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SUSTAINABILITY

Earth Day 2026: how the blue revolution starts from the ocean and its algae

A day to imagine (and build) the materials of the future for the good of our planet.

BY SENNAIT GHEBREAB

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Courtesy of Keel Labs

Earth Day 2026: how the blue revolution starts from the ocean and its algae

For this year's Earth Day, my reflection began a few days earlier, in New York. April 22 is no longer just a symbolic occasion or a communication moment dedicated to sustainability, it has become a collective exercise in imagination about the future, and about what kind of materials we truly want to carry forward for the good of our planet.

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Two weeks ago, when I was at the Fashion Institute of Technology (FIT) in New York for the 20th Sustainability Conference, with Amber Valletta as Ambassador, to moderate a panel dedicated to innovation alongside Andrea Baldo, CEO of Mulberry, a certified B-Corp company since 2024, FIT President Jason Schupbach opened the day with a clear vision of the change underway: "At the Fashion Institute of Technology in New York, our longstanding commitment to sustainability is driven by students, faculty, and staff through research, projects, and collaborations. This work highlights the role of regenerative materials in reshaping the industry, and our annual conference strengthens these efforts by bringing together global thought leaders."

Conferences like this become key moments, where you realize that words like "sustainability" or "responsibility" on their own are no longer sufficient. A new language is needed, more precise, more scientific, but also more human, capable of truly describing the complexity of the transformation underway.

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Andrea Baldo CEO Mulberry (B-Corp) and Sennait Ghebreamichael CAT TRZASKOWSKI

During the conference, one keyword emerged strongly: “regenerative.” It is not just a technical term, but a real shift in paradigm. It is no longer only about reducing impact, but about designing systems capable of generating positive value for both the environment and people. As Professor Karen Pearson emphasized: “Research is addressing global challenges linked to the impact of the textile industry on the environment and communities, with solutions rooted in science and technology. This commitment has led to the emergence of companies producing the fabrics of the future with cutting-edge innovative practices.” It is from here that the chapter of marine algae opens up, a true “blue treasure” still largely unexplored within the language of contemporary fashion. It is in this context that, at FIT, I encountered Kelsun and A Blue World, two entities that are redefining the relationship between ocean, materials, and the future.



Courtesy of Keel Labs

Kelsun's Blue Revolution and A Blue World

If Kelsun and A Blue World are often mentioned in the same breath, they in fact represent two completely different and complementary levels of the same blue revolution. Keel Labs, with its Kelsun project, works toward a very concrete goal: creating a textile fiber derived from marine algae. I had personally first heard about it with Stella McCartney's Spring/Summer 2024 collection. Kelsun is not an abstract idea, but a deeply material and industrial innovation. It fits directly into the fashion supply chain, from yarn to fabric to final production, with particular attention to scalability, meaning the real possibility of bringing this fiber from the laboratory to the market. It represents the "micro" level of innovation: the level at which a new material is physically created and made usable. In short, Kelsun answers a simple but fundamental question: what will we make clothes from in the future?



Spring summer 2024, Stella McCartney Vogue Runway

A Blue World operates on a different level. It is not (only) a material, but a systemic vision of the ocean as a living infrastructure for the materials of the future. Here, the discussion is no longer about a single fiber, but about an entire model of blue sustainability that redefines the relationship between the ocean, industry, and the human body. The focus shifts from product to system: how materials are generated, what relationship they have with marine ecosystems, and how they influence our well-being. It is an approach that introduces a key idea: materials are no longer isolated objects, but biological and cultural extensions of the human body.



Courtesy of Keel Labs

Kelsun: when a fiber is born from algae

Speaking with Aleks Gosiewski, Co-Founder and CEO of Keel Labs, helped clarify where material innovation is truly heading, through the story of Kelsun,

a textile fiber derived from marine algae. Here, the discussion becomes very concrete. Gosiewski explains plainly: “There is no other fiber like Kelsun on the market, so we had to build everything from scratch.” That “from scratch” is not a romantic metaphor, but an almost engineering description of what it means to truly innovate in fashion today: completely rethinking infrastructure, processes, and production logic. “All parts of the supply chain existed separately, but connecting them into a coherent and scalable system was the real challenge.” How does it work in practice?

The materials developed by Kelsun come from marine algae: polysaccharides are extracted and transformed into an organic biomass, then processed through low-impact methods to obtain a textile fiber. The result is a soft, durable, and biodegradable material, designed to return to natural cycles without polluting. It represents a concrete alternative to synthetic fabrics, with the goal of reducing fashion’s impact and supporting more circular models.



