## **NET POWER**

TRULY CLEAN, CHEAPER ENERGY



ADAM GOFF, POLICY DIRECTOR

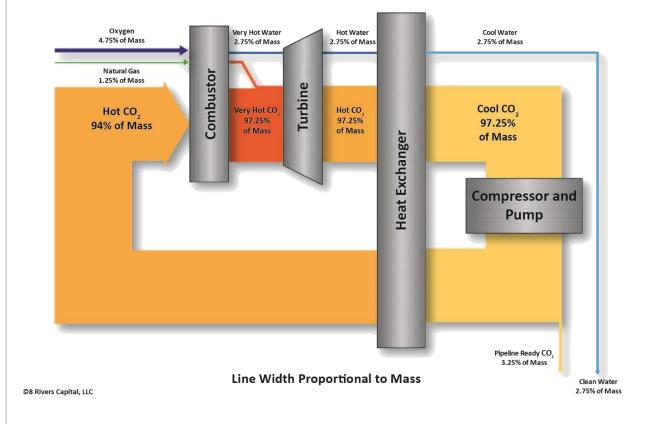


### **NET Power 50 MW Reference Plant**

- NET Power was invented by the 8 Rivers team in 2010.
- Zero emissions power from natural gas at lower cost than a combined cycle plant.
  - >97% Carbon Capture and no NOX, SOX, or particulate pollutants.
  - 45Q tax credits in The US add ~\$300M NPV per 300 MW
- Complements renewables with clean back-up power and energy storage capability
- NET Power has raised >\$150M from 8 Rivers, McDermott, Exelon, and Occidental Petroleum.
- Combustor demonstrated in Q2 2018, multiple commercial projects in development.

## THE ALLAM CYCLE RUNS ON SUPERCRITICAL CO2

300 MW Allam Cycle	Efficiency (LHV)
Turbine Shaft Power	82.5%
CO <sub>2</sub> compressor and generator	-8%
ASU auxiliary load	-12%
Balance of Plant	-7%
Net Efficiency	55.1%



<sup>\* 58.9%</sup> efficiency is achievable at higher capital cost.



#### 50MW<sub>TH</sub> PLANT IN LA PORTE TEXAS

2016

CONSTRUCTION START (MAR)

2017

CONSTRUCTION COMPLETE (DEC)

2018

COMMISSIONING COMPLETE (APR)

COMBUSTOR FIRST FIRE (MAY)

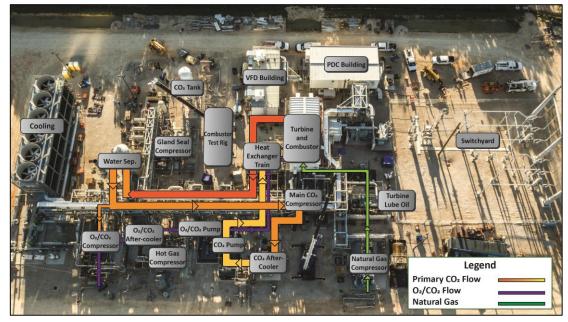
COMBUSTOR TEST COMPLETE (AUG)

2019

TURBINE TEST PATH (UNDERWAY)







