



A case for incorporating Environmental Social & Governance (ESG) into spill response

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ABSTRACT

Over recent years the shipping industry has begun to discuss issues relating to sustainability, often within the framework of Environmental, Social and Governance (ESG). In the context of ship-source pollution response, there is debate over how ESG can be practically incorporated into this emergency response sector, and concerns that its inclusion may lead to increased bureaucracy and higher workloads at moments when time is already at a premium. This paper therefore examines the feasibility and usefulness of monitoring sustainability during maritime pollution response, and provides practical recommendations on how ESG considerations can be tailored to the spill response sector.

The aim of this paper is to demonstrate that ESG considerations are often already engrained within the activities of the spill response community, but highlights that work is required to ensure this effort is correctly recorded and communicated. To this end, care should be taken to ensure data collection is consistent and standardised across incidents to allow meaningful comparisons. Ideally, data should also be collected centrally on behalf of multiple stakeholders to ensure all aspects are captured, there is no bias, and to reduce the potential perception of 'greenwashing' or 'reputation management'. Instead of relying on global sustainability reporting frameworks, sector-



specific tools could facilitate recording and mitigation of ESG impacts in a manner relevant to spill response operations. The outputs could then be fed into wider reporting frameworks.

This paper presents two practical tools, developed by ITOPF, that can help structure and refine ESG risk assessments in a timely manner to enable more holistic decision-making during spill response. The first, a greenhouse gas (GHG) calculator, facilitates quantification of emissions released during spill response operations. The second tool (currently under development) is a web app-based ESG scoping tool which aims to identify and categorise ESG impacts related to an incident and its surrounding operations.

INTRODUCTION TO ESG

Environmental, Social and Governance (ESG, Figure 1) discussion is increasingly commonplace in today's corporate landscape. At a basic level, an organisation's ESG represents the following (ESGgo, 2022):

- Impact on the planet (E)
- Impact on their shareholders, employees, suppliers and communities (S)
- Impacts of corporate ethics determined by how responsibly and transparently the organisation operates (G)

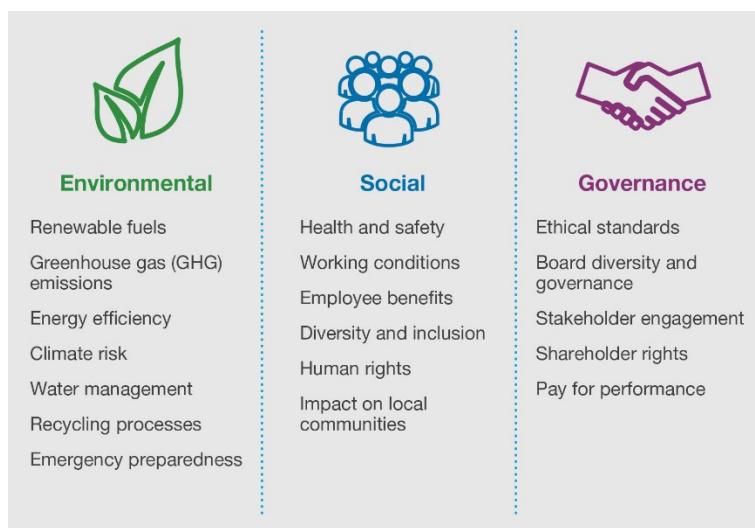


Figure 1 – A non-exhaustive list of ESG topics. (Rodin & Madsbjerg, 2021)

The concepts of ESG are not new. Over recent decades several international legislative developments have focussed business activity towards the notion of sustainability¹, Socially Responsible Investing (SRI) or Corporate Social Responsibility (CSR), all topics which have evolved to be known under the umbrella of ESG today. One of the earliest international efforts to introduce environment-focussed legislation was the United Nations Framework Convention on Climate Change (UNFCCC) – an environmental treaty signed by 154 nations at the first-ever Earth Summit in Rio de Janeiro in 1992, urging signatories to curb greenhouse gas (GHG) emissions (United Nations, 1992). Since the initial Earth Summit, the Conference of the Parties (COP) has met yearly to monitor pledges and progress made by the signatories of the UNFCCC (United Nations, 2023).

