



GEL Geothermal
Engineering Ltd

Deep Geothermal Projects in the UK

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Business Development Manager

Clean Energy for a Healthy Planet

Who are GEL?



**Project Management &
Operation**



**Owner, Developer and
Operator**



**Deep Geothermal Single
Well Systems**

United Downs

Overview

Aim: To produce power and heat from the hot granite beneath Cornwall

The first geothermal power plant in the UK, due to be installed in 2023/24



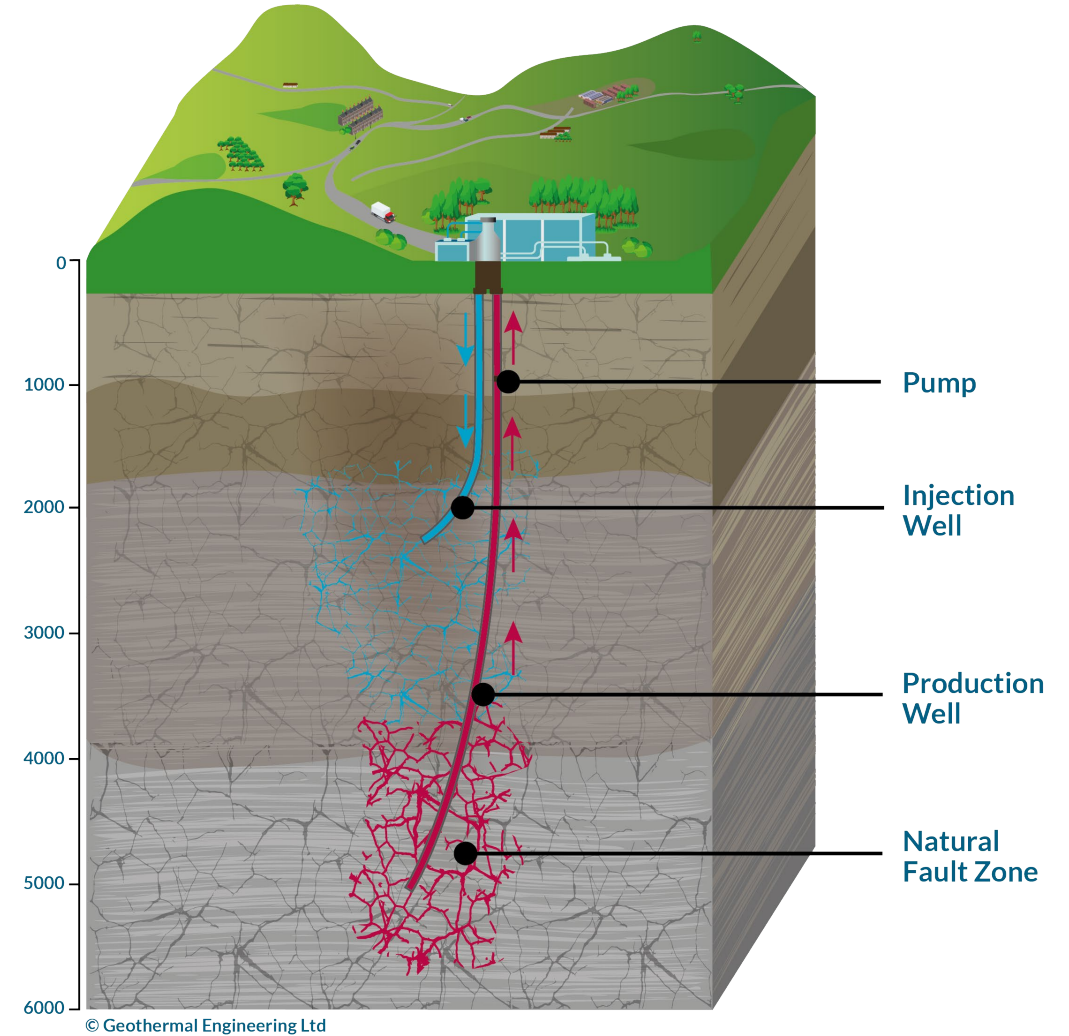
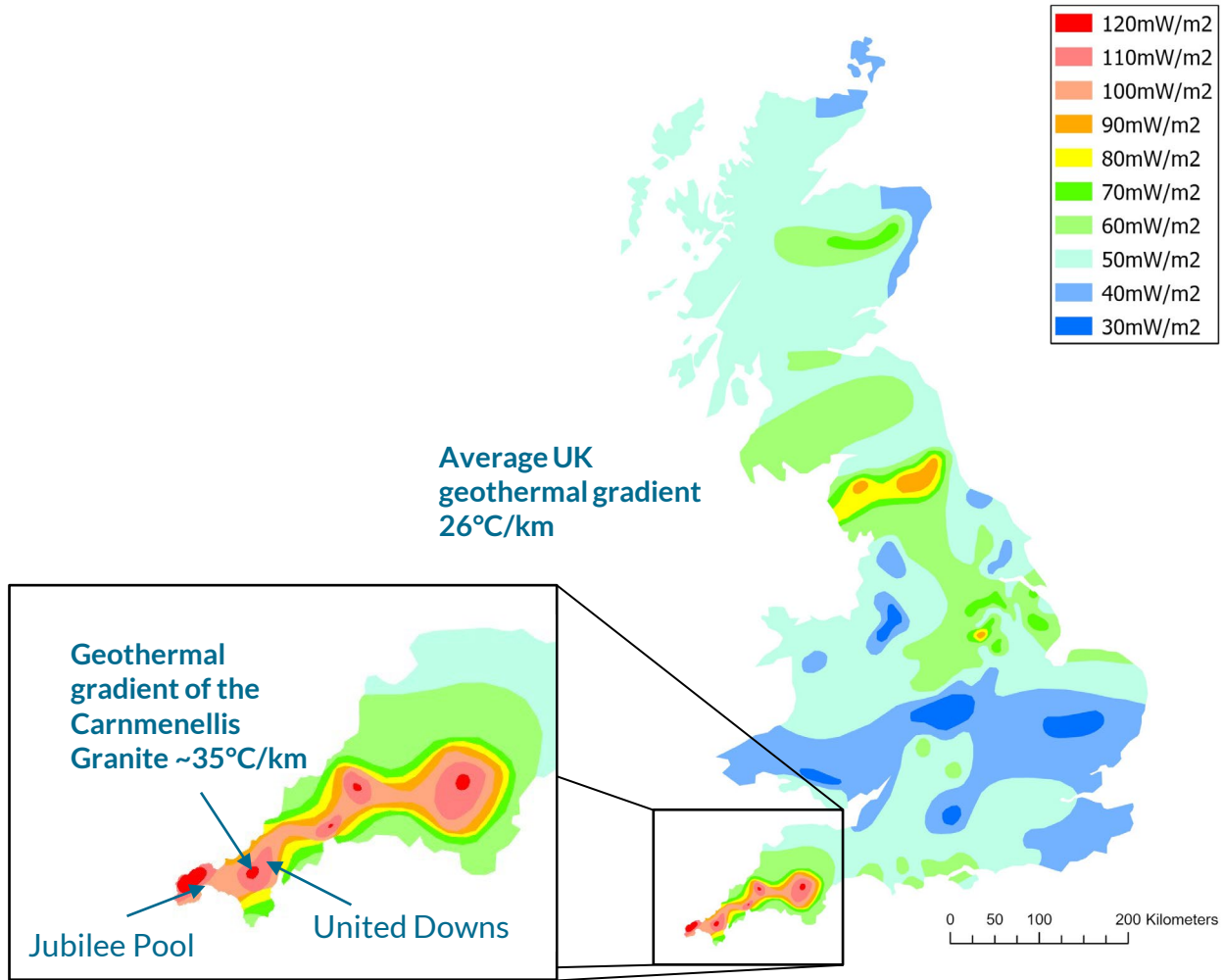
c. £50 million funded by ERDF, Cornwall Council & Private Investors

