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From Geothermal Potential to Investable Projects: What Greet GEO Delivered

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Greet GEO Final Conference,
Zagreb, 29/10/2026

Funded by the European Union

This project has received funding from the European Innovation Council and SMEs Executive Agency green research and innovation programme under grant agreement N° 101180405.

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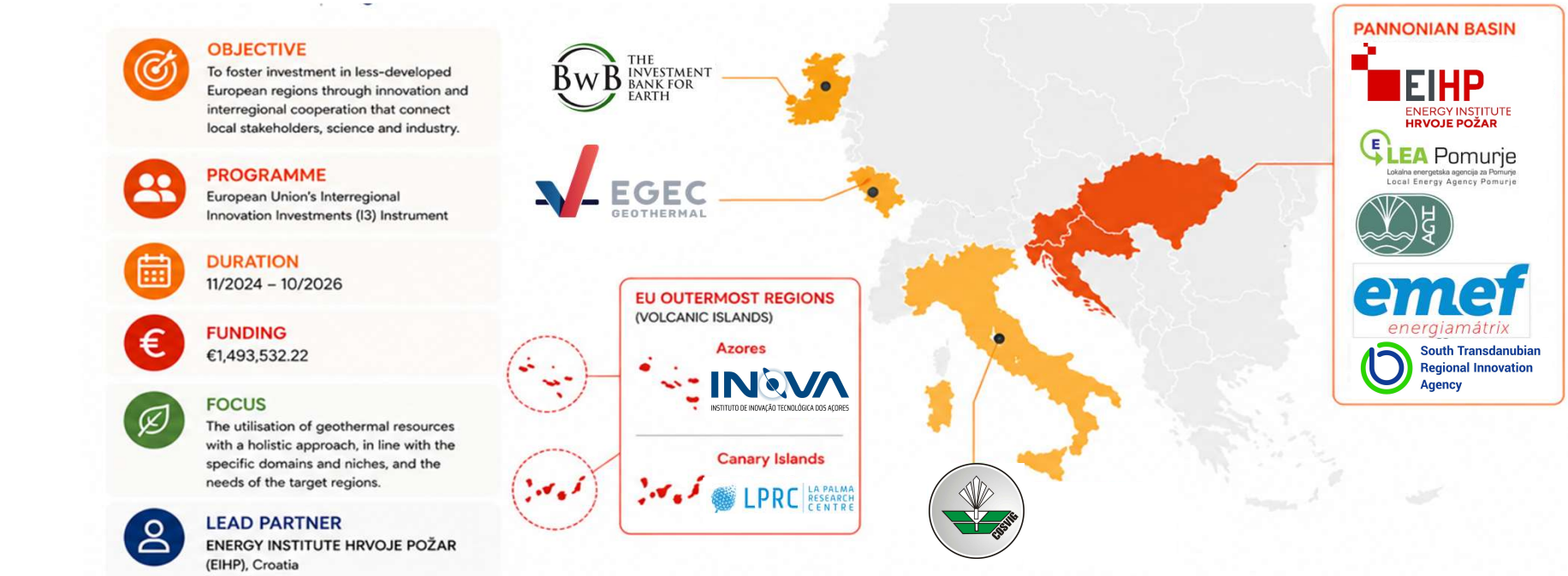
Greet GEO project



PANNONIAN BASIN *(Central Europe)*

1	EIHP	Energy Institute Hrvoje Požar (Croatia)
2	LEA POMURJE	Local Energy Agency for Pomurje (Slovenia)
3	MGE	Magyar Geotermális Egyesület (Hungary)
4	EMEF	EMEF Elso Magyar Energetikai Fejlesztő és Szolgáltató Kft. (Hungary)
5	DDRIÜ	DDRIÜ Nonprofit Kft. (Hungary)

EU OUTERMOST REGIONS *(Volcanic islands)*

6	INOVA	Instituto de Inovação Tecnológica dos Açores (Portugal) – Azores
7	LPRC	La Palma Research Centre SL (Spain) – Canary Islands

OTHER PARTNER LOCATIONS

8	EGEC	European Geothermal Energy Council (Belgium)
9	COSVIG	Consorzio per lo Sviluppo delle Aree Geotermiche (Italy)
10	BwB	BwB Connect CLG (Ireland)

