A DESIGN REVOLUTION IS HERE

Biomimicry 3.8 | Interface

DESIGN FOR A REGENERATIVE WORLD

GLOSSARY

Aspirational performance targets
Science-based project performance goals based on the ecosystem service performance of a local reference habitat mosaic

Biomimicry
The design of materials, structures, and systems based on biological information

Ecosystem services
Benefits humans receive from ecosystems

Functional needs
Priority ecosystem services that can help address local client, ecological, and community challenges

Key Performance Indicators (KPIs)
A measurement used to evaluate the success of a process in meeting science-based objectives for performance

Nature Positive
Enhancing the resilience of our planet and societies by actively restoring and regenerating ecosystems

Performance
How well a reference habitat, existing site, or design scenario is performing specific ecosystem services

Performance baseline
Clearly defined starting point (i.e., current site conditions) to which other scenarios are compared

Performance gap
The difference in performance between the baseline or design scenario performance as compared to the aspirational performance targets

Positive Performance Methodology
A data-driven and science-based approach to identifying regenerative performance goals and achieving positive impact based on the emulation of local intact ecosystems

Reference habitat
Intact habitat local to a project site

Regenerative
Healing actions that enable people and ecosystems to thrive over time

Serviceshed
Area where an ecosystem service is provided

> *When the forest and the city are functionally indistinguishable, then we know we've reached sustainability.*
>
> *~ Janine Benyus*

Is it possible for a factory to function like a forest?

In this case study, Biomimicry 3.8 and Interface outline a repeatable, 4-step framework that is flexible enough for any organization to follow but robust enough to generate the breakthrough innovations that our planet demands.

The framework, known as the Positive Performance Methodology, is science-based, data-driven, and the *only* methodology that de-risks innovation with nature's 3.8 billion years-tested design strategies. Positive Performance Methodology transforms a philosophical aspiration of moving towards regenerative into a measurable, scalable, and actionable methodology.

Biomimicry 3.8 (B3.8), a global leader in bio-intelligent consulting and design, has spent the last 25 years developing biomimicry solutions for a regenerative future. The company's Positive Performance Methodology takes these solutions to the next level—with a clear, quantitative process to align profits with the well-being of employees, the environment, and the interests of the community—for the built environment and beyond.

Interface, a company that revolutionized the flooring industry with cutting edge sustainability and carpet tile innovation, had successfully integrated biomimicry to inform innovative product solutions and now wanted to go further.

INSIDER INSIGHT

*Biomimicry 3.8's name references the **3.8 billion years that life has existed**—and the amount of time that nature has been developing and perfecting its designs. The discipline of biomimicry is centered around consciously emulating nature's genius and using it as a methodology for innovative and sustainable design solutions.*

For almost 50 years, businesses from every industry have sought out Interface not only for its diverse portfolio of flooring products that help create beautifully designed, innovative spaces, but also for its bold pursuit of sustainability as a purpose-driven leader.

©Interface

Interface's founder, Ray Anderson, was a visionary in design and forward-thinking business practices. In 1994, he was deeply moved after reading Paul Hawken's *The Ecology of Commerce*—it was a "spear in the chest" moment that changed his perspective on business and sustainability. His epiphany began Interface's journey towards regenerative business, and it inspired Ray to build a team of expert advisors from different disciplines to help redesign and transform the company. The team included Janine Benyus, co-founder of Biomimicry 3.8 (B3.8) and the Biomimicry Institute.

Working with B3.8, the Interface leadership team began learning from 3.8 billion years of nature's time-tested designs and solutions. Biomimicry became tightly embedded in the innovation process at Interface, emerging in the development of the company's highly successful i2™ design approach (which includes the carpet tile style Entropy®)—a pivotal innovation that generated an entirely new source of revenue, as well as influenced research and innovation processes at Interface in the decades that followed.

INSIDER INSIGHT

Leaders in the sustainability space often look to Interface as a thought leader in innovation and design for a better planet. Interface regularly gives tours of their facilities and has consistently ranked in the ***top 10 most sustainable companies worldwide.***

2021 GlobeScan/SustainAbility Leaders Survey

For over 25 years, Interface pursued a mission to leave zero environmental footprint. After Ray's death in 2011, company leaders such as Erin Meezan, VP and Chief Sustainability Officer, continued pursuing and advancing Interface's commitments to the environment. Through internal innovation, efficiency, the use of renewable energy, and the integration of recycled and bio-based materials into its raw materials—Interface deeply reduced the impacts of its business and supply chain.

By 2019, this included a **96% reduction of greenhouse gas (GHG) emissions** (in absolute tonnes), **89% reduced water use** in the manufacturing process, **89% of global energy use from renewables** (99% in US and Europe), a **92% reduction of waste landfill**, and a **69% reduction of the product footprint for carpet tile** from 1996 levels through supply chain raw material innovation. These aggressive actions and outcomes have positioned Interface to receive recognition across industries for their accomplishments.

Meezan, realizing they were close to achieving their 2020 Mission Zero® sustainability goals, began to wonder, **"What's next? What's beyond zero?"** She turned to B3.8 and others on the advisory team to explore these questions and define Interface's next steps and aspirations.

WHAT IS REGENERATIVE?

A regenerative approach puts life at the center of all intentions: cultivating a society that is oriented beyond survival and towards flourishing, and a business mindset that maximizes the health of the planet, alongside profits. Actions are regenerative when they have a positive effect on the other patterns or systems of which they are a part. Regenerative solutions create conditions for all life to thrive.

Life has only ever been able to exist as long as it has *created conditions conducive to more life*. In thriving systems, all organisms holistically work synergistically and contribute to ecosystem services (e.g. building healthy soil, filtering water and air, sequestering carbon dioxide, and decomposing waste). To B3.8, this is the guiding principle for a regenerative future for all species—including humans—and became an aspiration that was part of Interface's success. Inspired by this vision and guiding principle, Interface recognized that they could redesign themselves to contribute to the ecosystem by *mimicking* the ecosystem. This approach required a deeper understanding of locally relevant ecosystem services and processes in the communities in which they operate to build a clear path forward with both quantitative and qualitative goals.

