China began the mining of combustible ice (natural gas hydrates)

The trial mining was conducted at a depth of 237-304 meters undersea in the Shenhu sea (PT) area, about 320 kilometers southeast of Zhuhai City in Guangdong Province. China has set two world records in terms of the total gas output in a month and the daily gas production of 28,700 cubic meters.

The latest test adopted a horizontal well drilling technique, the first time it has been used in the natural gas hydrate extraction, which has greatly increased the gas production. Chinese scientists have achieved gratifying results after two years' efforts and made new breakthroughs in key technologies and core equipment.

What it is?

Combustible ice is a natural gas hydrate trapped in ice crystals formed under high pressure and low temperatures in permafrost or under the sea. It can be ignited like solid ethanol, which is why it is called combustible or flammable ice. Combustible ice that contains 88 percent to 99.9 percent of methane is an efficient, abundant and clean energy. Like natural gas, it can be used for household gas consumption, motor fuel supply, chemical industrial production, city heat supply and electricity generation.

Mining of combustible ice started in the 1960s, but China began research in 1998. China found flammable ice in the South China Sea in 2007 and conducted its first experimental gas extraction in 2017. The first exploitation test succeeded in producing a total of 309,000 cubic meters of natural gas in a 60-day period. The combustible ice reserve in China's waters is equal to around 80 billion tons of oil and boasts a bright future. The improvement in gas scale and efficiency will bring China's combustible ice mining on to a fast track.

**Combustible Ice**

- Combustible ice is a **frozen mixture of water and concentrated natural gas**.
- Technically known as **methane hydrate**, it can be lit on fire in its frozen state and is believed to comprise one of the world's most abundant fossil fuels.
- Commercial development of this **frozen fossil fuel** has now moved closer to reality after Japan and China successfully extracted the material from the sea floor off their coastlines.
- Large-scale production, if not done properly, could flood the atmosphere with climate-changing greenhouse gases.
- Methane hydrate has been **found beneath seafloors and buried inside Arctic permafrost and beneath Antarctic ice**.