EGEC ANNUAL REPORT

2024





Place du Champ de Mars, 2, 5th floor 1050 Brussels E: com@egec.org T: +32 2 318 40 65

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A WORD FROM EGEC'S PRESIDENT

"Central to our mission is the call for a comprehensive European Geothermal Strategy—one designed to dismantle regulatory and financial barriers, establish clear objectives, and expedite the expansion of geothermal energy across Europe. "



Dear EGEC members and valued readers,

It is with immense pride that I introduce the ninth edition of EGEC's Annual Report—a celebration of another remarkable year of progress and achievements for our association, now boasting over 230 dedicated members. This report not only highlights our collective milestones but also sets the stage for the ambitious path ahead as we continue championing the geothermal decade.

Central to our mission is the call for a comprehensive European Geothermal Strategy —one designed to dismantle regulatory and financial barriers, establish clear objectives, and expedite the expansion of geothermal energy across Europe. Reflecting on 2024, it becomes clear that it was a watershed year for the geothermal sector. Over the past twelve months, the industry has experienced notable growth and increasing recognition, driven by transformative initiatives and pivotal legislative advances both within Europe and beyond.

The year commenced with an inspiring victory in January, as the European Parliament delivered unprecedented support for geothermal energy. An overwhelming majority of MEPs endorsed a resolution urging the European Commission to draft a European Geothermal Strategy and create an industrial alliance—critical steps to galvanize investment and innovation. This set an optimistic tone for the months ahead.

A WORD FROM EGEC'S PRESIDENT

EU Building on this momentum, the Committee of the Regions and the European Economic and Social Committee adopted positive opinions on the role of geothermal energy. Then in December, Energy Ministers adopted EU Council conclusions geothermal energy. On the political level, there is recognition of the urgent need for robust financial mechanisms and strategic public funding to attract private investment.

Globally, December brought further affirmation through the International Energy Agency's report, 'The Future of Geothermal Energy', which calls on governments worldwide to prioritize geothermal energy with targeted policies and decisive actions.

At EGEC, our focus remains clear and steadfast. We are committed to advancing comprehensive EU and national geothermal strategies, fostering financial risk mitigation frameworks, and forging key alliances to ensure the sector's sustainable growth and prominence.

In 2024, we also proudly unveiled the EGEC GeothermalNOW Manifesto—a visionary roadmap providing policymakers with actionable guidelines and setting ambitious targets to be achieved by 2040. As we step into the future, let us embrace the opportunities and challenges before us with resilience and resolve, reaffirming our shared commitment to making geothermal energy a cornerstone of Europe's clean energy transition!

Thank you for your unwavering support and dedication. A heartfelt note of appreciation goes to the EGEC secretariat in Brussels for their outstanding work in bringing this report to life.

Enjoy the read!

MIKLOS ANTICS EGEC PRESIDENT

ABOUT EGEC

REPRESENTING THE EUROPEAN GEOTHERMAL SECTOR

EGEC attracts more than 30 new members in 2024

The European Geothermal Energy Council (EGEC) is a not-for-profit organisation promoting all aspects of the geothermal industry. Founded in 1998, its objective is to facilitate awareness and expansion of geothermal applications across Europe by shaping policy, improving investment conditions and steering research. EGEC has over 230 members from 30 countries, ranging from developers to equipment manufacturers, energy providers, national associations, consultants, research centres, geological surveys, government agencies, departments and public authorities. This allows us to represent the entire geothermal sector.

Geothermal energy at Stockholm Airport plays a key role in cutting operating costs and enhancing sustainability.

MISSION & VALUES

Founded with the mission to be the voice of the geothermal sector in Europe and to promote geothermal energy as a key player in the transition to a sustainable and carbon-neutral energy future in Europe, EGEC has consistently championed policy advocacy, communications, innovation and research, and cross-industry collaboration. The influx of new members, which include leading companies, research institutions, and public agencies, highlights the sector's dynamic expansion and growing recognition of geothermal's role in addressing the energy and climate challenges of our time.

EGEC's mission is to bring together European geothermal market players to make geothermal energy a full-fledged competitor to traditional energy sources. This includes:

- Developing sound policy frameworks and financial instruments,
- Increasing research on geothermal sources and technologies,
- Framing innovative policies that will lead to the development of geothermal energy in Europe and beyond.

OUR MEMBERS

Representing 500+ entities and over 230 members from 30 countries, EGEC is the voice of the geothermal sector in Europe. Each member brings unique expertise, insights, and resources, contributing to EGEC's collective efforts in promoting geothermal technologies, driving research and innovation, and unlocking new opportunities to advance the development of the geothermal industry worldwide.

EGEC represents

> 500 entities

>230

>30 countries

See the interactive map of EGEC Members on our website.

