

## Nike Considered: Getting Traction on Sustainability

*Rebecca Henderson, Richard M. Locke, Christopher Lyddy, Cate Reavis*

*Corporate responsibility is no longer a staff function at Nike. It's a design function, a sourcing function, a consumer experience function, part of how we operate.*

—Nike CEO Mark Parker<sup>1</sup>

*When you first say to someone, 'I need you to design a sustainable shoe,' they freeze, because they think 'what does that mean?' Morality will get you to that conversation, but it won't get you past that conversation. What we need to do is give people the tools that they can use in real time to create products that are different.*

—Nike Corporate Responsibility VP Hannah Jones

In early January 2008, Nike launched the 23<sup>rd</sup> iteration of its Air Jordan basketball shoe. Like its predecessors, the Air Jordan XX3 was marketed as a lightweight, high-performance basketball shoe. But there was something different about this version of the Air Jordan. With a price tag of \$185, the XX3 was designed and developed with the environment in mind, incorporating content from recycled sneakers and minimizing solvent usage. Thrilled at the press his new signature shoe received for its

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<sup>1</sup> "Innovate for a Better World: Nike FY05-06 Corporate Responsibility Report," *Nike Inc.*, May 2007.

This case was prepared by Research Associate Christopher Lyddy and MSTIR Program Manager Cate Reavis under the supervision of Professor Rebecca M. Henderson and Professor Richard M. Locke. Professor Henderson is the Eastman Kodak Leaders for Manufacturing Professor of Management. Professor Locke is the Alvin J. Siteman (1964) Professor of Entrepreneurship.

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## NIKE CONSIDERED: GETTING TRACTION ON SUSTAINABILITY

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eco-friendliness, Michael Jordan told Nike's Brand Jordan team, "I want all my shoes made this way."

The XX3 was one of the first high-performance examples of Nike's Considered strategy, the name given to its sustainable design ethos. As Sarah Severn, a director of Corporate Responsibility at Nike, noted,

We needed to adopt the Considered principles into mainstream product, which is now happening with the Jordan XX3. After many years that's the Holy Grail that we're finally starting to get traction on. We recognized in the 1990s that design was the key, but we didn't have the skill-set in the environmental team to translate what we knew about environmental issues in a way that designers understood. Part of the problem was we didn't have tools in place. But now what you see with the Considered Index is that for the first time, we have a tool that helps designers make environmental choices about how they design their product.

Scenario planning on Corporate Responsibility-related global trends such as water, health, and energy, alongside increasing worldwide concern about climate change, had fueled Nike's worries about the company's supply chain. As with most industries, Nike realized that it was heavily dependent on oil for materials and fossil fuel energy, and was potentially exposed to high oil prices and looming carbon restrictions from anti-climate change regulation. Meanwhile its waste production and use of toxic materials and water also posed major risks.

In December 2004, incoming Corporate Responsibility (CR) VP Hannah Jones recognized that Nike needed to be strategic in its response to its environmental impacts, keeping in mind how ineffective Nike's initial reaction to accusations of abuse at its contracted supplier factories had been in the 1990s. But how could Nike best do this? Was Considered a good first step? What else might be required?

### Nike<sup>2</sup>

In 2008, with nearly 50,000 product styles across its three product lines, Nike Inc., which included the Nike, Converse, Cole Haan, Umbro, and Hurley brands, was the world's leading branded athletic footwear, apparel, and equipment company. The Nike brand, a subsidiary of Nike Inc., was organized around more than 30 product categories responsible for designing, developing, and marketing products for consumer niches, such as Running and Basketball. Categories housed key support functions like product engineers and innovators, and maintained connections to Nike's factory liaison offices and sales and marketing functions. Categories depended on factories' expertise in managing production processes, which allowed them to focus on product creation and marketing.

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<sup>2</sup> This section draws heavily from Richard M. Locke, "The Promise and Perils of Globalization: The Case of Nike," in Thomas A. Kochan and Richard L. Schmalensee, ed., *Management: Inventing and Delivering Its Future* (MIT Press, Cambridge MA, 2003).

In FY08, Nike Inc. earned \$18.6 billion in revenues, of which the Nike brand accounted for \$16 billion (86%), with the remaining \$2.6 billion accounted for by affiliate brands like Converse and Hurley. Footwear represented 61% of Nike brand revenues, followed by apparel with 33%, and 7% for equipment. Approximately 40% of Nike brand sales were in the United States, the remainder from across the globe. Nike relied heavily on its brand, valued in 2008 at \$12.7 billion, to drive sales.<sup>3</sup> Nike enjoyed a 36% share of global athletic footwear, well ahead of top competitor Adidas' 22% share.<sup>4</sup>

The Nike brand sourced virtually all footwear production from roughly 50 factories in China, Vietnam, Indonesia, and Thailand.<sup>5</sup> Nike footwear, apparel and equipment sourced materials from nearly 700 factories, totaling 800,000 workers, located in 52 countries, creating a massive global supply chain with a carbon footprint of 1.36 million tons (MT) in FY06. By contrast Sony, a major consumer electronics manufacturer with FY06 revenues of \$70.6 billion, reported 2.7MT of greenhouse gas (GHG) emissions from manufacturing and logistics in FY06.<sup>6,7</sup> The same year Intel, a semiconductor manufacturer with \$35.4 billion in revenues, released just under 1MT of GHGs.<sup>8</sup> Currently, inbound logistics (factory to warehouse) accounted for 34% of Nike's energy use and 25% of GHG emissions, and footwear manufacturing accounted for 54% and 59% of energy and GHG emissions, respectively.<sup>9</sup> These figures included Nike and its contract factories' operations, but excluded materials supply chains, which comprised up to 80% of total energy required to produce a shoe. In short, Nike's carbon footprint was significant.

### Nike's Labor Crisis

Nike's strategy of pursuing global sourcing opportunities to produce lower cost products was financially rewarding, but had created significant public relations problems for the company. In the early 1990s, Nike came under attack as the company's overseas labor practices were exposed. Activists increasingly criticized labor practices at Nike's contract factories, alleging workers were systematically subjected to conditions including unjust and illegal pay practices, forced overtime, verbal and physical abuse, sexual harassment, interference with unionization, and excessive toxic chemical exposure.<sup>10</sup> Nike first denied responsibility for contract factory workers, claiming, for example, that it could not prevent Asian subcontractors from employing young children. In an interview with the *New York Times*, Michael Jordan was quoted as saying, "I think [it's] Nike's

<sup>3</sup> "Best Global Brands 2008," *BusinessWeek.com*.

