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Going Green
*Addressing Untapped
Consumer Potential in
The Telecom Industry*



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GOING GREEN

Addressing Untapped Consumer Potential in The Telecom Industry

Executive Summary

Faced with growing evidence that their lifestyle choices are tightly intertwined with environmental consequences, many consumers are “going green”—and they are willing to pay to do so. These environmentally savvy consumers enjoy above-average income and exhibit strong brand loyalty, but their choices are limited when it comes to green products and services in the telecom sector. The trend toward green is starting to influence the industry, but strategies and services are still nascent. Telecom players that can position themselves to take advantage of this demand—through their choice of components, adjustments in the carbon footprint of their operations, or establishment of a full green proposition including devices and the 4Ps—will be able to create compelling differentiators that drive consumer purchasing.

Unsurprisingly, premium pricing for green products has generated increased scrutiny of the products and the companies that stand behind them. To substantiate claims about the sustainability of their products or services, corporations must demonstrate their environmental values through action. The telecom companies that can effectively build—and, just as important, publicly present—green credentials stand to gain a significant share of this consumer segment.

What follows is an examination of what motivates green consumers, why the telecom industry needs to tap into this market more effectively, and how industry stakeholders can use the “true green corporation” framework to build a value proposition that drives consumer response.

The Advent of Green Consumers

Influenced by rising energy costs, extensive media coverage, and increased public awareness, consumers are realizing that their resource-intensive lifestyles

have long-term and far-reaching environmental impacts. Today's lifestyles have created severe problems throughout the developed and developing world; prominent examples are scarcity of fossil fuels, pollution, and climate change. In response, alarmed consumers are changing their buying behaviors to support more sustainable and environmentally friendly products.

The market of "green consumers" has an estimated global potential of €200 billion to €400 billion. These consumers enjoy above-average income and spending,

and their buying decisions reflect environmental considerations. Among the attributes that attract this segment of consumers are minimal packaging, natural ingredients, low energy consumption, and regional sourcing (i.e., avoiding long-distance transport, thereby limiting pollution).

Approximately 10 percent of German consumers and 12 percent of U.S. consumers are willing to pay 10 percent more for green products that require less energy to operate or are manufactured by companies with a green

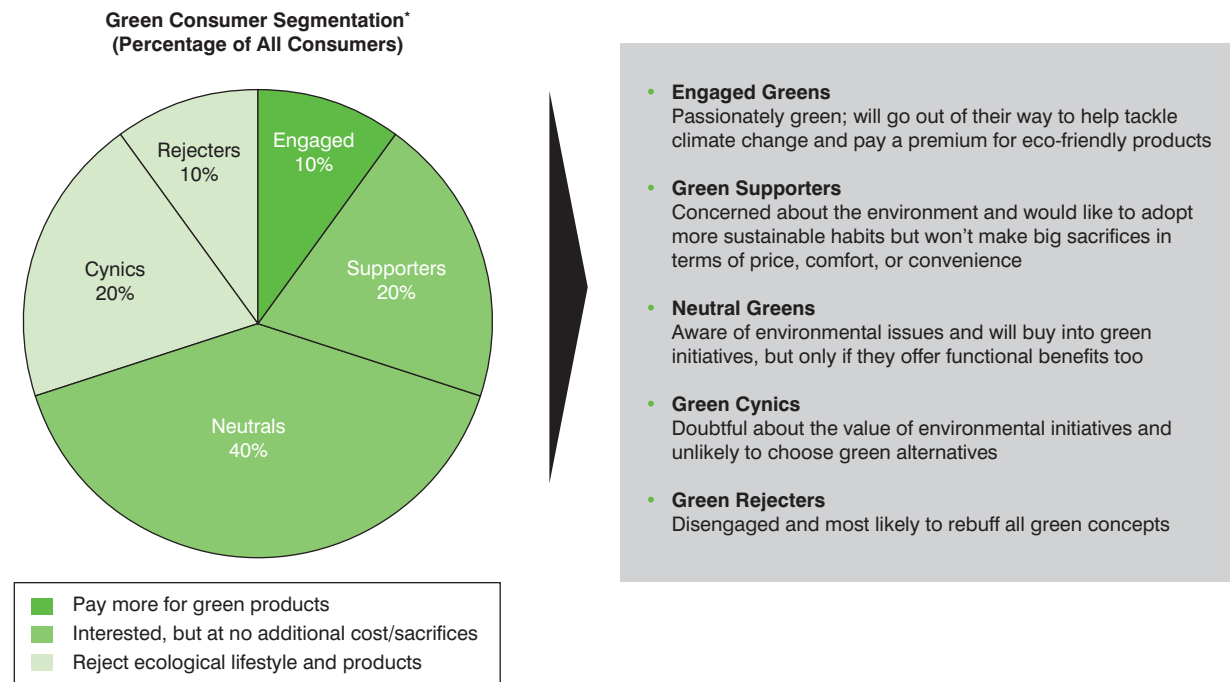
reputation.¹ In Japan, the price sensitivity of green consumers is even higher, with 20 percent of consumers willing to pay as much as a 15 percent premium.