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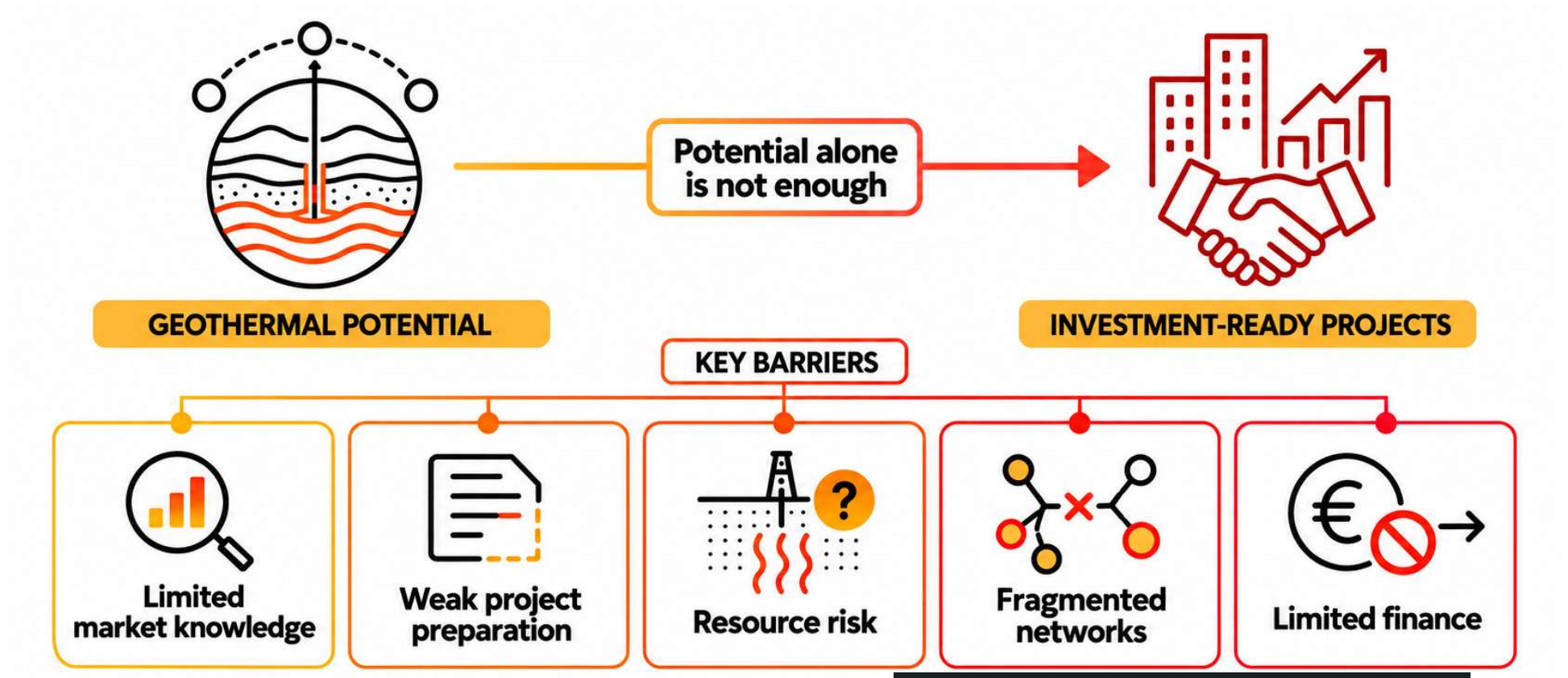
Geothermal potential is only the starting point



