

## VrFarms

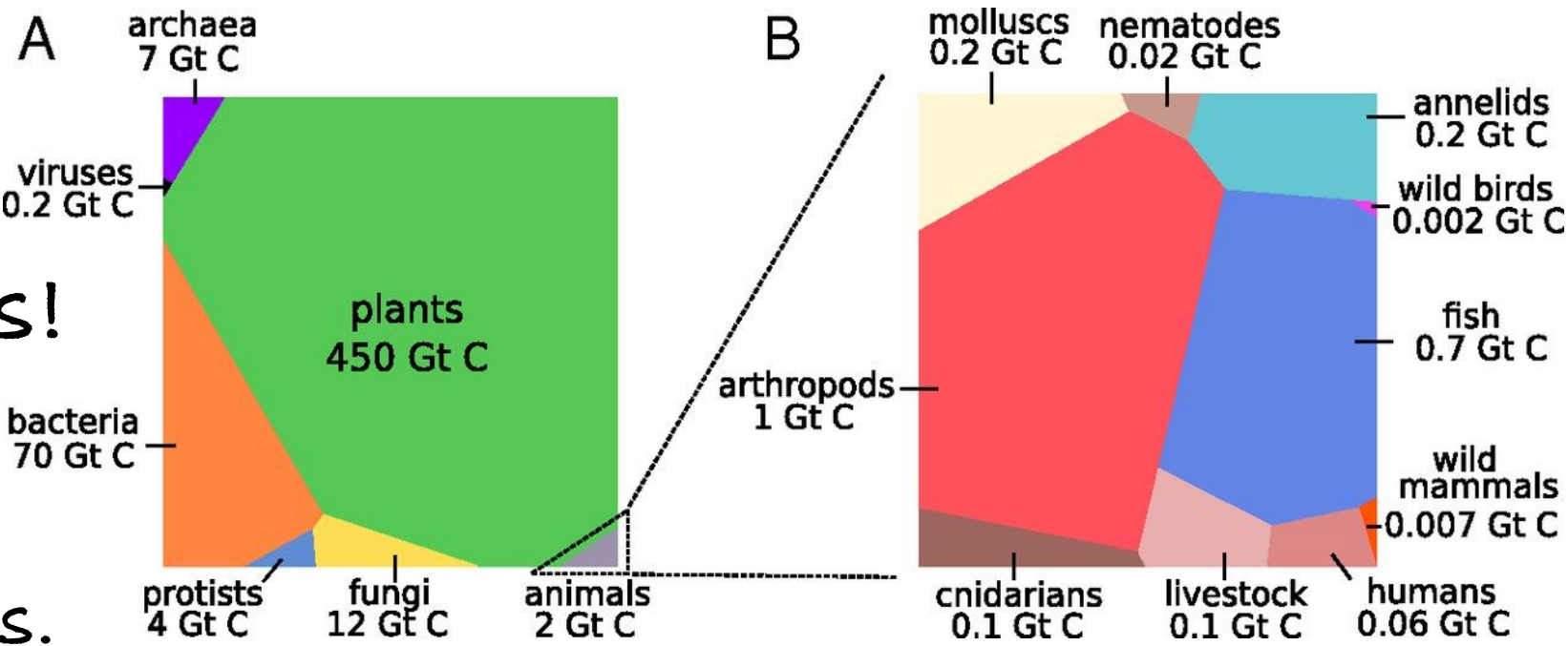
Biomass to Compressed Hydrogen  
for Energy Storage  
to Charge Batteries  
to Power Micro-Grids  
Off-Grid EV SuperCharging  
And Hydroponic Greenhouses

# What's Cool about Biomass?



## How much there is!

How much Energy it has  
Biomass Captures CO2  
Biomass is Renewable



## You can make Hydrogen from Biomass.

<https://www.energy.gov/eere/fuelcells/hydrogen-production-biomass-gasification>  
[https://www.energy.gov/sites/prod/files/2015/01/f19/billion\\_ton\\_update\\_0.pdf](https://www.energy.gov/sites/prod/files/2015/01/f19/billion_ton_update_0.pdf)

<https://www.pnas.org/content/115/25/6506>

## What can you do with Hydrogen from Biomass?

Forest & Urban Biomass is the Only  
Global Distributed Manageable Renewable CO2 Capturing Energy Source  
from which you can Easily Produce Hydrogen