In addition to their willingness to pay an environmental price premium, green consumers exhibit higher brand loyalty and greater involvement through word-of-mouth promotion, two characteristics that companies can successfully leverage for greater market share. Double-digit growth rates are projected for the "engaged" and "supporter" consumer segments (see Exhibit 1).² Several

¹ Forrester, 2008.

² The Natural Marketing Institute (NMI); www.lohas.com.

Exhibit 1
Typology of Green Consumers



* Germany, U.K., France, Spain, Poland, U.S., China, Brazil, Mexico, urban India, South Africa, and Egypt
Source: TGI World, Green Values: Consumers and Branding (May 2008); Booz & Company

banner-name companies and organizations³ have already developed compelling propositions that target these consumers:

- Toyota successfully launched the first series of hybrid cars. By April 2008, more than 1 million of the cars had been sold.
- Some utilities providers have successfully marketed a green power supply offering at a premium of 4 cents per kilowatt/hour. The resulting profits are invested into regenerative power production.
- Sony designs video recorders and personal computers that are partially free of PVC and brominated flame retardants (BFRs). Sony also supports individual producer responsibility, providing some voluntary

take-back and recycling of the “e-waste” generated by its products (with a recycling rate of 53 percent).

- The Body Shop in the cosmetics industry and Patagonia in the retail clothing industry successfully differentiated their brands by promoting sustainable products and operations.

However, not all sectors have tapped into this vast market. The telecom industry in particular has begun to respond to consumer demands for green products, but significant potential to create a solid differentiator based on green products remains largely unexplored.

Opportunities in the Telecom Industry

The telecom sector has lagged

somewhat in embracing the green movement, but this is rapidly changing. Sustainable and environmentally conscious practices are starting to influence both products and services.

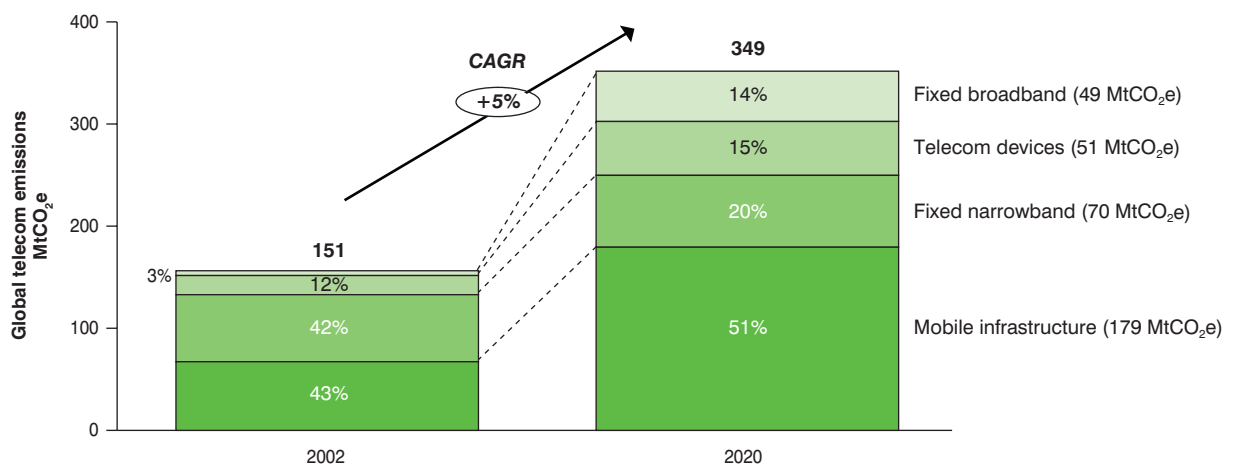
For example, the industry’s carbon footprint expanded dramatically between 2002 and 2007, with carbon dioxide (CO₂) emissions increasing from 150 metric ton carbon dioxide equivalent (MtCO₂e) in 2002 to 300 MtCO₂e in 2007. Emissions are projected to reach 350 MtCO₂e in 2020.⁴ But with the advent of innovative green phones and a telecom network infrastructure that consumes less energy, the growth in emissions is projected to slow in the near future (see Exhibit 2).

