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Assessment of Deep Seated Geothermal Reservoirs in Selected European Sedimentary Environments

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Europe at large enjoys a variety of sedimentary environments. They most often host dependable geothermal reservoirs thus favouring the farming of hot fluids, within the low to medium enthalpy range, among which geothermal district heating (GDH) and combined heat and power (CHP) undertakings hold a dominant share.

Three selected reservoir settings, addressing carbonate and clastic deposits, the Central part of the Paris Basin, the Southern Germany Molasse Basin in the Münich area and the Netherland Basin respectively will be presented and the exploratory, modeling and development strategies discussed accordingly.

Whereas 2D (reprocessed) and 3D seismics have become a standard in matching the distinctive (reef facies, an echelon faulting, carbonate platform layering) features of a deep buried karst and a key to drilling success in the Molasse Basin, thus emphasizing a leading exploratory rationale, the Netherland and Paris Basin instead benefit from a mature data base inherited from extensive hydrocarbon exploration campaigns, with concerns focused on reservoir modeling and sustainable management issues.

As a result the lessons learned from the foregoing have enabled to build up a nucleus of expertise in the whole chain from resource identification to reservoir assessment and market penetration.

The seismic risk, indeed a sensitive though somewhat emotional issue, which is requiring special attention and due microseismic monitoring from the geothermal community will also be commented.