In these early discussions, the team uncovered a key area within Interface's direct sphere of control: *facilities*. Focusing on the built environment presented a significant opportunity for positive impact. Currently, buildings—along with the externalities of construction and operations—account for 37% of total global GHG emissions (Global Status Report For Buildings and Construction), with additional negative externalities that impact water, soil, biodiversity, and human health and well-being. With the agency to drive change at its facilities, the question became:

"What would a regenerative carpet factory look like? Can a factory function like a forest? And could we create a standard for measuring and operationalizing this?"

AN EPIPHANY: ENVISIONING A PLAN

Interface now had the vision: to create a "Factory as a Forest" which would support a regenerative business model, meet bold business targets, *and* contribute to the well-being of the landscape and local community—but where to begin?

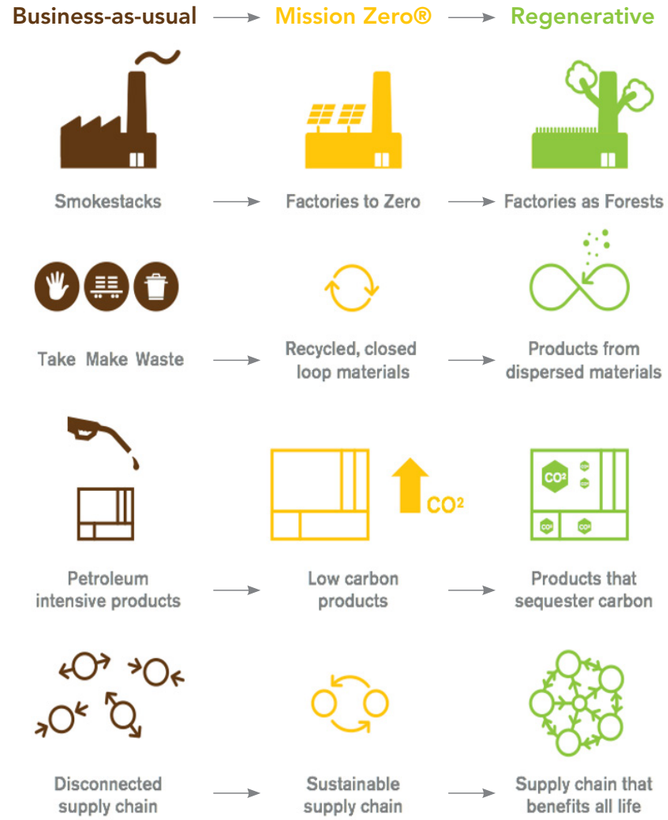
Recognizing that new construction and remodeling of existing facilities was within reasonable reach, the project team decided to focus on a pilot project to support crafting a regenerative performance methodology appropriate for all company facilities. B3.8 and Interface set to work on establishing aspirational performance targets specifically for its factory in LaGrange, Georgia, which was in the initial stage of a redesign. The Interface team **knew capital investment was allocated to the LaGrange site** and, given Interface's commitment to environmental performance, it would be an ideal opportunity to pilot what would become the Positive Performance Methodology.

In parallel, to ensure project support and buy-in across key leadership and stakeholders, the project team took an essential step of learning what else was being prioritized across the company. This enabled the team to best **understand how to introduce the pilot as a way to meet and support existing goals.** "We knew it was going to be important to take time before diving into any project to deeply understand the priorities of key stakeholders within the organization, as well as the organizational dynamics. We needed to get a sense of the existing business objectives, strategies, and priorities," said Meezan. As a result of this work, the Interface leadership team was able to **adopt regenerative performance as a key business objective and integrate it into the key pillars of their strategy**.

By integrating "Factory as a Forest" and regenerative performance as business objectives, the vision had expansive reach beyond the pilot—it was now a key part of the company's long term success strategy, gaining broader support and momentum to achieve holistic integration across the company.

KEY LESSONS LEARNED

1. ***Recognize*** *where resources are already flowing to improve opportunities for application and integration.*
2. ***Identify*** *opportunities for a pilot project to align with existing goals and priorities.*
3. ***Integrate*** *Positive Performance and regenerative goals into the broader company strategy to help ensure resources and commitments are prioritized and properly supported.*