https://eihp.hr/en/projekti/greet-geo/

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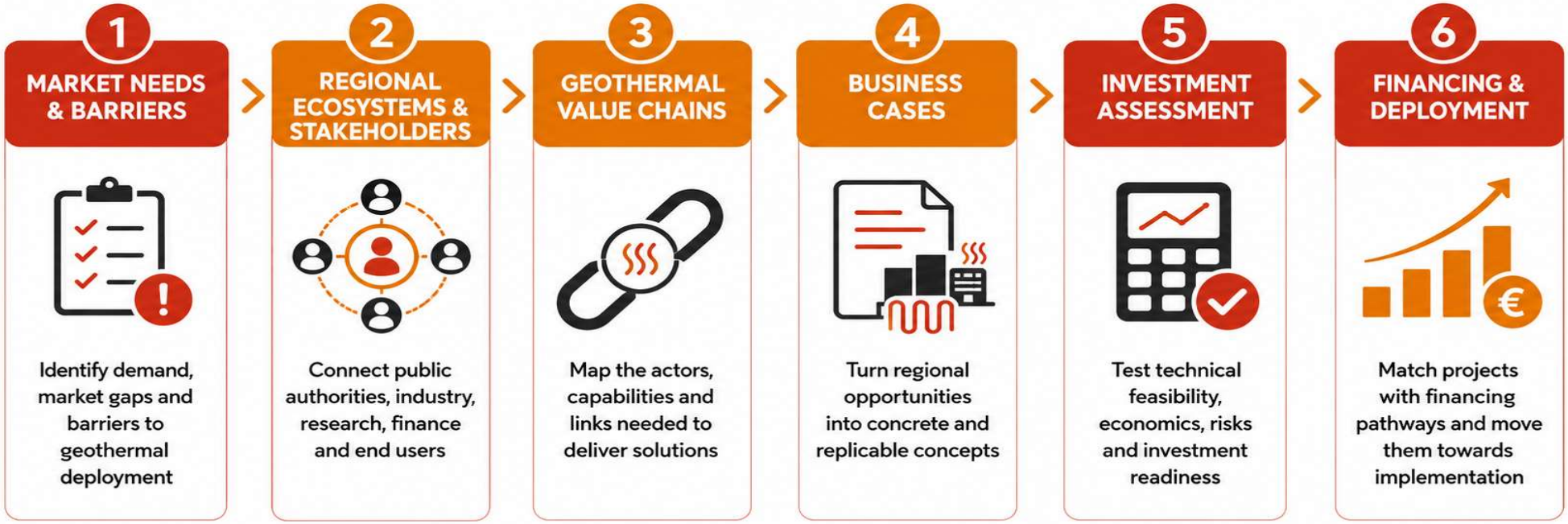
From regional potential to market deployment



The real challenge is not identifying potential — it is making it investable

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Greet GEO in numbers

533
mapped stakeholders

128
survey organisations

27
EU synergies

6
value chains

20
concept-level business cases

4
S3-based roadmaps

15
policy measures

5
investment action plans

34
events

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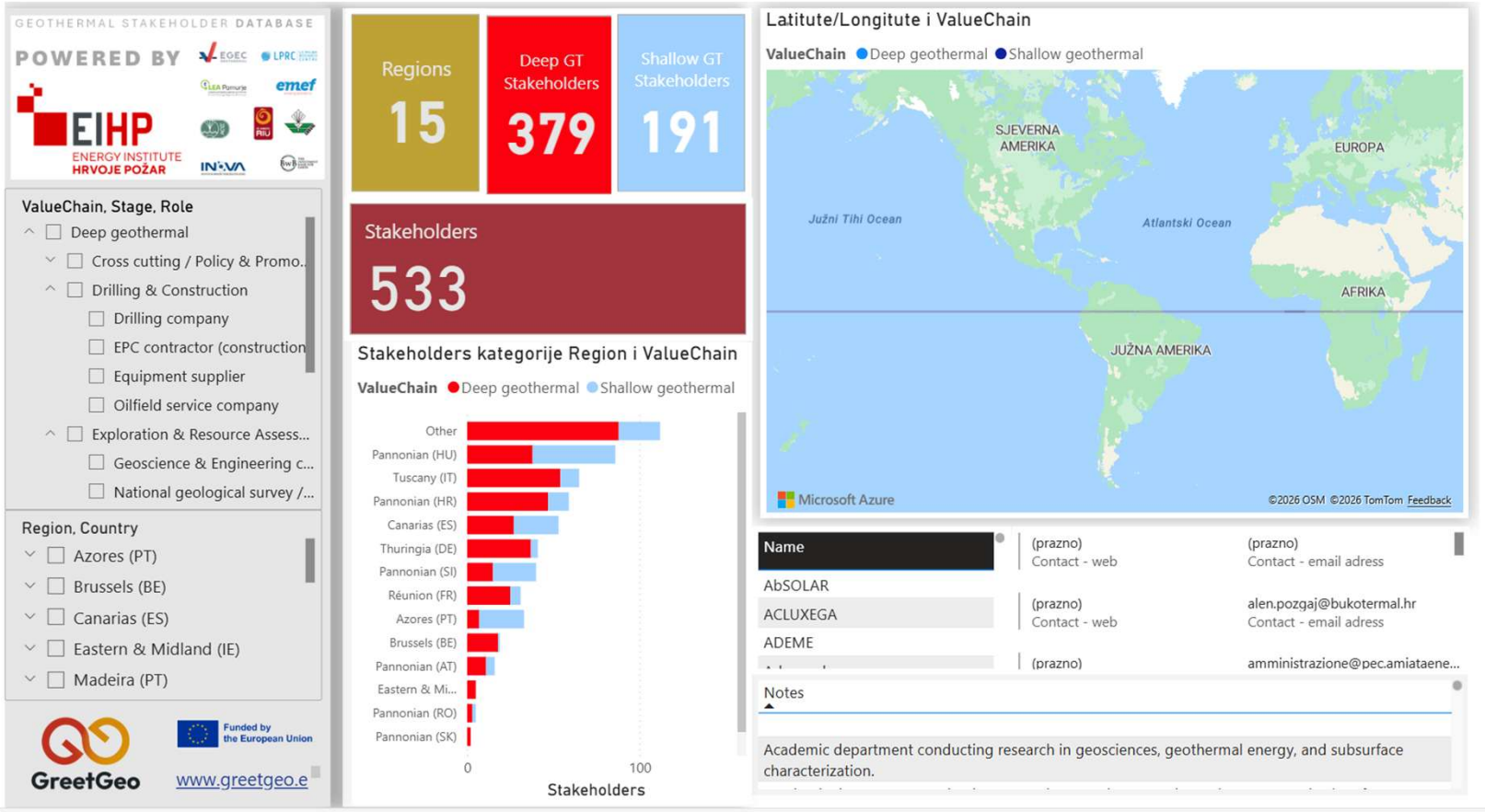
Market analysis and database

