

INNOVATION FUND WORKSHOP ON GEOTHERMAL ENERGY

Agenda

When: 23 September 2019, 10:00 – 15:00

Where: L42 business center, Rue de la Loi 42, 1040 Brussels, Belgium

Time	Agenda	Speaker
9:30 – 10:00	Registration, coffee	
10:00 – 10:10	Welcome and introduction; Chair: Marco Baresi, EGEC expert for the Innovation Fund WG	Fausto Batini, Chair ETIP-DG
10:10 – 10:30	NER 300 lessons learned	EIB: Roland Schulze (Managerial Adviser - Low Carbon Energy Technology) & Laurie-Anne Michnick (Energy Specialist)
10:30 – 11:00	Presentation Innovation Fund	European Commission, DG CLIMA; Roman Doubrova (Deputy Head of Unit C3) & Maria Velkova (Policy Officer)
11:00 – 11:20	Q&A session	
11:20 – 11:45	Coffee break	
11:45 – 13:00	Company presentations Geothermal & discussion	Vulcan <i>Geothermal lithium production</i> Sorgenia <i>Zero emission power plant</i> CLEAG <i>Modular geothermal CHP systems</i> Pluton DG <i>Geothermal CHP and seasonal storage</i> Baseload Capital <i>Modular power production units</i> EAVOR <i>Deep closed loop systems</i> Roedl & Partners <i>Graefelfing geothermal energy project</i>
13:00 – 13:45	Lunch break	
13:45 – 14:15	Company presentations Geothermal & discussion	EnBW <i>Large scale geothermal DH integration</i> Porcio <i>Geothermal use for industry</i> U Bologna <i>ATES integration in district heating</i>
14:15 – 14:30	Q&A session	
14:30 – 14:45	From research to the market – synergies between Horizon Europe and Innovation Fund	Matthijs Soede, European Commission, DG RTD
14:45 – 15:00	Showcasing innovation in geothermal energy	Short presentations from industry Climeon, DEEP Shaft, ETH Zurich (<i>tbc</i>), Steam Group (<i>tbc</i>)
15:00	Meeting Conclusion	Marco Baresi, Vice-President EGEC
15:00 – 18:00	ETIP DG meeting	

The workshop is jointly organized by:



Deep Geothermal IWG

Support Unit



Minutes of the workshop

Welcome and introduction; Fausto Batini, Chair ETIP-DG

Moderator: Marco Baresi, EGEC expert for the Innovation Fund WG

- Geothermal energy has an untapped potential across Europe, for electricity and heating and cooling, and other emerging uses;
- The NER300 was something of a missed opportunity for the geothermal sector, as none of the 3 funded projects has yet come online.
 - o The question for the Innovation Fund is how to solve the issues that prevented the successful roll out of geothermal projects in NER300?

NER 300 lessons learned EIB: Roland Schulze (Managerial Adviser - Low Carbon Energy Technology)

- NER300 was a grant scheme for CCS and innovative RES technologies.
- Fund set through legislative text (ETS Directive) as a legal obligation for the EIB
- The EIB's value added in the fund is to evaluate project: in 2011, 80 projects were evaluated, 33 in 2013.
- The NER300 finances the "extra cost of innovation" as a relevant cost.
 - o To establish the baseline a clear methodology needed to be set.
 - o Convergence on comparison to gas power plants (notably for GHG savings).

Presentation Innovation Fund European Commission, DG CLIMA; Roman Doubrova (Deputy Head of Unit C3) & Maria Velkova (Policy Officer)

- The process of transparency, including the organisation of such workshops, aims at making the design of the call as relevant as possible for the industry;
- The Clean Planet for All communication, and the plan given by President of Commission Elected Von Der Leyen to have a climate law enshrine the objective of a carbon neutral Europe by 2050.
- To achieve carbon neutrality, the European Commission is not proposing to set the future, but to enable the building blocks for carbon neutrality:
 - o Many sectors will evolve
 - o The "deployment of RES" is one of the key identified building blocks
 - o Lot of effort is needed, and there are huge opportunities for new technologies to contribute.
- The Innovation Fund is the first large scale funding to underpin the 2050 strategy.
 - o It will monetize 450 million allowances across the decade.
 - o Volume of 10 billion EUR (conservative estimate on the carbon price)
 - o Renewable energy projects are clearly within the scope of the Fund. The aim is to support pre-commercial innovative technology projects, to bridge the "valley of death"
 - o Up to 60% of the additional innovation costs can be covered by the Fund