EGEC BOARD



MIKLOS ANTICS EGEC President GPC IP / GEOFLUID



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MANAGEMENT



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EGEC SECRETARIAT



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MARLENE SIMONINI Communications Officer

POLICY



ÖZGE ATMIŞ Communications Assistant

COMMUNICATIONS



GIULIA CITTADINI Policy Advisor



LEONI KUHLMANN Policy Assistant



SANJEEV KUMAR Policy Director

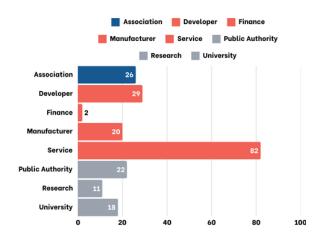


EMIL MARTINI Policy & Market Advisor

Strengthening Geothermal in Europe: EGEC Welcomes 30 New Members in 2024!

After passing the milestone of 200+ members at the end of 2023, EGEC is proud to announce that more than 30 new members have joined our association in 2024. This significant growth underscores the increasing momentum and widespread commitment to advancing geothermal energy solutions across Europe and beyond.

The new members joining in 2024 represent a wide range of different categories, including service providers, developers, manufacturers, public authorities, associations, universities and research institutions.



As EGEC steps into 2025 with unprecedented momentum, we invite stakeholders from all sectors to join our thriving community and contribute to our collective mission of creating a sustainable energy future.

With over 230 members united under its vision, EGEC is set to make 2025 a groundbreaking year for geothermal energy. Together, EGEC and its members are ready to harness geothermal's full potential, transforming Europe's energy landscape for generations to come.

Adding more than 30 new members in a year is not just a numerical achievement: it's a testament to the growing importance of geothermal energy in shaping Europe's sustainable future. We thank our members for their support.

> Philippe Dumas EGEC Secretary-General





Thank you to the #Geothermal Community!





2024: GEOTHERMAL INSIGHTS FROM EUROPEAN LEADERS



Emmanuel Macron President of France

President Macron highlighted that his government's strategy "provides for a rise in **geothermal power**, which has a lot of potential."

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Csaba Lantos Energy Minister of Hungary

"Geothermal energy is a long-lasting and always-available renewable source since it does not depend on weather events and can provide around-the-clock electricity generation and heat production.





Andrej Plenković Prime Minister of Croatia

Reaffirmed his government's commitment to accelerating geothermal energy.

EGEC Team Meets Ministers: Key Moments from 2024



On 12 April 2024, at the ECR Group Conference 'Unlocking Geothermal Potential in the EU', EGEC's Policy Director Sanjeev Kumar met with policymakers including Ministers Viktor Horváth and Prof. Krzysztof Galos, MEPs Prof. Zdzisław Krasnodębski and Pernille Weiss, and Barbara Głowacka from the European Commission.





On 24 April 2024, at the G7 Climate, Environment & Energy meeting, EGEC Secretary General Philippe Dumas met with Italian Environment Minister Gilberto Pichetto Fratin and GSE President Paolo Arrigoni.

On 15-16 July, EGEC Secretary General Philippe Dumas was invited to speak at the informal meeting of energy ministers in Budapest, hosted by Hungarian Energy Minister Csaba Lantos.



On 20 September, at the Budapest Geothermal Energy Summit, EGEC Secretary General Philippe Dumas met with Poland's Chief National Geologist, Prof. Krzysztof Galos and Hungary's State Secretary for Energy & Climate, Attila Steiner.





EGEC ANNUAL REPORT 2024

2024: GEOTHERMAL MOMENTUM RATCHETS UP

In January 2024, an overwhelming majority of Members of the **European Parliament** voted in support of a resolution on geothermal energy (with only 2 Members voting against). This set the tone for the rest of the year. The main elements of the resolution were calls for the European Commission to prepare a European geothermal strategy and establish an industrial alliance. Both are vital to accelerating investment in geothermal.

The EU **Committee of the Regions** followed the Parliament's lead and backed geothermal in April, in its opinion entitled "Localising energy production: the role of geothermal energy". Once again, this was backed with nearly total support. This opinion highlighted the importance of geothermal for cities and regions.

Then in September, the first-ever discussion on geothermal energy among **Europe's energy ministers** took place at a high-level Conference in Budapest, which was organised by the Hungarian Presidency of the Council of the European Union.

Following the elections in June 2024, the new European Parliament was able to secure a commitment from Dan Jørgensen, the newly nominated **Commissioner for Energy and Housing**, who promised to ensure the development of a European Geothermal Action Plan. This was another significant milestone.

The **European Economic and Social Committee**'s opinion "The potential of geothermal energy for the green transition" was also agreed upon unanimously in November. The opinion focused on the need for more effective financial measures to support investments, particularly the use of public finance to leverage private capital.



The remaining 'Fit for 55' legislation, relevant to geothermal, entered into force in November. This included the **Critical Raw Materials Act** which aims to ensure the EU's access to secure and sustainable supplies of vital elements such as lithium.

