



GEOTHERMICA

Europe / Iceland Update

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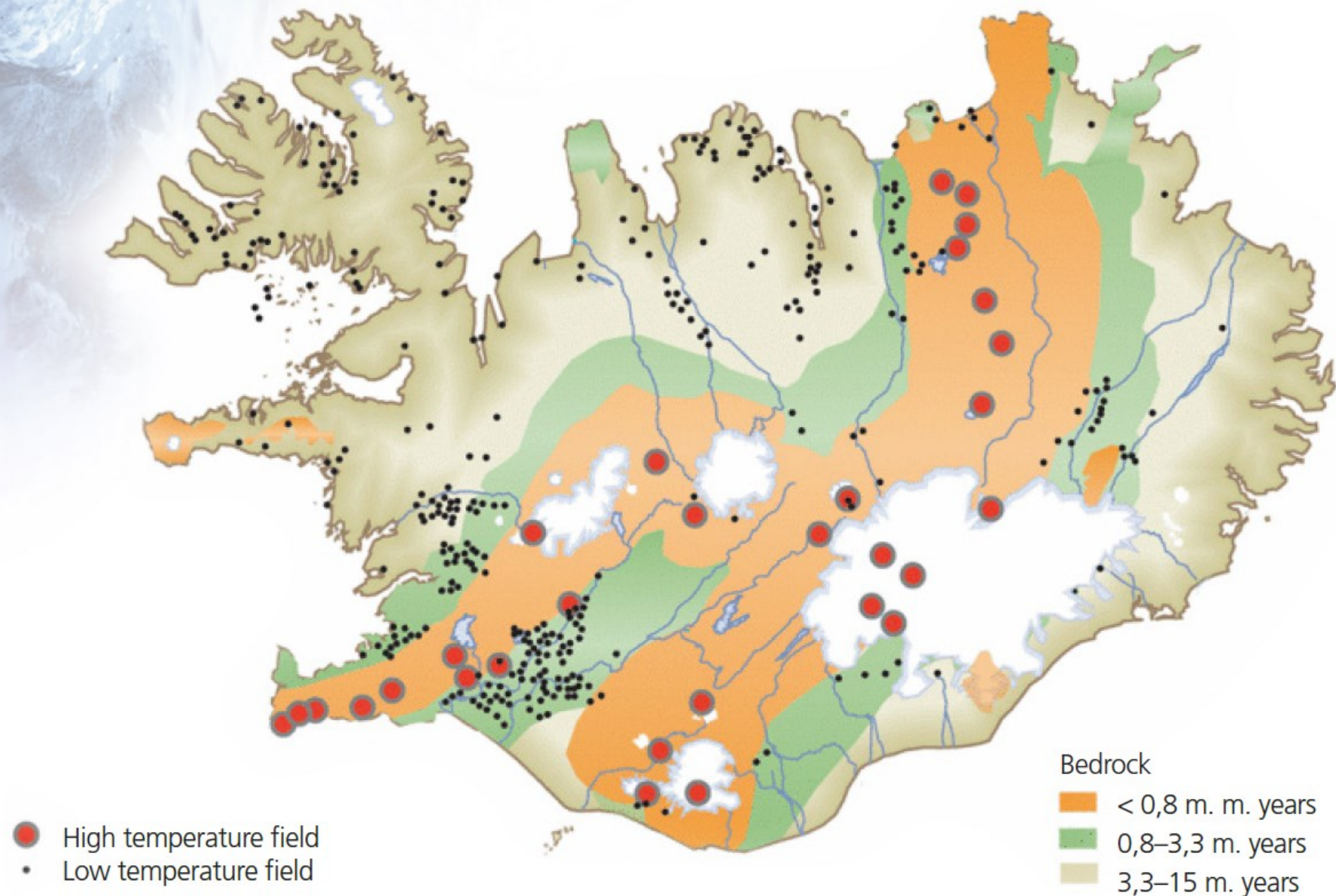
Central America Geothermal Workshop
11th and 12th November 2019
San José de Costa Rica

A photograph of a geothermal wellhead in Iceland. The wellhead is a complex of metal pipes and valves, with a large valve wheel visible. A thick plume of white steam is being released from one of the pipes, rising into the air. The background shows a rugged, mountainous landscape with patches of snow and sparse vegetation under a clear blue sky.