Courtesy of Keel Labs

Regarding the fashion system as a whole, Gosiewski says: "Sustainability has slowed as a general priority in fashion in recent years, driven by changes in consumption and the economic reality of business." But more than a setback, this seems like a point of transition. Because the real question isn't where the system stopped, but where it can start again. "Real change comes from brands built on the integrity of materials and regulatory pressure. That's where structural transformation takes place." And it's precisely in this context, amidst material innovation, industrial constraints, and new systemic pressures, that Kelsun becomes much more than a fiber: it becomes a concrete test of how ready fashion is to rethink its foundations.

Blue is the new green: when the future of fashion comes from the ocean

If until recently we spoke almost exclusively about "green fashion," today the center of gravity is increasingly shifting toward blue. But what does this shift really mean? Christopher Suarez, CEO of A Blue World, offers a clear perspective: "Marine-based biomaterials are no longer just an idea or a niche experiment. Consumers are increasingly informed, and materials are no longer invisible, they are becoming a reflection of health, well-being, and personal standards." This is a crucial transition: materials are no longer just raw inputs, they become identity, something that speaks to our bodies, our choices, and the way we live. As Suarez adds: "When materials align with human biology and support well-being, adoption accelerates."

One of the most meaningful moments in conversations with Christopher Suarez and co-founders Baptiste Auzéau, Athina Karamalis, and Julia von Boehm was the discussion around the ocean itself.

Here, the focus shifts from product to principle, from material to system. As Suarez puts it: “Blue sustainability should be understood as a living system, not simply as a new material story. If we treat the ocean as something to extract from rather than something to collaborate with, we have already failed.” This is not just a matter of language, but a profound shift: it is no longer about using the ocean as a resource, but about engaging with an active ecosystem.



Courtesy of Blue World

The risk, in fact, is to reproduce, under a new “blue” aesthetic, the same extractive models fashion has been trying to move beyond for years: take, consume, exhaust.

That is why the real challenge is not only technological, but cultural: to change not just materials, but the way we choose to see them. A Blue World embodies this shift. As Christopher Suarez explains: “This is the new luxury. Marine biomaterials are not simply a more responsible alternative, but represent a more intelligent material, combining function, biological relevance, and a more conscious vision of everyday life.” In this perspective, luxury is no longer possession, but relationship with ecosystems, with the wearer, and with time.

From the sea to the skin: when science enters everyday life

If we look beyond fashion, we realize that our relationship with the ocean is not new, it is already part of our daily lives, often invisibly. Seaweed, for example, has long been used in cosmetics, dermatology, and medicine, particularly in treating conditions such as eczema, skin irritation, and inflammation, thanks to its hydrating and soothing properties. Today, however, a further step is taking place: these properties are no longer confined to skincare products, but are entering the materials we wear. Seaweed-based textiles interact with the skin, helping maintain a balanced micro-environment and, in some cases, reducing irritation or skin stress. Fabric is no longer just a “covering,” but a biological interface.^a

And it's equally interesting to observe how these innovations extend to the world of sports and activewear. Marine fibers are being studied for their ability to be breathable, lightweight, and naturally moisture-regulating, managing sweat more efficiently than traditional synthetic materials. In this sense, the fabric doesn't simply "resist" physical activity, but collaborates with the body: it breathes with it, adapts, reacts. We're no longer just talking about what we wear, but how what we wear interacts with the body, influences it, accompanies it, and, in some cases, supports it in movement, in the skin, and in everyday life.

Storytelling: The Bridge Between Science and Desire

In this new landscape, technology alone is no longer enough. We may have increasingly advanced materials, more precise processes, and more sophisticated research, but without cultural translation, they risk remaining invisible. This is where storytelling becomes essential, not as an accessory, but as a bridge between two worlds: science and desire. As the A Blue World team explains: “People don’t respond only to what a material does, but to what it represents. That’s often where desire begins.” This is where matter ceases to be neutral and becomes cultural.

And it is precisely this "human form" that allows an innovation to emerge from the lab and enter everyday life, becoming something we can understand, desire, and wear. And so the final question becomes inevitable: what if the real change wasn't simply becoming "greener," but learning to think differently—in blue? Because, ultimately, everything starts from the sea. And **the feeling is that fashion, perhaps for the first time in such a concrete way, is starting not just to look at it, but to truly listen to it .**

Earth Day

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