¹ a catch-all term, used in this paper to describe a holistic approach to ES&G matters, ensuring environmental health, societal equity and economic viability can be sustained in an ethical manner for the current and future generations. ([UCLA Sustainability Committee](#))

Wider ESG issues (i.e. not only those focussed upon GHG emissions) were first introduced into international reporting frameworks by the 2006 United Nations Principles for Responsible Investment (PRI) report (UNEP FI & UN GC, 2021) (Figure 2). This report highlighted the culture of “Who Cares Wins” in modern investing, and required, for the first time, ESG criteria to be incorporated within the financial evaluation of companies. Eventually, at the UN Sustainable Development Summit in September 2015, the 2030 Agenda for Sustainable Development was adopted by all United Nations Member States (UN General Assembly, 2015). At the heart of this agenda are 17 sustainable development goals (SDGs) – 17 goals which highlight that “ending poverty and other deprivations must go hand-in-hand with strategies that improve health and education, reduce inequality, and spur economic growth – all while tackling climate change and working to preserve our oceans and forests” (UN Department of Economic and Social Affairs, 2023). The SDGs underpin most ESG strategies and frameworks today.

WHY INVEST RESPONSIBLY?



Figure 2 – United Nations Principles for Responsible Investment (PRI) report 2021 (UNEP FI & UN GC, 2021)

Alongside the development of these international frameworks, numerous far-reaching events with ESG implications have led to an increased cultural expectation for ESG accountability and transparency in large organisations worldwide. Examples include:

- The Macondo oil spill in 2010 (the spill had wide-ranging environmental and social impacts and BP were issued with a US\$53.8 billion pre-tax charge) (Wade & Kays, 2015).
- The Cambridge Analytica Scandal in the 2010s (Cambridge Analytica harvested personal data from 87 million users from Facebook without consent and used the data to provide analytical assistance to various high-profile political campaigns, causing Facebook share prices to drop by billions of USD) (Financial Times, 2018).
- The COVID-19 pandemic (policymakers worldwide were forced to make difficult decisions, leading to widespread disruption to organisations and their supply chains, eventually leading to new & adaptable ways of working) (J.P. Morgan Asset Management, 2020).

Overall, evidence suggests that it ‘pays to do the right thing’ (Georgescu, 2017). Corporations are motivated to appear to be behaving ethically or in an environmentally friendly manner, and this behaviour is tied to profit. Unfortunately, this leads to ESG reporting being spun as a tool to manage corporate reputation, rather than to drive meaningful ethical change – often termed ‘green-washing’.

INTRODUCTION TO ESG IN SPILL RESPONSE

Just as ESG practises are now engrained into financial and corporate behaviour, ESG in spill response is not a new concept. In the context of ship-source pollution response, ‘sustainable’ operations can be considered as those that are technically appropriate, but which also minimise any potential negative environmental and social impacts while remaining economically competitive. Working to meet these objectives in a single plan is often termed the ‘triple-bottom-line’ approach (i.e. considering success in three key areas: people, the planet and profit). It is an approach that can be used to guide pollution response decisions, while helping stakeholders meet their ESG agenda.

However, there is often hesitancy over the place of ESG considerations in emergency response, with concerns that increased bureaucracy and higher workload at moments when time is at a premium is a distraction from other important considerations. Moreover, many response professionals would argue that this community has been assessing environmental and social risks for decades, and that at a basic level, the act of mounting a response, is an ESG focussed act within itself. Others may suggest that recent measures to highlight ESG in the decision-making processes serve only to manage corporate reputations, and not to provide tangible advantage to the environment, society, or the efficacy of the response.

A response to a pollution event aims to identify (and reduce) negative environmental and social impacts of an accident, especially when net environmental benefit analysis (NEBA) is applied. NEBA is the process through which advantages and disadvantages of different response techniques (active and passive) are compared, and the techniques with the least overall negative impact are selected (IPIECA, 2015). Over



time, this process has evolved to become SIMA (Spill Impact Mitigation Assessment) to ensure the wide-ranging considerations that go into this balancing act (including ecological, socio-economic and cultural aspects) are recorded holistically (IPIECA, 2017). ESG can be considered as another opportunity of incorporating yet more diverse factors into this process.

In almost all cases, immediate threats to human life or health are considered first, and the environmental impacts of a spill second. The latter uses commonly used data-based metrics to assess this (type and quantity of substance spilled, scale and sensitivity of area impacted, measures of biodiversity, and occasionally greenhouse gas emissions during response). Societal impacts (beyond health) are often inferred from measures of economic loss or damage to property. Other social and governance impacts are considered less tangible and therefore more difficult to quantify but are often captured within supply chain due-diligence practises.

This established process of prioritisation and assessment indicates that ESG impacts are routinely being assessed during spill response operations, but no framework exists to facilitate recording these impacts in a systematic and holistic way. Global sustainability frameworks such as the UN SDGs are very broad, and therefore many of their key performance indicators (KPIs) (UN General Assembly, 2017) are not directly relevant to spill response operations. New sector-specific tools need to be developed to efficiently record ESG impacts relating to spill response and enable clarity of mitigations undertaken to reduce negative impacts. Once developed, these tools will provide a valuable opportunity for consistent collection of data, knowledge sharing, and reflection of best practice.