KEROGEN
Capital



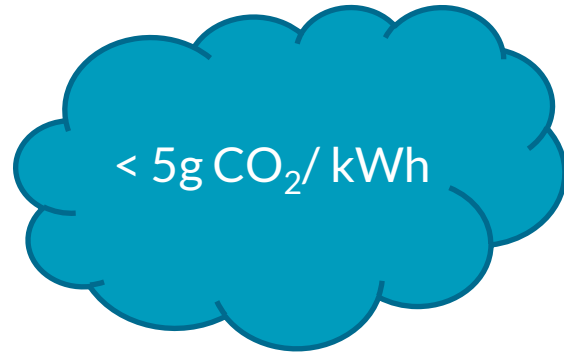
Key demonstration of the UK's geothermal potential for both heat and power

What are we doing?



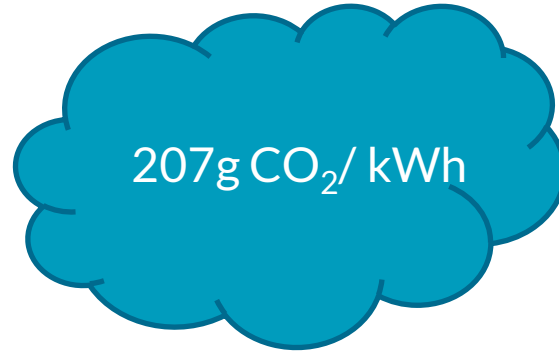
Why are we doing it?

Low Carbon



UK deep geothermal

Vs.



UK grid electricity (2023)