The Net-Zero Industry Act focused on scaling up the manufacturing of clean technologies, especially those related to geothermal and heat pumps. The revised **Energy Performance of Buildings Directive** outlines a pathway to increasing renovation rates, particularly for the worst-performing buildings in each country.

The revised **Electricity Market Design** introduced new two-way Contracts for Difference to support new-build geothermal power plants as well as measures to incentivize flexibility and energy storage.

The International Energy Agency published its Future of Geothermal Energy Report in December. This calls on all countries to prioritize geothermal action and policy. On 16 December, all of the EU's Energy Ministers agreed upon Council Conclusions compelling the European Commission to produce a Geothermal Action Plan and launch an Industrial Alliance, the main elements of the European Parliament's resolution that was agreed in January.



OUR POLICY INITIATIVES:

and Action Plan

Dutch Market

across Europe

Plan without further delay

EU's 2024-2029 mandate

Geothermal Technologies



13

CONSULTATION RESPONSES

EGEC response to the call for feedback on design elements of renewable energy auctions (guidance)

EGEC response to the call for feedback the guidance on designating Renewables Acceleration Areas (RAAs)

EGEC response to the call for feedback on Energy efficiency – assessing the level of EU & national funding

EGEC's response to the Regional Development Fund, Cohesion Fund and Just Transition Fund 02 03 04



OUTLOOK TO 2025

This will be a pivotal year for the geothermal energy sector in Europe. Dan Jørgensen, the new EU Commissioner for Energy and Housing, has confirmed that the European Commission will publish the eagerly awaited **Geothermal Action Plan** in the first quarter of 2026. It has taken over two years of dedicated advocacy by EGEC and its members to get to this stage. Now, it is up to us to help shape the Action Plan and define the solutions needed to unlock a plethora of investments in geothermal energy. Our goal is within reach!

The EU's Geothermal Action Plan will be published alongside the **Electrification Action Plan** and the **Heating and Cooling Strategy**.

The **Clean Industrial Deal**, which focuses on 'Made in Europe' production, is the theme from which a myriad of policy and legislative initiatives will be developed during the next five years. It provides ample opportunities to cement geothermal markets in industrial, agricultural, urban and rural settings. Meanwhile, the Commission's Affordable Energy Action Plan concentrates on driving energy investments. A Clean Energy Investment Strategy is expected to outline additional rules on permitting and finance.

The **Sustainable Agriculture Vision**, which was also published in February, outlined concrete steps to support farmers and rural communities to invest in sustainable practices, including reliable geothermal energy.

The Affordable Housing Plan is vital for geothermal. Many social and affordable housing providers have turned to collective geothermal systems such as networked geothermal or district heating systems, with notable examples across Europe.

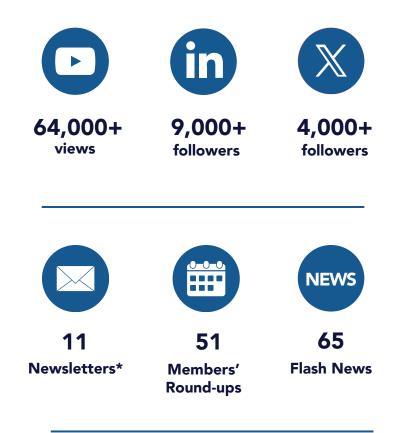
Finally, the **Multi-Annual Financial Framework** (MFF), the EU's seven-year budget, will outline the financing priorities and opportunities available for energy, infrastructure and research from 2028 until 2034.

COMMUNICATION

COMMUNICATION

SOCIAL MEDIA, NEWSLETTERS & FLASH NEWS

Here, we present an overview of EGEC's activities in using digital channels to disseminate information and engage with stakeholders. These figures reflect data from in-depth metrics and analytics, emphasising the effectiveness of EGEC's use of various online tools for information dissemination and community engagement.



*Subscribe to EGEC's newsletter on our website. Access to our weekly round-ups is available to all EGEC members. Learn how to become a member here.

KEY HIGHLIGHTS

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EGEC Geothermal Market Report (for members only)



<u>Geothermal Now: Priorities for the EU's 2024-2029</u> <u>Mandate Manifesto</u>



Geothermal Horizons: From Cities to Regions



Geothermal lessons from Germany, Denmark and France



KEY PUBLICATIONS

EGEC's Market Report 2023

The geothermal industry continues to experience strong market development, but the transition from a niche sector to a mainstream energy solution requires a solid framework built on key components. The publication of the **EGEC Geothermal Market Report 2023** provides an in-depth analysis of the sector's evolution over the past year, highlighting critical trends and developments.

"As we present the 2023 Geothermal Market Report, we are facing a significant moment of growth and anticipation for the European geothermal market. 2023 was a year of significant transformation for geothermal." **Miklos Antics**, EGEC President.



