Hewlett Packard Enterprise

Living Progress Report 2017

DIVERSITY

INNOVATION

SOCIAL IMPACT

LEADERSHIP

CONNECTIVITY

SUSTAINABILITY

COMPUTING

INCLUSIVITY

GLOBAL REACH

TECHNOLOGY

A message from our CEO

Humanity is at an inflection point. Climate change, population growth, security, and inequality are among the most critical challenges of our time.

How will the world support the one and a half billion people predicted to be added to the global population by 2050 when we already exceed the sustainable limits of our planet? We are placing ever-increasing burdens on our resources and ecosystems. At the same time, technology is transforming the way we live and work in very positive ways—with extraordinary potential to address the needs of both businesses and society with greater efficiency and sustainability. A world where everything computes holds great promise to advance humanity on every front.

I am privileged to head a leading technology company at such an important and exciting time. The pace of innovation in IT is the brightest hope for solving the world's most pressing sustainability challenges for generations to come. The world's systems of manufacturing, energy production, farming, and healthcare are on the brink of an efficiency revolution—powered by connectivity and data.

We are partnering with our customers across multiple industries to transform their businesses with hybrid IT and intelligent edge

solutions that are redefining efficiency and accelerating time to value. And as the industry leader in energy-efficient high-performance computing, we are empowering our customers to solve the world's most challenging and complex problems—from food security to healthcare delivery.

Although the IT industry holds incredible promise for driving sustainability in the operations of our clients, we must be always vigilant that the same focus on sustainability serves as a northstar for our own operations. High-quality data and the insights it provides are the ultimate sources of competitive advantage in the digital age; yet, extracting this business value requires an enormous amount of compute power. Unless we crack the code on delivering greater compute power with less energy, the IT sector could consume one-fifth of the world's electricity and produce up to 5.5% of the world's carbon emissions by 2025. We must develop technologies for the future with sustainability in mind—which is why HPE is committed to improving the energy performance of our product portfolio 30 times by 2025. But we can't stop there. We need to consider entirely new approaches to compute architecture and consumption models, while at the same time enhancing the trust, security, and governance capabilities of our customers.

Although HPE is at the forefront of rapid innovation, we haven't forgotten the values that define us. The technology sector should remember that innovation has always been confronted with ethical choices. We are proud to remain a responsible partner for our customers—to be a company that invests in its employees and sets high standards for its supply chain.

Environmental and social governance issues are rising to the top of boardroom agendas around the world as investors, customers, and regulators increasingly take note. Climate and human rights risks have the potential to affect every part of our value chain, including setbacks from materials scarcity and supply chain disruptions. Maintaining a resilient business means being proactive in addressing these risks before they affect customers and communities.

Our commitment to sustainability is increasingly important to our future as we work nonstop to shape our customers' businesses and generate value for our shareholders. As a global company with customers around the world, our leading sustainability practices position us to have a foot forward in any market. I'm incredibly excited to guide HPE through this business revolution, empowering customers, benefiting humanity, and energizing our business.

Regards,

Antonio Neri
President and Chief Executive Officer

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Living Progress overview

The pace of innovation in technology is powering rapid change in societies around the world, from the most developed to the least. Nearly every human activity is being transformed by the explosion of data.

As the global demand for connectivity and computing power increases exponentially, HPE is committed to operating responsibly, driving sustainable innovation, and securing the resilience of our business. Recent advances in IT have the potential to create breakthrough solutions to the key social and environmental issues of the 21st century. Even now, advances in data analytics, machine learning, and artificial intelligence are providing new insights into unyielding problems.

We are building a world where factories have zero downtime because they diagnose their own maintenance schedules, a world where healthcare is personalized using each patient's genetic data, where intelligent farms know precisely the amount of irrigation needed, and where cities are automatically serving the needs of their citizens.

Living Progress is our plan to create sustainable solutions for our company, our customers, and our world. As we enter this age of digital transformation, we are empowering organizations to accelerate time to value and harness this intelligence to solve the world's toughest social and environmental challenges.
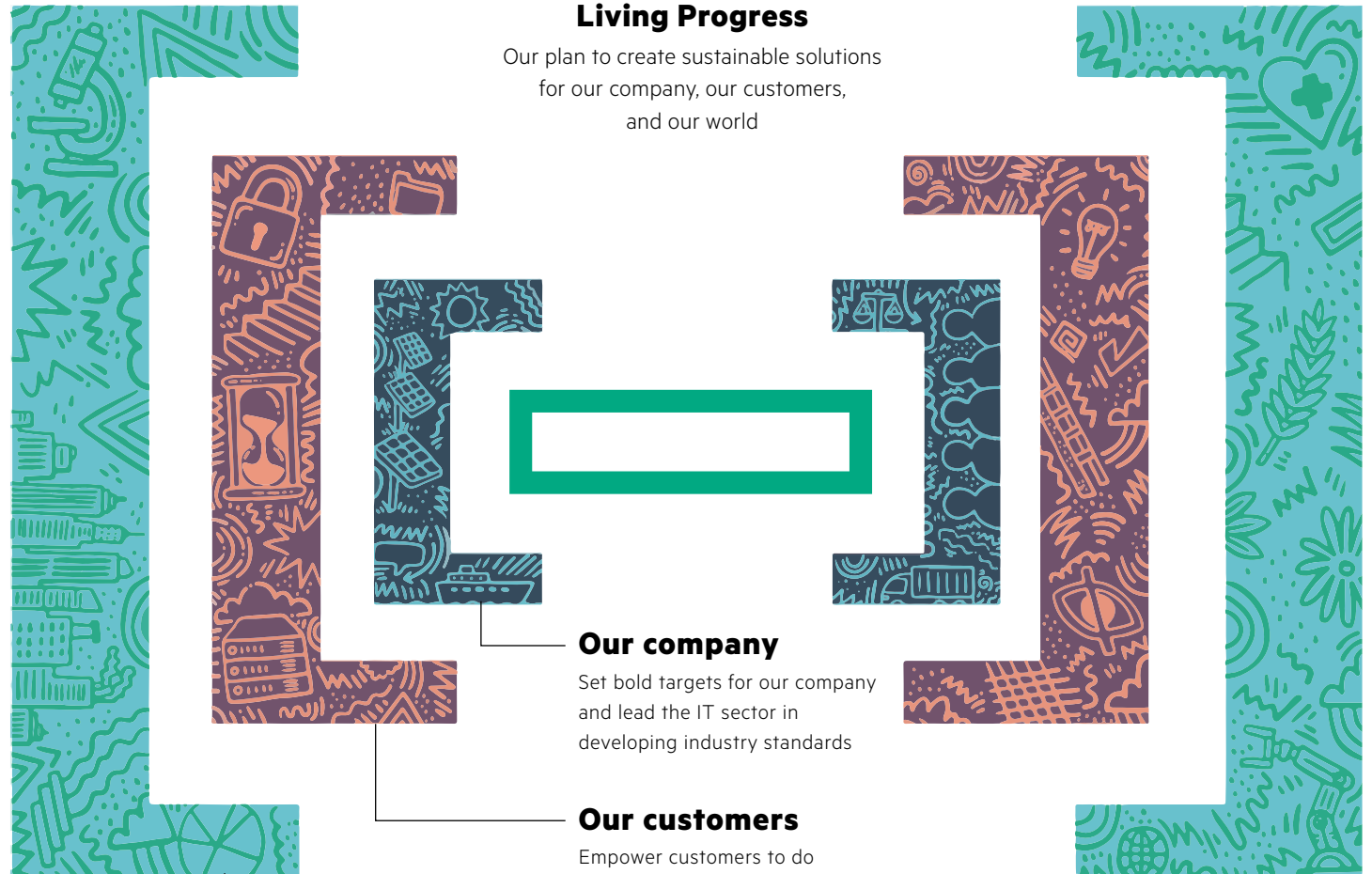
Living Progress

Our plan to create sustainable solutions for our company, our customers, and our world

Our company

Set bold targets for our company and lead the IT sector in developing industry standards

Our customers

Empower customers to do exponentially more, with less environmental impact

Our world

Leverage technology to solve the world's toughest social and environmental challenges

Living Progress in our company

We are working across our value chain to mitigate HPE's climate impact in line with science-based targets. This year, ahead of schedule, we achieved our goal to reduce GHG emissions 25% and set a new supply chain target to devote 80% of our manufacturing spend to suppliers with science-based targets in place. By our estimates, our supplier engagement program will help prevent 100 million metric tons of CO_2e emissions by 2025. We are also working to advance clean energy, with a long-term commitment to source 100% renewable power.

In addition, we are also addressing social imperatives for our employee program, such as inclusion, gender equality, and career development. Through our supply chain programs we continue to improve the lives of workers with close attention to risk factors like migrant labor, health and safety, and working hours.

Living Progress for our customers

As our customers leverage the power of connectivity and data to generate business value, they are investing in expanding their IT infrastructure to store and process exponentially more information. We aim to minimize the cost, the energy consumption, and the facilities footprint of the next generation of IT. Our goal is to increase the energy performance of our product portfolio 30 times by 2025.

In addition to transforming IT efficiency, we are focused on protecting our customers from cybersecurity attacks, a key and growing risk in the data economy.

Living Progress for our world

The most far-reaching objective of Living Progress is harnessing the power of IT to accelerate sustainable outcomes. In partnership with our customers, we are already implementing transformative solutions to critical social and environmental issues. While the challenges are substantial, they are matched by the mounting potential to create new market opportunities and reimagine mega-sectors like industrial intelligence, global healthcare, precision agriculture, and future cities.

Sustainability and shareholder value

We have long known that our Living Progress plan is the right thing for a responsible company to do. But we now have increasing evidence that our sustainability credentials contribute to our business objectives and deliver value to our shareholders.

Sustainability added value
Sustainability engagement helped drive nearly $160 million of new revenue in 2017.

This trend is reflected in the burgeoning growth of the sustainability investment sector.

In the U.S., assets under professional management that apply sustainable investing criteria grew to $8.72 trillion in 2016, representing 22% of all invested assets—an increase of 33% from 2014. Investors are attracted by the potential of corporate sustainability programs to reduce risks from social and environmental issues, and position companies to better anticipate and prepare for resource scarcities and regulatory uncertainty.

We are leveraging our sustainability credentials to benefit our business in the following areas:

Building customer relationships

Our customers consider our sustainability capabilities to be a strategic differentiator. Customer insights research has revealed that a compelling number of our largest customers are embedding sustainability into their own businesses—which demonstrates that sustainability is no longer confined to a small group of sustainability professionals, but is instead becoming relevant to a wide range of business functions. We believe the trend toward mainstreaming sustainability issues in large businesses will continue.

To partner more closely with customers on such initiatives, we developed a customer engagement practice within our sustainability organization, working with our sales teams to present sustainability advances in business terms. This collaboration has led to clearer metrics identifying the financial and functional benefits of our sustainability credentials to our customers, in three main categories :

- **Equipment efficiency** — maximizing IT processing power and storage capabilities, minimizing cost, lessening the demand for resources

- **Energy efficiency** — delivering an optimum level of power, storage, and connectivity in exchange for the lowest input of energy possible—spearheaded by our Design for the Environment program

- **Resource efficiency** — engineering our products to work most efficiently within the data centers that will operate them, matching type and quantity of material to the needs of space, power, and cooling

We engage with both current and prospective customers about the business benefits of sustainability for their organizations. This dialogue is already making a significant contribution to sales, amounting to over $160 million in new revenue wins in 2017. A number of customers have confirmed that our sustainability credentials gave HPE a competitive advantage.

In 2017, our sustainability professionals engaged over 400 customers—representing more than $5.6 billion in annual revenue— to share our thought leadership and provide briefings on HPE's IT efficiency and sustainability initiatives. We also partner with customers to pursue commercial sustainability opportunities. For more information, see Harnessing IT to create a sustainable world.

Expanding our market

Working in partnership with our customers, we are identifying global social and environmental issues that translate into market opportunities. Together, we are solving some of the world's toughest challenges and at the same time generating business growth. The opportunities are global, they are multi-sectoral, and they are driven by social, as well as environmental, challenges. Four such opportunities are:

- **Industrial intelligence.** Fueled by intelligent edge computing, the Industrial Internet of Things (IIoT) is powering a new revolution in industry, with efficiency and environmental impact reset to new levels. The market opportunities extend across many industries and regions. Research firm IDC forecasts that worldwide spending on the Internet of Things (IoT) will grow to $1.4 trillion in 2021 from an expected $800 billion in 2017. The largest investments are being made in IIoT areas such as manufacturing, transportation, and utilities.

- **Accelerating healthcare.** The global healthcare sector, accounting for over 10% of global GDP, offers numerous opportunities for enhanced efficiency. Advanced IT is providing savings for healthcare funders, accelerating research, and improving treatment for patients.

- **Precision agriculture.** The global population is anticipated to top 9 billion people by 2050, and experts estimate that agricultural output must double to meet the impending demand. Advanced IT solutions are at the leading edge of the agricultural sector's innovation toward higher food production from a finite land resource.

- **Smarter cities.** Over half the world's population already lives in urban areas, and the proportion is increasing. Our customers are leveraging the HPE Universal IoT Platform to exploit significant market opportunities for making cities more sustainable and resilient.

For more information, see Harnessing IT to create a sustainable world.

Attracting top talent

Our industry faces a talent shortage, particularly in technical roles. Prospective employees—especially millennials—look for values in an employer that align with their own. When recruiting new talent, we use our Living Progress plan to demonstrate to candidates that our values are deeply embedded and proactively implemented. A 2016 PricewaterhouseCoopers study found that millennials are five times more likely to stay with an employer when they feel a strong connection with their employer's purpose.
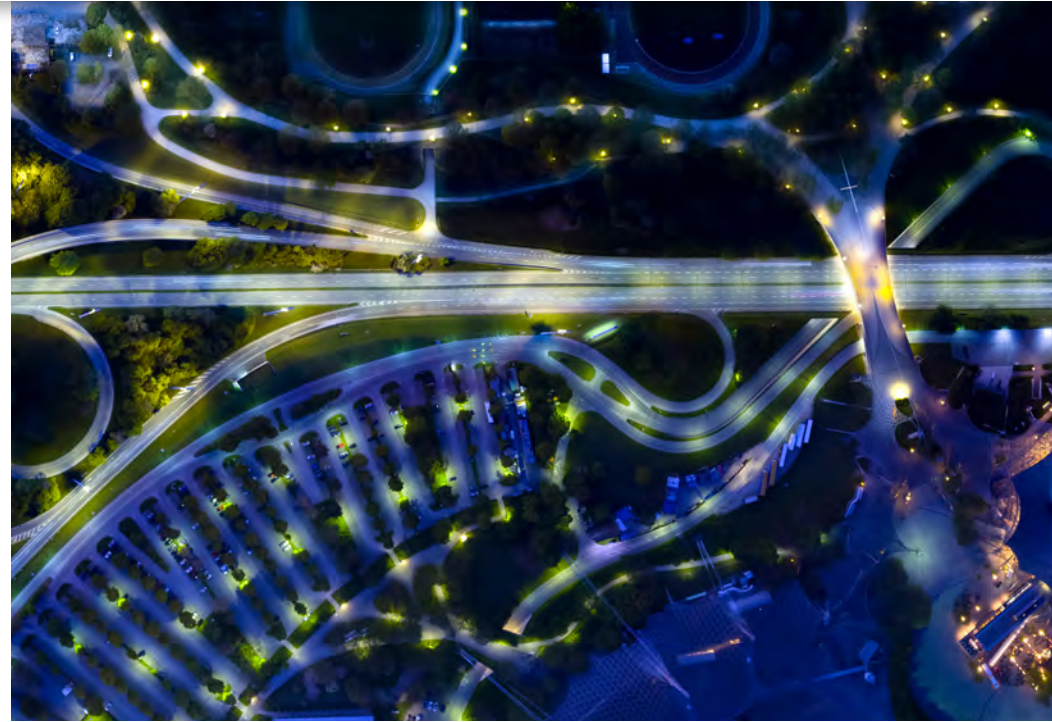
Strengthening supply chain resilience

Maintaining operations and reputational resilience is critical to driving quality and reliability from our supply chain network. Operational resilience gives our business the flexibility to manage risks and adjust to disruptions. Reputational resilience maintains positive stakeholder perceptions and ensures that we are responsive if a disruption occurs.

