

An aerial view of an industrial site, possibly a power plant or refinery, showing various containers, machinery, and infrastructure. The scene is somewhat hazy or overcast.

Turning Liabilities into Assets

Changing the way, we use Energy

Opportunity



Million's End of Life Oil & Gas Wells

Liabilities on companies balance sheet
Ultimate Responsibility Taxpayer
Environmental Issue

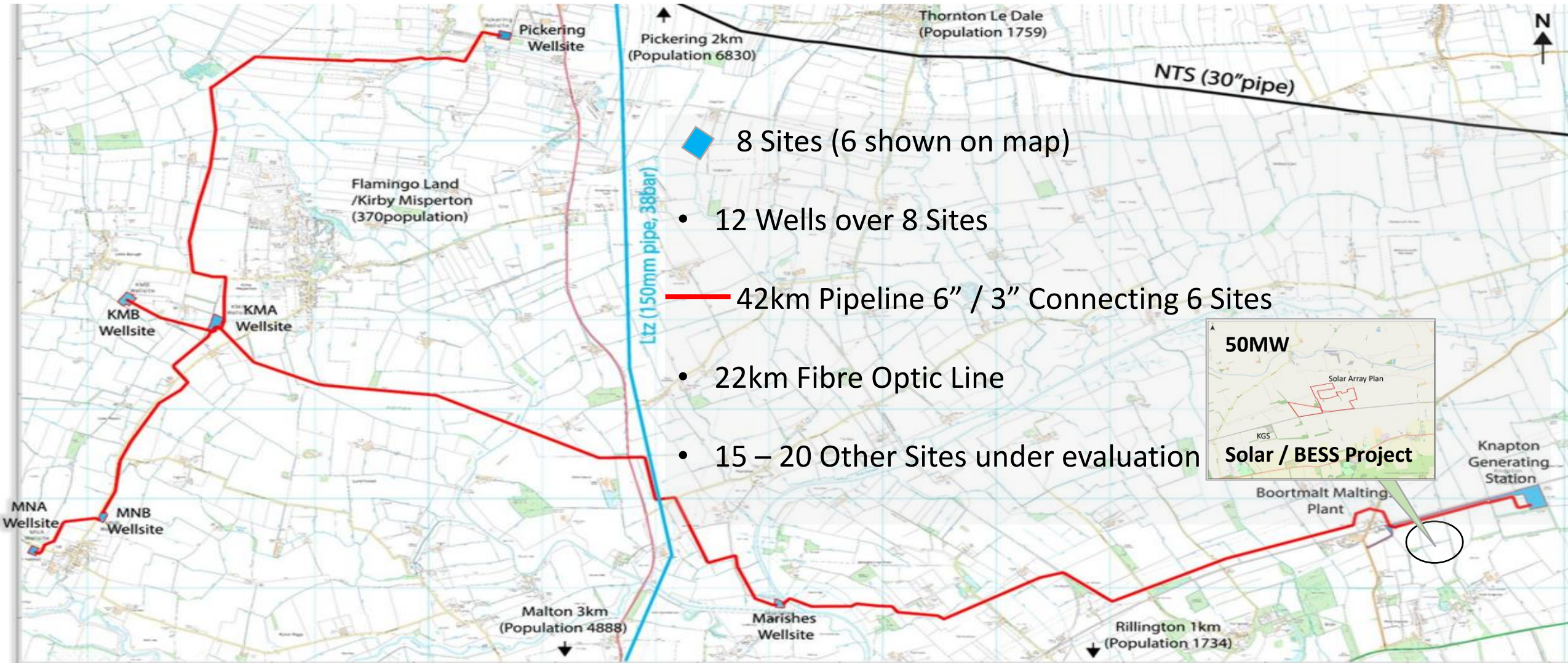
End of Life, No Value, Abandoned

Cost to Close, Zero Upside, Zero Incentive
Transfer of Liabilities
Deferring the P&A, No Capital to Rectify

