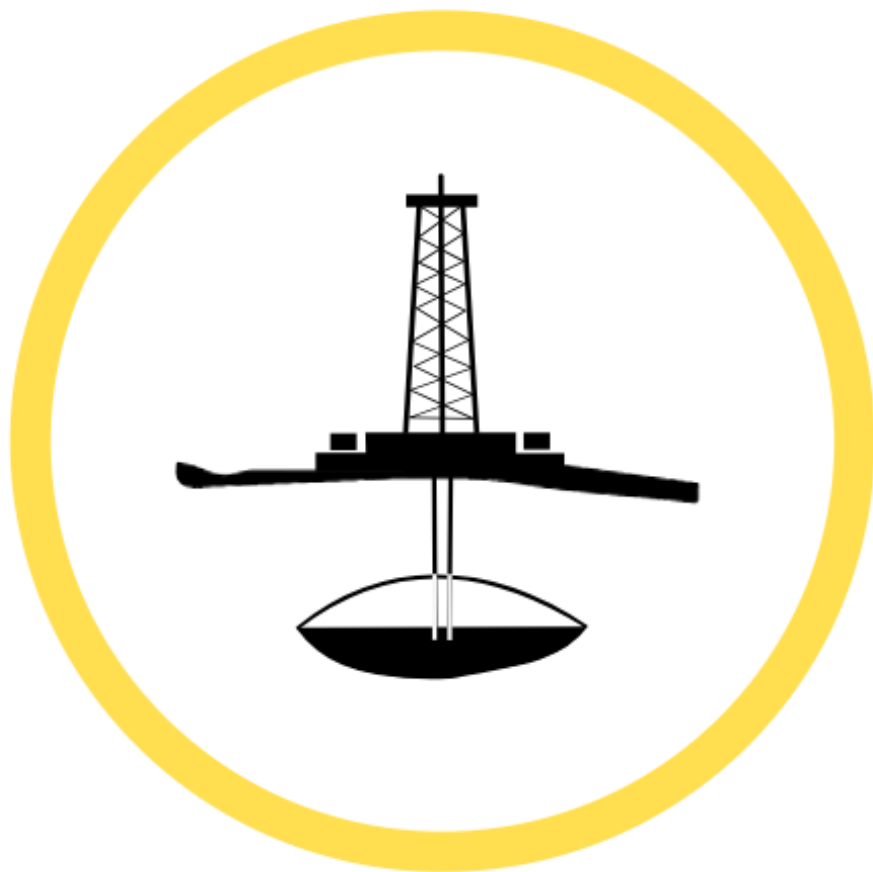
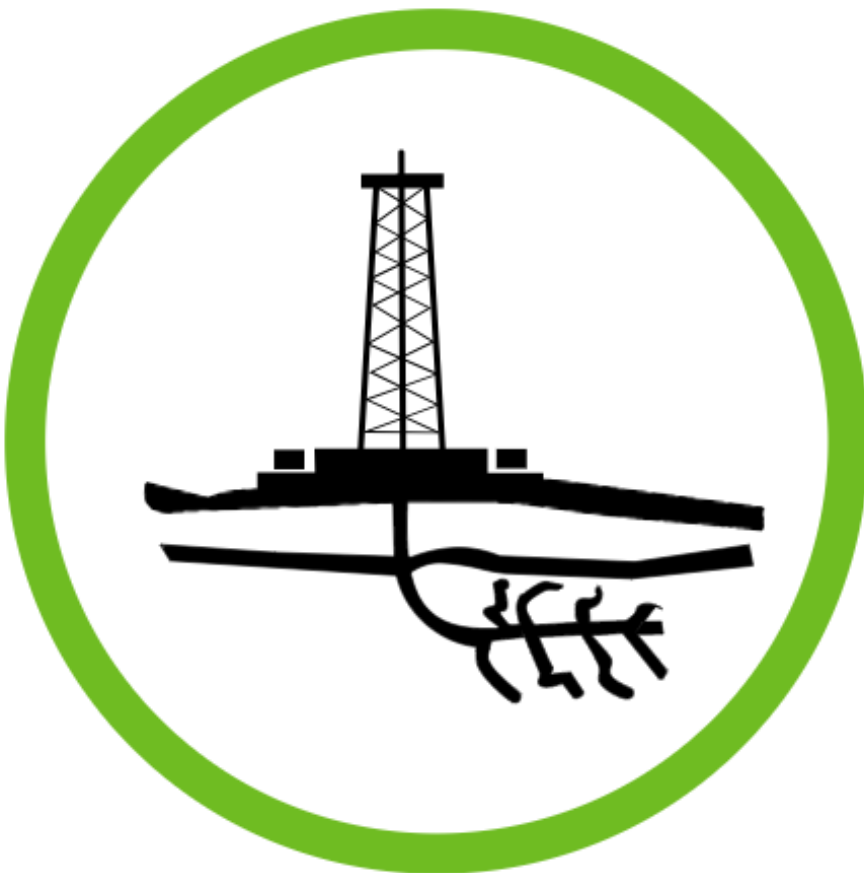


# Conventional Hydrocarbon Extraction -



is the extraction of hydrocarbon resources (typically light crude oil and / or gas) from naturally porous and/or permeable geological reservoirs using **natural fluid pressure or standard pumping technologies.**

# Unconventional Hydrocarbon Extraction -



is the extraction of hydrocarbons not using standard techniques. Methods include 1) **hydraulic fracturing** to improve reservoir permeability and the release of tightly held gas and 2) the **heating of a geological reservoir** to reduce the viscosity of heavy/ super heavy oils and bitumen.

# Underground Mining -



the extraction of raw materials  
(rock and/or minerals) from  
underground.

# Wastewater injection -



is the injection of waste fluids into a rockmass underground.

# Geothermal Energy Production -



technology using thermal energy generated and stored in the Earth for heat and/or electricity production.

# Reservoir Impoundment -



is the process of filling a water reservoir.

# Underground Gas Storage -



technology of gas storage in  
underground rock formations.

# CO<sup>2</sup> Sequestration -



is the process involved in carbon dioxide capture and long-term storage (e.g. underground) of either atmospheric carbon dioxide or carbon dioxide created by industrial processes to mitigate or defer global warming.



## Anthropogenic Seismicity Sources Matching Game

1. Cut along the dashed lines to separate the graphics from the terms and definitions.
2. Mix up separated pieces and arrange them face down on a groupwork table.
3. Ask students in pairs or groups to match the terms with a definition and associated graphic.
4. At the end of the exercise one student can be given the correct answers to mark the matches out of 8 and give hints to help correct the remaining incorrect matches.
5. This activity can also be done competitively by being scored and/ or timed.

## Intended Learning Objectives-

- Players become familiar with some of the sectors/processes and technologies that can trigger or induce earthquakes (anthropogenic seismicity sources).
- Players learn georesource exploitation methods and terminology.
- The game provides an introduction to, and understanding of the graphics utilised in the EPISODES Platform Research Infrastructure for Anthropogenic Seismicity - <https://episodesplatform.eu/> and can be played alone or before completing the student worksheets in the educational outreach learning package 'Earthquakes caused by humans'.
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  - The British Geophysical Association (BGA) Outreach Initiative - [Outreach | The British Geophysical Association \(geophysics.org.uk\)](#)