June 15, 2021

To: Allison Herren Lee, Acting Chair, SEC
From: Matt Pamuku, President & CEO, AIT

Dear Allison Herren Lee,

During the past decade, the ESG community has been rapidly evolving, growing and moving from a fringe curiosity to a fundamental financial paradigm. Typical of early-stage formation, some ESG investors experience high levels of anticipation, excitement, and some anxiety and confusion. Although an avalanche of drivers point to the importance of ESG, there is no harmonized definition of what consists of sustainable investment and regulatory agency regulate or watchdogs to regulate it. Among the three categories, Environmental aspect can be the most confusing area where decisions can easily stray from investment goals.

Assessing climate-change impact using carbon emission measurement is the only tool that is used consistently. Carbon emission is important but it is only one corner of the picture: it does not provide information about the environmental impact or health impact of many causal factors from exposure to pollutants and other environmental stressors. This is a material problem, globally.

Companies across a wide variety of industries are responsible for a plethora of toxicants in their end products, as well as in the environment, globally. Environmental responsibility is an integral piece of the ESG investment framework as it directly impacts society and all living matter on earth. Metals and toxins are well established as harmful even at very low concentrations and can be tied to a whole host of diseases in people as well as wildlife, and impacts generally are higher in poorer areas. For example, it is known that there is no safe limit for lead exposure, particularly in small children and pregnant women—the fetus is very vulnerable of course.

Some of the environmental pollutants persist, bio-accumulate, disperse in soil and aquifers and are transported by atmospheric wind tunnels across land and oceans, then are deposited widely. Using existing scientific/analytical techniques, establishing and tracking true environmental footprint of a company or an industry has been impossible. Both naturally-occurring toxins and man-made toxicants are notoriously difficult to measure with reliable accuracy and precision for a variety of reasons associated with their chemical form and stability. For example, they can be highly volatile or labile when sampled, which means their chemistry will change throughout the analytical work (sample collection, transportation, storage and actual analysis) and thus the final answer would be skewed as a result of multiple sources of errors and biases. Essentially, ESG investing has a measurement problem.

For example, when the existing analytical methods measure a toxicant concentration value of 60 parts per million (ppm) at 95% Confidence Interval (CI) and the error distribution range is 30 (+/-30 ppm), nothing useful or actionable has been revealed because the true and accurate value could be

any number between 30 ppm or 90 ppm. Simply expressed, the result of 60 ppm, +/-30 ppm at 95% CI means: "We are 95% confident that the true concentration of our target toxin is between 30 ppm and 90 ppm. Applying this to a hypothetical case where the regulatory maximum exposure level for the toxicant is 35 ppm, the test result of 60 pm would be meaningless primarily due to uncertainty posed by +/-30 ppm, at 95% CI. This is a critical issue because most toxicants have established levels of minimum daily exposure limits for humans. Therefore, in order to make good decisions, an asset manager needs to know if there is a problem and the extent of the problem. Good data results in good decisions.

Some "scorecards" are developed for an overall ESG rating, but few address toxin/toxicant footprint specifically, and reports are underwhelming as they rely on outdated measurement techniques and/or imprecise public and/or company supplied information. Many times, the environmental and health impact factors associated with toxin/toxicants are not part of the decision-making analytics.

Even better would be a platform/process versatile enough to deliver this from samples of air, solids or liquids, and better still would be an ability to link this to specific companies, so that ESG asset managers could make investing decisions based on the best environmental and health science.

Early detection of emerging toxicants, predicting future toxicants can only be accomplished by creating databases using accurate and precise measurement data. Statistical analysis required for this purpose cannot be applied if information quality lacks due to wide data variability.

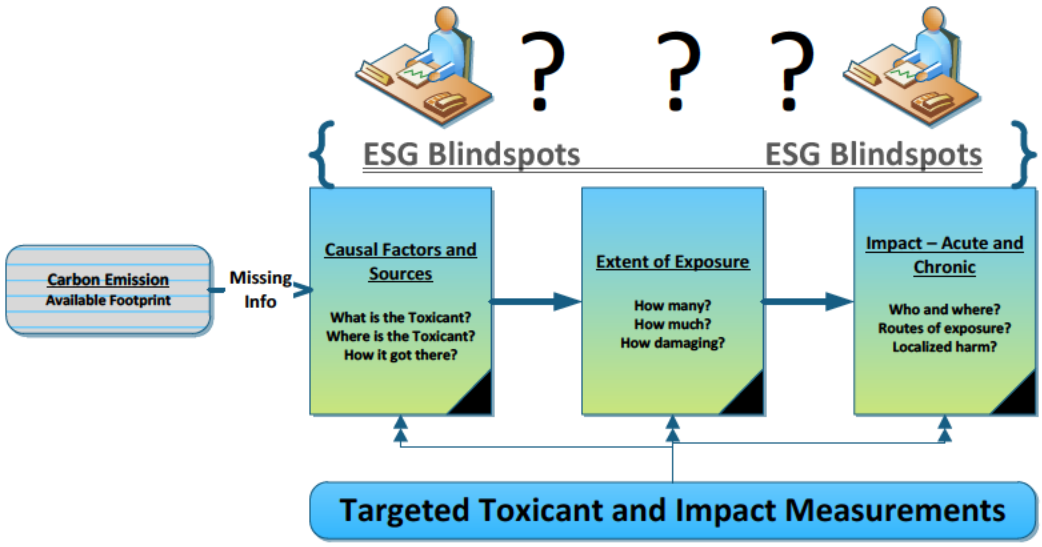
There is no shortage of research establishing that higher pollution results in meaningfully lower worker productivity, all over the world (OSHA and EPA have produced several studies). The California Prop-65 website is especially robust regarding toxins—the Hazardous Substance list of CA is one of the best and complete sources of information that is curated by a blue-ribbon panel of CA scientists and updated annually: https://oehha.ca.gov/proposition-65/proposition-65-list).