Environmental advocates and green consumers are also starting

³ The companies are all ranked among the Top 20 in the 2008 Interbrand survey that evaluated the “greenest” companies from a consumer perspective.

⁴ GeSI.

Exhibit 2:
Global Telecom Footprint



to take note of sustainable practices in the industry. For example, in 2008, Greenpeace ranked cell phone suppliers more favorably than other players in the electronics industry.

Various suppliers have been granted recognition for their strategies in developing sustainable practices and products:

- The Sony Ericsson T650's battery and relatively low use of hazardous materials earned the mobile phone recognition from Greenpeace as the greenest one on the market. Since 2006, all new models of the company's mobile phones are free of PVC plastic.
- In June 2008, Samsung launched its first mobile phone made of bioplastic, a material produced using corn extractions. The phone is part of Samsung's effort to develop materials that are more renewable and eco-friendly than common plastic produced from petroleum. The phone includes an alarm function to encourage the user to unplug the charger when the device is fully charged. The product also meets Energy Star requirements.⁵
- Nokia Siemens Network (NSN) aims to cut the energy consumption of some of its mobile base stations by as much as 40 percent by 2010. NSN joined the WWF Climate Savers program

with a pledge to improve energy efficiency and reduce carbon dioxide emissions throughout its business.

Yet despite these advances, numerous sustainability surveys and indexes suggest that the extent of corporate commitment does not always register with consumers. For example, about the same time that the Carbon Disclosure Project's Climate Disclosure Leadership Index awarded high scores to several telecom service providers,⁶ not a single service provider appeared in the top 20 on a 2008 Interbrand survey that asked consumers to rank the "perceived greenest companies."

In addition, telecom stakeholders need to improve how they address green efforts as a whole: Rather than build a story around a few green components, they must implement entire strategies that influence both internal and external activities. A recent Booz & Company assessment of current efforts and the understanding of "green management" in the telecommunications service provider sector found that despite a significant degree of activity, companies have not yet implemented holistic strategies. Most activities affect only selected parts of the value chain, particularly internal operations

and the supply chain⁷ (see Exhibit 3).

Only a few companies, primarily in the mobile virtual network operator (MVNO) sector, have developed innovative green offerings. For example, a subsidiary of a handset recycling company launched a green tariff for German customers in early 2007, charging a price premium and donating 5 percent of the total bill to offset carbon emissions. In addition, a tree is planted for each new customer. Similar offerings have been launched by MVNOs in the United States and Australia.

Most established service providers have not used a total green proposition to increase market share and average revenue per user (ARPU). In the true green corporation framework this proposition would include both supply-side (internal operations and governance, supply chain) and demand-side (marketing and communications, green offering) initiatives (see Exhibit 4).

As with other green products, consumers have indicated a willingness to pay a premium for green products and services in the telecom industry. In July 2008, a spot survey among green consumers in Germany showed that 39 percent of participants had an interest in a green telecom proposition. Of those, 97 percent valued using

⁵ Energy Star requirements are strict energy-efficiency guidelines set by the U.S. Environmental Protection Agency and the U.S. Department of Energy.

⁶ In the integrated telecommunication services category, AAA score for Deutsche Telekom, AA for BCE, and A for BT Group.

⁷ As an example, China Mobile has launched a comprehensive program that is integrated into the Corporate Sustainability Agenda: "We work continuously to increase network efficiency, which is also a key way in which we can reduce our climate impact. The use of renewable energy, such as wind and solar energy, has helped us not only improve energy and network stability, it has also mitigated our environmental impact. We used a combination of wind and solar power systems to provide base stations with highly reliable, low cost access to energy. We are working to scale up this activity. In Tibet, Qinghai and other remote areas, the extensive use of solar energy for base stations and repeaters has already provided reliable energy source. We are designing base stations, data centers and offices with energy conservation in mind. We have optimized the layout of new data centers and used standard structures designed to reduce energy consumption, such as wall and ventilation units created to improve cooling."

