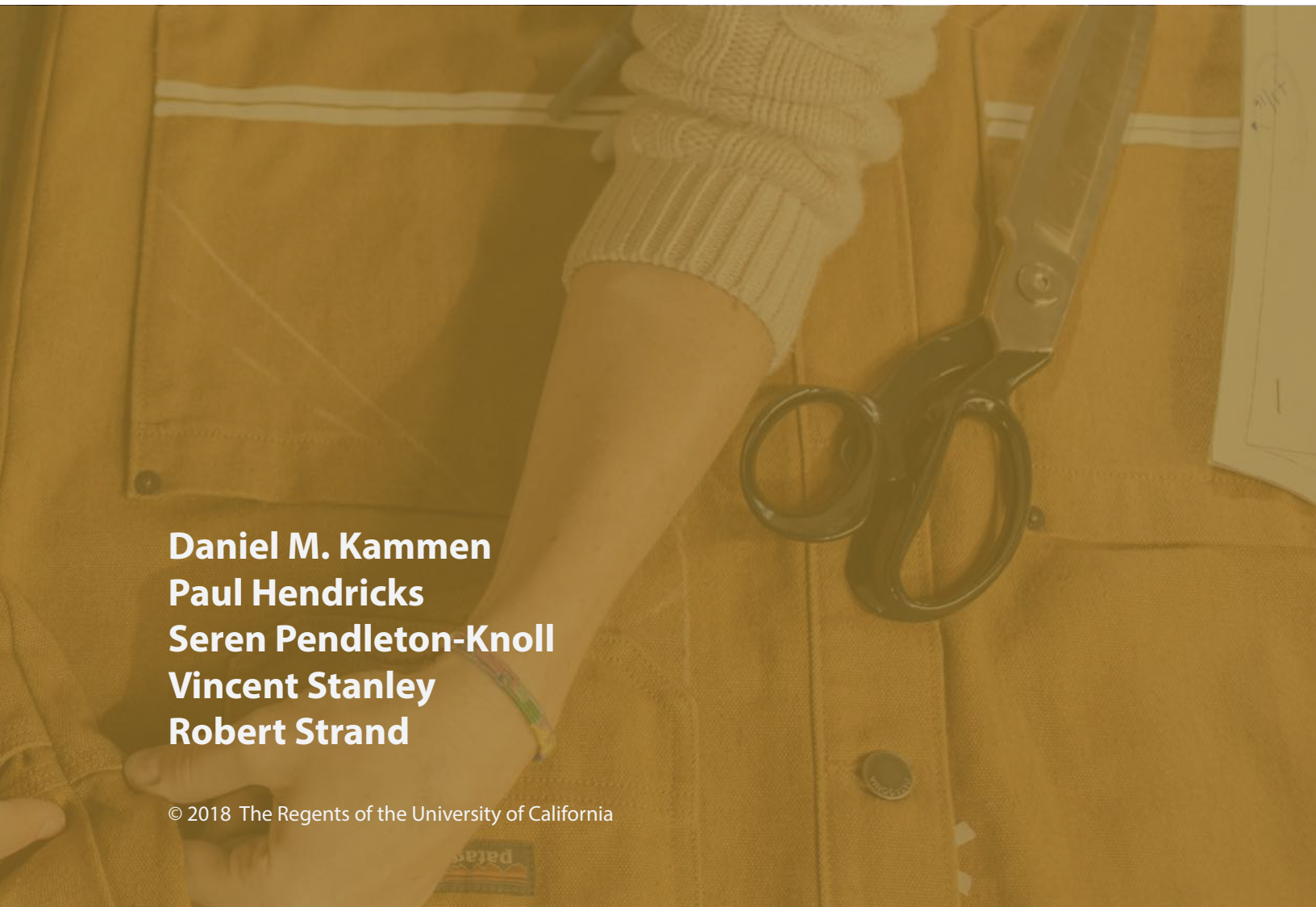


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CASE STUDY

Patagonia's Path to Carbon Neutrality by 2025

A photograph of a person's arm and hand wearing a white knitted glove and a Patagonia jacket. A pair of black-handled scissors is lying on the jacket. The image is overlaid with a semi-transparent orange filter.