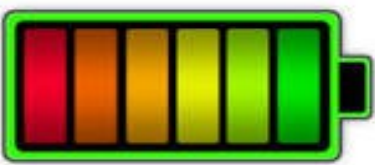
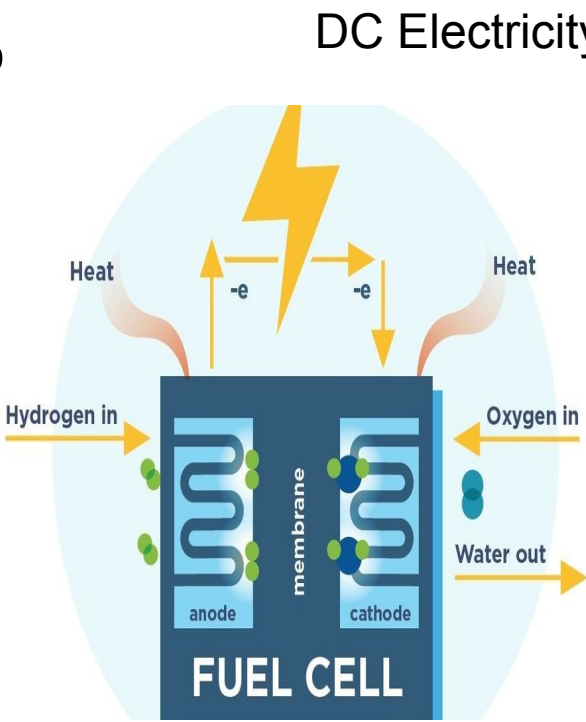
Make Managing (Not Clear Cutting) a Forest Cost Effective,  
Charge Electric Vehicles, Power Greenhouses Everywhere,  
Make the Grid More Efficient by Connecting at the Ends of the Grid,  
Implement a Biomass 2 Hydrogen 2 Electric Economy

### VrFarms

Hydrogen Production  
Confidential and Proprietary

### Charge Grid Scale Battery Banks

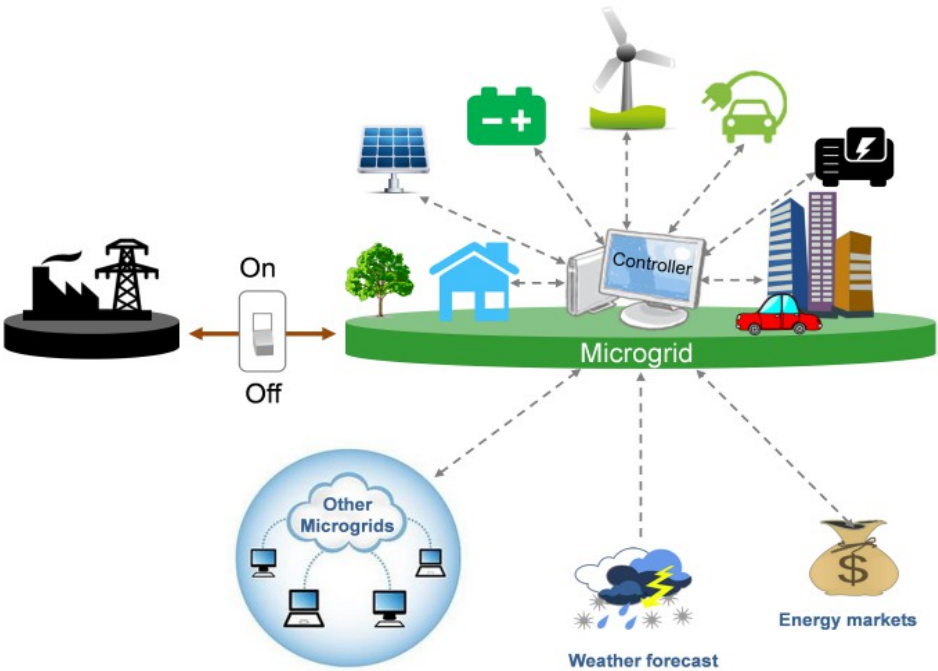
Use Mobile Pipelines to Truck it to  
MicroGrid Connected  
EV Charging Stations