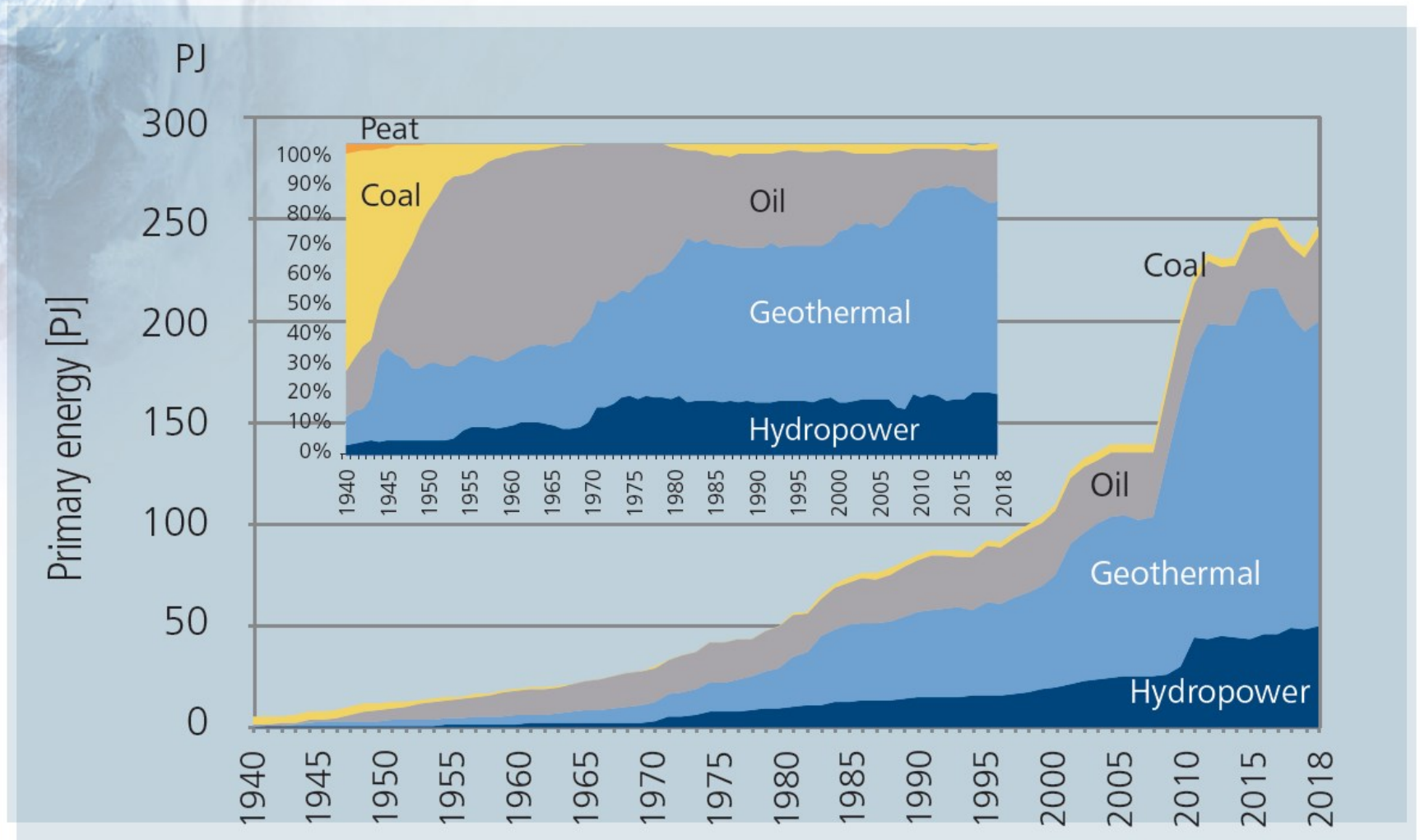
Geothermal Utilization in Iceland

Short status update

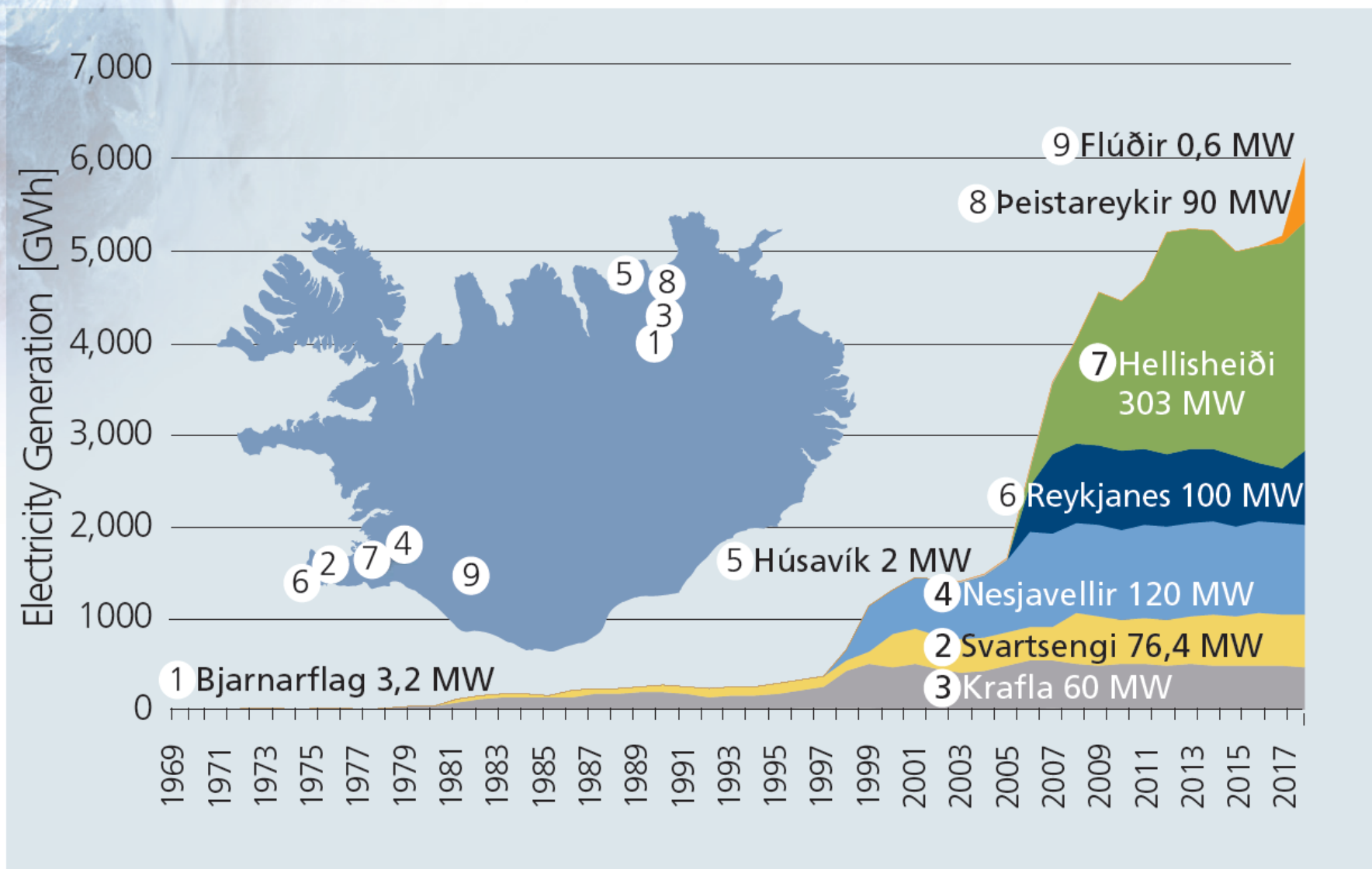
Geothermal fields



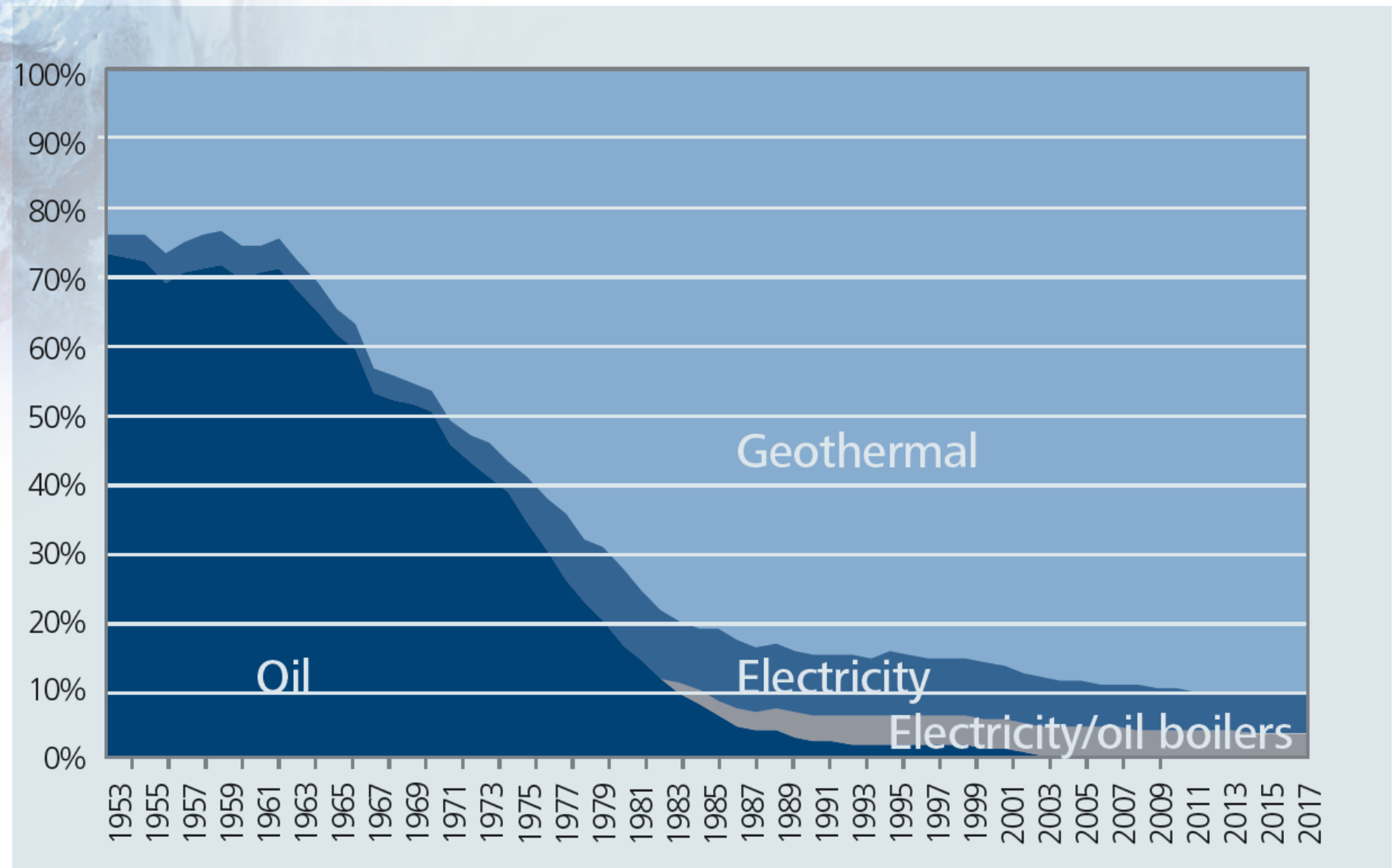
