



PROJECT MAGELLAN

NAVIGATING
TOWARD
A MORE
SUSTAINABLE
FUTURE

JUNE 2016 - NOVEMBER 2017

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OUR MOONSHOT AMBITION



**DOUBLE
THE
BUSINESS** WITH
HALF THE
IMPACT





A LETTER FROM OUR LEADER

CYRUS WADIA
VICE PRESIDENT
SUSTAINABLE BUSINESS
& INNOVATION

In May 2016, Nike announced an ambitious moonshot – to halve our environmental impact, while doubling our business. Achieving this goal will require us to strengthen every aspect of our business and embrace sustainable innovation as a robust engine to power and protect the future of sport.

Project Magellan was designed to create the framework that will help us accomplish this goal together. The following scenario represents thousands of hours of research, data analysis and problem solving. We studied our sourcing, manufacturing and distribution, traced products back through our value chain, and charted a path to cut every unneeded use of carbon, water and chemistry while leveraging every opportunity for radical efficiency.

Our work for this project pulled from decades of experience to create what we believe is a bold vision of our future. Our findings are rooted in a fundamental understanding of Nike's interaction with the environments in which we operate, and draw from scientific understandings of our impacts.

We know the future will look different than it does today—population growth, climate change and resource scarcity must be met with innovative new business models, technologies and ideas. That is why, despite the totality of our preparation, this book does not contain the final plan. Specific details of the scenario to get us to half the impact will be in flux by the time this ink is dry. Success in an evolving world requires adaptation, and Project Magellan is an exploratory function,

offering a starting point for our work in a world that is shifting. In short, this work is a marathon, not a sprint.

Although the specifics of a roadmap to get to half the impact will shift, our moonshot will continue to propel us toward even higher, more evolutionary and innovative solutions needed to deliver results for the business, the athlete and the planet. We believe that this book will be a field guide for the years to come.



DEFINING PROJECT MAGELLAN



ORIGINS OF OUR WORK

Imagine a future where Nike is a radically lean, nimble, efficient, localized, authentic part of the lives of athletes the world over. Imagine a future where the air athletes breathe, the water they drink and the chemistry that touches their skin or leaches out in washing is as important to how business is done as profits or margins. Imagine a business model that allows Nike to double its size, and double again, and again—providing access to sport to every corner of the globe for decades to come.

Project Magellan, named for Ferdinand Magellan's ambitious journey into the unknown, started as a challenge to unravel the riddle of how a company of this size and complexity might cut its environmental impact in half, while doubling its business growth. This is a fascinating and ambitious challenge not only because it would require radical technical innovation but (much harder) radical changes in the minds of every person involved in the creation of our products. They must believe, as we do, that this Moonshot is a business imperative.

We know that the vastness and intangibility of climate change does not spark a natural sense of urgency. Serve up too much doom and people despair, shrug and just hope nothing too terrible

happens in their own lifetimes. Or they hope clever scientists and engineers will save us all just in time.

This way of thinking scares the hell out of us: sitting on our hands and isn't in our DNA. Climate change is an opportunity for unimaginable innovation. In a world where businesses are under pressure to cut their emissions, and where global warming threatens the supply of raw materials like cotton and leather, businesses can be pushed into irrelevance if they won't or can't embrace powerful trends quickly. If we fight them, we are fighting the future. Embrace them and we have a tailwind.

As you read the insights contained in this book, read it with an open mind to the critical possibilities that:

- 1 Climate change is real and it is an urgent threat to our business growth in the long term.**
- 2 We aren't satisfied with watching global shifts from the sidelines, we will shape them through innovation.**

Nike has come a long way on its sustainable innovation journey.

Since Bill Bowerman began forging shoes, Nike has believed that weight is the enemy of performance. In fact, the ideal track shoe has (and might still be) a few nails driven through the feet of a runner. Ouch. Lighter is better for both performance and sustainability because, simply put, fewer parts mean less waste.

Fast forward to the 1990s -- Nike spent about \$50 million in R&D to swap the gas in Nike Air footwear from SF6 — a potent greenhouse gas — to nitrogen. This change yielded performance innovations that led to the latest VaporMax. This, in turn, unlocked a huge insight at Nike: by solving a sustainability problem, we can unlock new performance, new price or new aesthetic benefits. Discrete responses to issues such as these have evolved over time into a business insight at the core of Nike's growth strategy — delivering innovations requires coordination across the complex supply chain to create products that are better for athletes, our business and the planet.