<sup>4</sup> "The Olympics: It's All About the Shoes," *Channel News Asia*, May 29, 2008.

<sup>5</sup> Richard M. Locke, "The Promise and Perils of Globalization: The Case of Nike," in Thomas A. Kochan and Richard L. Schmalensee, ed., *Management: Inventing and Delivering Its Future* (MIT Press, Cambridge MA, 2003).

<sup>6</sup> "CSR Report 2007," *Sony Corporation*, July 2007.

<sup>7</sup> GHG emissions are typically expressed as the amount of carbon dioxide causing equivalent global warming impact.

<sup>8</sup> "Buildng Global Responsibility: Intel 2006 Corporate Responsibility Report," *Intel Corporation*, May 2007.

<sup>9</sup> "Innovate for a Better World: Nike FY05-06 Corporate Responsibility Report," *Nike, Inc.*, May 2007.

<sup>10</sup> Dara O'Rourke, "Smoke from a Hired Gun: A Critique of Nike's Labor and Environmental Auditing in Vietnam as Performed by Ernst & Young," *CorpWatch*, November 10, 1997; Clean Clothes Campaign, "Nike Case," [www.CleanClothes.org](http://www.CleanClothes.org); Jeff Ballinger, "Just Do It, Or Else," *Multinational Monitor*, June 1, 1995.

decision to do what they can to make sure everything is correctly done. I don't know the complete situation. Why should I? I'm trying to do my job.”<sup>11</sup> However, as one senior manager noted, the company’s denial not only failed to silence the critics, but “if anything, it raised the volume higher.”<sup>12</sup> Ultimately, CEO Phil Knight acknowledged in a 1998 National Press Club Speech that “the Nike product has become synonymous with slave wages, forced overtime, and arbitrary abuse.”<sup>13</sup>

Eventually Nike began addressing its labor issues in a more strategic way. In 1998, Nike consolidated corporate responsibility functions under a new VP position, and began studying the reasons behind its suppliers’ non-compliance with its Code of Conduct. One conclusion that emerged was that Nike’s internal systems sometimes encouraged the very behaviors it wanted to eliminate. For example, procurement teams’ bonuses were set by price, quality, and delivery speed of orders, implicitly encouraging them to ignore suppliers’ code compliance.<sup>14</sup> By the late 1990s, Nike realized that corporate responsibility had to be a core part of Nike’s business,<sup>15</sup> a lesson Jones took to heart in creating an environmental strategy.

### Considering the Environment

During the mid- and late-1990s, Nike’s labor issues consumed the attention of company leadership to the point where, as Jones noted, “It felt like all the oxygen had been sucked out of the room.” Nonetheless, obscured and largely unnoticed because of the spotlight on labor issues, Nike employees had initiated a number of environmental programs. In the early 1990s, the company launched programs to replace the greenhouse gas SF<sub>6</sub> in its flagship Nike Air system with climate-neutral nitrogen and develop water-based cements to replace toxic solvents, otherwise known as volatile organic compounds (VOCs). By 2000, Nike launched a company-wide training program centered on product sustainability and initiated sustainability metrics. In 2005, inspired by the activity, one footwear design team released a small line of more sustainable shoes which was called “Considered.” As the team’s developer explained it, the name came from the team “considering what was right and doing what was right.”

### Enter Parker and Jones

In December 2004, Hannah Jones assumed her new role as VP of Corporate Responsibility reporting to Mark Parker, who was then co-president of the Nike brand, and would soon become CEO of Nike Inc. Jones had been with Nike since 1999 serving as the company’s CR Director in the Europe, Middle East, and Africa region, and previously worked as a producer for the BBC. Parker was a 27-year Nike veteran and a designer at heart.

<sup>11</sup> Ira Berkow, “Jordan’s Bunker View on Sneaker Factories,” *The New York Times*, July 12, 1996.

<sup>12</sup> Simon Zadek, “The Path to Corporate Responsibility,” *Harvard Business Review*, December 2004., p. 128.

<sup>13</sup> Richard M. Locke, “The Promise and Perils of Globalization: The Case of Nike,” in Thomas A. Kochan and Richard L. Schmalensee, ed., *Management: Inventing and Delivering Its Future* (MIT Press, Cambridge MA, 2003).

<sup>14</sup> Simon Zadek, “The Path to Corporate Responsibility,” *Harvard Business Review*, December 2004.

<sup>15</sup> Ibid.

Despite Nike's various sustainability initiatives, environmental responsibility had not penetrated into Nike's daily business decisions. Exploring why, one of Jones's first acts in her VP role was carrying out a strategic review with corporate leaders to better understand their overall perception of CR. Jones learned that they perceived CR as a police force outside the business that was strategically unfocused and not aligned with creating business value. CR was so alienated from Nike's business units that one leader asked of Jones, "please don't pummel us with your moral judgments." Yet despite this, corporate leaders all spoke aspirationally about the potential impact of effective CR.

Based on the review, Jones developed a strategic approach to CR that emphasized value creation, collaboration with business units, and proactive strategic planning. Jones set the conceptual metric of "ROI<sup>2</sup>" as CR's new strategic compass, emphasizing that business decisions included both financial and corporate responsibility returns. If CR delivered ROI<sup>2</sup>, it was helping the business succeed and improve its social and environmental footprint. "We aim to show the business people how we're going to help them deliver returns on investment to our shareholders," Jones explained. "The end goal for us has to be that businesses institutionalize CR into the DNA of the company so that CR is a living, breathing approach to how one does business." Jones hoped that by organizing CR around ROI<sup>2</sup>, it would evolve from being seen as an unwanted cost to being an intrinsic part of a healthy business model, complete with profitability and sustainable growth.<sup>16</sup>

Under Parker's guidance and influence, Jones and her team began exploring how to tackle Nike's environmental footprint using this new strategy, and homed in on product design as a key intervention point. Parker's insights as a designer became a driving force behind the new approach. Due to its position at the beginning of the supply chain, the design function offered great opportunity to design out environmental issues. Jones's team decided it needed to help Nike "design the future...as opposed to retrofit the past."<sup>17</sup> One industry observer noted this meant "rather than monitor the use of facial masks by overseas workers handling toxic chemicals, Nike is teaching itself to design shoes that don't use them."<sup>18</sup>

Because it was situated at the beginning of the supply chain, the design function was a key intervention point. Furthermore, as one manager explained, designers liked to solve problems:

People underestimate designers. They take a complicated problem and make it simple. Once you explain what the problem is, they can solve it. Part of the problem with getting traction on sustainability inside Nike was we didn't know what the problem was. We started doing footprint analysis – toxics, waste, water, etc. – and presented it and now designers are helping us solve

<sup>16</sup> "Innovate for a Better World: Nike FY05-06 Corporate Responsibility Report," *Nike Inc.*, May 2007.