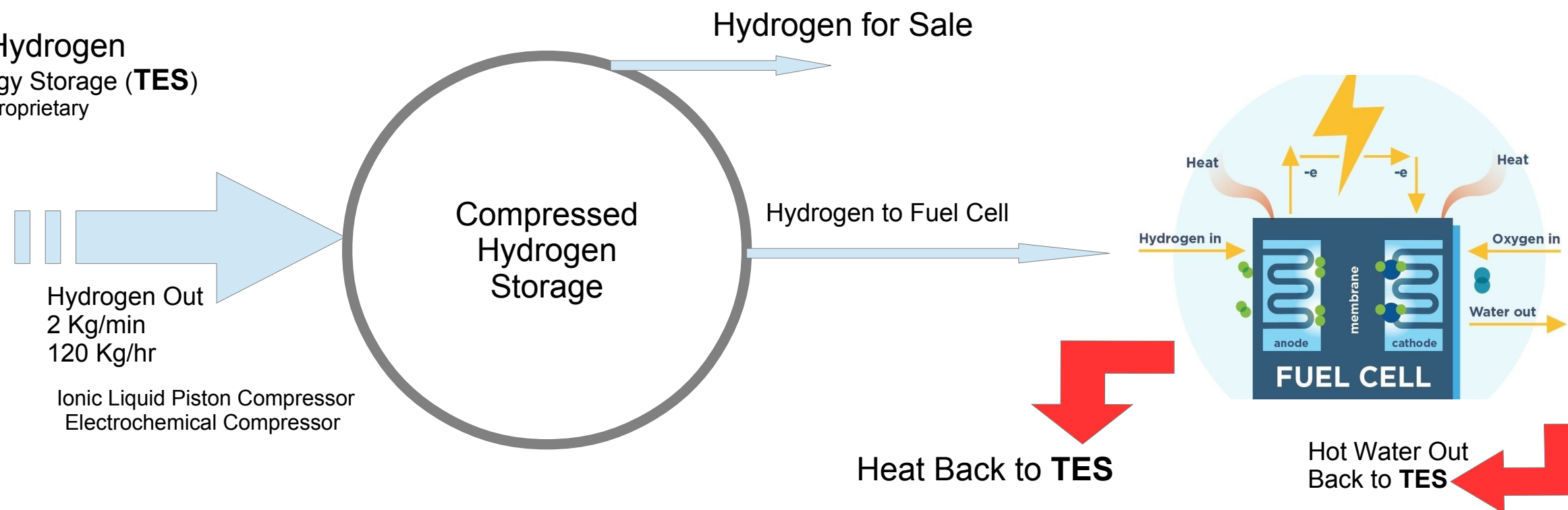


2 Mwh Battery

### MicroGrids

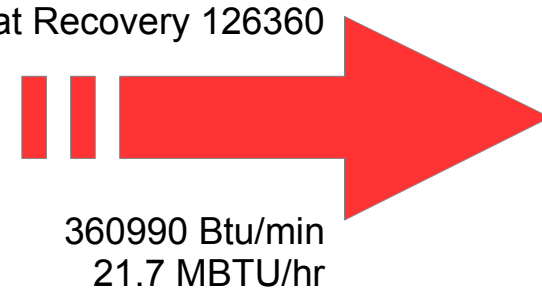
250kw Fuel Cells x 4  
Plus Heat Out





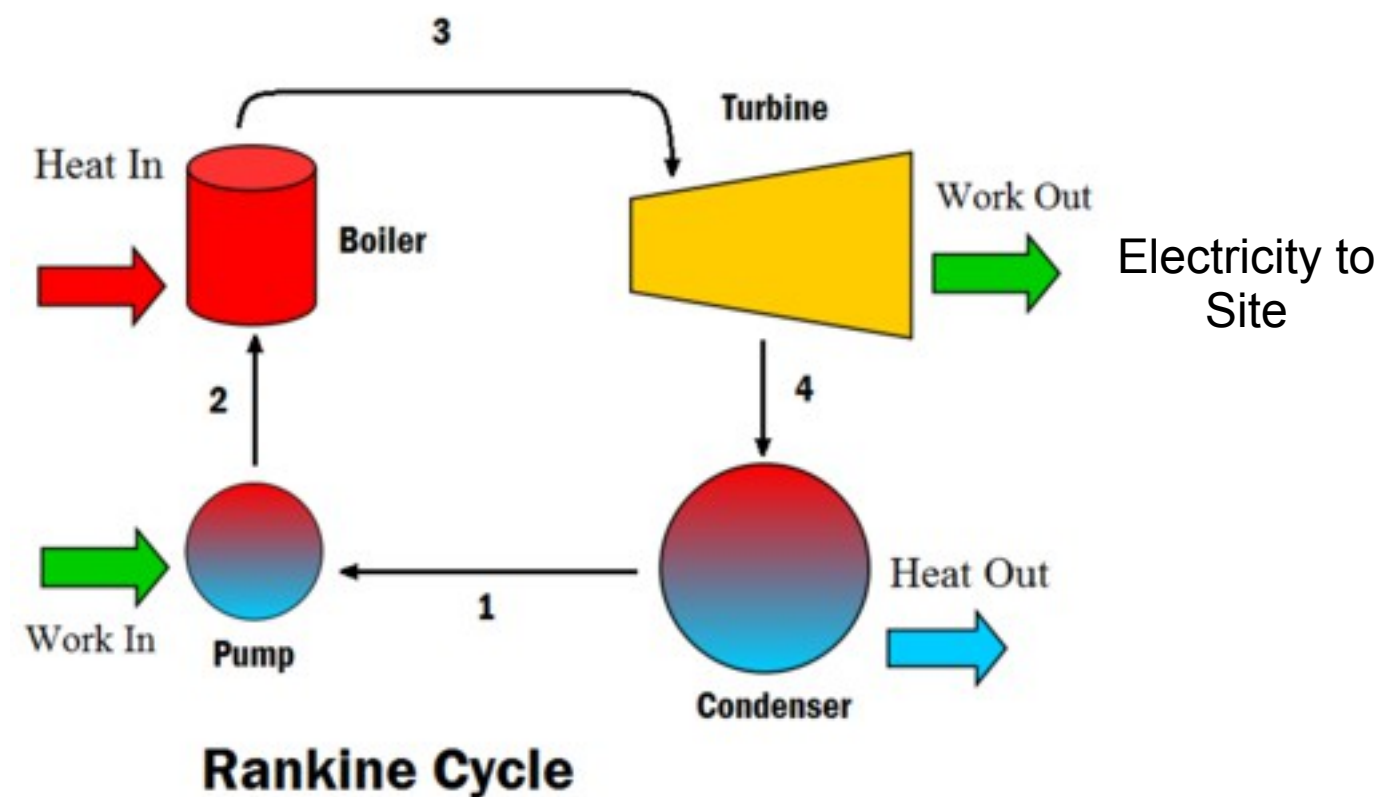
Site Working Thermal Energy (**TES**)

