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ON THE WAY TO SAVE THE WORLD, DON'T FORGET TO CHECK YOUR GREEN BLINDSPOT

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A week before the World Economic Forum (WEF) Davos 2024 summit—the annual, mid-January gathering of great minds in Switzerland—the host published a report on the progress made in encouraging private companies to adopt firm metrics on environmental, social, and governance (ESG) initiatives. The report gleefully noted that 150 companies, including some of the world's largest employers, had either adopted the WEF's universal ESG metrics or were now reporting on their status annually.

However, the report was the last time ESG was mentioned at the Davos 2024 meeting, in large part because of political backlash in the United States. The WEF conceded that ESG, while still critically important, had become a distraction. As a result, the term "ESG," a core issue in the previous two Davos summits, was not even mentioned in 2024. Instead, and not coincidentally, the summit's theme was Rebuilding Trust. "After an era that lifted a billion people out of poverty and improved living standards everywhere, the anxiety about losing control over what lies ahead is pushing people towards embracing extreme ideologies and the leaders who champion them," WEF Founder Klaus Schwab wrote in the Davos 2024 program (Schwab, 2024).

As was the case with the official Davos program, Schwab did not mention ESG by name. However, it was not hard to see how his comments apply directly and appropriately to the crises in confidence enveloping ESG. Even as delegates were gathering in Davos, bond rating agency Morningstar issued a report during Davos that showed 2023 was the first year that ESG funds suffered a net outflow of capital (Stankiewicz, 2024). Investors pulled more than US$13 billion out of sustainable funds due to concerns about underwhelming results, increasingly shrill political scrutiny, and "the absence of clear, cross-border regulation for environmental, social, and governance and sustainable investing."

All those concerns are real, but they don't get to the bottom of the real crisis facing ESG: It has lost focus and impact because it has become obsessed with the environmental impacts, with little or no scrutiny of the broader issues of sustainability and governance. The "green blind spot" represents a significant and possibly existential threat to ESG. Without an equal emphasis on all three letters in its initialism, we will edge ever closer to the end of ESG and its promise to make the world cleaner, more resilient, and more just.

How the Green Blind Spot Undermines ESG

One of us—Ricardo—spent 4 years as the Infrastructure and Program Management Group director with the United Nations Office for Project Services (UNOPS).

Over his time there, he oversaw many worthy projects that helped people in challenging circumstances rebuild the basic infrastructure of their lives. However, he also got to see how environmental concerns eclipse the other elements that go into ESG, and thus doom projects to failure.

For example, during Ricardo's tenure at UNOPS, the United Nations received directives from donor countries that all new public infrastructure projects (e.g., schools and hospitals) should come equipped with solar panels to make them energy-self-sufficient. Theoretically, it's a great idea, particularly for projects in countries with little or no established power grid. However, the good intentions ignored several inescapable realities of the environment. In some Saharan countries where this strategy was being considered, the persistent presence of dust and sand storms is a fact of life. That dust and sand can be extremely destructive for glass solar panels. Even with constant cleaning and maintenance, solar panels are not sustainable in this environment. When the panels began to succumb to the ravages of the environment, well-meaning projects aimed at transforming the lives of people in need became technological white elephants, symbolic of first-world hubris and waste. These were the realities that donor countries, in their rush to embrace what they deemed was an obvious environmental win, did not consider.

It's not hard to see how the green blind spot drags down the entire issue of ESG. Despite increasing attention to this deficiency in ESG thinking, we're simply not learning from our past mistakes and continuing to emphasize only one of the three letters in what is a potentially world-saving strategy.

There is hope, however, that the very bleeding edge of technology—artificial intelligence (AI)—will help us give equal time and effort to all three letters in the initialism and finally deliver on ESG's enormous potential. But to use this technology to make the next quantum leap in ESG, we have to take a very holistic approach to ensure that AI is a net positive and not just another one of the growing lists of net negatives.

Green Algorithms and the Peril of Taking a Monochromatic Approach

You need to go back more than 30 years to find the first attempts by scientists and engineers to harness the power of computers to promote sustainability and environmental and social responsibility. In 1992, the U.S. Environmental Protection Agency launched the first Energy Star program, which devised a system to measure energy usage in appliances and encourage manufacturers to disclose their ratings voluntarily. As helpful as Energy Star was and remains, the need to perform deeper dives into environmental impact and sustainability issues is

more acute now. Hence, the arrival of the "green algorithm."

A 2020 joint endeavor between Cambridge University and the University of Melbourne, the Green Algorithms project (www.green-algorithms.org) has created calculators that "researchers can use to estimate the carbon footprint of their projects [and] tips on how to be more environmentally friendly." The publicly accessible Green Algorithms Calculator (https://www.green-algorithms.org/GAapp-overview/) has already been used in groundbreaking research into the carbon footprints of technology that require massive computer power.

For example, a landmark study published in 2022 by Cambridge and the Baker Institute in Melbourne, Australia, found that the enormous energy needs of "large-scale computational infrastructure" required keen emphasis on using leading-edge software and hardware in data centers to avoid creating unsustainable and unjustifiable carbon emissions (Grealey et al., 2022). The study also found that some of the solutions being applied to date are making the problem worse, not better. Study results showed that some AI researchers were turning to "faster processors or greater parallelization" to reduce running time to reduce energy usage. The study found that while running time was less, using these faster machines "can lead to [a] greater carbon footprint." Conversely, applying more efficient data center software and hardware can reduce carbon footprints by more than 30%, putting data mining and analysis on the right side of the ESG equation.

