Triple Point
HEAT NETWORKS
INVESTMENT MANAGEMENT

Triple Point HEAT NETWORKS INVESTMENT MANAGEMENT

Session	Speaker
The opportunity to harness deep geothermal energy	Dr Kieran Mullan MP
Why and where is it hot down there?	Dr Andrew Cripps, Triple Point
The Development Workflow – bringing a geothermal project from first concept to first heat	Rik Evans, GT Energy
International Case Study: Building a District Heating Network	Ralph Baasch, IPE
Case Study: Eden Geothermal	Gus Grand, Eden Geothermal
Case Study: Langarth Geothermal	Eloise Travis, Treveth Holdings
Live Q&A	
Closing remarks	Dr Andrew Cripps, Triple Point

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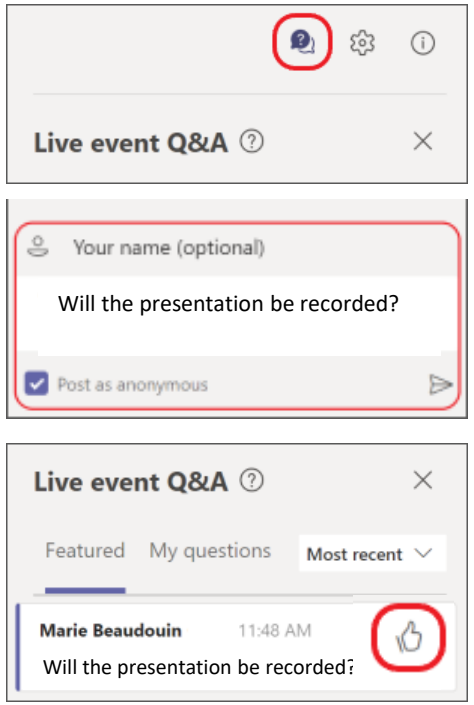

Select the Q&A icon at the top of the pane when the pane is open to close it.

You can select to post your question with your name or anonymously. We'll answer as many as we can.

To like someone else's question, select the thumbs up icon next to it.

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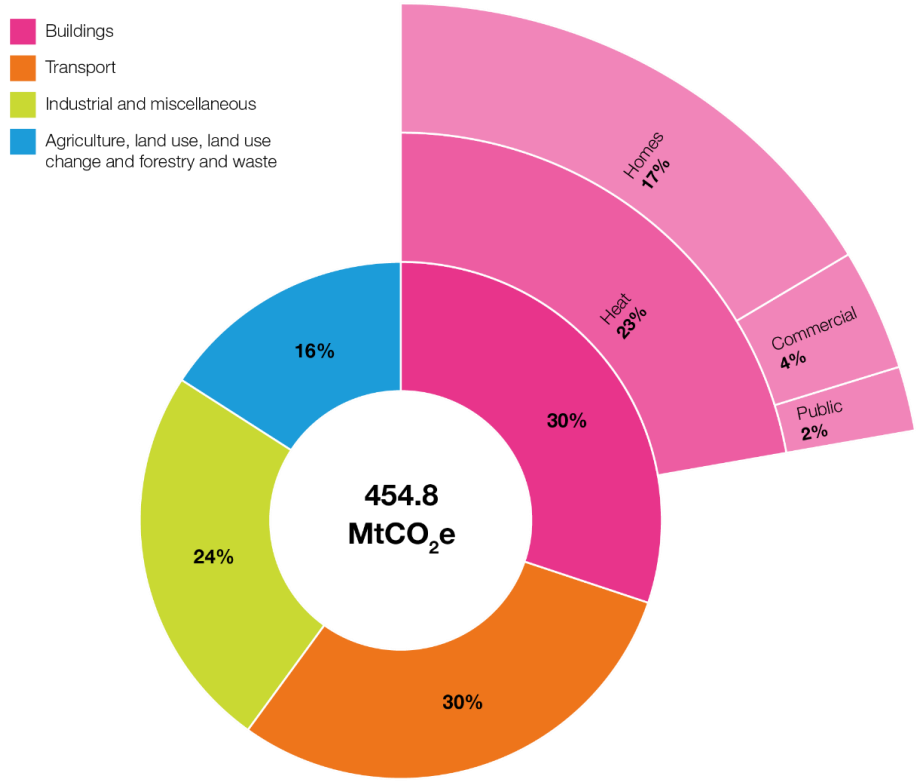
- Net Zero means nearly **all buildings need to be decarbonised by 2050**.
- There are around 30 million buildings in the UK, responsible for **~30% of our national emissions**
- Supply chains for key technologies are growing but remain at an early stage of development.
- **Target for a fifth of heat demand** will be supplied by heat networks by 2050 to support decarbonisation objectives.



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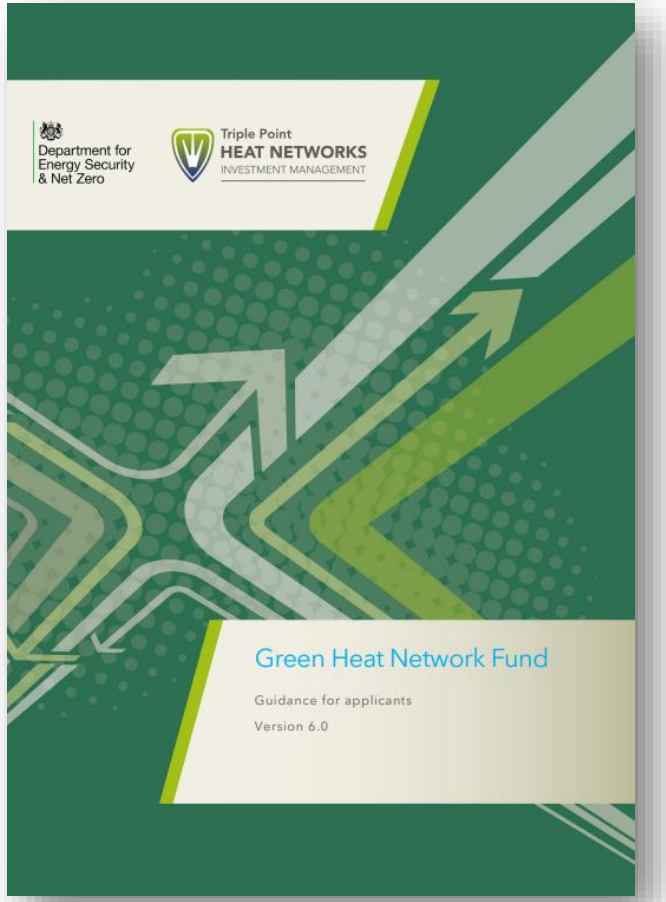

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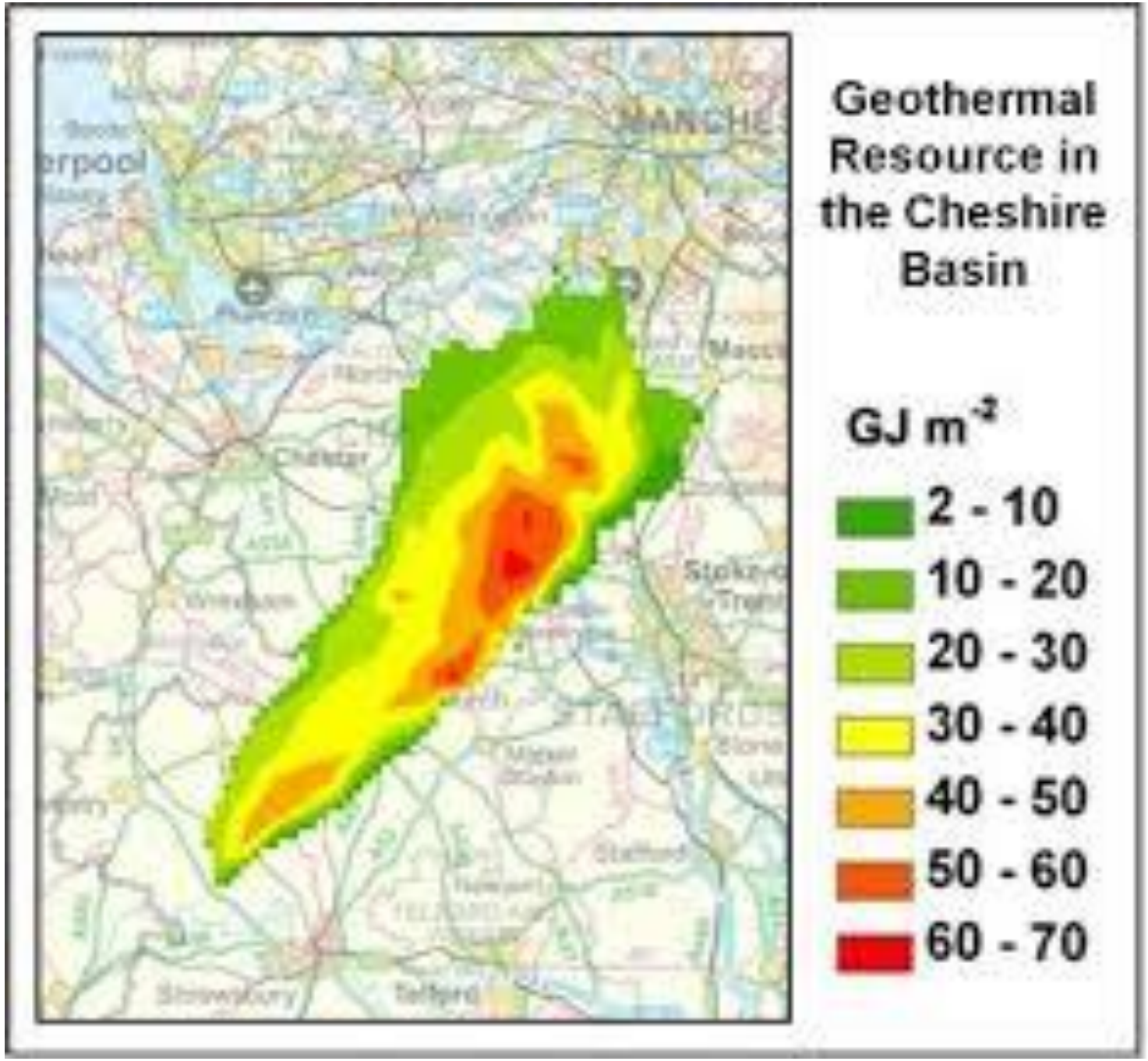
The opportunity to harness deep geothermal energy

This morning I want to talk to you about…

- **My background & interest**
- **Talk about my review for the PM**
- **Talk about the opportunities and imbue you with confidence!**
- **Key lessons from my review**
  - **Understanding risk**
  - **Importance of stakeholder engagement**

The day I first met Geothermal

- **I KNEW NOTHING**
- **Approached on the street….**
- **Approached again by a company in December 2020**
- **Looked into it more seriously**


Geothermal Resource in the Cheshire Basin
GJ m-2
2 - 10
10 - 20
20 - 30
30 - 40
40 - 50
50 - 60
60 - 70

The role of Parliament

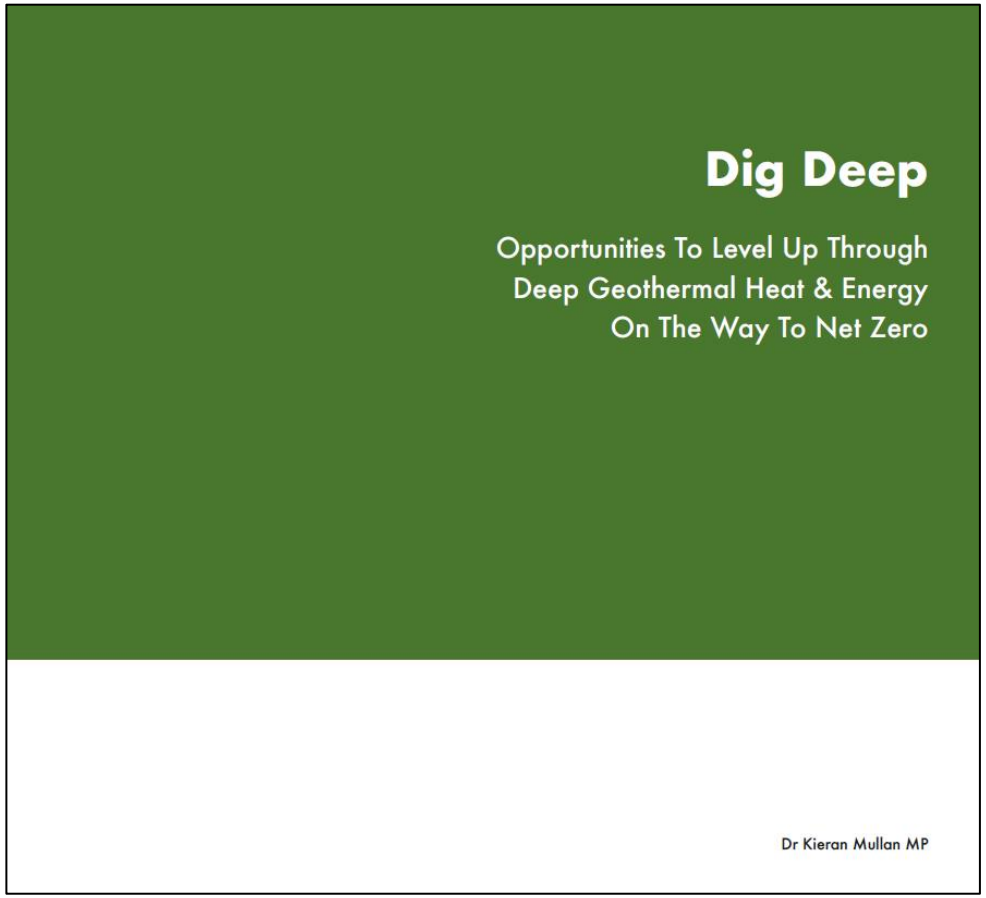
- **Profile raising**

- **If Ministers have to answer questions, the civil service need to find the answers!**

- **Stage 1 answer is off the shelf**
- **Stage 2 answer is off the shelf**
- **Stage 3 answer is off the shelf**
- **Stage 4 answer is not off the shelf…maybe**

Report for the PM

- **Spent a year on a deep dive**
- **Visited a plant in Munich, Germany**
- **Spoke to geologists and industry**



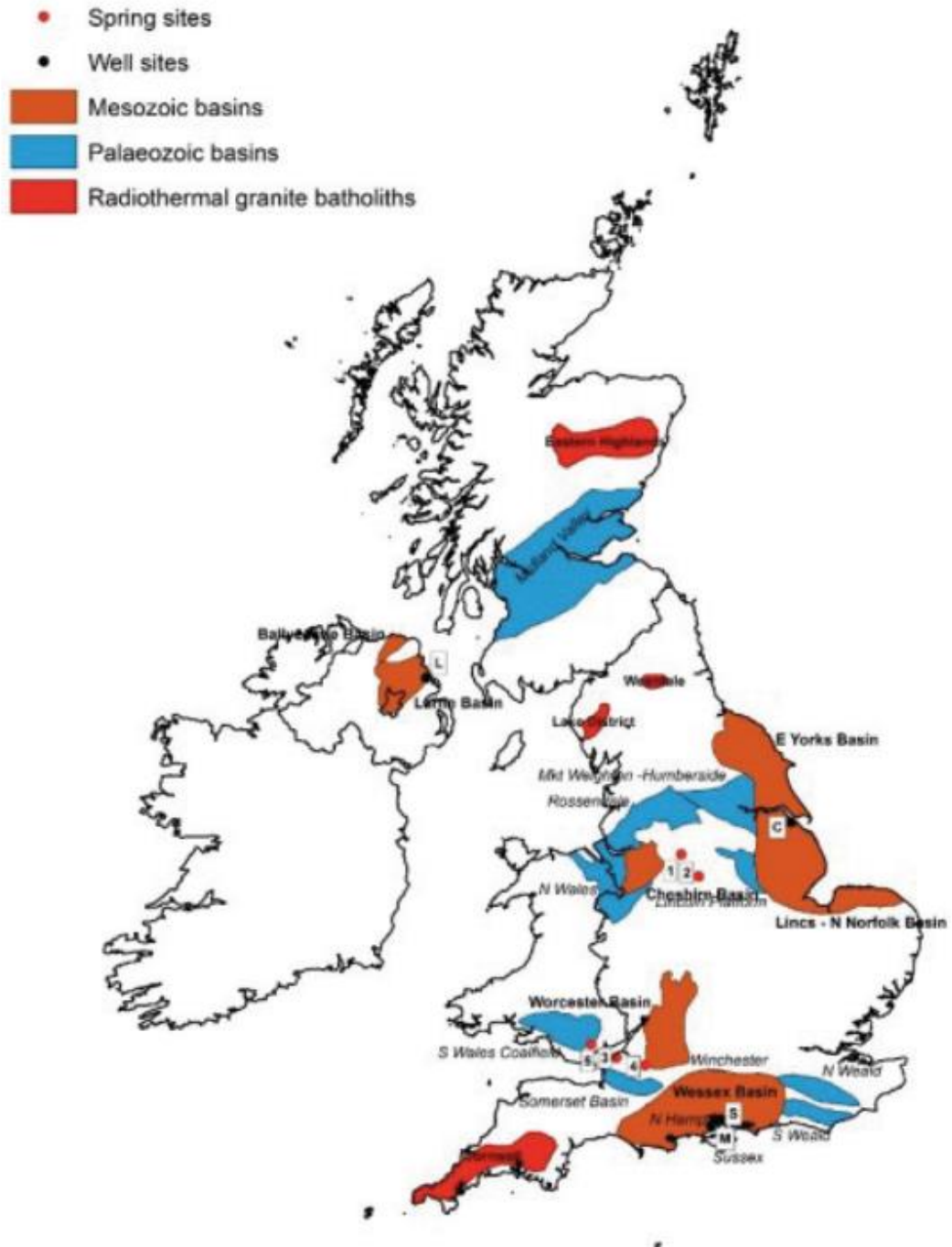
State of play

- **Deep geothermal energy is heating 250,000 homes in Paris**
- **Across France more than 600 MWh are produced annually**
- **Government aims to increase the number of schemes by 40 percent by 2030**
- **Munich is pouring in one billion euros through to 2035 into geothermal energy**
- **Germany is already producing more than 353 MWh annually and the government is targeting at least 100 new geothermal projects.**

State of play

Climate Change Committee, 2022

- **The UK has more than 28.5 million homes, and another 1.9 million other buildings – offices, hospitals, shops, warehouses and more.**
- **The majority of these are heated by gas boilers**
- **Nearly a fifth of all the UK's emissions come from buildings.**


Legend
Spring sites
Well sites
Mesozoic basins
Palaeozoic basins
Radiothermal granite batholiths
E Yorks Basin
Cheshire Basin
Lincs - N Norfolk Basin
Worcester Basin
Wessex Basin
Winchester
N Weald
S Weald
Somerset Basin
Sussex
N Wales
Lake District

What could it deliver?