SURVEY
128
stakeholders

- Strong interest in cross-regional cooperation
- A need for de-risking and simpler rules
- Gaps in skills



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https://greetgeo.eu/geothermal-database/

https://eihp.hr/en/projekti/greet-geo/

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Six geothermal value chains
20 Business cases

- large infrastructure projects
- high capital costs
- long development cycles

Deep geothermal value chains



A. Geothermal power and upstream



B. Thermal uses and District Heating and cooling



C. Geothermal brine valorisation



D. Agrifood & industrial applications

Shallow geothermal value chains



1. Urban Geothermal District Energy Infrastructure



2. Industrial Ground Source Heat Pumps

- decentralised
- buildings
- local energy systems

The project looks beyond electricity — covering the wider geothermal economy.

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Four S3-based roadmaps

DEEP GEOTHERMAL

01.

CANARY ISLANDS

outlook to 2035

From exploration to a bankable pillar: de-risking deep geothermal and preparing a first pilot investment case.

02.

TUSCANY REGION

outlook to 2047

Making Tuscany Europe's leading ecosystem for sustainable geothermal innovation.

SHALLOW GEOTHERMAL

03.

CROATIA

outlook to 2030

Turning shallow geothermal from a fragmented niche into an investment-ready market for heating and cooling.

04.

AZORES

outlook to 2035

Europe's living laboratory for shallow geothermal on volcanic islands.

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15 policy measures to make geothermal projects bankable

MAKE PROJECTS BANKABLE (measures 01, 02, 06, 11)

- Project preparation support
- Risk-sharing and guarantees
- Demonstration projects
- Finance for SMEs

SIMPLIFY THE RULES AND PLAN AHEAD (measures 03, 04, 05)

- One-stop shops
- Coordinated permitting
- Geothermal in regional planning

BUILD PEOPLE AND ACCEPTANCE (measures 09, 10, 12, 13)

- SME advice and support
- Strong intermediaries
- Skills and certification
- Public acceptance

SHARE KNOWLEDGE AND INNOVATE TOGETHER (measures 07, 08, 14, 15)

- Research–industry links
- Cascade-use solutions
- European S3 partnership
- Shared data platforms

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De-risking action plan

BARRIERS

- exploration and geological uncertainty
- high upfront cost
- long development
- uncertain revenue
- permitting
- limited capacity
- access to finance

RESPONSES

- better resource information
- staged development
- technical assistance
- public risk-sharing and guarantees
- permitting coordination

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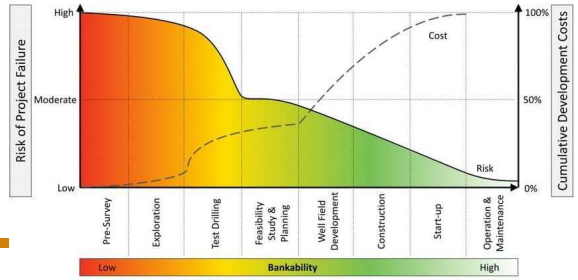
Financing is progressive