That evolution took us into the 2000s, during which we began to see sustainability as a force to turn risk into innovation opportunity by embracing transparency and collaboration. It makes sense for business. As Nike President and CEO Mark Parker put it: "Nike

succeeds because we're obsessed with innovation. We are relentlessly curious about our world and how we can make it better. We apply that curiosity to our sustainability efforts, and we continue to learn what is required for real, meaningful progress."

2016 marked a pivotal moment that sparked our ambitious challenge and gave us the framework to truly grasp the meaning of progress at scale. Climate change drove political debate and 195 nations gathered in Paris to agree to an unprecedented commitment to reduce their emissions to not exceed a 2-degree global average temperature increase.

Soon after, Nike announced that it would heed the challenge and would, "Double its business with half the impact." This ambition meant reducing our carbon emissions to a level that supports the global carbon budget^[1], but we still didn't know if it was even possible. So we set out to examine the possibilities.

Nike's Sustainable Business and Innovation (SB&I) team partnered with the MIT Joint Program on the Science and Policy of Global Change, the group responsible for determining country-level carbon budgets, to determine our "slice of the pie."

What happened next was extremely technical. Together, we leveraged learnings from the top research organizations in the world to understand what would be required of us over the next 30 years, basing outcomes on the way we do business today. To increase our accuracy, we also explored how the world might change over the next decade. Our findings proved that improving on what we were already doing wasn't going to cut it.

Nike is an innovation company; we've never been comfortable with just improving a little bit year over year. We love the big bang factor of new innovations — which is great, because that's exactly what this moonshot will take.

We knew some big, audacious, never-before-attempted projects were required to get us on the path to a half-impact company. The challenge would be determining where we could get the most bang for our buck. We also still needed to define how we were going to measure our goal, which impacts should be included (because carbon isn't the only one) and what parts of our business to cover. We also had to figure out where exactly we were today, how far our current projects would take us, and when to halve our impact.

“AN EXCITING FUTURE IS A FUTURE WHERE WE NO LONGER FEEL GUILTY ABOUT ENERGY.

— ELON MUSK

To answer these questions, we developed Project Magellan: a five-month effort to define the challenge and identify potential solutions. The following essays and scenarios document our findings, and act as baseline for halving our impact and accomplishing the most ambitious innovation challenge Nike has attempted to date.

[1] A carbon budget is the amount of carbon each country — or company in our case — can emit to stay within the 2°C limit. Country budgets were defined by the 195 countries in December 2015 at COP21 as "the total carbon emissions possible to limit the average global temperature to a rise of no more than 2°C above pre-industrial levels."



OVERVIEW & PRINCIPLES

NIKE LEADERSHIP CHARTERED PROJECT MAGELLAN TO IDENTIFY FEASIBLE PATHWAYS TOWARD HALVING NIKE'S ENVIRONMENTAL IMPACT, LEVERAGING CURRENT SUSTAINABILITY TARGETS WHILE DOUBLING NIKE'S REVENUE. THE PROJECT WAS ACTIVE FROM JUNE THROUGH NOVEMBER 2016.

WISDOM OF THE CROWD

To maximize the credibility and thoroughness of Magellan's proposed scenario, we needed to establish a clear understanding of our current strategies across Nike and where they were materially impacting our environmental footprint. To gather this qualitative information and context, more than 150 business and sustainability experts were consulted, representing our value chain. These included SB&I's extended leadership team, cross-functional groups of Nike leaders, functional subject matter experts, sustainability experts and external thought partners. Diverse perspectives from these business functions and partners ultimately informed the proposed Magellan outcomes were feasible.

POWER OF SCIENCE

Project Magellan is the product of a scientific examination and selection of Nike's key environmental impact areas, derived using proven materiality assessment approaches. The team focused on driving company-wide impact reduction. We constructed a modeling framework called BEST (Business and Environmental Scenario Tool) to examine Nike's current state, both environmentally and financially, in which we could test assumptions and model potential future Nikes. The final Magellan scenario was created by leveraging a comprehensive data model of Nike's value chain and applying incremental amounts of change in all areas of our business until we established a result which achieved half the environmental impact.