- **According to the Durham Energy Institute deep geothermal resources could provide all of the UKs heat demand for 100 years.**
- **The challenge that remains a perfect alignment of the opportunities with potential users and the necessary infrastructure to connect the two.**
- **But if only 25% of it could be realised it would be significant.**

Bolsover	County Durham	Lewes	North Tyneside	Shropshire
Allerdale	East Hampshire	Mansfield	Northumberland	South Kesteven
Bassetlaw	East Lindsey	Melton	Nottingham	Test Valley
Brighton and Hove	East Riding of Yorkshire	Mid Sussex	Pendle	Waverley
Broxtowe	Eastbourne	Middlesbrough	Redcar and Cleveland	Wealden
Carlisle	Hambleton	Newark and Sherwood	Ribble Valley	West Lindsey
Cheshire East	Harrogate	Newcastle upon Tyne	Rother	Wiltshire
Chesterfield	Hartlepool	North East Derbyshire	Rushcliffe	Winchester
Chichester	Horsham	North Kesteven	Sheffield	York

Why not already happening?

- **Strong oil & gas sector**
- **Government focus on renewable electricity**
- **Historically deep geothermal in Iceland and elsewhere for electricity**
- **“Not suitable” was the view on the shelf**
- **Subsidy and support started in Europe creating disadvantage**

National level

- **Aiming to get a tariff for suppliers of deep geothermal heat and power and/or reviews of how grant support funds could be utilized**
  - **Working with risk**
- **Working to change the opinion sat on the shelf!**
- **Recent announcement that a number of electricity plants in Cornwall will get government support**
- **Setting up a cross party group of MPs to push this**
- **Trying to contribute to the national debate & national understanding**

Stakeholder engagement

- **The F word**
- **Take local communities with you**
  - **Eden project**
  - **Greenpeace**
  - **Roman Baths**
- **Local government support will help with planning**
- **Member of Parliament support can help with media**
- **If you do the work then working with the media should be easier**
- **Talk to the Eden Project!**

How can I help?

- **Continuing to push for support at a national level**
- **Contact your local MP**
- **Discuss with media and wider leadership teams at your Trust**
- **Approach your Council as well**

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Why and where is it hot down there?

Material provided by BGS

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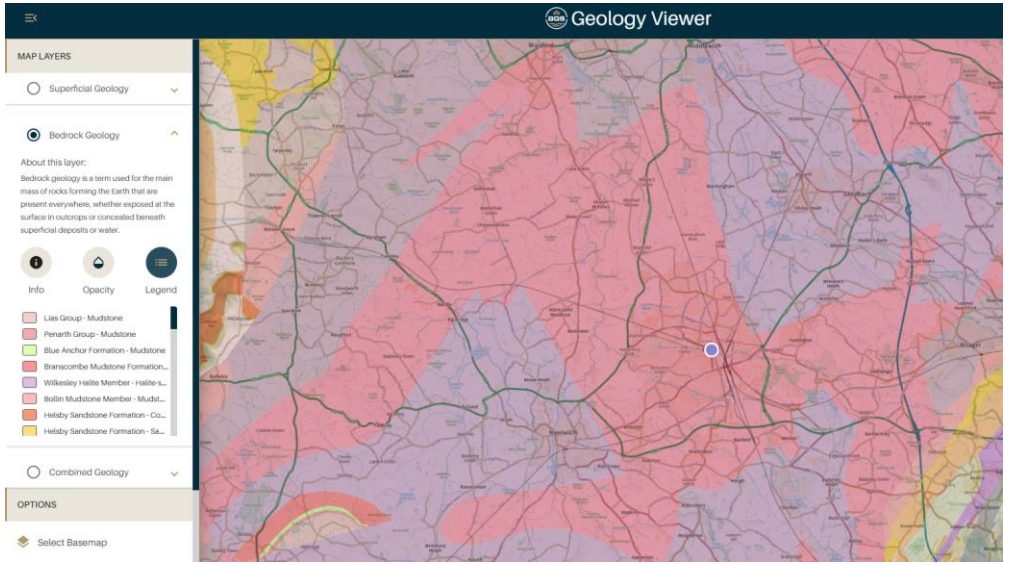
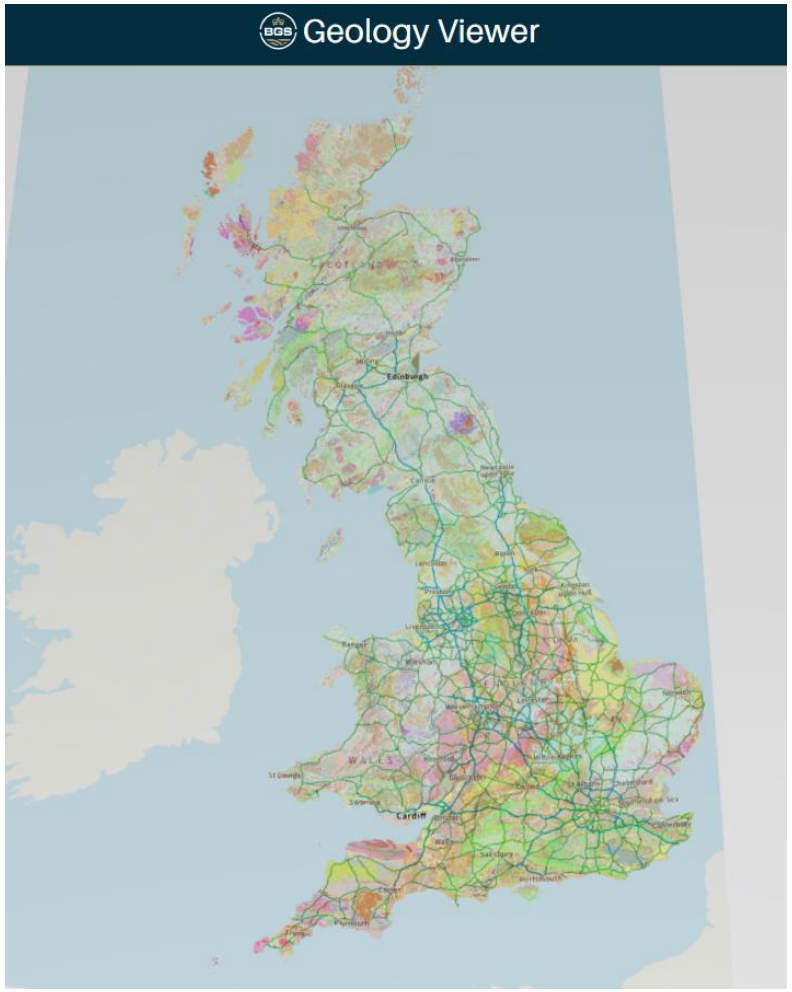
- British Geological Survey (BGS)
- Has worked since 1835 to map and understand UK geology





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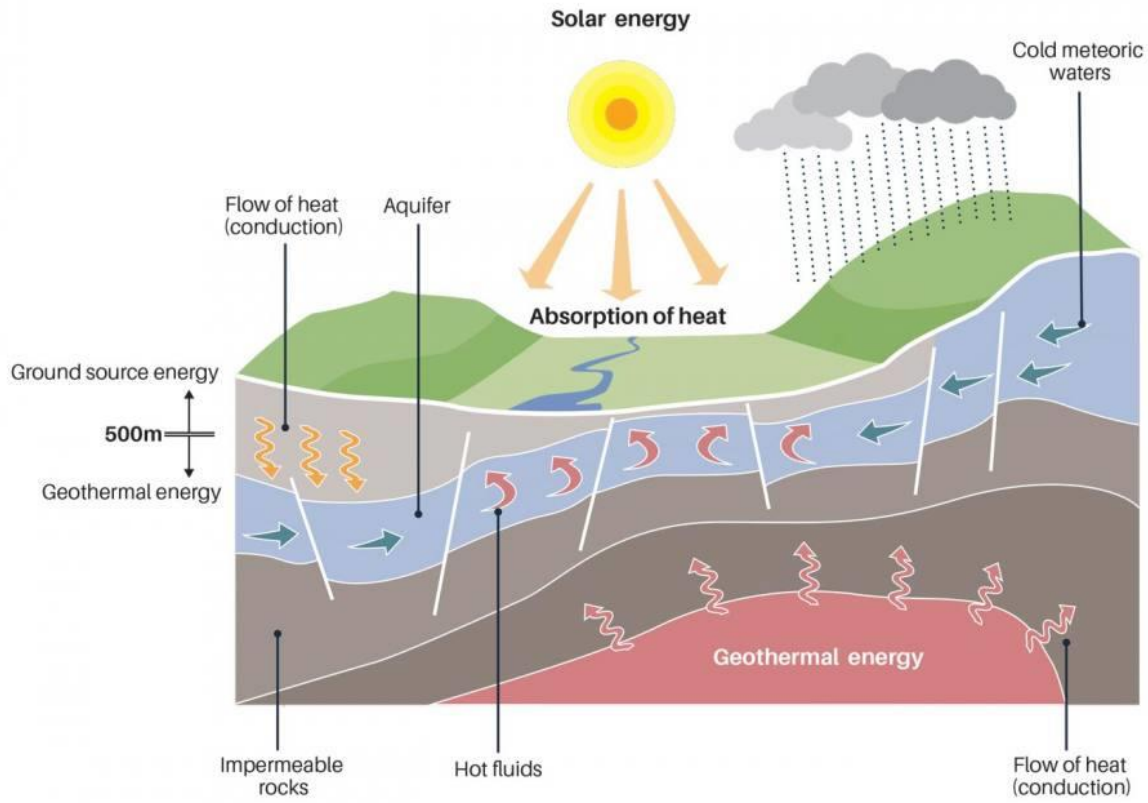
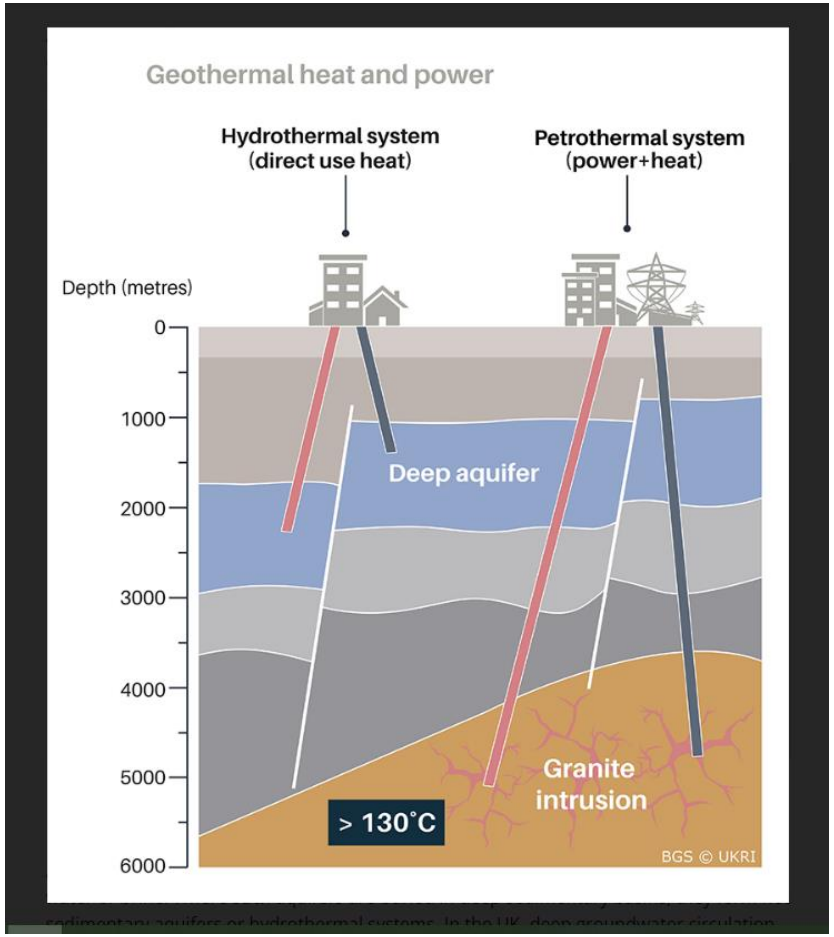
- Deep geothermal energy is the heat found at depth, due to radioactive processes deep in the molten core of the earth.
- The heat conducts slowly out to the surface – except when there is a volcanic eruption
- Temperatures increase with depth, ranging from 50-200°C or more.
- The most useful heat is usually only found at great depth – several km – but it is different in some parts of the world (e.g. Iceland)



Source: British Geological Survey

- Hot aquifer
  - Extract hot water
  - Reinject cooled water
- Hot rocks
  - Pump in cool water
  - Extract hot water
- Closed loop option also possible – may use existing wells



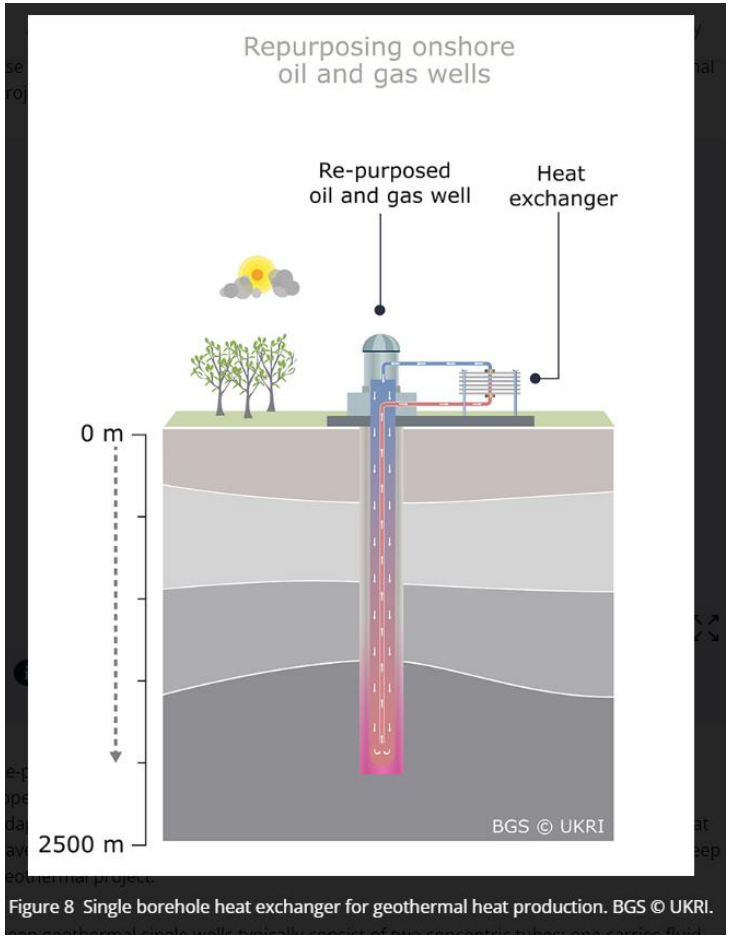


Figure 8 Single borehole heat exchanger for geothermal heat production. BGS © UKRI.