This highly anticipated edition offers insights into:

- Geothermal power
- Geothermal district heating and cooling
- Geothermal heat pumps
- Underground thermal energy storage
- Geothermal supply chain
- Geothermal across the world

The report serves as a key reference for policymakers, investors, and industry leaders seeking to accelerate geothermal energy deployment across Europe and beyond.

Thanks to our sponsors





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The full Market Report and the

Annexes are FOR MEMBERS ONLY

The Key Findings are available

for everyone.

Press release about the EGEC

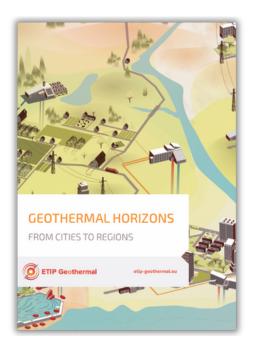
Geothermal Market Report 2023



KEY PUBLICATIONS

Vision for Geothermal

<u>ETIP-Geothermal</u> launched the new vision for geothermal 2030/50, "Geothermal Horizons: from Cities to Regions". This vision highlights how geothermal energy can contribute to achieving the EU's goal of climate-neutrality with 'Net Zero' emissions by 2050. By fostering 'made in Europe' geothermal solutions, cities and regions can reduce their reliance on fossil fuel and materials imports, enhancing energy independence. In summary, advancing geothermal technologies and innovations represent an unmissable opportunity to accelerate the climate transition while securing Europe's energy supply affordably.



Read the report

"This ETIP Geothermal Vision looks towards the future of geothermal energy development to achieve the European Union's climate-neutral milestone by 2050, and it highlights the great benefits of geothermal to decarbonise our economy. It is a unique solution to allow a sustainable energy transition with a paradigm shift for a circular economy. Geothermal is a key enabler for energy system integration, bringing renewable resources to the power, and heating and cooling industries in addition to energy storage and critical raw materials supply."

Luca Xodo ETIP Geothermal Chair



Geothermal lessons from Germany, Denmark and France

Invest-NL, the National Promotional Institute of the Netherlands, released a report exploring opportunities to scale geothermal energy in the Netherlands. Prepared by EGEC and WEP, the report delves into the geothermal landscape, focusing on experiences gained in Germany, Denmark, and France, to identify valuable lessons and invaluable insights.

Read the report

KEY PUBLICATIONS

Geothermal NOW

Geothermal NOW is EGEC's Manifesto outlining key priorities for the EU's 2024-2029 mandate.

As a versatile and reliable renewable energy source, geothermal delivers baseload electricity, heating, cooling, energy storage, and enables the extraction of lithium and other critical minerals. With the right political recognition and regulatory frameworks, it can become the backbone of a cost-effective, local, inclusive, and accelerated energy transition.

Geothermal NOW is a call to action, highlighting the policy and regulatory measures needed to unlock this potential and secure Europe's sustainable energy future. It explains how EU regulators can remove the bottlenecks that are preventing mass deployment by implementing actions in 9 key areas:

quarantee

mechanism

business

models

5

8

A European geothermal

energy strategy and

action plan

A geothermal

industrial alliance

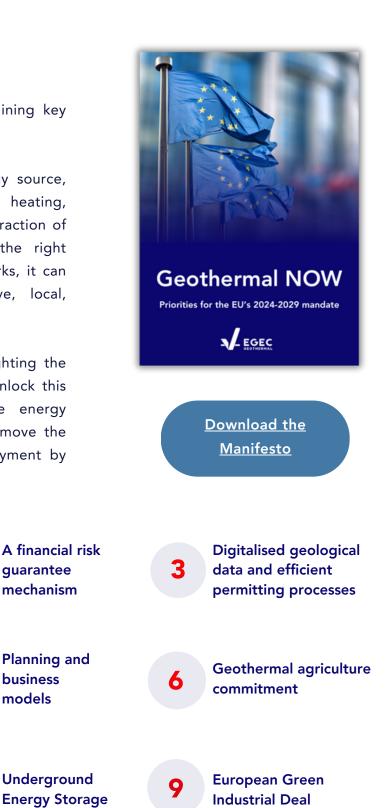
Geothermal lithium

materials mandate

and critical raw

4

7



KEY WEBINARS







EGEC ANNUAL REPORT 2024

January

<u>Meet the Members,</u> 23.01.2024

March

<u>EU Funding Opportunities –</u> <u>Research & Innovation,</u> <u>19.03.2024</u>

> Meet the Members, 22.03.2024

April

<u>Meet and Greet event for</u> <u>Young Careers in the</u> <u>Geothermal Industry,</u> <u>15.04.2024</u>

<u>Updates on Drilling for</u> <u>Geothermal,</u> <u>19.04.2024</u>

July

EGEC Geothermal Market <u>Report 2023 Insights,</u> <u>11.07.2024</u>

October

Meet the Members, 23.10.2024

December

<u>Cooling Down Webinar |</u> <u>Renewable Cooling to</u> <u>Answer Climate and Energy</u> <u>Challenges,</u> <u>11.12.2024</u>

Geothermal session at EUSEW*

Brussels, Belgium. 13 June 2024

Following the European Parliament's resolution on a European geothermal energy strategy, representatives of the European Commission, Member States, industry, research institutes, and civil society gathered to explore the challenges, benefits, and opportunities for the mass deployment of geothermal to achieve EU climate goals. Key discussions focused on enhancing collaboration to boost geothermal investments, implementing new permitting rules, promoting innovative business models, and upskilling the workforce.

