

The Castor Project: Beyond technical and scientific knowledge

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The Castor Project was considered the most suitable underground gas storage (UGS) facility for the Spanish Gas System, and intended to help balance supply and demand of natural gas in Spain, as well as serving as a main strategic reserve. The project was originally included in the 2002-2011 National Planning of the Electricity and Gas Industries and classified as ‘Type C’. Later, in the revised 2005-2011 Planning, approved by the Spanish Government in 2006, it was classified as ‘Type A-Urgent’.

This UGS plant was expected to be built using the depleted Amposta oil reservoir, located 21 km off the Eastern Mediterranean coast of Spain, opposite to the town of Vinaròs, in the Castellón province. This offshore geological structure, in operation between 1973 and 1988, and with unique reservoir characteristics (including a high withdrawal capacity, a low requirement of cushion gas, and the possibility of injecting the full cushion gas and working gas volumes in the first year), is composed of karstified cretaceous limestone covered by Miocene fine-grained silt stones and clay providing an estimated total of 1,900 Mm³ of gas storage capacity, of which approximately one-third would be cushion gas. The Project was the first of this kind in the Mediterranean coast.

The 1,700 M€ Castor Project, selected in July 2013, was the first among few European Projects of Common Interest (PCIs) to be financed under the pilot phase of the Europe 2020 Project Bond Initiative (PBI), launched in 2012 by The European Commission (EC) and the European Investment Bank (EIB) to stimulate capital market financing for large-scale infrastructure projects from a selection of PCIs.

By beginning of September 2013 there was a sudden increase of local seismicity, located offshore close to the UGS plant, with more than 1,000 events recorded in about 40 days with mbLg magnitudes between 0.7 and 4.2 only 17 of which were greater than 3.0 and three larger than 4.0. This seismic activity was unusual if compared to the instrumentally recorded in the last two decades, or to known historical events, and it followed the injection of cushion gas. Several events were felt in localities at the shoreline, triggering significant concern in the population, which made the Spanish Government to shut down the works. The seismic activity declined rapidly six weeks after the gas injection operations stopped.

By the end of 2014, after a Spanish Royal Decree terminated the concession of the UGS plant, the Prosecutors’ Office of the Castellón province placed a complaint before the judge against involved Spanish institutions and the project company Escal-UGS. Since January 2015 the Magistrate’s Court of Vinaròs (Castellón) indicted 20 people who took part in the transaction and approval of the Castor Project.