- The Fund is established by the ETS Directive which sets a deadline of 2020 for the first call (which should deliver between 1-1.5 billion EUR of support)
- Projects supported for 10 years after the entry in operation.
- Compared with NER300, less emphasis on cost-efficiency.
- Criteria:
 - GHG emissions avoidance;
 - Degree of innovation;
 - Project maturity;
 - Scalability;
 - Cost-efficiency.
- The failure of projects in NER300 is notably due to the lack of maturity of project structure, so this will be more closely looked into for Innovation Fund.
- The focus will be on project that stand in between Research, development & Innovation and full market deployment (the so-called valley of death, where RD&I financing is no longer available, but the technology is not market mature).
- For the allocation of funding, the project needs to be robust and mature, as the Innovation Fund support covers up only up to 60% of the additional costs of the project.
- The Selection process will be two-phases, and includes a simplified process for smaller projects.
 - Large scale projects: expression of interest followed by full application is EOI is retained.
- Cost/Lifecycle of projects:
 - Up to 40% of innovation fund support may be provided without string attached (i.e. not conditioned to performance but on completion of project milestones for instance)
 - Up to 60% of funding conditioned to verified GHG Emissions savings.
 - 75% of promised savings: 100% of grant financing.
 - With less savings delivered, part of the grand need to be repayed.
 - First call: mid 2020.

Q&A session

- Greg Arrowsmith, Eurec: is there more control to the early project phases than in NER300?

Answer EC: Stricter framework than the NER300, the idea is to have project development come with own funding.

Answer EIB: The financial close is a process, there is more control of the project development.

- Laurent Escarre, Storengy: Who can we contact for more information?

Answer: EGEC is the contact point for the geothermal sector.

- Bodo Von Doring, CLEAG: The Innovation Fund needs to talk about energy, not just electricity

Answer: The Innovation Fund indeed focuses on energy, and heating and cooling projects are included and eligible.

- Marco Baresi, Turboden: Which level of commitment from Member States?

Answer: Despite strong MS commitment, many projects in the NER300 were not completed. Guidelines to applicants will be designed to ensure the projects are as robust as possible. There needs to be a dialogue with MS, but the industry also needs to link with authorities (e.g. local authorities...), which are also an important factor in project success.

- Bart Van den Berg (RVO-Dutch Funding Agency): There are expectations about rentability in the Innovation Fund, what kind of organisations can apply?

Answer: EC expects mostly developers, investors to apply. The fund will provide the missing financing for innovation as grant based on performance criteria. Some other instruments such as equity or debt are still in development but possible.

Answer EIB: The EIB provides guidance to applicant, who can also apply for EIB financing instruments.

- GMK: Turkey is not part of the ETS, is it eligible for innovation Fund?

Answer: No, the project must be implemented in countries involved in the ETS. Turkish companies can however apply if they have relevant project in such countries.

- Robert Winsloe, Eavor: What if we have a project in 2020?

Answer: The first call will be issued in the middle of 2020.

- Greg Arrowsmith, EUREC: What about the selection criteria, notably regarding technologies?

Answer: Principle of technology neutrality. Each project will be assessed individually, with the aim for a balanced project portfolio.

- Philippe Dumas, EGEC: cross sectionality of projects?

Answer: It is better assessed, synergies between sectors are encouraged: heat, power, storage, industrial process...

- Question: What is 60% of innovative funding?

Answer: Present cost data compared with typical cost of energy produced.

- Matteo Ceroti, Sorgenia: Risk mitigation: the Innovation Fund is available to take some risk, but the project need to be sure about the resource before going on.

Answer: The IF enables 40% of pre-financing, which can for instance cover drilling. But the maturity of project design remains important.

Company presentations Geothermal & discussion

Vulcan Geothermal lithium production

Sorgenia Zero emission power plant

CLEAG Modular geothermal CHP systems

Pluton DG Geothermal CHP and seasonal storage
Baseload Capital Modular power production units
EAVOR Deep closed loop systems
Roedl & Partners Graefelfing geothermal energy project
EnBW Large scale geothermal DH integration
Porcio Geothermal use for industry
U Bologna ATES integration in district heating

Showcasing innovation in geothermal energy

Short presentations from industry:

- Climeon,
- DEEP Shaft,
- Steam Group.

From research to the market – synergies between Horizon Europe and Innovation Fund

Matthijs Soede, European Commission, DG RTD

Meeting Conclusion Marco Baresi, Vice-President EGEC