Combined BTUs  
2 Kg/min into MH 234630  
Flue Gas Heat Recovery 126360



Steam In  
From **TES**

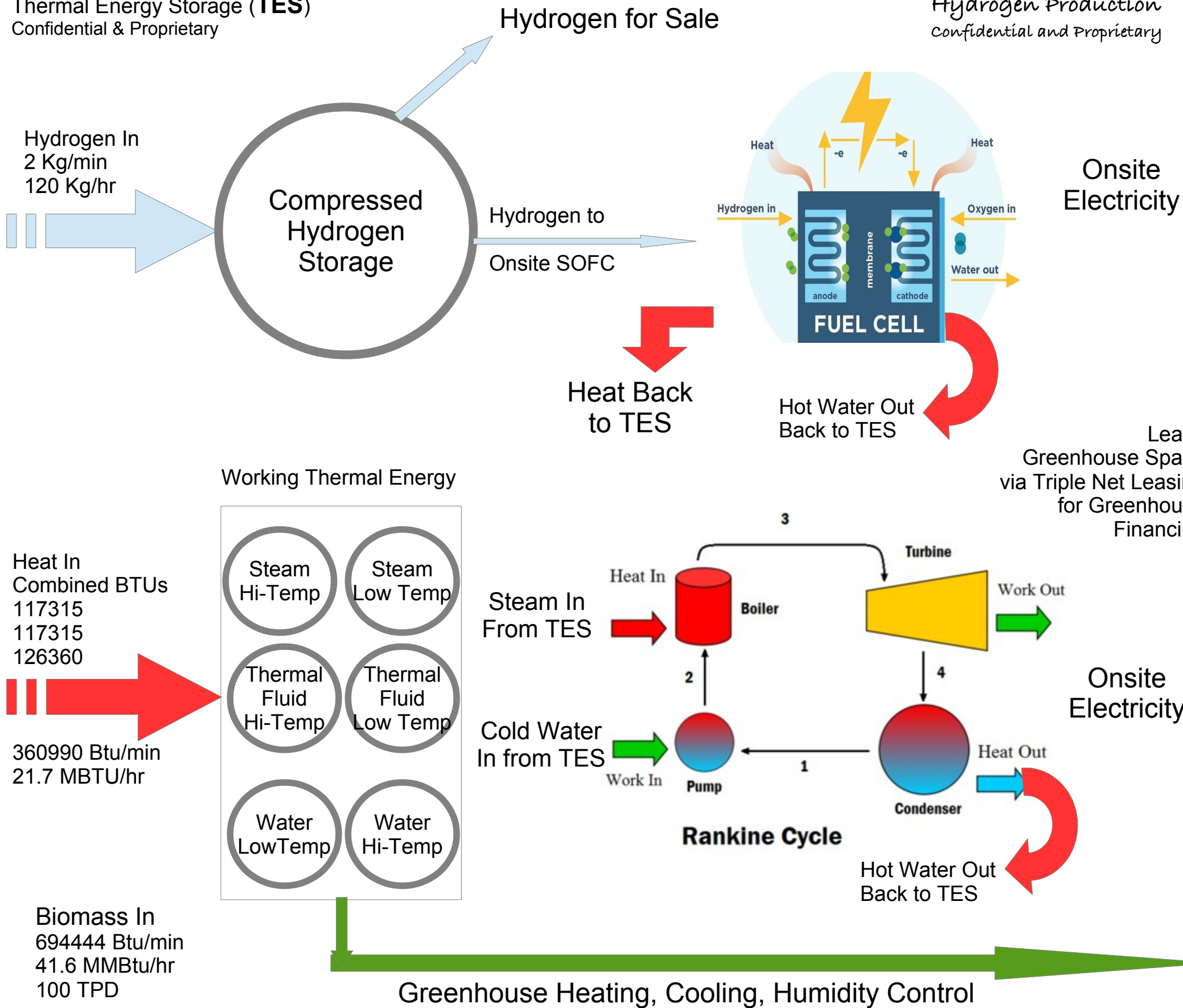
Cold Water  
In from **TES**



Hot Water Out  
Back to **TES**

100 TPD Biomass In  
Gasifier Output  