Exhibit 3:

Overview of Telecom Service Providers' Green Activities

	AT&T	British Telecom	China Mobile	Deutsche Telekom	KPN	Orange	Sprint	Swisscom	TDC	Telecom Italia	Telefonica	Telekom Austria	Telenor	TeliaSonera	Telstra	Telus	Verizon	Vodafone
ISO 14001	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Low-emission car fleet	✓	✓	✓	✓		✓			✓	✓	✓	✓			✓	✓	✓	✓
Staff training	✓	✓		✓		✓	✓	✓	✓	✓	✓	✓			✓	✓		✓
Recycling program	✓	✓	✓	✓		✓	✓		✓		✓	✓			✓	✓	✓	✓
Renewable energies	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Teleconference/teleworking	✓	✓		✓		✓		✓		✓		✓	✓	✓	✓	✓		✓
Paperless office	✓	✓		✓		✓	✓		✓		✓	✓			✓	✓	✓	✓
e-Billing system	✓	✓	✓	✓		✓		✓			✓	✓			✓	✓	✓	✓
Green awards and rankings*		✓	✓	✓		✓	✓		✓	✓	✓	✓	✓	✓			✓	✓

Areas of activity per operator

* Carbon Disclosure Project's Climate Disclosure Leadership Index, Dow Jones Sustainability Index, Sustainability Yearbook, Environmental Excellence Award
 Source: Booz & Company, company websites

Exhibit 4

Green Elements along the Service Provider Value Chain (Examples—Not Exhaustive)



Source: Booz & Company, company information

an eco-friendly device, and 67 percent valued an environmentally friendly network. Similarly valued were carbon emissions offsetting and other green-related activities. Even more interesting, 51 percent of these consumers would pay a 10 percent or higher premium for the device (notably researched in a market that is accustomed to very high subsidies) and 22 percent would pay a 10 percent premium or more for the telecom service (see Exhibit 5).

With the advent of green devices and network-related supply-side

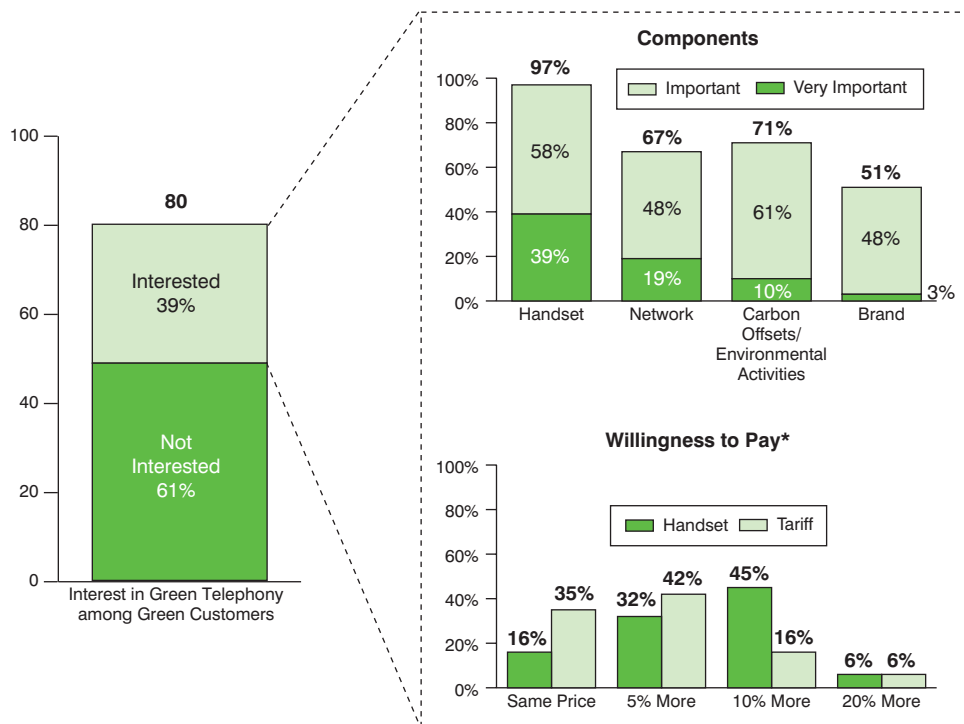
components such as base stations that consume less energy, the launch of a full green offering as a differentiator emerges as a valid strategy. The potential to create a consistent and holistic green value proposition is still widely untapped—but the window for first-mover advantage is closing fast. And any strategy to take advantage of this opportunity requires a consistent green approach—mere storytelling without foundation can strongly backfire once uncovered, given the significant public and institutional awareness.

A “Green Management” Framework

Consumers won’t settle for just a “green story” or, worse, “greenwashing.” As prices for energy and transportation continue to rise, local and ecologically friendly products will become more competitive and more attractive to consumers. At the same time, the growing recognition of green standards further improves transparency for consumers, challenging corporations to follow through on their green promises.

Exhibit 5:
Green Customers’ Interest and Willingness to Pay

**Results of a Spot Sample Survey of Green Customers
Germany, July 2008**



* Compared with estimated current spent; handset subsidized
Source: Booz & Company spot survey

In most industries, companies are responding to their customers by adapting their corporate sustainability agenda to reflect social, environmental, and economic responsibility objectives.