A LIVING SYSTEM

The Magellan modeling tools were designed to evolve with the dynamic business environment of Nike. It is not set in stone. While the ambition remains fixed, the specifics of the ongoing approach will respond to scientific discovery, international policy shifts, material sourcing challenges, etc. As Nike innovates and implements new technology, new scenarios will be made. To maximize all potential impact reductions, we must adapt to ever-evolving business realities, staying the course to halve the impact.



DEFINING OUR MOONSHOT AMBITION

WHAT DOES IT MEAN TO “DOUBLE OUR BUSINESS”?

Nike’s revenue has historically been linked to the number of products the company makes. Therefore, simply speaking, doubling our business means doubling both our revenue and the number of goods produced.

In 2015, Nike produced 1.2 billion units and was valued at \$30B. In partnership with Nike’s leading financial planners, the Project Magellan team projected that by 2025 Nike’s production and value would increase to approximately 2.5 billion units and \$60B, respectively. For the purposes of the project, this is how we defined ‘double the business’. This assumption was defined outside of the Magellan scenario, but provided the target metrics required to measure ‘half the impact’.

WHAT DO WE MEAN BY “IMPACT”?

An impact is an environmental effect of doing business. There are an infinite number of impacts, and most are harmless. Some, however, contribute to making it more difficult for future generations to survive and thrive. The goal of sustainability is to minimize these negative impacts and keep industry operating within our planetary boundaries.

In order to prioritize the materiality of all known impacts, we assessed for the whole of the Nike enterprise. This helped us understand where Nike adds most to the whole-of-industry encroachment across planetary boundaries. For

Nike to do the most good to promote sustainability, we recognized we must reduce our contributions to climate change, water scarcity and toxicity.

WHAT DO WE MEAN BY “HALF THE IMPACT”?

In accord with the Paris Climate Agreement, Nike committed to doing our part to stabilize Earth’s climate with less than 2°C average warming. This approach is science based – explain what science-based means We worked with external experts with two end goals:

- 1 **Help calculate our share of the responsibility to meet this goal.**
- 2 **Develop a science-based target for greenhouse gas emissions.**

This approach offered us estimates of our responsibility to the global goal (completed by analyzing the contribution of our industry to climate change), as well as defining our responsibility share for our entire industry. The conclusion is that Nike can continue to grow at a steady pace but must maintain a fixed level of absolute emissions.

We researched the industry landscape and identified three most common units of measure for tracking environmental impacts. These were:

Absolute impact.

Impact per dollar of profit.

Impact per unit (of product sold).

After considerable deliberation, per unit was selected as the measure because it is directly actionable and intuitive – Nike is a product company; therefore, the business can more easily translate this metric into tangible, actionable goals as they relate to one unit of product. Units are defined as products we have manufactured, such a tee shirt or a single pair of shoes.

Furthermore, per unit does not implicitly reward non-product revenue growth like DTC margin benefits and product mix changes (i.e. increasing apparel) as well as acquisitions (we can’t “buy” our way to the solution).

So Nike’s science-based target asserts that as our sales volume doubles, we’ll need to cut our per unit greenhouse gas emissions in half – hence our ambition to “double our business with half the impact.”

Science-based approaches to setting targets for water and chemistry are less mature.

For water sustainability, initial research done in partnership with the World Resources Institute shows that, if we focus our efforts in water-stressed geographies, cutting our per unit water consumption would considerably improve the depletion of freshwater resources globally.

Research on a science-based approach to chemical sustainability is ongoing, early progress has been made on

establishing a credible metric for chemistry. The direction of the initial research leans toward a goal of improving the volumetric efficiency of process chemicals with a focus on a prioritized list of “controversial chemistries.”

HOW DO WE MEASURE PROGRESS?

It is important to note that Nike’s business cannot directly measure a product’s environmental impact; therefore the Project Magellan team adopted an industry-standard Life Cycle Assessment (LCA) approach to measure indicators of impact for accounting purposes. These assessments were conducted by objective, third-party investigative partners.

CLIMATE CHANGE IMPACT IS MEASURED IN KILOGRAMS OF CARBON DIOXIDE EQUIVALENT EMITTED PER UNIT (KG CO₂E/UNIT).

We measure the greenhouse gas emissions attributed to every step in the lifecycle of our products. Greenhouse gases other than carbon dioxide are converted into equivalent units of carbon dioxide emissions according to their relative greenhouse gas potentials. The total of these emissions is tallied for every step in every unit produced to calculate NIKE, Inc.’s absolute carbon impact in kilograms of carbon dioxide equivalent. This total is normalized by the total number of product units manufactured to calculate kg CO₂e/unit.