Our Business Continuity Management program aims to enhance our resilience by mitigating risk across four interconnected areas:

- **Supply chain mapping** — giving us clarity on revenue distribution across nodes to procure business interruption insurance

- **Risk profiling and analysis** — providing visibility to our critical suppliers and creating a scorecard for selection

- **Business continuity planning** — ensuring that we are prepared to respond quickly

- **Incident and crisis management** — helping us understand the severity of a disruption and supporting recovery

We focus on high-risk areas that could have a significant impact on reputation, financial results, or operating profit. Our program includes business continuity testing to assess climate-related disaster scenarios. The program benefits our business by ensuring continuity of operations, minimizing negative impacts to revenue and reputation, maintaining customer satisfaction, and avoiding any default in legal, regulatory, or shareholder commitments.

Our Supply Chain Responsibility program is also key to monitoring social and environmental information on suppliers to ensure operational and reputational resilience. Our focus on labor practices and environmental standards addresses the significant risk concerns prevalent in the electronics industry supply chain.

Ensuring product license to operate

We market our products globally and task our corporate affairs and social and environmental responsibility teams with tracking and anticipating changes to regulations with a potential to affect our products. Our network of environmental product stewards works to ensure that we comply with new regulations across our markets, including China, the EU, and the U.S. Wherever we operate, we aim to meet or exceed legal requirements on materials of concern.

In addition, we register for eco-labels that support sales in major markets, including the U.S. Environmental Protection Agency's Energy Star. We also produce industry-standard IT Eco Declarations for most new products.

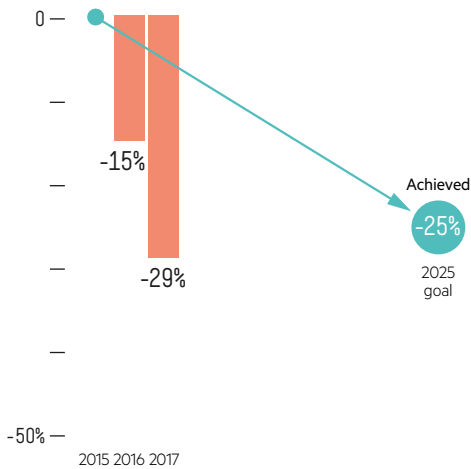## How business continuity planning maintained operations in Texas

In 2017, our Houston, Texas, campus—a critical site for manufacturing—experienced devastating floods. As the storm hit, our recovery teams in place around the world acted quickly to minimize customer impact by rerouting inbound supply to alternative factories, prioritizing orders, and utilizing other manufacturing sites. Due to our advance planning and commitment to supply chain resilience, a disaster that could have caused weeks of delay was minimized to just hours and days with no revenue loss.

Houston has experienced multiple extreme flooding events in recent years, and as a result, in 2018, we moved our manufacturing to Austin, Texas, to reduce future risk.

Goals

We set strategic goals to drive down our environmental footprint across our entire value chain—not just our direct operations. This approach ensures that we address the areas where our impact is greatest—currently 95% of greenhouse gas (GHG) emissions occur in the manufacture and use of our products.

We are targeting our supply chain climate impact with a first of its kind science-based GHG reduction goal. We also set a science-based target (SBT) for our operational emissions, which we achieved in 2017. To address our product use impact, we set a transformative energy performance goal for our entire product portfolio.

Reduction in operational GHG emissions

We reduced our operational GHG emissions by 29% since 2015, exceeding our goal of 25%. We achieved our target by increasing the proportion of renewable electricity purchased, optimizing space through facility consolidation, and continuing our commitment to energy efficient LEED Silver facilities. We will set a new operational emissions goal in 2018.

Our SBT is based on a baseline of 2015 emissions calculated using the market-based approach. The goal is approved by the Science Based Target Initiative.
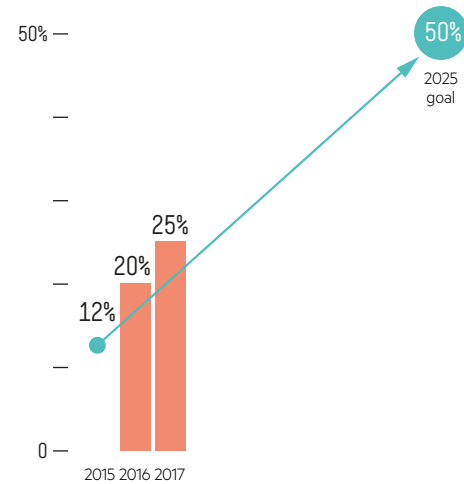
Reduction in supply chain manufacturing GHG emissions
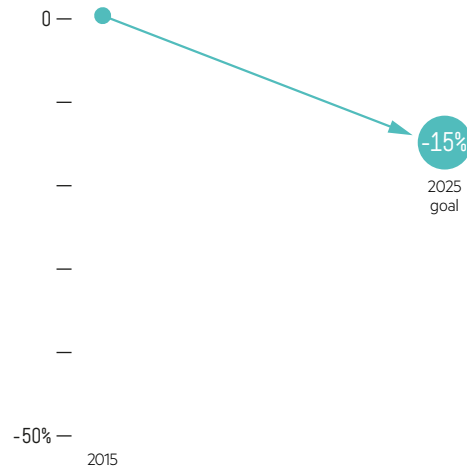
In 2017, we set a goal to reduce absolute manufacturing-related GHG emissions in our supply chain by 15% from 2015 levels by 2025, in line with climate science, as well as a goal to enable 80% of our manufacturing suppliers (by spend) to set SBTs. Our data for supply chain GHG emissions is not sufficiently accurate to report a reliable trend due to the company restructuring. We are refining our data collection and analysis and aim to report performance in our 2018 report.

Operational electricity sourced from renewables

We increased the proportion of electricity sourced from renewables to 25% from 12% in 2015, with a significant contribution from purchasing renewable energy credits, increasing our utility supplied green contracts, and investing in power purchase agreements. In addition, HPE consolidated real estate globally resulting in an overall reduction of operational electricity consumption. Our goal is to source 50% of total electricity consumption in our operations from renewables by 2025, with a long-term goal of achieving 100%.

Increase in the energy performance of our product portfolio
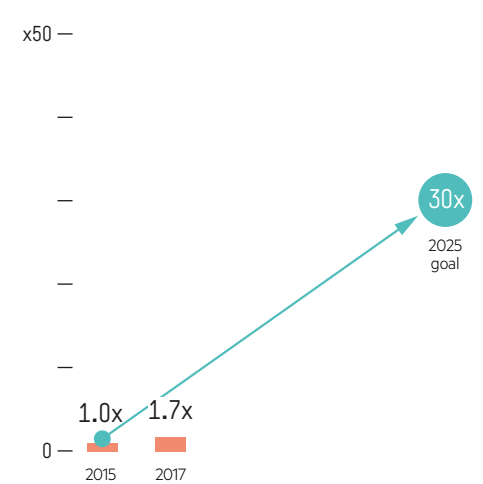
We increased the energy performance of our product portfolio 1.7 times from 2015. This improvement followed the release of our efficient HPE ProLiant Gen10 servers.

Our company

How we minimize the impact of our products, our operations, and our supply chain.

Our progress toward mitigating our impact on the environment, investing in our employees, and protecting workers in our supply chain.
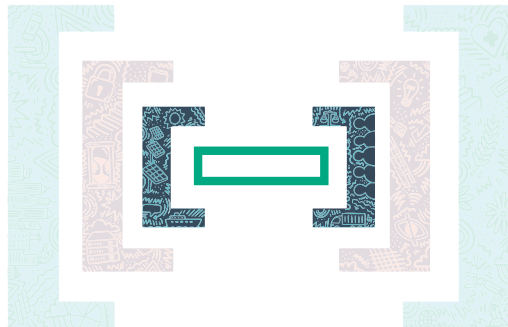
Our environmental footprint

Climate change is a threat to society, the natural environment, and business.

We have a responsibility to mitigate our impact on the planet, and we view the transition to a low-carbon economy as a business opportunity. Our strategy is to manage energy, water, and waste across our value chain, while using sustainability as a catalyst for innovation.

The business case for climate action

While efficient technologies have enormous potential to help governments and business meet the challenges of climate change, we also recognize that climate-related risks continue to pose a threat to every part of our value chain.

We face potential business setbacks from materials scarcity, extreme weather conditions, and energy shortages. Environmental disruption could cause significant losses, increase costs, and adversely affect our competitive position. In addition, we expect environmental laws and regulations to have an increasing impact on our operations and products. Our Enterprise Risk Management program, which includes

scenario development to test climate-related disaster situations, evaluates a broad range of risks to our operations and supply chain. We continue to align our scenario development with recommendations from the Task Force on Climate-Related Financial Disclosures to better assess climate-related risks and opportunities. To ensure the resilience of our business, we remain proactive in managing these risks and promote public policies that encourage sustainable innovation.
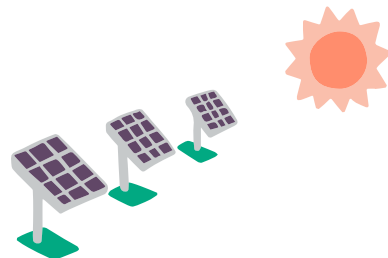
Our global carbon footprint

With two significant spin-offs in 2017, an even larger portion of our environmental impact has shifted outside of our own operations. Currently, 95% of our emissions are in the upstream and downstream portions of our value chain (Scope 3). We are addressing these impacts with science-based targets (SBTs) to reduce supply chain emissions 15% and operational emissions 25% by 2025—the latter which we achieved ahead of schedule in 2017. We have also set a goal to improve the energy performance of our product portfolio 30 times by 2025.

We continue to drive down our operational impacts by sourcing our electricity responsibly, driving greater energy efficiency in our buildings, and using transportation modalities more efficiently.

PERCENT OF OUR 12.6 MILLION TONNE CO_2e GLOBAL CARBON FHAOOTPRINT ACROSS OUR VALUE CHAIN

21.4%
Material extraction through manufacturing

0.7%
Capital goods

1.5%
Upstream energy production

3.4%
Transport

0.1%
Waste generated in operations

0.5%
Transportation fleet

0.5%
Business travel

1.8%
Employee commuting

2.4%
Facilities

64.0%
Product use

0.3%
Buildings leased to others

0.3%
Product end of life

3.3%
Downstream transportation
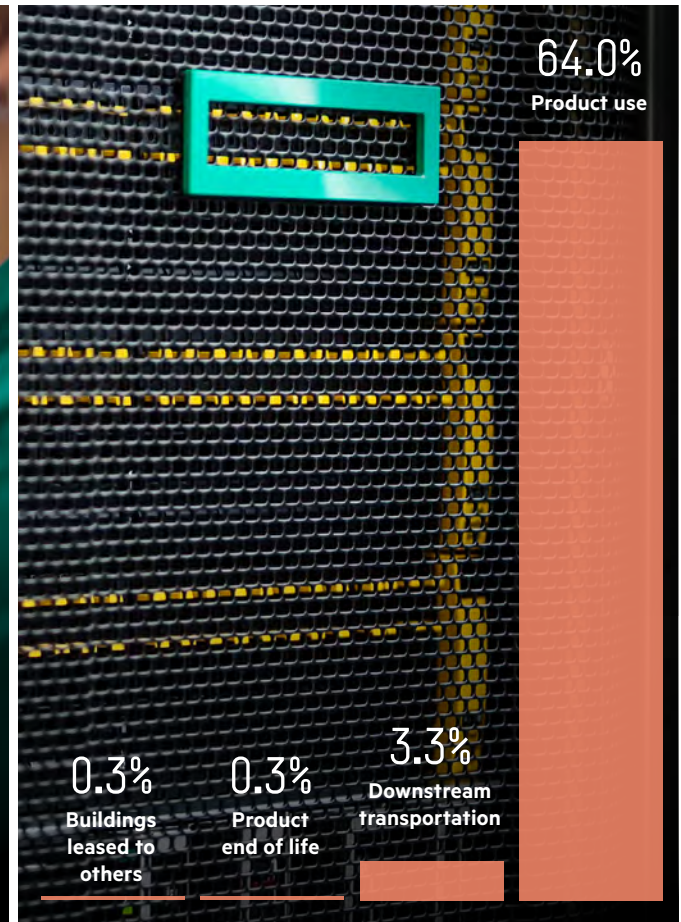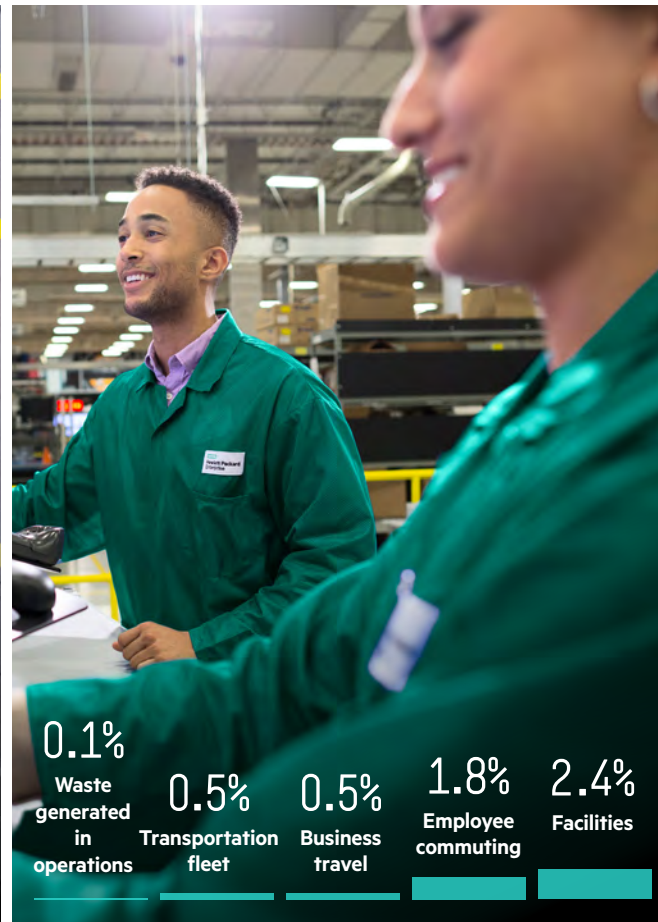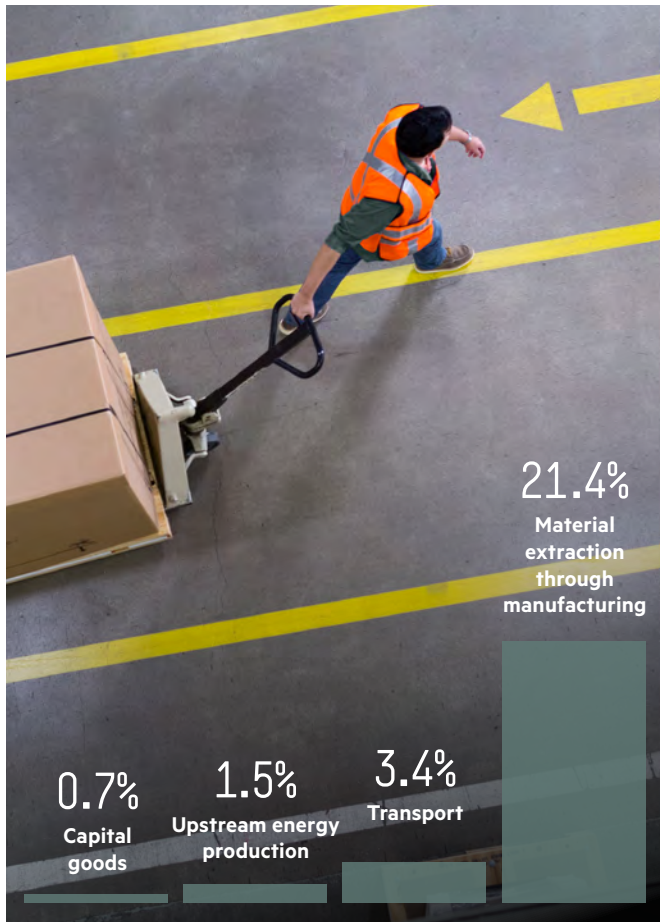
Our supply chain — **27%**

Our operations — **5%**

Our products and solutions — **68%**

Total does not add up to 100% due to rounding.

