

# Chapter PREDICTION AND ASSESSMENT OF RESOURCES

Webinar consultation 24/05/2019



**ETIP-DG**

European Technology & Innovation  
Platform on **Deep Geothermal**

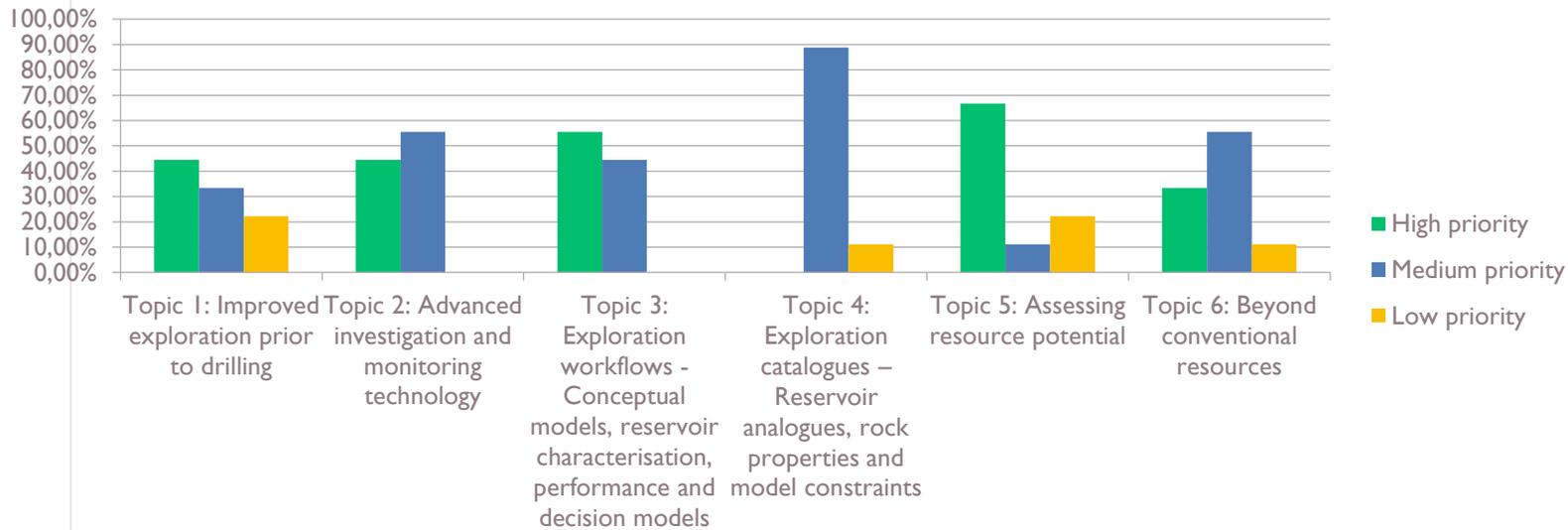
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# Steering Committee assessment

Level of priority



## Merge suggestions:

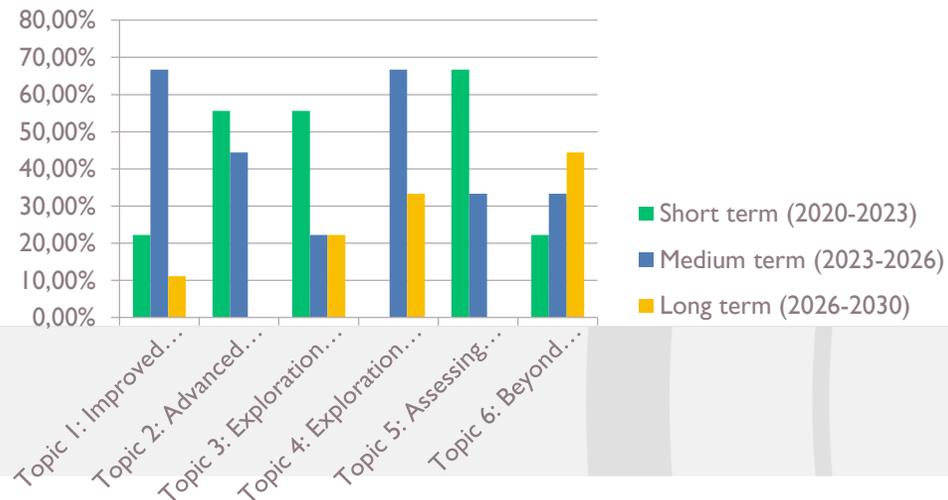
Topic A: Exploration methods (topic 1+2, topic 1&5 of chapter 2)

