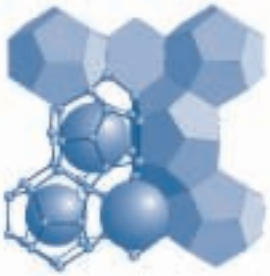
RESOURCES OF THE SEA
BURNING ICE

Burning ice

At the deep-sea floor methane and water form an ice-like substance: Gas hydrate. Methane gas stored as hydrate contains up to twice as much energy as all known oil and gas reserves combined.

WATER + METHANE = BURNING ICE

Gas hydrate cements continental slopes. Should it melt, due to warming or a change in sealevel, huge slumps could result generating tsunamis. Methane thus released could play havoc with Earth's climate, being a powerful greenhouse gas.



Gashydrate structure, methane and water molecules; 1 litre hydrate contains 164 litres methane

Massive gashydrate layer recovered; mapping distribution of layers below seafloor is a major challenge for marine seismology

RESEARCH NEEDS

- to determine amount, distribution and dynamics of oceanic methane hydrate
- to quantify its role in slope stability, the global carbon cycle, and climate change
- to identify sources of gas locked up in methane hydrates
- to investigate gas transport mechanism and migration pathways
- to assess environmental impact of hydrate exploration

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