Our water footprint

We estimate our 2017 global water footprint to be approximately 58 million cubic meters. Because power generation is a major water consumer, most of our water footprint can be attributed to the energy-water nexus. For HPE, this primarily includes electricity associated with the use of our products (56%) and the energy needs of our supply chain (33%). We have programs to help curtail water use in our value chain, including our product energy performance goals mentioned earlier.

PERCENT OF OUR 58 MILLION CUBIC METER GLOBAL WATER FOOTPRINT ACROSS OUR VALUE CHAIN

25%
Indirect consumption

8%
Direct consumption

4%
Direct consumption

6%
Indirect consumption

56%
Electricity for product use

Our supply chain	33%
Our operations	10%
Our products and solutions	56%
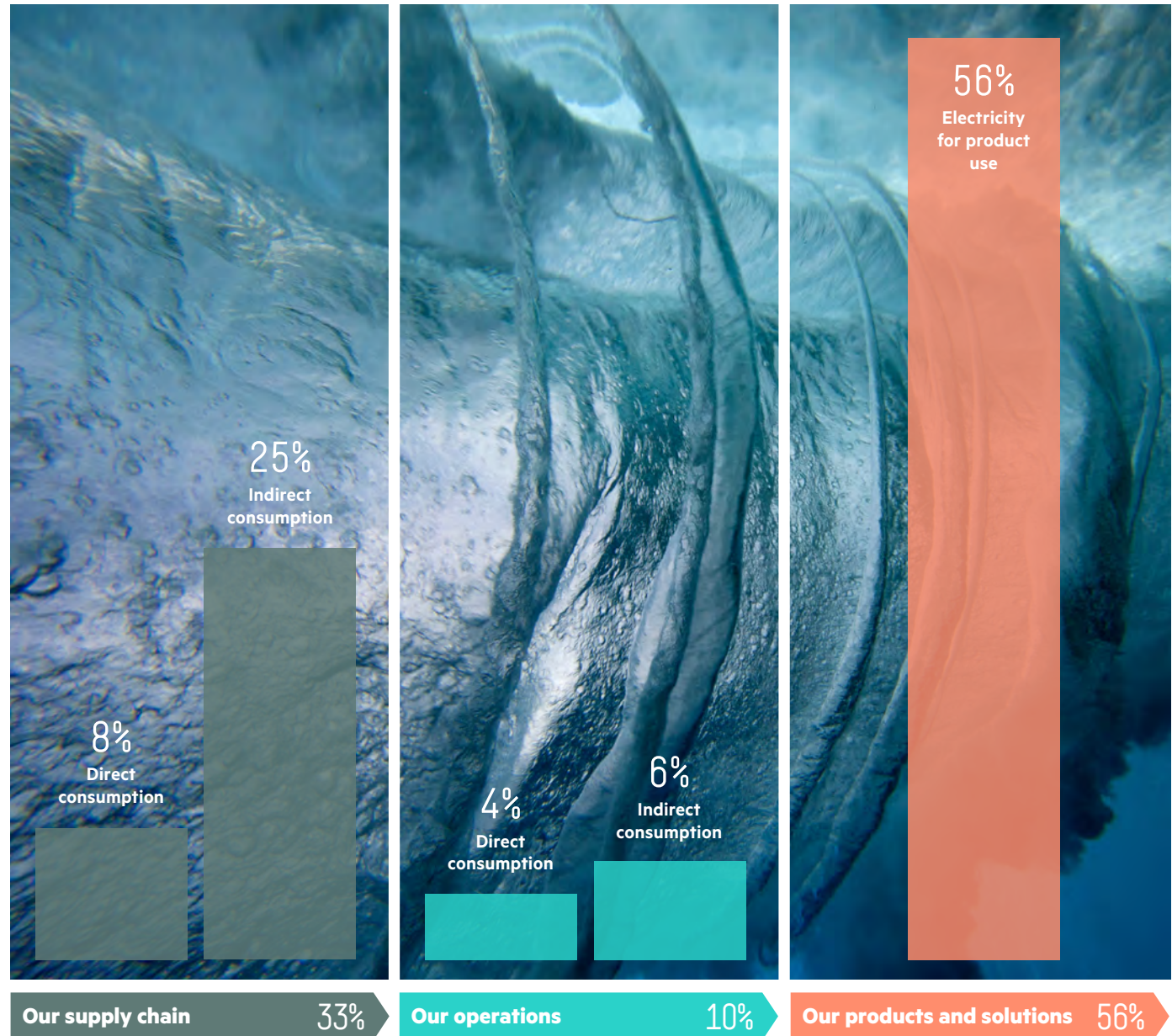
Total does not add up to 100% due to rounding.
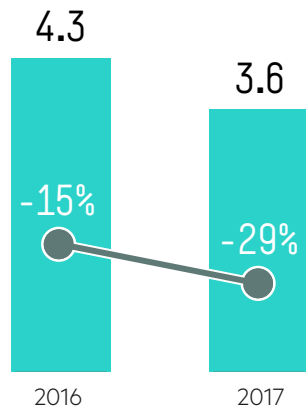
Energy and greenhouse gas emissions

HPE was the first IT company to set science-based targets (SBTs) to reduce greenhouse gas (GHG) emissions across its value chain, including its operations and supply chain. Our goals are aligned with the internationally recognized Paris Climate Agreement and approved by the Science Based Targets Initiative. We believe business has an important role to play in the transition to a low-carbon economy, and we are part of several alliances focused on climate action. We are active in RE100, the We Mean Business Coalition, the World Economic Forum Alliance of CEO Climate Leaders, and the Renewable Energy Buyers Alliance, as well as signatories to Business Backs Low-Carbon USA and the We Are Still In declaration.

In 2017, we received an industry-leading perfect score for climate strategy on the Dow Jones Sustainability Index. We also achieved the highest possible ranking from CDP[1] for the fifth consecutive year[2]— ranking in the top 4% of the thousands of companies evaluated. This achievement recognizes our work to reduce our GHG emissions and climate-related risks. Performance against these criteria informs the purchasing decisions of over 400 customers. CDP also recognized our efforts to engage suppliers on GHG emissions and climate change strategies with the highest possible Supplier Engagement Rating. Read about our awards, including CDP recognition, on our website.

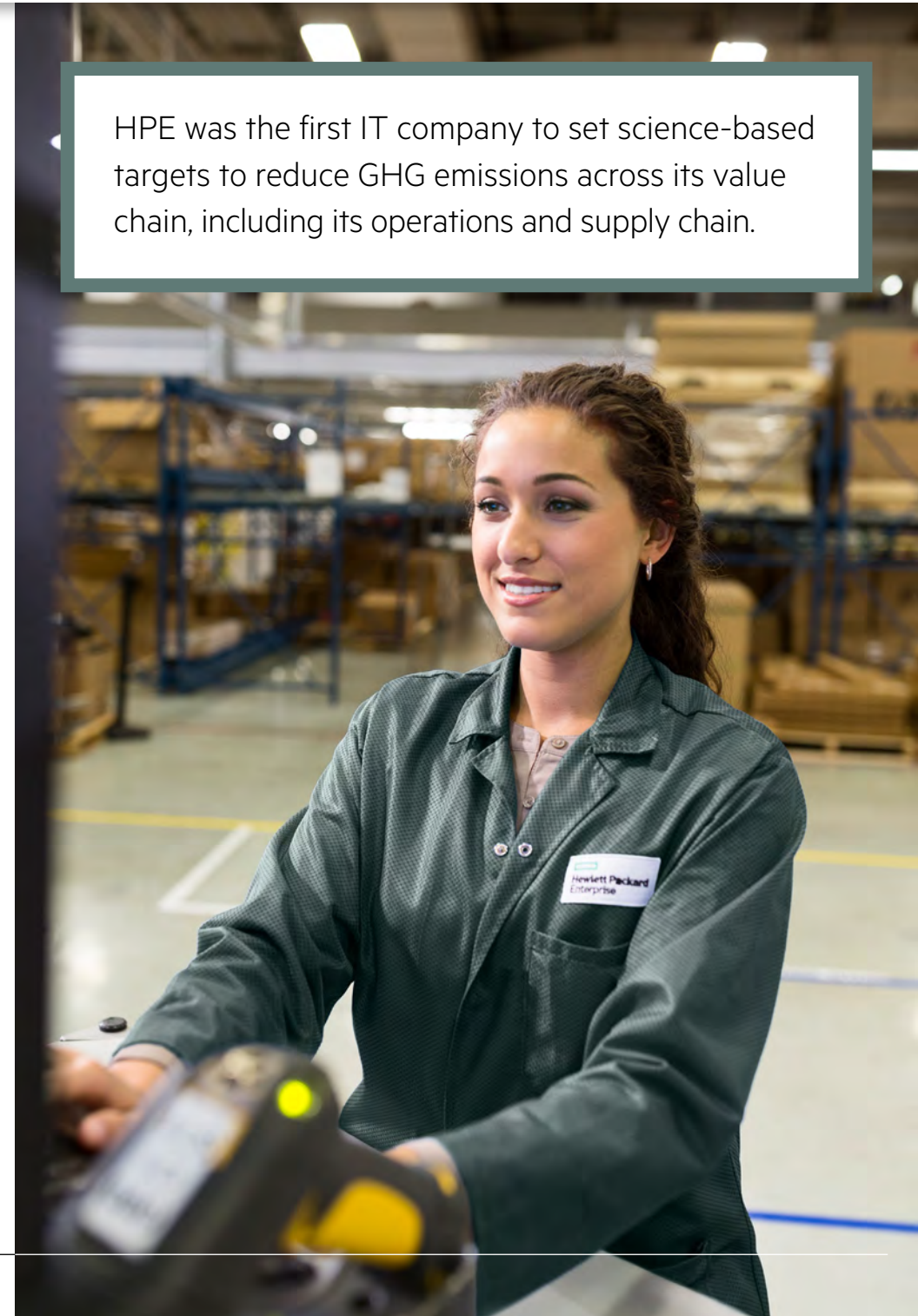> HPE was the first IT company to set science-based targets to reduce GHG emissions across its value chain, including its operations and supply chain.

GHG EMISSIONS

- ▉ Scope 1 and 2 metric tons CO_2e
- ▉ % reduction in GHG emissions to 2015 baselines

4.3

3.6

-15%

-29%

2016

2017

HPE's operational emissions and 25% reduction goal are based on Scope 2 market-based calculations.

Energy use and greenhouse gas emissions in our supply chain

An environmentally responsible supply chain helps us remain a trusted sourcing provider and indirectly reduces our customers' environmental footprint. We classify our suppliers based on the services they provide HPE. Our three supplier groups are:

- **Production** — manufacture and assemble products, provide materials and parts
- **Nonproduction** — provide services, such as staffing and telecommunications
- **Transport** — provide transport in support of our logistics requirements

Our focus is on production manufacturers, including final assembly and strategic commodity suppliers, with whom we have a direct contractual relationship. By reducing manufacturing emissions, we decrease our customers' upstream environmental impact.

In 2017, we established the world's first science-based supply chain management program to reduce the impact of our manufacturing suppliers. The program will enable 80% of our manufacturing suppliers, by spend, to set SBTs, potentially preventing

the equivalent of 100 million metric tons of emissions. Through the program, we aim to reduce absolute manufacturing-related GHG emissions in our supply chain by 15% from 2015 levels by 2025, in line with climate science.

We support manufacturing suppliers through capability-building programs that provide training on low-carbon strategies that eliminate barriers to participation, and drive accountability. By working with HPE, suppliers work to reduce their emissions while readying their business for future environmental regulations. As of 2017, suppliers representing 88% of supply chain spend are participating in our SBT capability-building program.

Beyond reducing GHG emissions in our own supply chain, we aim to catalyze the IT industry to become a leader in emissions reductions and to inspire cross-sector action. We partnered with the nonprofit BSR and POINT380 to develop a supply chain standard for emissions reductions and abatement. This standard will act as a framework to assist companies in establishing SBTs for their supply chains, and support suppliers in setting their own targets.

Our approach to supply chain GHG management:

- We created a custom SBT for 80% of our manufacturing suppliers' operations, and we are providing resources to help suppliers achieve those targets
- We updated our Social and Environmental Responsibility (SER) scorecard—which directly ties SER performance to procurement decisions—to include two new requirements: committing to SBTs and third-party verification of GHG emissions in line with **CDP verification standards**
- We established a system to **publicly track** each supplier's progress in setting SBTs on GHG emissions and emissions strategies, disclosing a corporate-wide GHG footprint, and verifying emissions by an independent third party

As of 2017, suppliers representing 88% of supply chain spend are participating in our SBT capability-building program.

OPERATIONS ENERGY USE

MWh

- 1,187,458 — 2015
- 1,079,481 — 2016
- 891,537 — 2017
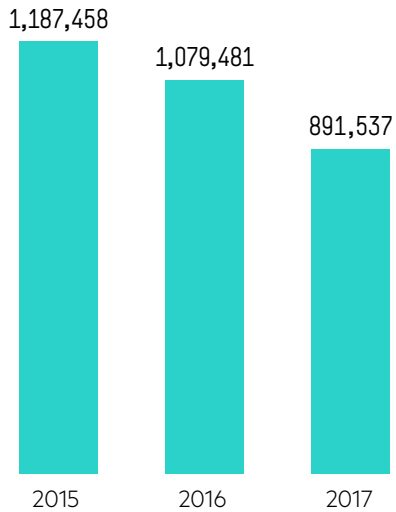
Includes both direct and indirect energy use, which are the source of Scope 1 and Scope 2 emissions, respectively.