41.6 MMBtu/hr

VrFarms  
Biomass2Hydrogen  
Thermal Energy Storage (TES)  
Confidential & Proprietary



VrFarms  
Hydrogen Production  
Confidential and Proprietary

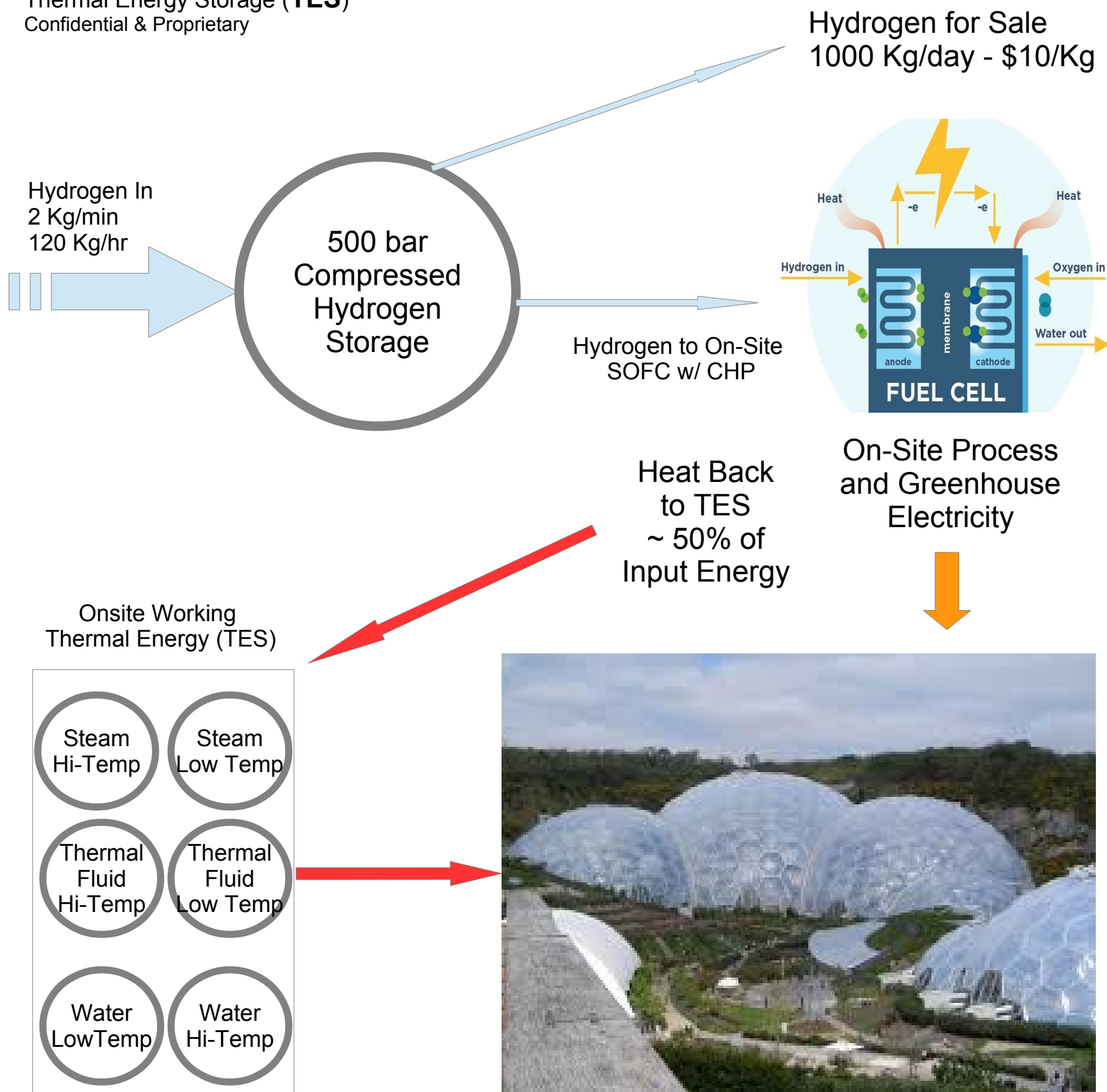
Nitrogen Filled ETFE Pillow Covered Greenhouses