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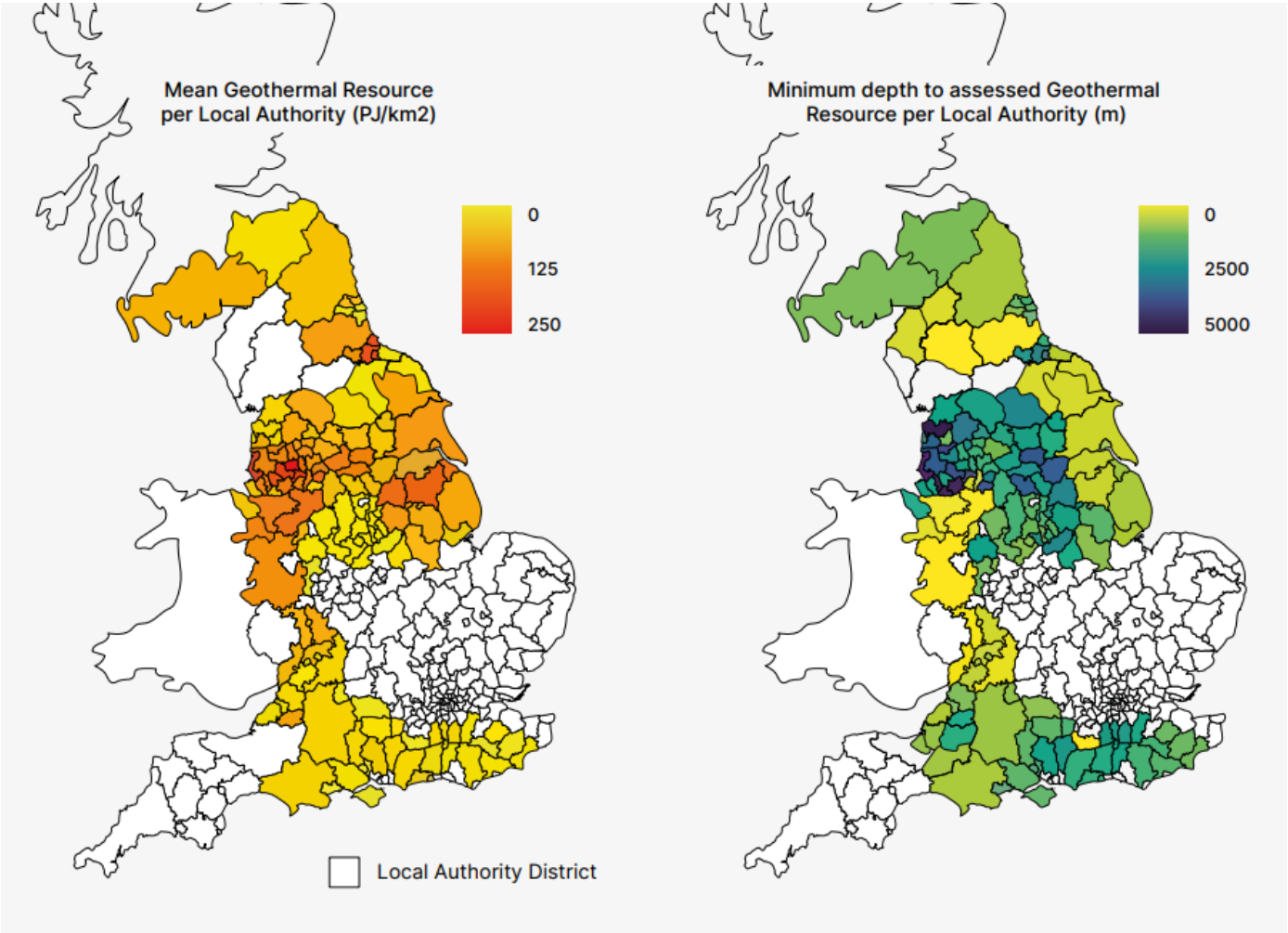
- BGS mapped LA areas with deep sedimentary basins
- This means there is hot water not just hot rock
- Seeking locations that are hot enough, not too deep, and with enough demand nearby



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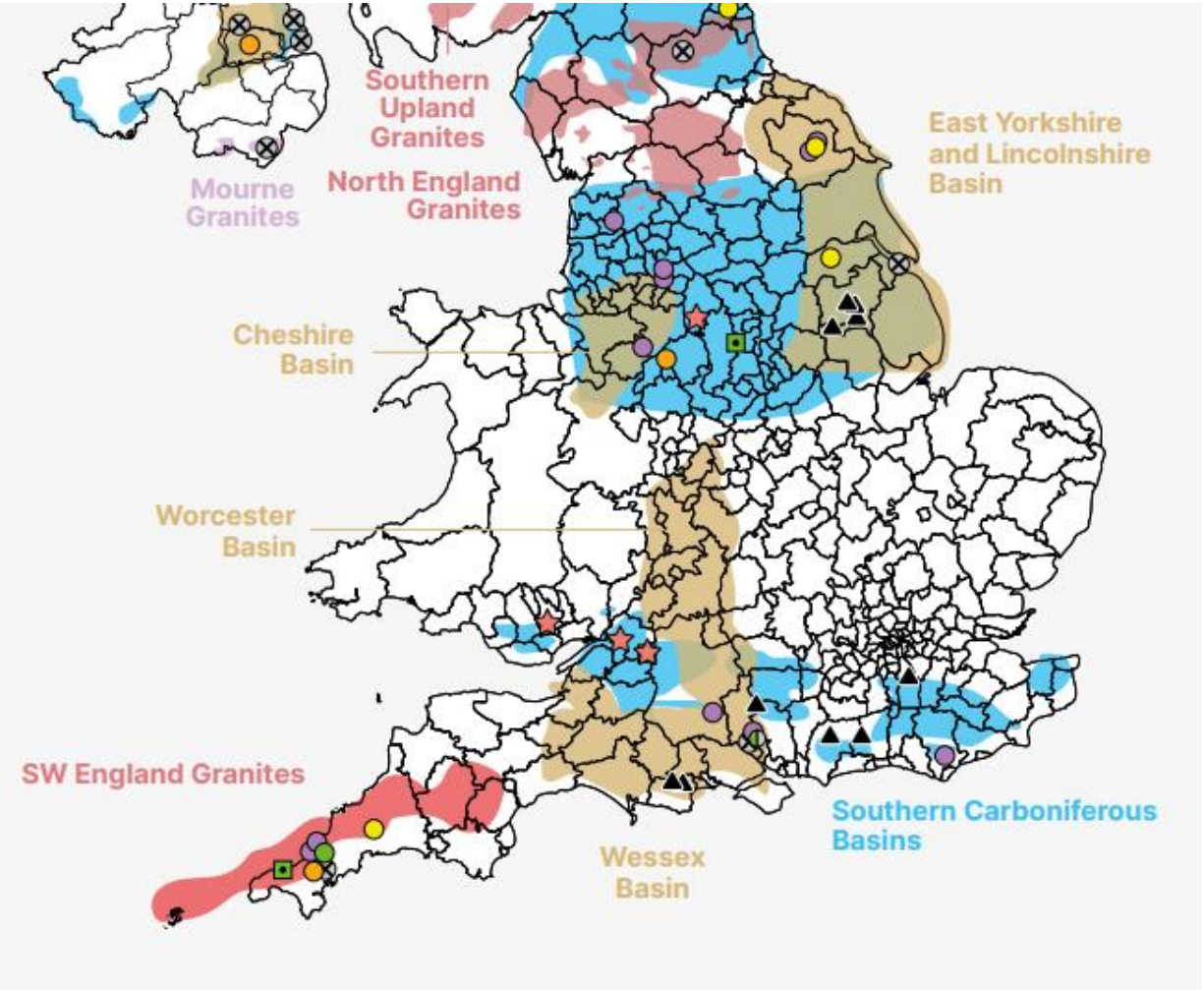
This map shows both the hot aquifers but also other potential suitable hot rocks – Cornwall features here



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- There is always heat down there – the temperature at any depth varies with geology
- The ease of extraction of heat depends on the permeability of rock to water flow
- The refresh rate depends on the thermal conductivity of rock - it can be high but not infinite
- Similar geology should behave the same, so we can learn where works best

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"Heat networks play an important role in decarbonising heat and support delivery of the UK's net zero commitments. They are uniquely able to unlock otherwise inaccessible large-scale renewable heat sources, including geothermal."
– British Geological Survey

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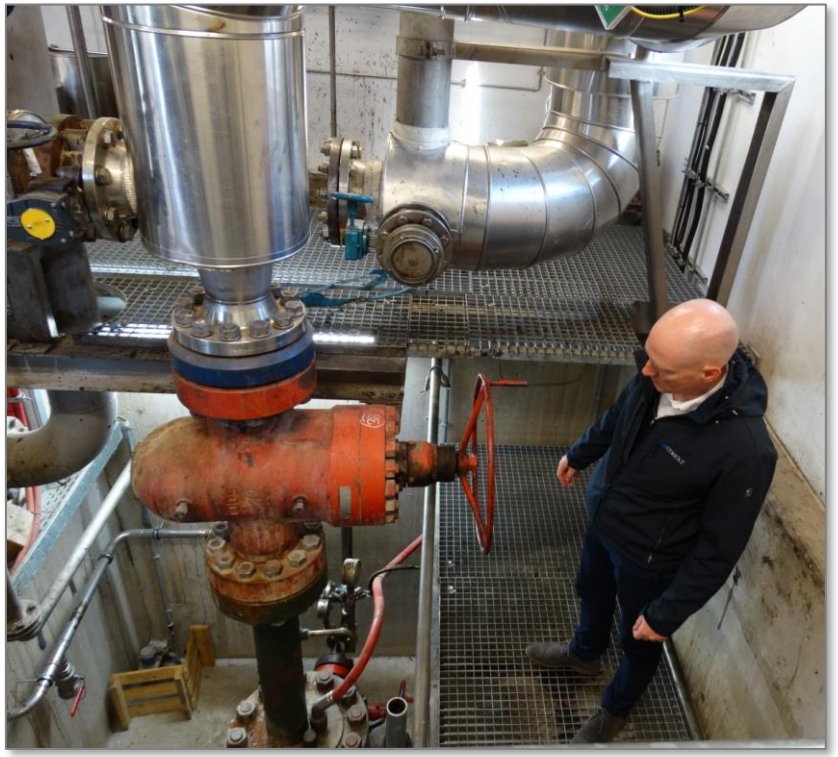
The Development Workflow – bringing a geothermal project from first concept to first heat

Delivering Geothermal

Bringing a prospect to life



A familiar workflow

Is there a technical concept?

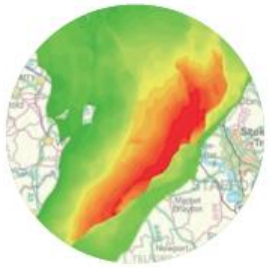
Is the concept feasible?

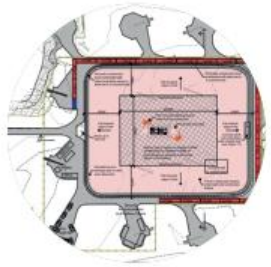
Securing stakeholder consents

Preparing for financial sanction

Delivering the project

A lifetime of operations



With a commercial twist…

Is there a technical concept?

Assessment
- Initial engagement
- Basin level geoscience
- First heating/ cooling concept
- Review available data
- Confirm funding (for Feasibility)

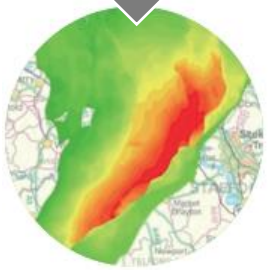
Feasibility
- Acquire further data
- Confirm well site
- Outline well design
- Pre-apps for consent
- Confirm funding (for Consents and Detailed Design)
- Commercial reviews & initial offer

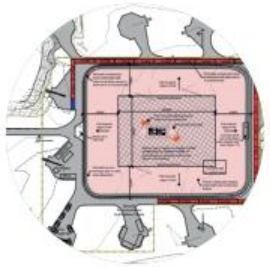
Consenting
- Microseismic grid design
- Secure micro-seismic and drilling sites
- FEED & BoWD
- Prepare and submit planning
- Prepare and submit permits

Detailed design
- Gain regulatory consents
- Detailed well & EC engineering
- Secure Utilities
- Tendering for rig & services
- Confirm funding (Construction)
- Agree Energy Services Contract

Construction
- Install micro-seismic array
- Construct Well Site
- Drill and test wells
- Build energy centre
- Hook-up & Commission
- Transfer to operations

Operate
- Facility operations
- Preventative maintenance
- Reactive maintenance & fail/fix
- Periodic shutdowns
- Commercial operations
- Performance Management



- **Is there a resource?**
- **At what depth and temperature?**
- **How complex is the geology?**
- **How challenging will the targeting be?**
- **Is there space available for drilling?**
- **What historical data is available, and what more is needed?**
- **What are indicative development costs?**
- **Might there be a project?**

Is the concept feasible?

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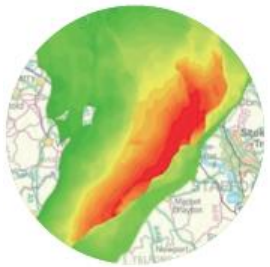
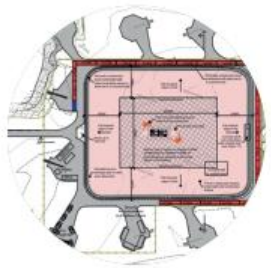
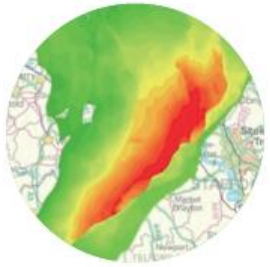


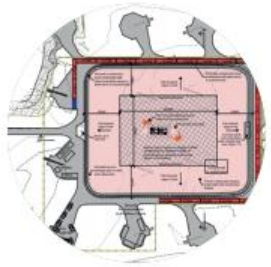



- **New data acquisition process (design, permit, acquire, process, interpret)**
- **How does this change our understanding?**
- **How does this change the costs?**
- **How does this change the risks?**
- **Can we obtain planning and permits?**
- **Is grant funding available?**
- **What might a commercial proposition look like?**
- **Is there a project worth progressing?**

Securing stakeholder consents

Assessment	Feasibility	Consenting	Detailed design	Construction	Operate
Initial engagement	Acquire further data	Microseismic grid design	Gain regulatory consents	Install micro-seismic array	Facility operations
Basin level geoscience	Confirm well site	Secure micro-seismic and drilling sites	Detailed well & EC engineering	Construct Well Site	Preventative maintenance
First heating/ cooling concept	Outline well design	FEED & BoWD	Secure Utilities	Drill and test wells	Reactive maintenance & fail/fix
Review available data	Pre-apps for consent	Prepare and submit planning	Tendering for rig & services	Build energy centre	Periodic shutdowns
Confirm funding (for Feasibility)	Confirm funding (for Consents and Detailed Design)	Prepare and submit permits	Confirm funding (Construction)	Hook-up & Commission	Commercial operations
	Commercial reviews & initial offer		Agree Energy Services Contract	Transfer to operations	Performance Management



- **What environmental monitoring will be required during construction and operations?**
- **Can we manage and mitigate the inherent development and operational risks?**
  - **Surface Front End Engineering Design (FEED)**
  - **Basis of Well Design (BOWD) Engineering**
- **Can we get necessary site access and utilities when we need them?**
- **What regulations apply and which consents are being sought?**

Preparing for financial sanction

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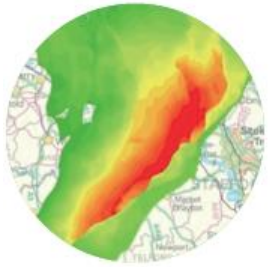


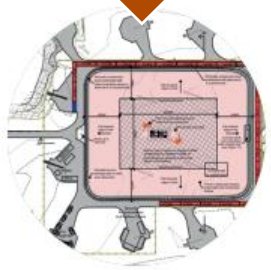

- **Are all delivery risks mitigated to the maximum feasible extent?**
- **Are all geological risks understood, accepted and accounted for?**
- **Are all consents in place?**
- **Are utility and heat connection points defined?**
- **Are final pricing for site construction and drilling costs and services confirmed?**
- **Is the commercial proposition agreed?**

Deliver the project

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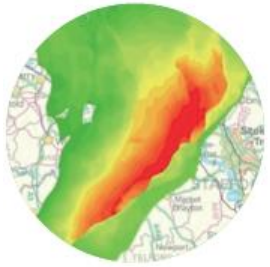
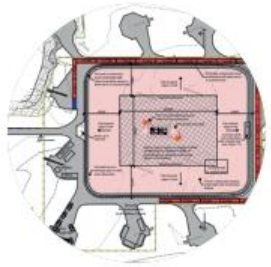


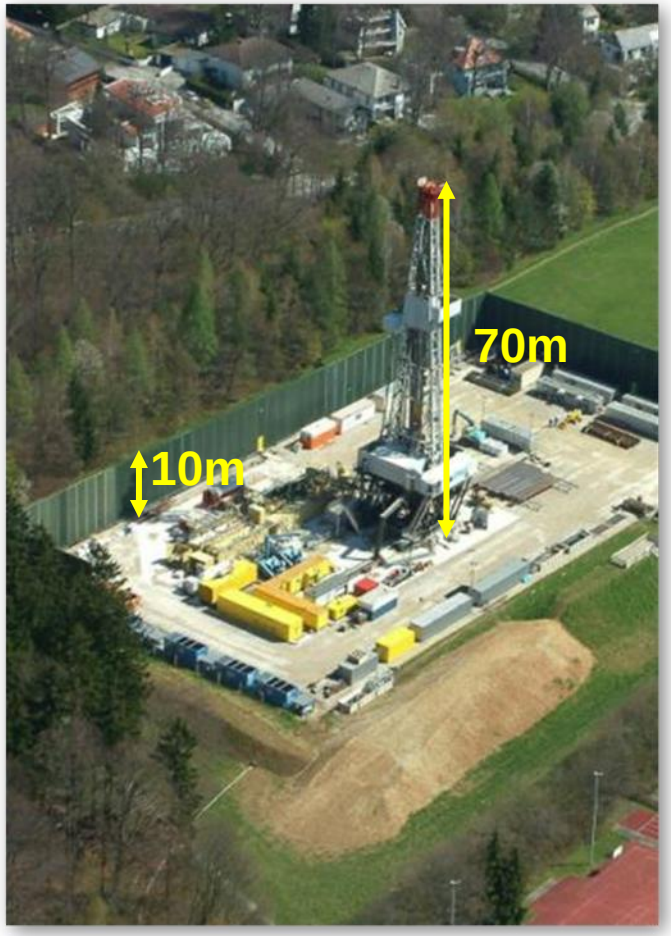



- **Satisfy all planning conditions**
- **Construct and prepare the drilling site**
- **Mobilise drill rig and services**
- **Drill and test first well**
- **Drill second well, production test**
- **Construction and installation of Energy Centre**
- **Commission and hand-over**