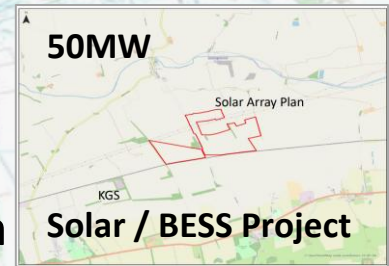
Change of usage to Clean Energy

Change of ownership
Change of usage, Re categorize Status
Supporting Energy Transition

Infrastructure



- ◆ 8 Sites (6 shown on map)
- 12 Wells over 8 Sites
- 42km Pipeline 6" / 3" Connecting 6 Sites
- 22km Fibre Optic Line
- 15 – 20 Other Sites under evaluation

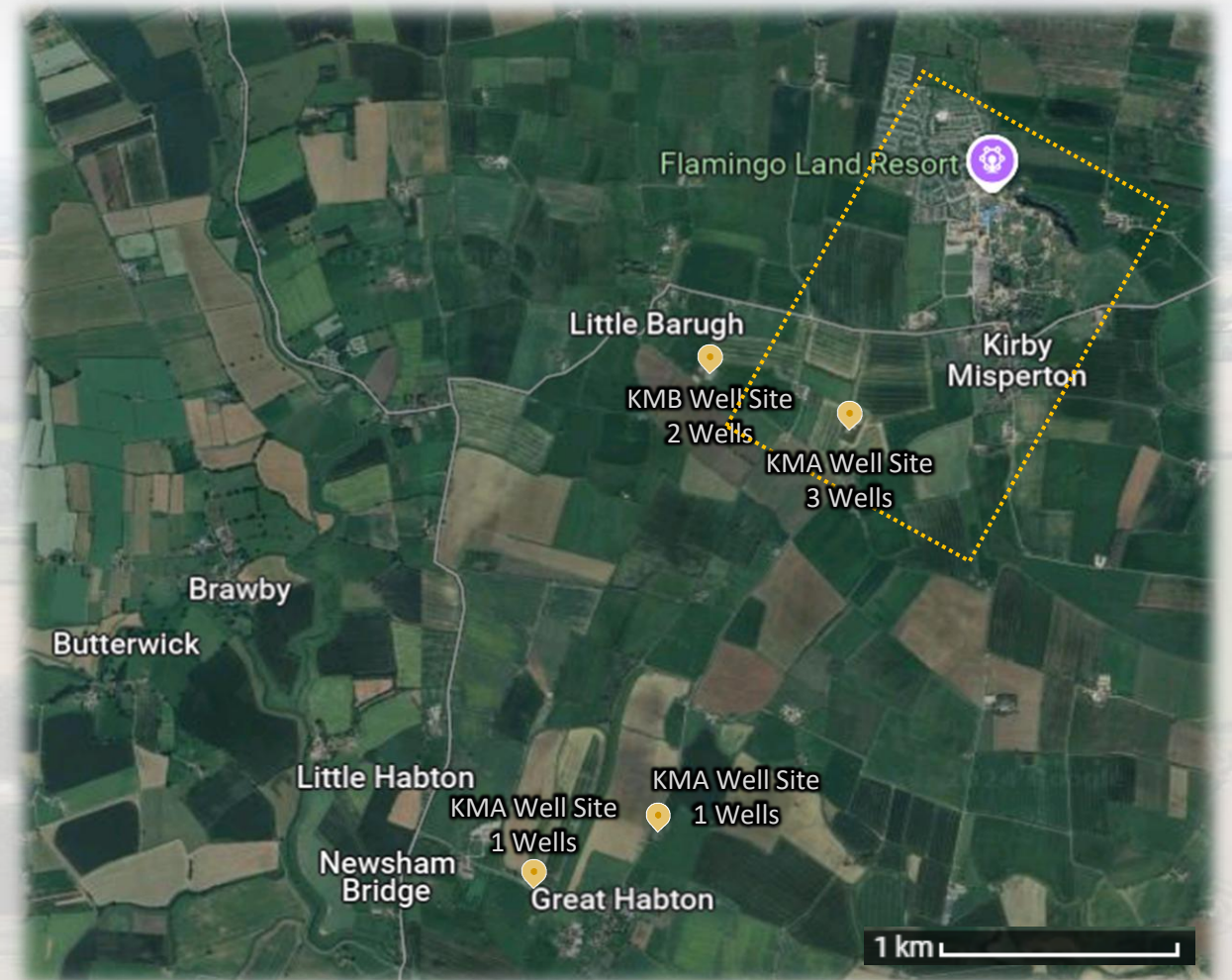




Existing Wells within 500m – 1km off take.

Well	Depth m	Gradient °C/km	Bottom Hole C	Annual kWh
Malton-1	1,931	39.8	76.9	1,518,100
Kirby Misperton-3	2,542	27.9	70.9	2,679,000
Malton-4	1,814	22.7	41.2	803,700
Kirby Misperton-5	1,968	26.0	51.2	1,250,200
Kirby Misperton-6	1,488	29.6	44.1	580,450
Kirby Misperton-7	1,557	30.0	46.7	750,120
Kirby Misperton-8	3,100	29.3	90.8	3,929,200

Recoverable Thermal Energy 3.9 GWth p.a.





Operational Stats

Phase 1

- Ambient Loop Network 20-30C°
- >600 Domestic Connections
- 3.9 GWth p.a

Phase 2

- Ambient Loop Network 20-30C°
- 2 Commercial Business Offtakes
- 5-4 GWth p.a.
- Adding Additional Wells Existing Sites

Phase 3

- Ambient Loop Network 20-30C°
- 1 Local Holiday Park
- 2 GWth p.a.
- Adding additional Wells Existing Sites