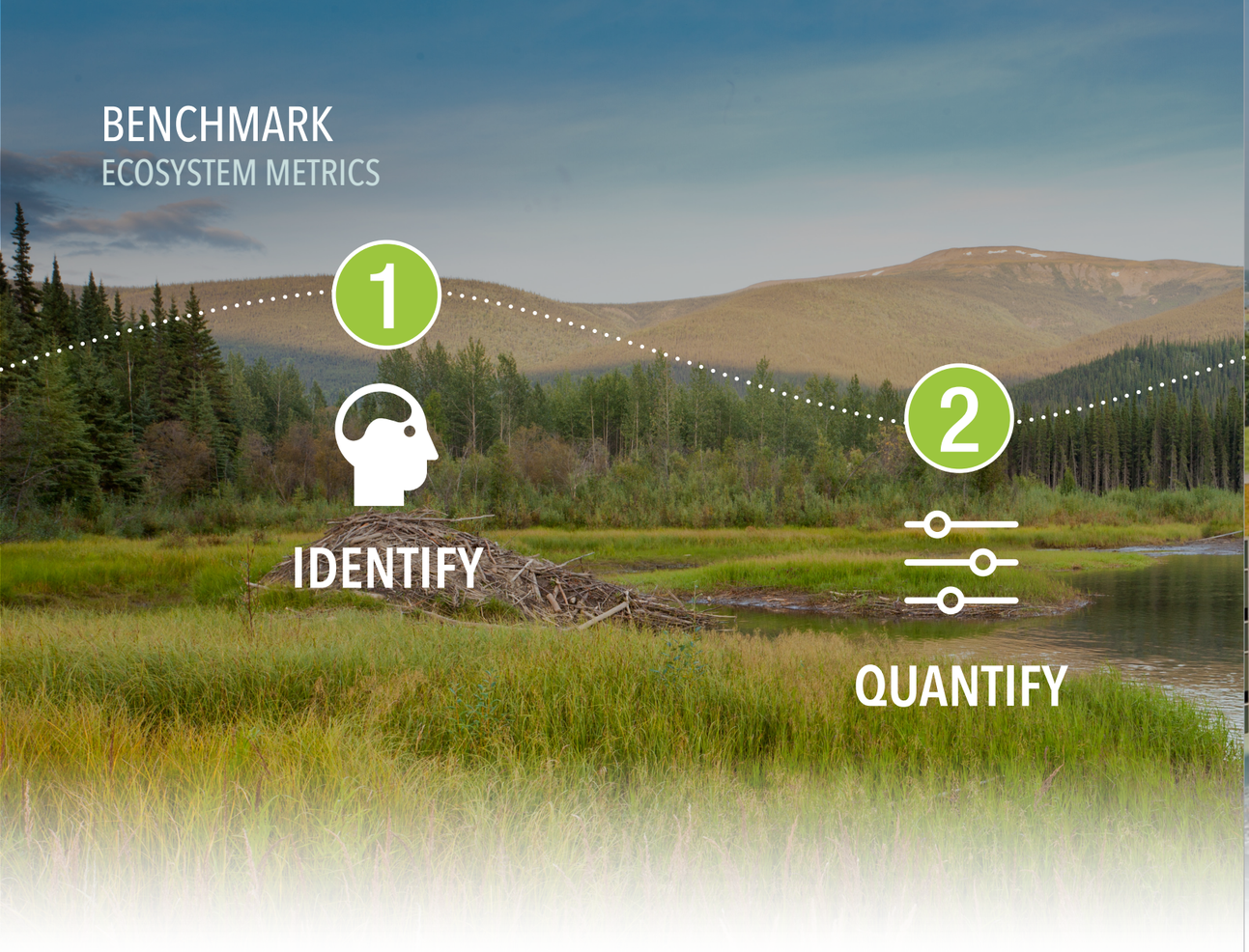


The evolution of Interface's sustainability vision.

In addition to integration into business strategy, the team wanted to ensure that the process was accessible, within reach for any organization, and was *replicable*. It was imperative to take the traditional constraints of modern day business into consideration (e.g., rigid budgets and timelines and the need for scalable outcomes that could be leveraged in multiple locations) and seamlessly integrate these challenges into the process.

> *"The team at Interface and B3.8 had a vision that was bigger than LaGrange or even Interface. We knew we had to make this process approachable for all types of businesses—even those early in their sustainability journeys—wherever they might be in their evolution towards regenerative.*
>
> *~ Nicole Miller, Managing Director of B3.8*

To achieve this, the Positive Performance Methodology focuses on integrating design solutions that help meet existing goals while *also* evolving toward a regenerative enterprise and approach. Interface was moving from neutrality to regenerative, so the "Factory as a Forest" project became part of a broader strategy, enabling the team to advance the pilot at LaGrange. For the methodology to be approachable, the team recognized they needed to take a very comprehensive process and make it accessible to anyone independent of their background, while also maintaining the integrity of biomimicry and science-based metrics.



After synthesizing the process, the team distilled it down to four key steps:

1

Identify and understand the ecological and social dynamics of a site, as well as the company's existing goals and priorities.

2

Determine the performance criteria by **quantifying** the ecosystem services delivered by a local reference site and comparing that to the performance of the project site(s).

3

Understand the performance gap between the project site and the reference habitats in order to **create** biomimetic and nature-based design strategies to help close the gap.

4

Iteratively work with the appropriate technical and operations teams to help **implement** and operationalize strategies and solutions.

"We recognize there are loops within each of these phases—but keeping the process narrative to four simplified steps has been key in supporting change agents as they introduce the Positive Performance Methodology, facilitating their company's journey toward regenerative enterprise," explains Miller.

"We want teams to understand, get excited, and see themselves in each one of these steps; and to do that, the primary process description needed to be digestible and straightforward.

The methodology is also designed to hold the integrity of biomimicry throughout each step to ensure that the process effectively yields regenerative outcomes.

INSIDER INSIGHT

Other business objectives from organizations B3.8 has worked with include:

- *Delivering on **Scopes 1, 2, and/or 3** emission reductions;*
- *Creating **trackable metrics beyond carbon** that map back to previously set sustainability goals (e.g. UN SDGs, LEED, IWBI, SBTi);*
- *Creating a **"Nature Positive" strategy** for facilities and business operations.*

1 | IDENTIFY

LOCAL CONTEXT AND SUPPORTING REFERENCE ECOSYSTEM(S)

Goal: *Understand the performance criteria and functional needs of a location based on both ecological and social dynamics of place.*

Knowing how an ecosystem behaves in its intact state serves as inspiration for how a built environment should perform. It's important that the reference habitat(s) resemble the location being evaluated for the remaining stages to be successful.