Construction

At a typical geothermal site

“Today” ©Google Earth (03/12/2002)



Drilling in 2004 © IEP

A Lifetime of Operations

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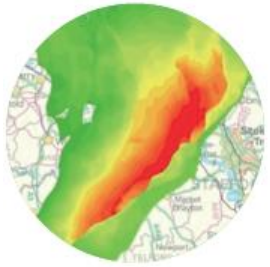
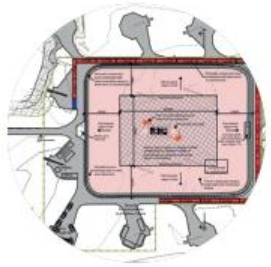
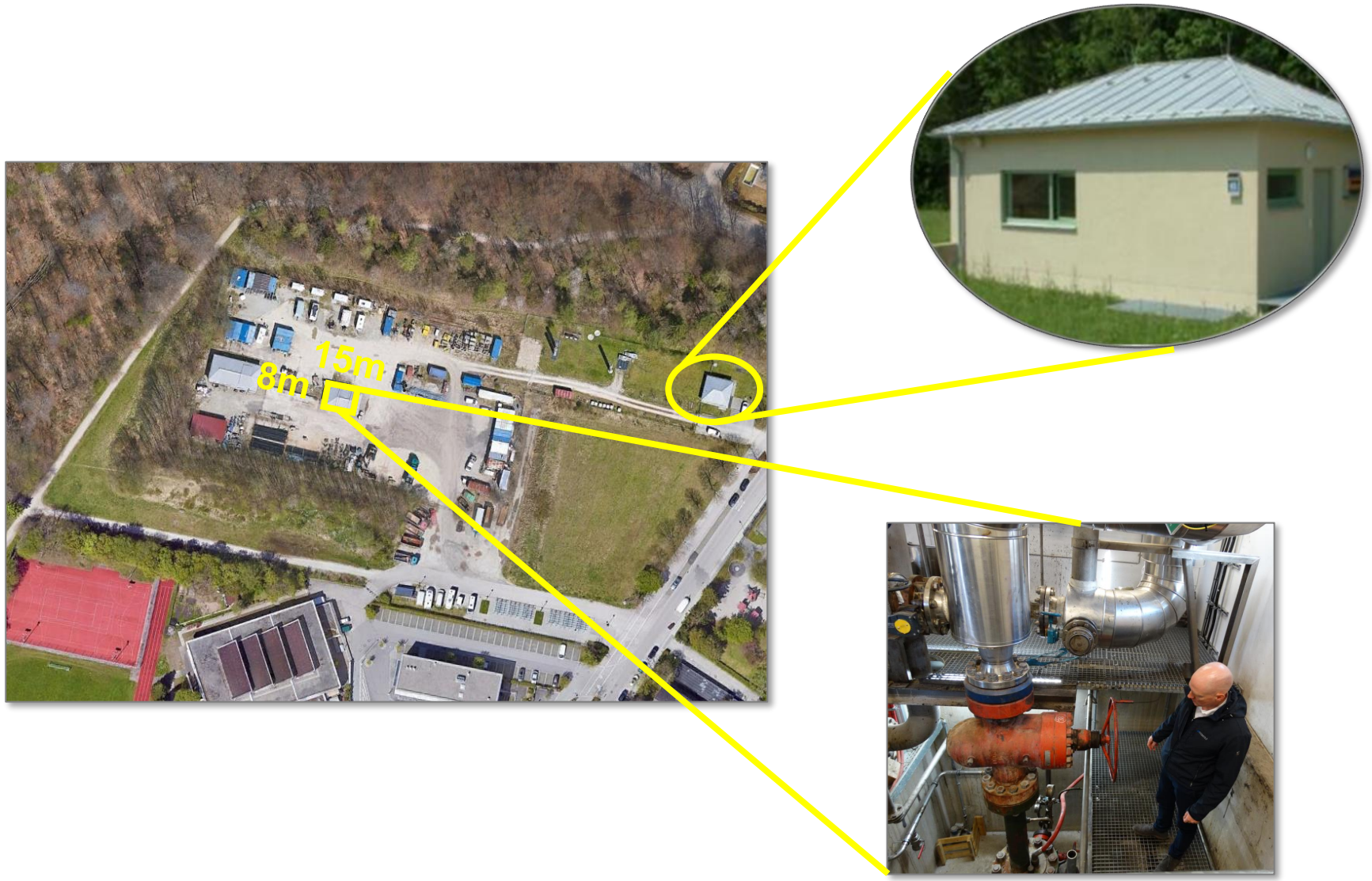


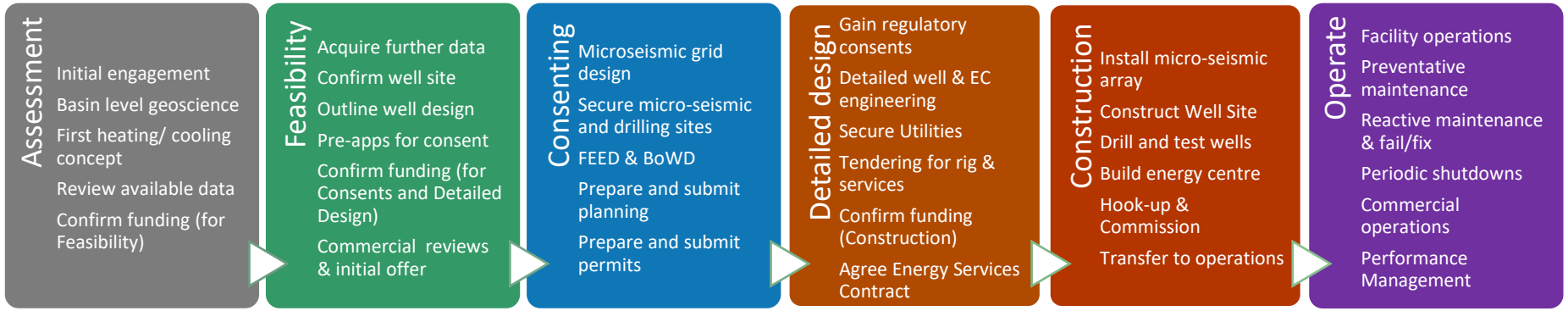
- **Keep the facilities operating safely and efficiently**
- **Monitor and respond to operational and maintenance scenarios**
- **Expand and meet demand growth**
- **Monitor subsurface and optimise resource lifetime**

Operate

At a typical geothermal site



Delivering Geothermal



- Identifying and mitigating risks
- Resolving and reducing uncertainties
- Maximising outcomes and delivering on potential

Triple Point HEAT NETWORKS INVESTMENT MANAGEMENT

Building a District Heating Network - International Case Study

Triple Point HEAT NETWORKS INVESTMENT MANAGEMENT
AECOM AMBERSIDE ASTEROS Gemserv Lux Nova Partner clean energy lawyers TriplePoint