ENERGY INTENSITY

MWh/$ million of net revenue

- 38 — 2015
- 36 — 2016
- 31 — 2017
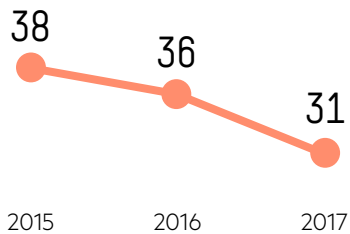
Energy use and greenhouse gas emissions in our operations

In 2017, we reduced our operational emissions 29% compared to 2015, surpassing our goal of 25% by 2025. A combination of initiatives contributed to our early achievement of this goal, including an aggressive consolidation of facilities and space optimization over a three-year period, a continued commitment to LEED Silver buildings, and an increase in our renewable electricity sourcing which grew to 25% in 2017, up from 12% in 2015.

Renewable energy

Our commitment to power our operations with renewable energy reduces our GHG emissions and protects our company from regulatory and financial risks associated with fluctuating energy prices. Our goal is to source 50% renewable electricity in our operations by 2025 and to source 100% renewable electricity in the long term. We advocate for the proliferation of renewable energy as members of the **Renewable Energy Buyers' Alliance** and the **Future of Internet Power**.

In 2017, we formed a business partnership with Schneider Electric to scan the global market for additional opportunities in renewable energy, particularly those in which our influence can bring new renewables to the grid. This year, we executed a power purchase agreement that brought 45 GWh of new solar energy to the grid in India.

Currently, we source 25% of our global electricity from renewables. This total includes our operations in Austria, Ireland, Italy, Spain, Sweden, and the UK, which source 100% of their electricity requirements from renewable resources. In 2017, all our new energy purchase contracts in these countries were from sustainable sources.

Sustainable buildings

Our facilities are the biggest part of our total operational carbon footprint. Energy efficiency is embedded in our corporate real estate strategy. We employ multiple tactics to reduce on-site electricity consumption, including monitoring and auditing energy systems and participating in local demand-response programs. Further reductions stem from our annual multimillion-dollar investments in LED lighting, submeters, and smart building technologies. We also right-size office buildings based on the number of employees at a given location, and all building retrofits are required to meet LEED Silver certification.

In 2017, we transitioned nine of our **International Standard Organization (ISO)** 14001–certified sites to meet the updated 2015 standard for measuring and improving our environmental impact, and we will transition additional sites in the coming year.

Transportation modalities

A commitment to reducing emissions remains a criterion for HPE product transport providers. In 2017, we routed 10% more freight to ocean transport and reduced the number of trucks along two of our major shuttle routes by 30%. In 2018, we will continue to align with vendors on low-carbon strategies, including transportation methods, network optimization, and fuel choices.

Whenever possible, we use virtual collaboration tools in place of employee travel. When travel is necessary, we work with our employees and transport providers to support sustainable travel practices, which includes a limit on CO_2 emissions for company cars. Our auto fleet transformation program aims to:

- Reduce fuel consumption across the fleet
- Improve the efficiency of our vehicles individually, and the efficiency of the fleet delivery model overall
- Reduce the total cost of ownership

Looking ahead, we remain focused on improving data collection, optimizing the selection of company cars, and expanding the use of electric vehicles.

> In 2017, we reduced our operational emissions 29% compared to 2015, surpassing our goal of 25% by 2025.

Water and waste

Catalyzing action in our supply chain

We reduce the upstream environmental impact of HPE products by encouraging our production suppliers to focus on their water and waste management practices. We support these suppliers by providing clear expectations, prescriptive guidelines, and helpful tools as part of our Supply Chain Responsibility (SCR) program. Specifically, suppliers must meet HPE's General Specification for the Environment, including requirements for substances used in the manufacturing process.

We use transparency and engagement across our supply chain to drive awareness of our requirements for efficiency, waste minimization, and water stewardship. We strongly encourage production suppliers to measure impact, set goals, and report progress on their waste and water impact. In 2017, we added corporate-wide reporting on water and waste to the HPE SER supplier scorecard, which informs our purchasing decisions. Following the model we use for carbon accounting, this data-based approach gives our procurement teams greater visibility into a supplier's environmental footprint.

As of 2017, 74% of our production suppliers had water-related goals and 67% had waste-related goals compared with 73% and 63%, respectively, the year before.
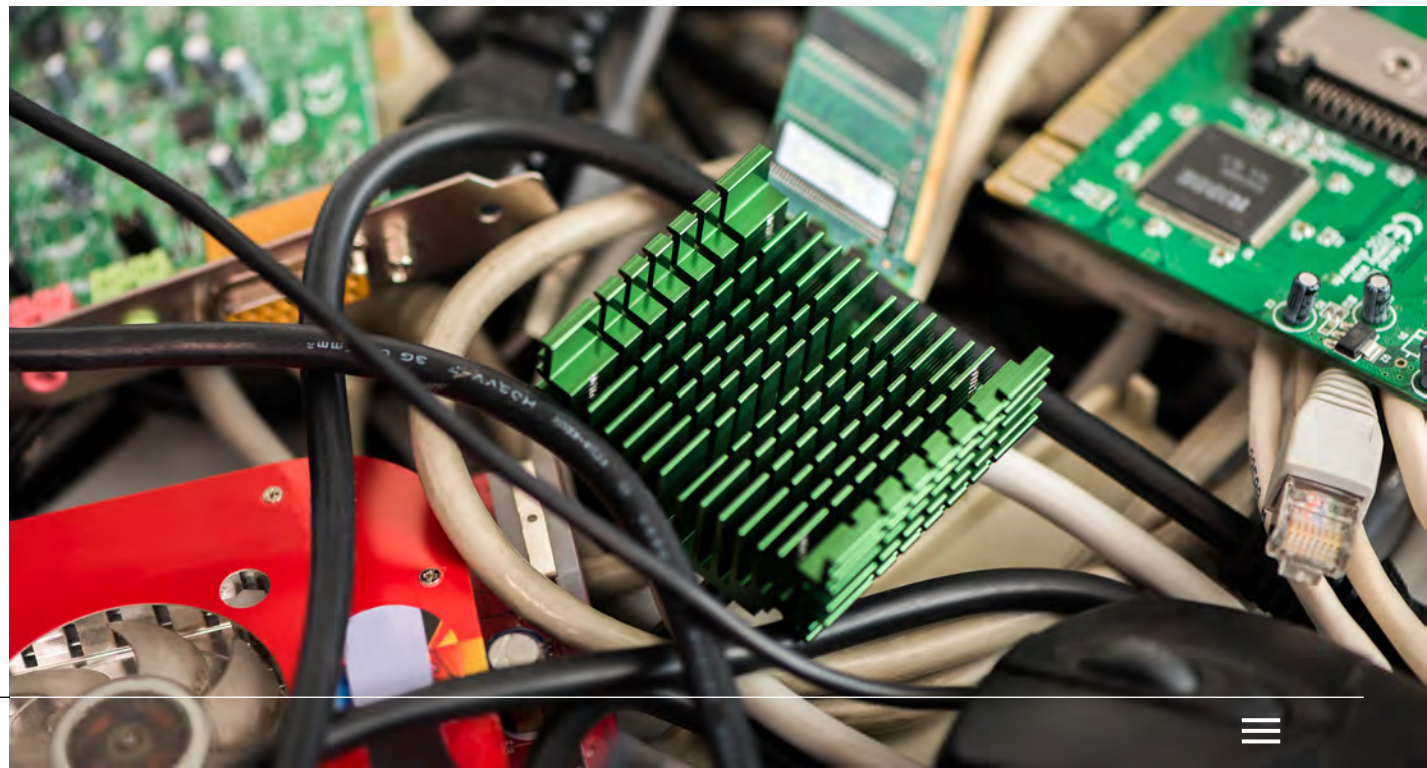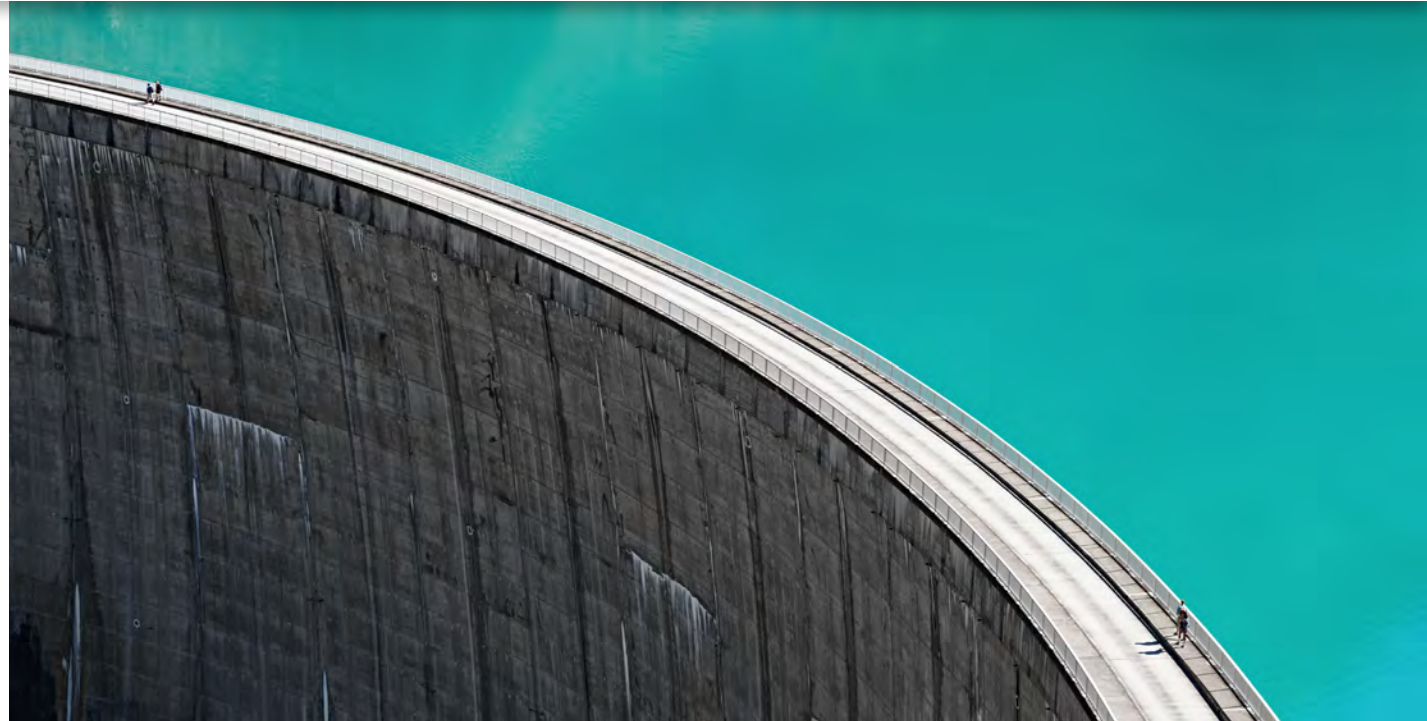
Managing our own water and waste

Our operations use less water and generate less waste when compared with the resources used in the manufacture and use of our products. Although our impact is small by comparison, we are proactive in our management approach.

Our operations used 2.2 million cubic meters of water, a decrease of 15% from the previous year. This trend is primarily due to our continued commitment toward highly efficient buildings, in both their electricity use and water consumption. Most of our operational consumption in 2017 comes from water used for electricity production.

We minimize water consumption at our facilities through water conservation programs, energy efficiency projects, and employee education campaigns. We also refer to the WBCSD Global Water Tool to remain well-informed of water stress in the more vulnerable regions where we operate, such as California and India. We are conscious that in these regions even limited water use can have a significant impact. We disclose our performance and full water management approach annually through the **CDP water program**, achieving an A- score in 2017.

Waste from our operations consists primarily of nonhazardous recyclables and electronic waste, with limited hazardous wastes, such as lead-acid batteries. We aim to increase our diversion rate through educating employees, upgrading equipment, implementing recycling and e-waste programs, and improving our waste management operations with vendors. In 2017, we achieved our annual target of an 83% diversion rate, a 1.2% decrease from the year before. During the same year, our hazardous waste generation dropped by 68% compared with 2016. The decrease in our waste diversion rate and hazardous waste generation is a result of the spin-offs which took place in 2017.

> CDP Water Program: HPE received an A- score in 2017 for our disclosure of our water performance and management approach.

OPERATIONS

WATER CONSUMPTION
millions cubic meters

2016	2.6
2017	2.2

NONHAZARDOUS WASTE
metric tons

2016	42,900
2017	13,200

HAZARDOUS WASTE
metric tons

2016	341
2017	109

Policies

HPE Environmental, Health, and Safety (EHS) Policy

HPE Supplier Code of Conduct

HPE Supply Chain Social and Environmental Responsibility Policy

HPE General Specification for the Environment

Human rights

Respect for human rights is a core value at HPE and is fundamental to the way we do business.

Our integrity and performance depend on the value we place on people. Our deep commitment extends across our value chain: to our employees, our suppliers and partners, and our customers. We support—and base our approach on—the <u>UN Guiding Principles on Business and Human Rights</u>.

Protecting human rights across our value chain

The basic freedoms and standards of treatment to which all people are entitled are universal. Upholding these rights is fundamental to our values. We back our statements with a transparent approach to identifying risks to these rights across our value chain, and work to prevent, mitigate, and remediate any human rights impacts associated with our business. We focus our resources where they are most needed and where they will do the most good.

Any parties with a concern about activities within our business or value chain should contact us directly through one of our <u>reporting channels</u>. We follow up on each concern, taking action when issues are identified.

Human rights at HPE

We manage workplace risk through our <u>Standards of Business Conduct</u>, our <u>Nondiscrimination Policy</u>, and our <u>Harassment-Free Work Environment Policy</u>. Our goal is to build a respectful and <u>inclusive culture</u> at HPE, where individuals are valued for their skills and the knowledge they bring, regardless of factors that are irrelevant to their work.

Human rights in our supply chain

The HPE Office of Legal and Administrative Affairs guides our approach, and works across the business to address specific issues as they arise. We manage supply chain risk through our <u>Supply Chain Responsibility program</u> which focuses on improving labor standards and protecting workers. For example, read more about our continued efforts to map and address supply chain risks associated with <u>human trafficking and forced labor</u>. We emphasize the importance of respect for human rights with suppliers, helping them to identify and remediate emerging risks through on-site audits based on our <u>Supplier Code of Conduct</u> and our supplier standards.

Collaborating for global change

To advance respect for human rights beyond our own business activities, we share our views and approach in public forums, and collaborate with others across multiple sectors to advocate for wider changes to working practices.

We are active members of the following initiatives:

- Global Business Initiative on Human Rights
- Leadership Group for Responsible Recruitment
- Responsible Business Alliance[3]

In 2017, we participated in several human rights forums, including:

- The Business Against Slavery Forum Working Group
- The UN Forum on Business and Human Rights—sharing our experience of developing a Foreign Migrant Worker Standard and urging other companies to adopt the Employer Pays Principle
- The UN High Commissioner for Human Rights' panel at the Workshop on Human Rights in the Fourth Industrial Revolution

IT products and services and human rights

Innovation within the technology sector offers significant opportunities to improve lives and solve complex challenges. It also brings with it the risk that products and services could be used for unintended purposes, resulting in negative impacts on human rights.

