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Gas-hydrates: A major energy resource of India for the next generation

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The growing demand of carbon emission free energy and depletion of fossil fuels necessitate looking for an alternate source of energy for sustainable development of energy-starving countries like India. Gas hydrates are crystalline form of 99% methane and 1% water. They have attracted the attention of geo scientific community due to their abundant occurrences in the outer continental margins and permafrost regions, and huge energy potential as a viable major energy source of future. The bathymetry, seafloor temperature, total organic carbon content, sediment-thickness, rate of sedimentation, geothermal gradient imply that shallow sediments of Indian margin are good hosts for gas hydrates .The methane within gas hydrates has been prognosticated to be more than 1500 times of India's current natural gas reserves. If we produce only 10% of this huge natural treasure, the energy demand can be met for nearly 100 years. By the data of seismic surveys, bottom simulating reflectors (BSRs) are identified, which are the main markers for gas hydrates and we have found the most prospective zones as Krishna-Godavari Basin, Mahanadi Basin and Andaman Basin and the less explored but potential zones as Kerala-Konkan Basin, Saurashtra Basin, Kerala Laccadive Basin and Cauvery Basin along the Indian shelf within EEZ boundary.

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