INNOVATIVE ENERGIE PULLACH

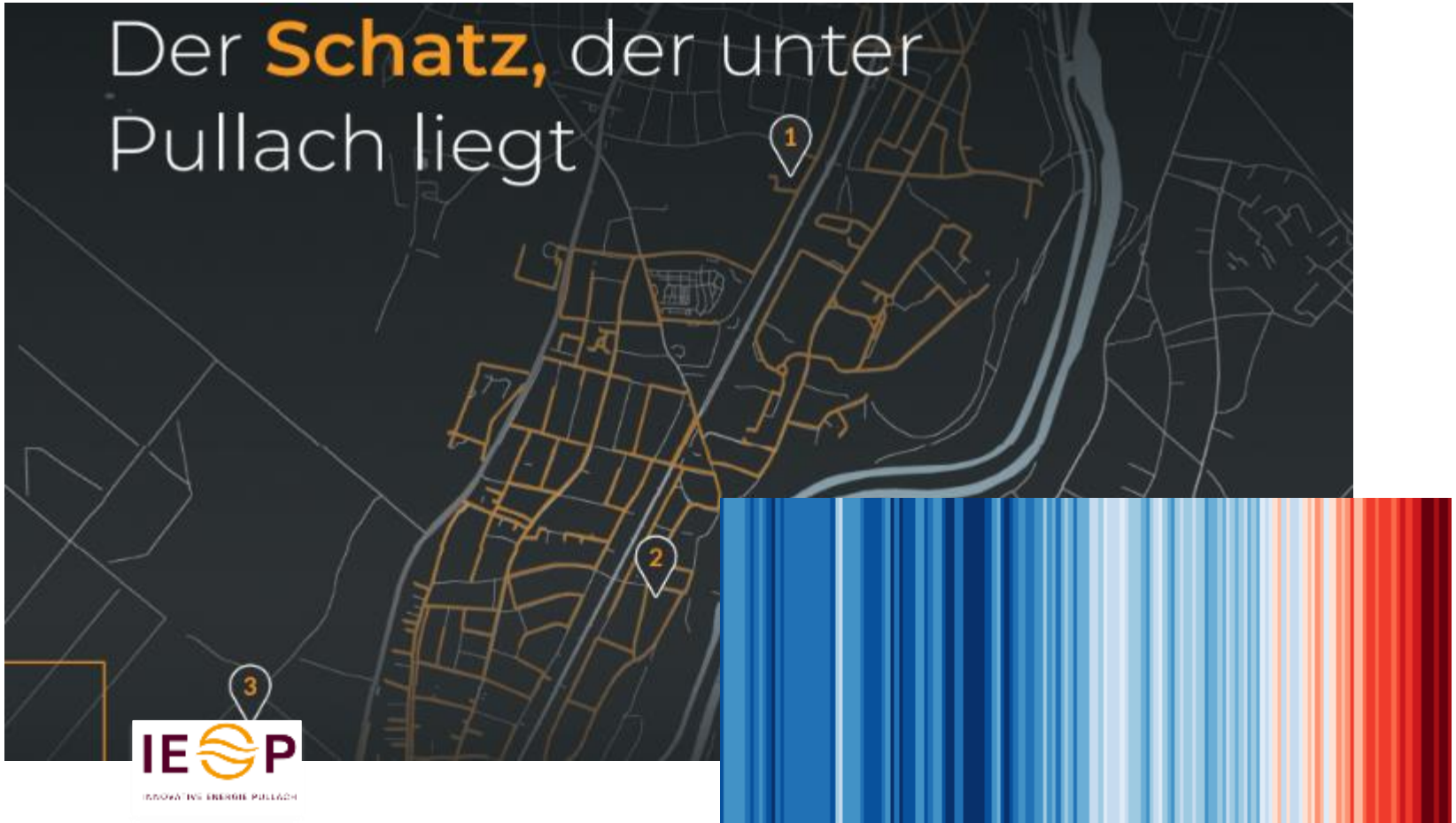
Building a District Heating Network

Development of IEP

Pullach Impressions

IEP
INNOVATIVE ENERGIE PULLACH

The „Treasure“ is located underneath our feet



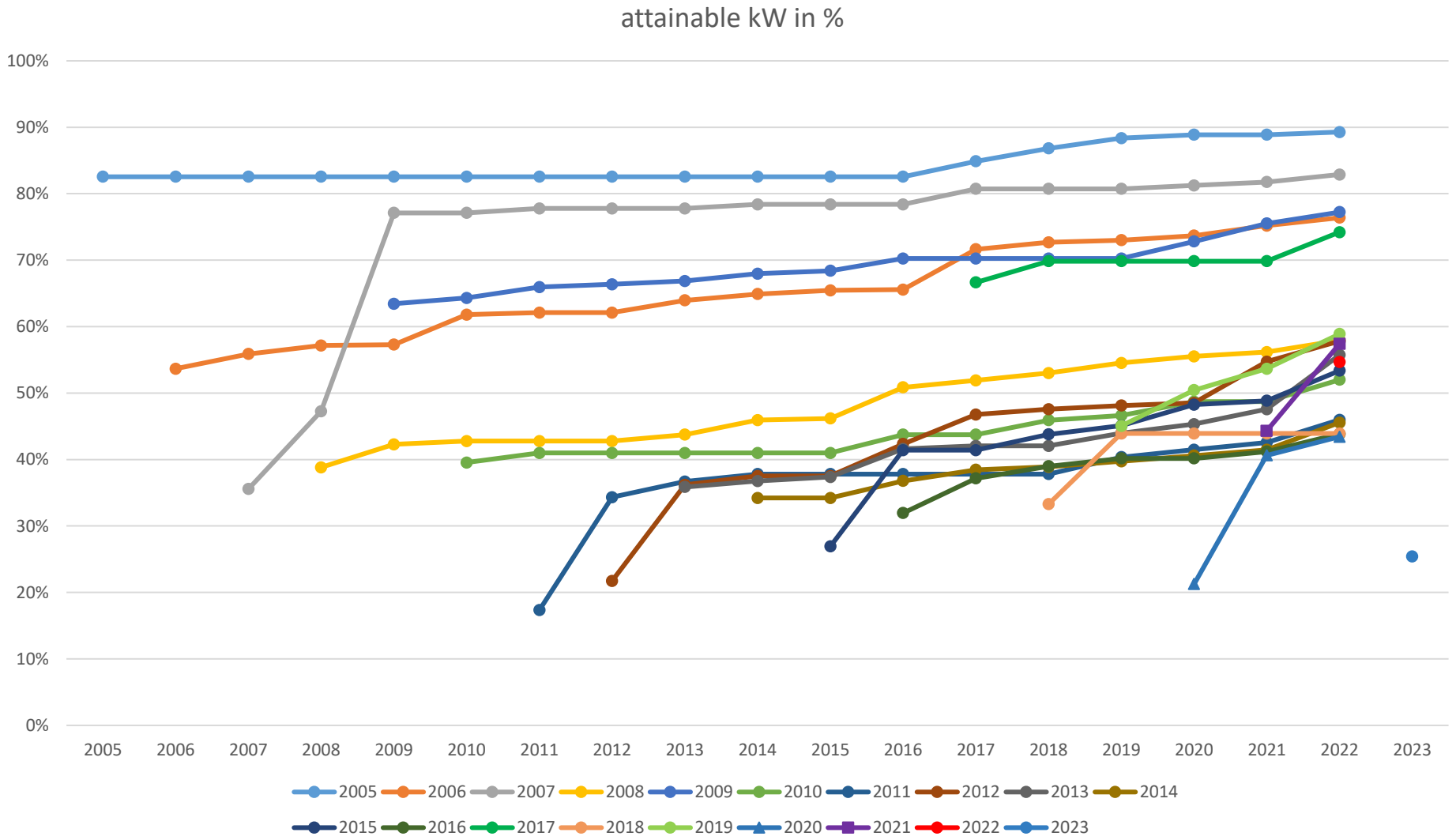
District Heating Network of Pullach

IEP
INNOVATIVE ENERGIE PULLACH

District Heating Network of Pullach

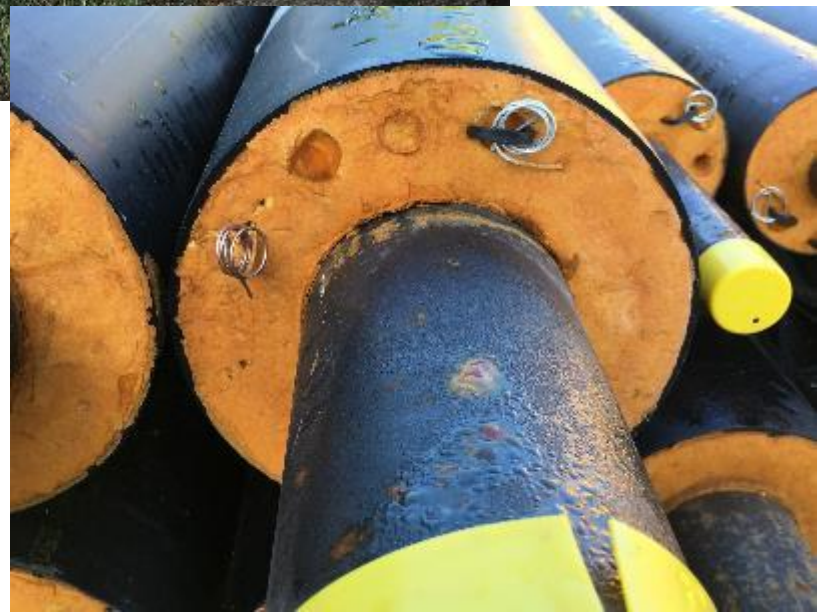
IEP
INNOVATIVE ENERGIE PULLACH

Development of construction sections

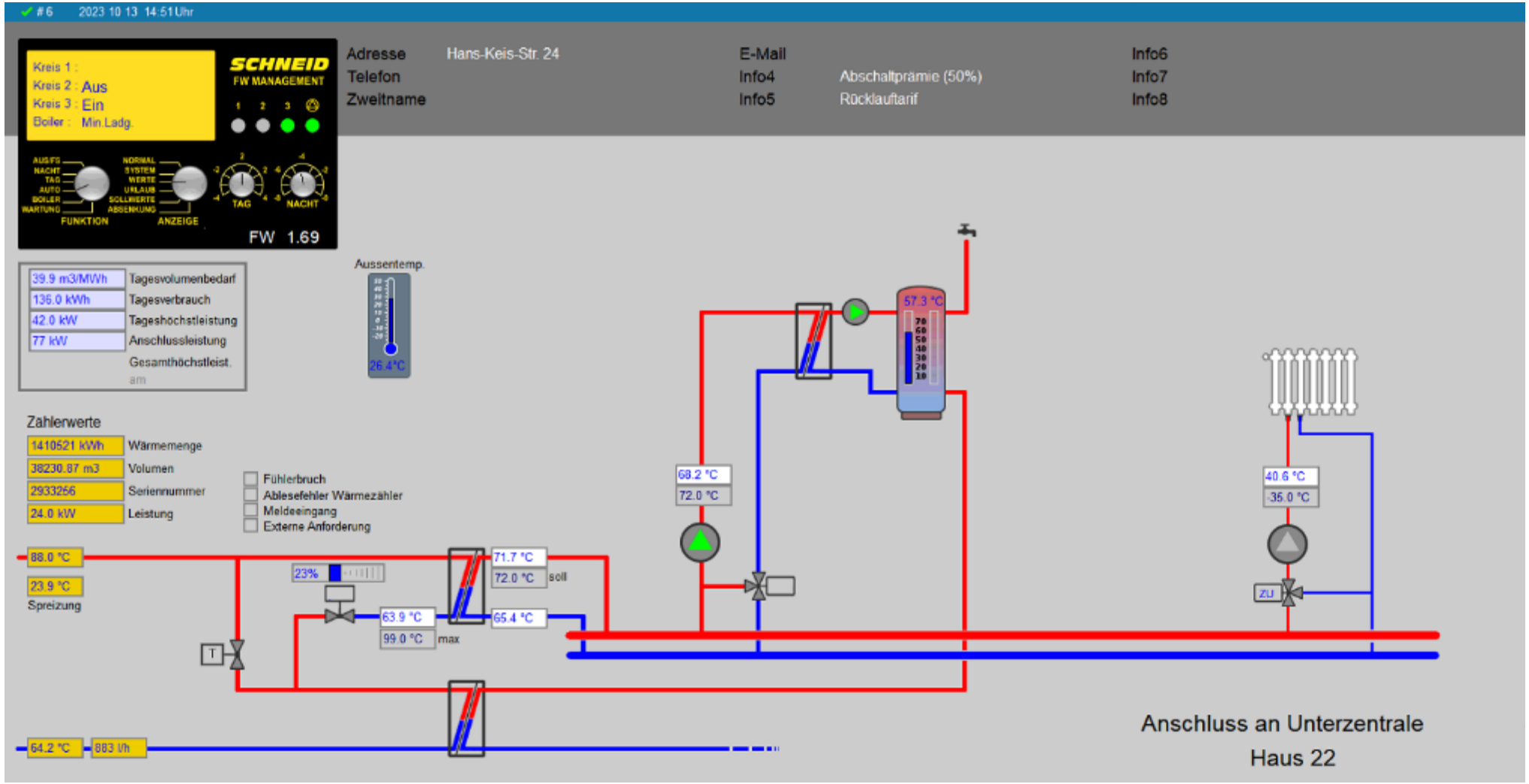


as per 06.12.2022

District Heating Pipes



System Monitoring



Connected load to the district heating network:

2005	2006	2007	2008	2009	2010	2011	2012
3.215 kW	10.342 kW	11.687 kW	14.584 kW	16.920 kW	18.399 kW	19.009 kW	20.290 kW
	+7.127 kW	+1.345 kW	+2.897W	+2.336 kW	+ 1.479 kW	+610 kW	+1.281 kW
57 Properties	173 properties	65 properties	127 properties	68 properties	44 properties	28 properties	61 properties

Connected load to the district heating network:

INNOVATIVE ENERGIE PULLACH

2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
21.626 kW	23.735 kW	25.242 kW	27.340 kW	32.043 kW	33.047 kW	34.281 kW	35.131 kW	36.753 kW	**43.012 kW**	**45.500 kW**
	+2.109 kW	+1.507 kW	+2.098kW	+4.703 kW	+ 1.004 kW	+1.234 kW	+850 kW	+1.622 kW	**+6.259 kW**	**~ +2.500 kW**
72 properties	83 properties	43 properties	56 properties	43 properties	39 properties	44 properties	41 properties	60 properties	**89 properties**	**ca. 150 properties**

ca. 1340 properties in total

Heat production season 2022/2023

- Geothermal Th1+ Th2 16 - 17 MW
- Max. district load 24 MW (13.12.2022, -10°C, 8:30 AM)
- Max. daily heat production 514 MWh (13.12.2022)
- On normal winter days (+/- 0°) 1-2 burner (fossil fuel) necessary
- Peak consumption of largest customers: 3 MW, 1.8 MW; 1 MW

2 complete sets of pumps (Baker Hughes und Halliburton) are in stock for redundancy

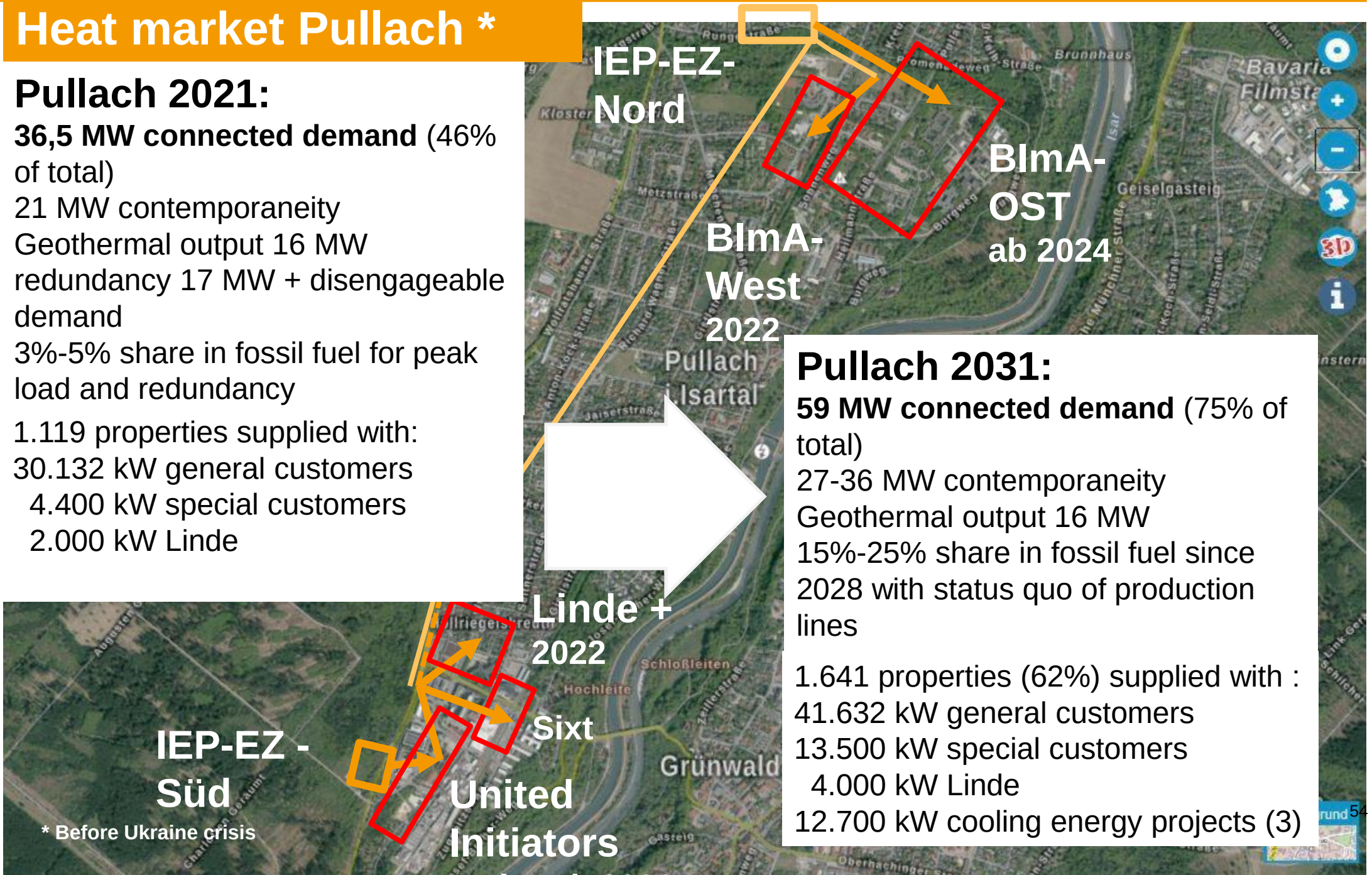
2,5 MW rented Hotmobil (fuel) available for backup

Heat market Pullach *

Pullach 2021:

36,5 MW connected demand (46% of total)
21 MW contemporaneity
Geothermal output 16 MW
redundancy 17 MW + disengageable demand
3%-5% share in fossil fuel for peak load and redundancy

1.119 properties supplied with:
30.132 kW general customers
4.400 kW special customers
2.000 kW Linde



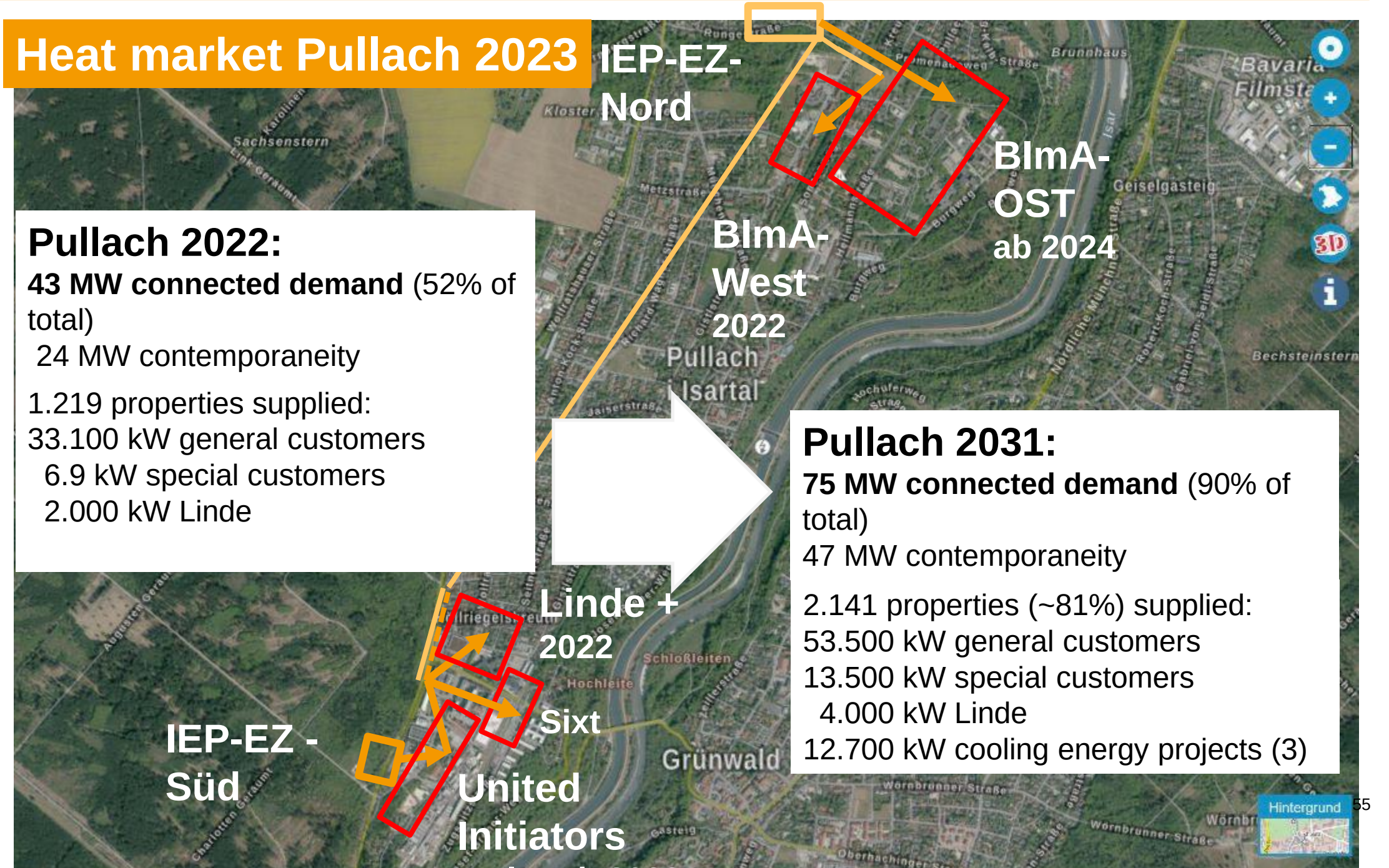
Pullach 2031:

59 MW connected demand (75% of total)
27-36 MW contemporaneity
Geothermal output 16 MW
15%-25% share in fossil fuel since 2028 with status quo of production lines

1.641 properties (62%) supplied with :
41.632 kW general customers
13.500 kW special customers
4.000 kW Linde
12.700 kW cooling energy projects (3)

* Before Ukraine crisis

Heat market Pullach 2023



Pullach 2022:

43 MW connected demand (52% of total)

24 MW contemporaneity

1.219 properties supplied:
33.100 kW general customers
6.9 kW special customers
2.000 kW Linde

Pullach 2031:

75 MW connected demand (90% of total)

47 MW contemporaneity

2.141 properties (~81%) supplied:
53.500 kW general customers
13.500 kW special customers
4.000 kW Linde
12.700 kW cooling energy projects (3)

WÄRMEWENDE
durch GEOTHERMIE

IEOP
INNOVATIVE ENERGIE PULLACH

We know how to do heat rebound!

Triple Point
HEAT NETWORKS
INVESTMENT MANAGEMENT

Case Study: Eden Geothermal

Energy as secure as the rock beneath your feet

Gus Grand, ggrand@edengeothermal.com October 2023

eden geothermal

Part-funded by
European Union
European Regional Development Fund
HM Government
CORNWALL COUNCIL
one and all · onen hag oll

Enough heat for a rainforest…

- The Eden Geothermal Project: a £22.3m industrial research project, co-funded by the European Union through the European Regional Development Fund, Cornwall Council and GCP Infrastructure Investments Ltd.

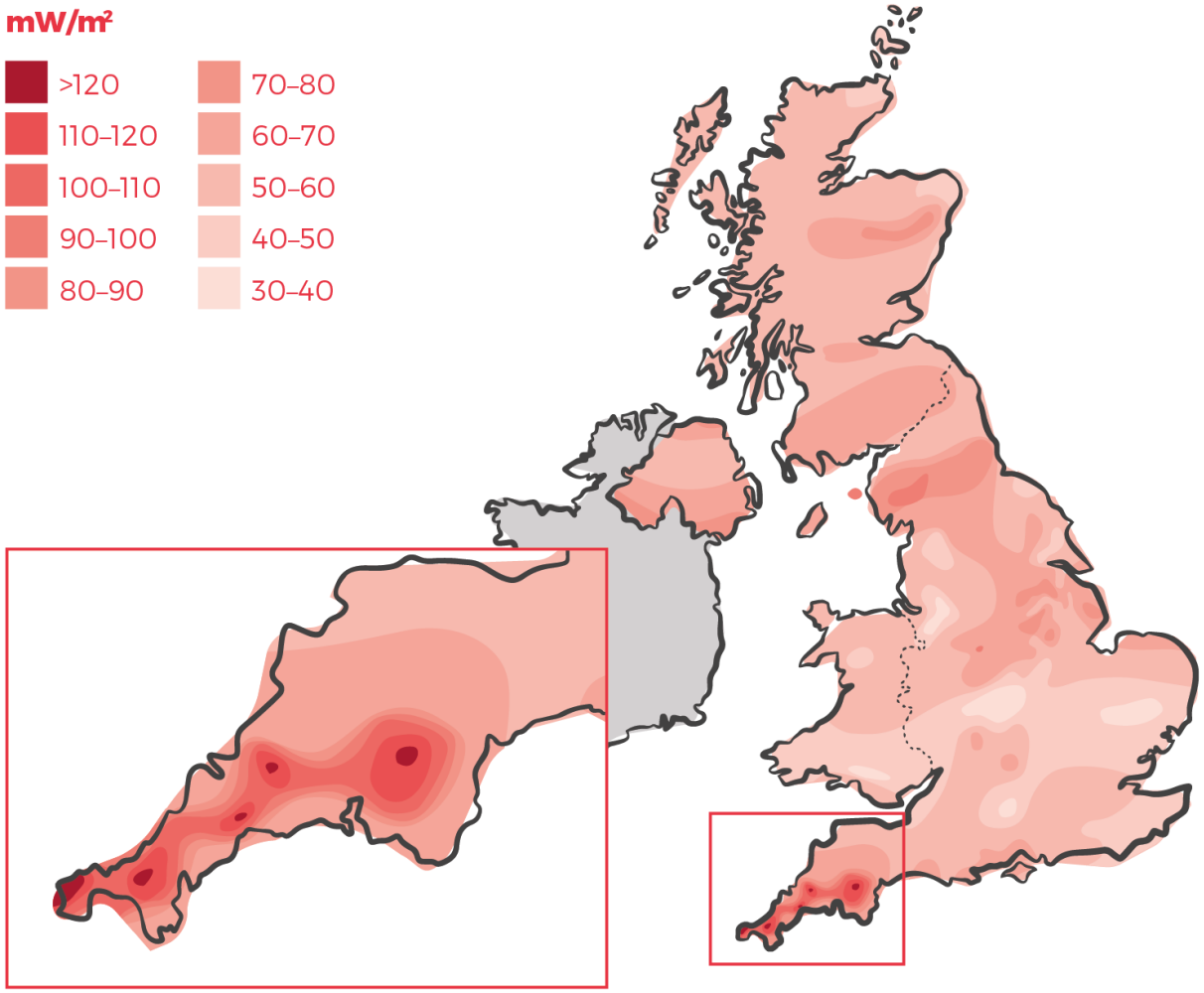
- We have drilled a deep geothermal well in granite to provide the Eden Project with geothermal heat for its Biomes, new plant nursery and other buildings. This is the first deep geothermal project to come online since Southampton in 1986.