La Porte, TX Plant



MCDERMOTT, 8 R I V E R S

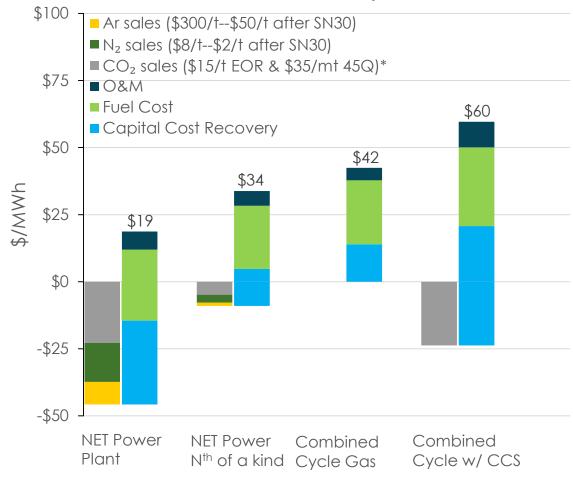


# NET POWER PLANTS ARE EXTREMELY COMPETITIVE

**45Q** AND INDUSTRIAL GAS SALES PROVIDE **NET P**OWER WITH A COST ADVANTAGE TODAY.

AT MATURE COSTS, **NET P**OWER PLANTS ARE ABLE TO COMPETE ON ELECTRICITY ALONE.

### Levelized Cost Comparison

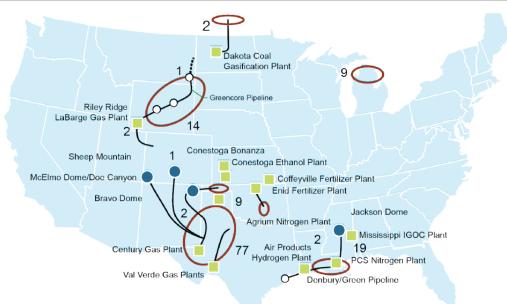


\$55/ton CO2. 45Q Tax Credit converted to a pre-tax \$/short ton basis to illustrate impact

Notes: Assumes \$2.85/MMBTU natural gas in 2018, with annual escalation at 2%. All data for utility-scale projects. Capacity payments and other ancillary service revenue not included. 92% Capacity Factor



## CO<sub>2</sub> INFRASTRUCTURE



138 Number of U.S. CO2-EOR Projects

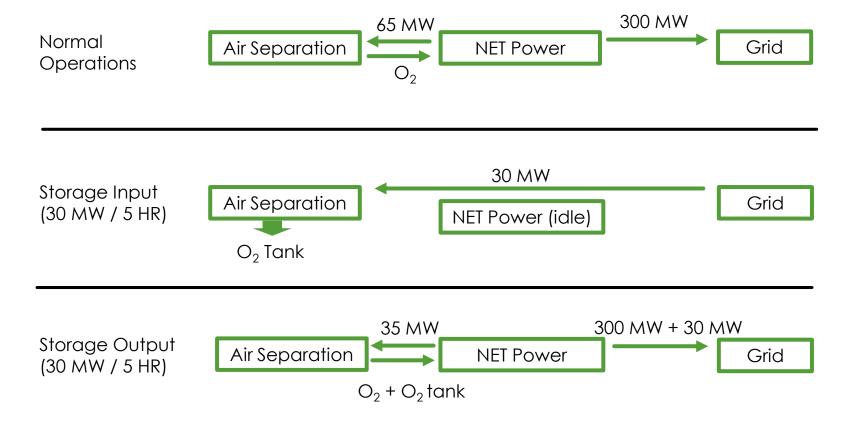
- Natural CO, Source
- Industrial CO<sub>2</sub> Source
- CO, Pipeline
- CO, Proposed Pipeline
- CO<sub>2</sub>-EOR Region

U.S. regions with large-scale CO <sub>2</sub> pipeline systems currently in operation	Miles of Pipeline
Permian Basin (W. TX, NM, and S. CO)	2,320
Rocky Mountains (N.CO, WY and MT)	810
Gulf Coast (MS, LA, and ETX)	740
Mid-Continent (OK and KS)	480
Other (ND, MI, Canada)	215

Source: Quadrennial Energy Review: Energy Transmission, Storage, and Distribution Infrastructure, April 2015.



### 150 MWH OF CHEAP ENERGY STORAGE





## BETWEEN THE LINES OF 45Q

THE DIFFERENCE BETWEEN \$35 / MT AND \$50 / MT

CARBON PRICES VS. TAX CREDITS

TAX CREDITS AND TAX APPETITE

How small can you build?



## US TECHNOLOGY AND GLOBAL EMISSIONS





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## **NET POWER**

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