Bloomenergy®

US DOE HTE Manufacturing Workshop

SOEC MANUFACTURING IN HIGH VOLUME

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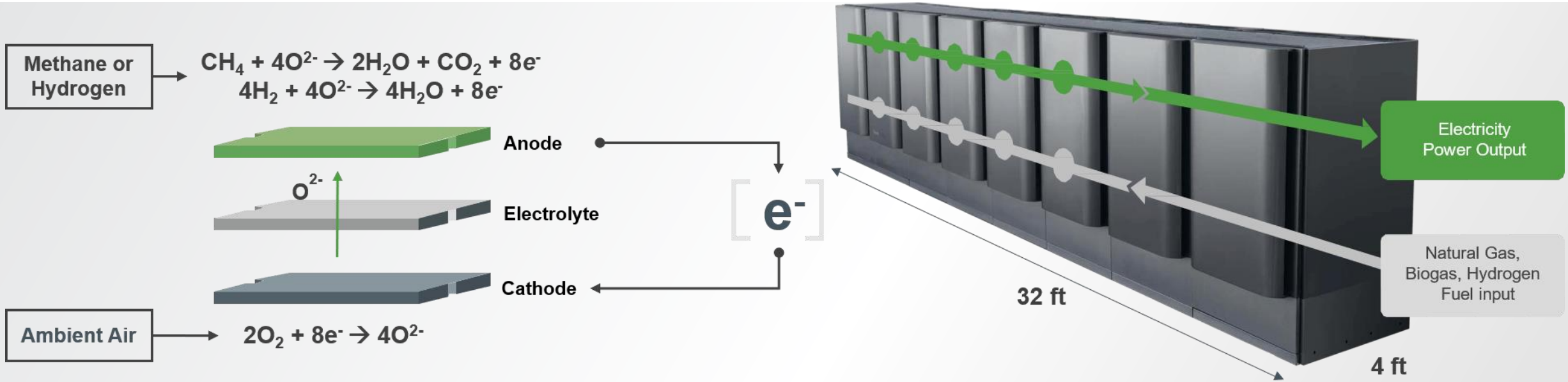
TECHNOLOGY PLATFORM OVERVIEW