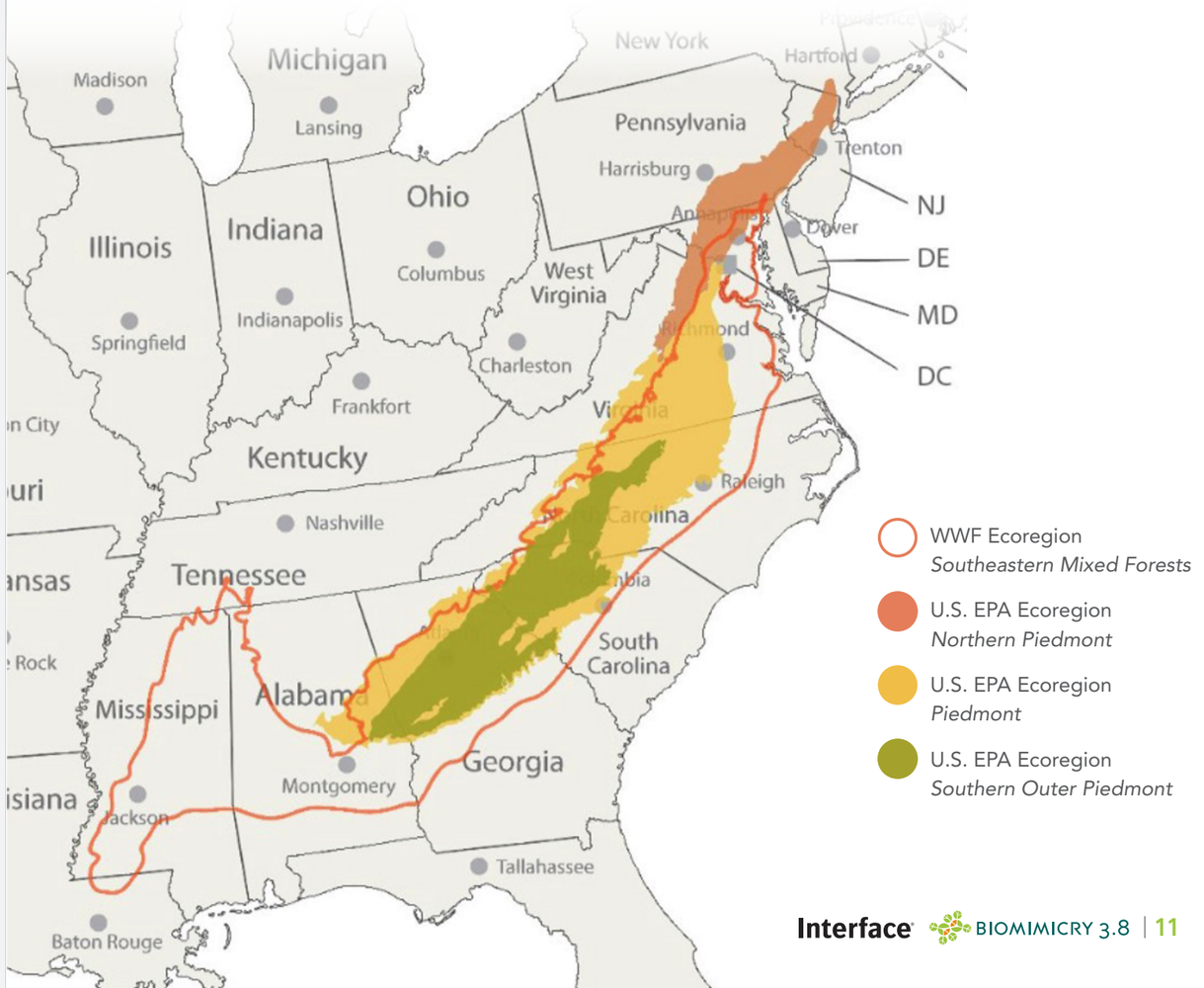
INSIDER INSIGHT

Often, if organizations have multiple facilities that are in close proximity to one another, the same reference habit performance data can be used. This is an opportunity to optimize data and scale positive impacts.

1 2 3 4

For Interface's American manufacturing facility located in LaGrange, Georgia, the team looked no further than the *Southern Outer Piedmont and the oak-hickory-pine forest* (a type of temperate broadleaf and mixed forest).

B3.8 did extensive research to characterize this ecosystem and identify Key Performance Indicators (KPIs) that would inform the project performance goals. Integrated into the research priorities were the social dynamics of the place and how the Southern Outer Piedmont ecosystem has co-evolved with, and been stewarded by, indigenous communities over the last 12,000 years.



2 | QUANTIFY

PERFORMANCE

Goal: *Establish a performance target which the site should strive to meet and/or exceed.*

After identifying the reference ecosystems, the team begins the comprehensive process of identifying and measuring ecosystem services provided by the landscape and its inhabitants. This process ensures the inclusion of appropriate factors to create locally relevant and accurate performance targets.

The team also measures the ecological performance of the existing facility site in order to create a performance baseline. Understanding the performance gap between the existing site and/or the "business as usual" approach, and the reference ecosystem helps to inform where and which strategies are needed to close the performance gap and move closer to regenerative.

ECOSYSTEM SERVICES

Ecosystem services were popularized by the Millennium Ecosystem Assessment, which informed the United Nations Sustainable Development Goals (UN SDGs). This is an important reference for organizations working to achieve or align with the UN SDGs.

1 2 3 4

WATER CYCLE	SOIL	HABITAT & BIODIVERSITY	AIR CYCLE	CARBON CYCLE
Local Water Movement	**Soil Building & Stability**	**Habitat Types & Distribution**	**Temperature Buffering**	**Carbon Absorption & Sequestration**
• Infiltration rate • Rate of evapotranspiration • Interception rate • Infiltration and impoundment amounts • Percentage of impervious surfaces	• Amount of soil erosion, sediment delivery • Infiltration • Amount of carbon stored • Nutrient retention capacity • Rate at cycling through of micronutrients	• Connectivity • Area of land use/land cover (LULC) • Amount of plant acreage supporting pollinators / pollinator abundance index • Density and distribution of vegetative cover	• UV exposure levels • Albedo • Seasonal and spatial temperatures • Lumen levels • Relative humidity • Evaporative cooling rate	• Carbon sequestration rates • Oxygen and carbon dioxide balance
Sources & Quantities of Local Water	**Soil Properties**	**Abiotic Factors Influencing Biodiversity**	**Removal of Air Pollutants**	**Carbon Storage**
• Flood attenuation - volume of water over time in 100 yr storm • Soil water potential • Average quantity of fresh water available on site by season • Average annual water yield	• Soil moisture • Amount of nutrient filtering/pollutant removal • Soil quality	• Fire Interval and intensity • Threats to biodiversity • Air temperature regulation	• Suspended particulates ppm • Concentration of nitrogen dioxide, sulfur dioxide, ozone, carbon monoxide, and VOCs	• Tons of carbon stored in biomass and soil
Water Quality	**Biotic Community**	**Flora & Fauna**	**Effect of Trees on Wind Patterns**	**Carbon Release**
• Aquatic life biotic index • Percentage of forest cover • Nitrogen and Phosphorus amounts • Water filtration rates • Water temperature regulation	• Soil biological activity • Amount of waste recycling and detoxification	• Diversity index • Amount/number of non-native plant and animal species	• Wind speed • Turbulence	• Carbon emissions by respiration, decomposition, and fire

A summary of performance metrics assessed by the team.

