

Corporate Metrics on Pollution and Health

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Environmental, social and governance (ESG) factors have become a routine part of company performance analysis, alongside other financial and strategic information. Investors use this data to gain a better understanding of companies' future prospects. Standardized metric reporting frameworks provide performance data for customers and the general public, and establish a culture of improvement in environmental performance within a corporation.

Numerous reporting standards and frameworks have been developed, mostly around carbon footprint, including the Global Reporting Initiative (GRI), CDP (formerly the Carbon Disclosure Project), Climate Disclosure Standards Board (CDSB), International Integrated Reporting Council (IIRC), UN Global Compact, the Sustainability Accounting Standards Board (SASB), and various stock exchange listings. All these frameworks include metrics for environmental performance, mostly for carbon footprint reporting, which is done methodically and carefully for the majority of large businesses. In OECD countries, a Pollution Release and Transfer Register (PRTR) is reported to authorities, and released through government websites and other means.

Detailed pollution metrics are a natural next step for corporations, especially given the growth of awareness in pollution as a public health risk. Pollution has been identified as the largest cause of death, mostly impacting low and middle-income countries (LMICs) (Landrigan et al, 2018). Modern pollution, an unintended consequence of industrialization and urbanization (like climate change) is growing in impact, and generally inadequately addressed. Pollution often affects employees and communities associated with large corporations, even while the majority of toxic emissions appear to be from small and medium enterprises (SME), a sector that is estimated to account for 70% of GDP (O'Laoire & Welford, 2014) (UNEP, 2013).

Various efforts are underway to determine methodologies and metrics to understand the pollution footprint of corporations. Clearly, supply chain and value chain impacts need to be considered alongside direct emissions of toxicants.

This brief paper gives examples of existing policies or methods and outlines a proposed direction for further study.

Current Efforts

A number of reporting initiatives foreshadow a more detailed pollution footprint approach.

PRTRs are environmental databases or inventories of potentially hazardous chemical substances and/or pollutants released to air, water and soil and transferred off-site for treatment or disposal. Some PRTRs also include estimates of releases from diffuse sources, such as agriculture and transport and from the end-use of products. A PRTR can be a useful tool in the

total environmental policy of a government, encouraging reporters to reduce pollution and promoting broad public support for government environmental policies. PRTRs have been implemented across OECD member countries, and limited adoption and trials have occurred in some LMICs (PRTR, 2019).

Integrated Profit and Loss (IP&L) is a management accounting framework that attempts to capture the environmental, social and financial impacts expressed as a monetary capital. IP&L is currently being trialed by up to 300 companies, but only publicly disclosed by a few. For example, a review conducted on Novo Nordisk in 2011 identified potential direct environmental costs of water consumption, greenhouse gas (GHG) emissions of €29 million, however when tiers 1, 2 and 3 of their supply chain were considered, the environmental costs increased to €194 million (EY, 2016). Identifying the IP&L of the supply chain can provide an opportunity for a company to directly engage with their suppliers and reduce the overall environmental impact of their operations. BASF is exploring expansion of this methodology as well.

Carbon reporting initiatives are a method to determine the direct and indirect carbon dioxide equivalents emitted by a corporation. The GHG Protocol Corporate Standard classifies a company's GHG emissions into three 'scopes'. Scope 1 emissions are direct emissions from owned or controlled sources. Scope 2 emissions are indirect emissions from the generation of purchased energy. Scope 3 emissions are all indirect emissions (not included in scope 2) that occur in the value chain of the reporting company, including both upstream and downstream emissions.

The Best Available Techniques (BAT) concept is an evidence-based, multi-stakeholder tool that supports the establishment of legally binding emission limit values in environmental permits to effectively prevent and control industrial emissions to air, water and soil (OECD, 2018). BAT policies have been developed as tools to address the environmental impact of industrial activities more broadly, such as through adjusted resource use, waste prevention, toxic substances substitution and improved manufacturing processes. The BAT principal has been adopted on a case by case basis to compare different technological options in the same industry. Our understanding is that it is not intended to provide a metric that could be broadly adopted for corporate reporting.

Proposed Metrics

A proposed direction for reporting pollution metrics would use a framework analogous to carbon reporting. This would build on the existing body of work and commonly adopted methodologies where available. Pollution metrics for corporate reporting are suggested to fall into four possible categories labeled, scope 1, 2, 3, and 4.

Scope 1. Emissions - direct responsibility.

Scope 1 would be based on the current BAT and PRTR methods to provide a metric to report direct releases to air, water, soil. There could include a metric of public health risk associated with direct operations.

Given that PRTR (and to a certain extent BAT frameworks), have been adopted in OECD countries, scope 1 metrics could be derived for corporations based in those countries. Additional support may be required to measure scope 1 emissions in LMICs. SME and informal sectors may struggle to provide this data in many countries.

Scope 2. Exposures in supply chain.

As indicated in the Novo Nordisk IP&L example, exposures can be significant within the supply chain. The depth of consideration of supply chain monitoring is important to consider. Primary manufacture – smelting for example - is often the most toxic aspect of any product. Yet the ability to trace products back this far in the supply chain has been limited. Current work on climate reporting could inform the depth of reach in supply chain monitoring. Efforts to trace commodities – the London Metal Exchange is exploring this – may enable more detailed supply chain metrics.

Scope 3. Exposures across the industry

Certain industries have large footprints with respect to public health. These include power generation, smelting, chemical production and transportation. Industry-wide pollution can induce reputational loss for corporations in the industry (Blackwelder et al., 2016). Conversely, reputation gain can be made through demonstrating direct action and engagement (Miles & Colvin, 2000). A metric (probably coordinated by industry groups), measuring pollution emissions from the entire industry, both small and large stakeholders, could establish an industry-wide direction for pollution reductions. Considerations of public health would be important.

Scope 4. Emissions – environmental exposures for employees and communities

A number of corporations have expressed concern about general environmental exposures affecting their staff – bad air quality, suspect water, and toxic metals. Although outside of a company's ability for source reduction, metrics can be useful to complete the full picture of pollution's impact. Metrics in this area would be useful to support advocacy to governments and agencies.

Next Steps

With the growth of awareness and interest in pollution as a public health risk, pollution metrics seem to be the next natural direction for inclusion in reporting metrics. A framework needs to be developed to measure the pollution and public health impact from the direct, supply chain, industry-wide and indirect emissions. Multilateral leadership is required to develop and facilitate the development of pollution reporting metrics.

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