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Realta Viable Fusion:
Breakthrough Physics for Clean Energy Generation
CLIMATE CHANGE
Global Primary Energy Supply
World 2019, 600 EJ

Fossil Fuels, 81%
Nuclear, 5%
Hydro, 3%
Biofuels and waste, 9%
Other, 2%

Sources: IEA World Energy Outlook 2021, ExxonMobil, 2021 Outlook for Energy
The world needs an alternative low-carbon source of process heat to tackle climate change.

Sources: IEA World Energy Outlook 2021, ExxonMobil, 2021 Outlook for Energy
Deuterium

Tritium

Helium

Neutron

fusion reaction

ENERGY
High-Field Axisymmetric Magnetic Mirror Reactor (HAMMiR)

The **lowest capital** and **least complex** fusion reactor suitably scaled for industrial use

Initial independent estimate of cost of electrical power <5¢/kWh
INITIAL TARGET MARKET(S) - REFINING & PETROCHEMICALS

Process Heat for Chemicals
~ 10 EJ/a
(2% global energy)

TAM = $76B*

* Based on independent estimate of cost of energy at commercial scale

** Process Energy for Primary Chemical Production
(market value linked to heating energy cost)

* with natural gas @ $8/mmBTU
INITIAL TARGET MARKET(S) - REFINING & PETROCHEMICALS

GREENHOUSE GASES

Chemicals Emissions
~1 GtCO₂/a
(3% global GHG)
TEAM

**Cary Forest, PhD**
Plasma Physics
U. Wisconsin Professor
Princeton PhD

**Jay Anderson, PhD**
Plasma Heating and Stability
U. Wisconsin Scientist PhD

**Kieran Furlong, MBA**
Chemical Industry, Start-ups & VC
Chemical engineer Stanford MBA

**Ben Lindley, PhD**
Blanket Design
U. Wisconsin Professor
Cambridge U. PhD

**Oliver Schmitz, PhD**
Plasma Facing Components
U. Wisconsin Professor
HH U. Duesseldorf PhD
WHAM 1.0

WHAM++ high B\(_{\phi}\) (go/no-go) $220M

HAMMiR (2 x WHAM++, central cell) $350M

Initial independent estimated cost of thermal energy < $7/mmBtu

Path to Commercial Scale

2020 2024 2028 2032 2036

WHAM++ (dd) short pulse $80M

WHAM++ (dt) steady-state

• Demonstrate magnets

• DT steady-state operation

• Full reactor, Q > 10, ~300 MW\(_t\)
Initial independent estimated cost of thermal energy <$7/mmBtu

• Q>10, ~300 MWt

Path to Commercial Scale

Funded

Require $80M-$100M over next 36 months

Planning first private capital raise later this year