After studying and measuring the ecological performance of the forest, B3.8 and Interface had detailed benchmarks to establish what a regenerative factory should perform like. The relevant performance targets focused on:

Carbon | Sequestration, carbon uptake, and carbon storage

Water | Water temperature regulation and evapotranspiration, interception, and infiltration rates

Atmospheric levels | Particulate matter removal, air temperature regulation, and CO_2 levels

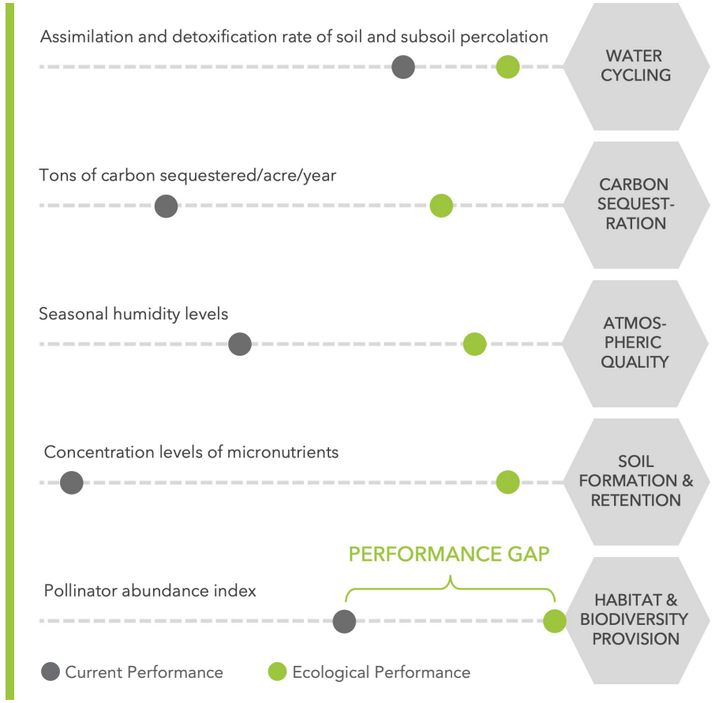
Biodiversity | Biodiversity support, pollinator support, and plant succession

Soil | Depth, organic matter, and nutrient recycling

Health and well-being | Aesthetics, visual screening, and noise abatement

The initial findings yielded discoveries and connections with a broader impact, including freshwater flow into the *Apalachicola Bay* and its effect on the oyster population that carried deep significance in the area. The Piedmont ecosystem receives all its freshwater from precipitation. The presence of shallow, nitrogen-rich topsoil above a layer of non-porous bedrock limits the amount of groundwater

the area can hold and release over time to support the downstream Apalachicola Bay ecosystem. An increase of impervious surfaces from the human built environment exacerbates this dynamic by further reducing the ability of the landscape to hold water. As a result, the changed water cycle in the area of the facility results in a less than optimal environment for the Apalachicola Bay oyster population, also negatively impacting the economy and culture of communities that depend upon the bay's oysters. Uncovering this relationship provided an opportunity to delve deeper into research on the social dynamics of place and oyster stewardship through water management.



An example of how the team communicated the performance gap analysis.

"With an understanding of how the Southern Outer Piedmont's ecosystem performed, we were able to compare those metrics against our baseline factory performance and see the gaps," explains Meezan. In this phase of the process, it really started to sink in that a holistic understanding of ecosystem performance—looking at the benefits and cycles—provided an entirely new lens to understanding our role in that system. It was incredibly illuminating and, most importantly, it helped us see new opportunities to create a positive impact."

"Seeing that water was such a concern for the area, and the deeper context behind it, we almost instantly acknowledged we had an opportunity to play a beneficial role in the water cycle and ecosystem at large," she shares.

SERVICESHEDS

*Understanding the **ripple of impact** of any design decision to the local ecology is an illuminating process that can help teams make more informed decisions, particularly those that yield positive outcomes for the local ecosystem and community. By choosing a design that produces ecosystem services like the wild lands next door, the positive impacts extend well beyond the site to what are ecologically known as "servicesheds".*

"

The new civic gesture is not a stadium; it's a healthy ecoregion.

~ Janine Benyus

3 | CREATE

DESIGN SOLUTIONS

Goal: *Develop strategies and solutions to close the performance gap between the existing site baseline and the reference habitat(s) aspirational target.*

Often completed in collaboration with architectural and engineering teams, this step focuses on translating biological insights from the local ecosystem(s) into design solutions based on biomimetic strategies, cutting-edge ecological solutions, and traditional ecological knowledge that deliver on business objectives. The diversity and synergy of these sources and solutions form a holistic system with an emergent, positive impact on not only the facilities and business, but also the ecosystems, employees, and local communities—performing biomimicry at an ecological scale.

The series of recommendations delivered in this phase often serve as the gateway or pilot to understanding the opportunities to apply biomimicry and the Positive Performance Methodology across the organization and help transform the business into a regenerative enterprise.

B3.8 and Interface turned to facility design partner Terrapin Bright Green, a sustainability consulting firm, to help develop design solutions to close the performance gaps at the LaGrange facility.