* European Union Sustainable Energy Week

Geothermal Power 2024

Brussels, Belgium. 3 July 2024



More about the event

The first edition of EGEC's Geothermal Power event was a unique experience featuring an inspiring, diverse programme complemented by networking sessions and social activities. The event was hosted at the Hotel Sofitel Brussels Europe and welcomed over 100 participants. It provided numerous opportunities for face-toface connections with leading experts and fostered vibrant discussions on the future of geothermal electricity, thermal storage and lithium. With geothermal energy emerging as a reliable. resilient. locally-sourced and alternative to fossil fuels, this event served as a key place to discuss its pivotal role in Europe's decarbonisation journey.

EGEC session at EUSEW 2024

Geothermal District Heating and Cooling Days Paris, France. 9-11 September 2024



The 2024 edition of the Geothermal District Heating and Cooling Days was a resounding success, attracting over 149 attendees from across Europe and beyond. Held in Paris from 9 to 11 September, the event brought together explore leading experts to the latest advancements and innovations in geothermal district heating and cooling.

The day began with keynote sessions covering topics such as strategies to accelerate high-performance geothermal adoption, geothermal networks, and France's national geothermal plans and export strategies

This was followed by insightful presentations on market trends and conditions within the European Union, offering a comprehensive overview of the geothermal landscape.

After а networking break, attendees participated in presentations highlighting best practices and the latest technological developments in geothermal heating and cooling. The "helicopter presentations" allowed poster presenters to briefly introduce their work before attendees explored the posters in more detail. The day concluded with a pivotal discussion on project financing.

More information about the event

Thanks to our sponsors









YOUR RESEARCH SUPPORT PARTNER



European Geothermal Heat Pump Days Dublin, Ireland. 16-18 October 2024

The European Geothermal Heat Pump Days 2024 in Dublin (Ireland) offered an array of insightful presentations, interactive panel discussions, and collaborative networking opportunities aimed at advancing geothermal heat pumps in Europe. The event attracted more than 70 participants.

Held at the Spencer Hotel, the event kicked off with a fascinating field trip to Trinity College Dublin's historic Rubrics building. The second day opened with а keynote session emphasising the growing significance of geothermal energy in Ireland's green agenda. The day's sessions also examined the competitiveness of geothermal technologies across Europe, offering insights from experts in Germany, Finland, and Ireland.



It was followed by presentations highlighting the role of the end-users through the presentation of current projects in Northern Ireland for large buildings and the new methods for designing clusters of individual systems and planning in the Netherlands.

The final day of the Geothermal Heat Pump Days focused on the potential of geothermal cooling technologies.

More information about the event

Thanks to our sponsors



Geoserv

Geothermal Innovation Days

Munich, Germany. 21-22 November 2024



This rebranded annual event, organised by ETIP-Geothermal, spotlighted the latest advancements in geothermal technology, with a focus on driving innovation to market, exploring funding opportunities for research and innovation, and examining breakthroughs in geothermal technologies such as drilling and exploration techniques.

The conference was attended by over 100 participants. The programme concluded with insights into cutting-edge technologies and a site visit to the Eavor-Loop[™] in Geretsried facility (Germany).

More about the event

Full Programme & Presentations

EUROPEAN GEOTHERMAL CONGRESS 2025



EGEC and Geothermie-Suisse are thrilled to announce that EGC 2025 will take place from 6– 10 October in Zürich, Switzerland. As Europe's largest geothermal event, EGC brings together global stakeholders from energy, industry, policy, finance, and academia every three years.

Covering power generation, heating & cooling, storage, and mineral extraction, the congress features high-level discussions, technical sessions, workshops, training, site visits, and networking including a gala dinner.

After the success of EGC 2022, which welcomed over 1,200 participants, the 2025 edition promises even greater engagement. Attendees will explore geothermal's role in decarbonisation and energy security, cutting-edge technologies, and new business opportunities through B2B meetings informal structured and networking. EGEC members will also benefit from exclusive opportunities connect and to collaborate.

EUROPEAN

CONGRESS

2025

GEOTHERMAL

Get Involved!

• **Exhibit** – The Call for Exhibition is open! Secure one of 46 available booths to showcase your products, connect with industry leaders, and boost your visibility.

Call for Exhibition

 Sponsor – Gain exclusive exposure, position your company as a leader in sustainable energy, and engage with key decision-makers through high-profile branding, keynote slots, and networking opportunities.

Join us in Zürich for an unforgettable EGC 2025!