Topic B: Workflow and catalogues (topic 3+4 )

Topic C: Assessing potential (topic 5, high priority)

Topic D: Hybrid plants incl. Minerals (topic 5)

Priority timeline



# Topic 1: Improved exploration prior to, during and after drilling

## Objectives

- Develop advanced exploration, investigation and monitoring technologies to reduce the cost of surveys and improve the resolution of underground imaging, by 2025 (from TRL 5-6 to 8)
- Develop an integrated approach by improving the multidisciplinary of exploration methods, joint modelling as well as by using specialised data and computational science advanced exploration, investigation and monitoring technologies by 2030 (from TRL 5-6 to 8 by extended demo)
- Improve logging and logging-while-drilling tools, including those for harsh condition (from TRL 5-6 to 8)

## Targets

- mitigate risks during the feasibility and operational phases of a geothermal project, by maximising probability of: predicting physical (T, P, permeability, stress...) and chemical parameters; detecting fluid-bearing fractures and faults;
- Reduce the cost of surveys
- New/advanced down-hole sensors
- KPI: >n.ber of productive/abandoned wells, >n.ber of pre-feasibility/feasibility projects, n.ber of logging and monitoring tools for ...

Scope: partnership for demonstration? see shared knowledge

Priority: medium

# Topic 2: Exploration workflows and catalogues

To improve reservoir characterisation we need further understanding of processes and properties

## Objectives

- Demonstrate advanced workflows for reservoir characterisation for different reservoir types and portfolio approaches (by 2025, TRL 7?). In combination with Topic 1
- Build and extend catalogues of rock properties and fluid-rock interaction, multiscale reference models and maps supplying constraints for regional and site models (by 2025 implementation and continuous updating, TRL 7?)

## Targets

- Improved resource and uncertainty reporting protocols, contributing to: transparent and harmonized methods and instruments for technical and financial risk management; increased transparency for stakeholders, better assessment of energy stocks across Europe and direct comparison with other RES projects
- KPI: protocol?, database/catalogue, number of data in the database

Scope: partnership for demonstration? see shared knowledge

Priority: medium

## Topic 3: Assessing resource potential

There is still a need for a comprehensive overview of current and future GE sustainability scenarios

### Objectives

- Develop a reliable methodology and tools to perform resource assessment (by 2023, TRL )
- Demonstrate communication and reporting protocols (by 2025, TRL )

### Targets

- Multi-level GE potential assessment and comparison framework to be used by investors, regulators, governments and consumers
- KPI: number of stakeholders using the protocol for producing potential maps

Scope: partnership for demonstration? see shared knowledge

**Priority: high**

# Topic 4: Cutting edge geothermal resources

Enhanced Geothermal Systems (EGS), offshore resources, and reused oil and gas wells, can significantly contribute to geothermal energy growth in the future but their potential is still poorly known.

## Objectives

- R&I for advanced methods to estimate and predict properties and processes of deep underground, and to define abundance and techno-economic feasibility of resources
- D to test developed technologies

## Targets

- Enlarged potential, Improved sustainability of oil&gas wells,

TRL: overall 5 to 7??

Scope: partnership for demonstration? see shared knowledge.

Priority: medium

Timeline: long



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