VALIDATE

- Resource
- Technical concept

- Public grants
- Technical assistance

→

PREPARE

- Feasibility
- Business model

- Project-development support

→

STRUCTURE

- Offtake
- Risk allocation

- Blended finance
- Guarantees

→

INVEST

- Bankable project
- Implementation

- Private capital
- Debt / equity

The appropriate financing pathway depends on the certainty of resources, project maturity, revenue structure, and promoters' interests.

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Five opportunities were taken one step further

RENKOVCI

Slovenia

Reuse existing well for greenhouse heating

€0.3–0.5m

PREŠOV–ĽUBOTICE

Slovakia

Deep geothermal CHP+ DHS

€95m Phase 1

SÁTORALJAÚJHELY

Hungary

Geothermal heat for the existing district heating

€12–13.5m

TOPUSKO

Croatia

Renew and expand the existing geothermal DHS

€10.03m

FURNAS

Azores

Extend the use of thermal water for hotel heating

Costing in progress

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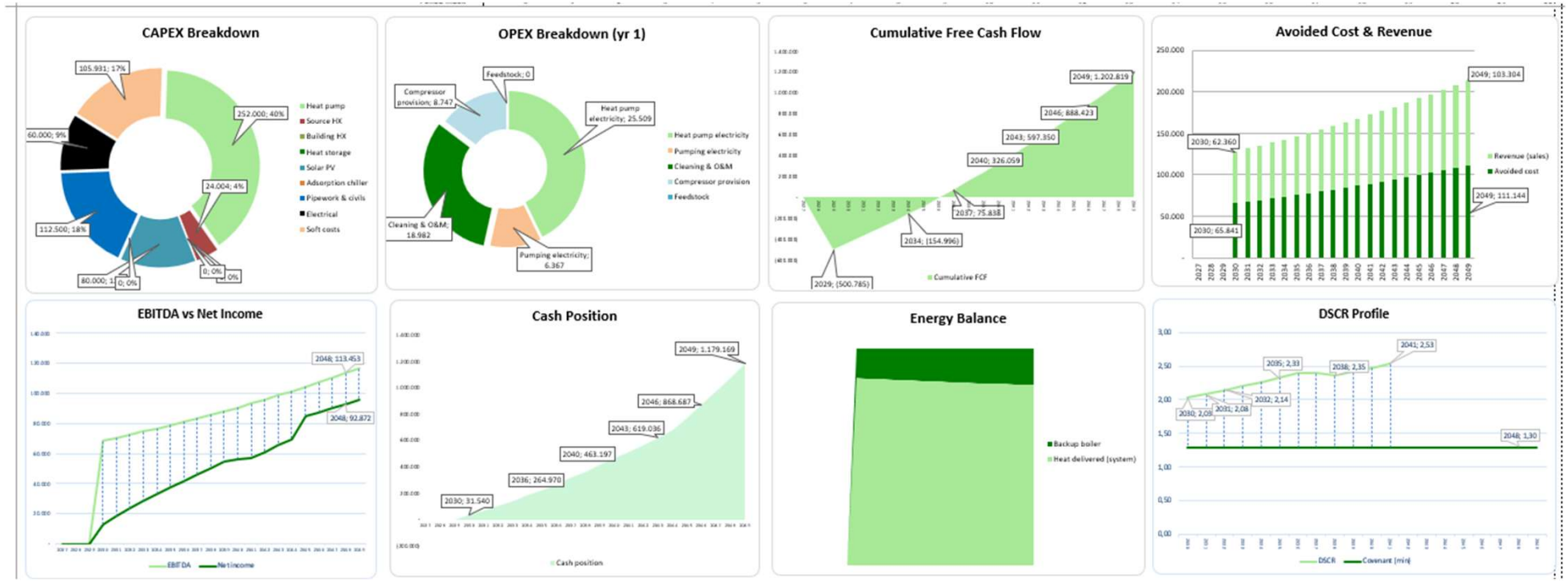
Waste Heat Financial Model



Available for download on the Greet GEO website (until October 2030), and on EIHP's website

https://greetgeo.eu/resources/

https://eihp.hr/en/projekti/greet-geo/

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Three GREET GEO lessons

01.