Primary energy use in Iceland 1940–2018



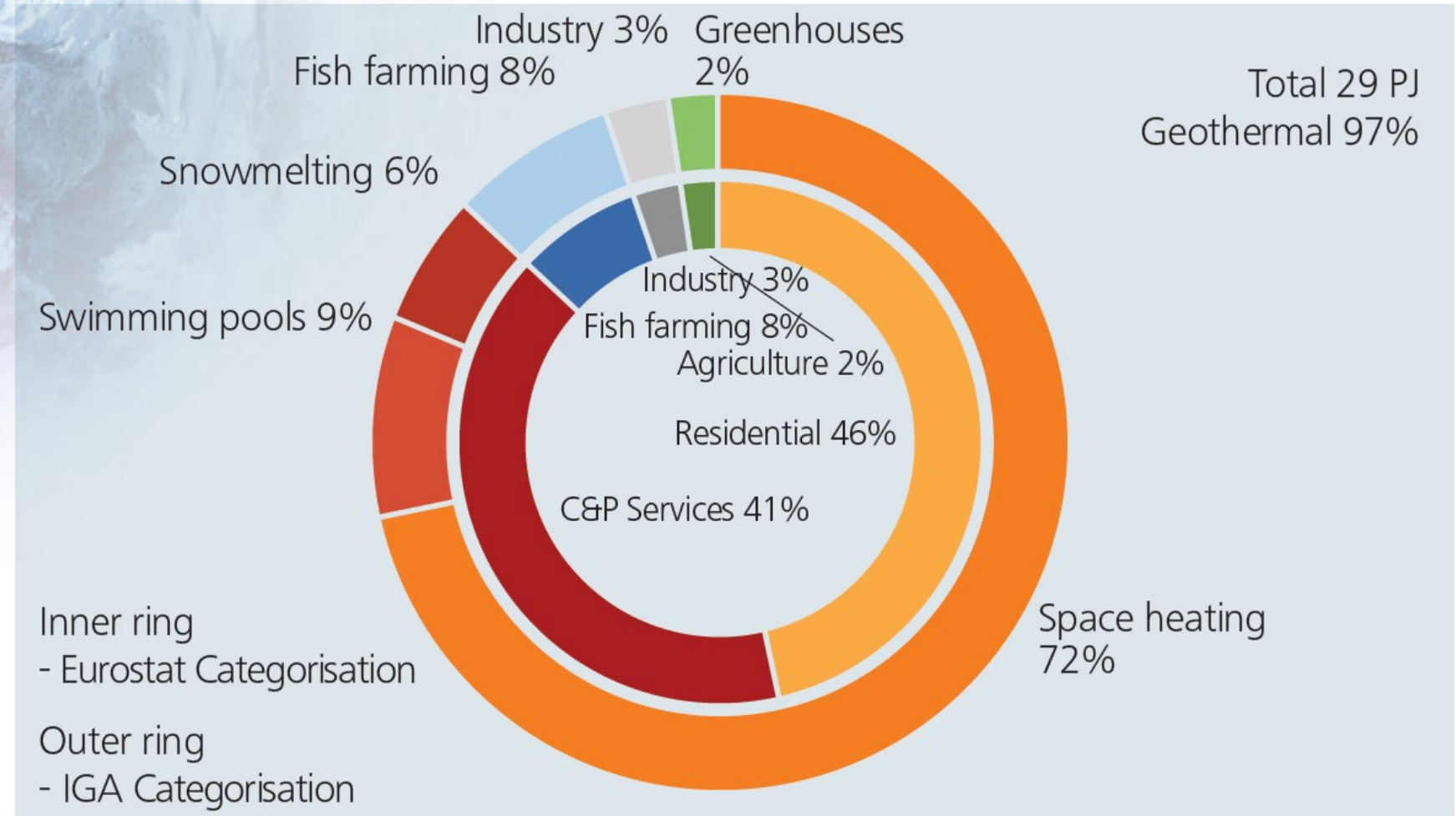
Electricity generation of geothermal power plants 1969-2018



Space heating by energy source



Final Heat Use 2017



Source: OS-2018-T008-02