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Patagonia's Path to Carbon Neutrality by 2025

Patagonia wants to take a leadership position on perhaps the greatest environmental challenge facing humankind: climate change. The company, which makes outdoor apparel and gear as well as food through its Provisions line, would like to be carbon neutral by 2025. For several years, Patagonia has been working to address its impact on the climate by implementing several initiatives, including those that increase the use of renewable energy at its owned and operated facilities. The company is now looking to expand its efforts to include its full value chain, which includes emissions not directly controlled by Patagonia. Furthermore, Patagonia wants to reduce its carbon footprint in absolute terms so that, even as the company grows, its carbon footprint does not and instead reaches zero. Patagonia wants to achieve absolute carbon neutrality in a way that other interested companies could replicate.

While Patagonia's long-term goal encompasses its full value chain, members of the Patagonia leadership team are currently focused on achieving carbon neutrality for a specific range of the apparel and gear production process: from raw materials extraction and production to customer

Class of 1935 Distinguished Professor of Energy Daniel M. Kammen prepared this case study with Environmental Responsibility Manager at Patagonia Paul Hendricks, Berkeley-Haas Center for Responsible Business Associate Director Seren Pendleton-Knoll, Director of Philosophy at Patagonia Vincent Stanley, and Berkeley Haas Center for Responsible Business Executive Director Robert Strand, and with assistance from Case Writer Elizabeth Whalen, as the basis for class discussion rather than to illustrate either effective or ineffective handling of an administrative situation.

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purchase.¹ That range covers the vast majority of the company's greenhouse gas (GHG) emissions and energy use. However, within that range, Patagonia has limited control over emissions. For example, the company controls how much product it orders and, in some instances, how that product is made. However, Patagonia does not own the factories that produce its goods, many of which are located in Asia, where coal and other fossil fuels are the primary energy sources.

Different people within Patagonia see different potential pathways to achieving the company's carbon neutrality goals and anticipate different challenges. Leadership team members also have varying perspectives on the extent to which Patagonia's business lines should relate directly to the company's goal, and how the company can best influence other businesses and consumers. Their goal now is to determine the best route forward.

Patagonia's History and Mission

Rock climber Yvon Chouinard and his wife, Malinda Pennoyer, founded Patagonia in 1973, and the Chouinard family still wholly owns the company. In 2011, Patagonia became a Certified B Corporation,² meaning it is a for-profit company that meets "rigorous standards of social and environmental performance, accountability, and transparency."³ In 2012, Patagonia became the first company to register as a benefit corporation in the State of California under the then-newly revised California Corporations Code, which sets specific requirements. For example, the directors and officers of a benefit corporation must consider the non-financial interests of stakeholders, including shareholders, company employees, employees of subsidiaries and suppliers, the local and global environment, and others. Benefit corporations must also prepare a publicly available annual report that complies with an independent, third-party standard.⁴ The registration both codifies Patagonia's values of activism and transparency and protects the company's mission in the event of a change in ownership or other corporate succession.

The company's mission is to "Build the best product, cause no unnecessary harm, use business to inspire and implement solutions to the environmental crisis."⁵ The company works on a variety of environmental issues, paying particular attention to how its products are made. However, it's placing special emphasis on carbon neutrality. "It's recognition that, if we as a society don't get our carbon emissions under control, if we don't work on this climate issue, everything else probably won't matter," said Paul Hendricks, Environmental Responsibility Manager for Patagonia.

To build the best product, Patagonia emphasizes quality, durability, and multi-functionality. These characteristics relate directly to minimizing the overall impact of Patagonia's products because the longer a product is in use, the lower its total environmental footprint, and the more uses a product serves, the fewer total products a person needs to purchase.