MODULAR AND REDUNDANT DESIGN

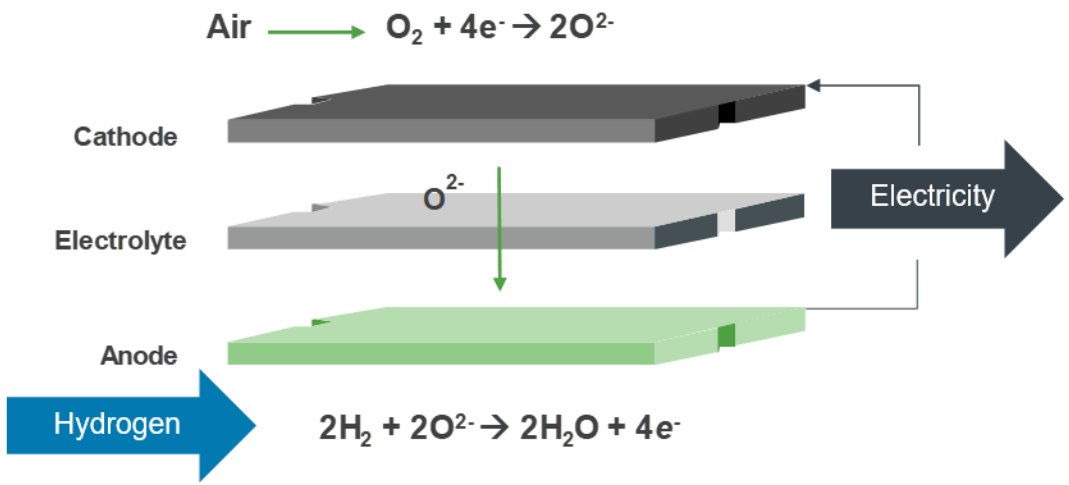


SOLID OXIDE REVERSIBLE CELL

Be

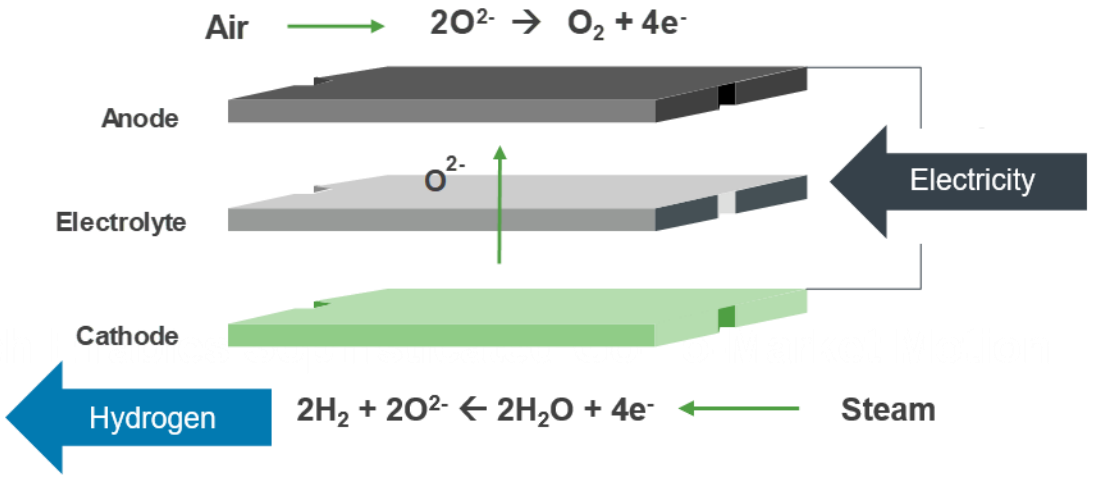
Fuel Cell Mode

Fuel Cell Mode



Electrolyzer Mode

Electrolyzer Mode

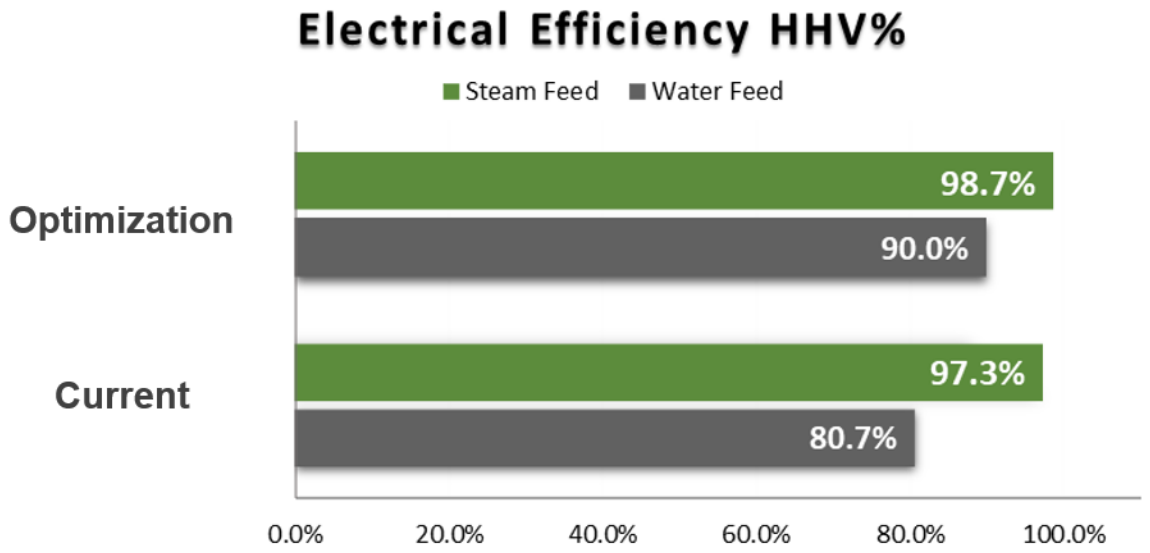


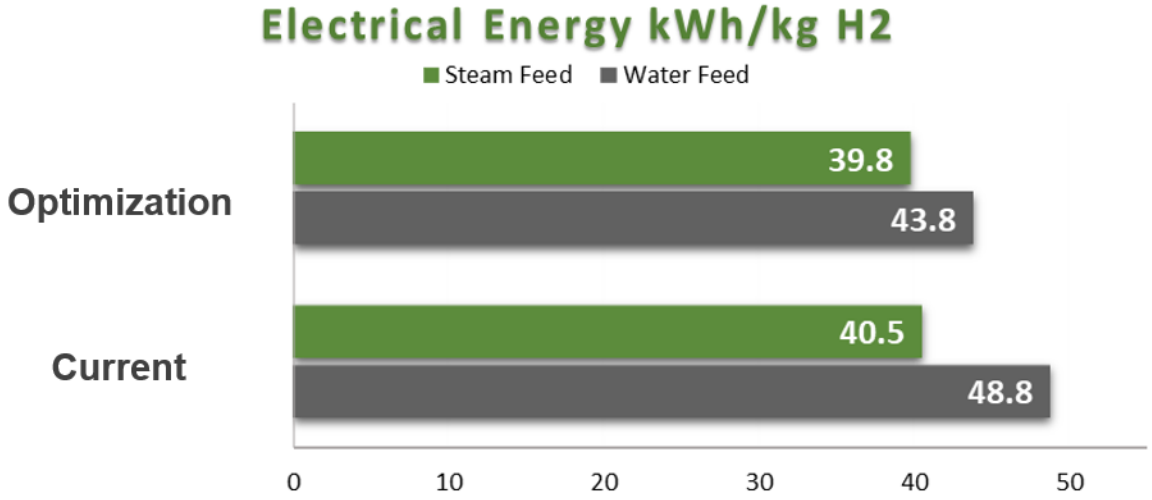
BLOOM ELECTROLYZER LAUNCH

Bloom Energy Electrolyzer

Results (Single Module Testing)	Water Feed	Steam Feed
Hydrogen Production (kg/hr)	2.54	2.69
Electrical Energy (kWh/kg H_2)	48.8	40.5
Electrolyzer Efficiency HHV (%)	80.7	97.3

(Not including downstream compression)





SOEC MANUFACTURING IN HIGH VOLUME

Bloom's Stack Manufacturing:

- Fully automated cell manufacturing and stack assembly
- Scalable infrastructure to GWs
- SOEC and SOFC use the same line
- Shifting from stack to column paradigm

Opportunities:

- Material changes to help component manufacturing
- Continuous sintering and conditioning
- Enhanced high volume electrode printing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