CHALLENGES WITH ESG IN SPILL RESPONSE

Several challenges arise when recording ESG impacts relating to spill response. Firstly, an organisation collecting data to represent its own “sustainability credentials” may be biased, or information may be selectively shared to give favourable impressions. Similarly, executive level decisions (with the aim of demonstrating ‘green ethics’) can make life more difficult on the ground if not reviewed regularly. For example, a blanket standard procedure which may be suitable in non-emergency situations may not be applicable in emergency spill response scenarios and could eventually lead to delays and increased negative impacts. A detailed procurement process that holistically evaluates members of the supply chain, could potentially hinder rapid establishment of a response in an emergency situation. To tackle such issues, any tools employed to monitor ESG impacts should be adaptable.

One way to avoid the collection of questionable information could be for a single impartial organisation to collect data on behalf of several stakeholders to ensure consistency and robustness, and to avoid suspicion that bias or selectivity of reporting is involved, i.e. greenwashing. However, this raises challenges related to data ownership and transparency, especially with potentially sensitive data.

As with all aspects of spill response, increased bureaucracy is unlikely to facilitate a more effective response. One concern of holistic ESG assessments is that it will lead to an increased level of bureaucracy and red-tape during already high-pressure situations. Therefore, if sector-specific rapid assessment tools are to be effective during emergency response they must avoid interfering with operational processes, but provide concise



outputs that can be fed into the decision-making centre to render them operationally useful.

The level and appetite for ESG preparedness and awareness within spill response varies between organisations worldwide, depending on sector, size and geographical location. Any ESG framework must therefore be adaptable, and any outputs should be easily comprehensible and accessible to those with less ESG experience. Furthermore, social and governance requirements vary between countries, so discrepancies can occur between an international stakeholders' ESG expectations, and local legislation in the country of the incident. Consideration for actions that go “above and beyond” minimum local legislative requirements during contingency planning activities may be appropriate, and international decision-makers should develop clear guidelines on their preferred ethical standards and potential cost implications associated with these.

Not only does the level of awareness of ESG issues vary worldwide, but the propensity to apply ESG assessments punitively also varies between countries. For example, the spill response system in the USA includes NRDA (natural resource damage assessments) which has the potential to demand compensation for spill impacts, including elements that could be included within an ESG assessment. Similarly, other jurisdictions worldwide apply specific punitive charges according to the volume of pollutant spilt, or length of shoreline impacted. Consideration of data use, data consistency and global data-sharing policies and laws is therefore essential to ensure the intentions of ESG reporting are not quashed by punitive mechanisms. Clear communication during contingency planning will help outline expectations around ESG impact assessments.



EXISTING TOOLS FOR ASSESSING ESG IMPACTS IN SPILL RESPONSE

ESG is already engrained into every step of spill response. Table 1 provides a non-exhaustive list of examples of where E, S and G impacts are often already identified, managed and/or reported within each stage of a spill response. The table also lists opportunities where a more conscious focus on ESG data recording could facilitate decision making and contribute towards longer-term development of ESG-focussed best practise in the industry. Given ITOPF’s experience in pollution response, the table below only includes examples relevant to pollution response and does not include examples linked to salvage or accident investigation.

Table 1 - Examples of where ESG is already considered within spill response, and opportunities for further inclusion of ESG in the future.

SPILL RESPONSE	ESG Considerations	
	Often included	Missing/rarely included
Contingency Planning & Preparedness	<ul style="list-style-type: none"> Spill response contingency planning typically includes consideration of environmental (and often social) factors. Preparedness activities may include engagement with local fishing communities or other socio-economic resources. 	<ul style="list-style-type: none"> Specific education and training on ESG considerations – need to raise awareness of what could be included in an ESG assessment, and to limit miscommunication around ESG/manage expectations. Sector specific tools to record and monitor ESG impacts, to minimise bureaucracy and assist with operational decision making.