A 5MW_e plant can save more than 700,000 tonnes of carbon compared to gas



Secure Energy Supply

Low Impact

Land Use
Based on Acres/1GW



Project Status

Drilling



Testing

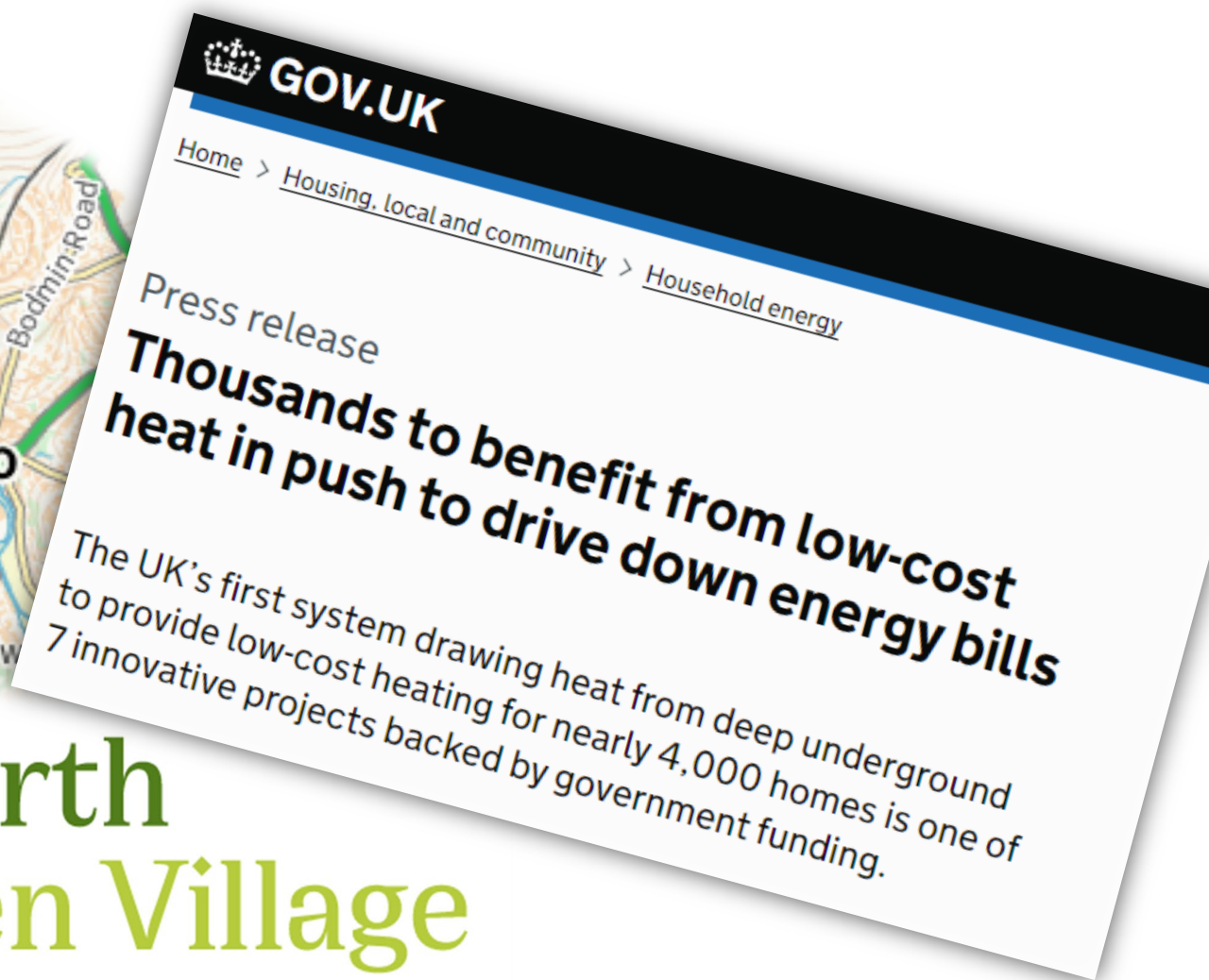
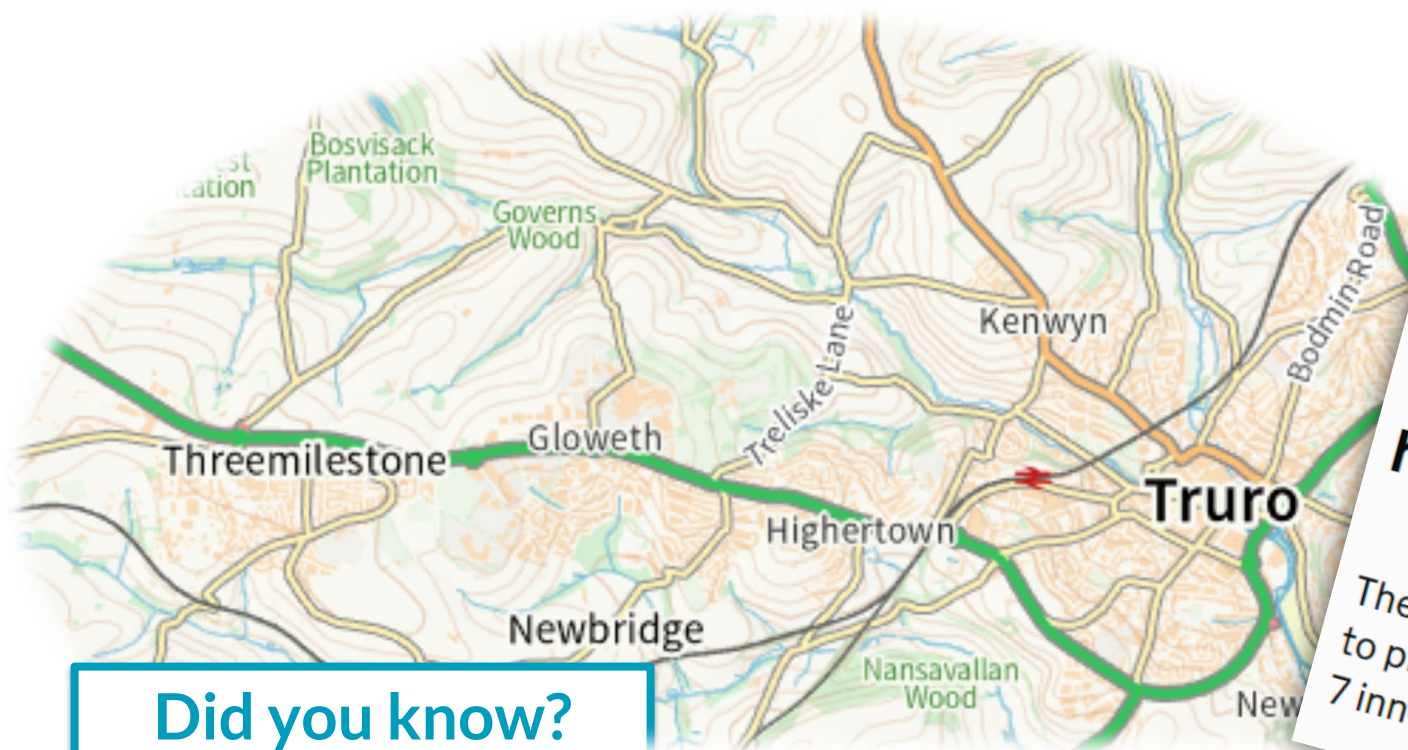