- Heat is being supplied via a single-well heat exchanger (coaxial system – the deepest in the world) and 4km heat main which combine to form a heating network linking the geothermal well site with heat loads at the Eden Energy Centre (Biomes, offices) and Nursery.

Why Cornwall, why Eden Project?

x2

HEAT FLOWS IN PARTS OF CORNWALL AT >120mW/m² ARE MORE THAN **DOUBLE THE AVERAGE IN THE UK**.



(Information from the British Geological Survey)

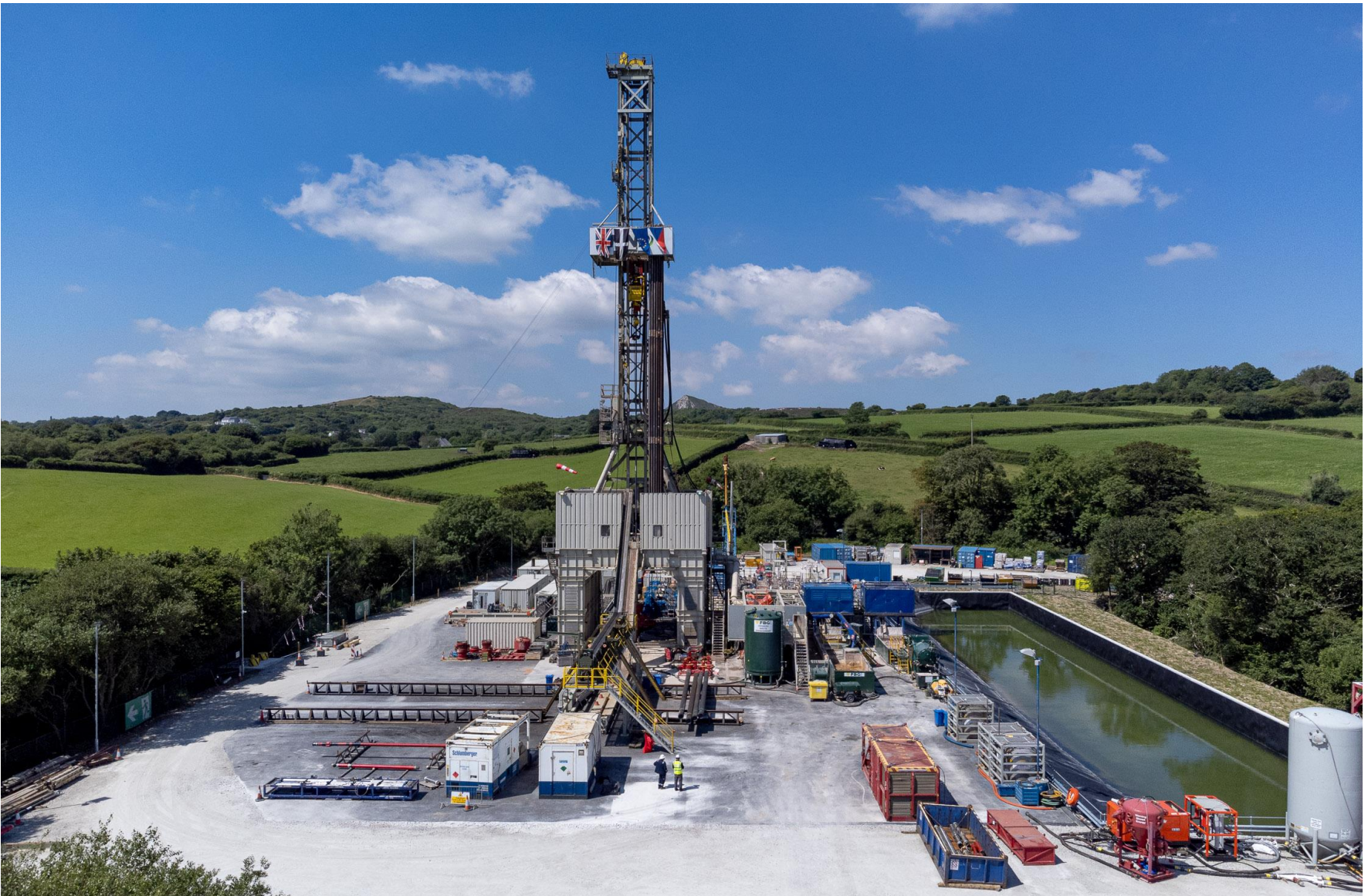
Eden Project, environmental project, educational charity, visitor destination with c. 1m visitors/year prior to the pandemic.

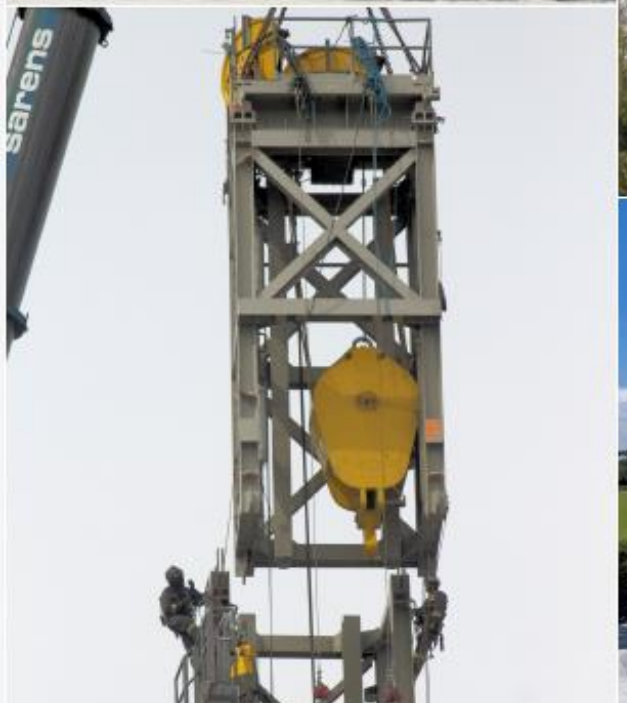
A place where anything can happen.

Stakeholders, Community Engagement & Outreach

IDENTIFY STAKEHOLDERS	IDENTIFY ASSESSMENT	PLAN COMMUNICATION	ENGAGE STAKEHOLDERS
Identify Stakeholders Group	Conduct High Level Stakeholder Assessment	Create Stakeholder Communication Plan	Plan to Support Ongoing Engagement
Identify Individual Stakeholders Representatives	Prioritise Stakeholders	Identify Engagement Activities	Execute Stakeholder Communication Plan
Create Initial Stakeholder List	Develop Stakeholder Map	Develop Detailed Engagement Plan	Monitor Progress
Stakeholder Lists	Engagement Grid	Stakeholder Communication	Communication and Engagement Activities
	Updated Stakeholder Lists		Feedback Mechanism Implemented

Drilling at Eden Project: May to December 21





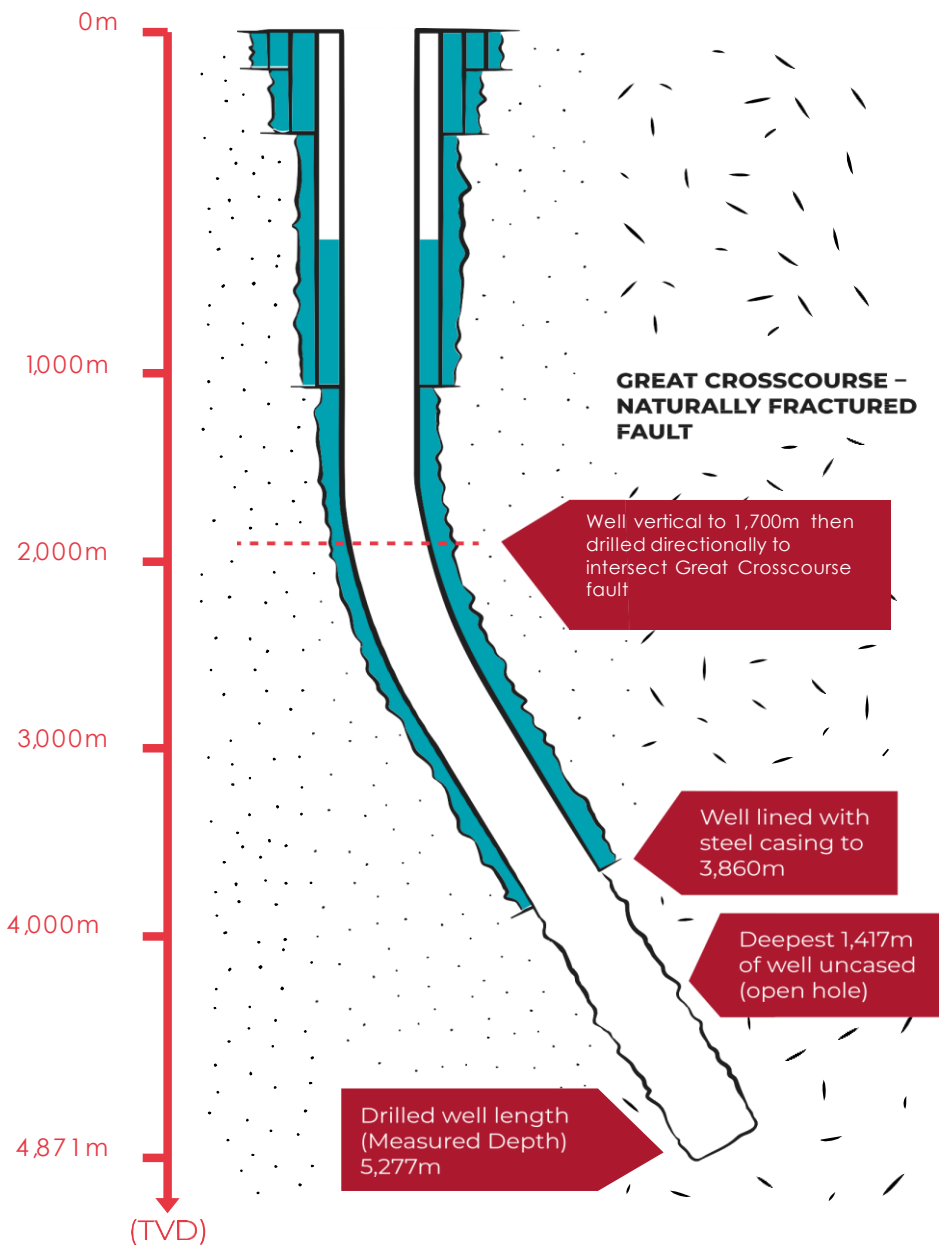
Drilling Programme

Well Design Requirements:

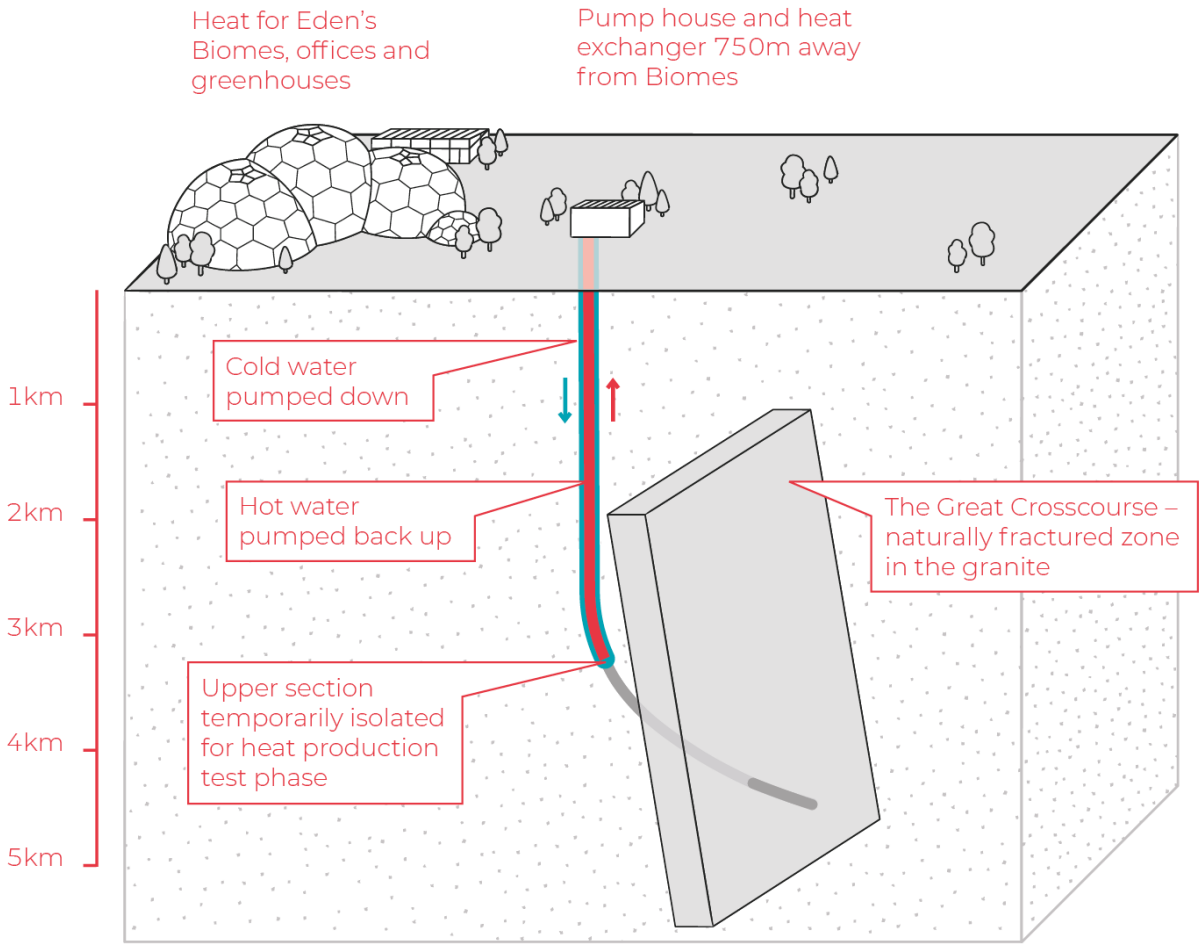
- J-Type well building to ~40° inclination
- Approaching the GXC from the footwall
- 8 ½" Section to be left open hole

Key Observations:

- Successful drilling operation, entirely in granite
  - Well TD = **5,276.67m MD / 4,871m TVD**
  - Drilling duration = **164 days**
- Significant loss zone encountered at 3,950m MD during 12 ¼" Section
  - Balance plug required to run 9 5/8" casing
- Multiple fracture zones encountered during 8 ½" section



Coaxial concept: Eden Project for now

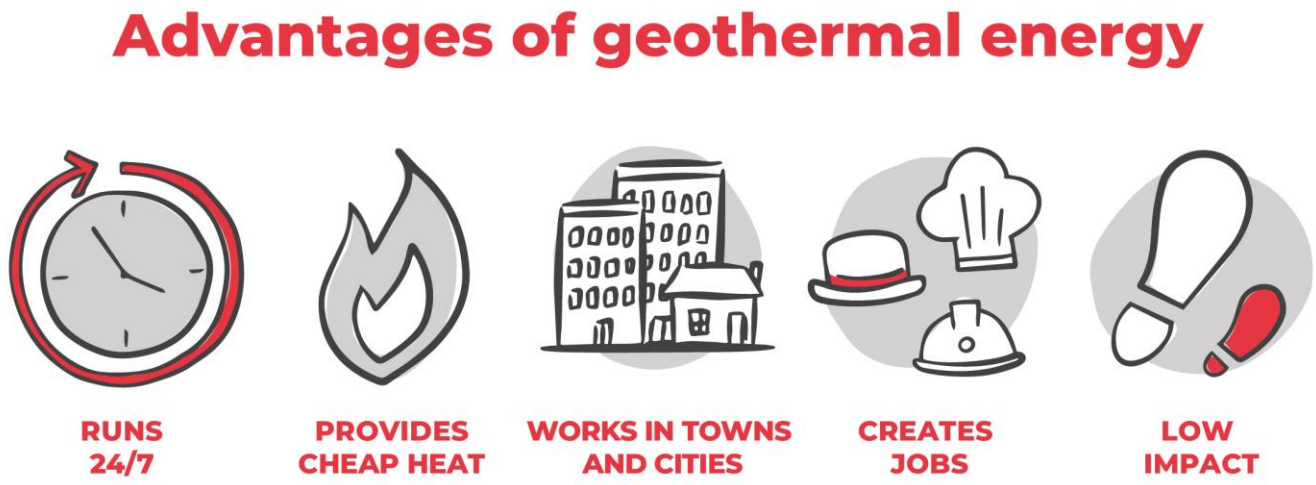


Heat Main

- Follows 1.4km route from EG-1 to Eden Energy Centre
- 6" pipe with Polyurethane insulation
- Max Operating Pressure = 25 bar
- Max Flowrate = 30 l/s
- Anticipated temperature loss = <1°C