Commercial Stats

Phase 1

- 18 -24 Months
- CAPEX £18.5m
- Target LCOH £0.10p kWh

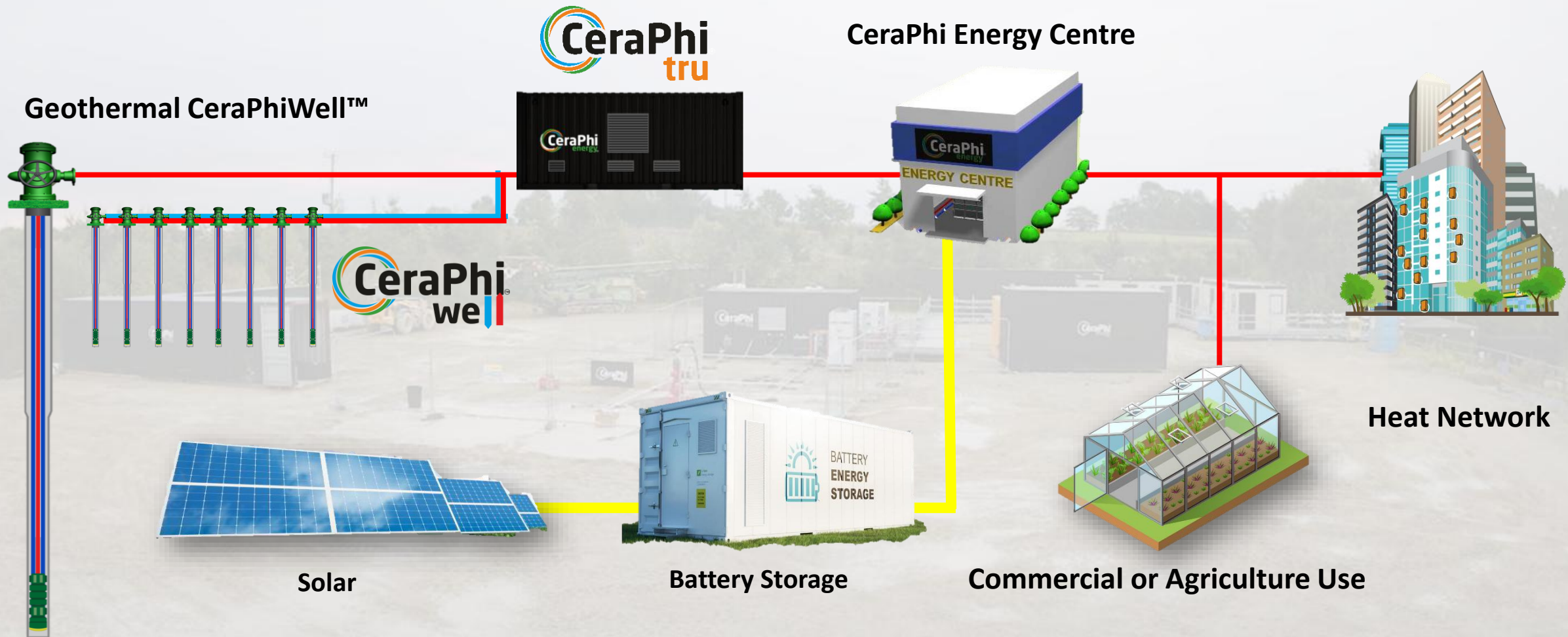
Phase 2

- 12-18 Months
- CAPEX >£30m
- Target LCOH <£0.8p kWh