<sup>17</sup> Nicholas Casey, "New Nike Sneaker Targets Jocks, Greens, Wall Street," *The Wall Street Journal*, February 15, 2008.

<sup>18</sup> Ibid.

problems. In every pair of shoes is a barrel of oil. The reason they should use recycled materials is they use 50% less energy.

### The Considered Group

In late 2005, Parker, Jones and John Hoke, then VP of Footwear Design, formed the Considered Group as a way to diffuse the Considered ethos of high-performing, aesthetically pleasing greener products. Its mandate was to provide the inspiration and tools to drive the Considered design philosophy deep into Nike's product creation units<sup>19</sup> and processes. The group's objectives included helping Nike consider the impacts of choices on the entire product lifecycle from design through end of life, and understand and reduce its environmental footprint.<sup>20</sup> Instead of commanding and controlling the ways in which the businesses implemented sustainability, the group placed responsibility for sustainability in the hands of designers who birthed the product.<sup>21</sup>

The Considered Group was at one and the same time a think tank, tool box, internal consultancy, competitive catalyst, the innovation end of sustainability, and an antenna to the outside world. Its mission was to serve as the hub of the Considered design ethos. The hub's spokes were product creation units, to which Considered disseminated knowledge, tools, and user support. It was organized to remain close to its business constituents, and had a staff of 14 people with environmental and product creation expertise, dedicated to footprint analysis, sustainability innovation, and tools development. Considered's General Manager Lorrie Vogel explained the organizing philosophy: "If you don't know how to translate environmental knowledge into products and processes, you'll always be outside of the product creation engine."

### The Nike Product Engine

Nike's product creation process was handled by teams known as "triads" comprised of a marketer, responsible for translating consumer demands into product specifications detailed on "product briefs," a designer, who created the product's general concept and layout, and a developer, charged with the product's technical details and coordinating production with the factory. While achieving Nike's performance standards and hitting margin targets were the most important goals, a shoe's physical characteristics, aesthetics and manufacturability were also considered key metrics. At any one time, product teams worked on four product seasons with 8-12 products a season. Product designs and production processes needed to pass through three successive design review gates on a rigid timeline that paced the entire Nike value chain, making failure to meet deadlines highly problematic.

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<sup>19</sup> "Innovate for a Better World: Nike FY05-06 Corporate Responsibility Report," *Nike, Inc.*, May 2007.

<sup>20</sup> Ibid.

<sup>21</sup> Ibid.

The shoe production process at Nike (depicted in **Exhibit 1**), which required the collaboration of triad developers, liaison factory staff, and factory engineers, entailed three steps: cutting out and stitching upper materials components, molding and shaping soles with “tooling,” and bonding the components together. (Tooling is a general term for metal production molds used to create soles.) Upper components were die-cut from large sheets of materials in patterns created by factory engineers based on product blueprints. Because irregular shapes never nested perfectly, spider web-like waste was left over from the original material. Tools cost several thousand dollars apiece, and each half-size of shoe required a unique tool. There were several methods for bonding shoes. Historically, industry practice had been applying organic solvent-based washes, primers, and then adhesives to a bonding site of two materials. Another option was using mechanical bonding processes, such as sewing pieces together. Use of water-based adhesives had become increasingly common since their development by Nike in the 1990s, despite the need for factories to use rigorous process control to avoid bond failure, a serious quality and safety problem.

### The Considered Index

The Air Jordan XX3 was Nike’s first high profile performance Considered product. One of the major stumbling blocks the XX3 team encountered was measuring if and how certain design choices were improvements from an environmental standpoint. As Vogel noted, “it’s not as hard as it seems to ask people to do good stuff. What’s hard is asking them to do good stuff and giving them zero direction.”

As the XX3 team experienced, product teams needed more than coaching because of the tight constraints and complexity of Nike’s design process. One designer described the challenge:

What does it mean to be Considered? It’s not enough to just put in recycled material. When you start from a blank page it’s really tricky because you need to integrate all the different dilemmas of what it means to be Considered into one. We need to find one design that meets all our products’ goals. But when you see all the elements connected to Considered, it’s not only in the product, but also in the lifecycle. You can become crazy questioning yourself, wondering if the job you’re doing is good or bad!

In 2005, the Considered Group began to develop a holistic, predictive way to score products at different intervals throughout the development process. The Considered Group was surprised by how difficult it was to create usable metrics for the product teams. After 18 months of extensive work by six people on the tools team, the Considered Index was introduced in September 2007.

The goal for the Index was to create predictive metrics that would work uniformly across Nike’s varied footwear line. This led to eliminating absolute measurements, like grams of waste per pair of shoes as an indicator, which proved to be a flawed metric. A men’s basketball shoe, for example, would almost always score worse than a kid’s shoe on absolute measures due to size disparity. Meanwhile, trying to compare the impact of each shoe while taking size differences into account was

a slow and complicated process. The tools team instead looked for intuitive proxies in the product process that were “85% right” and “pointed teams in the right direction.” However, as one team member noted, the complexity involved in making the Index’s scoring decisions made them contestable.

The Index evaluated a product’s bill of materials (BOM), a roster of all materials specifications for a shoe’s components, using Nike’s Materials Assessment Tool, an abbreviated life cycle analysis for raw materials. The Index scored environmentally preferred materials (EPMs) on multiple criteria including toxic hazard, energy and water usage, recycled content, recyclability, and other supply chain responsibility issues. For example, organic cotton received a higher material score, while regular cotton scored lower. The Index awarded points for each unique EPM in the shoe, and then divided the total points by the shoe’s number of unique materials. For example, a shoe garnering 5 EPM points with 10 unique materials would earn a .5 rating, but with 15 unique materials it would rate as .33

The Index evaluated solvent usage by scoring shoes on their least environmentally-friendly bonding option. Mechanical bonds ranked first, followed by water-based cement bonds, then solvent-based cement bonds. Cemented bonds were further evaluated on whether they used water or solvents to wash, prime, and cement. Bonds using solvent washes scored better than ones with solvent washes and priming; all-solvent chemistry was penalized.