¹ Patagonia's corporate carbon neutrality goals include the impacts of the customer use phase and end-of-life processes, and the company offers end-of-life recycling of its products through its Worn Wear program. This case, however, focuses on the range of raw materials extraction and production to customer purchase and therefore excludes the carbon impacts of the customer use phase and end-of-life processes.

² Patagonia, Inc., <http://www.bcorporation.net/community/patagonia-inc>

³ What are B Corps? <http://www.bcorporation.net/what-are-b-corps>

⁴ Benefit Corporations and Flexible Purpose Corporations in California: New State Legislation Permits Socially Responsible Corporate Formations, <https://www.sfbarr.org/forms/jdc/benefit-corp-memo%20.pdf>

⁵ Patagonia's Mission Statement: <http://www.patagonia.com/company-info.html>

“Cause no unnecessary harm” is Patagonia’s way of acknowledging that the mere act of producing anything causes harm, but that Patagonia is committed to doing all it can to reduce that harm. No matter how responsibly a garment is made, making it consumes resources such as petroleum derivatives and energy—but Patagonia has a long history of innovating to reduce these negative impacts. For example, it switched from a petroleum-based material for its wetsuits to Yulex, a natural rubber material that reduced GHG emissions for those products by 80 percent. Another innovation challenge has related to finding a durable water repellent (DWR) finish for its jackets and other outerwear that has lower chemical impacts than, yet remains as durable as, currently available options.⁶ Reduced DWR durability increases the overall impact of the garment by shortening its useful life and causing consumers to purchase replacements more frequently.

In using business to inspire and implement solutions to the environmental crisis, Patagonia often both innovates, such as with Yulex, and attempts to influence other companies to adopt these innovations. Rather than maintaining long-term exclusivity over new materials or processes it develops, Patagonia shares these with other companies after approximately a year, which Patagonia does for two reasons.⁷ The company believes that protecting the environment is the right thing to do, and getting other companies to adopt new materials or processes helps reduce Patagonia’s costs by increasing total demand.

Patagonia also devises other ways to address its environmental impact, which the company also shares. For example, in 2009, Patagonia partnered with other firms in the apparel industry to develop a unified approach to measuring sustainability performance within the footwear and apparel industries.⁸ That partnership evolved into the Sustainable Apparel Coalition (SAC), which developed the Higg Index, a suite of self-assessment tools that footwear and apparel companies can use to measure the environmental, social, and labor impacts of manufacturing sites, brand operations, and their products. The index consists of multiple modules, including those that cover environmental policies, materials and design choices, and individual facility operations. The SAC now has more than 200 members, including apparel brands, retailers, academic institutions, and government agencies.⁹

The Higg Index has helped factory owners producing apparel for participating brands by reducing the number of assessments they need to complete. It has also helped reduce risk for brands by increasing visibility into their suppliers’ sustainability. “Supply chain management and sustainability management are essentially risk management,” explained Rick Ridgeway, Vice President of External Engagement at Patagonia. “Many other brands have recognized that as well, and they also know that if you manage that risk right, you get brand rewards. And, as I go out and talk to CEOs of other companies, most of them are now starting to recognize the recruitment and retention benefits of sustainability assessment, too. People coming out of school don’t want to work for companies that don’t have some level of sustainability commitment and are transparent about it.”

⁶ For more about Patagonia’s work to find a better DWR alternative, see “Patagonia: Driving Sustainable Innovation by Embracing Tensions” by Dara O’Rourke & Robert Strand.
<http://cases.haas.berkeley.edu/search/articleDetail.aspx?article=5853>

⁷ Although Patagonia wants to share innovations with other companies, it also likes to maintain exclusivity for a short period in order to claim credit for the innovation.