The smallest final surface footprint of any energy source…

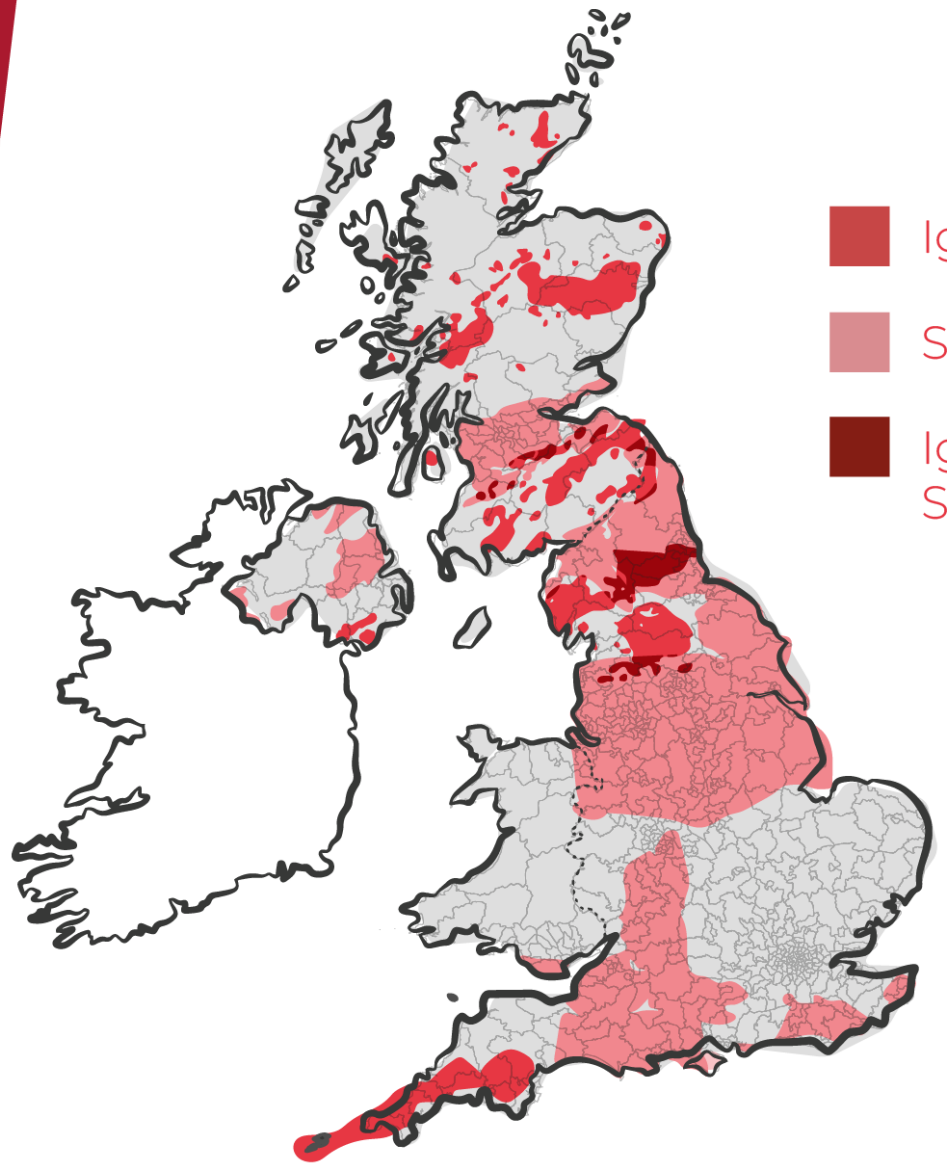
- Geothermal provides baseload energy capacity<93 % if load management allows it.
- The heat is cheap: $26/MWh levelized cost in France, and as secure as the ground beneath your business. No geopolitics, no fuel supply issues.
- It can be retrofitted in urban areas, Paris has over 50 projects, including Orly airport.
- Skills and equipment to scale up fast are available in the O&G industry.
- Low impact. The smallest surface foot print of any energy source. 93% lifetime emissions reduction on gas heating. Zero emissions/particulates in operation.



eden geothermal

UK deep geothermal prospects

About a third of constituencies have geothermal prospects, ~half Local Authorities, 100+NHS hospitals

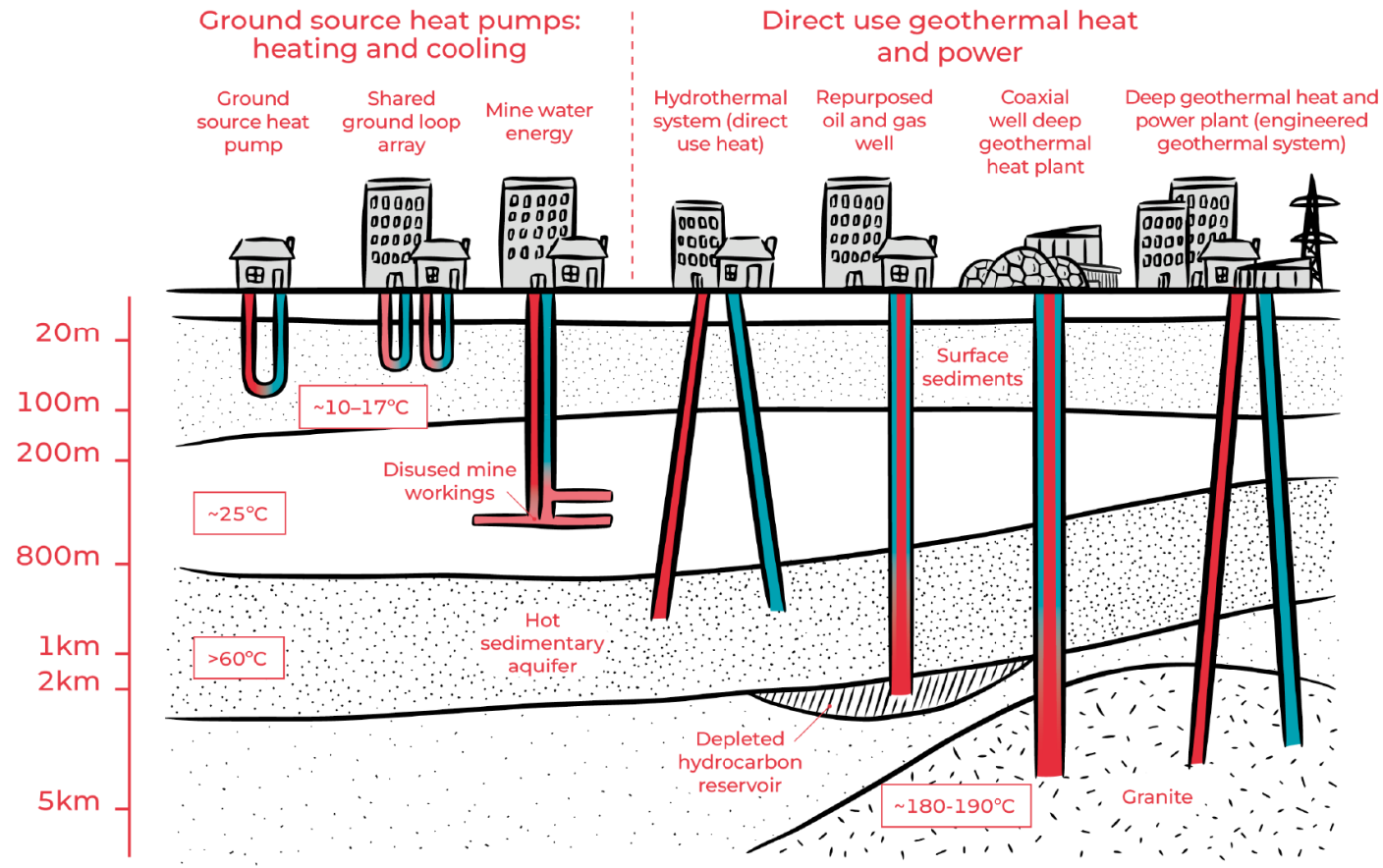


Source: British Geological Survey, 2023

eden geothermal

Geothermal concept

Different geothermal energy technologies



Source: British Geological Survey, 2020; Townsend et al, 2020

eden geothermal

Triple Point HEAT NETWORKS INVESTMENT MANAGEMENT

Case Study: Langarth Geothermal

Langarth Garden Village

DEEP GEOTHERMAL DISTRICT HEAT NETWORK

TREVETH

A CORNWALL COUNCIL OWNED PARTNERSHIP

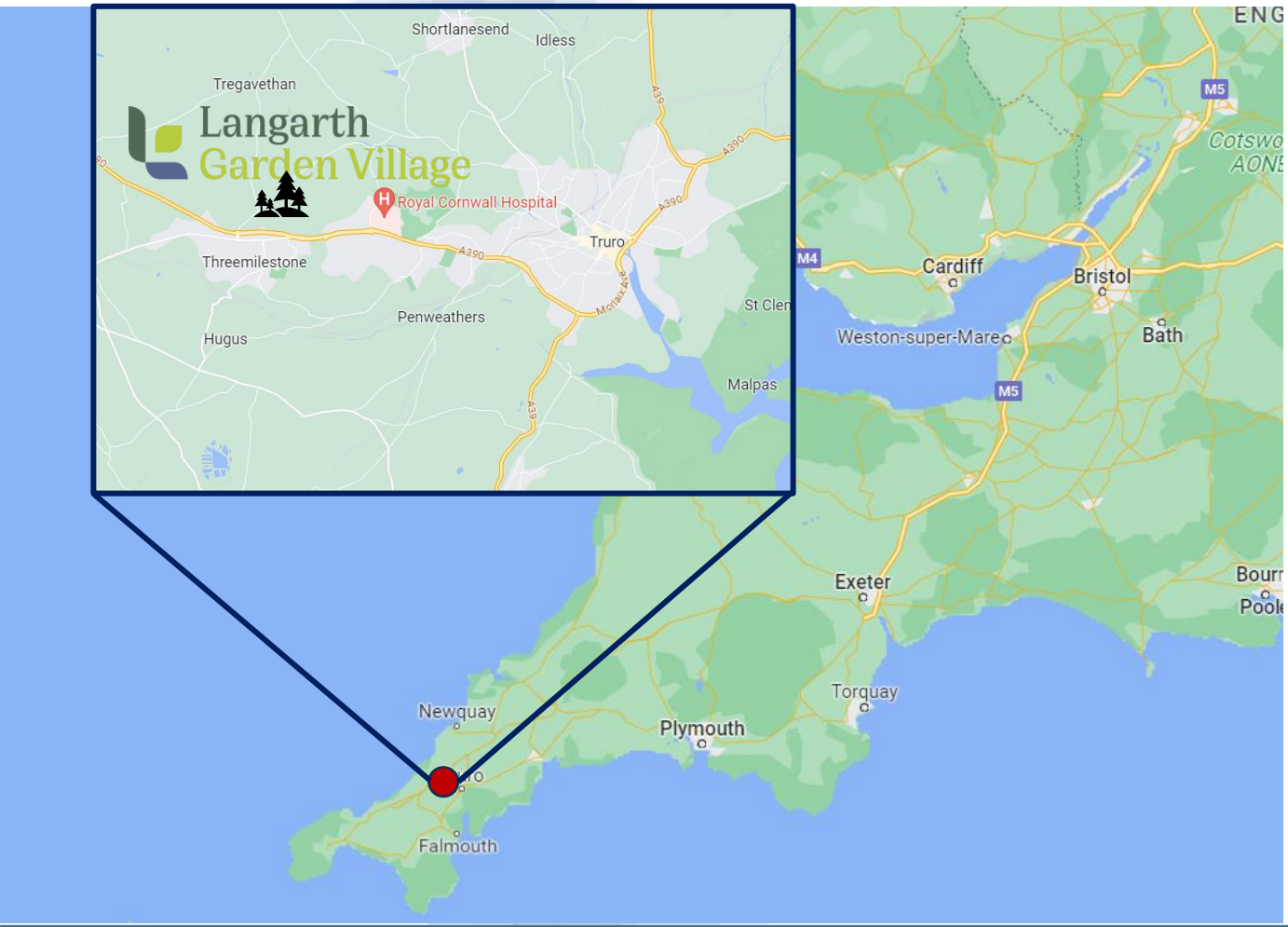
BURO HAPPOLD

carbon alternatives

Ener-Vate

FREETHS

LANGARTH GARDEN VILLAGE



Langarth Garden Village (LGV) is a Cornwall Council led project that proposes to change the quality of house building in the south-west and bring a new sustainable community and way of living to Cornwall.

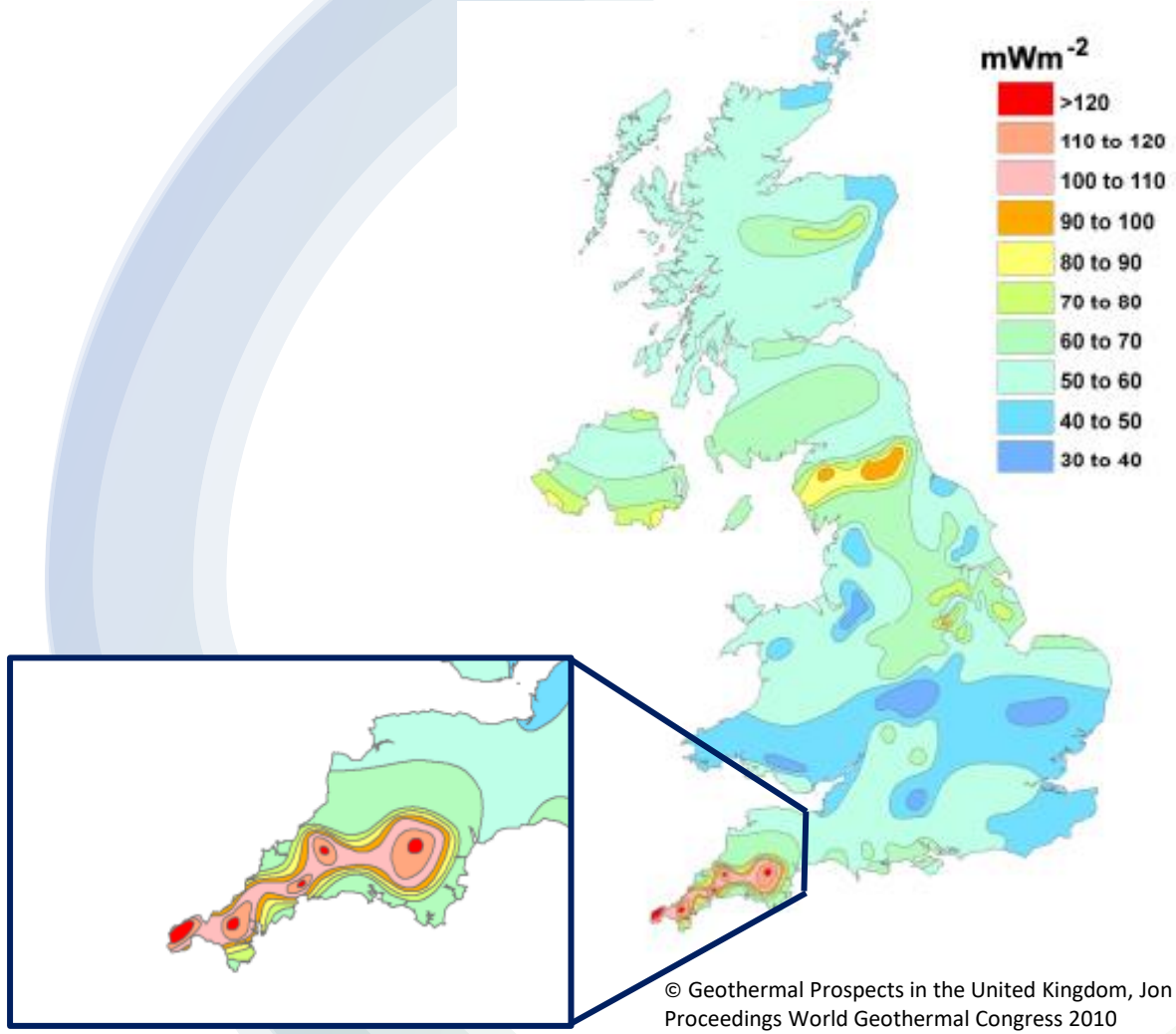
- 3,800 homes;
- 2 primary schools;
- 117 hectares of green space;
- Community facilities;
- Commercial development;
- Park and Ride extension;
- Energy centre and flagship deep geothermal district heating network….

GEOTHERMAL CORNWALL

Cornwall has the highest geothermal potential in the UK, and Cornwall Council and the Cornwall and Isles of Scilly Local Enterprise Partnership have committed substantial investment into unlocking a nascent industry, with funding awarded to the projects at United Downs and Eden Geothermal.

Cornwall Council and LGV have led the development of the deep geothermal heat network over the last few years, proving the viability of the heat network through two rounds of feasibility studies.

The LGV heat network was recently awarded £22m funding via the Government's Green Heat Network Fund (GHNF) to commercialise and construct the heat network.