Call for Sponsors

JOIN US, REGISTER NOW! ZÜRICH, SWITZERLAND | 6 - 10 OCTOBER 2025

PROJECTS

Cooling Down

About the Project:

COOLING DOWN seeks to propose a vision for a renewable cooling sector in Europe in the coming decades, and issue policy recommendations and proposals to achieve it. Beyond the technological, economic, and social trends to be assessed through research, expert consultations and modelling, the COOLING DOWN project is also seeking to address the contribution of renewable cooling technologies to climate change adaptation with a specific focus on the mitigation of the urban heat island effect.

Highlights in 2024:

- Future Cooling Demand: Projections of Europe's growing cooling needs.
- **Demonstration Cases**: Real-world examples of cooling solutions in individual buildings and networks.
- **Technology Analysis**: Evaluation of various cooling technologies suited for different climates.
- Renewable Cooling Integration: A structured SITE-based Methodology for incorporating renewable cooling into Sustainable Energy and Climate Action Plans (SECAPs).
- Business Models & Best Practices: Guidance on successful strategies for implementing renewable cooling solutions.

See the project website



REDI4HEAT

About the Project:

Heating and cooling account for 50% of Europe's energy demand and 80% of household consumption. Decarbonizing this sector is crucial but remains a major challenge. The Clean Energy Package introduced measures to boost renewable heating and cooling by 2030, yet most Member States lack ambitious strategies to meet the Renewables Directive (Article 23).

REDI4HEAT supports the implementation of these provisions, helping authorities identify shortcomings and develop solutions. It will offer recommendations, including Strategic Policy Priorities, Policy Adoption Scenarios, and best practices.

Highlights in 2024:

- The **REDI4HEAT project** supports the implementation of the Renewable Energy Directive on heating and cooling, assisting Member States and local authorities.
- It assessed National Energy and Climate Plans (NECPs) on heating and cooling measures for 2030, mapped national heating and cooling demand, and analyzed shortcomings in current strategies. To address these, it proposed recommendations, including Strategic Policy Priorities, Policy Adoption Scenarios, and best practices.
- These efforts were complemented by **capacity-building events** in five target Member States and the development of a Knowledge Sharing Platform and toolboxes for public authorities at all levels.

See the project website

REDI4HEAT



SAPHEA

About the Project:

SAPHEA engages a network of public and private market actors and researchers, including local authorities, community services, and energy suppliers, to ensure sustained results beyond the project's lifetime. The aim is to develop a single access point for the market uptake of geothermal energy use in multivalent heating and cooling networks across Europe.

Highlights in 2024:

- The project has made significant achievements with the workshop on new geothermal solutions held during the **Geothermal District Heating and Cooling days in Paris**.
- Innovative solutions for integrating geothermal district heating and cooling into European cities and industries were showcased.
- Another important milestone has been the publication of several reports covering geoDHC business models, socioenvironmental conditions for the implementation of geoDHC networks, regulatory and policy framework.

GeoBOOST

About the Project:

GeoBOOST seeks to increase the deployment of geothermal heat pumps and open-loop systems in Austria, Belgium, Germany, Ireland, the Netherlands, Poland, Spain and Sweden, as well as to provide products and tools relevant for consumers, suppliers and planners in all markets across the EU.

Highlights in 2024:

- Improved Statistical and Market Data: a guideline for geothermal heat pump (GHP) investments, alongside practical tools for business models and funding access.
- Development of Harmonised Legislation: Tailored guidance for integrating GHPs into National Energy and Climate Plans (NECPs) and key EU directives.
- Simplified Permitting & Planning: Promotion of early integration of GHPs into spatial planning, with streamlined licensing using efficient approaches like the 'traffic light' system.
- Awareness & Promotion: A high-level campaign showcasing the benefits of geothermal, including the upcoming Geothermal Stories initiative.
- Training & Qualification: Expansion of international training platforms and the launch of a Mass Open Online Course on GHP design, drilling, and installation.

See the project website



GeoSmart

About the Project:

Geothermal is currently engineered as an "always on" baseload supply, due to the limited flexibility to throttle the well without scaling and liner fatigue problems, and it is engineered for maximal efficiency at this output level. Geothermal Energy needs to exhibit a high level of fast flexibility to function as a fully reliable and controllable energy source.

GeoSmart aims to optimise and demonstrate innovations to improve the flexibility and efficiency of geothermal heat and power systems.

Highlights in 2024:

Concluded in 2024, the GeoSmart project aimed to enhance geothermal energy by improving short- and medium-term flexibility, optimising low-temperature brine efficiency, and addressing scaling in high-temperature brine. Greater flexibility and efficiency would make geothermal more competitive with fossil fuels.

Beyond physical system installations at two test sites, the consortium analysed energy policies and financial support schemes to aid the adoption of the Electricity Market EC regulation.