⁸ Sustainable Apparel Coalition, Our Origins: <http://apparelcoalition.org/our-origins/>

⁹ For a full list of SAC members, see <http://apparelcoalition.org/members/>

Although Patagonia's largest and perhaps best-known business line is outdoor apparel and gear, Patagonia also sells food through its Provisions line, which it has done since 2012.¹⁰ Provisions relates to Patagonia's mission because nowhere, according to Chouinard, is the environmental crisis more pressing than in the food industry.¹¹ Modern practices such as pesticides, herbicides, fertilizers, and antibiotics have broken the food chain, and Provisions's focus is finding solutions to repair the chain, with an emphasis on regenerative organic farming practices that help sequester carbon in soil.¹² Provisions then shares these solutions with the food industry. For example, the company created a beer made with Kernza, a crop that can sequester carbon in soil and prevent erosion because it's perennial and has roots that grow several feet into the earth.¹³ Provisions paid for the dossier necessary to support the Generally Recognized As Safe classification¹⁴ for Kernza, which had not previously been put in food products. Patagonia's venture fund, Tin Shed Ventures, invested in the equipment necessary to process specialized grains like Kernza, which is difficult to mill on equipment built for other grains. That beer, Long Root Ale, was the first Kernza-based product sold in the world. By developing it, Provisions created the initial supply chain for the grain and demonstrated the proof of concept for its use. Now, General Mills is planning to use Kernza in its products, vastly increasing the amount of farmland on which Kernza is grown. (Patagonia's current goal does not include Provisions's emissions. For more information, see the section titled "Regenerative Organic Agriculture.")

Classifying GHG Emissions

Emissions of seven gases—including carbon dioxide, methane, and nitrous oxide—contribute to climate change. Each has a different atmospheric lifetime and a unique global warming potential, which is measured over a one-hundred-year time horizon. The atmospheric lifetime describes how long a GHG remains in the atmosphere before it breaks down. Global warming potential refers to the extent to which a unit of the GHG affects earth's temperature, and it's measured relative to that of carbon dioxide, the global warming potential of which is set to one. When companies measure and report their GHG emissions, they typically convert emissions from all seven gases into carbon dioxide equivalents, CO₂-e.

With respect to a single entity such as a company, GHG emissions fall into three categories: Scope 1, Scope 2, and Scope 3. Scope 1 covers GHG emissions from sources the company directly controls. These include emissions from company-owned vehicles and from on-site fuel combustion in, for example, a boiler or other piece of equipment. Scope 2 covers indirect GHG emissions caused by purchased electricity, heat, or steam. Scope 3 covers other indirect emissions, including the extraction and production of purchased materials and fuels, transportation in vehicles not owned or controlled by the company, outsourced activities, and waste disposal.¹⁵

¹⁰ For more about Provisions, see "Reversing Climate Change Through Sustainable Food: Patagonia Provisions Attempts to Scale a 'Big Wall'" by William Rosenzweig, Alastair Iles, Seren Pendleton-Knoll, and Robert Strand. <http://cases.haas.berkeley.edu/search/articleDetail.aspx?article=5888>

¹¹ Why Food? <https://www.patagoniaprovisions.com/pages/why-food-essay>

¹² Carbon sequestration in soil is discussed further in the section titled "Regenerative Organic Agriculture."

¹³ For more information about Kernza, see Kernza Grain: Toward a Perennial Agriculture, <https://landinstitute.org/our-work/perennial-crops/kernza/>

¹⁴ The U.S. Food and Drug Administration makes this classification based on an evaluation of the food additive. Food additives without this recognition are subject to premarket review and approval under the Federal Food, Drug, and Cosmetic Act.

¹⁵ Calculation Tools, <http://www.ghgprotocol.org/calculation-tools-faq>

For example, a trip made in a Patagonia-owned car would fall under Scope 1. Emissions from electricity powering Patagonia's headquarters, retail stores, and other offices fall under Scope 2. The production of the raw materials Patagonia uses in its goods, the work of the finished goods factories, and transportation of goods from factories to customers fall under Scope 3. A trip made by a Patagonia employee on a commercial airline would also fall under Scope 3. (See **Exhibit 1** for further examples of operations within each Scope.)