"Adopting a factory-as-a-forest mindset, [...] our teams set out to propose solutions that would lead to buildings capable of performing ecologically as well as the native ecosystem," explains Bill Browning, Founding Partner of Terrapin Bright Green.

As part of the Quantify process, the B3.8 team was able to calculate how much carbon the Interface property should sequester per year; how much rainwater it should absorb, let run off, or evaporate back into the air; and how much biodiversity should be maintained across the landscape. This uncovered the following, specific to water:

- Due to existing lush greenery, 78% of all rainwater was redirected back into the sky through evapotranspiration.
- Most of the remaining water became surface or subsurface runoff.
- Less than 1% infiltrated the groundwater table due to the non-porous bedrock.

These insights led to recommendations on how Interface could close the transpiration gap, knowing the non-porous bedrock was incapable of water retention. Some explored opportunities included:

- Rainwater collection and stormwater management plans unique to place,
- Integration of native plants into the landscape, and
- Addition of water features to reintegrate moisture into the air.

Even though all solutions that emerge from the process are based on reference ecosystems, each facility will end up adopting different specific strategies to solve their specific water issues, resulting in place-inspired facility design that is more locally attuned and resilient to its place.

For carbon, the team analyzed impacts beyond energy consumption to also include building materials. The team considered building materials that, much like Interface's carpet tiles, would sequester carbon.

INSIDER INSIGHT

Interface's CQuest™ backings combine recycled content and bio-based materials that not only capture and store emissions long-term, but exist inside of a closed loop manufacturing system and circular economy. Through measurement of how these materials influence the carbon footprint, the carpet created from them is carbon-negative when measured cradle-to-gate.

Interface facility ©Christopher Payne/Esto

The thing about this work, no matter how often I do it, is I always wind up thinking deeper about our buildings and their impact. It's not just energy efficiency. I have to consider: what are the materials being used in our buildings and how can a collection of different technologies and strategies be combined to help reach our Positive Performance goals? It pushes us to go further.

~ Bill Browning

"This work is about removing solution silos. Yes, we are looking at strategies to improve the performance related to carbon, water, soil, biodiversity, etc., but we are looking at them holistically, operating together like any successful ecosystem. Working with partners like Terrapin Bright Green, we are recommending strategies and solutions that offer multifunctional benefits across all performance categories, particularly those that are most relevant to that place. This is what is uniquely different," shares Nicole Miller. "By modeling and visually illustrating the positive impacts generated by these solutions, companies have a very powerful decision-making tool at their fingertips. And perhaps more importantly, applied at the earliest stage of design it can support alignment on priorities and inform budget planning".

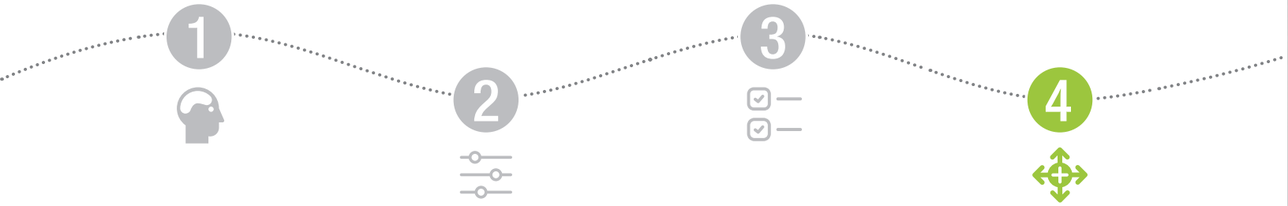
4 | IMPLEMENT

DESIGN SOLUTIONS

Goal: *Create a roadmap to implement design strategies to achieve a positive impact and regenerative outcome—based on immediate needs, operating conditions, and long-term goals.*

The recommendations resulting from Step 3 illuminate a clear pathway towards achieving sustainability goals and regenerative outcomes. Step 4 focuses on outlining which strategies are best to implement and categorize based on priorities of the organization—such as time, cost, and impact. Additionally, this phase also explores monitoring and measuring opportunities over time to support reporting goals and needs.

As part of this phase, if not already complete, the team explores a more detailed strategy to support the implementation of Positive Performance Methodology across the organization facilities, in support of a broader, more holistic regenerative enterprise strategy.



To support the implementation process, the project team presented and packaged the design strategies based on those most likely to help close the performance gap at LaGrange and categorized them based on time to implement, investment costs, employee impact, and scale—these were key factors important to Interface's decision making process. The Interface team identified the design solutions they could implement immediately, along with others that could be rolled out in the coming months and years, based on business drivers and budget.

Each of the design strategies were part of a holistic solution rather than an isolated solution to a single challenge. The process of designing at the ecosystem-scale for a regenerative outcome takes green-tech, biomimicry, and biophilic design—all of which are important to Interface—to the next level of impact.

SCALE		COST	
E	Equipment (HVAC, Lighting, Building Systems)	=	Neutral Cost, will likely not cost more than conventional measures
F	Facilities (Core & Shell, Operations)	−	Reduced Cost, will reduce first costs
L	Landscape and Hardscape	+	Added Cost, will likely increase first costs
D	District (beyond the site boundaries)	◔	Offset Cost, will likely result in a reasonable ROI
TIMEFRAME		**EMPLOYEE IMPACT**	
2	Near-Term, feasible within 2 years due to current site & facility conditions	I	Low Impact on Employees, will have little impact on health, productivity, and/or morale
5	Mid-Term, feasible within 5 years due to the size of effort and current site and facility limitations	II	Medium Impact on Employees, will have some impact on health, productivity, and/or morale
10	Long-Term, feasible within 10 years due to technological constraints and the size of effort	III	High Impact on Employees, will have a larger impact on health, productivity, and/or morale
TCO	Troup County Optimization, prioritize part or all of the strategy during the TCO process		

Recommended design strategies icon legend.