Awaiting Power Plant Delivery in October 2023



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Deep Geothermal Heat Network



Did you know?
~40% of the UK's carbon emissions are from heating and hot water



Langarth Garden Village

Research Projects



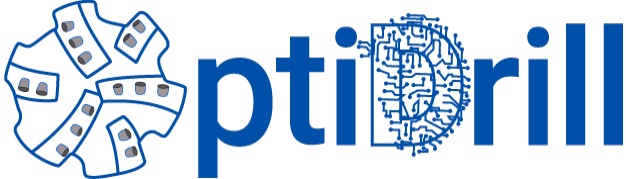
Geothermal reservoir modelling



Stimulation techniques for geothermal development



Power Generation from UK granites



Optimising Deep Geothermal Drilling using AI and Machine Learning



PUSH-IT

Piloting underground seasonal heat storage in geothermal reservoirs



Furthering understanding and development of extracting critical raw materials from geothermal fluid



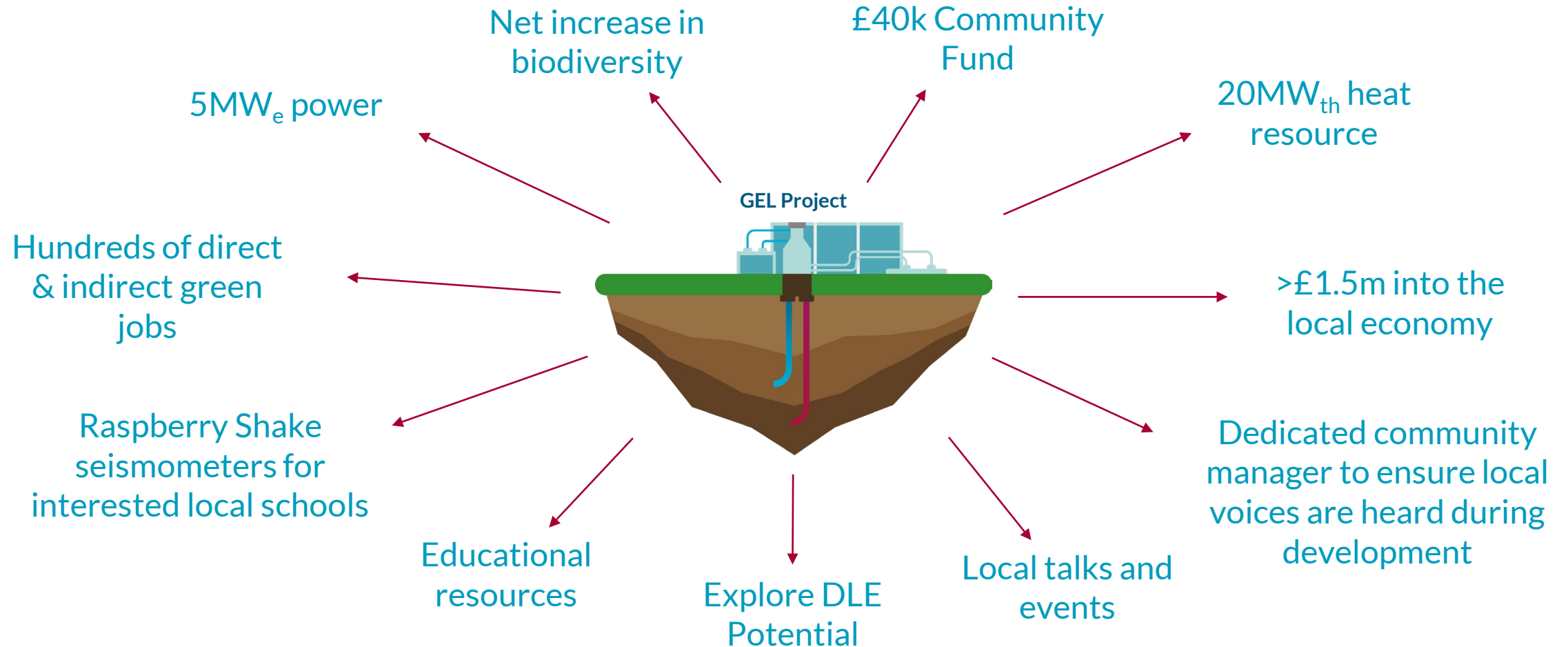
INTEGRATING GEOTHERMAL HEATING AND COOLING NETWORKS IN EUROPE

Increasing uptake of geothermal district heating and cooling networks across Europe.