The waste score was determined primarily by the midsole construction process and pattern efficiency. The scores for these areas were weighted according to their known contribution to Nike’s waste stream. For example, pattern efficiency was 60% of the total score, since production processes related to cutting upper materials accounted for approximately 60% of the footwear waste stream. The Index graded standard process options on footprint impacts, and awarded points to increasingly efficient patterns. Shoes with single material sockliners or without sockliners - the foam pads sitting directly underneath the foot – and those that reduced or reused tooling earned points, while points were docked for wasteful ultrasonic welding and autoclaving, an energy- and solvent-intensive process. However, there were a number of metrics that were not incorporated into the Index. For example, the team could not identify suitable predictive metrics for outsole construction, and dropped formal assessment of the energy footprint of midsole construction pending completion of ongoing energy mapping studies.

As a learning and motivation tool for Nike’s product teams, the Index included a “Change Agent” category. Teams could win points for up to three new significant footprint-reducing product or process ideas, such as a new way of attaching a midsole or eliminating solvent use. Lesser awards were also given to teams that adopted other teams’ recent innovations.

A product's overall rating was determined by calculating combined scores for materials, solvents, and waste – maximum scores in each category carried roughly the same weight – and adding innovation points. The Index was carefully calibrated to reward only those products that performed above Nike's historical averages, with Bronze representing baseline sustainability and Silver and Gold both qualifying as "Considered"; the distinction was purely internal. The Considered Group planned to toughen the Index's scoring over time. As one manager noted, "The intention is that we just keep raising the bar. As we do, business units will have to improve."

The Index ran on an intranet calculator. Product teams could self-score their products in a minute by entering their product's BOM number and clicking checkboxes for design and process options. While teams scored their product at the end of the development process to receive an official Considered rating, many product teams used the Index at interim product gates.

The Considered Group provided trainings to product teams on how to use the Index. It also built a network of Considered "super-users" who served as internal category experts on Considered questions and provided feedback to the Considered Group. Through super-users, the Group would provide updates on noteworthy examples of Considered implementation and innovation.

Visible leadership from Parker in the CEO's chair helped fuel the groundswell of the Considered movement for change within Nike's design community. Nike publicly committed that 100% of its footwear in Spring 2011 would meet a minimum Considered standard, established as Bronze after finalizing the Index.<sup>22,23</sup> As Vogel explained, "CEO Mark Parker believes that sustainability is the future of Nike."

While corporate leadership held categories accountable for achieving Considered targets, there was considerable variation in how quickly different groups integrated the Considered Index and how they operationalized the tool. The Core Performance (CP) category's successful implementation allowed its entire product line to be Silver-rated by Summer 2009. Nonetheless, CP and other units within Nike experienced many challenges with Considered implementation.

### **Core Performance and Considered**

Core Performance designed and sold Nike's lowest-price performance footwear across a range of consumer niches, including Running, Women's and Men's Training, Basketball, and Sportswear. CP was the largest category within Nike by product volume. According to Amy White, Category Footwear Leader, CP's low-cost business model had low margins and little cost flexibility, creating a perception that implementing Considered would be difficult. EPMs typically cost between a few percentage points to 30% more than their non-EPM equivalents.

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<sup>22</sup> Ibid.

<sup>23</sup> Nike also committed that 100% of its apparel and equipment would meet a similar goal by Spring 2015 and 2020 seasons, respectively.

In August 2007, faced with this challenge and recognizing Nike's corporate Considered goals, White committed to making one or two Considered shoes for CP's Spring 2009 line. (The Considered medal system had not yet been established, but these likely would have been Silver-rated.) One month later the Considered Index was released, and the CP team was surprised to learn that many elements typically designed into their products scored points on the Index. They quickly raised their goal and aimed to make the whole line Bronze.

According to White, Considered was a good fit for CP:

Taking waste out of the process, particularly waste not valued by the consumer, makes good business sense. If we're not leaving 40% of our materials on the cutting room floor, then it's good for the environment and our bottom line. There's not another category of our size, and for us to create Considered shoes says a lot. We wanted to show that you could make great performance shoes that are Considered. We had an opportunity to really change the game.

For White, the Considered Group's leadership was invaluable, but was only part of the picture:

The Considered Group doesn't have the ability to make tangible changes in how products are designed and manufactured. They put out ideas, thoughts, and resources, and I think you need a centralized organization to do that. But unless a category owns it, it doesn't take root in a meaningful way. And so that's where we felt like this is a no brainer. We know it's the right thing to do. We see the Considered Group over here trying to push. So what if we make it a pull?

To achieve the Bronze goal, Considered became a part of CP's design and manufacturing strategy. Products briefs specified products should earn a Bronze status, and Considered Index scoring became an evaluation criterion at product and employee performance reviews. CP met with Asian factory partners to emphasize Considered as a priority and asked for their suggestions and support.

Perhaps most importantly, White put together a 5-person, cross-functional CP Considered Task Force which included a product engineer, designer, developer, marketer, and materials expert. The task force developed a simple deck of best practices guiding product teams on embedding Considered in CP products. Guidelines included maximizing use of the task force's recommended EPM list, hitting specified pattern efficiency targets, reducing solvents and, when possible, choosing efficient midsole processes. The team worked with vendors to develop an affordable EPM materials palette through materials specifications and price negotiations. The task force conducted Index scoring – which one member described as “really easy to do” – for all products, and made suggestions when possible, particularly in design reviews.

In December 2007, when CP's Spring 2009 products were formally scored against the Considered Index, the team was surprised to discover that nearly its entire line earned a Silver rating. Even more

surprising was that most shoes had received high scores on the use of EPMs, despite the significant cost challenges. For the few models that only achieved Bronze status, CP's Considered Task Force gave additional support to those product teams, helping those models hit Silver by Summer 2009.

Adding to CP's good news was the fact that its first Gold shoe, the Dual D Hoop, was scheduled to launch in Summer 2009. In early 2007, before the Considered Index debuted, CP innovator Craig Sills was trying to create a more efficient way to construct dual density foam midsoles. He succeeded in developing a single mold system that cut costs and streamlined manufacturing, and also reduced tooling and the solvents needed to fuse the midsole components. According to Sills, the Dual D Hoop team was able to forego solvent-priming a second piece of midsole and was able to reduce the solvent relative to conventional methods. The team saved time by picking materials from the CP task force's EPM palette. As designer Paul Caron, explained, Considered concepts were integrated from pen to paper: "The design had to be created so the factory could efficiently cut it up from raw materials sheets. For every design change we asked, 'Is that going to create more waste in the cutting process?' It changed how we broke the pattern in a couple places. We removed a couple pieces which were mostly aesthetic."