Install rainwater capture systems & non-potable water piping	E F	◔	5	I	TCO
Capturing rainwater for non-potable uses (such as in toilets, use in cooling towers, process water, and irrigation) reduces municipal water consumption and associated system losses. This reduces dependency on the municipal system and aligns water quality with use. Also, ensure that rainwater storage is large enough to meet water needs during drier periods.					

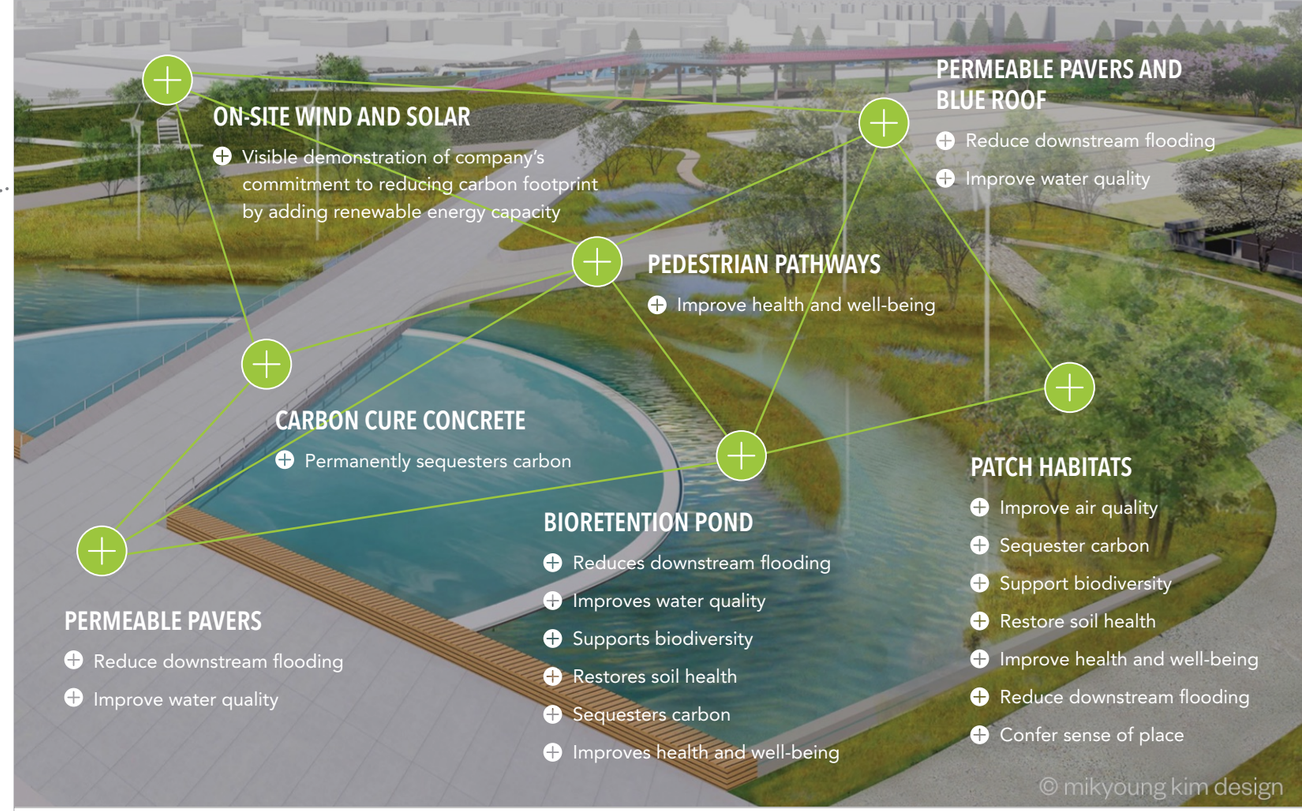
Upgrade plumbing fixtures	E	+	2	I	TCO
While most of the plumbing fixtures are already high-efficiency, replace any older and all new fixtures with high efficiency fixtures. Consider waterless urinals, where appropriate.					

Install high-efficiency icemakers and water fountains	E	+	2	I	TCO
Icemakers and water fountains have high degrees of inefficiency and given the high demand in the factory, upgrading these units to higher efficiency will be impactful. In addition, review the locations for proper insulation and ventilation to ensure their optimal functioning.					

Examples of detailed design strategies recommended for the LaGrange facility to match water performance.

While the Phase 4 work of implementing Positive Performance opportunities is still early, initial progress includes:

- ***planting native trees and grasses** to absorb water, sequester carbon, and reduce the cooling load on the factory;*
- ***installing a rainwater catchment system** with four large tanks that hold up to 200,000 gallons of water for reuse on site;*
- ***closing the evapotrans-piration gap** by sending water back into the atmosphere through the addition of water features; and*
- ***installing tinted windows** that respond to sunlight throughout the day and passively cool the factory.*



An example of how Positive Performance Methodology results in a collective system of design strategies that work together.

The resulting nuanced, systems-level design establishes the potential for emergent outcomes and exponential impact, far beyond any single improvement. Each design strategy is multifunctional, creating co-benefits to meet a diversity of multifold goals that were previously thought to be impossible.

For example, permeable pedestrian pathways and Carbon Cure sidewalks built along bioretention ponds and surrounded by patch habitats, can simultaneously:

1) work as an ecosystem to reduce onsite and downstream flooding,
2) improve water quality,
3) sequester carbon,
4) support and improve biodiversity,
5) improve air quality,
6) restore soil health, and
7) improve the health and well-being of the community.

When intentionally designed as a system to deliver ecosystem services in support of regenerative goals, the performance outcomes are far greater than any single intervention can deliver on its own. With holistic design strategies in hand and a plan to integrate over time, Interface was now empowered to move closer to their goal of "factories that function like forests". They now had a methodology to forecast and measure the ecological performance of their facilities over time. Perhaps one of the most unexpected benefits of the pilot process, they had also generated excitement and interest among employees and partners to engage in and support the process moving forward.

