The Scope 3 Challenge: The Devil in the Detail of the SEC's Mandated Climate Disclosures

By Michael Overcash Ph.D.

As a chemical engineer and an environmental specialist, my life's work has been developing ways to cost effectively reduce industrial environmental impacts. There is no doubt that we must accurately identify, measure, and track the greenhouse gas emissions from the production of all our products and services to mitigate their impact and transition to a lower-carbon economy.

However, as the Securities and Exchange Commission (SEC) finalizes expansive new climate disclosure requirements for public companies, setting in motion a transition from voluntary to mandated climate risk and emissions reporting, it should proceed with caution. The agency must base its rulemaking on a solid foundation and the data needed to support these disclosures is still emerging and will take time to develop.

The current SEC proposal would perpetuate a system in which most corporate emissions reports are based on quick and easy, highly imprecise studies that are built on secondary data and industry averages. These reports are essentially estimates that are inappropriate for regulatory and investment-grade reporting. This is especially true for the most challenging level of emissions reporting known as Scope 3.

The SEC based its proposed emissions disclosure requirements primarily on a widely used accounting methodology introduced by the Greenhouse Gas Protocol in 2001 and last revised in 2004. The system, based on three levels of ownership and control, incudes direct emissions from a company's facilities and vehicles (Scope 1), indirect emissions primarily from electricity purchased and consumed by the company (Scope 2), and all other indirect emissions from its upstream and downstream activities (Scope 3).

Scope 3 has rightly generated a great deal of controversy and concern by firms that would be impacted. It would require large public companies to disclose all other indirect emissions from the upstream and downstream activities in their supply chain networks if material to investors or if the company has set a goal that includes these emissions. That means emissions from the production and transportation of the goods and services it purchases to make products and the processing and use of its sold products by third parties, among others – a huge span of information challenges.

Proponents of the mandated disclosures argue that thousands of companies already estimate their Scope 3 emissions. But instead of using primary data many use an imprecise type of study called an economic input-output life cycle analysis that is based on a calculation of the average economic transactions and the average emissions for industry sectors. These results have proven to be poorly related to the actual field data on carbon emissions (inaccurate by 250% - 1,000%).

For example, if the same money is spent on purchases of two agriculture products, beef and carrots, this type of study will report the same amount of greenhouse gas emissions - even though the emissions levels are radically different. Also, one year later, the emission results for both products will likely change as purchase value or currency exchange rates fluctuate although this has nothing to do with either product's actual emissions, which did not change. Yet the current SEC's proposal for emissions disclosures would allow this type of data.

For more accurate emissions reporting it will require the eventual expansion of data based on facts (known as ground-truth or the actual in-plant emissions) rather than economic inference. The basics are that virtually all products are made from the same small core of chemicals and materials known as the chemicals-in-commerce (CIC), now registered in the U.S. under the TSCA and in Europe under REACH.

The need is to identify the carbon footprints of all products by first establishing the carbon footprint of the industrial chemicals used, as the critical base of any product. This use of primary data as opposed to crude calculations based on industry averages will then allow the carbon accounting necessary to show the emissions and greenhouse gas intensity data of entire supply chains as required for Scope 3 reports. It will also support cost-benefit analyses to allow improved product and process design, lower costs due to greater efficiencies, environmental improvement, and ultimately consumer choice.

The problem we face now is that existing databases do not cover all the data needed for credible SEC reporting. These are growing but the environmental footprints (the energy and water consumption, CO2, and other emissions) for tens of thousands of chemicals must still be documented. Because this process will take years at the current pace; the SEC should delay implementation of Scope 3 for now to give the life cycle industry time to develop the reliable data needed. In the meantime, government, industry, foundations, and other funders should support the chemical mapping effort needed so the environmental impacts of our supply chains become more clear and more manageable sooner rather than later.

About the Author – *Michael Overcash, PhD. is executive director of the nonprofit Environmental Genome Initiative. A chemical engineer and an environmental specialist, he has researched industrial pollution prevention since 1980. Dr. Overcash has received the U.S. Environmental Protection Agency (EPA) Distinguished Scientist Award and served as the Director of the first EPA Research Center aimed at Waste Minimization and Management. He also served on scientific advisory committees for the EPA, National Academy of Science, the National Science Foundation, and numerous corporate pollution research and planning groups.*

About the Environmental Genome Initiative – *The Environmental Genome is a 501(c)(3) nonprofit organization founded in 2017 by chemical engineer and environmental specialist Dr. Michael Overcash and a dozen other scientists specializing in the environmental impact of the products we use. The Environmental Genome focuses on ways to reduce industrial pollution and greenhouse gas emissions.* [*www.environmentalgenome.org*](http://www.environmentalgenome.org) Dr. Michael Overcash *919-571-8989*