GEO THERMICA

Accelerating Geothermal Development Globally

The project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 731117



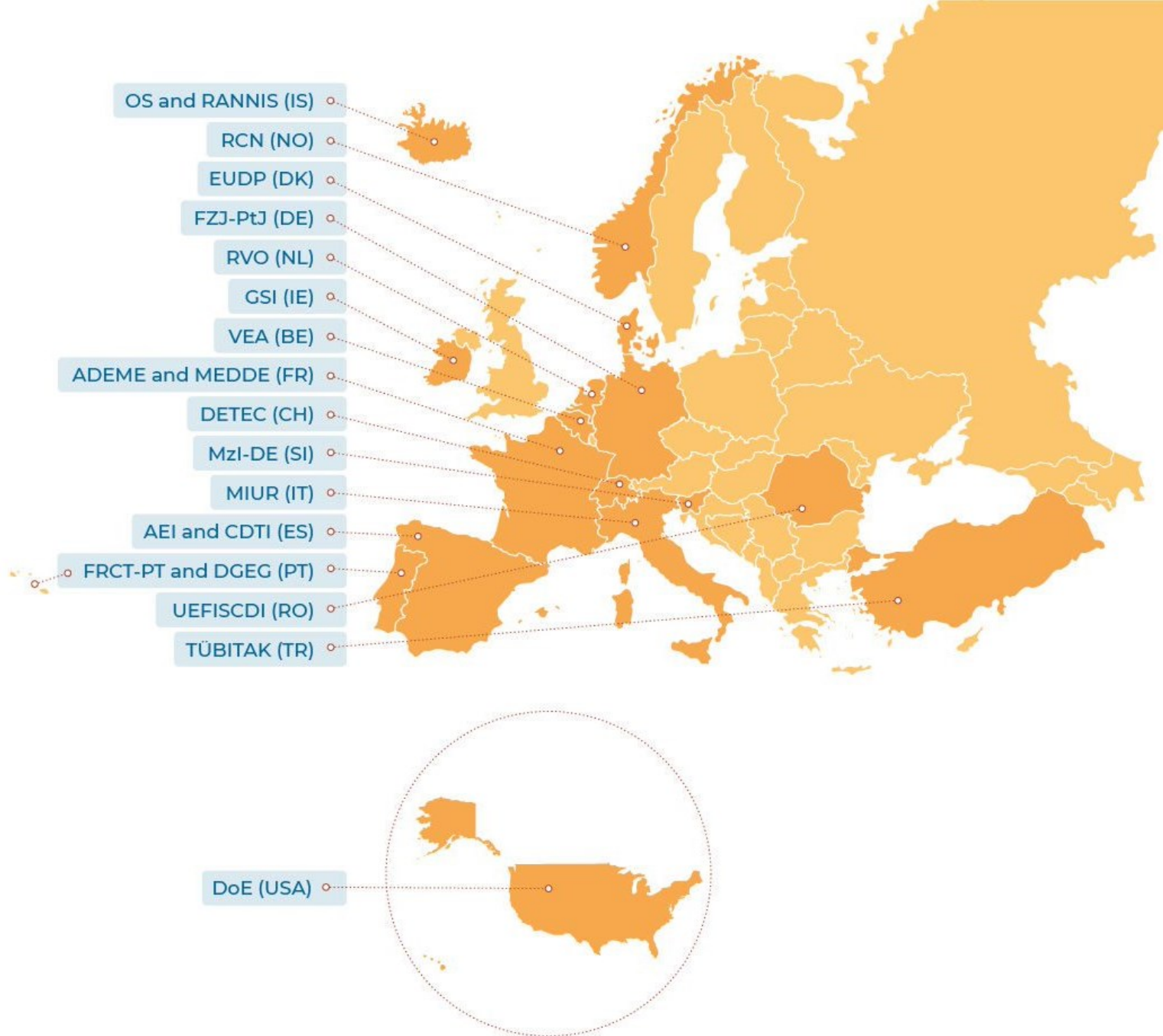
GEOTHERMICA – state of play:

Coordinator: Iceland (IS)

Countries/regions participating: BE, CH, DE, DK, ES, FR, IE, IS, IT, NL, PT, RO, SI, TR, USA & NO

20 funding organizations from 16 countries

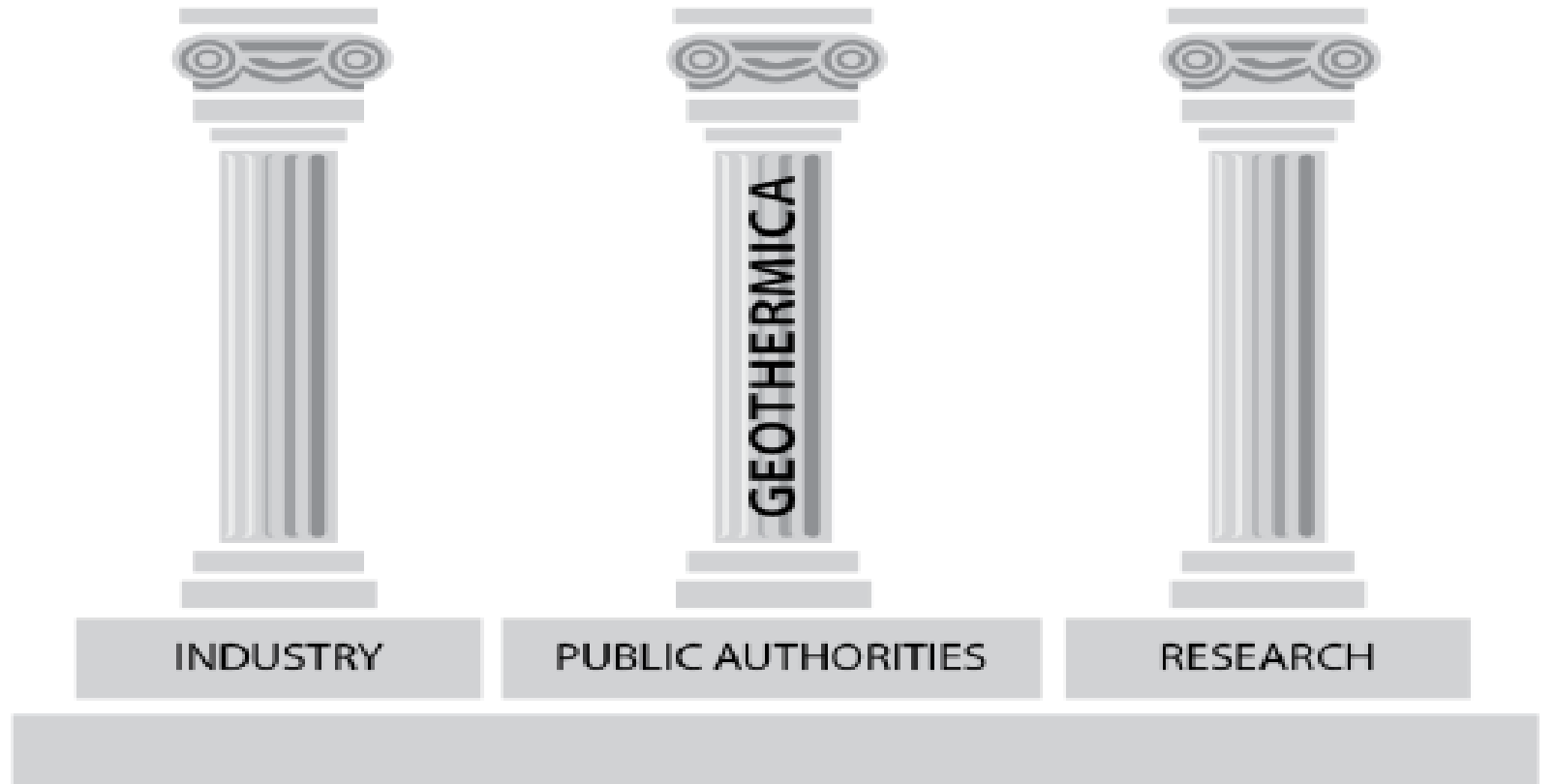
EC currently supports GEOTHERMICA as an ERA-NET Co-fund: 2017–2021



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TOWARDS A STRONGER EUROPEAN GEOTHERMAL SECTOR





What is GEOTHERMICA?