As a company, Patagonia's long-term goal is to address its Scope 1, Scope 2, and Scope 3 emissions, including those resulting from consumer use and end-of-life. For the purposes of this case, the goal excludes consumer use and end-of-life emissions and therefore covers Scope 1, Scope 2, and part of Scope 3 emissions.

Reducing GHG Emissions

Companies have several options to reduce their GHG emissions. They can lower energy use by increasing the efficiency of their operations or facilities. They can get the energy they do use from sources with few to no emissions, such as solar and wind. For example, companies can install solar panels on their facilities. They can also purchase, when available, renewable energy from the local utility. One concern Patagonia has with the purchasing approach is that it doesn't always ensure new renewable energy is being added to the grid. Another concern relates to the fact that renewable energy on the grid often comes from nuclear or hydroelectric sources, neither of which Patagonia supports.¹⁶

The availability of renewable energy on the grid is also limited. According to Google's 2016 environmental report, "many utilities have been slow to create renewable energy purchasing options for customers that want them."¹⁷ So, Google began working directly with renewable project developers, signing long-term purchase agreements that supported new capacity. Such projects are called offsite renewable energy generation.

Companies can also support renewable energy production by purchasing Energy Attribute Certificates that verify the generation of one megawatt hour of renewable electricity. In North America, EACs are called Renewable Energy Certificates (RECs). Once the energy is generated from the renewable source, it goes into the grid, where it mixes with energy from other sources. The EACs separate the actual energy from its environmental attributes, and companies can purchase EACs to claim unambiguous ownership of the environmental attributes of the generated energy. If a company wanted to claim it was powered entirely by renewable energy and only some of the electricity it purchased actually came from renewable sources, it could buy EACs to make up the difference. The Greenhouse Gas Protocol Scope 2 Guidance requires that firms making these claims "redeem, retire, or cancel" the EACs rather than sell them.¹⁸ Several EAC tracking systems exist, and most assign each EAC a unique tracking number. To redeem, retire, or cancel an EAC, a company registers that number as "used" with the tracking system, and that EAC cannot then be sold.

¹⁶ Patagonia does not support nuclear power because of the associated environmental and human-health risks. Patagonia does not support hydroelectric power because of the detrimental effects of dams, including damage to wild rivers and fish runs.

¹⁷ Google 2016 Environmental Report, <https://static.googleusercontent.com/media/www.google.com/en/green/pdf/google-2016-environmental-report.pdf>

¹⁸ GHG Protocol Scope 2 Guidance: An amendment to the GHG Protocol Corporate Standard, World Resources Institute, p. 60, http://www.ghgprotocol.org/sites/default/files/ghgp/standards/Scope%202%20Guidance_Final_0.pdf

When companies purchase renewable electricity directly, they are reducing the carbon impact of their emissions. When they purchase and retire EACs, they are essentially offsetting the non-renewable energy they consume. As such, both types of purchases serve to reduce Scope 2 emissions. However, firms purchasing EACs cannot transfer them from one region to another, so a company buying grid electricity in North America would buy RECs to offset its Scope 2 emissions; a company buying grid electricity in Europe would buy Guarantees of Origin (GOs), the European version of an EAC, and so on for each region. If a company buys grid electricity in the U.S., it cannot use a GO to make claims about its U.S. energy use. The Greenhouse Gas Protocol Scope 2 Guidance requires that EACs “be sourced from the same market in which the reporting entity’s electricity-consuming operations are located and to which the instrument is applied.”¹⁹

One of the points of EACs is to support renewable energy generation, according to Saskia Feast, Vice President, Western Region at Natural Capital Partners, which works with companies to meet their renewable energy targets, reduce carbon emissions, and achieve carbon neutrality. “If you buy RECs from the U.S. but consume energy somewhere in Africa, it is never going to make any impact on the electrical grid in Africa. It’s not at all connected. EACs should be purchased from locations that are grid-connected to your operations,” she explained.