At the first product gate, the task force scored the Dual D with the Considered calculator, and discovered it had a very good chance of hitting Gold. The task force then helped the product team incorporate additional EPMs and tweak the upper to maximize pattern efficiencies. Caron said the potential for Gold triggered the team's competitive drive: "Once we knew that [Gold] was within reach, everyone on this team worked harder to make sure it happened. We wanted to be able to say we were the first ones within Core Performance to do it."

The team felt the shoe's design was successful from both a performance and manufacturing perspective. Sills felt that regarding performance, "Considered didn't impact this shoe at all. We didn't have to compromise." The shoe's aesthetics remained close to Caron's original vision. Sills noted that the shoe was superior from a manufacturing perspective because it required less tooling and fewer processes. The single mold system allowed CP to use a better-performing technology at lower cost with less environmentally impactful solvents relative to previous shoes using that technology.

The shoe was launched on time and within budget, and yet the team knew it wouldn't be able to rest on its laurels. Caron said, "In order to keep people searching for new and better ways, the standard becomes tougher; otherwise people will just say 'that's good enough.' That's not the way Nike likes to do things. So they make sure they keep us moving forward by making the rating harder." At the same time, as Sills described, the Gold rating drew some attention to the Dual D team: "People ask us, 'How did you do that?'" Nonetheless, Sills didn't see their effort as abnormal: "Our goal for every shoe in Core Performance is Silver, and that's incorporated right through the briefing stage through

the design stage through the first sample round. So hitting Silver or Gold has become part of the process. Considered's just becoming more and more a part of our daily job.”

### **Considered's Implementation Challenges**

Beyond this and other parallel successes, Considered implementation came with many challenges.

#### **Performance and Aesthetics**

There were a number of performance and aesthetic risks that Nike footwear faced in using EPMs such as synthetic leather. There was a potential performance risk, for example, that using recycled content could degrade physical properties like material durability, threatening Nike's strict quality standards. Jim Ford, Product Creation Director in the Cleated category, described that with some EPM synthetic leather alternatives, the options weren't very attractive: “Leathers look boardy and dry, and the textiles aren't very interesting.”

Moreover, there wasn't always an EPM substitute that mimicked the performance and aesthetics of non-EPM equivalents. For example, while Nike had devoted itself to eliminating toxic solvents from production, in some cases they remained an essential ingredient in producing secure bonds. Nike's products with plastic sole components – including cleats for global and American football and baseball, and plastic housings for the Nike+ running performance tracking chip<sup>24</sup> – all required solvent usage for bonding.

#### **Design**

In most cases, Considered made the design process more complex. While designers liked to iteratively find the right design, Considered required thinking about pattern efficiency much earlier in the process. It required more planning, often took longer, and it was often harder to find designs that both looked “cool” and were efficient. “On most product decisions, it's not lower in cost, better in performance, and more sustainable,” explained one category product director. “If it was that easy, that'd be great! So usually on every component of a shoe, there are tough decisions to be made.” As a designer within the Cleated category noted, “We try to make designs look cool first, then run it by other filters like cost and Considered. We design in response to a lot of constraints, like price and performance requirements, and goals like cool looks and feel. More constraints makes the process harder and, maybe, slower.”

#### **Time**

Given the extremely fast pace of product development in response to consumer trends and ongoing organizational change efforts, product creation employees had scarce time for implementing Considered. Above these standard pressures, staff in the Women's Training (WT) category were even

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<sup>24</sup> Nike+ was a small chip inserted into the sole of Nike running shoes that tracked running performance, information to compare via the runner's iPod and internet with other runners' data.

further constrained. WT had been struggling to shift its design focus from a late-20s dance-oriented consumer to a mid-teens sports-oriented consumer, leading to upheaval in its product line. WT experienced continual personnel losses in its development function, leading to persistent understaffing in the triad role with greatest Considered responsibilities. One WT developer reported that she once needed to create 40 BOMs in two days on a deadline – 20 or 25 a season was more typical – just to meet her regular product responsibilities. During those very late days, she had no time to add the task of identifying and specifying EPMs, especially since these were not flagged in Nike's materials' databases and WT had not compiled an EPM palette.

### Profit Margins

The potential erosion of profit margins from developing greener footwear was another challenge facing Considered. Alongside the increasing cost of petroleum, adding EPMs put even more downward pressure on profit margins. Large categories like Core and Running had some success negotiating price reductions based on volume, but categories that were unable to do so struggled to overcome margin pressures. For example, the Pico toddler shoe, released in Fall 2008, was one of the Kids category's highest volume models. The product team's attempt to make it the unit's first Gold shoe fell short when it realized specifying an EPM outer material would not only mean badly missing the Pico's margin target, but would significantly harm the category's margins. The team was forced to replace the EPM material with a non-EPM material, dropping the shoe to Silver.

### Supply Chain Partners

Categories relied heavily on their value chain partners for product creation and marketing. Some factories were highly responsive to category requests for help implementing Considered, but others, either because of their size, prior capital investments in less-efficient machinery, management focus, or lack of technical capacity, were not able to nimbly and successfully execute Considered. For example, the Spring 2009 Zoom Start running shoe was produced in a factory lacking expertise in water-based cement bonding, leading to some solvent usage. The developer was confident the most technically sophisticated factory groups would have achieved satisfactory bonds with only water chemistry. Materials suppliers were often hesitant to engineer EPMs and invest in the needed reverse supply chain without confidence they would receive profitable volumes, which Nike categories were often unwilling or unable to promise. Retailers were not always eager to promote shoes' Considered aspects, preferring to highlight other attributes.

### Consumers

Considered faced several challenges with consumers. For one, many consumers were skeptical that a running shoe made from EPMs would in fact perform as well as a shoe that was not. For example, one focus group initially was very receptive to a Considered running shoe, but after being told it was unusually "green" started viewing it as a lower performance product.

It was unclear how consumers would value Considered. Employees in several categories felt that performance and aesthetics would continue to be the most important criteria for consumers and that Considered would be looked at as an additional, but not required, benefit. Nike's Cleated category had experienced this first hand. After importing an efficient cleat silhouette from Nike's Football category and modifying it for baseball use, a focus group of teenage boys strongly rejected the new cleat because they thought it looked like a soccer cleat.