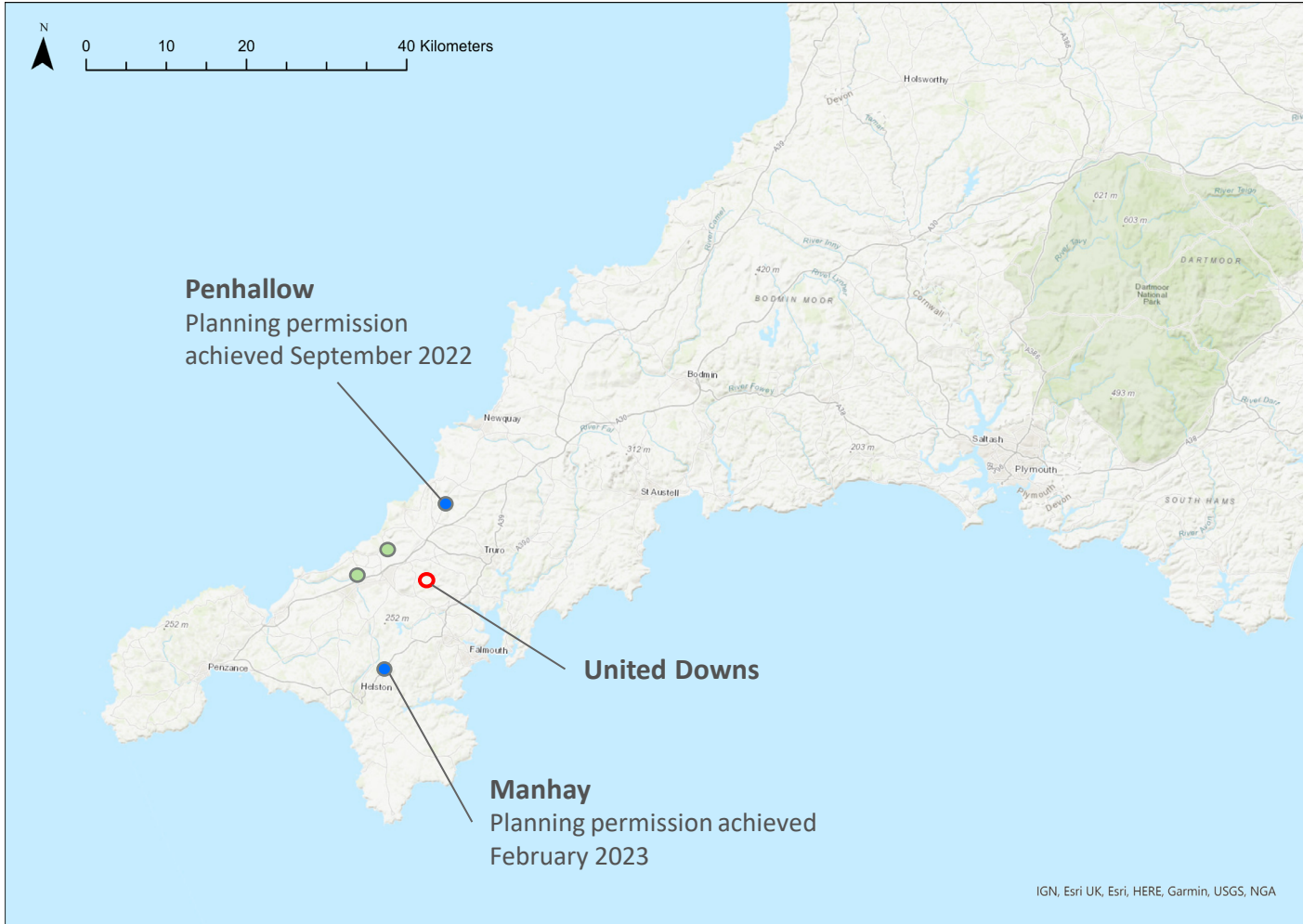
Future Developments

Development Aims

Low-carbon, 24/7 power, heat and lithium



Site Selection



Within drilling distance of a target reservoir

Rig accessibility (major A road)