GEOTHERMICA's objective is to combine the financial resources and know-how of 20 geothermal energy research and innovation programme owners and managers from 16 countries and their regions.

GEOTHERMICA has launched joint projects that demonstrate and validate novel concepts of geothermal energy deployment within the energy system, and that identify paths to commercial large-scale implementation.



What will GEOTHERMICA do?

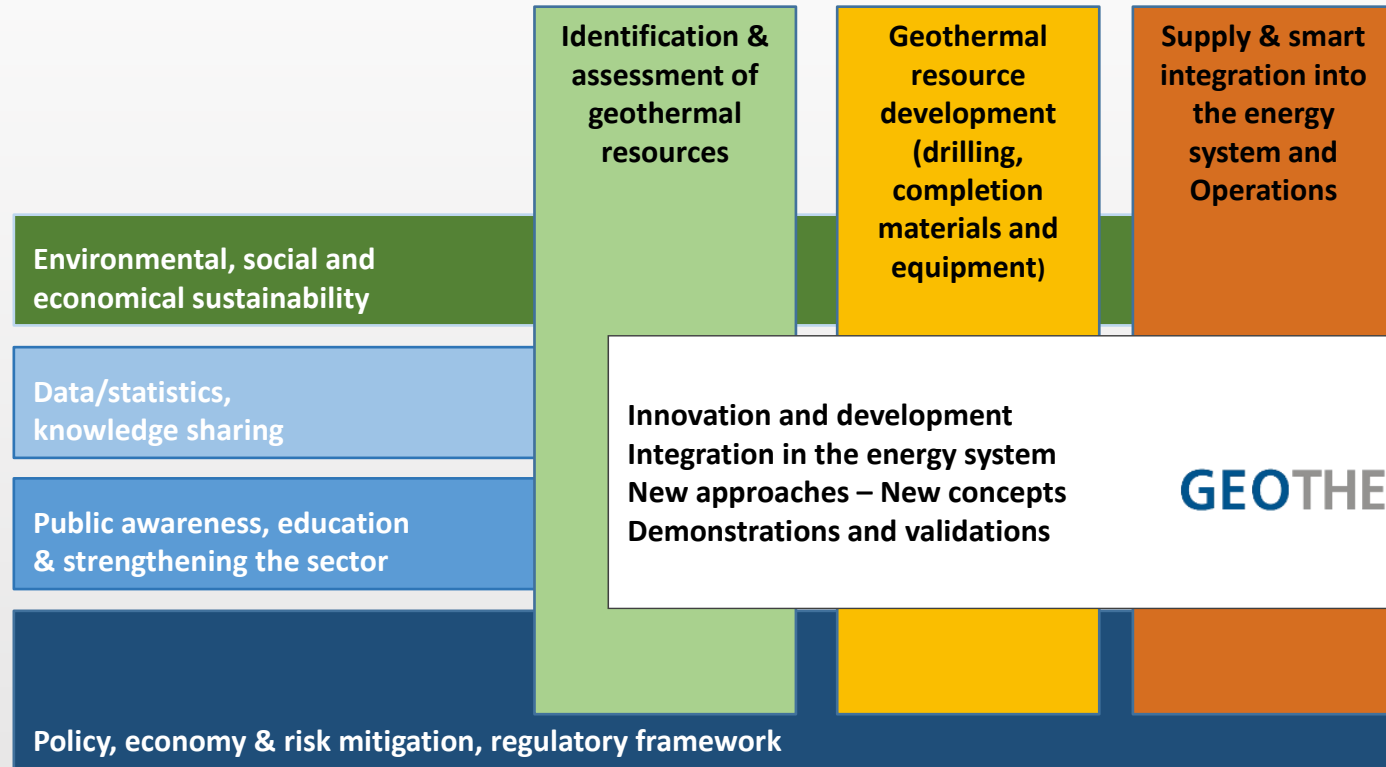
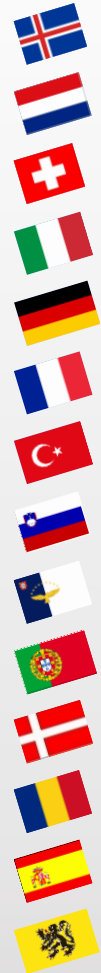
1) GEOTHERMICA has launched joint projects that demonstrate and validate novel concepts of geothermal energy deployment within the energy system, and that identify paths to commercial large-scale implementation.

2) Continue the joint collaboration work from previous Geothermal ERA NET project and other additional activities

Joint Actions (OpERA, JoProShow etc...)

Information exchange
Work workshops
Policy work...