Lease  
Greenhouse Space  
via Triple Net Leasing  
for Greenhouse  
Financing

VrFarms  
Biomass2Hydrogen  
Thermal Energy Storage (TES)  
Confidential & Proprietary

## Onsite Hydrogen Production



## VrFarms

Hydrogen Production  
Confidential and Proprietary

250 bar Hydrogen  
Mobile Pipeline  
350Kg Hydrogen - \$360K



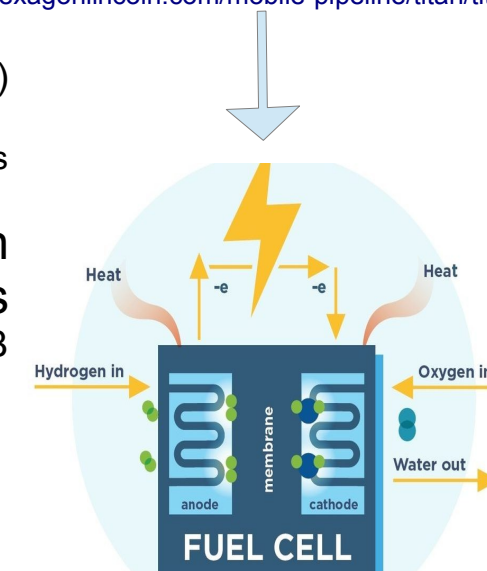
<https://www.hexagonlincoln.com/mobile-pipeline/titan/titan>

Wireless Electricity (no Grid required)  
Hydrogen Delivered to EV Charging Stations

350Kg H<sub>2</sub> - 11550 KWh  
100 – 50KWh EV Charges  
5000 Kwh delivered point A to B

Level 3 DC Fast Charging  
4 x 250 KW SuperCharger  
SOFC /w CHP  
\$1.5M

Hydrogen Converted to Electricity  
at EV Charging Station Sites  
Grid-less Electricity Delivered