		<ul style="list-style-type: none"> • Identification of areas where local minimum legislative governance requirements may not meet international expectations/best practise. • Engagement with indigenous communities which may operate different values systems (i.e. not solely money orientated)
<p>Incident Assessment (modelling etc, sensitivities, desk-based studies)</p>	<ul style="list-style-type: none"> • Oil behaviour and trajectory modelling to assess environmental and socio-economic impacts. • Identification (and prioritisation) of environmental sensitivities using publicly available GIS resources. • Identification (and prioritisation) of vulnerable socio-economic resources, often fisheries, tourist facilities, and/or power stations. 	<ul style="list-style-type: none"> • Sensitivity assessment/prioritisation may not include discussion over different values systems (i.e. cultural/heritage sites). • Few publicly available GIS databases including social and cultural info.
<p>Clean-up (selection of techniques, waste collection & disposal, end-points)</p>	<ul style="list-style-type: none"> • NEBA/SIMA employed to select clean-up techniques, and identify waste disposal routes with the least local impact. • Use of qualitative/ semi-quantitative metrics to monitor impact of response operations (e.g. amount of waste 	<ul style="list-style-type: none"> • Quantitative data relating to the global impact of clean-up operations, e.g. GHG emissions. • Supply chain due diligence is often routinely conducted, but data should be recorded consistently and included in ESG reports.



	<p>produced, length of shoreline cleaned).</p> <ul style="list-style-type: none"> • International resources and expertise often provided to manage local expectations and boost technical capability. 	
<p>Damage Assessment</p>	<ul style="list-style-type: none"> • Fisheries and environmental impact studies are conducted by local and international experts. Results from these studies can guide response decisions & cost recovery. 	<ul style="list-style-type: none"> • Formal post-spill social impact studies are rarely conducted. An example where this was conducted is the Island innovation social impact study that was conducted following the MV WAKASHIO incident (Island Innovation, 2022). • Quantification of potential benefit to the local economy (e.g. hospitality sector, infrastructure improvements) due to influx of clean-up workers to the area. While this is included in international best practise guidelines on cost recovery (e.g. IOPC Funds, 2019), it is often not in the interest of the government of claimants to record & report this. • Recording of decision-making process around selection of workforce (i.e. local versus international, skilled versus unskilled, supply chain due diligence)
<p>Cost Recovery</p>	<ul style="list-style-type: none"> • “Polluter pays” principle in marine insurance ensures that compensation is available for appropriate 	<ul style="list-style-type: none"> • Identification of differences between international and local standards of best practice (e.g. selection of waste disposal facilities,

	response measures, and for pollution damage to third parties impacted by a spill.	shipyards, or workforce contracts).
Wash-up and lessons learned	<ul style="list-style-type: none"> Recording lessons learned following spill response, and actioning changes in contingency planning and preparedness work. 	<ul style="list-style-type: none"> Sector specific databases for recording long-term trends in ESG in spill response.

ITOPF'S PRACTICAL TOOLS FOR ESG DATA COLLECTION

As an organisation, ITOPF is comprised of scientists and other specialists who seek to increase the efficiency of spill response and therefore holistically mitigate damage caused by ship-source pollution events to the environment and society. ITOPF has been involved with marine casualties for over 55 years, developing a reputation for reliable, objective, technical work. By doing this, ITOPF has established a broad network of relationships across the world's leading marine insurers, national governments and various specialist organisations, and is therefore already ideally positioned to collect consistent and reliable data relating to ESG on behalf of many stakeholders. ITOPF's attendance on site and/or involvement in the cost recovery process of every major ship-source pollution event since Torrey Canyon provides a large historic dataset, and demonstrates its ability to handle sensitive data.

Considering the ESG examples and challenges outlined in this paper, ITOPF is currently developing two tools to facilitate the recording of ESG impacts related to spill response operations:

1. A greenhouse gas emissions calculator
2. An ESG Impact Assessment (ESG IA) framework

1. Greenhouse gas emissions (GHG) calculator

There is currently momentum and regulation for large ships to switch to alternate fuels and for ports to minimise their own emissions, for example the IMO Commitment for 2050 (IMO, 2023). However, the spill response sector has not yet received specific attention in terms of GHG, primarily due to larger perceived environmental threats at the time of an incident. However, the potential GHG contribution of an incident response, relative to the expected GHG footprint of a vessel's single voyage, is significant. While there are not currently any mandatory reporting requirements for spill response operations, it is possible that this will eventually become a requirement. At the time of writing, it is unclear whether this will be the responsibility of the shipowner, or the local authorities. Therefore, it may be beneficial to proactively establish a method for recording GHG information, and explore ways in which this data can be operationally useful. Further to the potential legislative demands, at its most basic level, the aim of spill response is to minimise impacts to the environment and society. Measuring GHG emissions, as a means to manage them, adds a more holistic perspective of environmental implications to the decision-making toolbox, potentially improving operational decisions and reducing overall impacts.

