Ginkgo Bioworks: Shaping the values of the emerging biotech sector

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Introduction

Ginkgo Bioworks is a biotechnology company that is building a platform to make the programming of cells as easy as the programming of computers. The company's platform is enabling biotechnology applications spanning diverse markets, from food and agriculture to industrial chemicals and pharmaceuticals.

While both social and environmental metrics are important to Ginkgo, its greatest impact lies in its value chain and the capacity of its platform to help clients cut their carbon footprints by substituting petrochemical-based products with bioengineered solutions. In an interview, Ryan Morhard, Director of Policy and Partnerships, gave his insights into ESG reporting and the Forum's Stakeholder Capitalism Metrics.

Key takeaways

- Ginkgo sees ESG reporting as a way to shape the values of the emerging biotech sector and to earn people's trust
- The company's ESG reporting can also play a valuable role as a "flywheel" both to power sustainable change within the firm and to motivate others in the sector to do likewise
- Ginkgo's policy and partnerships director says the Forum's metrics bring welcome simplicity and rigour to plethora of overlapping ESG reporting frameworks
- One challenge the company faces is how to measure so-called "avoided emissions" of "Scope 4", delivered by products such as plant-based meat that replace more carbon-intensive alternatives
- For Ginkgo, ESG reporting has been an endeavour involving the entire company – this has helped build a closer connection between sustainability metrics, strategy, key performance indicators and actions
- ESG reporting enables the company to demonstrate its appreciation of unsung heroes, motivating them and others to do more to create a sustainable enterprise
- If a company does not report on its performance, someone else will – so it's less risky to proactively share information with ratings agencies in a format they know and appreciate
- Companies should focus on the metrics most material to their business, avoid a box-ticking exercise, and take their time to discover and benefit from what can be an enriching process

Rationale for reporting: a flywheel to power sustainable change

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>
> Ryan Morhard, Director of Policy and Partnerships, Ginkgo Bioworks

Biotech is going through a transformation. For a long time it was so expensive and hard to do that only the pharma sector could afford it. But now that biotech has become easier, cheaper and more powerful, "it's being pointed at sectors such as food, materials and cosmetics," says Morhard. Ginkgo Bioworks offers a platform of scientific applications that companies can use to create products based on bioengineering instead of petrochemicals. This offers early movers such as Ginkgo an opportunity to shape the norms and values of the sector.

Morhard highlights the value to his business of metrics on greenhouse gas (GHG) emissions. For example, in a joint venture with Bayer, Ginkgo is developing a strain of microbes that can produce nitrogen in the roots of crops such as corn, wheat and rice. This technology could reduce agriculture's dependence on the industrial production and application of nitrogen fertilizers, which contributes to 3% of global GHG emissions. So while it's important for Ginkgo to reduce its own Scope 1 and 2 emissions, the real impact of the company lies in Scope 3 and its role in helping its clients cut their carbon footprints.

Earning people's trust

"We are in a biotech revolution and ESG reporting is a way for us to be responsible as this space grows," says Morhard. "We will very meaningfully reduce the emissions of our customers and we are proud of that," he says, adding, "We want to hold ourselves out as a climate solution and you can't be credible doing that if you don't report on your own footprint." Morhard acknowledges that people have rightfully questioned the direction of biotech companies in the past. When asked why Ginkgo is reporting against ESG metrics, he says, "The primary motivation is just a feeling of responsibility to do it – and in particular, to earn people's trust."

There is another reason behind Ginkgo's eagerness to report on ESG. Morhard calls it the "flywheel effect", in which the more Ginkgo reports on its own sustainability initiatives, the more it can inspire other companies to do likewise. "We want to use our ESG reporting to unlock that cycle, where gathering information and sharing it with the world will testify to all the work happening across the company and motivate others in industrial biotech to join in the sustainability conversation."

Solutions: consolidation around common metrics urgently needed

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> Ryan Morhard

Although Ginkgo has been focused on sustainable ways of working since it was founded, it's new to reporting on sustainability. "What surprised me," says Morhard, "is that it still feels like the wild west in terms of what companies can do with ESG reporting. I was expecting something more prescriptive." The huge choice of metrics currently on the market means that some of the worst companies for the environment have come out with decent ESG ratings, observes Morhard, adding, "We are a company of problem-solvers. So it's hard for a company like ours culturally to engage with a process that's not solving the problem." That's why Ginkgo was attracted to the World Economic Forum's SCM – because they hone down the choice to 21 core metrics curated for their commercial materiality.