Many employees were skeptical that consumers would be willing to pay more for Considered shoes or base their purchasing decisions on Considered. As one explained,

Around here, there's the adage that the consumer decides, so ultimately we pass it through that filter. Is Johnny JV or his mom going to care that it's a green synthetic leather on that shoe? If yes, then is she willing to pay an extra dollar for that shoe? And typically the good EPMs generally do cost you a little bit more. In general, we haven't been willing to increase our costs by selecting EPMs unless our consumer starts saying, 'Hey, Nike, how come you're not coming out with more green products?'

Furthermore, Nike had not yet figured how to market performance, aesthetics and sustainability in one complete package. There was internal debate as to whether Considered should become its own brand within Nike, its own subsidiary, or simply a new dimension of the Nike brand.

### Response to Considered

Because of all these various difficulties, categories' experience implementing Considered varied. Not every category took CP's approach of prioritizing Considered through strategic objectives, performance and design reviews, implementation task forces, dedicated materials staff time for sourcing and negotiating affordable EPMs, EPM cheat sheets, and best practices. As one designer in Cleated mentioned, "Without strategic focus or these reinforcements, employees sense they will not be held accountable, limiting uptake."

Meanwhile, some employees expressed concern over the potential manipulation of the Index. For example, a shoe with lots of EPMs could still achieve a Considered rating of Silver even with heavy solvent usage. Other teams noted that reducing the number of unique materials in a shoe meant the scoring algorithm would rate the shoe more favorably without adding EPMs. In contrast, many more interviewees reported trying to achieve the best scores they could without clear Index rewards. For example, the ACG category worked with factories to source matching-sized raw materials to eliminate waste, even though this was not recognized by the Index.

Despite the many challenges, response was consistently favorable, and there was virtually no expressed opposition to the Considered ethos or the Index. No employee expressed resentment at making products Considered, and only a few mentioned they knew of other employees who resented

Considered. Despite many other substantial change initiatives simultaneously underway at Nike and the generally high-paced work environment, no employees expressed concerns that Considered was an excessive burden (even if they didn't feel like they could devote much time to it). Many expressed their personal interest and pride in "doing the right thing," and that because CEO Mark Parker felt it was the company's future, they should do their part. Employees all claimed that Considered would never affect athletic performance because Nike employees would never tolerate such compromise.

Response to Considered was not just emotional. While sustainability was a new domain for industrial designers, Considered GM Vogel concluded that "what's amazing is, once we educate the designers, they use words like 'VOCs'.<sup>25</sup> We know we're making progress, because before, people didn't have it in their vocabulary."

### **Measuring the Impact of Considered**

Nike's 2006 CR report boasted that, "One of our biggest accomplishments has been the measurement of Nike's waste footprint and the broader footprint of our entire supply chain. We can now create a baseline against which we can establish targets and begin to measure the real impact. We can now define what success looks like."<sup>26</sup> Considered was influencing how at least some Nike products were designed and manufactured, but since the first official season of Considered shoes would hit the shelves in Spring 2009, there was little data in mid-2008 to estimate Considered's footprint and business impacts.

Nike did have some baseline data enabling comparison between typical and Considered products. Nike had kept waste and solvent/VOC data on a small sample of high-volume models for every product season, by factory, region, and category, over roughly the past decade. Nike also had several years of data on dozens of aggregated material waste streams, including hazardous waste. Data on per-product energy usage and GHG emissions relied on "factor" estimates – e.g. coefficients on per-pair energy usage – based on 2002 factory self reported data; GHG emissions could then be extrapolated based on carbon intensity of the energy usage. Water usage was also determined through factory-level self reporting. Considered had only developed rough estimates of the embedded energy, GHG, and water usage of materials in mid-2007, leading Nike to realize these actually comprised the company's greatest environmental impacts. Materials footprints were derived through generalized estimates, introducing variability from the material specification, source inputs, producing region, firm, and facility.

Complicating the picture further, since Considered bundled existing Nike stewardship initiatives into one, some impacts had already been built into the baseline. For example, according to Nike's self-reported data, the firm had reduced its VOCs per pair of shoes by 95% since the mid-1990s. Lastly,

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<sup>25</sup> Volatile organic compounds or VOCs are organic chemical compounds that have high enough vapor pressures under normal conditions to significantly vaporize and enter the atmosphere.

<sup>26</sup> "Innovate for a Better World: Nike FY05-06 Corporate Responsibility Report," *Nike, Inc.*, May 2007.

simultaneous lean and digital product design programs could confound the impacts of Considered. Yet despite the uncertainty with Considered, Nike CR and many other employees felt confident that they were living up to the Nike maxim of “Doing the Right Thing” for Nike and the planet.

### Competitor Efforts

Developing greener products and business processes had become a priority for many companies. In spring 2007, Timberland introduced the Green Index, a ratings system that showed consumers how the product they had purchased affected the environment. The labels, adorned to shoe boxes, rated products on a scale of 1 to 10 by including data on climate impact, chemical use and resource consumption. Zero indicated lowest environmental impact.<sup>27</sup> In early 2008, Nike’s biggest competitor, Adidas, released a small line of eco-oriented non-performance shoes and shirts named “Grün” intended to improve product footprint across the lifecycle. Each product was designed under one of three rubrics: Made From, using natural materials; Recycled, using recycled and reused content; and Reground, designed to be fully biodegradable.<sup>28</sup> Adidas had not announced plans to extend those concepts across other non-performance or performance products. In 2007, Brooks, a competitor of Nike in the running category, introduced the BioMoGo, the world’s first fully biodegradable foam for footwear. The company claimed that once shoes with BioMoGo reached an enclosed landfill, it would take about 20 years for the misoles to biodegrade, a rate that was 50 times faster than a standard midsole degradation. Brooks planned to incorporate BioMoGo into its entire line performance running shoes that had MoGo midsoles by 2009.<sup>29</sup>

### Going Forward

Reflecting at a May 2008 sustainability conference on her three years as VP, Jones felt satisfied with the CR reorganization and the creation of the Considered Group and its increasing success with business integration. But she was well aware there was still a lot of work to be done and questions answered.

