Outreach and Engagement: ESG & ship-source pollution, when does response stop being sustainable?

Contact: David Campion@itopf.org

The climate change agenda demands we re-assess the way we work, incorporating new priorities into all our operational practices. Switching to non-polluting fuels and localising supply chains are overarching goals for sustainable shipping, but as the industry evolves, the current paradigm includes ship-source pollution incidents for the foreseeable future. Working within this assumption, this paper considers how sustainability goals could be implemented within various stages of response operations to try and ensure ESG (Environmental, Social and Governance) benefits outweigh the potential costs.

Within the setting of ship-incident responses, 'sustainable' operations can be considered as those that are technically appropriate, whilst also minimising any potential negative environmental and social impacts, maximising positive impacts, and remaining economically competitive. Working to meet these three objectives in a single plan is often termed the 'triple-bottom-line' approach. It is an approach that can be used to guide pollution response decisions, and help stakeholders meet their ESG agenda.

Response to shipping incidents involves a variety of workstreams, however for the purposes of this paper the focus is on clean-up operations. Nevertheless, further consideration can be given to fisheries, environmental damage and social impacts, all topics which can be explored separately.

i) The direct and indirect greenhouse gas (GHG) emissions associated with various choices,
ii) The wider product life cycle usage, related to each option, and
iii) Any implications these choices have on the Sustainable Development Goals (SDG).

Three distinct aspects that can be considered to structure viewing response options through a sustainability lens and guide the decision making process, these are:

Direct and indirect GHG emissions, as defined under international sustainability reporting criteria, are respectively those generated from; energy consumption within your control (direct), or emissions generated as a consequence of decisions you've taken (indirect). Both types of emissions occur throughout all aspects of the response, from the initial mobilisation of assets through to sign-off and final demobilisation from site. Throughout this period, all ramifications of the response should be considered, including the scale and establishment of the command centre as well as the field-based clean-up and response activities. With this in mind, consideration could begin with giving thoughtful inclusion to potential remote support opportunities and continue through to the inclusion of GHG emissions within the net environmental balance analysis (NEBA) of response choices and the selection of appropriate endpoints. Simple tools to aid this process should be created and made available to response coordinators.

Life cycle analysis is a method to evaluate the environmental impact of a product throughout its existence, from the initial processing of raw materials, throughout the products use, and onto its final recycling and/or disposal. This type of analysis obviously requires time and research and cannot be considered 'on-the-fly' during a response, however, a simplified evaluation process supported by a catalogue of in-depth research could help augment response strategy. An example of more detailed research is produced by Saito et al. (2006) who examine the product life cycle of various oil sorbents. Their study shows that the production, transport, oil recovery, removal and disposal by incineration of polypropylene oil sorbents produces approximately 13t-CO_2 emissions per 1t of Bunker C (residual oil) collected. The largest percentage of emissions produced throughout this lifecycle is from the disposal phase where approximately 76% of the emissions (~10t-CO_2) are produced. As a point of reference, EPA (2017) state that combustion of 1t of residual fuel oil produces approximately 3t-CO_2 (3,126.96 kg). (CO_2 is used here as a simplified indicator of overall GHG emissions). What this research shows us, is adopting alternate methods of oil recovery, that do not produce such large volumes of waste, can reduce the overall emissions of response.

In addition to the GHG climate change agenda, the 17 UN Sustainable Development Goals (SDGs) offer a wider, holistic framework for supporting global socio-economic growth and protecting local natural resources. Utilising these goals as a framework to consider how potential positive impacts of response operations can be brought to a local area is imperative. They can be a means to protect and enhance livelihoods, seek to localise supply chains, and where possible, and ensure key resources are not detrimentally impaired.

This presentation offers a conceptual framework to incorporate these practices as a standard element of the response process.