

## **Environmental consequences of oil and gas extraction and transport**

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Fifty years ago the potential for large oil spills to occur in the marine environment was realised with the sinking of one of the world's first super tankers, the Torrey Canyon. More recently the 2010 Deepwater Horizon oil spill in the Gulf of Mexico served as a reminder that, despite advances in technology, large oil spills can occur and continue to challenge our abilities to respond quickly and effectively. When such events occur the focus is typically on mitigation. More emphasis, however, is needed on improving oil spill response and preparedness tools that can help stakeholders to better understand the potential environmental risks and identify where resources are best deployed to safeguard the different marine environments where oil exploration and production is planned or underway. It could be argued that oil and gas related activities such as exploration, production and refining have been undertaken for many years and the potential environmental risks reasonably well understood. However, new assessment and model tools are continuously being developed; these new tools and approaches generate new considerations and raise new/additional concerns regarding the potential risks of exploration and development activities in marine environments. Similarly, there are a range of activities on land, including accessing unconventional oil and gas reserves by fracking, oil sands exploitation and enhanced oil recovery techniques, that also present new challenges. The intention of this session is to provide an opportunity to disseminate current and best practices regarding approaches and methods to assess the environmental consequences of oil and gas extraction and transport. This will also provide an opportunity to identify if significant data gaps exist and areas that warrant further research. Given that some oil and gas activities have attracted controversy and raised public concerns there is a clear need to have robust tools and scientifically validated approaches to ensure environmental risks are correctly understood and communicated.