

EFD Europe Mission

The new “Environmentally Friendly Drilling Europe (EFD Europe)” was established to identify, fund and transfer cost effective technologies and best practices to increase energy supply security and independence by accelerating the development of indigenous energy resources in a safe and environmentally friendly manner.

The Chair of Drilling and Completion Engineering at the Montanuniversität Leoben, Austria, hosts and leads EFD Europe as a platform for the different stakeholders from the research and development community, industry, regulators, and the public.

Montanuniversität Leoben

The Montanuniversität Leoben is a technical university with a unique standing and special focus on petroleum and mineral resources. Its history is marked by a continuous development of its entire range of academic studies. Graduates from the Montanuniversität Leoben are among the most sought after professionals anywhere. In particular, its petroleum engineering alumni are known worldwide for their broad engineering education, technical skills and leadership

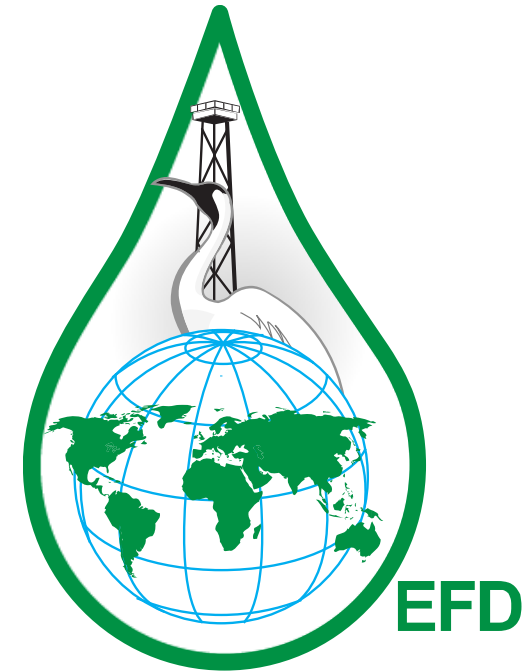


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Environmentally Friendly Drilling Systems European Chapter



Hosted by the
Chair of Drilling and Completion
Montanuniversität Leoben
Max -Tendler Straße 4

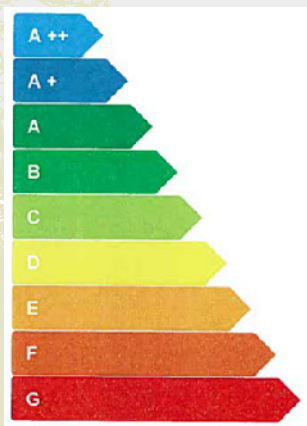
Zero Harmful Emissions

Minimizing the environmental footprint of drilling and hydraulic fracturing with rigs and fracturing units

- a) Aiming at zero harmful emissions
- b) Least possible rig visibility
- c) Minimizing waste and recycling of "secondary raw materials"
- d) Closed loop drilling systems

Be a champion of "Best Practices Technology" based on Score Card principle

- a) Measure the environmental compliance of rig fracture equipment
- a) Perform rig audits

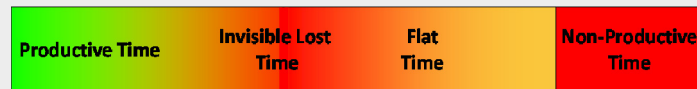


Score card evaluating rig environmental impact

Increased Drilling Efficiency

Increased efficiencies by industrialized drilling and fracturing operations

- a) Rigorous measurement of drilling efficiency
 - Avoiding non-productive time by early problem recognition and mitigation
 - Reducing invisible lost time by benchmarking and performance improvement of processes and equipment



Drilling Time Breakdown (Source: SPE 138922)

- b) Industrialization of the drilling process to maximize the efficiency of drilling campaigns
 - Rig automation
 - Rig fleet coordination
 - Working at highest possible energy efficiency



Rig concept (Source: AADE-11-NTCE-61)

Communication Platform to link Stakeholders

Web based communication platform to inform stakeholders and to transfer knowledge

- The Public,
 - Industry,
 - Regulators,
 - The Research and development community
- Collection of information outlining relevant activities in Europe
- Rig count
 - Wells drilled

A first result of this initiative to build a communication and collaboration platform is the European Sustainable Operating Practices (ESOP) Initiative – a cooperation between EFD Europe, Gas Technology Institute (GTI), and the GFZ Potsdam.