The problem is not limited to chemical companies—there is a long list of industries that could benefit from better analysis: food, baby food, beverage, cosmetics, supplements/vitamins, chemicals, petroleum, paper, hazardous waste, glass, fracking, mining, construction materials, plastics, baby toys and more. These pollutants are confirmed carcinogens, teratogens, mutagens or endocrine disruptors. The list includes metals, such as lead and mercury, and persistent toxins, such as pesticides, herbicides and thousands of industrial toxins.

Companies across a wide variety of industries are responsible for a plethora of toxins in their end products, as well as in the environment, globally. Environmental responsibility is an integral piece of the SRI/ESG investment framework as it directly impacts society and all living matter on earth. Metals and toxins are well established as harmful even at very low concentrations and can be tied to a whole host of diseases in people as well as wildlife, and impacts generally are higher in poorer areas. Addressing social and racial inequities, one of the overarching goals of ESG, cannot be achieved without knowing the sources of toxicants in poorer areas, he extent of exposure, and assessing present and future health impact.

For the toxin footprint scorecard, two things must be known: (1) is the compound of interest— the toxin/toxicant— present in the sample? And if yes, (2) precisely how much is present? Scorecard

parameters may be set by regulatory, public safety or global standards for an industry, sector, company or products. In addition, periodic performance monitoring may include social impact, assessed in terms of reclamation or improvement of an environment and wellness of its inhabitants, i.e., cumulative toxic burden from exposure in people and other living forms. The figure below lists key elements of the targeted toxicant and health impact data that should be on an E-Scorecard.



One technology platform is optimally suited for the E-H testing task: the mass spectrometer (MS) is sophisticated universal detectors that can identify chemical compounds rapidly. The MS alone is not enough as it does not inherently possess the requisite accuracy. The MS technology championed by AIT (www.sidms.com) uniquely results in statistically significant accuracy improvement in the measurement of toxins/toxicants and other compounds. The improvement vs. existing measurement technologies is significant: typically, more than 1-2 orders of magnitude in higher accuracy (analytical error margin: 20%-400% vs. 3%-5%) and, unlike other methods, the technology *does not produce a "false positive*." What sets this technique apart is the fact that it determines with greater accuracy not only if a toxin/toxicant is found but also how much of it is present in the sample, which is the crucial information. AIT E-H Footprint Scorecards include Environmental and Health assessments. Pulling data from high accurate databases, AIT Scorecards are multi-dimensional, precise, curated, and contextual using the latest available geospatial and temporal E and H information for the highest E-H relevance.

Inventor Prof. Skip Kingston (Duquesne University, Pittsburgh, PA[1]) and colleagues have performed classified forensic work for the US government, delivering superior results vetted via exhaustive peer review. His technology was codified by the EPA (Method 6800) as a national method. The Canadian Ministry of Environment recently adopted it as one of the country's primary analytical methods. The CDC uses the method to monitor the nation's blood supply for the presence of mercury and the EU has recognized it as the only process capable of producing legally defensible data.

[1] https://www.duq.edu/academics/faculty/skip-kingston

This technology brings clarity to a critically important area of ESG. When the science is sound and data is consistently reliable, pursuing this solution should not be a difficult decision. ESG asset managers and their clients must decide if they are okay with the current "checking of the box" and relying on inferior data with respect to toxin footprint. As non-scientists with demanding day jobs, these participants are not likely even aware of the weakness in data currently, or that an improvement is waiting to be implemented. They are trusting in what's available today--information providers who often do not have good data quality. Asset manager has a scientific advantage to help create new and better data, and then massively leveraging it across the globe.

AIT has surveyed large ESG-focused money managers and asked the question, "were you to be armed with E-scorecards, accurately showing environmental impact on a company-by-company basis (this technology can do this because it can measure end products directly as well as the environment around industrial activities) do you think your clients (pension funds, endowments etc.) would have enough interest such that you'd raise investment funds to take advantage of this?"

The answer, not surprisingly, was a resounding "yes," followed by "can I have it now, please?"

Sincerely,

Matt Pamuku
President/CEO
Applied Isotope Technologies, Inc.
[redacted]