© Geothermal Prospects in the United Kingdom, Jon Busby
Proceedings World Geothermal Congress 2010

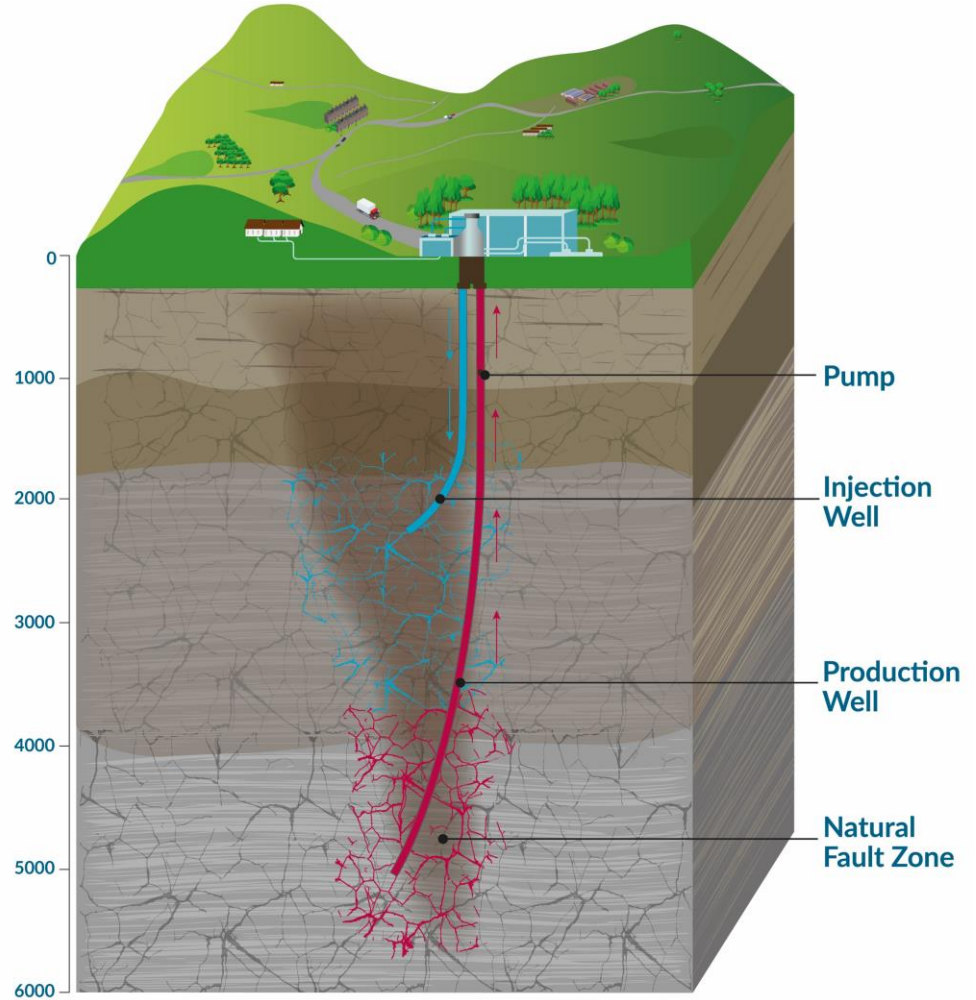
Geothermal Engineering Ltd (GEL) was established in 2008 and is the developer and operator of first deep geothermal power plant in the UK.

Two deep, directional wells have been drilled by GEL at United Downs:

- Production well = 5,275m
- Injection well = 2,393m

- Testing has confirmed the temperature at the bottom of the well is ~175°C;

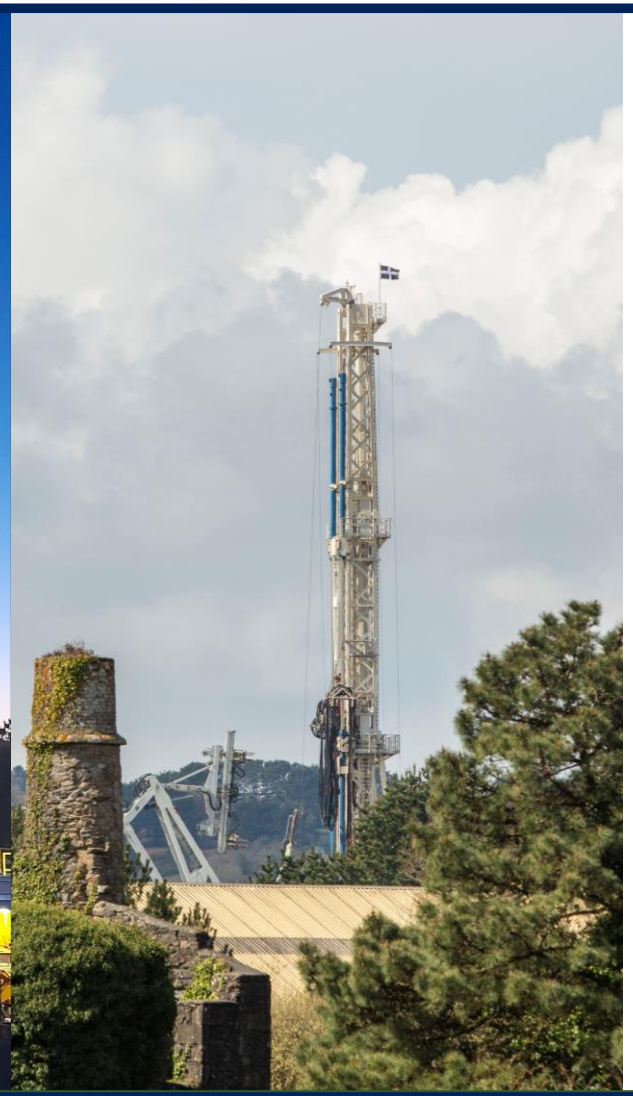
- Organic Rankine Cycle (ORC) power plant supplied by Exergy with gross power production of 3MWe.



Geothermal Engineering Ltd

Langarth Garden Village

A CORNWALL COUNCIL OWNED PARTNERSHIP



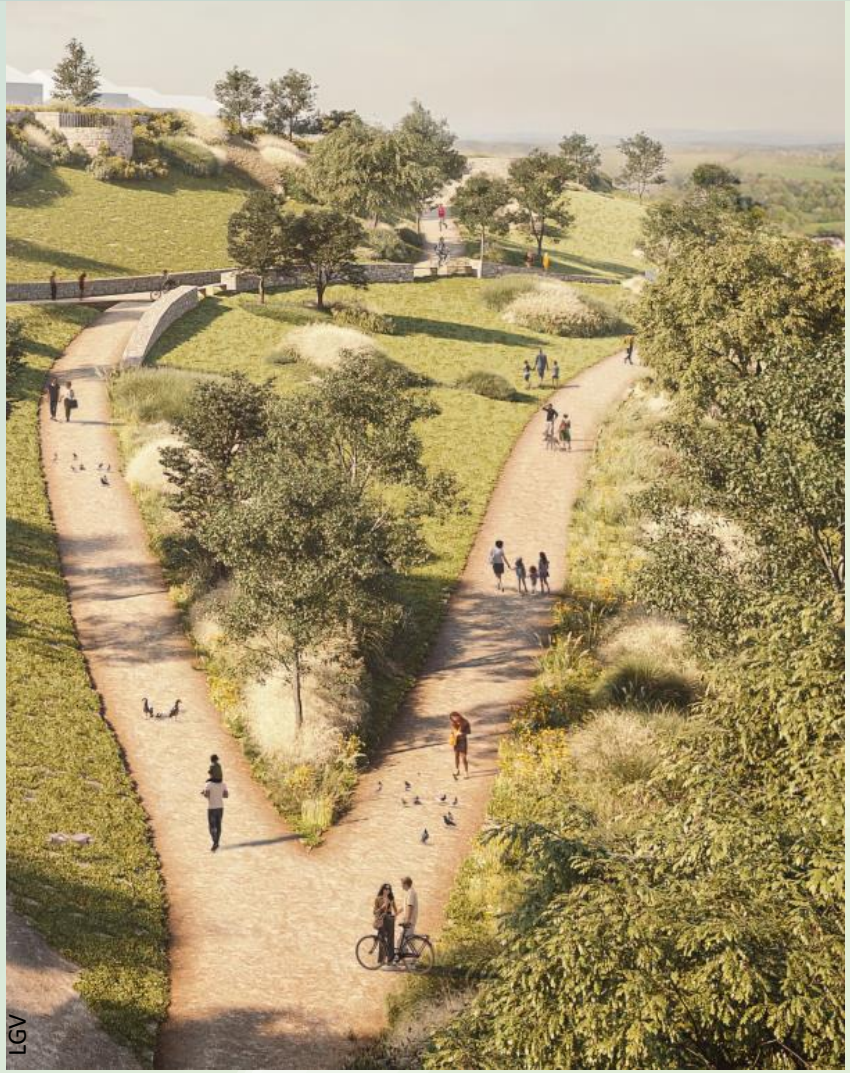
- Groundworks start October 2023;
- Power plant expected to start generating before end 2024;
- The feasibility study assessed viability on basis of 10MWth at 80°C;
- Negotiations and assessments ongoing regarding heat availability, temperature, need for power production compromise, or need for additional generation capacity/thermal storage;
- More than 250 mg/l of lithium in geothermal brine - highest concentration discovered anywhere in the world!

COMMERCIALISATION AND OPERATION

- Currently commercialising the heat network;
- Expecting to provide heat to:
  - 3,800 homes and businesses at LGV;
  - Royal Cornwall Hospital will provide an anchor load;
  - A secondary school, college, health worker accommodation, innovation centre and other businesses in the Threemilestone area of Truro;

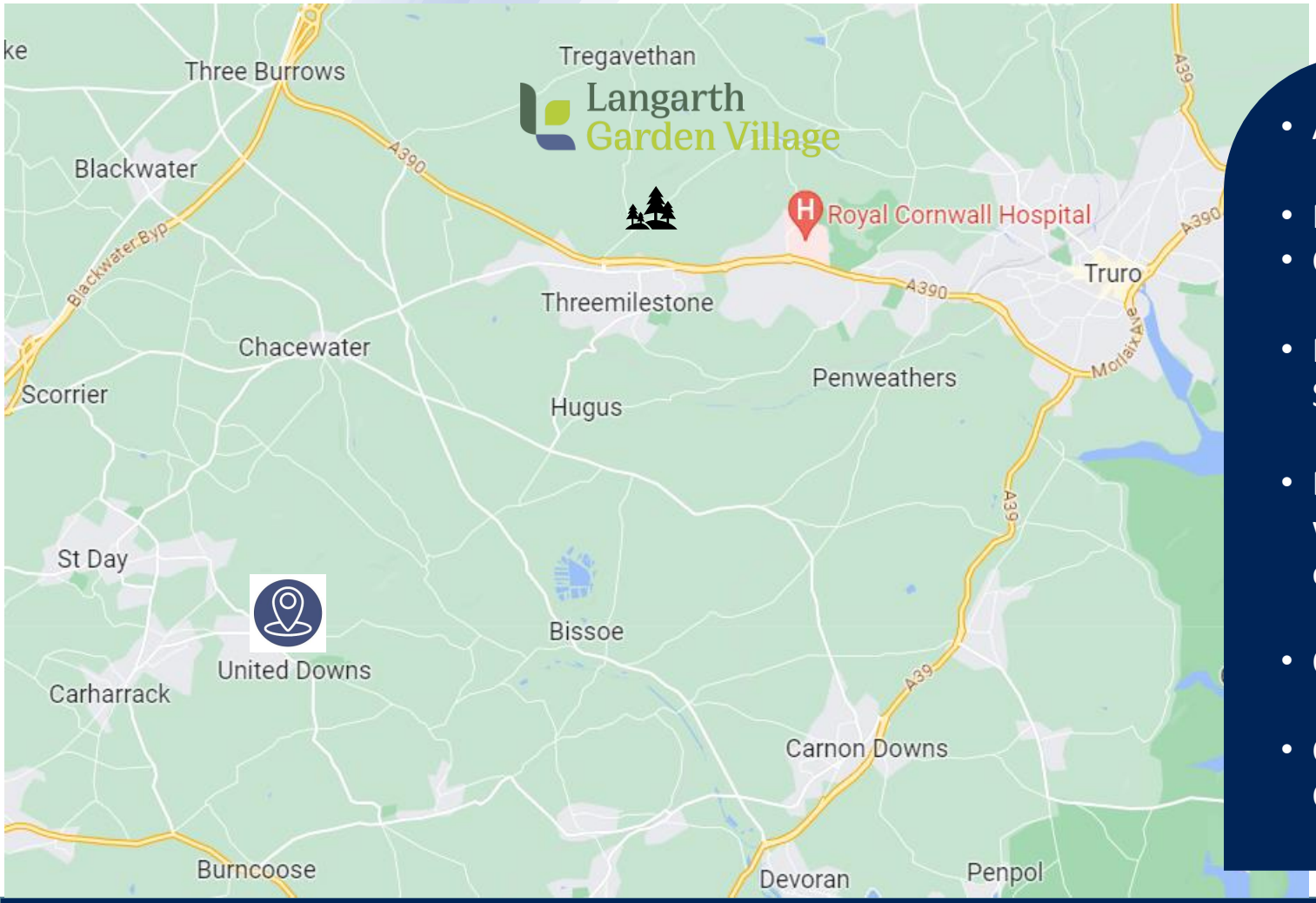
- In total:
  - 14.5 MW peak load;
  - 47 GWh annual demand;

- A full centralised backup heat supply will be included;
- LGV will be seeking a delivery partner via a concession to provide further funding, build, operate and maintain the heat network from 2024.



Architect's impression – 'West Langarth Common', LGV

HOW WILL THE HEAT GET TO LGV?



- Approx 6.5km heat main from United Downs to LGV;
- Mixture of soft and hard dig (highway) proposed;
- Challenging landscape including heavily mined areas;
- Part of the Devon and Cornwall Mining World Heritage Site;
- Ecology, existing services, main railway line, 2 watercourses, mine workings, adits, listed buildings etc;
- Over 20 landowners;
- Currently in negotiations with landowners, Parish Council etc.

BENEFITS

Langarth Garden Village

A CORNWALL COUNCIL OWNED PARTNERSHIP

Saving over 86,000 tonnes of carbon over the life of the project, improving air quality and health outcomes for the Cornwall community.

The first district heat network in the UK which aims to achieve this status.

The attractiveness of the UK's first deep geothermal district heating network will help to unlock future investment.

Utilising an abundant local heat source that provides security, reliability, and resilience to the Energy System.

Offering a lower cost of heat to the community, compared to other low-carbon alternatives.

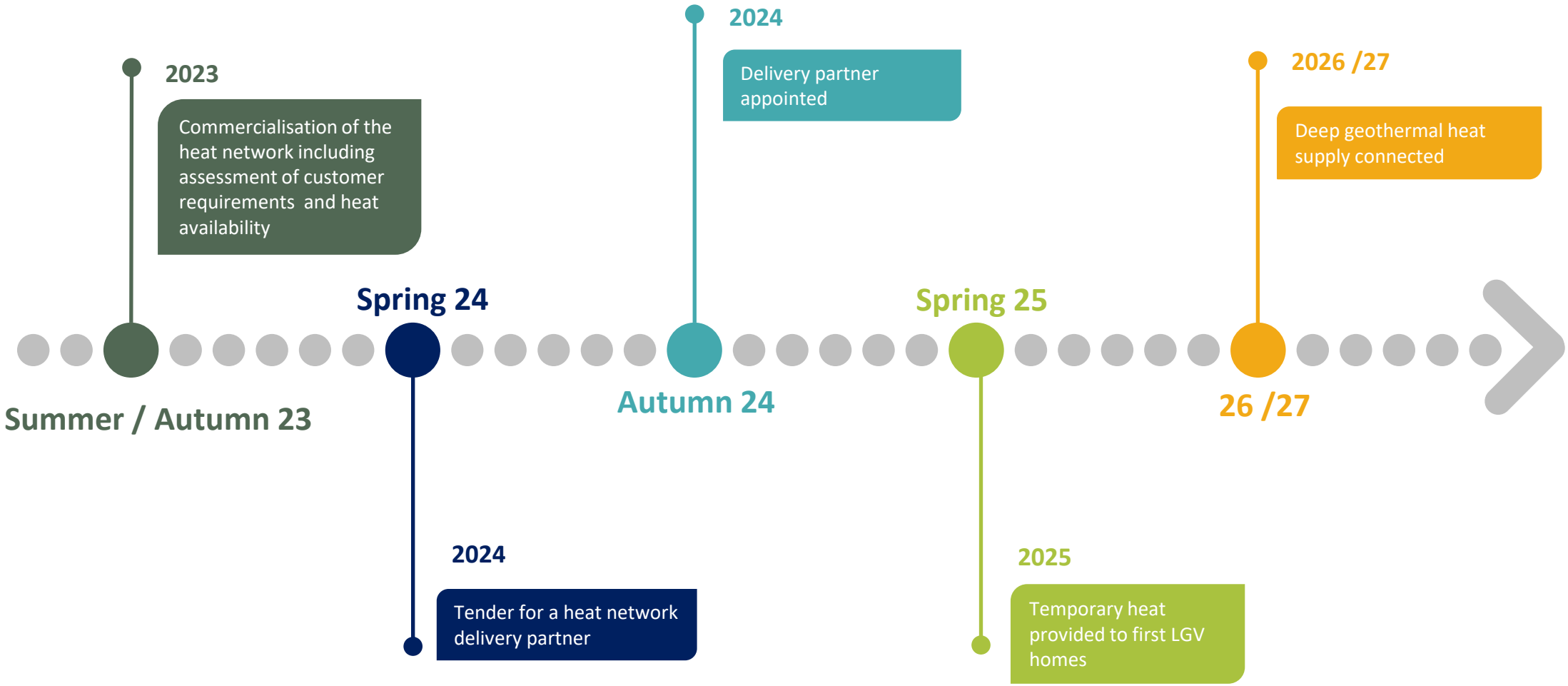
Creating local jobs and apprenticeships during the delivery and operational phases, developing new skills in Cornwall.

Geothermal district heating is ground-breaking and would be the first of its kind in the UK, utilising a truly renewable heat source.

Cornwall Council is committed to drive the development of this project, honouring the local community and environment.

Lower capital and operational costs than alternative low carbon heat supplies.

LGV DEEP GEOTHERMAL DISTRICT HEAT NETWORK TIMELINE



THANK YOU

Langarth Garden Village

A CORNWALL COUNCIL OWNED PARTNERSHIP

Eloise Travis – Programme Manager

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TREVETH

carbon alternatives

FREETHS

Triple Point HEAT NETWORKS INVESTMENT MANAGEMENT

Live Q&A

Triple Point HEAT NETWORKS INVESTMENT MANAGEMENT

Closing Remarks

Triple Point HEAT NETWORKS INVESTMENT MANAGEMENT

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