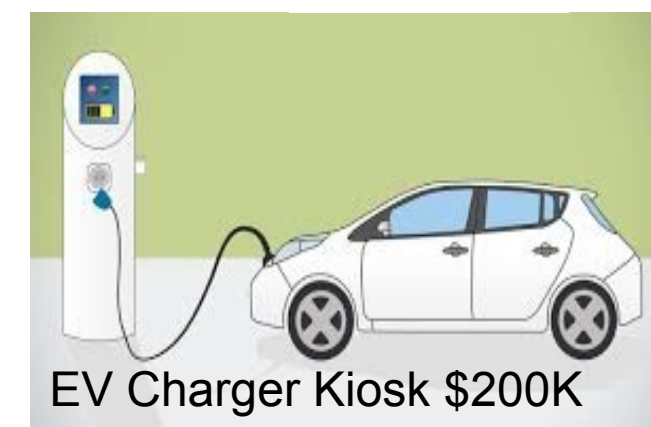
MicroGrid  
Connected

2 MWH  
Battery \$1.5M

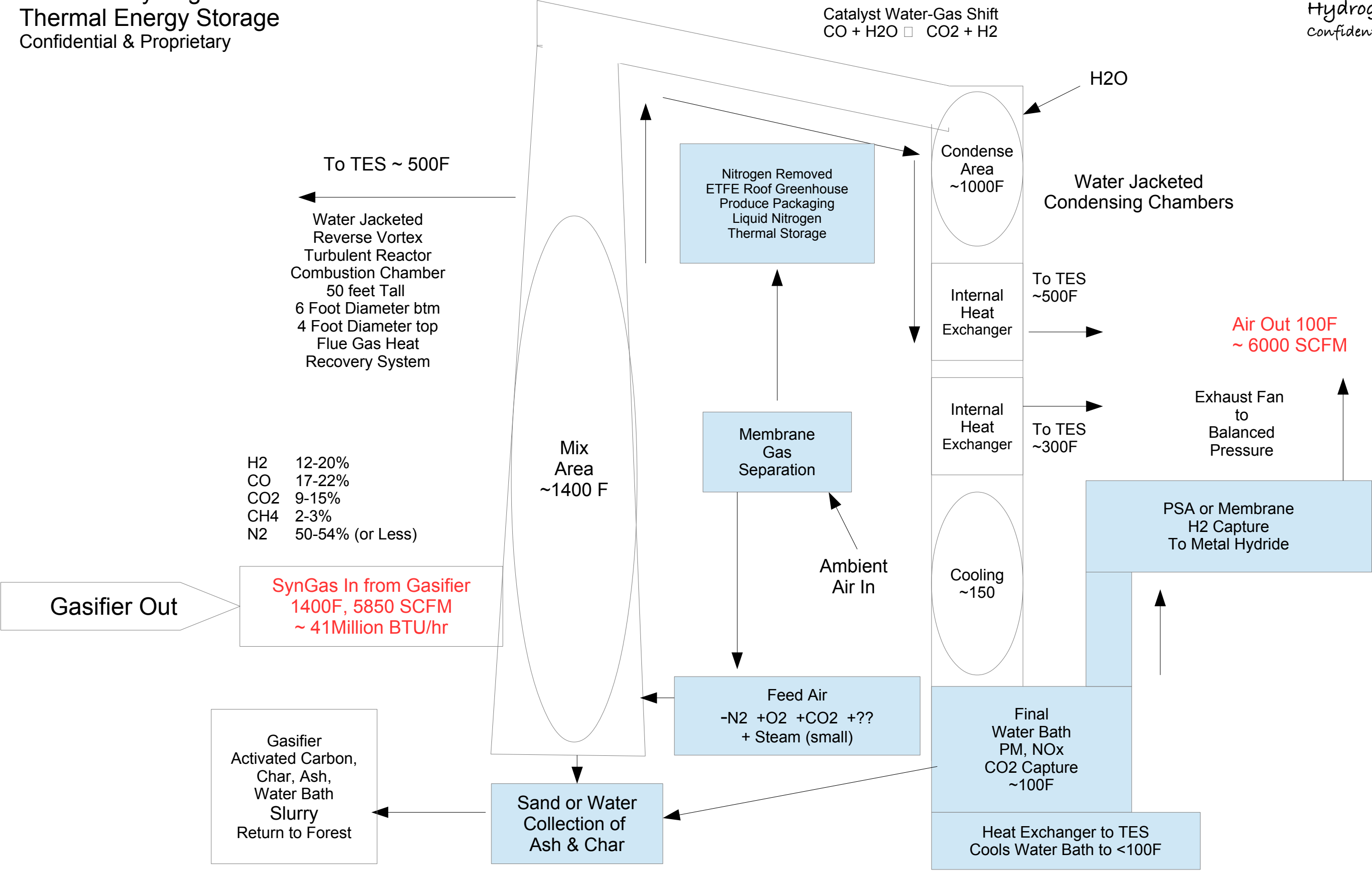


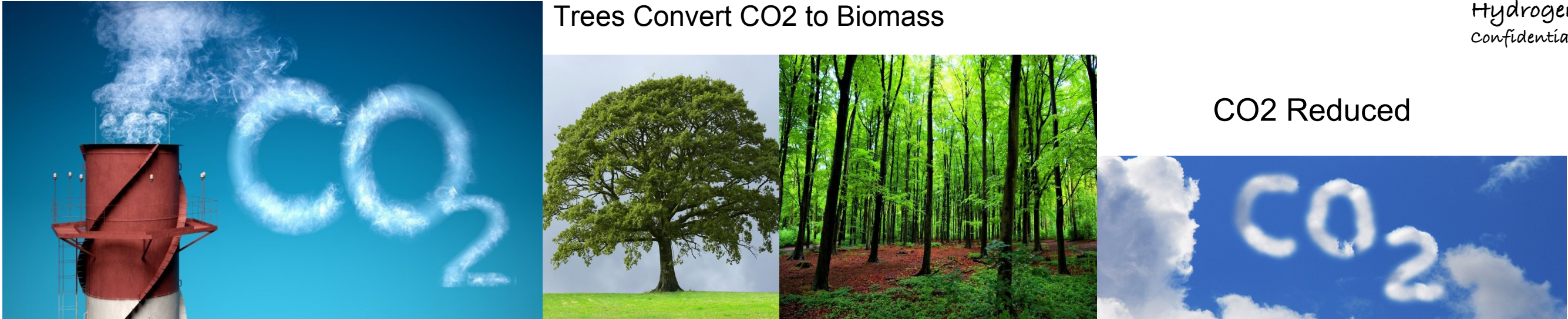
Hydrogen SuperCharger  
Network

300 EV Charging Sites  
1 Kg Hydrogen = 33 Kwh  
Fuel Cell Eff – 50%  
2.8 Kg H<sub>2</sub> = 50 Kwh Charge  
Retail \$25 (\$6 profit/chg)  
\$28 cost of Hydrogen  
50 Kwh x .18/Kwh = \$9  
18 cent/Kwh Carbon Credit  
18 cent/Kwh PPA BioMAT



EV Charger Kiosk \$200K





Trees Convert CO2 to Biomass

