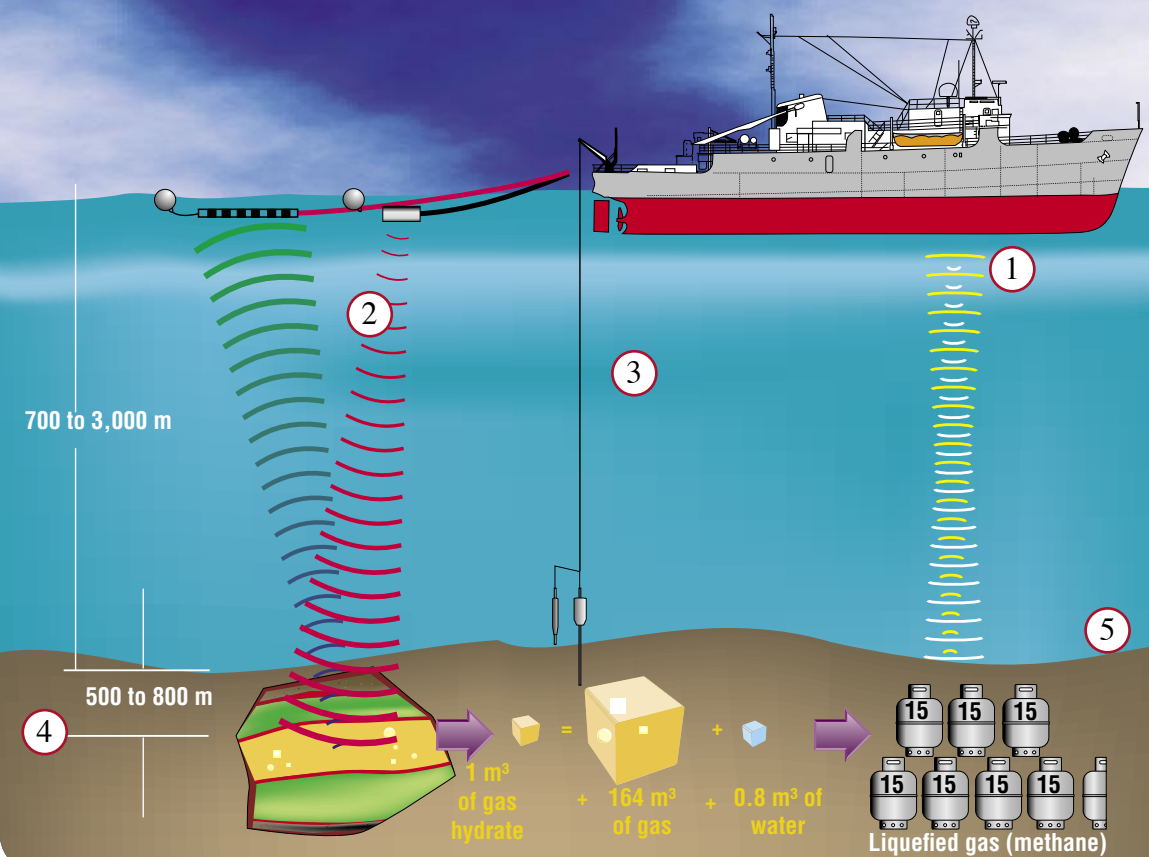


# Stages of Investigation



## 1 Oceanographic campaigns.

The oceanographic ship of the Chilean Navy, "Vidal Gormaz" carried out the research cruises between 2001 and 2004, in an area located between parallels 32° and 40° latitude south, up to a distance of 150 kilometres from the Chilean coast.

## 2 Indirect geophysical methods.

In the first stage of research, indirect physical methods of prospecting are used, such as seismic reflection (with an air cannon which emits sound waves whose reflection on the seabed is captured by means of hydrophones), transient electromagnetic calorific flow, gravity and magnetism, and bathymetry and geomorphology for which a multibeam echosounder is used to determine the depth and form of the seabed.

## 3 Extraction of samples.

The second research stage takes the employment of direct prospecting methods into consideration, such as the extraction of sediment samples from the seabed to verify the presence of gas hydrates using an instrument called a Piston Corer.

## 4 Location of deposits.

By the use of these methods, there is a probability of finding gas hydrates in areas of the sea at a depth between 700 to 3,000 metres. The deposits were found below the seabed at a depth between 500 and 800 metres.

## 5 Energy equivalence.

Once the samples were analysed, it was established that this resource constitutes an important alternative for energy in the future. A cubic meter of gas hydrates is equivalent to more than 100 kilos of liquid gas.



A sample of the sediment that contains methane gas which, when subjected to atmosphere pressure, is liberated and can be used as a source of energy.

