

LCE 3 – 2014/2015: Demonstration of renewable electricity and heating/cooling technologies 5-20 M euro

Deep geothermal energy: *Testing of enhanced geothermal systems in different geological environments* – Widespread deployment of enhanced geothermal systems (EGS) needs new and improved models and innovative solutions are needed to routinely create EGS reservoirs with sufficient permeability, fracture orientation and spacing. Cross-fertilisation with hydrothermal fields and cross-fertilisation with tight oil and gas fields can be explored.

Type of action: Innovation Actions

Scope: The proposals should address one or more of the specific technology challenges described above **bringing the proposed technology solutions to a higher TRL level, aiming at “demonstration” of these solutions**, accompanied, where appropriate, by supporting research activities and activities targeting market uptake. The proposals should bring the proposed technology solutions from **TRL 5-6 to TRL 6-7**

***Technology Readiness Levels (TRL)**

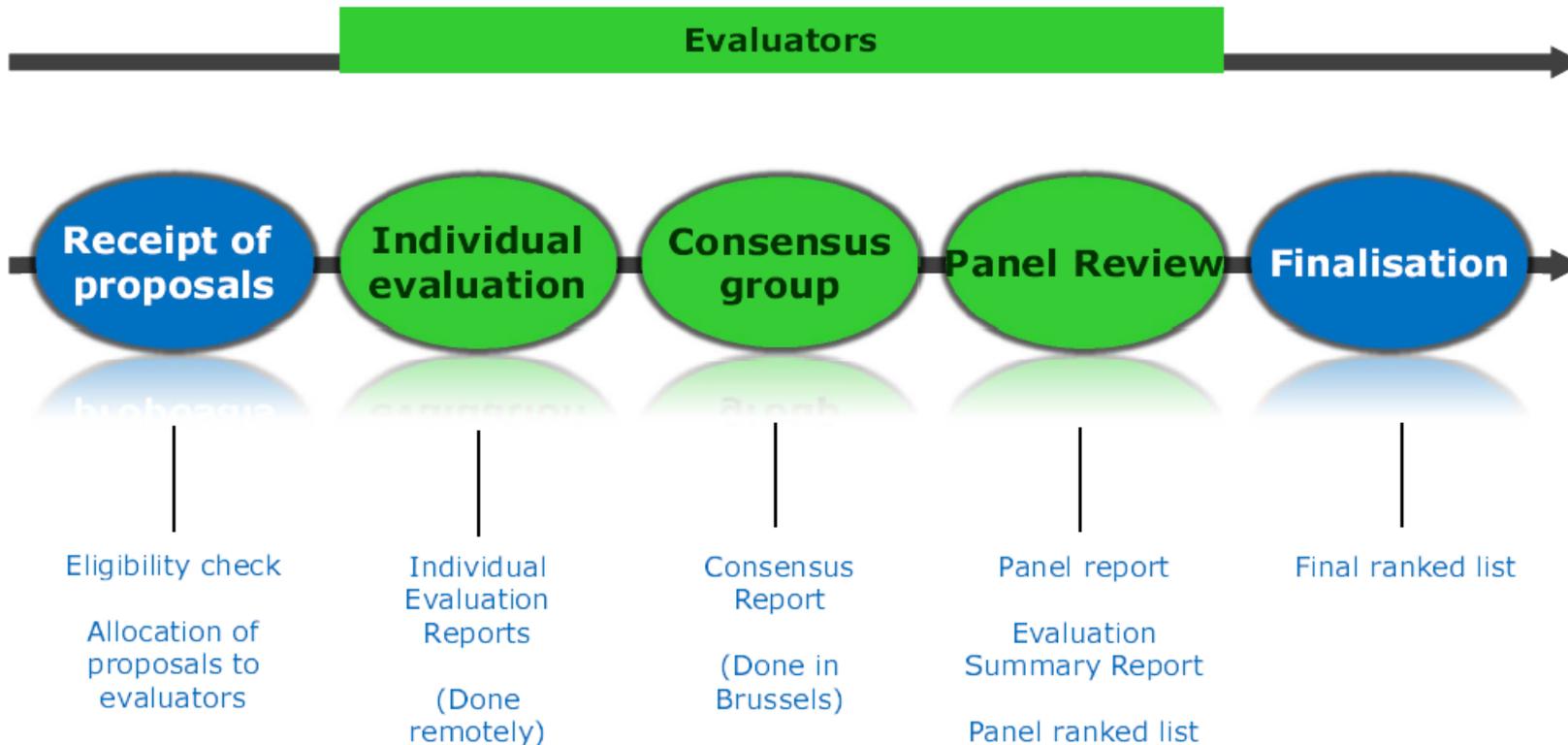
- TRL 0: Idea. Unproven concept, no testing has been performed.
- TRL 1: Basic research. Principles postulated and observed but no experimental proof available.
- TRL 2: Technology formulation. Concept and application have been formulated.
- TRL 3: Applied research. First laboratory tests completed; proof of concept.
- TRL 4: Small scale prototype built in a laboratory environment ("ugly" prototype).
- TRL 5: Large scale prototype tested in intended environment.
- TRL 6: Prototype system tested in intended environment close to expected performance.
- TRL 7: Demonstration system operating in operational environment at pre-commercial scale.
- TRL 8: First of a kind commercial system. Manufacturing issues solved.
- TRL 9: Full commercial application, technology available for consumers.