Despite high upfront costs, GeoSmart demonstrated geothermal's economic viability due to its long lifespan and low operational expenses. Its cost advantages over wind and solar stem from reduced energy storage needs, lower transmission costs, and minimal reliance on fossil fuel backups.

See the project website

GE SMART

ETIP - European Technology and Innovation Platform

RHC Platform

About the platform:

The European Technology and Innovation Platform on Renewable Heating & Cooling (RHC-ETIP) brings together stakeholders from the biomass, geothermal, solar thermal and heat pump sectors – including the related industries such as district heating and cooling, thermal energy storage, and hybrid systems – to define a common strategy for increasing the use of renewable energy technologies for heating and cooling.

Highlights of 2024:

- Amongst various interesting activities the highlights of the RHC ETIP Platform for 2024 were the publication of the report "Skills in the Renewable Energy Sector – Visions from the European Technology and Innovation Platforms".
- The 100% RHC Annual Event took place on April 10th in Graz and was organized as part of the ISEC 2024 conference: "How to Fully Decarbonize the Heating and Cooling Sector in Europe?".
- A series of video interviews with industry leaders about their success stories, strategies for the Energy Transition and triumphs over obstacles were shared under the title: "Hot Topics, Cool Insights: A talk with CEOs from the renewable energy world!".

See the platform website



ETIP Geothermal

About the platform:

The European Technology & Innovation Platform on Geothermal (ETIP-Geothermal) is an open stakeholder group, endorsed by the European Commission under the Strategic Energy Technology Plan (SET-Plan), with the overarching objective to enable geothermal technology to proliferate and reach its full potential everywhere in Europe. The primary objective is overall cost reduction, including social, environmental, and technological costs.

Highlights in 2024:

- Key highlights of 2024 include the Geothermal Innovation Days in Munich, showcasing advancements in geothermal technology and concluding with insights into cutting-edge solutions and a site visit to the Eavor-Loop™ in Geretsried. ETIP Working Groups also hosted web meetings to share updates.
- Two major reports were published: one on market trends and the 2030 outlook, and another on research and innovation in geothermal technologies, covering heat, power, storage, and mineral extraction. Additionally, six factsheets provide a detailed overview of European regulations, standards, and codes impacting geothermal systems.

See the platform website

ETIP Geothermal

GEOTHERMAL IWG



Geothermal IWG

About the Working Group:

The Geothermal Implementation Working Group (IWG) supports the SET Plan by uniting SET Plan countries, the geothermal industry, and researchers to advance geothermal energy for a climate-neutral Europe. GEORG Geothermal Cluster runs the IWG Secretariat.

Highlights in 2024:

In 2024, the IWG Secretariat organized in-person meetings in Brussels in February and Munich in November, along with an online meeting in June. Membership was formalized, requiring all members to submit a letter of intent, with Hungary, Spain, Romania, and Iceland joining. The Terms of Reference, website, and materials were also updated. Additionally, a sector survey was conducted among IWG members, contributing valuable data to the annual SET Plan Report.



See the IWG website

GEOTHERM-FORA

About the Project:

The project GEOTHERM FORA aims at facilitating Research and Innovation (R&I) activities in geothermal systems by supporting the work of two geothermal fora, already established:

- The European Technology and Innovation Platform on Geothermal (ETIP-Geothermal)
- The Geothermal Implementation Working Group (Geothermal-IWG).

Highlights in 2024:

Key highlights of 2024 included the **Geothermal Innovation Days** in Munich, showcasing the latest advancements in geothermal technology. The event concluded with insights into cutting-edge innovations and a site visit to the Eavor-Loop[™] facility in Geretsried.

Additionally, **ETIP Working Groups** held a series of web meetings to share updates and key insights. Two major reports were published: one on market trends, analysing recent developments and the 2030 outlook, and another on technological trends, covering research in geothermal heating, cooling, electricity generation, storage, and mineral extraction. Finally, six factsheets were released, detailing European regulations, standards, and codes shaping geothermal systems.



EGIA 2024

RUGGERO BERTANI INNOVATION AWARD 2024

In the 2024 edition, the Ruggero Bertani European Geothermal Innovation Award winner was **Vulcan Energie Ressourcen GmbH** with their project Lithium Extraction Optimization Plant (LEOP) to produce green lithium in Europe.

RUGGERO Bertani

EGIAward/

2024



The competition showcased high-level innovations at every stage. The finalists were:

- Canopus Drilling Solutions Geothermal BV (Netherlands) – Field pilot of the Directional Steel Shot Drilling technology at VersuchsStollen Hagerbach, Switzerland.
- Deutsche Erdwärme GmbH (Germany) Geothermal Well GN-Th-1 (Geothermal Project Graben-Neudorf).
- Halliburton (Netherlands) GeoESP Intake: Geothermal Electric Submersible Pump (ESP) Intake.
- HydroVolve Ltd (United Kingdom) The GeoVolve HYPERDRIVE.