Morhard is candid about the scale of the task. Ginkgo has only just gone public and while they're working hard on the data, they won't be able to report on their Scope 1 and 2 emissions until next year. Meanwhile, he says, "to do Scope 3 right requires a consortium – everyone has different slices of it". Ginkgo is actively building that consortium with its biggest suppliers.

However, the real challenge for Ginkgo in measuring Scope 3 lies less in the standards and more in the nature of bio-based manufacturing. Conducting a life-cycle assessment of the carbon footprint of a biotech product is still uncharted territory. "Even when you get the numbers," says Morhard, "the methodology is variable from one biomanufacturing process to another – it's at risk of being manipulated."

Ginkgo is working with the Ellen MacArthur Foundation on building a circular economy, to create a standardized model for measuring how the bio-economy is reducing emissions across industry sectors ranging from materials to foods to chemicals.

Avoided emissions – pushing the frontier for existing metrics

This raises another interesting question: what if your clients never had a big carbon footprint in the first place? Take, for example, a well-known plant-based meat producer that uses Ginkgo's biotech platform. It's never used beef, so helping it grow plant-based substitutes won't bring down its carbon footprint. But if consumers substitute their beefburgers with plant-based versions, then those emissions cuts should be accounted for somewhere.

The concept of measuring so-called "Scope 4"– or avoided – emissions is slowly gaining ground. "I'm scared of all the dubious math that would go into that," says Morhard, "but that's where we are." Put another way, says Morhard, "We use a little bit of carbon to remove a bunch of carbon from the world and help the economy grow in a clean and sustainable way. That's got to be a little bit different from using the same amount of carbon to do something that's not going to help solve the problem."

Impact, learning and advice

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ESG reporting is a whole-of-company endeavour
Gathering and reporting the right data has ended up being a lift in which the whole company has become involved. Ginkgo created a cross-company ESG working group that represents every business vertical including facilities, health and safety, HR, finance, legal, policy and government affairs. This working group has now become a permanent feature, focused on the company's sustainability strategy and KPIs. "They're sufficiently energized to stay in the game," says Morhard.

ESG reporting shows appreciation and builds motivation
Part of the benefit of sustainability reporting is that it tells the story of the hard work being done inside the company to a new audience. "It takes lonely activities that may be unappreciated and makes them part of a larger story," says Morhard, adding, "that's motivating – you create more opportunities to justify doing better work."

If you don't report on your performance, someone else will
"If you're a public company, the ESG raters and rankers will rate and rank you based on whatever information you put out there," says Morhard. It's wiser in his view to proactively share the information with ratings agencies in a format they know and appreciate. "It feels risky to leave your ESG rating to some AI bot looking in your Form 10-K."

Advice for fellow practitioners: focus on what's right for your company – and take your time
Morhard advises against acting on received wisdom – better to start with first principles and focus on what is material to your business. That said, he's learned a lot from talking to others on the same journey. "Give yourselves some time," he says, "not because it's so cumbersome it will take you a long time to do it. But because there will be enriching parts of the process that you'll want to spend time discovering and that won't happen if you're just checking the boxes."

Advice for standard-setters and regulators: work together
Given there is so much variability in ESG reporting, the work standard-setters are doing to collaborate and harmonize sustainability frameworks is really important. But "the world is on fire and we need a global solution," says Morhard, adding, "I know it's hard, but if the standard-setters can't work together, then companies won't be able to, either." His message to standard-setters: "Please continue working to coordinate frameworks."

Added value of the Stakeholder Capitalism Metrics

For a firm such as Ginkgo that is just starting out on the ESG reporting journey, the sheer range of possible ESG metrics on offer can be "paralysing", says Morhard. At the same time, it's high stakes, because you risk committing your resources and your reputation to standards that may not be right for your business. "You're setting a roadmap in a very public way, but in an atmosphere of uncertainty," says Morhard, "and that uncertainty runs all the way from what you report on to how you're rated and ranked – it's like a black box." Within this context, the Forum's metrics bring certainty and simplicity. The plethora of choices has been replaced by a tight set of core metrics collated by the Big Four.

Morhard appreciates the ethical rigour that this process brings, of holding all companies to account against a common set of metrics, along with the requirement either to disclose or to explain why a company is not disclosing. He appreciates the credibility of having the Forum, the Big Four accountancy firms and Bank of America behind the process and the momentum it has built up by attracting commitments from a critical mass of more than 100 large companies. The dialogue in which the Forum is engaging with standard-setters to drive convergence around a global ESG framework is another essential feature of the SCM process.

Ginkgo Bioworks plans to report against the majority of the Forum's 21 core SCM in its first annual sustainability report, to be released in mid-2022.

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> Ryan Morhard