However, building a green story around products, no matter if the story is substantiated, is often not compelling enough or sustainable enough to attract consumers.

Only a consistent and holistic approach to green management offers the opportunity for sustainable differentiation and

business development.

Booz & Company's true green corporation framework outlines the goals and strategies necessary to attract environmentally conscious consumers (see Exhibit 6).

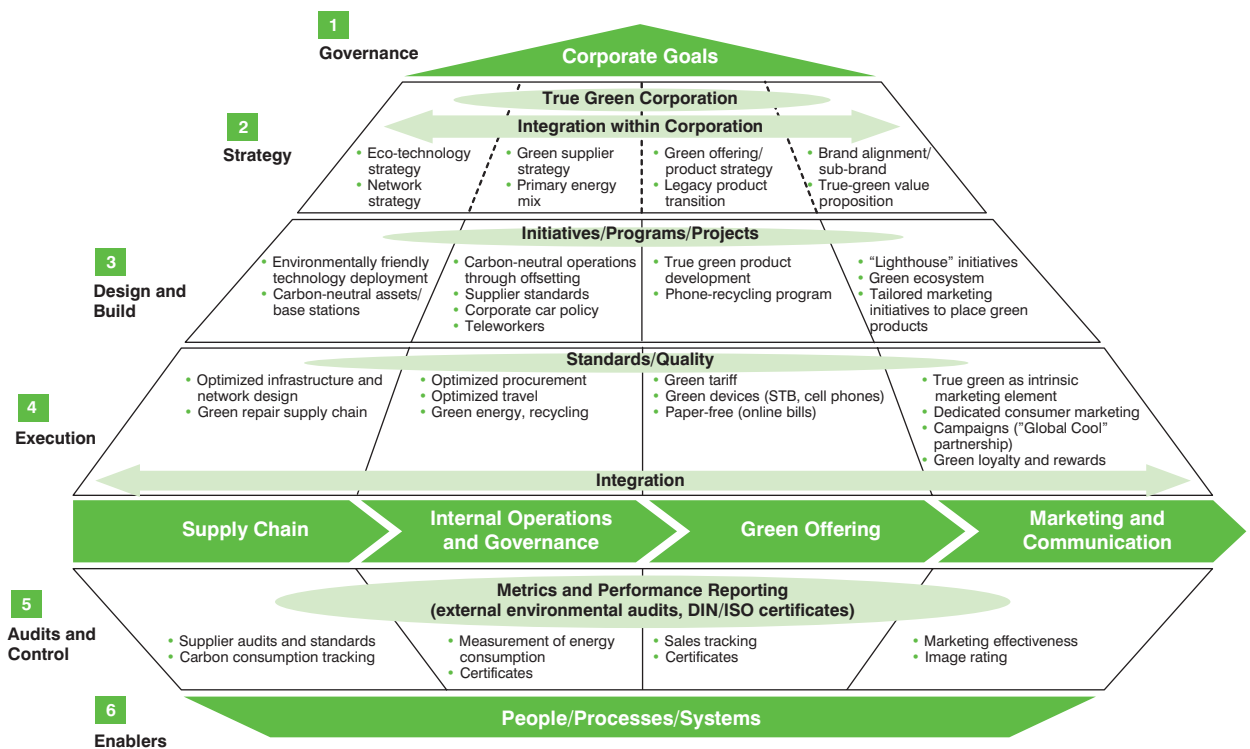
This multilayered framework draws in all corporate functions and business units, from supply chain to internal operations to marketing and communications, to ensure that all aspects of the company are aligned with the organization's vision, strategy,

execution, and financial control. The result is a "true green" proposition to offer the consumer.

To develop a holistic value proposition for telecommunications service providers, we recommend the following key steps:

- Develop a clear understanding of consumer expectations and their upside with regard to green products and services within the telecommunications industry.
- Develop the true green corporation strategy and link

Exhibit 6:
True Green Corporation Framework (Telecom Service Provider Example)



* Carbon Disclosure Project's Climate Disclosure Leadership Index, Dow Jones Sustainability Index, Sustainability Yearbook, Environmental Excellence Award
Source: Booz & Company, company websites

this strategy with the corporate sustainability agenda.

- Engage with the broader ecosystem of device and network equipment suppliers as well as partners.
- Assess gaps and opportunities along the corporate value

chain, including the performance of a standard carbon footprint analysis.

- Develop the case for true competitive advantage.
- Develop the business case, based on incremental ARPU and reduced costs.

- Determine the required implementation initiatives and time to market.

Companies that can do all of this—and do it quickly—stand to gain a significant competitive advantage as consumers make their preferences for green products and services clear.

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