Jones saw that categories were not implementing Considered with uniform pace or effectiveness. Some struggled more than others with various barriers because of available attention, energy, resources, and technical options. She wanted to expand Considered to other units, and her group was putting the finishing touches on an Apparel Index similar to that used in Footwear, set to debut in September 2008, in time for the Spring 2010 product cycle. Her group was also beginning to collaborate with Nike’s innovation units to develop a more sustainable palette of product design options. She wondered if the Considered Group had done everything it could inside of Nike to maximize uptake, or if certain changes needed to be made to her group, the Index, or relationships with the businesses to accelerate and deepen the transition.

<sup>27</sup> Jennifer Carofano, “The Right Stuff,” *Footwear News*, June 18, 2006.

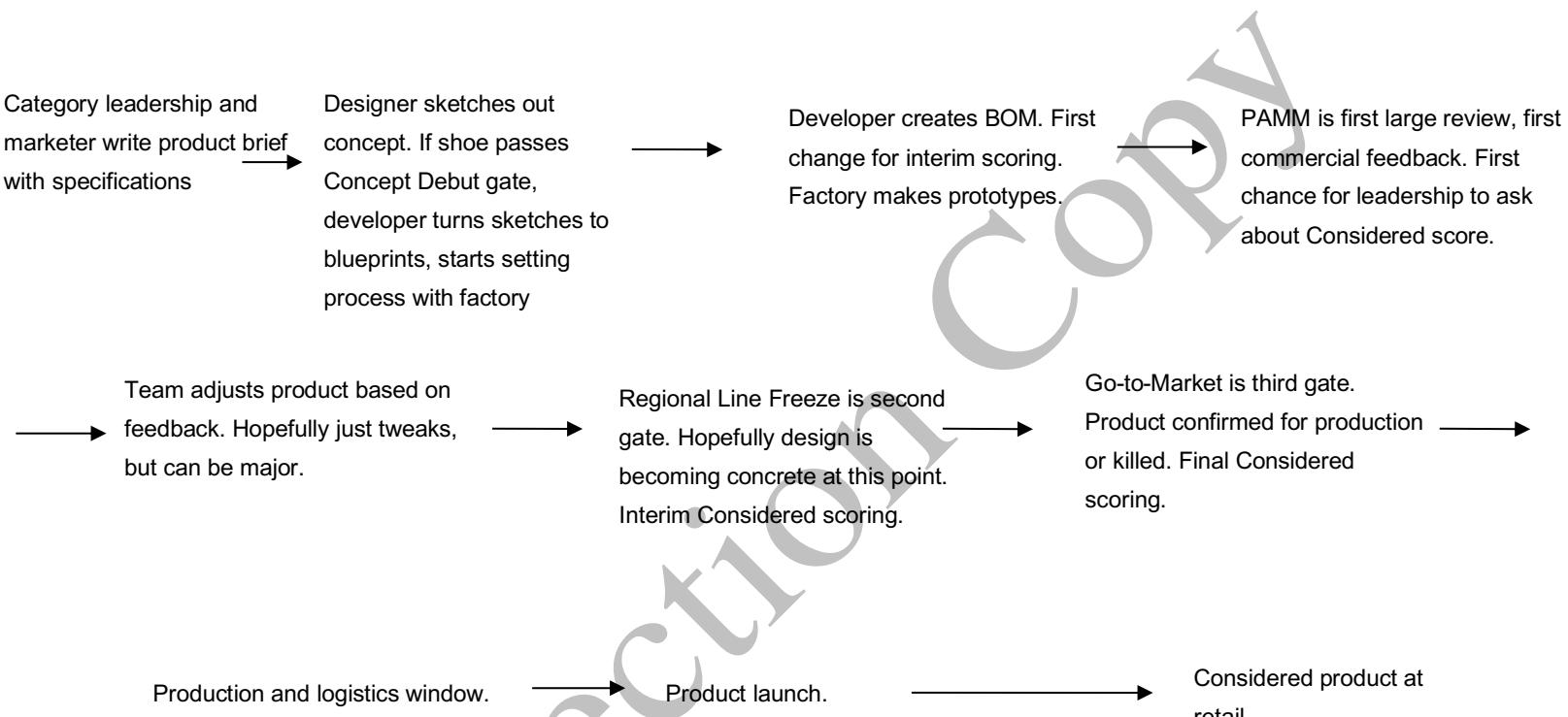
<sup>28</sup> “Striving to Improve Performance: Corporate Responsibility Report 2007,” *adidas Group*, March 2008.

<sup>29</sup> “BioMoGo Faqs”, *Brooks Sports, Inc.*, September 24, 2008.

Simultaneously she and category leaders recognized that focusing efforts inside Nike would not be enough to implement Considered; they had to collaborate extensively with partners like factories and materials vendors to create more sustainable products.

Thinking not just of supply but demand, Jones and others also debated how to incorporate an environmental dimension into a brand built around performance. Was it important to communicate this aspect to retailers and consumers and, if so, how? As CP's Footwear Leader White reflected, "Frankly, Considered is not the most important story to the consumer. It's relevant to the consumer, it might be the tiebreaker that puts you over the top - which is really good - but a 15-year-old kid, they want what's cool."

**Exhibit 1 Nike's Production Process**



**Exhibit 2- The Considered Footwear Index**

<b>Waste</b>					
<u>Upper pattern efficiency</u>	Points	Midsole Construction	Points	<u>Waste Checkboxes</u>	Points
76-80%	60	No midsole	30	Reduce / Reuse / New Tooling	5 / 5 / 0
71-75%	30	Compression-molded phylon (CMP)	25	Ultrasonic Welding No / Yes	0 / -5
66-70%	20	Injected polyurethane / urethane / phylon / CP	20	Single material or no sockliner / Other	10 / 0
61-65%	10	Buffed EVA	0		
56-60%	0				
<u>Total Waste Points</u>	<i>Index points</i>		<b>Change Agents (Considered Innovations)</b>		
85-100	30		Number	<i>Index Points</i>	
60-80	20		3+	30	
50-59	10		2	20	
5-49	5		1	10	
<5	-5		Early Adopter	5	
<b>EPMs</b>		<b>Solvents</b>			
1. Sum EPM points for each unique material used. 2. Divide sum by # of unique materials.		Scored using least environmental bonding process.			
EPM rating	<i>Index points</i>	<b>Bonding Process</b>		<i>Index points</i>	
1.00+	35	Mechanical		35	
.85 - .99	25	Heat or water-based (WB) cement, primer, and wash		25	
.70 - .84	10	WB cement & primer, solvent wash		10	
.01 - .69	5	WB cement, solvent primer & wash		5	
0	-5	Solvent wash, primer, cement		-5	
<b>Overall Score</b> Sum of Waste, EPM, Solvent & Change Agent scores				<b>Medal Earned</b>	
80+				Gold (Considered)	
45-79				Silver (Considered)	
25-44				Bronze	
<25				Unrated	