WATER IMPACT IS MEASURED IN LITERS OF WATER CONSUMED PER UNIT (L H₂O/UNIT) *WITH A FOCUS ON WATER STRESS.

We measure or estimate the water used in every step in the lifecycle of our products. The total of this water use is tallied to calculate NIKE, Inc.’s volume of water use in liters. It is then normalized by the total number of product units manufactured to calculate LH₂O/unit. Geolocation of water use is estimated across the value chain as well, and this location data is cross-referenced against global water stress data to estimate how much of Nike’s overall water footprint is in water-scarce regions.

ENVIRONMENTAL TOXICITY IMPACT IS MEASURED IN KILOGRAMS OF CONTROVERSIAL CHEMISTRY USED PER UNIT (KG CHEM/UNIT).

Specifics for the definition of “controversial chemistry” are still in development, but we are committed to defining a clear and holistic chemistry metric with quantified physical units.

HOW DO WE ACT ON THE INDICATORS?

These indicators are useful for tracking progress toward half the impact holistically, however they are not themselves actionable for Nike business functions. We classify active and future work at Nike as “business levers.” These levers are defined as the work Nike can do to improve the impact areas that we’ve selected. While “levers” are infinite, a few examples are:

REDUCING WASTE

This will directly influence the three sustainability impacts we have identified. Reducing waste directly reduces the amount of material that we would otherwise require for building product. By reducing material consumption, Nike could directly affect the energy, chemistry, and water required to manufacture those materials. Thus, impacts to climate change, water stress, and toxicity are all directly impacted through greater material efficiency.

BEYOND PRODUCT

By Implementing non-product business models, Nike could shift toward lower-impact revenue generation. By delivering a service without having to deliver a physical product, the amount of material and energy needed per revenue dollar is reduced.

WATER RECYCLING

By recycling water, we could reduce water stress by using less total water in the manufacturing processes used to make our product. We can measure water stress directly by looking at the amount of water withdrawn and the capacity of the water body that we are pulling from.



PROJECT MAGELLAN SCOPE OF WORK

Nike is a large and complex company that relies on many global partners to source, manufacture and sell our product. Throughout the process of determining the areas of Nike's business that would ultimately halve the impact, it was important to not simply 'cherry pick' impacts under our direct control. Our goal was to include the whole of the Nike value chain. However, some key areas were problematic due to their distance from our core business influence and management. The scope we decided upon is ambitious and exceeds industry standards for reporting, drawing the boundaries for what we could halve.

WHAT IS IN MAGELLAN SCOPE?

The full scenario scope included everything from sourcing product materials involved in producing a Nike or Converse shoe or garment, to the destruction of that product at the end of its usability for all Nike Inc and Converse footwear and apparel. Hurley Inc. footwear and apparel was not included in the Project Magellan scope due to lack of data.

The five product engines included in the Project Magellan scope were:

- Brand Footwear
- Brand Apparel
- Nike Equipment
- Converse Footwear
- Converse Apparel

WHAT IS OUT OF MAGELLAN SCOPE? (NEED TO MAKE THIS CLEAR)

While the entire Nike Value Chain scope was considered (excluding Hurley products), some stages of the product lifecycle were removed from the Project scope:

LICENSED PRODUCT

The Magellan team deemed licensed products out of scope because Nike does not control or influence any part of a licensee's business model or value chain; lack of data was also a challenge. (e.g. sunglasses not designed by Nike but using the Nike brand).