CO2 Reduced

Zero  
CO2  
Emissions

Biomass In

Carbon  
Ash  
Back

SynGas In from Gasifier  
1400F, 5850 SCFM  
~ 41Million BTU/hr

Gasifier

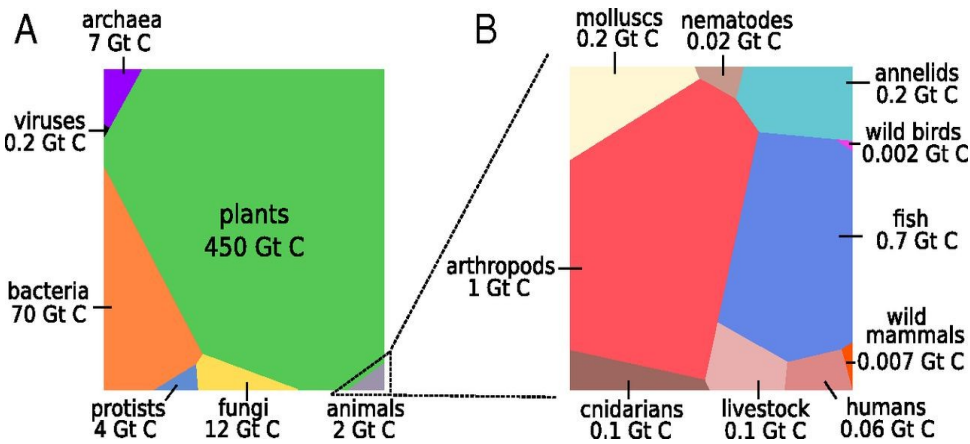
BioMass  
to  
HEAT  
+  
Hydrogen



BioMass Powered Hydrogen Production

Biomass on the Planet

Energy to Power Indoor Farming



BioMass 2 Hydrogen  
BioMass Converted to Usable Energy On Same Site  
Heating, Cooling, Electricity, 70% Efficient  
10X Less Water to Grow Food  
10X Less Trucking Food  
Local Jobs, Local Food