About the project

The deep reservoirs of the Upper Rhine Graben contain lithium. Extracted brine is cooled to harness its energy for lithium extraction and customer supply. It then undergoes adsorption, a Direct Lithium Extraction (DLE) method, where the saturated adsorbent is rinsed with water, producing an eluate containing lithium chloride (LiCl) and impurities.

The eluate is purified and condensed into a solution of 40% LiCl and 60% water, then transported to Frankfurt-Höchst for refinement into lithium hydroxide, a key battery component.

The LEOP facility, in its pre-commercial stage, trains personnel and optimizes the extraction process.

More information





EGEC

GEOTHERMAL

MARKET REPORT

2023

MARKET REPORT 2023 The most authoritative assessment of the entire

geothermal market in Europe

Every year, the EGEC Geothermal Makert Report analyses market trends and developments in the geothermal sector in Europe. Since its first edition in December 2011, it has become the most authoritative and comprehensive overview of the entire geothermal sector across Europe.

The report is compiled each year using data from various statistical analyses, local experts, utilities, energy agencies, and national associations. It includes details of all major projects in operation, under development, and under investigation, as well as an analysis of market developments, the regulatory and public policy environment, financial tools and incentives, the market forecast, and key players. Every edition also offers an in-depth review of different geothermal technologies. The Full Market Report is exclusive to EGEC members (230+ members), to the 500+ entities at the international level that EGEC represents, and upon request from journalists and policymakers at the European and national levels.

The Market Report is also complemented by the Key Findings, a report available for open access on the EGEC website.

The next edition of the Market Report will be published in the first half of 2025.





full report

MEMBERSHIP

EGEC MEMBERSHIP

EGEC's members include private companies across the value chain, national associations, consultants, research centres, geological surveys, and public authorities. The full list of our members is available in the Membership section of our website.



Top 5 Reasons to Become a Member

- 1. Gain Influence Actively shape European policy that affects the geothermal industry and its market development.
- 2. Know the market, stay informed Get access to exclusive market and policy analysis, as well as interesting business opportunities for the geothermal sector.
- 3. Get Personalised Support when working with European and international institutions or building initiatives.
- 4. Enlarge Your Network by gaining access to the largest European network of industry leaders.
- 5. Get Discounts and Priority Bookings for conferences and events.

How to Become an EGEC Member?

Membership of EGEC is open to private and public bodies operating in the geothermal sector, if they are located or have operations within Europe. Membership fees are based on the size, turnover, and scope of the body requesting association.

Apply for membership by completing the online application below. Applications are subject to decision by the EGEC board. For more information, contact the Secretariat at **com@egec.org**.





OUR ACTIVITIES

Policy and Public Affairs

EGEC represents its members in relations with the European institutions, offering access to decisionmakers and support to influence legislation and European policies. Members participate in the process through their voluntary contribution to task forces composed of experts from the sector.





Business Intelligence

Members receive intelligence on a regular basis through our monitoring, analysis and research on new regulations and financial developments that affect the geothermal industry. This includes guidance and advice on EU funds, available calls for the geothermal sector and insights into Horizon 2020 calls funded by the European Union. EGEC membership also provides access to the EGEC Geothermal Market report, the only assessment of the entire geothermal market in Europe.

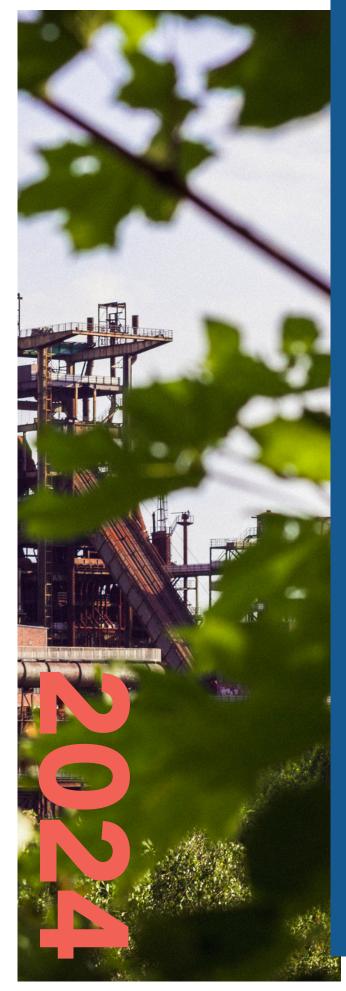
Communication and Events

EGEC supports promotion and networking between and on behalf of its members to encourage new business opportunities. Members enjoy discounted rates on tickets and exhibition spaces at prominent events such as the European Geothermal Congress (EGC) and partner events like GeoTHERM Expo & Congress in Offenburg. Sponsoring opportunities for enhanced visibility, including studies and webinars, and EGC 2025, also available exclusively to EGEC members.



NEW EGEC MEMBERS IN 2024





EGEC ANNUAL REPORT

Prepared By : EGEC's Communications Team