Access to a grid connection

Away from environmentally sensitive areas

Level working area

Minimal impact on local road network

Relatively low population density

Fresh water supply

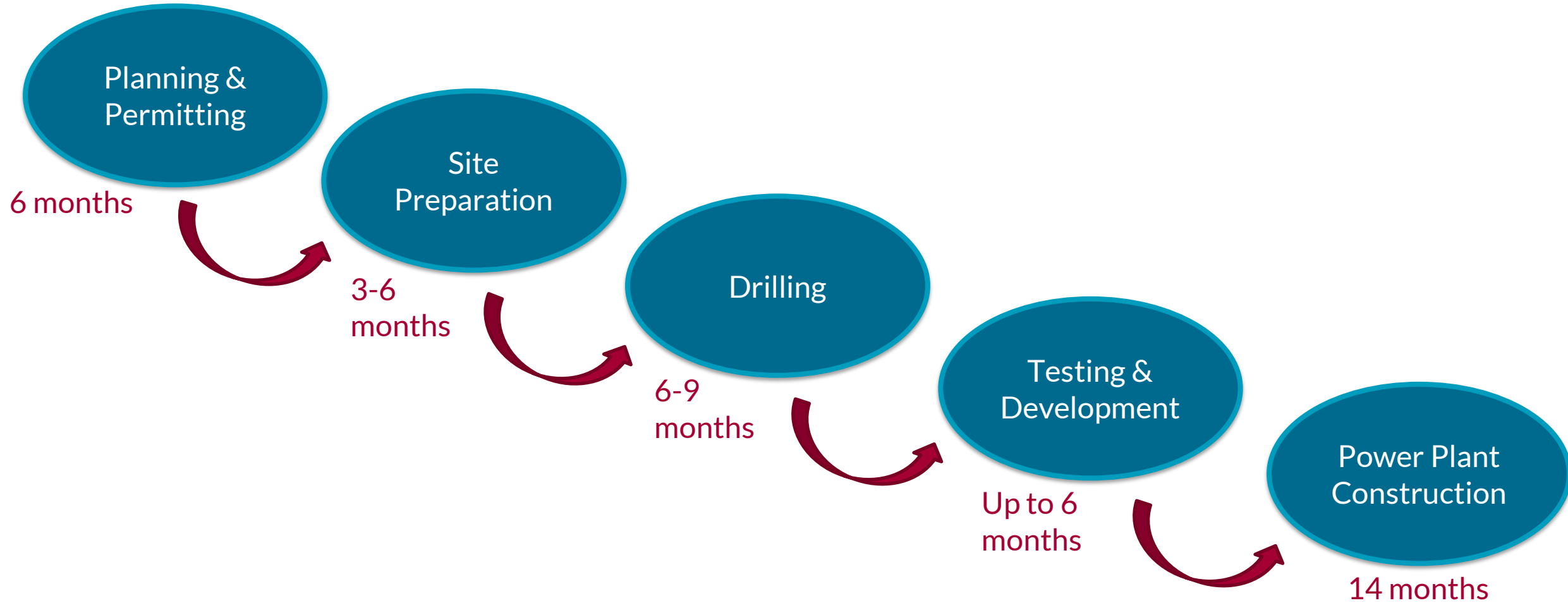
Knowledge of subsurface workings

Proximity to potential heat receptors or scope for developing industries with high heat demand

No existing development plans with conflicts of interest

Landowners who are passionate about acting against climate change

Development Programme



The exact duration of each phase will depend on a number of factors, including the results of surveys during planning and preparation, the geology encountered at depth, and the availability of key equipment.

Support Required at All Levels



HM Government



Department for
Energy Security
& Net Zero



Ministry of Housing,
Communities &
Local Government



one and all *onen hag oll*

**CORNWALL
COUNCIL**

Council
Cabinet

Parish
Councils

Planning &
Development Teams

Local Community



Health & Safety
Executive



Environment
Agency



North Sea
Transition
Authority

Any questions?

For more information, you can also follow us on social media:



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Geothermal Projects



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