DEMAND-LED DEVELOPMENT

Start with anchor heat users and shape the geothermal solution around real demand.

02.

CROSS-REGIONAL DELIVERY

Connect regional organisations with experienced European suppliers, developers and specialists.

03.

PORTFOLIO THINKING

Standardise and aggregate smaller projects to create scale for delivery and finance.

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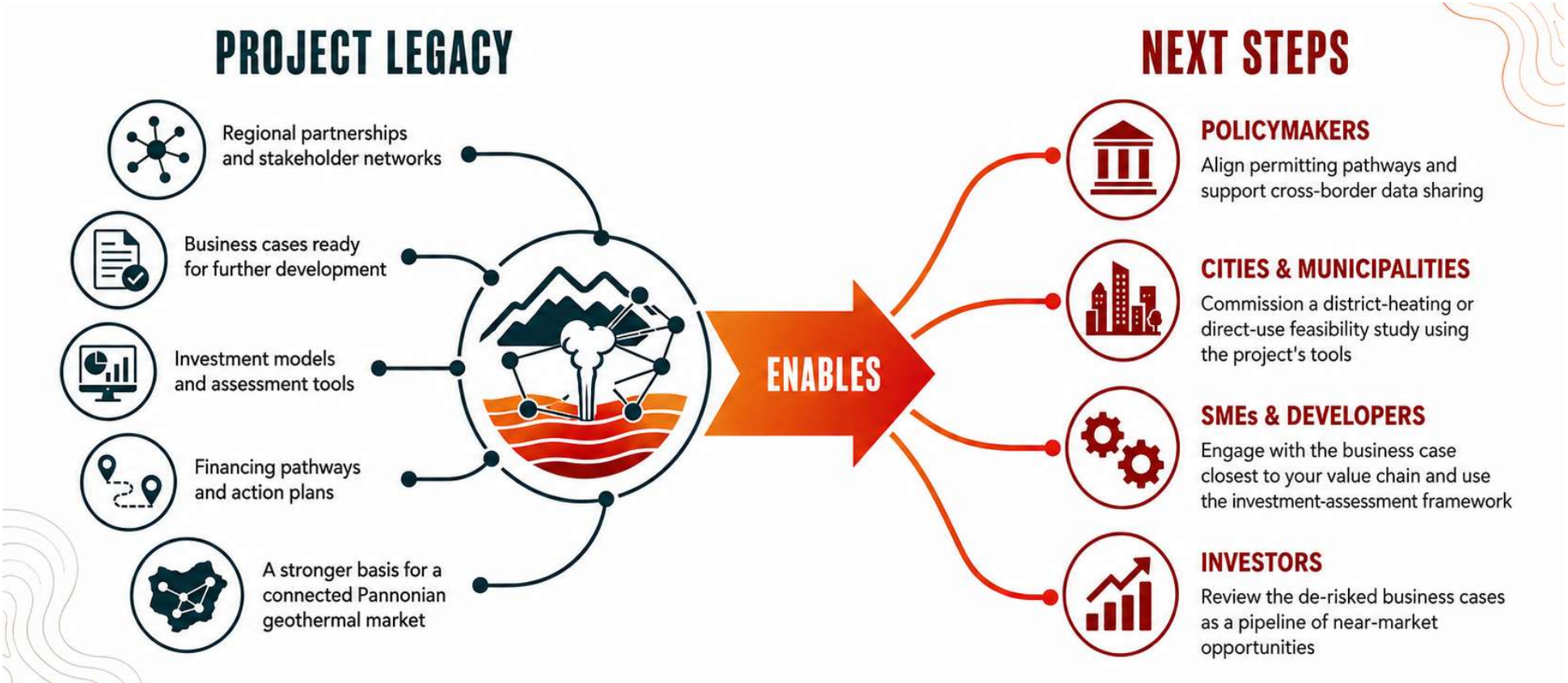
From project results to regional deployment



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How to take this forward?

- **Join us:** the Pannonian Basin Geothermal Alliance and the Pannonian Basin Decarbonisation Hub are open to new members. Talk to us today (Tamás Solymosi, Sanja Živković)
- **Find everything:** database, model and reports at greetgeo.eu (until 31 October 2030), on the I3 Project Results platform and on partners' websites

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Geothermal potential becomes an investment when knowledge, partners and finance come together.

Thank you!

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www.greetgeo.eu

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