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Understanding Scope 3 Emissions

By Gemma Alexander

MAY 18, 2023 greenhouse gas emissions, Greenhouse Gas Protocol, Scope 3

The Greenhouse Gas Protocol sets the standard for greenhouse gas accounting. It divides the scope of a company's emissions into three categories. Scope 1 and scope 2 are easy for most people to understand and relatively easy to measure. But scope 3 emissions can be more confusing. They are a challenge for the companies trying to inventory their own impacts and for the concerned consumer trying to evaluate the companies they choose to support. But we need to make sense of scope 3 emissions because they are also where the most significant impact often lies.

Scoping Emissions

The first two categories, scope 1 and scope 2 emissions, refer to direct and indirect greenhouse gas emissions. Scope 1 accounts for the emissions generated by the factories that make a company's products, the furnaces that

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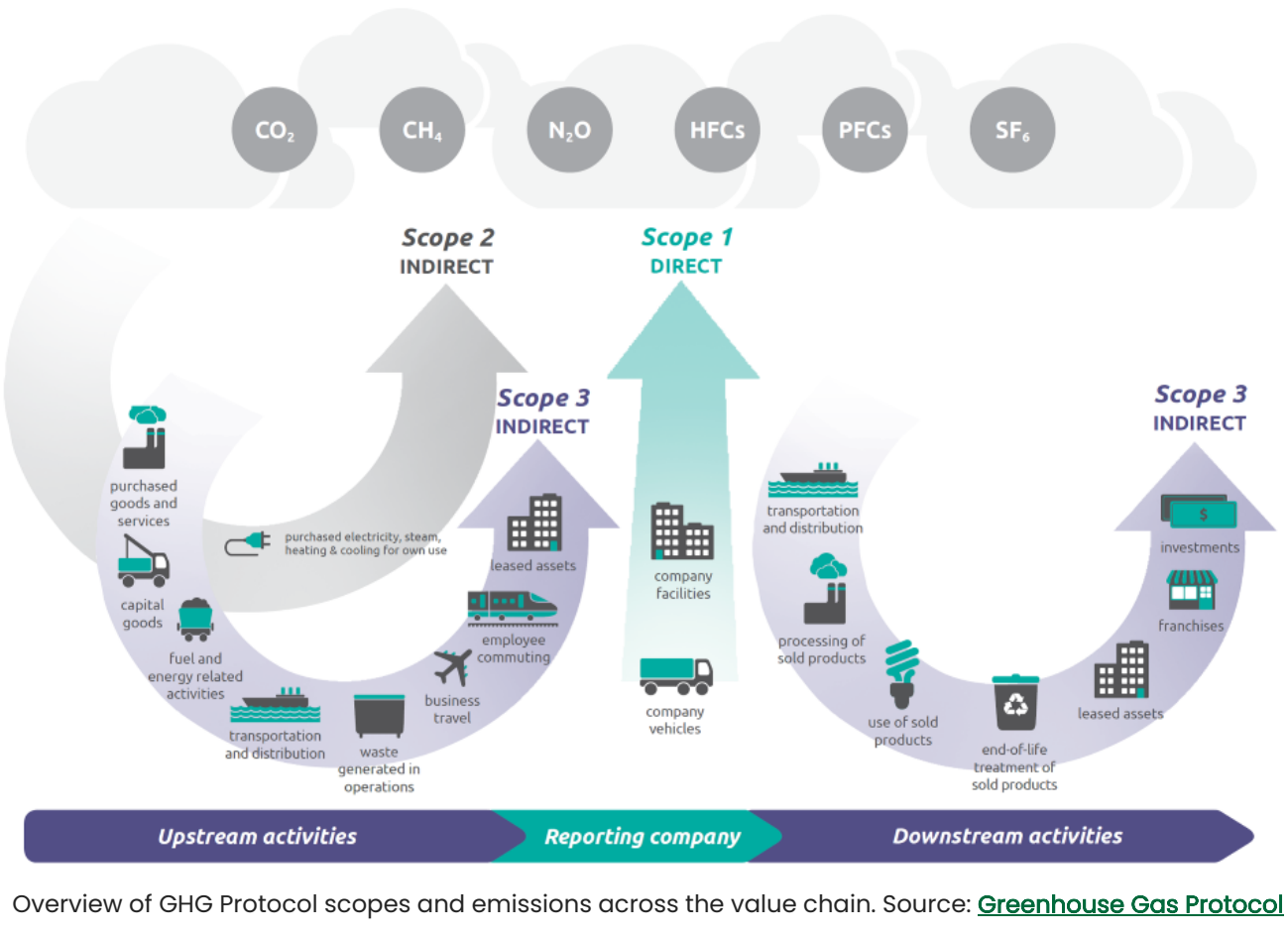
heat their offices, and the vehicles that they operate CLOSE course of their work. Companies do not directly generate scope 2 emissions, but they have some control over them through their energy consumption. Scope 2 provides an inventory of emissions from the power source that provides a company's electricity, heating, and cooling.

