

# 5.16.22

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## GLAWCAL COMMENT

### **EFFECTIVELY GOVERNING THE METHANE HYDRATES EXTRACTION PROCESS**

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Based on:

Yan Dong, Paolo Davide Farah, Ivana Gaskova, and Carlo Vittorio Giabardo. “Evaluating China’s Environmental Management and Risks Avoidance Policies and Regulations on Off-shore Methane Hydrate Extraction.” *Sustainability* 12, no. 13 (January 2020): 5331.



Although methane hydrates initially appear to be a cleaner energy source than traditional crude oil and gas, there has not been any large-scale commercial extraction. This is due to the uncertainties related to its extraction technology; especially regarding the environmental risks these technologies may pose. As such, in China at least, an environmental impact assessment must be conducted prior to the development and construction of any methane hydrates project. Any developmental and utilization plans that fail their EIA cannot be started. When examining new technologies for extracting offshore methane hydrates from a more concrete perspective, the reality is very complex. There is a huge gap between theory and practice and most laws and regulations do not specifically consider the inherent risks of the extraction processes of offshore methane hydrates. For authorities, agencies, and experts in charge of conducting EIAs, the largest problem lies in identifying the relevant information and knowledge regarding the process and outcomes of offshore methane hydrates extraction. The offshore methane hydrates extraction process is still in its infancy. As such, empirical studies are still ongoing and have not gathered enough information for conducting precise evaluations about the impacts of the methane hydrates extraction processes and the technologies used therein. So far, there have been notable catastrophes from methane hydrates extraction. Therefore, assessments are based on simulations and experiments held in laboratories, rather than actual evidence gathered from real catastrophes. In addition, the novelty of the field means that laws and regulations, as well as governing bodies, are not fully equipped to deal with the constantly evolving field. At the time, said regulations and laws were drafted, advancements and associated risks were not yet foreseeable. Therefore, it is necessary to scrutinize current environmental protection regulations in order to identify the existing loopholes. The risk assessment of such projects is often performed by administrative bodies and governed by their regulations. Due to the novelty of the methane hydrates extraction process, such governing bodies—such as the National Oceanic Bureau—may not have enough experience or evidence to properly decide in the process of approving an environmental assessment report of offshore methane hydrate projects. In addition, the terms used in regulations may leave room for environmentally undesirable outcomes to occur even when the methane hydrates extraction is given government approval. For example, the regulatory scope of an “environmental impact” is narrowly defined. This definition represents a problem when assessing the cataclysmic risks potentially generated from offshore methane hydrates extraction; as events of a non-catastrophic nature, such as the greenhouse effect, would probably not attract the attention of top-level officials. In addition to insufficient regulations, the agencies simply lack the references and scientific data necessary to produce relevant evaluations of offshore methane hydrates extraction processes. Agencies appear to have neither the expertise nor the knowledge necessary to evaluate the risks of offshore methane hydrate extraction.



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