Phase 3

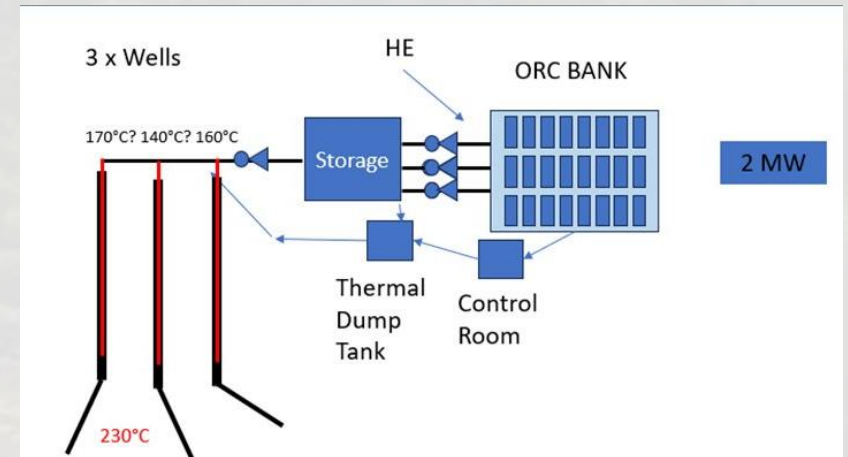
- TBC
- Under Negotiation

Community Heating Design



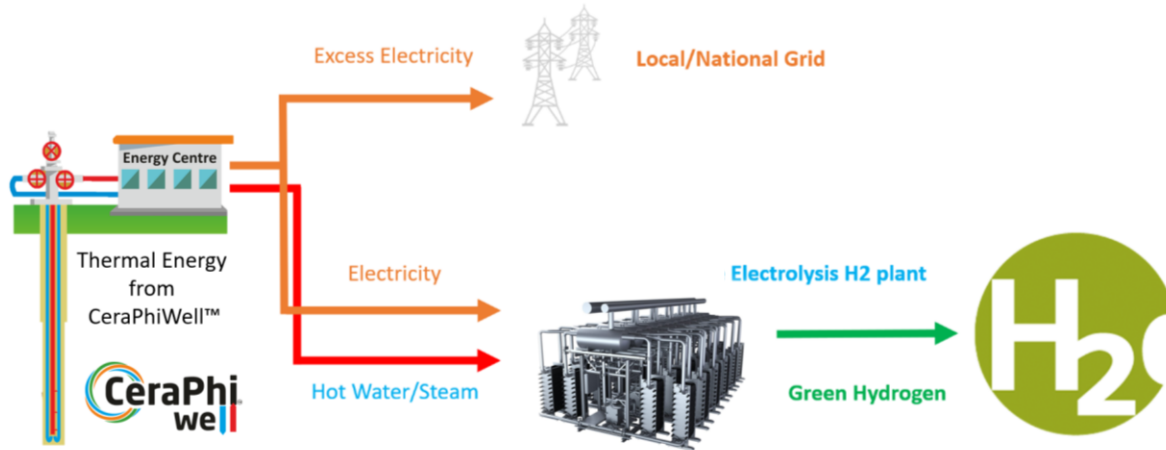
Power Generation Projects...