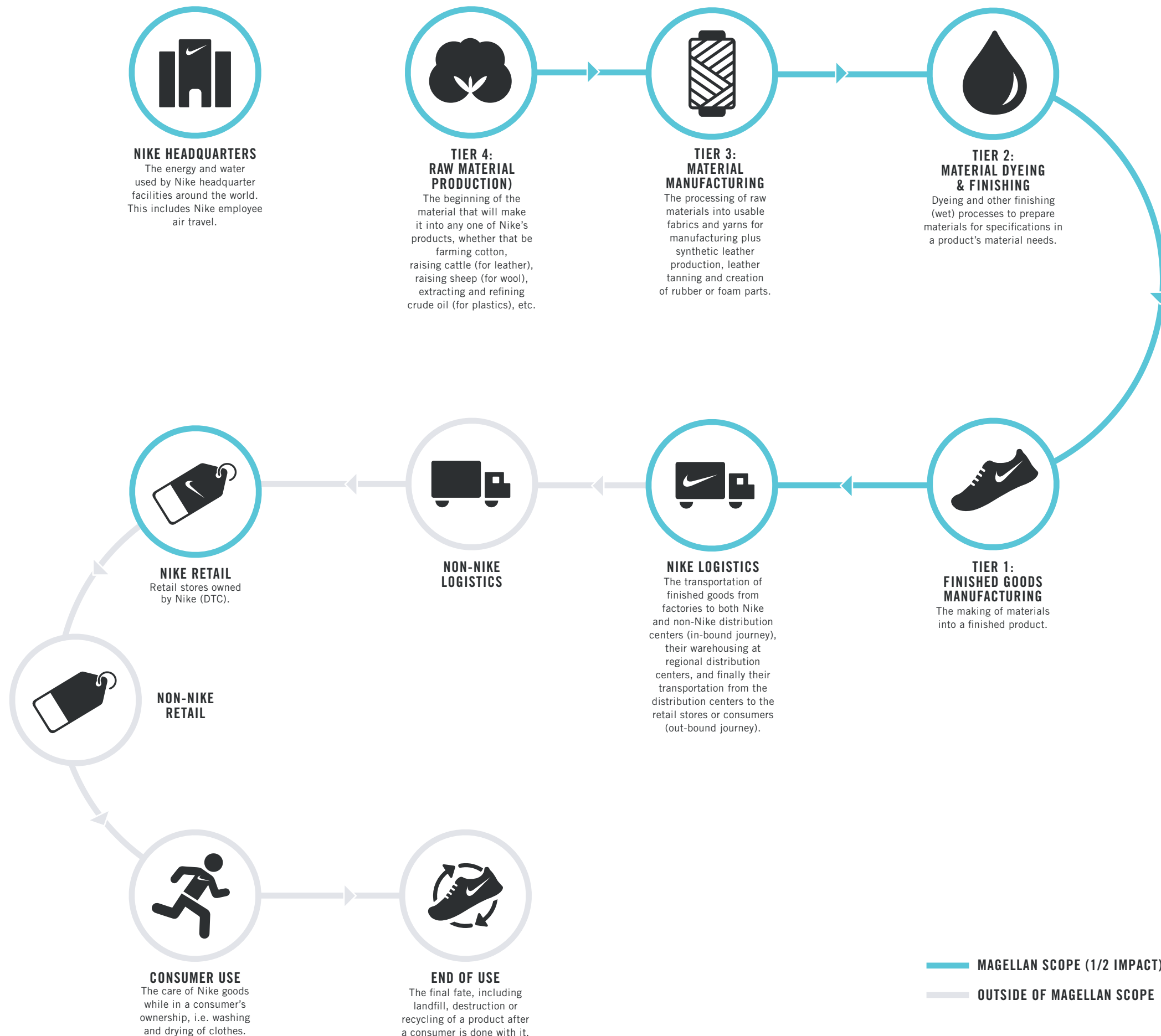
NON-NIKE INFLUENCED LOGISTICS & RETAIL

The Project Magellan team determined that due to our current business relationships with wholesale partners, we do not have the influence needed to require environmental impact reductions in their business operations, nor the required transparency to measure reductions if they occur at Project Magellan scale or time-frame. (e.g. third-party vendor, such as Dick's Sporting Goods).

CONSUMER USE

We believe that consumer use is a large part of Nike's footprint due mostly to the washing and drying of apparel, but do not currently have clear data to quantify that water and energy use. However, our early research indicates that Nike's influence over consumer washing and drying practices is very limited, with care labels having less leverage over consumers than convenience or habit. Alignment and partnerships between appliance companies, soap companies, and brands must be established to determine whose responsibility it should be to actively manage and reduce this consumer behavior-driven part of our value chain.