Companies can also invest directly in renewable energy projects. To date, Patagonia has created and invested in two solar funds, which are a form of offsite energy generation. The programs also generate RECs, some of which the company retires and applies to its energy-consumption footprint. Patagonia does not currently buy EACs, either in the U.S. or elsewhere, because it views the underlying energy generation as not being additional—that is, the fee paid for the EAC is not adding new green energy capacity to the grid. The investments in solar funds, however, do meet Patagonia’s criteria for additionality. (See the section titled “Tin Shed Ventures” for a full description of Patagonia’s solar fund investment activities.)

Reducing energy consumption, enhancing efficiency, and purchasing renewable power, either directly or through EACs, are not sufficient for many businesses to reach carbon neutrality. Offsets are required. Companies buy carbon credits and in turn fund projects that prevent or sequester GHG emissions; one credit equals one metric ton of CO₂-e either diverted from entering the atmosphere or sequestered. For example, a project may develop a new forest or grow an existing one. The projects themselves vary widely in nature. Some, for example, capture landfill gas or agricultural methane; some provide low-cost cook stoves to people in the developing world who would otherwise burn wood for cooking and heating. The stoves run on fuel with fewer GHG emissions than wood or other biomass, and, in some cases, run on solar power.

Unlike EACs, offsets are transferrable from one region or country to another. An external party typically verifies carbon credits by defining baseline emissions in a place and monitoring those emissions once the projects are implemented to ensure the reductions are genuine. In order for a company to claim the credits as offsets to their emissions, it must retire them rather than sell them to another entity.

Patagonia has not yet purchased carbon credits because the company is uncertain that the projects generating the credits are effective. Patagonia has questions about the reliability of verification systems as well as about additionality, leakage prevention, and permanence. In some cases, offsets require people to change their behavior, such as using the new cook stoves, which can

¹⁹ Ibid.

make verification difficult. For carbon credits to be additional, it must be clear that the proposed project reduces emissions that would not be reduced through other incentives. For example, a landfill operator may already have plans to install equipment to capture gas, and an investment in that project would not result in additional emission reductions. Leakage prevention refers to the idea that a project does not simply shift emissions to another location or activity. For example, protecting one forest could lead loggers to cut down a different one, and the project would have no net impact on emissions. For carbon-offset projects to offer permanence, they must ensure the emissions prevention or carbon sequestration will last; for example, captured gas could leak or a forest could burn.

Furthermore, Patagonia prefers to directly address its emissions rather than pay to offset them, especially because Patagonia wants to serve as a leader on achieving carbon neutrality. The company's general strategy is to first look for efficiencies, then invest in onsite generation, and then use offsite generation or other mechanisms to address remaining emissions. However, the company recognizes that it will not be able to eliminate its emissions through energy efficiency, innovation, and other initiatives. Patagonia will need to use mechanisms such as RECs or offsets, despite its concerns about those mechanisms.

Patagonia's Emissions

Several Patagonia employees, including Hendricks; Logan Duran, Senior Manager of Responsibility, Metrics, and Reporting; and Elissa Foster, Senior Manager, Product Responsibility, are working with an external company to validate Patagonia's GHG emissions covering from raw material extraction and production to customer receipt. Current estimates are available for Scope 1 and Scope 2 emissions, and they are approximately 1,000 and 3,000 metric tons of CO₂-e, respectively. Duran and Hendricks have also estimated the approximate Scope breakdowns of the total emissions for a typical apparel brand's processes, in percentage terms.