- **Government Backed Joint Development Agreement**
- **80% CeraPhi Owned SPV**
- **400 Acre Geothermal Development Licence**
- **Power Purchase Agreement for 25 Years**
- **Phase 1 - Three Wells Producing >2 MWe using ORC's**
- **Phase 2 – Additional 15 MW Power Green Hydrogen Development for Cruise Ship Industry**



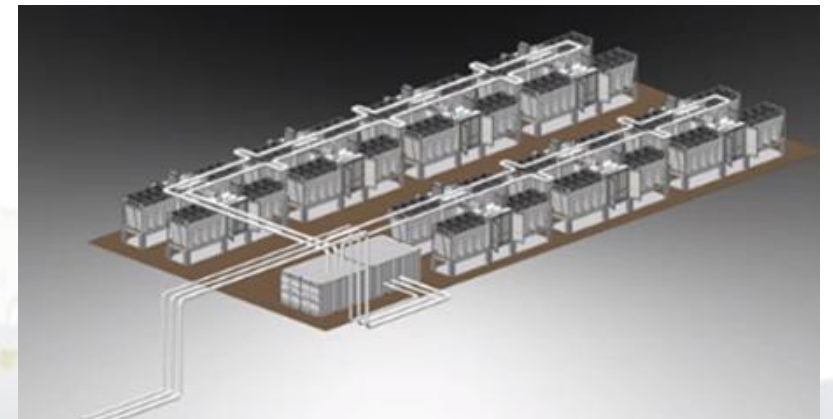
Green Ammonia / H2 Projects...

The Advanced Closed Loop Geothermal is the solution to provide Baseload Power to create a 24/7 Hub for green H2 production to be located anywhere with scalable and plug and play solutions.



HYDROGEN SURFACE EQUIPMENT

- Electrolyser Packages
- Gas Compression Package
- Gas Storage Plant



Footprint of 20 MW Power Plant: Approx. 40 x 60 m

SUBSURFACE

- Drilled Depth : 5 – 7 km TVD
- Temperature BHST : >200 °C
- Manifold Temperature : >150 °C
- MWe per well : >1.5

SURFACE POWER EQUIPMENT

- Heat Exchanger
- ORC Units
- Interconnection

Offshore Geothermal Pilot...

2023: CeraPhi undertook a feasibility study to look at offshore geothermal in conjunction with the Net Zero Technology Centre, Petrofac and EnQuest.

Conclusion:

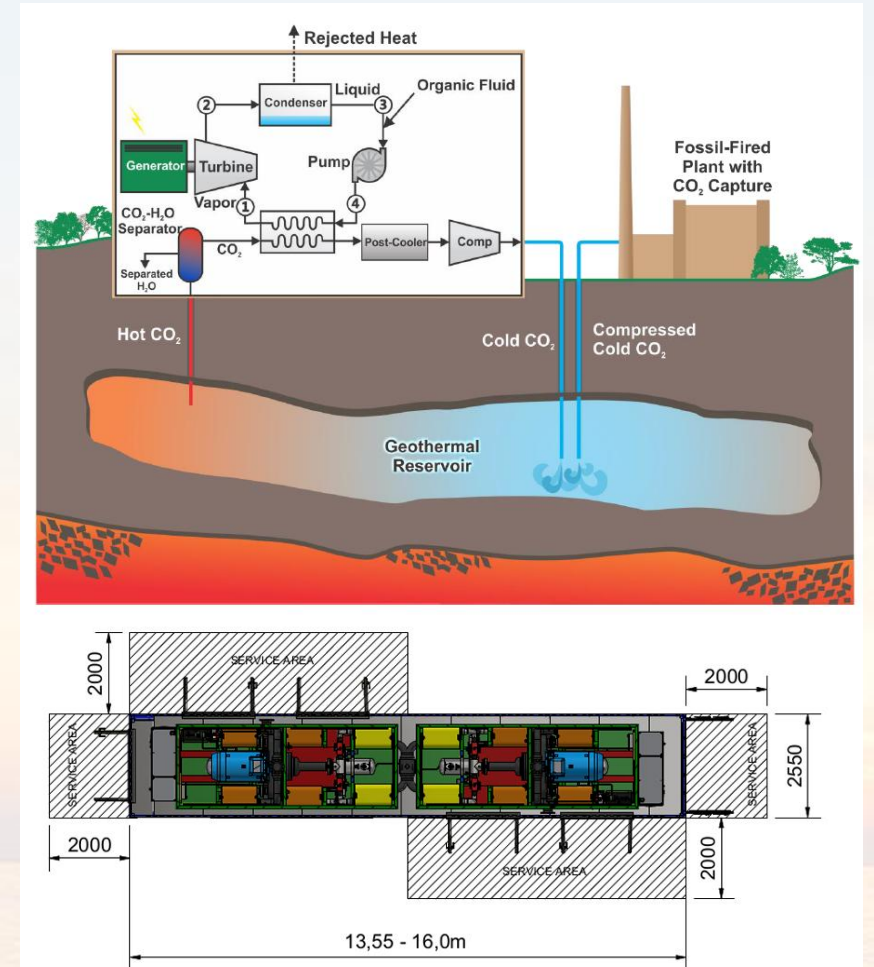
Potential energy reduction was assumed at between 10% of the Magnus demand and would be subject to design and retrofit space being available.

On the low side 2.7 MWe, generating 23,652 MWh per annum and saving 15,540 tons CO₂eq per annum.

Next Step:

Seeking collaboration to undertake a JIP Joint Industry Project to produce a pilot demonstrator from an Offshore well using both:

- Retrofit - Well Repurposing for End-of-Life Wells
- Co Production Well Implementation



1. Drilling & Well Construction Suppliers
2. Geothermal Equipment & Technology Suppliers
3. District Heating Infrastructure Suppliers
4. Power Generation & Grid Integration Suppliers
5. Engineering, Procurement & Construction (EPC) Companies
6. Environmental & Permitting Service Providers
7. Financing & Investment Partners

1. Downhole Borehole Construction

Intervention & Workover
Casing & Tubing
Drilling Fluids & Mud
Cementing Solutions
Logging & Wireline Solutions

2. Topside Equipment & Technology

Heat Exchangers
Geothermal Pump
Binary Cycle & ORC Turbine
Wellhead & Valve

3. Infrastructure

Piping & Insulation
Heat Transfer Fluid
Heat Distribution Substation
Smart Metering & Monitoring

4. Power Generation & Grid Integration

Electrical Equipment & Transformers
Control & SCADA Systems
Solar Battery Storage
EPC Contractors
Pipeline & Civil Contractors
Facility Construction

6. Environmental & Permitting

Environmental Impact Assessment (EIA) Consultants –Planning
Regulatory Compliance & Legal Advisors

7. Financing & Investment

Green Energy Investment Partners
Carbon Credit & Renewable Energy Certificate (REC) Traders

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