Guided by the HPE Global Human Rights Policy, we seek to reduce the potential for our products or services to be used by companies, individuals, organizations, or regimes to infringe on people's human rights, by:

- Evaluating specific concerns connected with existing or future customers and partners
- Conducting due diligence on relevant business activities in appropriate circumstances
- Working to comply with all relevant

sanctions, restrictions, and embargoes in our business operations worldwide

In the past, HPE received inquiries with respect to human rights impacts as a consequence of its business relationship with the government of Israel. Based on investigations and the scope of technology and services provided, HPE believed its actions were consistent with its policies. Today, HPE's business operations in Israel are regularly monitored by our Ethics and Compliance Office to ensure that we continue to act in concert with our human rights policies.

The pace of innovation in data-handling technology increases the importance of protecting individual rights to privacy. Read more about our **approach to privacy**.

Policies

HPE Global Human Rights Policy

HPE Standards of Business Conduct

HPE Partner Code of Conduct

HPE Supplier Code of Conduct

HPE Supply Chain Social and Environmental Responsibility Policy

HPE Supply Chain Foreign Migrant Worker Standard

HPE Student and Dispatch Worker Standard for Supplier Facilities in the People's Republic of China (PRC)

HPE Environmental Health and Safety (EHS) Policy

HPE Harassment-Free Work Environment Policy

HPE Nondiscrimination Policy

Ethical sourcing

We share a responsibility with our suppliers to protect people and the environment.

Our extensive Supply Chain Responsibility (SCR) program ensures that we keep this focus top of mind. Our mission is threefold: protect and elevate workers; reduce global and community environmental impact; and benefit HPE, our business partners, and our customers.

A consistent focus on supply chain standards

Through our SCR program, we:

- Assess social and environmental risks in our supply chain

- Set industry-leading standards and targets to address these risks—such as our **Foreign Migrant Worker Standard** and a first-of-its-kind science-based supply chain greenhouse gas (GHG) emissions **reduction goal**

- Monitor progress, carrying out more detailed assessments with suppliers where we know risks are higher or potentially less visible

- Exchange knowledge with suppliers, working closely with them to share best practices and implement corrective action where needed

- Share our experiences and collaborate with others to elevate supply chain social and environmental standards within and outside the IT sector

Our efforts help us to retain a stable, high-quality supply chain, ensuring that we remain a trusted sourcing partner to our customers.

Read more about our **approach to supply chain responsibility**.

Identifying high-risk areas

By identifying, understanding, and addressing social and environmental risks in our supply chain as they emerge, we can focus our resources to make the greatest impact.

We pay close attention to new or high-risk issues. Where new priorities arise, we strengthen our standards, monitoring, and performance indicators accordingly.

Read more about our approach to identifying, prioritizing, and addressing supply chain risk.

Leadership and transparency

Leadership and transparency are central to our SCR program. Openly reporting supply chain risks and social and environmental performance leads to a more robust and resilient supply chain, with positive impacts on people and the environment.

We hope that our transparency encourages others to display similar openness. We engage closely with peers, industry bodies, and cross-sectoral organizations, including the Responsible Business Alliance (RBA),[3] the Global Business Initiative, and the Institute for Human Rights and Business, to advance supply chain programs and standards beyond our own business.

In 2017, we became the first company to report publicly on individual social and environmental responsibility (SER) performance metrics by publishing individual suppliers' progress on GHG management.

Read more about our approach to supply chain transparency and leadership.

We publish:

- A list of suppliers—since its first publication in 2007, we have added details such as names and addresses, sustainability reporting, and suppliers' progress toward a transparent and science-based GHG reduction program

- Our Supply Chain Responsibility dashboard

- Results of supplier audits

- Results of our Social and Environmental Responsibility (SER) scorecard

- Information about our capability-building programs

- A list of 3TG (tin, tantalum, tungsten, and gold) smelters and refiners and their locations

How we work with suppliers

We work collaboratively with our suppliers, building partnerships based on the common goal of achieving the highest SER standards.

Our audit and assessment process

We undertake regular independent audits against our Supplier Code of Conduct,[4] supported by targeted assessments on specific risk areas such as foreign migrant workers. Additional on-site onboarding assessments with selected suppliers ensure that they gain an early understanding of our requirements.

Key suppliers in high-risk locations participate in our key performance indicator (KPI) program, reporting monthly on topics such as working hours, vulnerable workers, and GHG emissions.

We ensure that SER is factored into our business decisions through our supplier business scorecard. The inclusion of SER indicators in the scorecard links supplier social and environmental performance with our procurement choices.

In 2017, we updated our SER scorecard with a management system component. This update enables suppliers to demonstrate integration of SER issues within their own management systems, and to take proactive ownership of key risks.

The scorecard also requires suppliers to publicly disclose their company-wide GHG footprint (verified by an external auditor to CDP standards), which tracks progress toward their science-based GHG goal. In 2017, we added the requirement for suppliers to disclose company-wide water and waste footprints.

Read more about our process of supplier monitoring and assessment.

Extending scope to sub-tier suppliers

We require our first-tier suppliers to pass along our social and environmental requirements to their own suppliers—our sub-tier suppliers—and we work with first-tier suppliers to monitor sub-tier supplier risks.

2017 performance overview

Key audit findings

In 2017, major nonconformances with our supply chain SER requirements were concentrated in the health and safety, and labor categories.

Health and safety nonconformances predominantly related to emergency preparedness.

Labor nonconformances mostly occurred in relation to working hours, wages and benefits, and freely chosen employment management systems, including four critical findings relating to: payment of excessive recruitment fees; restriction of worker access to personal documentation; and requirement for workers to lodge deposits at the outset of employment, or to take leave.

Responding to audit findings

Whenever an audit reveals significant nonconformances with our requirements, we agree on a corrective action plan with the supplier. We then track the relevant issues to closure and ensure that a follow-up audit is carried out, to confirm compliance.

When a critical finding is reported at a supplier facility, the supplier receives a significant penalty in our SER scorecard, potentially affecting the extent of their future business with HPE. We take all critical findings very seriously, and believe that our ability to uncover and remediate these issues shows that our approach is working.

MAJOR NONCONFORMANCES
by section of HPE Supplier Code of Conduct, 2017
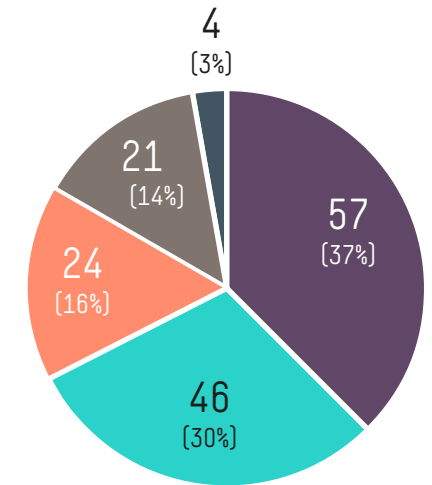
- Health and safety
- Labor
- Environmental
- Management systems
- Ethics

Data excludes minor nonconformances that do not indicate a systemic problem but typically represent an isolated finding. Data is from audits; data from assessments is not included. Each provision of the RBA audit protocol includes a number of audit questions, each with a potential for no finding, risk of nonconformance, minor nonconformance, major nonconformance, or priority nonconformance. HPE identifies the most significant nonconformance found in each provision and aggregates the major and priority nonconformances across all audits to determine the distribution of major and priority nonconformances by RBA category. Percentages were rounded to add to 100%.

SER scorecard

To help drive continual SER improvement among suppliers, we made scoring on our SER scorecard more stringent. Even with this change, 82% of suppliers were in our effective or exceptional category in 2017, up from 74% in 2016.

Read more about our SCR data and findings in 2017.

Ongoing dialogue with our suppliers

Maintaining high standards depends on our ability to understand and engage with our suppliers. We collaborate with suppliers on key environment, ethics, health and safety, and labor issues on an ongoing basis.

Our employees play a vital role in this process—working with suppliers to improve long-term performance and strengthen management systems.

Read more about supplier engagement and employee training.

SOCIAL KEY PERFORMANCE INDICATORS

Our social KPIs form part of the overall HPE SCR dashboard

Category	2016	2017
Suppliers' employees working less than 60 hours per week on average (%)[5]	94%	97%
Suppliers' employees receiving at least one day of rest each seven-day workweek[5] (%)	98%	99%
Suppliers in China with student workers representing 20% or less of total employees[5] (%)	100%	100%
Critical findings related to the ILO Declaration on Fundamental Principles and Rights at Work: freedom of association; freedom from forced, bonded, or indentured labor; from child labor; or from discrimination[6]	15	4
Critical findings related to occupational safety, emergency preparedness, or industrial hygiene	3	0
SER audits and assessments conducted (total, cumulative)	**108**	**189**
Number of suppliers audited (total, cumulative)	**44**	**83**
Number of supplier facilities audited (total, cumulative)	**78**	**145**

SER SCORECARD DISTRIBUTION

2017
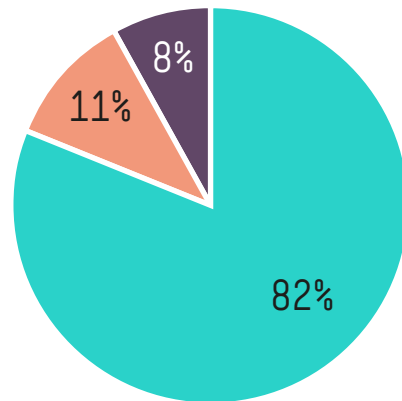
- Effective or exceptional
- Concern or warning
- Unacceptable

Distribution includes the top 95% of spend for our final assembly and strategic commodity supplier sites. Total does not add up to 100% due to rounding.

Supporting workers and building capability

The long-term relationships that we build with many of our suppliers provide opportunities for us to invest in vital skills and knowledge. We partner with suppliers to deliver training and capability-building programs in the following areas:

- **Supplier-specific capability building.** We use virtual and on-site programs that help suppliers develop sustainable management systems and remediation plans for specific SER issues.

- **Worker well-being.** In 2017, we concluded our partnership with BSR to deliver a HERfinance program with four suppliers in Mexico. Designed to have a positive impact beyond the workplace, the program involved workers in peer-to-peer on-site financial literacy training. See program summary below.

- **Worker voice.** In 2017, we repeated the Laborlink mobile survey with four suppliers in China to enable workers to provide anonymous feedback on factory health and safety conditions to factory management.

Read more about our **capability-building programs** with suppliers and their workers.

HERfinance program summary

Factory workers trained as peer educators: **205**

Beneficiaries across four suppliers: **5,126**

Participants now saving money each month: **64%** (from 46% baseline)[7]

Participants feeling comfortable meeting future expenses in the next two years: **57%** (from 35% baseline)[7]

Participants with knowledge of saving fund available in the factory: **78%** (from 38% baseline)[7]

Eliminating human trafficking and forced labor in our supply chain

Every individual has the right to choose the work they do, and to be treated with dignity and respect. We work to lead our industry and influence other sectors to protect workers from the risks of forced labor.

Anyone concerned about potential human trafficking or forced labor in our supply chain—or any other issue—can use a range of publicly available <u>channels</u> to report it.

Mapping and responding to risks in our supply chain

Through systematic assessments of labor risks, we identified two groups of workers in our supply chain vulnerable to exploitation:

- Foreign migrant workers across our supply chain

- Student and dispatch workers in China

We responded to these risks with a step-by-step process to detect and address unacceptable labor practices in our supply chain:

- **Develop rigorous standards and guidance.** In 2015, we were the first IT company to require suppliers to hold direct employment contracts with foreign migrant workers, with the implementation of our <u>Supply Chain Foreign Migrant Worker Standard</u>.

To protect the rights of student and dispatch workers at our suppliers' plants in China, we require relevant suppliers to adhere to our <u>Student and Dispatch Worker Standard for Supplier Facilities in the People's Republic of China (PRC)</u>.

- **Deepen supply chain assessments.** Since 2016, we have intensified assessments for specific high-risk suppliers. Read more about relevant <u>SCR data and findings</u> in 2017.

- **Build capability with suppliers.** In 2017, in response to audit findings, we provided on-site capability building to enhance supplier management systems with respect to foreign migrant workers. In 2018, we will continue to work with suppliers to ensure that they understand our requirements and are actively working to meet them.

- **Build capability with recruitment agents.** Recruitment agents are the link between suppliers and workers, often brokering agreements and arrangements for migrant workers seeking employment. Ensuring that they understand what we require, and why, is crucial to eliminating the risk of forced labor from our own and other supply chains in the long term.

In 2017, HPE suppliers and recruitment agents attended <u>Responsible Labor Initiative</u> training events in Southeast Asia.[8] In 2018, we plan to host and sponsor new trainings designed specifically for recruitment agents, as well as fund industry-wide and cross-sector training to communicate the importance of ethical recruitment standards beyond our own business.

- **Employee training.** We provide our employees with <u>training</u> to keep them up to date with our requirements on topics such as human trafficking.

Read more about our process for addressing <u>labor risks in our supply chain</u>.

Advocating for stronger standards

The global recruitment industry spans multiple sectors. We engage with others within and outside the IT industry to drive wider change in working practices, and to encourage others to join in our approach.

In partnership with HP Inc., we produced a guidance document to aid the development of a systematic approach to protecting foreign migrant workers. Together, we donated this to the Responsible Business Alliance (RBA) in 2015, so that all members have access to it.

In 2017, we made further progress toward strengthening standards by continuing to participate in the <u>Leadership Group for Responsible Recruitment</u>, and speaking about our approach to responsible recruitment at several international forums.

Read <u>our statement</u> to meet the requirements of the California Transparency in Supply Chains Act of 2010 and the UK's Modern Slavery Act of 2015.

Read more about our efforts to <u>advocate for stronger labor standards</u>.

Conflict minerals

We have a responsibility to ensure that the materials used to make HPE products—including metals found in most IT products such as tin, tantalum, tungsten, and gold (3TG)—are sourced ethically.

The sale and use of 3TG from the Democratic Republic of the Congo (DRC) or an adjoining country—collectively known as the Covered Countries—is linked to the funding of violent groups who commit human rights offenses. Through our conflict minerals program, we work to advance the responsible sourcing of minerals from Covered Countries used in our products.

Our annual Conflict Minerals Report—required by the U.S. Securities and Exchange Commission—shows the status of smelters and refiners involved in our supply chain. Read more about our approach to conflict minerals.

Our aim is to achieve DRC conflict–free status[9] for our products, which requires working closely with our suppliers and peers. HPE encourages responsible sourcing from

the DRC and its adjoining countries and is an active member of the Responsible Minerals Initiative (RMI, member ID: HPE). In 2017, an HPE representative served on the RBA Board of Directors, and we provided financial support to the Kemet Partnership for Social and Economic Sustainability.[10]

Policies

HPE Supplier Code of Conduct

HPE Supply Chain Social and Environmental Responsibility Policy

HPE Foreign Migrant Worker Standard

HPE Student and Dispatch Worker Standard for Supplier Facilities in the People's Republic of China (PRC)

HPE Global Human Rights Policy

HPE General Specification for the Environment

In 2017, 90% of smelters and refiners reported by suppliers made progress toward DRC Conflict Free status.[11]

Substances of concern

The materials used in finished products, as well as those used in manufacturing, should be safe for people and the environment.

We carefully select the materials used to make every HPE product. Where we have concerns about potential impacts, we look for better alternatives.

Assessing and restricting substances in our products

The performance and reliability of every HPE product depends on our ability to select the optimum materials during our design process. We assess the substances we use for potentially significant risks to people and the environment, taking a precautionary approach based on the latest scientific analyses and published lists of substances of concern, as well as current and upcoming legal requirements. To date, we have completed assessments of more than 100 substances.