ITOPF has developed an Excel-based platform to quantify the GHG produced by response operations (Figure 3), in partnership with life cycle analysis (LCA) external consultant SimaPro. SimaPro is an LCA expert used by academia & industry worldwide.

They work to ISO 14040 to ISO 14044 standards which ensure consistency amongst life cycle impact assessments. SimaPro have provided the data to enable calculation of GHG emissions associated with all deployed people, equipment, and consumables involved in a response, plus the removal and disposal of all waste. Subsequently, the outputs from this calculator can be considered LCA industry best-practice and auditable. The aim of the tool is to provide additional information to the decision-making process, and identify methods to reduce climate change impacts whilst meeting response objectives. A more detailed case study can be found in [Campion & Durrance \(2024\)](#).

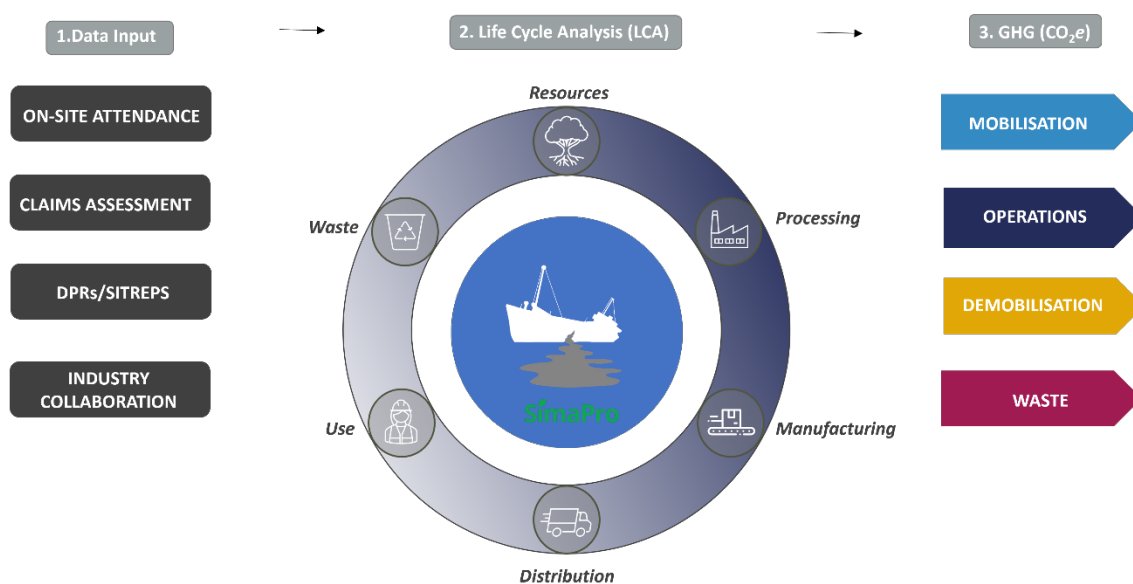


Figure 3 – Schematic of the workflow of ITOPF's Greenhouse gas emissions calculator

2. ESG Impact Assessment (ESG IA) App

ITOPF is also developing a web app-based ESG scoping tool to identify and categorise ESG impacts related to an incident and its surrounding operations. The tool can be used to manage wider ESG impacts throughout a response, tracking relevant decisions and monitoring outcomes. The web-based survey forms will be able to be completed on site

(or remotely), with the outputs shared to key stakeholders to include within strategic decision-making. It is intended that the outputs from the tool will be suitable for stakeholders to use in their own reporting, if desired. The aim is to use relevant information from international frameworks (e.g. the UN SDGs) to develop a sector-specific and operationally useful information gathering tool.

SUMMARY & RECOMMENDATIONS

This paper highlights the following recommendations relating to ESG in spill response:

1. Encourage the development of flexible & adaptable tools that are relevant to the spill response industry - not just reliance on broad SDGs or other global metrics.
2. Many ESG impacts are already being identified and mitigated, but a more conscious effort is needed to record these impacts to facilitate lesson learning & sharing.
3. ESG impacts should be identified & mitigated at all stages of spill response including; contingency planning, incident assessments, response operations, application of end-points, and damage assessment.
4. Data should be collected centrally on behalf of multiple stakeholders to ensure removal of bias and to reduce perception / suspicions of 'greenwashing' or corporate reputation management.
5. Data collection should be consistent within and across incidents to allow meaningful and comparable analysis, for use in both reporting and operational decision making.



6. ITOPF has created tools to facilitate ESG-related data-capture specific to spill response, to provide decision makers with more holistic information, both in the short and long-term. The latter enables trend analysis and learning.

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