

Multiple commercial scale projects under development

Completed detailed Pre-FEED for a 284 MWe plant

Plant outputs – 284 MWe Plant	
CO_2 Output	864k tonnes/year
N_2 Output	4.6 MM tonnes/year
Ar Output	65k tonnes/year
ASU O_2	116k tonnes/year
Site Area	10 - 15 acres

Commercial Plant Performance*	NOAK	FOAK
	1200°C	**925°C**
Thermal Heat Input (MWt)	**550.33**	**550.33**
Turbine Shaft Power (MWt)	**489.53**	**451.04**
Gross Electrical Output (MWe)	**484.63**	**446.53**
ASU auxiliary load	-71.54	-71.54
BOP parasitics (pumps, cooling tower, etc.)	-88.21	-91.27
Net Electrical Output (MWe)	**324.88**	**283.72**
Net Plant Efficiency (% on LHV)*	59.03%	51.55%
Net Plant Heat Rate (LHV)*	5,780	6,619

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Virtual 360 Tour

#NETPower #np2050 #wecapturecarbon #cleanenergy

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