Insights like this are critical to ensure that the global campaign to reduce carbon emissions is improving things, not inadvertently worsening them. However, in its current form, these green algorithms—entirely focused on environmental impacts—do not necessarily help the cause of ESG or ensure that our urgent need to reduce greenhouse gas emissions will not have unintended negative consequences.

For project managers, the real challenge is how can we use AI to check all three boxes in ESG: showing us how to get more of what we need over a much longer period while using less energy and with a guarantee that the benefits are made available to as many people as possible.

The challenge is not whether to use AI; the true challenge is how best to use AI in a way that does not leave us worse off than we were before—in all aspects, not just environmental terms.

Earlier, we used the example of the well-intentioned but misguided attempts to employ solar panels in environments that could not support them. Project managers, particularly those working in developing countries, can cite a limitless number of similar anecdotes demonstrating how our inability to calculate the full

range of impacts of our projects can lead to waste and disappointment.

Consider the evolution of the world's food aid efforts. Developed nations have been growing food specifically to donate to other countries facing war or drought for decades. The environmental analysis of a program like this might look promising: Food can be grown on large scales more efficiently in wealthier nations. Even when transportation's cost and environmental impact are considered, it might still make ecological sense.

However, that analysis does not consider that food "donations" create mayhem in the economies of recipient nations. Farmers growing local produce suddenly have no market because their country has been flooded with free food. Or speculators hijack the food donations and start selling them and competing against locally grown food. These consequences are why progressive nations now try to solicit financial donations rather than actual food donations.

We have also seen the execution of large-scale, much-needed infrastructure projects fall into similar dilemmas. Donor countries and international agencies are very attuned to using advanced, recycled, and environmentally safe materials to build things like bridges. However, while this imperative may check boxes on environmental and sustainability concerns, they lose sight of the fact that these projects typically require the materials to be imported, cutting local businesses out of procurement. Advanced materials also come with the need for workers with advanced skills who are not in ample supply in the recipient nation. So, entire workforces are imported to work on the project, skewing local labor markets.

What the world needs now is something more robust than a green algorithm. We need a way to model and calculate any project's ESG consequences.

ESG Project Analysis: Realizing the Benefits of All Letters in the Initialism

The use of green algorithms in any project management challenge requires careful consideration, mainly because most of the tools associated with green algorithms focus almost entirely on environmental impacts. Whether using an algorithmic calculator or performing manual data analysis, a more holistic and comprehensive approach is needed.

1. **Define sustainability objectives.** In modern project management, well-defined sustainability objectives can act as a roadmap, helping to guide the AI-driven solutions you may employ. Leverage frameworks like the United Nations' Sustainable Development Goals (UN SDGs) to identify sustainability and social objectives that may be lost in a solely environmental assessment. Asana (asana.com) or similar project management software can be tailored

to include sustainability and governance metrics in your objectives and key results (OKRs).

2. **Centralize data.** For green algorithms to function optimally in a project management context, a strong, centralized data foundation is vital. This ensures the algorithms and any other tools you are using have real-time, comprehensive data to make sound decisions. Use data management platforms or data lakes to store all markers. Open-source platforms like CKAN (ckan.org) can be customized for sustainability and social metrics and data tracking.

3. **Customize algorithms.** The essence of effective project management lies in customization. Projects often have unique sustainability and governance challenges, which generic algorithms can't address effectively. Adapt prebuilt algorithms to meet your sustainability and social objectives, whether it's reducing emissions or enhancing energy efficiency. TensorFlow (github.com) and scikit-learn (scikit-learn.org) are machine learning (ML) libraries that offer prebuilt algorithms that can be customized to meet your project's sustainability and social criteria.

4. **Perform pilot testing.** Before any algorithm can be integrated into the larger project management framework, it must be tested in real-world conditions. A well-executed pilot test provides insights into how well the algorithm serves the project's sustainability and social goals and what fine-tuning may be needed. Use simulation techniques to model your project's ecosystem, allowing you to rigorously test your algorithms under various scenarios. Simulation software like Simul8 (simul8.com) can help you create a digital twin of your project, facilitating the pilot testing of your green algorithms.

5. **Apply full-scale implementation.** This is where the algorithm moves from being a theoretical concept to a practical tool that helps the project meet its goals. Use a phased approach, gradually incorporating the algorithm into different aspects of the project while monitoring performance metrics closely. Software platforms like Jira (atlassian.com) offer functionality to track the implementation process across multiple departments or subprojects.

Fears that ESG is failing or has already failed are well founded. In the rush to claim ESG credentials, we've cut many corners and made many mistakes. And the biggest mistake right now is putting sole emphasis on environmental concerns to the detriment of sustainability and governance.

The good news is that modern tools can give us total insight and clarity about the full range of impacts of any one project. We need only ensure that we take a wide view and not succumb to the temptation to focus on and be satisfied by

checking only one box.

References

1 **Grealey, J., Lannelongue, L., Saw, W. Y., Marten, J., Méric, G., Ruiz-Carmona, S., & Inouye, M.** (2022). The carbon footprint of bioinformatics. Molecular Biology and Evolution, 39(3), msac034. https://doi.org/10.1093/molbev/msac034

2 **Schwab, K.** (2024, January 16). Davos 2024: Rebuilding trust in the future. World Economic Forum. https://www.weforum.org/agenda/2024/01/rebuilding-trust-collaberation-future/

3 **Stankiewicz, A.** (2024, January 17). US sustainable funds register first annual outflows in 2023. Morningstar. https://www.morningstar.com/sustainable-investing/us-sustainable-funds-register-first-annual-outflows-2023