

Report on 2016 activities

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Establishment

- Constitution meeting: 6th April 2016
 - Adoption of final draft ToR
 - Election of provisional SC
- SC finalised ToR (adopted in June 2016) and sent application to EC
- Official recognition of the ETIP in July 2016
- SC commented
 - Draft Issue paper on deep geothermal energy
 - Draft Declaration of Intent on strategic targets

STRATEGIC TARGETS of the SET Plan - Declaration of intent

(adopted in September 2016)

- 1. Increase reservoir performance resulting in power demand of reservoir pumps to below 10% of gross energy generation and in sustainable yield predicted for at least 30 years by 2030.**
- 2. Improve the overall conversion efficiency, including bottoming cycle, of geothermal installations at different thermodynamic conditions by 10% in 2030 and 20% in 2050;**
- 3. Reduce production costs of geothermal energy (including from unconventional resources, EGS, and/or from hybrid solutions which couple geothermal with other renewable energy sources) below 10 €/kWh for electricity and 5 €/kWhth for heat by 2025**
- 4. Reduce the exploration costs by 25% in 2025, and by 50% in 2050 compared to 2015;**
- 5. Reduce the unit cost of drilling (€/MWh) by 15% in 2020, 30% in 2030 and by 50% in 2050 compared to 2015;**
- 6. Demonstrate the technical and economic feasibility of responding to commands from a grid operator, at any time, to increase or decrease output ramp up and down from 60% - 110% of nominal power.**

News on SET-PLan

- DoI published on SETIS



EUROPEAN COMMISSION
RTD - Energy
ENER - Renewables, R&I, Energy Efficiency
JRC - Institute for Energy and Transport
SET Plan Secretariat



[SET Plan - Declaration of intent
on Strategic Targets in the context of an
Initiative for Global Leadership in Deep Geothermal Energy](#)

- TWG on implementation plan
KoM 8th of February

2016 Activities

- Meeting on 17th September
 - Presentation of the WP2016 2017
 - Selection of WG leaders
- WP 2018-2020:
SC and WG leaders selected detailed
Priorities for deep geothermal
- * Launch of WG activities



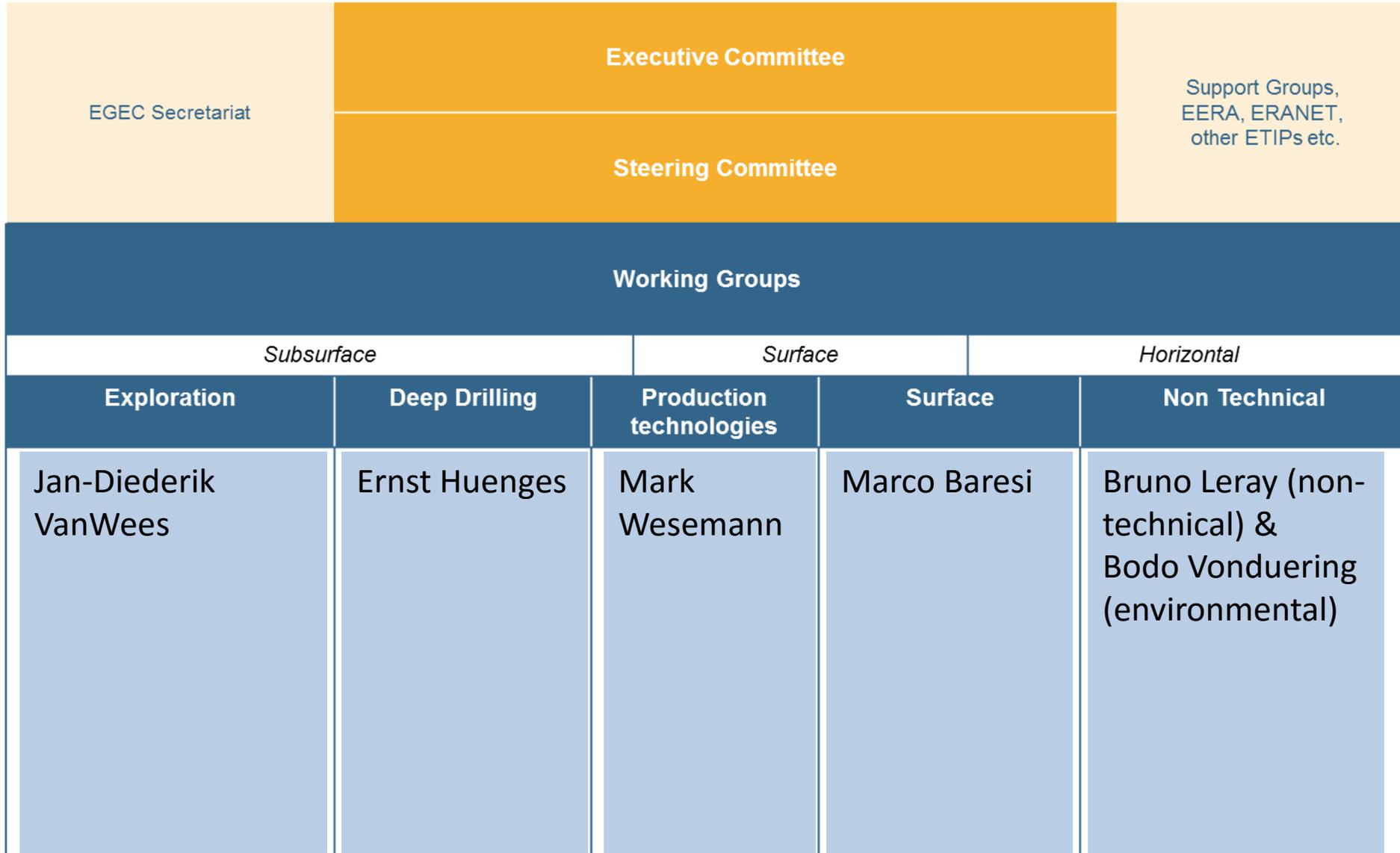
European Technology
Deep Geothermal
& Innovation Platform