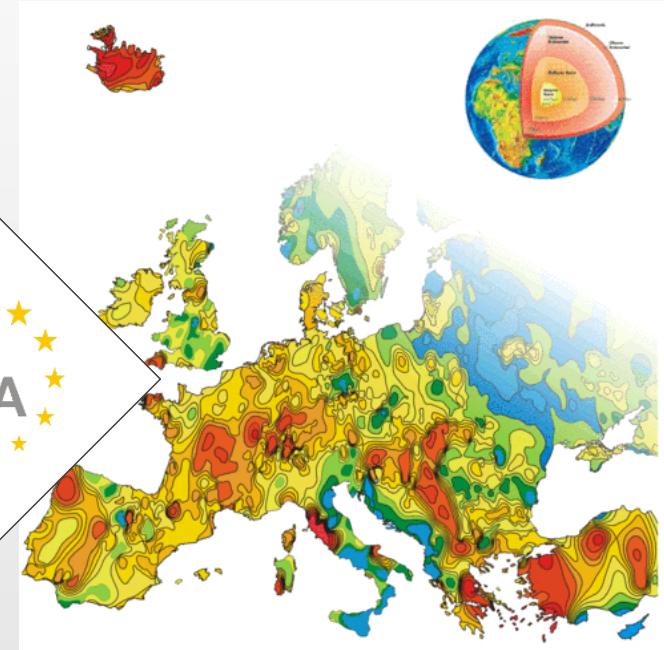
Thematic structure GEOTHERMICA – ERA NET Cofund



National commitment
~16M€

EC "top up"
~7M€

Estimated industry commitment
~20M€



Cofund call results

- Heat storage,
- Managing induced seismicity,
- EGS drilling and completion,
- Production operations,
- Composite casing
- Integrated applications of geothermal heat.

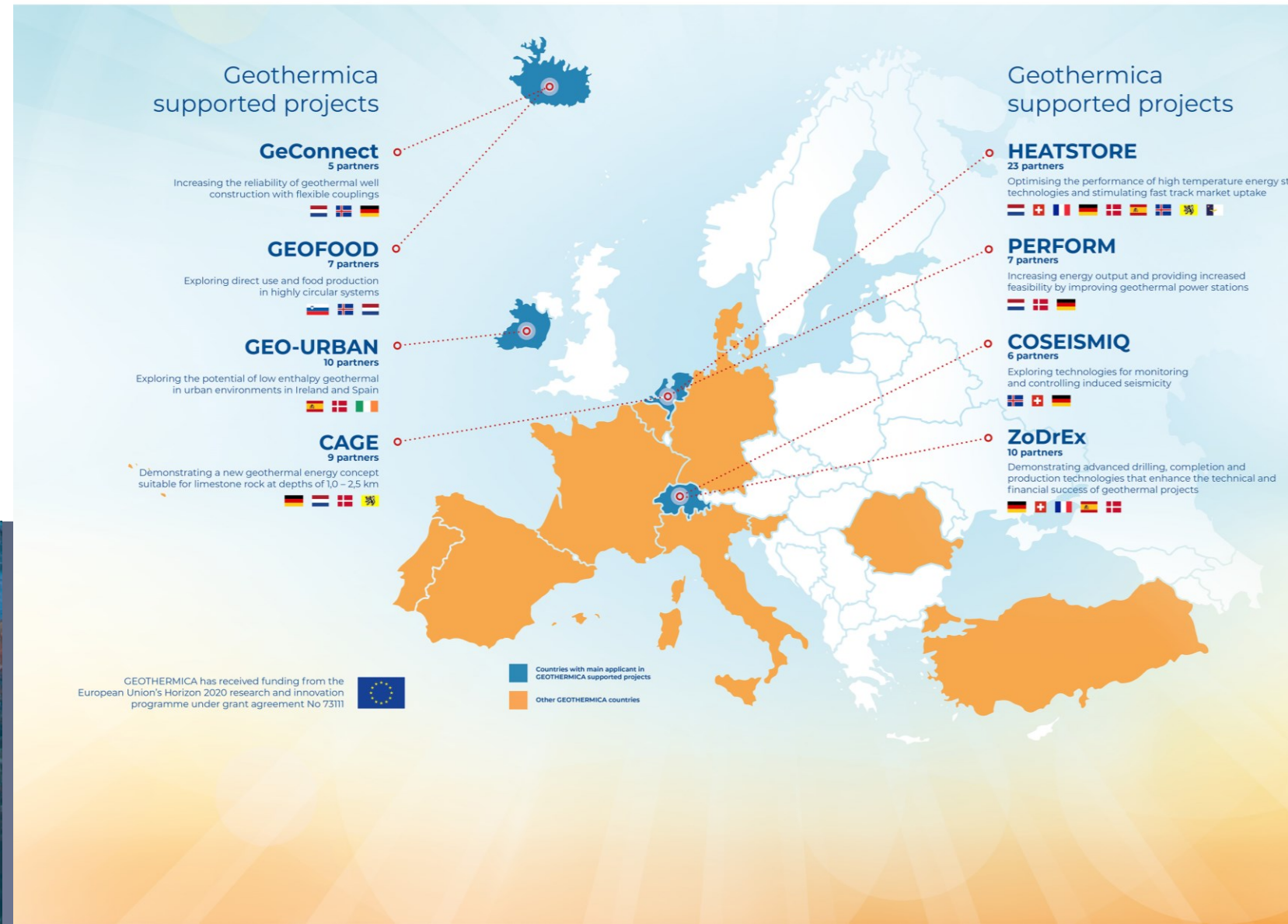
Financing:

	Geothermica Financing	Total Cost
CAGE	5.834.888 €	13.457.698 €
COSEISMIQ	1.148.958 €	2.479.458 €
GeoConnect	889.891 €	1.196.126 €
GEOFOOD	1.249.204 €	1.749.656 €
GEO-URBAN	539.275 €	737.233 €
HEATSTORE	8.305.268 €	16.265.971 €
PERFORM	2.236.825 €	3.011.717 €
ZoDrEx	2.860.282 €	4.890.706 €
Total	23.064.591 €	43.788.565 €