Investigation is needed to determine a feasible path to reduction, and consumer use will remain out of scope until this area is better understood. (e.g. washing & drying of apparel)

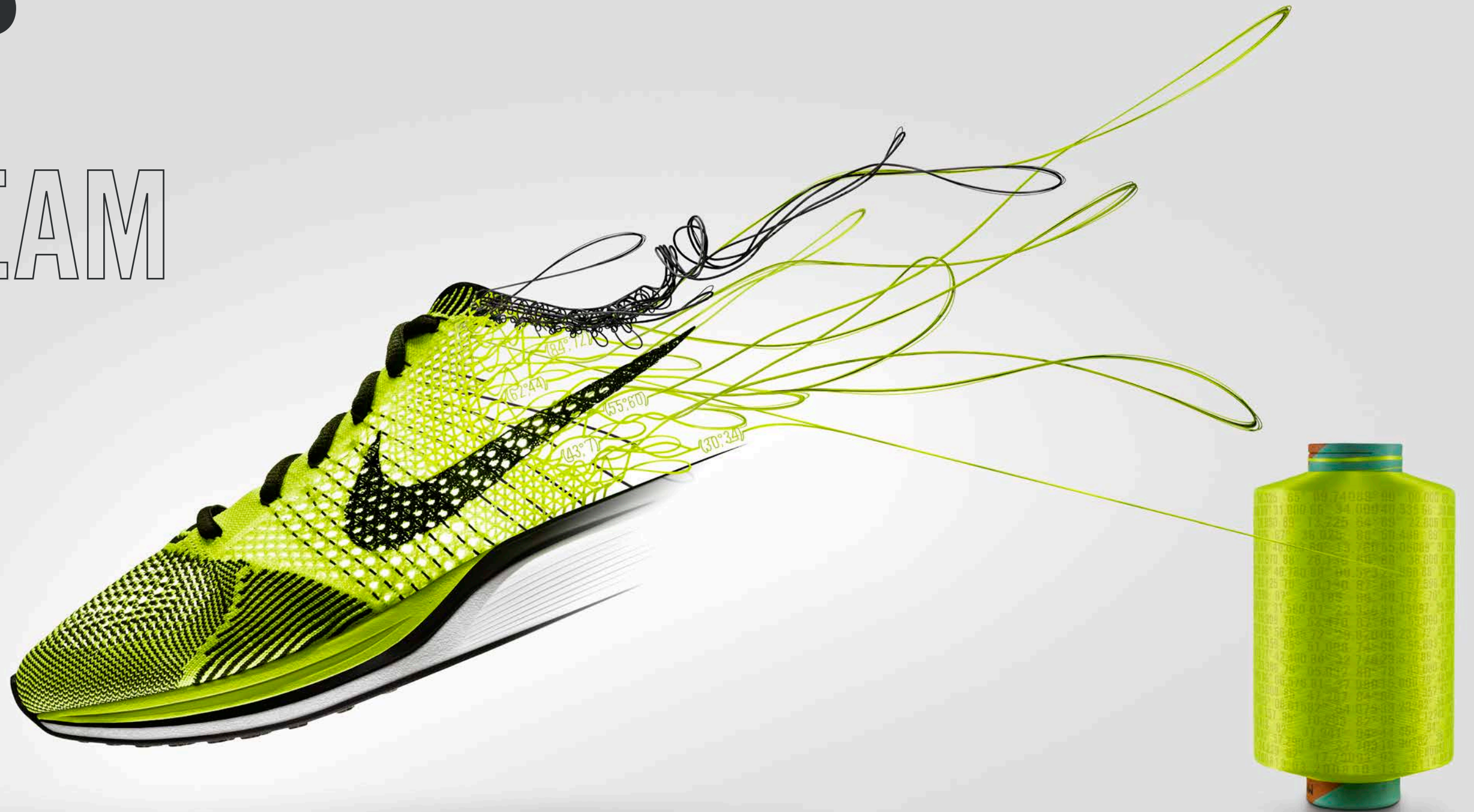


ESSAYS FROM OUR TEAM

Throughout the span of Project Magellan, the team identified key focus areas, called 'Hot Spots' of discovery, that grounded our larger viewpoint. The following are essays from Magellan team members that unpack the most important Hot Spots and provide crucial context for the Scenario to follow.

The essays focus on chemistry, water stress, the wisdom of the crowd, and the importance of systems change. Specifically, the essays provide space to explain some of the critical complex topics that will be essential to achieving our ambition:

- 1 **Chemistry is ubiquitous to our business and its path to half impact is full of tradeoffs.**
- 2 **A focus on water stress helps to ground our goals in global scientific context.**
- 3 **Data is not always in spreadsheets; the wisdom of the crowd unlocks decades of Nike knowledge.**
- 4 **The scale of change required to achieve the ambition necessitates disruptive changes to the Nike systems and will affect every product we make, every material used and everywhere it's made.**





SUSTAINABLE BUSINESS & INNOVATION