Geophysical Research Abstracts
Vol. 15, EGU2013-12375, 2013
EGU General Assembly 2013

Monitoring induced seismicity from underground gas storage: first steps in Italy

Marco Mucciarelli (1,2) and Enrico Priolo (1)
(1) Seismolgical Research Centre, OGS, Trieste, Italy, (2) School of Engineering, Basilicata University, Potenza, Italy

The supply of natural gas and its storage are focal points of the Italian politics of energy production and will have increasing importance in the coming years. About a dozen reservoirs are currently in use and fifteen are in development or awaiting approval. Some of these are found in the vicinity of geological structures that are seismically active.
The assessment of seismic hazard (both for natural background and induced seismicity) for a geological gas storage facility has a number of unconventional aspects that must be recognized and traced in a clear, ordered way and using guidelines and rules that leave less room as possible for interpretation by the individual applicant / verification body. Similarly, for control and monitoring there are not clearly defined procedures or standard instrumentation, let alone tools for analysing and processing data. Finally, governmental organizations in charge of permission grants and operative control tend to have appropriate scientific knowledge only in certain areas and not in others (e.g. the seismic one), and the establishment of an independent multidisciplinary inspection body appears desirable.
The project StoHaz (https://sites.google.com/site/s2stohaz/home) aims to initiate a series of actions to overcome these deficiencies and allow to define procedures and standards for the seismic hazard assessment and control of the activities of natural gas storage in underground reservoirs.
OGS will take advantage of the experience gained with the design, installation and maintenance of the seismic network monitoring the Collalto reservoir, at the moment the only example in Italy of a public research institution monitoring independently the activities of a private gas storage company.