Where we identify concerns, we work to restrict the substance in question and use viable alternatives with lower risks. We use Clean Production Action's (CPA) GreenScreen® for Safer Chemicals to identify alternatives and predict potential future restrictions, led by our authorized in-house practitioner. GreenScreen® is a globally recognized tool for assessing and benchmarking chemicals based on hazard.

Phthalates and halogen-containing materials present specific concerns due to their high level of toxicity and the length of time they take to break down in the environment. These substances include brominated flame retardants, chlorinated flame retardants, and polyvinyl chloride (PVC). Where feasible, we work toward reducing these materials in our products or phasing them out altogether. Our external power cords and cables, for example, contain less than 0.4% PVC, and we collaborate with suppliers in their research to develop PVC alternatives for future use. We support including substances such as these in future Restriction of Hazardous Substances (RoHS) legislation.

Restricting the use of hazardous substances can have additional benefits such as improving the recyclability of our products. Read more about our approach to product lifecycle management.

Manufacturing process substances

The manufacturing process involves many chemicals or materials that are not present in the final product, but which may pose a hazard when handled. We use the same assessment, restriction, and substitution approach for substances used in the manufacturing process as we do for substances used in the products themselves. We provide suppliers with a full list of restricted substances and clear guidance on suitable alternatives in our General Specification for the Environment.

In some cases, a substance may not be restricted, but still requires careful storage and appropriate handling to avoid risk. Using the HPE Supplier Code of Conduct and a process of regular audit and assessment, we work with suppliers to ensure both that they understand our expectations and that they have effective assessments and controls in place.

Regulatory requirements

We aim to meet or exceed legal requirements on materials in the countries where we operate, and we support the development of legislation that contributes to the protection of people and the environment. Read more about our Regulatory and Eco Declarations, including safety data sheets.

Collaboration and engagement

We work to improve materials policies, practices, and standards beyond our own operations by collaborating with others, including governments, peers, and trade associations. We participate in the chemical management task force of the Responsible Business Alliance,[3] and work closely with CPA on GreenScreen® updates and improvements.

Policies

HPE Supplier Code of Conduct

HPE Supply Chain Social and Environmental Responsibility Policy

HPE General Specification for the Environment
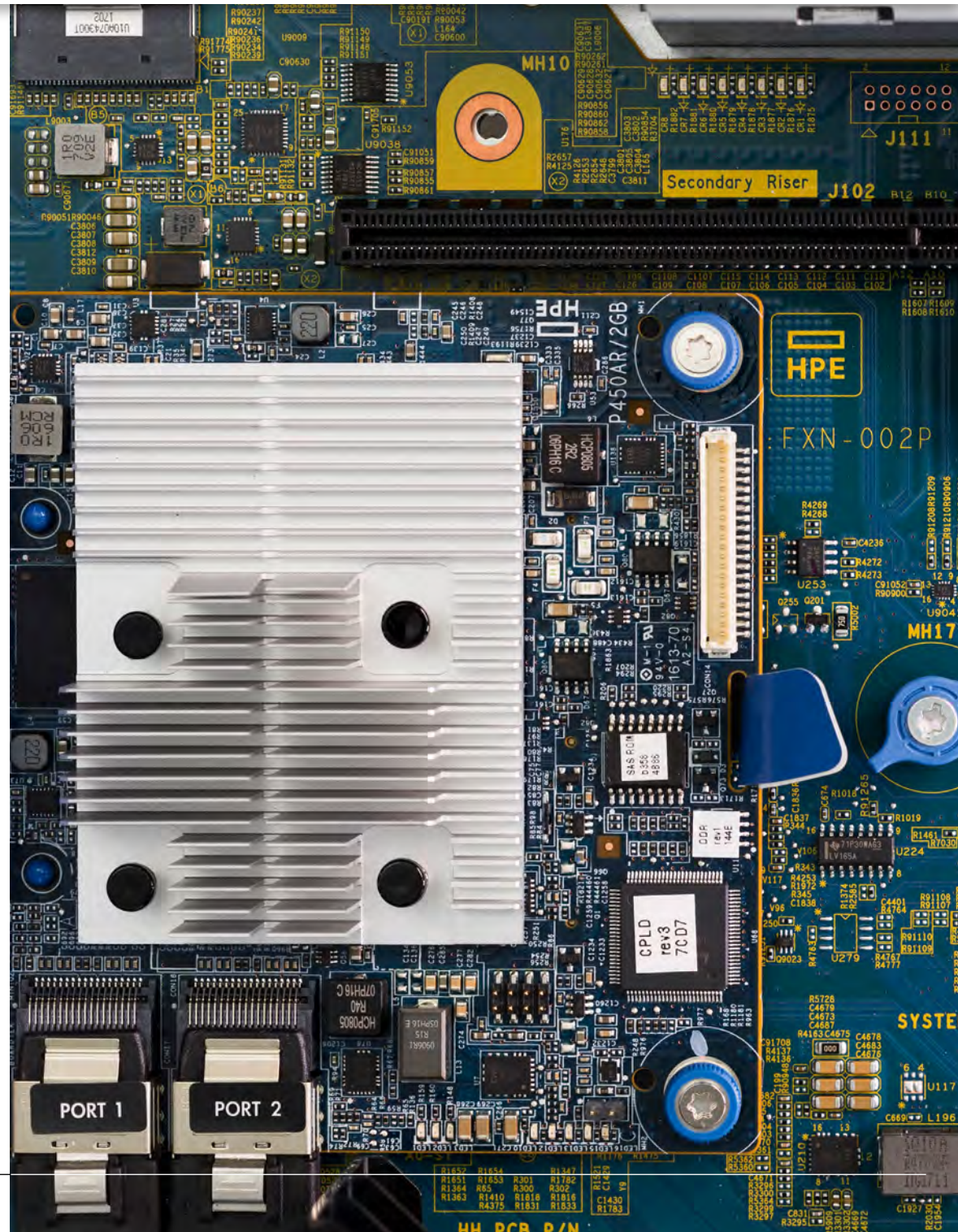
Employee development and engagement

Our people are doers, dreamers, and visionaries whose contributions yield leading-edge solutions.

When our employees succeed, the company thrives, making professional development a priority.

Striving for excellence

HPE brings together the brightest minds to create breakthrough technology and solutions. Our culture is shaped by the behavior of our leadership, differentiating our company in a competitive market for talent. The Leading at HPE program equips our management with a deep understanding of our purpose and business strategy, empowering them to be catalysts for performance and engagement.

Our employees ignite our culture by demonstrating a bias for action, by being innovators at heart, and by always putting partnerships first. These values are underscored in our new Inside the Element

training, which reinforces our purpose, our strategy, and our values with the people who make it happen.

Our leaders manage biannual conversations with their employees in which contributions to business objectives are acknowledged, performance is measured, and goals are established. When employees embrace HPE values, the company thrives. We celebrate individual success through our MyRecognition @hpe program. In 2017, 77% of our employees were recognized for their dedication to our values.

Investing in professional development

As business and technology evolve at an accelerated rate, the need to deepen knowledge, find fuel for ideas, and improve skills is an imperative for HPE employees. We invest in employee development to expand our talent pool and to provide our employees an opportunity for upward mobility.

In 2017, we introduced the new Accelerating U, an enhanced platform that revolutionizes self-directed learning for HPE employees. Accelerating U features on-demand, interactive, and mobile access to personalized learning with subject matter experts and customizable learning channels. Through the platform, thousands of courses are available, and employees are encouraged to join

collaborative learning groups for knowledge sharing. Our Degree Assistance program also supports continued education, by providing financial support for employees who pursue eligible bachelor's, master's, and doctorate degrees.

Developing resilience through reskilling

In the digital economy, machine learning and artificial intelligence will yield highly efficient productivity, but threats of job loss due to automation are a concern. As disruptive technology advances, employees with tech skills will be more resilient to workforce reductions.

As a partner of the World Economic Forum (WEF) IT Skills Initiative, HPE is one of 11 founding companies empowering workers to reskill by providing a free, online technology curriculum on the WEF SkillSET portal. With business-relevant content and advanced technical training, the portal will help workers, including the unemployed and those future-proofing their careers to navigate the digital transformation.

In cases where the business climate necessitates HPE workforce reductions, HPE helps its people transition to careers outside of the company in a number of different ways, including the use of the skillSET portal and a six-month subscription to Lynda.com.

Engaging employees and giving recognition

We leverage digital and in-person platforms to provide company updates, extend learning opportunities, and acknowledge accomplishments. Many channels are used to connect with our global teams, including:

- **Connect Now**—a social collaboration platform that sparks dialogue about all things HPE

- **HPE Insider**—an internal online news service featuring business updates

- **HPE Sustainability Network**—a chapter-based group whose members coordinate local sustainability activities including volunteer events

- **Living Progress Champions**—a program that empowers employees to learn, implement, and share HPE's sustainability initiatives through on-going education

Every year, we update HPE leadership action plans based on employee survey feedback. Considering the changes to our business and the potential impact on employees, gauging employee sentiment was especially important in 2017. This year, our Organizational Health Index survey revealed that, during periods of transition, employees felt supported but, understandably, also desired greater stability moving forward. In 2018, we will return to our annual Voice of the Workforce survey, which covers a broad range of topics including innovation, leadership, and diversity. To capture real-time feedback on company announcements or other business communications, we continue to issue more frequent pulse surveys.

Competitive compensation and benefits help us attract and retain top talent. Consistent with our Nondiscrimination Policy and our commitment to diversity and inclusion, we believe that equal work deserves equal pay. We routinely review and monitor our pay practices to ensure that we achieve this principle.
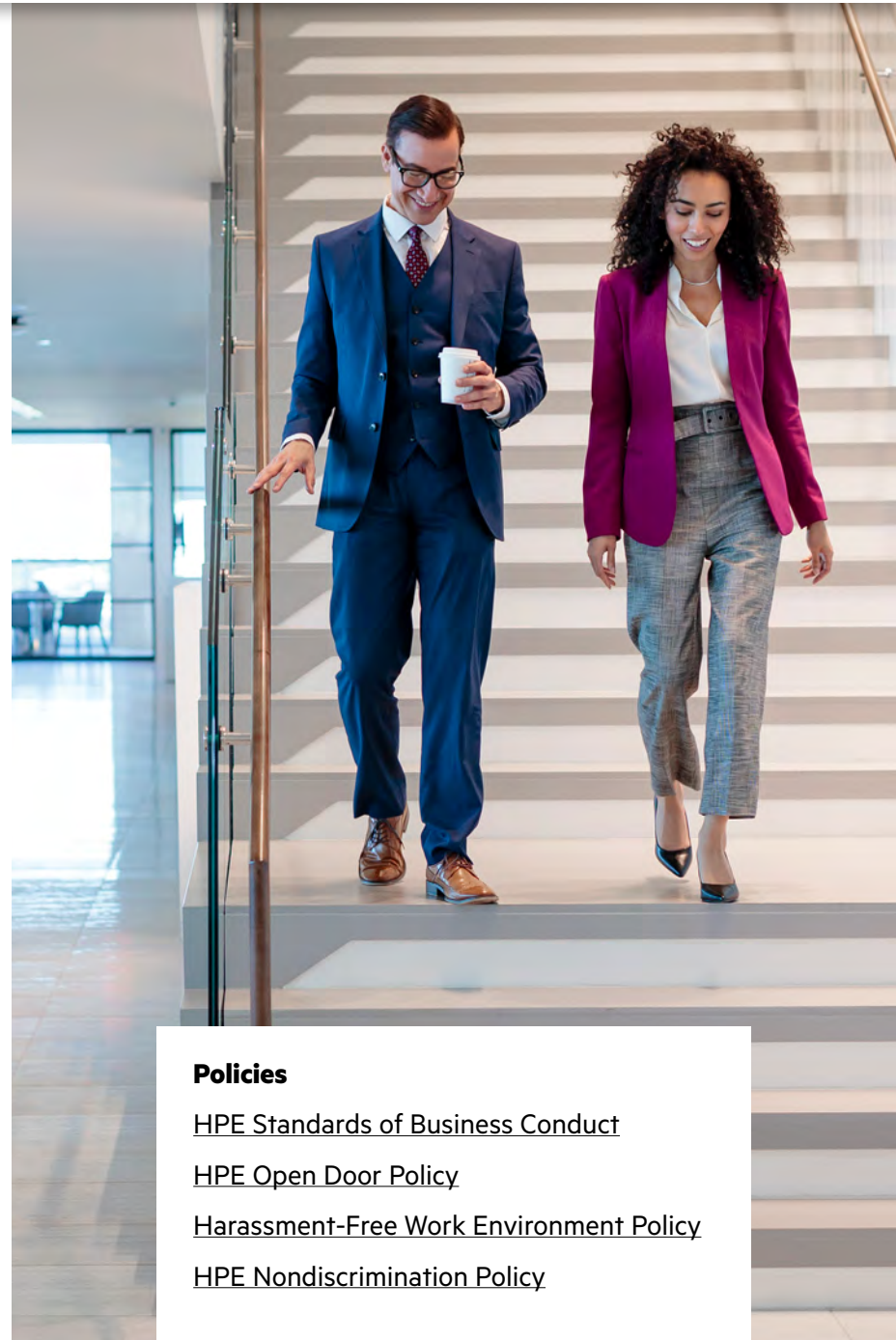
Policies

HPE Standards of Business Conduct

HPE Open Door Policy

Harassment-Free Work Environment Policy

HPE Nondiscrimination Policy

Employee health, safety, and well-being

The health, safety, and wellness of our employees are at the heart of our workplace culture.

We protect employees from workplace hazards and provide supportive resources to help them reach their full potential. Our investments make HPE employees productive, healthy, and happy members of their greater communities.

Maintaining safe and healthy workplaces

We are fully invested in protecting the health, safety, and well-being of our employees through our Environmental, Health, and Safety (EHS) program. Our **Environmental, Health, and Safety Policy** and management systems are aligned with industry best practices, including the Occupational Health and Safety Assessment Series (OHSAS) 18001, ISO 140001, the American National Standards Institute Z10, and the International Labour Organization (ILO) OSH 2001. In every instance, at both the national and the regional level, we aim to meet or exceed regulations.

We have five sites certified to OHSAS 18001 and are continuing to monitor the development of the replacement ISO 45001 Health and Safety standard with plans to transition in 2019.

Safe workplaces help us fuel innovation and retain the best talent. In our own workplaces, we establish a culture of responsibility and awareness by engaging employees through online and in-person EHS trainings. In workplaces across our value chain, we collaborate with business partners to implement EHS programs, policies, and trainings to ensure the health and safety of contractors and employees working at non-HPE locations.

When workplace injuries occur, we track them in compliance with the **International Labour Organization** (ILO) Code of Practice on Recording and Notification of Occupational Accidents and Diseases. During a period of significant business reorganization in 2017, we were reassured to see a reduction in our lost workday case rate of 20% compared with the previous year.

LOST WORKDAY CASE RATE

2016	0.05
2017	0.04

Lost workday case rate is the number of work-related injuries that result in time away from work per 100 employees working a full year. Rates are calculated using Occupational Safety and Health Administration (OSHA) definitions for recordability around the world and using OSHA calculation methodologies.

RECORDABLE INCIDENCE RATE

2016	0.12
2017	0.12

Recordable incidence rate is the number of all work-related lost-time and no-lost-time cases requiring more than first aid per 100 employees working a full year. Rates are calculated using OSHA definitions for recordability around the world and using OSHA calculation methodologies.