Scope	Activities	Percentage
Scope 1	Onsite facilities	1% to 5%
	Company vehicles	<1%
Scope 2	Purchased electricity	2% to 4%
Scope 3	Raw material production, including extraction of materials or growing of fibers	80%
	Finished goods construction	5%
	Transportation of goods from finished goods factories to distribution centers	5%
	Transportation of goods from distribution centers to stores and customers	5%
	Business travel	1% to 2%

Patagonia has already taken several steps to reduce its Scope 1 and Scope 2 emissions. For example, the company has installed solar panels on many of the buildings at its Ventura, California headquarters; the panels' output covers about 20 percent of the total energy use of the campus. Patagonia recently installed two solar arrays in Australia, one that produces energy equal to about 75 percent of the energy use of the company's local headquarters, and one that produces about the same percentage of the energy use of one of Patagonia's stores. The company

is exploring the option of a solar array at its distribution center in Reno, Nevada; the panels would account for about 75 percent of the facility's Scope 2 emissions. Patagonia also worked with other tenants at an office building in The Netherlands, where Patagonia has its European headquarters, to persuade the landlord to switch to wind power.

Patagonia's Bylaws and Decision-Making

In addition to its mission statement, which guides the company's overall direction, Patagonia adheres to several other bylaws, by which it is legally bound through its incorporation as a Benefit Corporation in the State of California. The company has also developed a set of approaches to decision-making and program implementation. These are described in detail in **Exhibit 2**.

From Raw Materials to Customer Purchase

The materials used in Patagonia's garments fall into one of two categories: synthetic or natural.

Synthetic fabrics include nylon and polyester, both of which are extracted from oil. The oil is cracked into components and polymerized into pellets that are about the size of a BB. These pellets are extruded into fiber, which is spun into yarn; the yarn is then woven or knit into a textile. This process not only relies on oil as an input but also consumes significant amounts of energy, which is typically generated from fossil fuels.

Natural materials include cotton, wool, lyocell,²⁰ hemp, linen, the rubber used to make Yulex, and down. Although the exact breakdown varies from material to material, the most energy-intensive part of the transformation from raw natural material to fabric is typically the processing of inputs into fiber. For example, spinning raw cotton into yarn creates 46.4 percent of the total emissions related to cotton production. (See **Exhibit 3** for percentage breakdowns of the emissions related to the production of five of Patagonia's materials.) The two main ways to reduce emissions in this phase of production would be to make the processing equipment more efficient and to power that equipment with renewable energy sources. Fabric mills vary substantially in their operations, their access to renewable energy, their use of fuel to power on-site machinery, and their interest in reducing their environmental impacts. In general, Patagonia is a relatively small purchaser of any one mill's output and therefore has only limited influence over its suppliers.

Dyeing both natural materials and synthetics is also an energy-intensive part of producing fabrics. As a result, Patagonia has been exploring the potential of solution dyeing, in which fibers are dyed prior to being woven or knit into a fabric. "It's a much more efficient process that uses far less water, which means less heating, less cooling, less drying of fabric, all of which reduce energy use," explained Foster.

However, switching to solution dyeing creates new challenges. For example, many factories that use the dyeing technique have minimum order requirements, meaning Patagonia would have to commit to dyeing a specific quantity of fabric a certain color. By contrast, when dyeing takes place after fibers are made into a fabric, Patagonia can decide on the quantities and colors it wants later in the production process. In some cases, it is also possible to re-dye fabrics dyed in this manner. If Patagonia needs more garments in one color and fewer in another color than it

²⁰ Lyocell is a form of rayon made from wood pulp that is often sold under the brand name Tencel.

originally predicted, it has some flexibility to make changes, especially if the in-demand colors are darker than the originally ordered colors. With solution dyeing, though, there is no way to change the color later.

Raw Materials: Shifting to Recycled and Renewable Materials

To reduce the emissions associated with materials production, Patagonia is increasing its use of renewable and recycled materials. Renewable materials include natural materials; recycled materials can include both renewables and synthetics, such as polyester and nylon, which are the two biggest synthetic materials Patagonia uses.