Accelerating
the development
of geothermal energy
globally



www.geothermica.eu



GEOTHERMICA

Resources required to operate GEOTHERMICA over 5 years:

From Partners: 120 person months + € 1.8 mln cash/cash-equivalent; partners account for time and operational budget spent, and GEOTHERMICA re-balances internally

In addition from EC: a “unit cost contribution” for “additional” activities

Achievements:

- **Set-up of pan-European platforms for geothermal topics of interest**
- **Coordination of R&I programming resulting in:**
- **Call 1 with a total investment: € 43.8 mln (2017-2021)**
 - Of which GEOTHERMICA (incl. EC): € 23.0 mln
 - Top 5 publ. investors: NL, EC, CH, D, IS
- **Call 2 pre-proposals already in (2019-2023);** fully accounts for the 8 “Research and Innovation Activities” and 2 “Non-Technical Barriers and Enablers” as identified in the Deep Geothermal Implementation Plan (DG-IP)

OPEN FOR ADDITIONAL COUNTRIES TO PARTICIPATE

GEOTHERMICA 2 CALL - FIRST RESULTS

- Altogether **17 applications** were submitted involving 11 partner countries.
- Total amount of GEOTHERMICA financing asked for is **€38million** with a total cost of €64million.

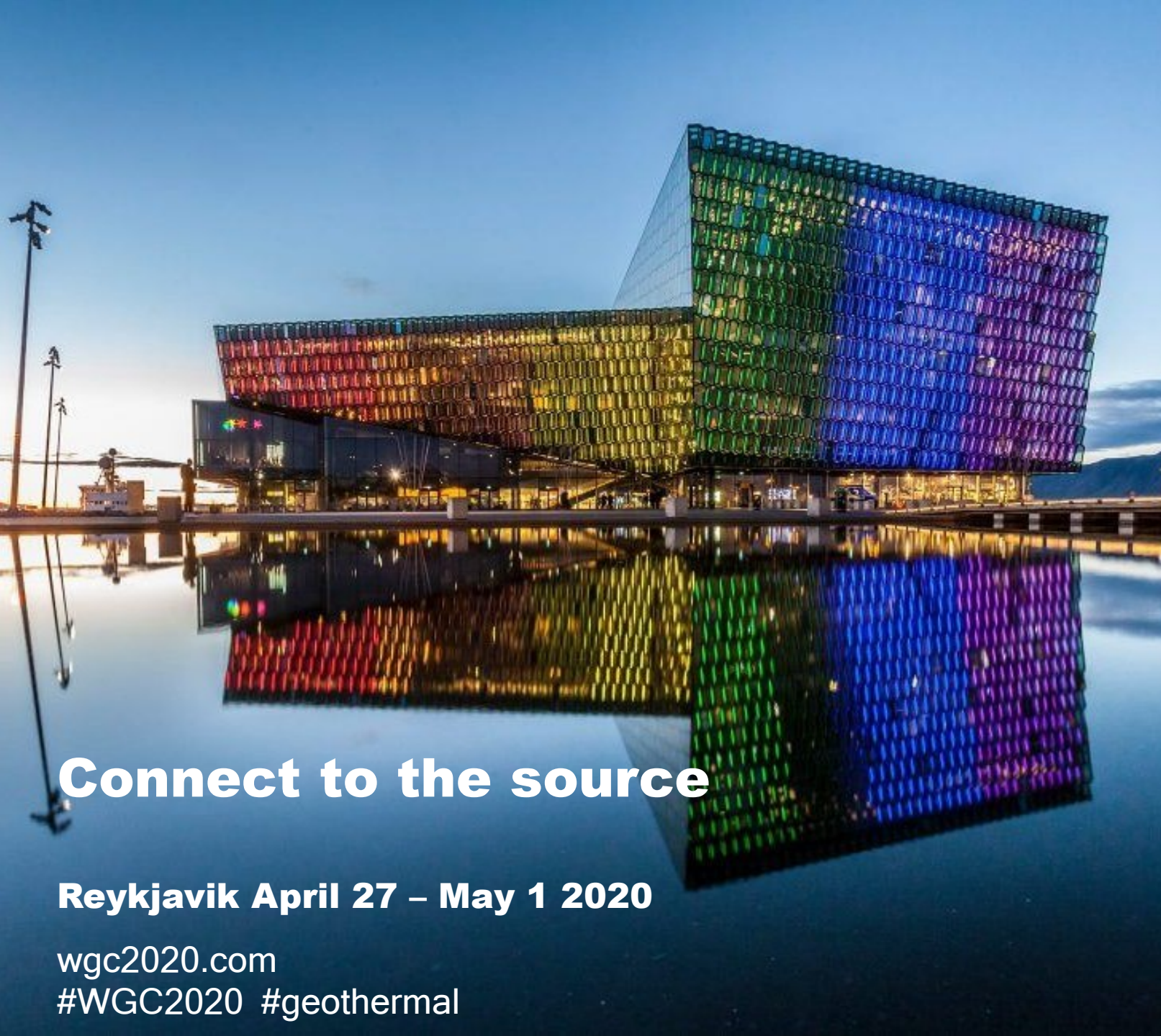
Country with Main Applicants	# Main Applicant proposal	Tot # of proposals main and co-applicants
United States	5	7
Germany	3	13
Netherlands	3	6
Turkey	2	3
Iceland	1	3
Romania	1	2
Switzerland	1	6
Spain	1	2

Timeline / way forward





Further info
<http://www.geothermica.eu>



Connect to the source

Reykjavik April 27 – May 1 2020

wgc2020.com

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