

# IMPROVED CATALYST FOR SYNTHETIC NATURAL GAS PRODUCTION



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## ABSTRACT

The technology developed by researchers at the University of Alicante optimizes the production of synthetic natural gas at low temperatures.

The technology consists of a catalyst that facilitates the conversion of green hydrogen into synthetic natural gas simultaneously depleting carbon dioxide emissions. This is a highly energy-demanding process, and the new catalyst presents technical advantages with respect to available catalysts. The main advantage is the reduction of the energy consumption, since it allows the reaction to be accelerated in a temperature range much lower (from 190 °C on) than the working temperatures of usual catalysts (typically above 300 °C).

This technology is very interesting for companies in the energy sector working on the production of synthetic natural gas, green hydrogen obtention and industries with high carbon dioxide emissions.

## TECHNOLOGY ADVANTAGES AND INNOVATIVE ASPECTS

### MAIN ADVANTAGES OF THE TECHNOLOGY

The main advantage of the catalyst is the production of synthetic natural gas in a more economical and sustainable way.

The new catalyst operates in a much lower temperature range than the other catalysts used in this process.

### INNOVATIVE ASPECTS

Getting a catalyst of this type to operate in such a low temperature range is a complex technological challenge. It was necessary to select the most appropriate components, optimize their composition and develop a specific synthesis method that would allow the composition, morphology and surface structure to be controlled at a molecular level.

The result has been a much more efficient catalyst that considerably reduces the cost of generating synthetic natural gas.

## MARKET APPLICATIONS

This technology is particularly interesting for the energy sector and, in particular, for companies that generate synthetic natural gas, produce green hydrogen and/or are intensive in the emission of carbon dioxide to the atmosphere.

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COLLABORATION SOUGHT

Companies interested in acquiring this technology for commercial exploitation or participate in a joint venture together with a start-up of the University of Alicante throughout:

- Licensing agreements.
  - Cooperation agreements
  - R+D project agreement to undertake technology-related projects (to adapt the technology to particular scenarios).
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