Technical issues, synergies between technologies, regional approaches, socio-economic and environmental aspects from a life-cycle perspective (including public acceptance, business cases, pre-normative and legal issues, pollution and recycling) need to be appropriately addressed where relevant.

the need for an increased understanding of risks in each area (whether technological, in business processes, for particular business cases, or otherwise), **risk ownership, and possible risk mitigation**. Proposals shall therefore include appropriate **work packages on this matter**.

Proposals shall explicitly address performance and cost targets together with **relevant key performance indicators and expected impacts**. **Industrial involvement in the consortia and explicit exploitation plans are a prerequisite**. All proposals will have to include **a work package on 'the business case'** of the technology solution being addressed. This work package has to demonstrate the business case of the technology solution and has to identify potential issues of public acceptance, market and regulatory barriers including standardisation needs, financing and other supply-side issues of relevance.

Overview of the Evaluation Process



**competition
with other
topics!**

Evaluation criteria



Research and Innovation Actions/Innovation Actions

✓ For the first stage of a two-stage procedure, only the aspects of the criteria in yellow are evaluated

Excellence

Clarity and pertinence of the objectives

Soundness of the concept, including trans-disciplinary considerations, where relevant

Extent that proposed work is ambitious, has innovation potential, and is beyond the state of the art (e.g. ground-breaking objectives, novel concepts and approaches)

Credibility of the proposed approach

Impact

The expected impacts listed in the work programme under the relevant topic

Enhancing innovation capacity and integration of new knowledge

Strengthening the competitiveness and growth of companies by developing innovations meeting the needs of European and global markets; and, where relevant, by delivering such innovations to the markets

Any other environmental and socially important impacts (not already covered above)

Effectiveness of the proposed measures to exploit and disseminate the project results (including management of IPR), to communicate the project, and to manage research data where relevant

Implementation

Coherence and effectiveness of the work plan, including appropriateness of the allocation of tasks and resources

Complementarity of the participants within the consortium (when relevant)

Appropriateness of the management structures and procedures, including risk and innovation management

**3 criteria, each 5 points (max 15) half point are possible
threshold: 3 points/criteria, or overall 10 points
proposals having a chance: above 13 points**

**scores should reflect comments
comments to be verified**

**proposals are evaluated as submitted, (not on the potential, no
negotiation phase)**

**shortcomings are identified by evaluators, but no recommendations
if there is a weakness: marked down only at the relevant criterion
(not twice!)**

**evaluators have max. 0,5 day for a proposal!
appreciate well-structured clearly phrased proposals, no redundant
texts, impacts, outputs quantified and specific to the submitted
topic**

Interpretation of the scores

0

The proposal **fails to address the criterion** or cannot be assessed due to missing or incomplete information.

1

Poor. The criterion is inadequately addressed, or there are serious inherent weaknesses.

2

Fair. The proposal broadly addresses the criterion, but there are significant weaknesses.

3

Good. The proposal addresses the criterion well, but a number of shortcomings are present.

4

Very Good. The proposal addresses the criterion very well, but a small number of shortcomings are present.

5

Excellent. The proposal successfully addresses all relevant aspects of the criterion. Any shortcomings are minor.

Criterion 1- Excellence

the proposed work corresponds to the topic description in the work programme

- 1. Clarity and pertinence of the objectives**
- 2. Credibility of the proposed approach**
- 3. Soundness of the concept, including trans-disciplinary considerations, where relevant**
- 4. Extent that proposed work is ambitious, has innovation potential, and is beyond the state of the art (e.g. ground breaking objectives, novel concepts and approaches)**

Criterion 2 – Impact

the extent to which the outputs of the project should contribute at the European and/or International level:

- 1. The expected impacts listed in the work programme under the relevant topic**
- 2. Enhancing innovation capacity and integration of new knowledge**
- 3. Strengthening the competitiveness and growth of companies by developing innovations meeting the needs of European and global markets and where relevant, by delivering such innovations to the markets**
- 4. Any other environmental and socially important impacts**
- 5. Effectiveness of the proposed measures to exploit and disseminate the project results (including management of IPR), to communicate the project, and to manage research data where relevant**

Criterion 3 Quality and efficiency of the implementation

- 1. Coherence and effectiveness of the work plan, including appropriateness of the allocation of tasks and resources**
- 2. Complementarity of the participants within the consortium (when relevant)**
- 3. Appropriateness of the management structures and procedures, including risk and innovation management**

Operational capacity

Based on the information provided in the proposal, do all the partners in this proposal possess the basic operational capacity to carry out the proposed work?

Proposal content corresponds wholly or in part to the topic description against which it is submitted to the relevant work programme part

Overall comments (if any)