**Exhibit 3 Examples of Product Considered Index Scoring**

<b>Product: Zoom Start (Spring 2009)</b>	<b>Description: Mid-tier running shoe</b>					
<b>Category: Running</b>	<b>Considered Ranking: Silver</b>					
<b>Waste</b>						
<i>Parameter</i>	<i>Outcome</i>	<i>Waste points</i>	<i>Waste Score</i>			
Pattern Efficiency	65%	10	5			
Midsole Construction	Compression Molded Phylon	20				
Sockliner	Multiple materials	0				
Autoclaving	No	0				
Reduce/reuse tooling	No	0				
Ultrasonic Welding	No	0				
<i>Total Waste Points</i>		30				
<i>Index Bracket</i>		5-49				
<b>Materials</b>						
<i>Parameter</i>	<i>Outcome</i>	<i>Comments</i>	<i>EPM Score</i>			
EPM Points	10	Used recycled/less toxic materials for rubber, reinforcements and linings.	35			
Unique materials	9					
EPM Rating	1.11	EPM Points / Unique Materials = Rating				
<i>Index Bracket</i>	<i>1.00+ EPM Rating</i>					
<b>Solvents</b>						
<i>Bond</i>	<i>Process</i>		<i>Solvent Score</i>			
Shank to Midsole	Water-based cement, solvent primer & wash		5			
Outsole to Midsole	100% water-based					
Worst option	Water-based cement, solvent primer & wash					
<b>Change Agents (Considered Innovations)</b>						
<i>Innovation</i>			<i>Change Agent Score</i>			
No			<b>0</b>			
<b>Total Index Score</b>	<b>45</b>	<b>Final Rank: Silver (Considered)</b>				
<b>Index Bracket</b>	<b>45 -79</b>					

<b>Product: Dual D Hoop (Summer 2009)</b>	<b>Description: Low-cost basketball shoe</b>																																
<b>Category: Core Performance</b>	<b>Considered Ranking: Gold</b>																																
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<i>Innovations 1 and 2</i>	<i>Innovation 3</i>	<i>Number</i>	<i>Change Agent Score</i>																														
Single-mold dual density midsole process reduces tooling, energy, solvents	Sole design avoids using plastic shank requiring solvents for bonding	3	<b>30</b>																														
<b>Total Index Score</b>	<b>80</b>	<b>Final Rank: Gold (Considered)</b>																															
<b>Index Bracket</b>	<b>80 +</b>																																

## **Shoe Design Appendix**

- Athletic shoes are built from three key components bonded together:
  - Outsole: durable, hard rubber or foam component providing durability and traction. Contacts the ground and midsole.
  - Midsole: durable rubber or foam component providing shape and cushioning. Contacts the outsole and the consumer's foot.
  - Upper: the soft textile or leather upper component of the shoe. It holds the foot against the midsole.
- Process vocabulary
  - Process: short for “production process”
  - Tooling: Machinery used to create outsoles and midsoles.
  - Pattern efficiency: the efficiency ratio of shoe components cut from sheets of raw materials. For example, if a yard of raw material produces .6 yards of components and .4 yards of waste scraps, pattern efficiency is 60%. The less waste material left over after cutting out components, the higher the efficiency.
  - Nesting: The process of maximizing efficiency by fitting shapes closely together before die-cutting them from raw material. More irregular shapes are generally harder to nest tightly.
- Bonding vocabulary
  - Bonding chemistry: Chemical bonding with adhesives (also known as cements) occurs in three stages. The bond site, such as the outsole and midsole, is first washed, followed by a primer chemical, then an adhesive activated by the primer. The pieces are pressed together.
  - Solvents: also known as organic solvents or VOCs (Volatile Organic Compounds)
    - In the footwear industry, toxic petroleum-derived solvents are commonly used in factories for bonding adhesives. Without proper safeguards, they can harm workers' health.
  - Water-based adhesives
    - Nike developed water-based adhesive chemistries that could replace organic solvents in bonding processes.
- BOM: Bill of Materials
  - A roster of all components specifying materials for a product.
- Shoe vocabulary
  - Materials
    - Organic cotton = cotton cultivated without synthetic pesticides or fertilizers
  - Nike technologies
    - Nike Air: Nike's proprietary airbag shoe cushioning technology.
    - Nike+: A small chip that can be popped into Nike shoes that communicates with a wearer's iPod to track running statistics, which can then be compared with other runners via the internet.
  - Internal components
    - Sockliner: the piece of the shoe directly under the foot. It provides a soft interface for the foot to rest on and often times cushioning.

## Considered Glossary

- Considered
  - Ethos: Nike's ethos of environmental design, which considers the consequences of actions on people and the planet while still creating products with premium performance and aesthetics
  - Group: unit within Corporate Responsibility charted with educating, inspiring, and enabling environmental design within Nike
  - Index: A metric scoring system predictively rates the sustainability of Nike products in development
  - Index calculator: an intranet application that scores products using the Considered Index metrics
  - Brand: Products scoring on the Considered Index above a threshold are branded "Considered"
- EPM: Environmentally Preferred Material.
  - Nike term for materials with some environmentally beneficial property, such as lower environmental footprint (e.g. embedded energy, toxics) or recycled content.
- GHG: Greenhouse gas
  - Any gas that acts like a blanket trapping solar radiation energy on the Earth's surface, oceans, and atmosphere. While GHGs are naturally-occurring in the atmosphere, human activities have been rapidly increasing the concentration of these gases, significantly increasing potential for climate change, including global warming.<sup>30</sup> Carbon dioxide (CO<sub>2</sub>), emitted by burning fossil fuels, is often cited as the leading GHG, but other gases also act as GHGs.
- Embedded energy
  - The energy required to create and distribute a product to consumers. For example, a product requiring 1,000 joules for production and 2,000 joules to ship to the consumer would have an embedded energy of 3,000 joules. Embedded energy is distinct from energy required to use the product.
- Change agent
  - The Considered Index term for product or process innovations that reduce environmental footprint. Change agent status is awarded only to innovations with impacts beyond a single product.

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<sup>30</sup> "Climate Change 2007: Synthesis Report." *Intergovernmental Panel on Climate Change*, November 2007.