Promoting employee well-being

Our Winning with Wellness program helps employees maintain physical health, manage stress, and achieve financial security. Happy and healthy employees are an asset to society and our company. We estimate that for every $1 we invest in employee well-being, we receive a $2 return in productivity.

We provide premium workspaces that are comfortable and that encourage productivity. Our Healthy Site Reference Guide helps us appraise and improve sites with solutions, such as relaxation rooms and fitness centers, that are known to optimize employee health. To encourage self-care, we run internal education campaigns, provide on-site health services, and offer meQuilibrium, a platform which facilitates private stress evaluations and resilience coaching.

Our Employee Assistance program oversees additional supportive resources such as personal assistants, financial coaching, virtual doctor visits, and discounted gym memberships. Our backup elder and childcare programs help employees deal with changing life circumstances. During times of crisis, including natural disasters, our EHS teams provide counseling and emergency resources.

Policies

HPE Environmental, Health, and Safety Policy

> We estimate that for every $1 we invest in employee well-being, we receive a $2 return in productivity.

Inclusion and diversity

Our inclusive culture recognizes brilliance in all forms.

Our workforce is strengthened by people from different ethnicities, abilities, education levels, gender identities, sexual orientation, and cognitive styles. Yet a lack of diversity remains a top issue within our industry. It is a business imperative for us to continue recruiting and promoting employees with varied backgrounds who, when brought together, develop solutions that drive innovation.

An environment of inclusion

Our employees thrive in an inclusive culture that emphasizes the inherent worth of unique traits. In 2017, we reaffirmed this long-standing value by conducting a six-month study on the attitudes and experiences of HPE employees. The findings informed the strategic direction of our newly formed Inclusion, Diversity, and Employee Engagement function.

In 2017, our diversity and inclusion efforts were acknowledged with 100% ratings by the Human Rights Equality Index and the U.S. Business Leadership Network Disability Equality Index. Looking ahead, we will continue to foster an environment of inclusion and refine our talent diversity strategy.

EMPLOYEES BY REGION (2017)
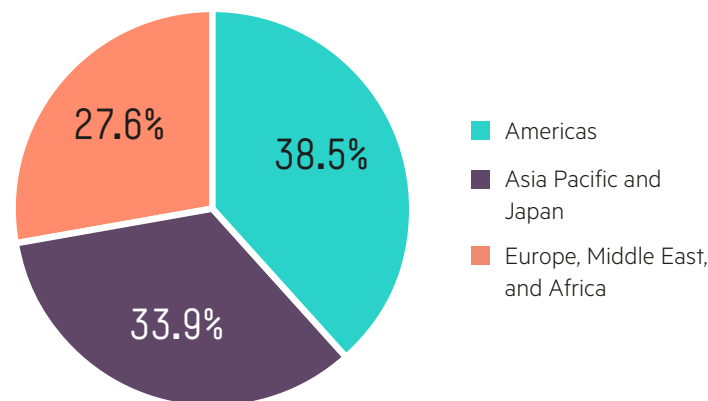
- 38.5% Americas
- 33.9% Asia Pacific and Japan
- 27.6% Europe, Middle East, and Africa

In 2017, our diversity and inclusion efforts were acknowledged with 100% ratings by the Human Rights Equality Index and the U.S. Business Leadership Network Disability Equality Index.

EMPLOYEES BY GENDER (2016–2017)
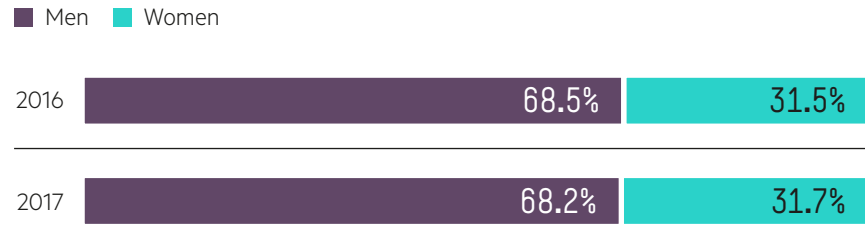
■ Men ■ Women

2016	68.5%	31.5%
2017	68.2%	31.7%

The sum of "Men" and "Women" may not equal 100% because gender identification is voluntary and for some employees it may remain uncategorized.

U.S. NEW HIRES, BY ETHNICITY (2016–2017)

■ 2016 ■ **2017**

	2016	2017
White	45.8%	**46.9%**
Asian	12.7%	**14.8%**
Black	10.6%	**11.4%**
Hispanic	4.7%	**4.1%**
Native American	0.3%	**0.3%**

The sum of "White" and "All minorities" does not equal 100%, and the sum of "Black," "Hispanic," "Asian," and "Native American" does not equal the total for "All minorities," because some people do not declare a category, do not chose to identify a category, or do not fall into these categories. For this table, those who did not declare were not included in the analysis nor placed into a default classification.
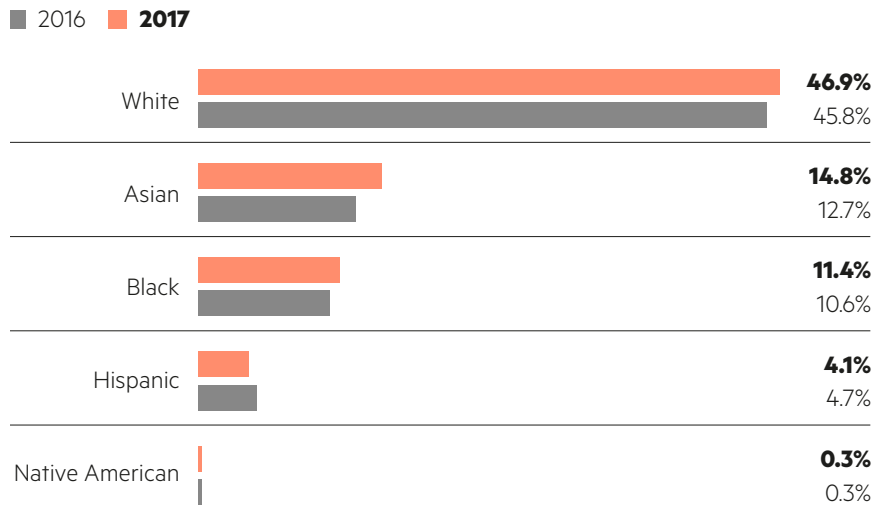
> Our people leaders are evaluated based on demonstrated actions in diversity and inclusion, such as investing in training, programs, or events.

Leadership and accountability

Each department is required to set measurable goals in alignment with our Global Diversity and Inclusion strategy and policies. Beginning in 2017, people leaders are now evaluated based on demonstrated actions in this area such as investing in inclusion training, programs, or events.

We provide training on inclusion and access to our Cultural Navigator tool, which raises awareness of cultural differences. This guidance helps our teams build stronger relationships and communication skills while combating discrimination. We have a zero-tolerance policy on discrimination and harassment, and any employee with a concern is encouraged to contact their human resources department or the HPE Ethics and Compliance office.

Employee resource groups

Employee Resource Groups (ERGs) provide a place for employees to connect with others who have shared interests. At HPE, over 120 self-organized constituencies with more than 10,350 global members connect on characteristics such as ability, age, gender, race, sexual orientation, cultural identity, and veteran status. In 2017, ERGs organized popular signature events such as HPE Spirit Week, LGBT Pride Fests, Black History Month, Hispanic Heritage Month, and International Women's Day. Over 28,000 employees participated in these events, either in person or via digital platforms.

ERGs also pioneer exciting new initiatives like the Inclusive Mentoring program, developed by our European Women's Leadership Council. Over the next six months, the Inclusive Mentoring program will engage our leaders in inclusive pipeline development by encouraging them to pilot new approaches such as reverse and diverse mentoring.

Women in technology

It is well known that women are underrepresented in the tech industry. This is a reality we are working to reverse. Currently, women make up 32% of our workforce, 25% of our management positions, and 35% of our new hires.

The transition to a more gender-balanced workforce begins with our recruitment process and extends through to our commitment to promoting female leaders. We help women thrive at HPE by hosting engagement events, sponsoring interest groups, and encouraging women's participation in technical conferences.

A driving force for these initiatives is the HPE Women's Network. With nearly 5,000 global members, the network produces quarterly publications and hosts events spanning multiple countries, including India, Egypt, Saudi Arabia, and the UAE. In 2017, female employees attended a number of conferences and industry events, including the Simmons Leadership Conference, the Grace Hopper Celebration, and the Professional Business Women of California.

Motivating young women to pursue technology careers enhances the industry's talent pipeline. To support STEM education, we partnered with the National Center for Women and Information Technology to provide $1 million in scholarship funds over a four-year period.

WOMEN MANAGERS (2016–2017)
percentage of total management workforce
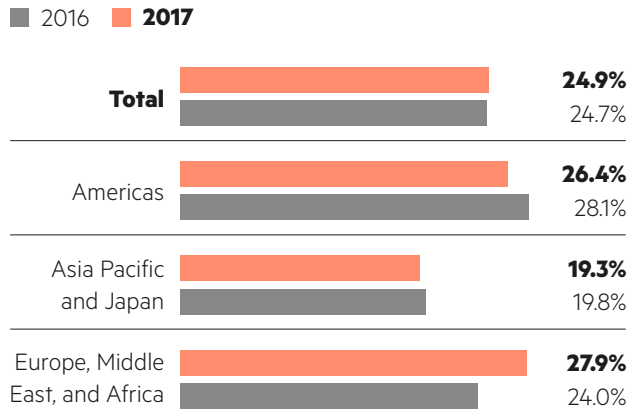
■ 2016   ■ **2017**

	2017	2016
Total	**24.9%**	24.7%
Americas	**26.4%**	28.1%
Asia Pacific and Japan	**19.3%**	19.8%
Europe, Middle East, and Africa	**27.9%**	24.0%

The sum of "Men" and "Women" may not equal 100% because gender identification is voluntary and for some employees it may remain uncategorized.

WOMEN GLOBAL NEW HIRES (2016–2017)
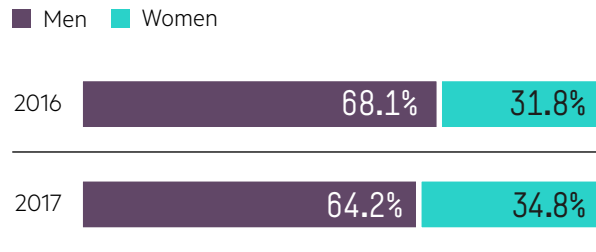
■ Men   ■ Women

	Men	Women
2016	68.1%	31.8%
2017	64.2%	34.8%

The sum of "Men" and "Women" may not equal 100% because gender identification is voluntary and for some employees it may remain uncategorized.

It is well known that women are underrepresented in the tech industry. This is a reality we are working to reverse.

Supplier diversity

Diversity in our supply base opens up the potential for innovative solutions and partnerships. We spent over $1 billion in 2017 with small enterprises as well as minority-, women-, and veteran-owned businesses. Five institutions recognized our supplier diversity efforts this year, including Black EOE Journal and U.S. Veterans Magazine.

We connect with prospective suppliers at outreach events such as the Push Tech 2020 Summit and the National Minority Supplier Development Council Annual Conference. Businesses that require assistance completing our proposal process can receive support through our mentorship program. In 2017, as

part of our ongoing effort, we met with over 70 members of our supplier network to collect feedback on our offerings and learn what barriers to participation remain. Our learnings will inform our supplier diversity strategy going forward.

Policies

HPE Global Human Rights Policy

HPE Harassment-Free Work Environment Policy

HPE Nondiscrimination Policy

HPE Standards of Business Conduct

HPE SPEND WITH U.S. DIVERSE SUPPLIERS

2016	$2.1 billion
2017	$1.4 billion

The decrease in our diverse supplier spend is largely a result of the business spin-offs that occurred in 2017.

> We spent over $1 billion in 2017 with small enterprises as well as minority-, women-, and veteran-owned businesses.

Corporate governance and ethical behavior

We are committed to the highest ethical standards. We expect everyone at HPE to act in accordance with those standards at all times, supported by clear guidance and robust governance structures.

How we work is as important to us as what we do. We pursue our goals responsibly, based on common values and shared expectations. Every HPE employee shares this responsibility to do the right thing: together, we are fully accountable for our actions and the consequences. Doing business the right way also positions us for continued success.

Corporate governance

Oversight

We lead by example. The HPE Chief Executive Officer (CEO) and Board of Directors oversee our business policies, making sure that all HPE employees understand the conduct expected of them. Board members—most of whom are independent of HPE—share accountability for our commitment to good governance. Five standing Board committees oversee specific aspects of our work:

- Audit

- Finance and Investment

- Human Resources (HR) and Compensation

- Nominating, Governance, and Social Responsibility

- Technology

Our leadership mirrors the diverse culture in which we live. To this end, we embrace diversity not only in-house, but on the HPE Board of Directors as well. In 2017, 54% of the Board identified with one or more diverse groups in ethnicity, gender, race, or nationality.

In 2017, 54% of HPE's Board of Directors identify with one or more diverse groups[12]

Living Progress governance

The best of programs cannot run on their own. A robust governing structure, led by our Chief Sustainability Officer, helps to secure the success of our Living Progress strategy.

We engage with internal and external stakeholders to inform our Living Progress strategy, and we report transparently on environmental- and social governance (ESG)-related performance.

HPE Board of Directors' Nominating, Governance, and Social Responsibility Committee:

- Discusses strategic sustainability issues relevant to HPE operations and supply chain

- Monitors social, political, and environmental factors that could significantly affect HPE's business and reputation

- Oversees HPE government affairs activities and policies, and the HPE Political Action Committee

HPE Executive Council (led by our CEO):

- Has overall responsibility for Living Progress

HPE Living Progress Strategy Council:

- Evaluates the company's ESG focus and priorities

- Supports companywide commitment to robust sustainability objectives

- Oversees communication of ESG strategy with key internal stakeholders

- Engages with external stakeholders, and leads materiality assessment and reporting activities

Senior leaders from the HPE Ethics and Compliance Office and Corporate Affairs organization:

- Provide a direct channel to the Nominating, Governance, and Social Responsibility Committee and other relevant Executive Council–level committees

Economic governance

Thriving economies are good for business, spurring innovation and setting the stage for sustainable growth. We bolster local markets through employment, with tax revenues, and in transactions with our customers and suppliers. We fulfill taxation responsibilities in every location where we operate, and we advocate for tax reforms that support an evolving IT industry in a modern marketplace. Read more about our approach to tax and economic issues.