Switching to recycled synthetic materials has the potential to reduce GHG emissions as compared to using virgin materials because it eliminates the energy use necessary to extract oil and process it into fabric. However, switching to recycled synthetic materials may not result in significant GHG emissions reductions, depending on a variety of factors. There are many ways to recycle materials such as nylon and polyester, but they all involve consuming energy. Many large materials recyclers are located in Asia and burn coal for electricity. They also have few incentives to re-engineer their processes to consume less energy because scale is the primary factor driving operational efficiency. Other factors affect the potential GHG-emission savings from using recycled rather than virgin materials; these include the source of the material being recycled, whether the material is post-consumer or post-industrial, and whether the recycling process is chemical or mechanical.

Patagonia's purchases of recycled materials are a tiny share of the total output of these plants, so Patagonia has little, if any, influence over how they operate. Patagonia also faces other challenges in the switch to recycled synthetics, including traceability and verification, without which Patagonia cannot make marketing claims about the recycled content of a garment. Traceability and verification are also important for Patagonia to know the source of the recycled material. Patagonia wants to ensure that the material it is purchasing, be it pre- or post-consumer recycled material, is indeed going into its products for two reasons: one, so the company can be sure its choices are having the intended environmental impact and two, so the company can verify its recycled content claims in accordance with Federal Trade Commission regulations.

Furthermore, recycled materials must meet Patagonia's quality standards. Many currently available recycled materials don't perform as well as virgin materials do. For example, when Patagonia began using recycled nylon in 2007, it had to overcome challenges related to how the material felt against customers' skin and the fact that it made noise when customers moved. The recycled version was also more expensive than the virgin version. Even today, Patagonia is still working to find ways to increase the recycled nylon content of many of its products.

Measuring the costs and benefits associated with using recycled synthetics is also challenging. "It's really easy to measure performance, margin, and quality," explained Matt Dwyer, Director of Materials Innovation at Patagonia. "But if I tell you that for next season, I can make one of our equipment lines with one hundred percent recycled materials and a water-free dyeing process, so you're going to save one hundred percent of the water involved and the CO₂ footprint will go down seventy percent, but it's going to cost twenty-five cents more a yard, the question becomes, 'How do we assign value to those impact reductions?'"

To answer that question, he and his colleagues would look at a variety of metrics, consider whether Patagonia could either absorb the cost increase or raise the finished product price, and assess the value of marketing the environmental benefits of the revised product. "But that's a

really difficult conversation to have here at Patagonia. It's probably much more difficult at another company that's counting tenths of a penny," Dwyer said. "You're trying to assign a value to something that's somewhat abstract."

Leveraging Patagonia's Supply Chain

For Dwyer, Patagonia's brand and supply chain represent important assets on the path to carbon neutrality, both for the company itself and others in the apparel and gear industries. Many such companies, especially the largest ones, are publicly traded, unlike Patagonia. Public ownership creates a significant challenge in reducing GHG emissions: gaining management and shareholder support for operational changes that might benefit the environment but would increase costs. If such changes don't result in a differentiated product, the challenge only grows. When evaluating potential operational changes, large, publicly traded apparel companies are often looking at tenths of a penny per garment, according to Dwyer. As a result, any potential innovation that could reduce GHG emissions needs to fit into a company's existing operations without increasing costs or creating any other type of disruption.

Thanks in part to private ownership and in part to its owners' values, Patagonia is willing and able to research and develop these innovations to encourage change and fulfill the third part of its mission statement. But, it also needs these other companies to adopt its innovations in order to gain a volume-based price break for itself. "Our strategy is around trying to reduce the activation energy for other companies as much as possible. That's a matter of showing technical and product feasibility and doing all the work required in investigating scaling. We also have the ability to make equity investments in startups who are likeminded and working on these things, but when it comes down to it, whether it's for our costing or to fulfill our mission statement, we need other folks to adopt it," Dwyer elaborated.

END OF PREVIEW

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