Scope 3 Emissions

The final category, scope 3 emissions, is even more indirect than scope 2. The company does not have control over scope 3 emissions. It is, however, complicit in their generation. Scope 3 emissions are generated by suppliers and customers. The supplier that provides raw materials for a company's products produces GHG emissions in harvesting and delivering those materials. The company performing the inventory does not have control over those processes. But by creating demand for the materials, it has contributed to the supplier's emissions.

By the same token, when a customer uses a product manufactured by the company performing the inventory, the customer, not the company, is generating emissions. But the product design affects how efficiently the product operates, and if the company didn't make the product, the customer would not have been able to generate those emissions at all.



Overview of GHG Protocol scopes and emissions across the value chain. Source: Greenhouse Gas Protocol

Why Companies Inventory Scope 3 Emissions

A previous article on emissions scoping looked at two recent sustainability reports from giants in their respective industries: the winery E. & J. Gallo and cruise line Carnival Corporation. Neither report presented strategies to reduce scope 3 emissions. Even companies making significant changes to reduce their impact will delay addressing scope 3 emissions because they are the hardest to measure and to change. Even though scope 3 often contributes the lion's share to a company's total emissions territory, it makes sense to focus initial efforts on things directly under a company's control.

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A company performing an emissions inventory cann[CLOSE]arvest raw materials in place of its supplier or dictate the customer's use of its products. But companies are not powerless to affect scope 3 emissions. There are opportunities to influence upstream and downstream processes to generate fewer emissions. The company might be able to stipulate relevant sustainable certifications in its sourcing contracts, or even pursue vertical integration of operations to expand its control over upstream processes. It can design new products or redesign old ones for energy-efficient operations and recyclability at end of life.

Reducing Scope 3 Emissions

Despite having only indirect control, scope 3 emissions present the greatest opportunity for change. In its report, Carnival identified scope 3 as contributing half of its total emissions inventory. Although Carnival did not publish the details, it's easy to guess some of the categories and methods the company could use to make a difference. For example, it could reduce upstream scope 3 emissions by sourcing its food from organic growers. Downstream scope 3 emissions could be reduced by arranging or promoting offshore excursions powered by EV instead of diesel buses.

These indirect actions can make a huge impact. Although the Gallo report did not address scope 3 at all, a study of wineries in Germany found that glass bottles purchased by a winery (whose manufacture generates scope 3 emissions) were a major factor in the carbon footprint of wine production. By reusing glass bottles, wineries could reduce their total emissions by nearly a third.

Emissions 3 and Me

Understanding emissions scoping makes it easier to tell the difference between a meaningful sustainability report and one that's simply greenwashing. But it's also valuable for consumers to remember that the use phase of a product's lifecycle often has more environmental impact than manufacturing. To reduce your own emissions, pay attention to product design when you shop. Choose products that are designed to be reused, repaired, or recycled over those that can only be replaced. When shopping for items like appliances or power tools, look for ones that have energy-efficient options or use less-polluting fuels. And let companies know you are paying attention – you can encourage companies to be more sustainable.

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Earth911 Quiz #58: Endangered Species and Biodiversity

By Gemma Alexander

Gemma Alexander has an M.S. in urban horticulture and a backyard filled with native plants. After working in a genetics laboratory and at a landfill, she now writes about the environment, the arts and family. See more of her writing here.

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