DETAILED PRIORITIES
FOR
GEOTHERMAL ENERGY
IN HORIZON 2020
WP 2018-2020

List subject to further update

Last modification date: 05-12-2016

EGEC Secretariat	Executive Committee				Support Groups, EERA, ERANET, other ETIPs etc.
	Steering Committee				
Working Groups					
Subsurface		Surface		Horizontal	
Exploration	Deep Drilling	Production technologies	Surface	Non Technical	
<ul style="list-style-type: none"> •Hydrothermal: medium and high T° •EGS •Supercritical •Understanding Geological processes •Exploration methods •Reservoir characterization •Resource assessment 	<ul style="list-style-type: none"> •Improvement •Novel technologies •Drilling concept •Need for materials •Cost reduction key driver •Dedicated Well designs/techniques for exploration, reservoir development 	<ul style="list-style-type: none"> •Reservoir •Materials •Sustainable Reservoir development •Stimulation /induced seismicity •Scaling & corrosion •Reservoir monitoring and optimization 	<ul style="list-style-type: none"> •Power conversion •CHP •Zero emissions •Grid Flexibility •Hybrid (other source) 	<ul style="list-style-type: none"> •Legal & Policy •Education & Training •Public acceptance, •Risk management •Finance •Competitiveness •System integration 	



Horizon 2020 WP 2018-2020: Research priorities

A1 – Developing the next generation of renewable electricity and heating/cooling

Exploration	Enhanced exploration methods for deep geothermal reservoirs
Deep drilling	novel drilling technologies including non-mechanical methods
Production technologies	new materials and engineering of subsurface and surface equipment including mitigation and material selection for EGS and Super-hot Geothermal Systems.
Production & Engineering	Handling of natural geothermal fluids
EGS	Seismic monitoring and mapping of seismic events, stimulation indicators guidelines for preventing surface impacts
Generation & Operation	Efficiency of binary cycle power plants suitable for variable heat and electricity supply, including high temperatures and bottom cycle

Horizon 2020 WP 2018-2020: Research priorities

A2 – Close-to-market demonstration of competitive renewable electricity and heating/cooling technologies	
Operation & Production	Reliability of deep thermal loop technologies
Deep drilling	Optimized and reliable drilling and well completion
Production & Engineering	High temperature production pump, novel stimulation treatments and HT/HP tools
Generation & Operation	Flexible heat/cold and electricity supply from binary cycles including coupling of renewable energy sources
	Zero emission power plants and development of CO2 re-injection or sequestering-capturing in high CO2 content/systems.

Horizon 2020 WP 2018-2020: Research priorities

A3 – Support to market uptake of renewable electricity, heating and cooling technologies	
	Innovative Risk mitigation financial tools
	Integration of flexible generation from geothermal power in the energy sector
	Evaluate and mitigate socio-environmental impacts of geothermal operation with implementation of sustainability protocol for Geothermal utilization