Interface Base Camp, designed by Perkins & Will

BEYOND FACILITIES

Transformation to a positive organization can effectively start with facilities, but is by no means limited to this entry point.

The mindset shift—from reducing the negative effects of manufacturing on the environment to seeing an organization as an active, positive contributor to nature—carries an impact that goes far beyond the tangible space of facilities. As an organization embraces a regenerative mindset, every aspect of the company not only becomes an opportunity for positive transformation but is influenced by adjacent changes—from the supply chain to the culture. The outcomes of the Positive Performance Methodology often serve as the gateway or pilot to help identify the many opportunities an organization has to make a positive impact to local ecosystems and the community in which they operate, both within and beyond a company's owned properties. These opportunities can be addressed through design choices within the product and supply chain, and ultimately supported by the enterprise strategy (i.e. to be a regenerative enterprise that creates conditions for all life to thrive now, and over time).

By developing and implementing this methodology, Biomimicry 3.8 and Interface emerged with findings

> *"It's not just about the numbers; it's also about impacting the mindset of the people using the facility. The cisterns aren't hidden; you can see the plumbing. Everyone becomes more aware of what the building is doing and how it is connected to the larger ecosystem,*
>
> *~ Bill Browning*

that extended beyond this facility. The recommendations that came out of the LaGrange facility deeply influenced their headquarters, Base Camp, even though design work was already underway. And while the facilities were 75 miles away, the same ecological reference was relevant, enabling the team to optimize the design strategies. Since the methodology was introduced late in the process, Interface's architectural firm, Perkins & Will, had the task of integrating the learnings into their design. The team discovered that in an urban environment, there was not the same opportunity to influence metrics as they had in the rural setting of the LaGrange factory. However, this allowed Interface to really focus on aspects they could influence—namely, carbon and water.

In addition to adding a **15,000 gallon cistern** that harvested rainwater for reuse on site through rooftop collection, Interface's Base Camp confirmed a **78% water use reduction**, compared to code-compliant buildings, through the installation of efficient toilets. Furthermore, through the decision of renovating a smaller building rather than creating a new, larger one, alongside waste-stream diversion and the use of low-carbon or carbon-neutral interior materials, the building experienced a **50% energy use reduction** compared to code-compliant buildings (i.e. business-as-usual).

Symbolizing the "Factory as a Forest" approach, the new headquarters for Interface paid homage to the city of Atlanta's goal of restoring its tree canopy to 50%—with the north and east faces of the Base Camp building wrapped in a recyclable, polyester sheath that conserves energy by reducing heat from sunlight and allows natural light into the workplace. The façade features a white transparent forest landscape, symbolizing how Interface looks to the local ecosystem for inspiration to move towards a regenerative future.

CREATING A POSITIVE FUTURE

More than 1/3 of the 2,000 largest publicly-traded companies in the world have committed to a net zero strategy.*

Efforts to meet these commitments typically focus on minimizing the negative impact a company has on the environment. The picture-of-success or vision of net zero is to be completely neutral—in other words: surviving, not thriving.

Interface knew that taking a neutral stance wasn't enough. With support from B3.8, Interface created an actionable plan to make a regenerative impact on the ecosystems and communities where they operate and live—a plan that leads towards the improvement of place, protects and nurtures biodiversity, generates clear air and water, and fosters healthy soils—a holistic plan that aims to eventually regenerate the local ecosystem to benefit current and future generations. The future is a positive one.

"Interface's journey towards regenerative is underway, and now we have a roadmap of implementation strategies for LaGrange," observed Meezan.

The pathway to be regenerative and nature positive is flexible and scalable; it operates on more than one level: from business leaders navigating the tension between short-term performance and long-term commitments, to sustainability executives trying to chart their roadmaps to achieve regulatory environmental, social, and governance (ESG) compliance or meet certifications (i.e. LEED, IWBI, BREEAM, ILFI, ESG). It is a pathway for operations executives to find innovative solutions to gain a competitive advantage and reduce manufacturing costs. Organizations can start the journey by focusing on their products, services, or facilities; or they can start from the larger picture—from supply chain, business model, or purpose, to organizational culture.

> *"The most exciting part of this entire process is having a clear path forward. And better yet: it's one every organization can take. The 4-step process illustrates there is a way to bring nature and building performance together—two fields previously seen as at odds with one another—without compromising the planet or business outcomes.*

"While Interface was the 'first penguin off the iceberg', we're working with other global corporations to move towards a regenerative approach to business strategy," explains Miller. Inspired by Interface's courage, B3.8 has brought together other forward-thinking organizations with a bold, regenerative vision of the future to create *Project Positive*. Founding members, along with Interface, include *Microsoft, Ford, Google, Jacobs, HOK, Kohler, and EcoMetrix Solutions Group*.

Project Positive is a group of change-agents dedicated to raising the bar on what acting sustainably should mean—driven by a sense of urgency to move beyond arbitrary reduction goals to science-based targets and actions that are generous to the ecosystems, employees, and communities in which they operate. The group gathers quarterly to share lessons and explore strategies to meet aspirational targets, working together to actively demonstrate and increase the rate of impact.

* Net Zero Stocktake 2022

Wherever the entry point might be, the 4-step framework and the road map to regenerative aligns short- and long-term business success, building resilience both inside and outside of organizations.

Furthermore, with Project Positive, the outcomes and actions become part of a collective effort to explore how regenerative enterprise can be beneficial to the communities we all belong to and depend upon.

Together, Biomimicry 3.8 and Interface chose an uncharted journey, emerging with a methodology that de-risks innovation, can solve the toughest business challenges, and allows for any organization to see their own clear path towards a regenerative future.

Learn more about regenerative possibilities here:

- Bring your challenges to the **Project Positive** table
- Explore more **case studies** from B3.8
- Download our **self-assessment** to understand what projects you have that could benefit from our 4-step process—Positive Performance Methodology
- Learn more about **Interface's vision** for a regenerative world

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