

EERA Joint Programme on Shale Gas

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Number participants and associates:	24 in total; 19 members and 5 associate members from 15 European countries, 182 person years per year committed.

Shale Gas - the challenges ahead

It is expected that fossil fuels will dominate the European energy mix to at least 2030. The European Commission Energy Roadmap 2050 identifies gas as a critical fuel for the transformation of the energy system in the direction of more renewables and lower CO₂ emissions. Shale Gas has proved to be a game changer in the US energy market, and increased US self sufficiency on gas, lowered gas prices in the US and created new jobs. There is a clear need for an independent knowledge basis addressing to what extent US practices can be applied to Europe.

Shale gas source rocks are widely distributed around the world, but geological characteristics differ. Many EU member states are investigating their shale gas resources and may benefit from each other's experience. Shale gas may play an important role in security of energy supply in EU member states and it is clear that shale gas will affect the European Union even if individual European countries choose not to pursue this resource.

Accelerated development of shale gas is accompanied by growing public concern regarding the environmental impact of shale gas exploitation. As the European continent is densely populated, public perception may play a much more prominent role than in remote areas where techniques with large surface impact are common practice. This platform on shale gas will provide a research-based understanding of technology and methods that address these concerns.

Joint Programme on Shale Gas – objectives and activities

The main objective is to align and share research activities at EERA institutes related to Shale Gas exploration and production activities that cover the whole Shale Gas value chain for both industry and government.

Visit please the website: www.eera-set.eu

EERA Shale Gas Sub-programmes: Focus Areas

Sub Programme 1 Assessment of shale gas potential

- Review of technologies and assessment of shale gas potential and come to one EU-methodology.
- Scientific and technological progress in the understanding structure of source rocks and their depositional environment to reduce uncertainties into the quantification of Shale Gas Potential.

Sub Programme 2 Technology for safe exploitation

- Developing characterisation methods tailor made for gas shale reservoirs
- Developing existing and innovative drilling techniques that improve borehole stability
- Improving the understanding of fracture growth aiming at better control and prediction of the fracturing process
- Developing innovative fracturing processes by using alternative fluids, new materials (prop pants) and fluid-free fracturing techniques
- Increased learning from ongoing production monitoring
- Illustrating best practices of safe and efficient shale gas exploitation by means of field cases developed for typical European gas shale's

Sub Programme 3 Environmental impact and footprint

- Compile a comprehensive inventory of the potential impact and footprint of shale gas development
- Quantify impact, footprint and risks associated with shale gas development
- Determine risk mitigation measures and boundary conditions for minimum impact and footprint
- Develop standardized methodologies to assess impact, footprint and risks of development.

Sub Programme 4 Energy and carbon efficiencies and emissions to air

- The potential contribution of shale gas production to greenhouse gas and other gaseous emissions.
- Removing environment barriers and developing innovative technology solutions.

Sub Programme 5 Social license to operate

- Understand the impact of shale gas activities on the wider EU economy and energy system.
- Examine the regulatory and governance challenges at local, national and European scales.
- To provide an in-depth understanding of European public awareness, knowledge about, and acceptability of shale gas technology and its potential deployment in EU Countries.
- To understand the origins of community and national level activism and the legitimate concerns stemming from perceptions of uncertainty and risks.
- To suggest strategies of dialogue between policy makers, NGOs, industrial stakeholders and the public regarding the social license to operate.