> Thriving economies are good for business, spurring innovation and setting the stage for sustainable growth.
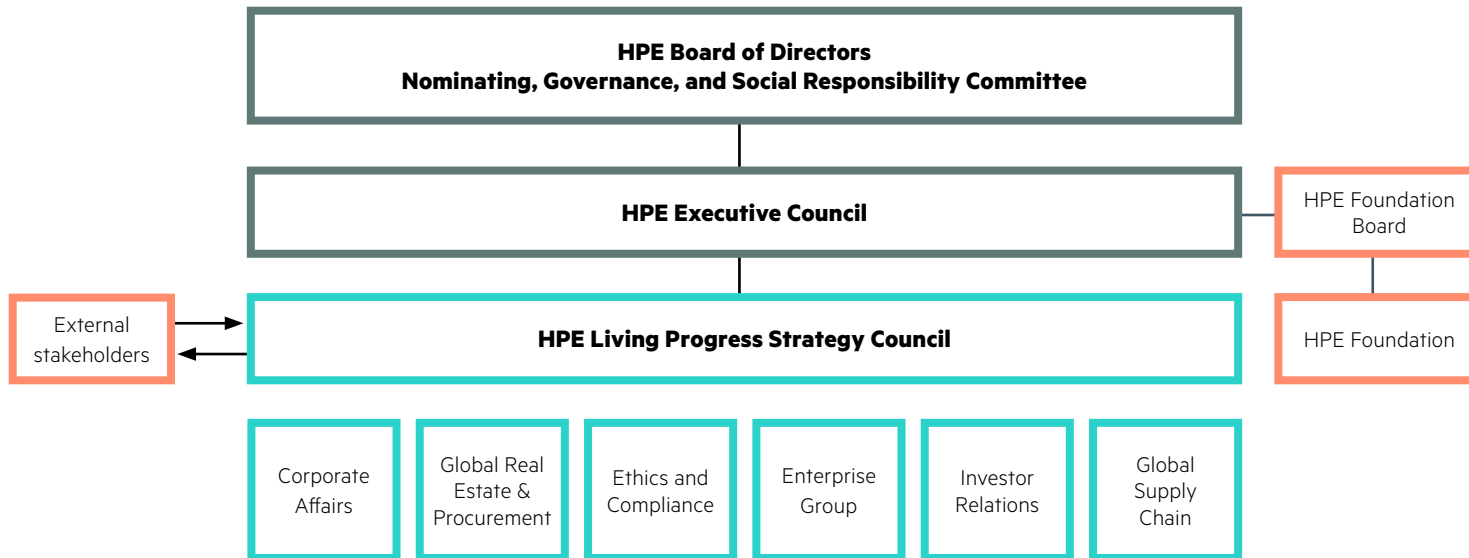
Recruiting and retaining talented, committed executives is essential in the IT sector, where competition for skills and experience is fierce. We ensure that executive salaries reward strong performance and that they remain competitive in the industry. Our Human Resources and Compensation Committee regularly reviews executive compensation, so that we attract the right people to support the direction of our business, both now and in the future.

LIVING PROGRESS GOVERNANCE STRUCTURE

HPE Board of Directors
Nominating, Governance, and Social Responsibility Committee

HPE Executive Council — HPE Foundation Board

HPE Foundation

External stakeholders — HPE Living Progress Strategy Council

Corporate Affairs | Global Real Estate & Procurement | Ethics and Compliance | Enterprise Group | Investor Relations | Global Supply Chain

Ethical behavior

Maintaining the highest ethical standards requires everyone at HPE to take responsibility for their actions. Behaving with honesty and integrity is the right thing to do; it also supports the stability and sustainable growth of our business.

Anti-corruption program

We do not tolerate corrupt behavior, including bribery or kickbacks, in any circumstance. We comply with relevant laws in every country in which we do business, and we set and share our expectations with employees through our anti-corruption program, which includes:

- Policies that provide clear guidance—including the HPE Anti-Corruption Policy and the HPE Global Business Amenities Policy

- Tools and training to help employees identify and avoid potential issues, including the Amenities Approval Tool

- Reviews of higher-risk transactions, screening of third-party partners, and internal audits—including use of Transparency International's Corruption Perceptions Index to identify countries at a high risk for corruption

- Support and advice from specialized anti-corruption attorneys and other compliance professionals

- A transparent, systematic process for investigating and addressing potential concerns (see below)

In 2017, HPE became a member of the World Economic Forum's Partnering Against Corruption Initiative (PACI), committing to zero tolerance of corruption in all its forms and engaging in a coordinated response to the challenges of corruption globally.

Ethics and compliance program

We expect everyone involved in our business to behave responsibly and ethically, setting expectations and holding people accountable via relevant policies and procedures. We require compliance with the law and with our Standards of Business Conduct, and we set specific requirements for suppliers, business partners, and contingent workers.

Our Ethics and Compliance Committee and our Audit Committee oversee our approach to ethical conduct, with the HPE Board of Directors taking ultimate responsibility.

If something is not right, we want to know. We encourage anyone with a concern or question about business conduct to raise it via one of our reporting channels, without fear of reprisal. Reports are confidential and can be made anonymously where local law allows. For each report made, we:

- Add a record to our global case management system, which we use to identify trends and priorities

- Review and respond promptly

- Conduct any required investigations appropriately, carrying out disciplinary or remedial action when needed

We track the nature of ethics and compliance items reported to us each year. In 2017 (see next page), the majority of items related to labor law.

ETHICS AND COMPLIANCE GOVERNANCE STRUCTURE
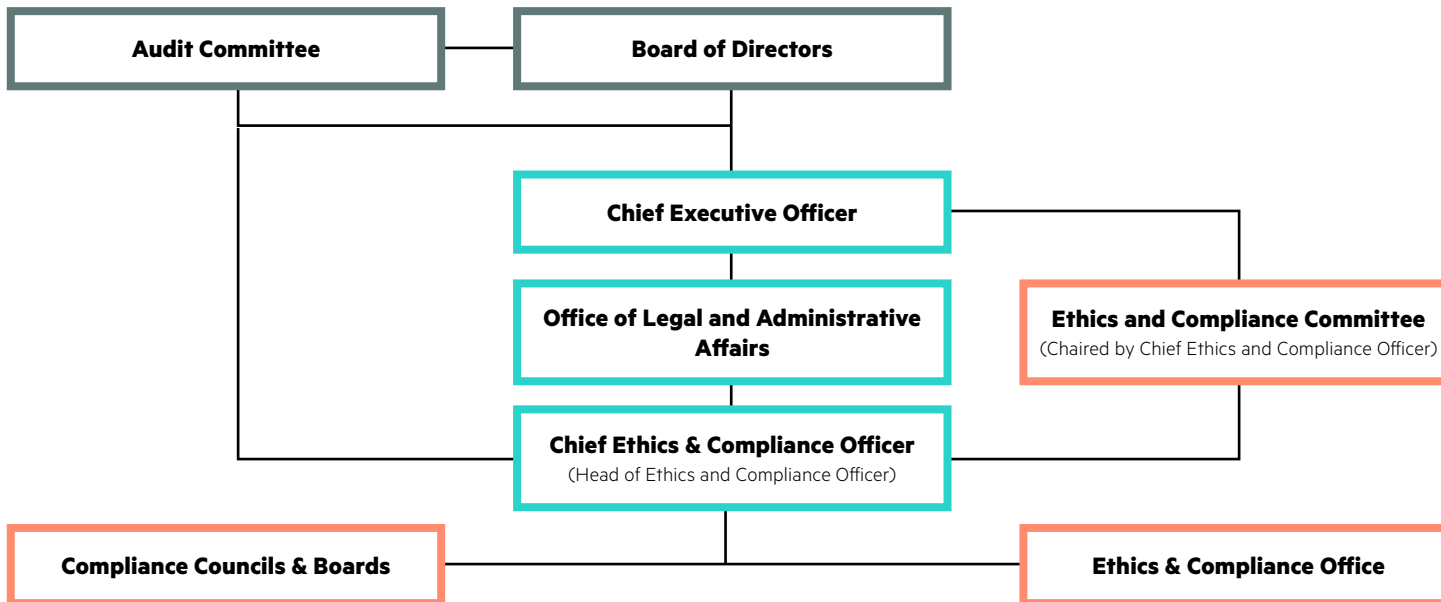
BREACHES OF ETHICAL BEHAVIOR

Items reported to the HPE global Standards of Business Conduct team or other compliance functions in 2017 [13]

Category	2017
Labor Law/HR	48%
Misuse of assets	15%
Workplace security and theft	7%
Conflicts of interest	7%
Fraud	7%
Reporting	4%
Anti-corruption[14]	4%
Confidentiality	3%
Competition	1%
Gray marketing/channel	1%
Failure to make ethical decisions[15]	1%

Policies

HPE Corporate Governance Guidelines

HPE Standards of Business Conduct

HPE Supplier Code of Conduct

HPE Partner Code of Conduct

HPE Contingent Worker Code of Conduct

HPE Supply Chain Social and Environmental Responsibility Policy

HPE Anti-Corruption Policy

HPE Global Business Amenities Policy

Training and communication

We reinforce and support our ethics and compliance programs with regular training and communications. These communications are designed to be relevant and timely, and we engage employees with messages and training that are tailored to their job roles.

Our program includes the following:

- **Training on our Standards of Business Conduct (SBC).** All employees must complete the annual SBC refresher course, which covers key policies, procedures, and high-risk issues. Board members take SBC training every two years. New hires complete an SBC course within 30 days of joining HPE.

- **Internal ethics and compliance social media platform.** Part of our internal social network Connect Now, the platform allows our employees to ask questions, access resources, and debate ethics and compliance issues.

- **Ethics Road Show.** The Road Show connects senior members of the Ethics and Compliance Office (ECO) with HPE business leaders in our regions. This face-to-face contact helps to strengthen our culture of ethical conduct and enables the ECO to remain alert to real-life challenges and successes across our business.

We also communicate with employees on important ethics and compliance issues throughout the year via targeted email messages, videos, and live training sessions.

Public policy engagement

We advocate for public policy that brings the economic, social, and environmental benefits of transformative technology to people around the world.

The industries that underpin society—like manufacturing, healthcare, and agriculture—are being revolutionized by computing. When IT is traded freely, governments and business can use technology to transform markets, invigorate the economy, and raise the quality of life for citizens.

Policy priorities

We promote public policies that open markets and encourage growth, allowing HPE to rapidly advance and deploy breakthrough technology. Specifically, we support policies that protect intellectual property, that remove trade barriers, that both spur innovation and promote competition, and that in total encourage economic development.

Because our technology has the potential to improve social outcomes in arenas such as health, public safety, and environmental stewardship, we communicate with governments about how regulation can promote, or hinder, progress made possible by technology. We also encourage government organizations to become early adopters, bringing benefits to their communities sooner.

In 2017, we successfully advocated for U.S. tax reform that made U.S. companies more competitive globally. We also engaged with policy makers about the potential setbacks of adopting a so-called Border Adjustable Tax because of the potential for a materially negative impact on many U.S. businesses, including HPE. In our global operations, HPE takes our obligation to accurately follow accounting principles and pay the taxes owed to the U.S. and foreign governments very seriously.

We expanded markets for technology associated with the Internet of Things, Edge Computing, and High-Performance Computing by speaking with governments in the Americas, Europe, and Asia about the potential these technologies have to accelerate innovation, create new economic opportunities, and find answers to society's most complex questions. We also continued to vocalize our support for the Paris Climate Agreement, and to demonstrate that support by making progress toward our emissions reduction goals. Additional 2017 highlights include:

- Resolving market access issues around the world affecting our products
- Achieving increased U.S. appropriations for High-Performance Computing
- Hosting high-level government delegations at HPE sites

Details on our policy positions, as well as a list of our industry coalitions, can be found on our Public Policy website.

Political contributions

Our engagement in the political process is ethical, legal, and transparent, and abides by the HPE Standards of Business Conduct. Each contribution follows our political contribution policies, criteria, and approvals process. The individual contributions to HPE PAC are voluntary.

As part of our approach, we make corporate political contributions to U.S. state and local candidates, committees, and ballot measures, where allowed. We publicly disclose candidates, groups, and Section 527 organizations that receive corporate contributions from HPE.

U.S. law prohibits corporate contributions to federal political candidates. Eligible employees can make individual donations to the HPE Political Action Committee (HPE PAC). As a separate legal entity, HPE PAC makes bipartisan contributions to campaigns and committees for congressional candidates who share our views on the key issues of public policy related to HPE's business. We publicly disclose candidates and groups that receive HPE PAC contributions.

HPE generally does not make political contributions outside the U.S.

Policies

HPE Political Contributions Policy

Our customers

How our customers are benefiting from the digital revolution, and reducing the environmental impact of their IT infrastructure.

Our progress building products and networks for efficiency, security, and resilience.

IT efficiency

Our industry's burgeoning appetite for energy is not sustainable—for the bottom line or the environment.

We measure success not by the volume of products we put out, but by their ability to reduce costs and carbon emissions for our customers. That means building for efficiency.

A revolution in IT efficiency

Efficient computing is good for business. It's also essential for heading off a digital energy crisis. Recent research suggests that by 2025 the IT sector could consume one-fifth of all the world's electricity generation.[16]

To combat this escalation in cost and climate impact, our goal is to increase the energy performance of our product portfolio 30 times by 2025. In 2017, we increased product energy performance to 1.7 times our 2015 baseline. This improvement followed the release of our HPE ProLiant Gen10 servers, which:

- **Retain HPE's industry-leading efficiency technologies**, including our integrated Lights Out (iLO) management firmware, power and thermal monitoring of critical components using HPE OneView, and the ability to operate in a wide range of temperatures and humidity[17]

- **Utilize Intelligent Systems Tuning (IST)** to fine-tune the server to its load—allowing users to get up to 10% more virtual machines per server,[18] saving up to $100K in core-based licensing costs[19]

2025 goal: Increase the energy performance of our product portfolio 30 times compared with 2015.[20]

2017 performance: Energy performance increased by 1.7 times compared with 2015.

Our mission is to uncover new ways for our customers to do more, better—and with less. We focus on the three keys to efficient computing:

- **Equipment efficiency** — maximizing IT processing power and storage capabilities, minimizing cost, lessening the demand for resources

- **Energy efficiency** — delivering an optimum level of power, storage, and connectivity in exchange for the lowest input of energy possible—spearheaded by our Design for the Environment program

- **Resource efficiency** — engineering our products to work most efficiently within the data centers that will operate them, matching type and quantity of material to the needs of space, power, and cooling

HPE Pointnext is our center of excellence for optimizing IT systems. Our team of 25,000 IT experts works with our customers to modernize their infrastructure and transform the efficiency and reliability of their digital resources.

Our innovative HPE GreenLake Flexible Capacity service provides a "pay-as-you-go" option, so that customers pay for only as much IT equipment as they need. On average, customers overprovision IT capacity by 59% for storage and 49% for computing.[21] Our GreenLake solution offers an effective way to increase the efficiency of IT operations, avoid over- or underprovisioning, and achieve reductions in hardware materials, energy use, and end-of-life costs.

Overprovisioning of IT capacity averages 59% for storage and 49% for computing. HPE GreenLake Flexible Capacity helps our customers use only what they need.

Mining the billions of dollars of wasted server capacity

Underutilized servers cost the world billions of dollars each year—which also means unnecessary climate impact.[22] Eliminating global server inefficiency has untapped potential to save money and cut carbon emissions. As a thought leader on IT efficiency, HPE contributed to The Green Grid's Solving the Zombie Server Problem whitepaper, which provides practical guidance for finding and resolving underutilized servers in IT infrastructure.

Efficient supercomputers

We are the industry leader in energy-efficient, high-performance computing. HPE accounted for 29% of supercomputers in the June 2017 Green500 list and 24% of supercomputers on the November 2017 list—more than any other company. On the November list, HPE was also ranked second in overall performance.

The TSUBAME 3.0 topped the June 2017 Green500 list as the world's most powerful

HPE accounted for more supercomputers in the 2017 Green500 lists than any other company.

energy-efficient computer. Developed in partnership with the Tokyo Institute of Technology, TSUBAME 3.0 is designed to compute 14.11 gigaflops per watt[23,24]—offering almost three times the performance capability of its predecessor.

To meet growing data demands, the supercomputers of the future will need to be 100 times faster and more energy efficient than today's best models. Our research organization—Hewlett Packard Labs—is working on exascale[25] architecture with the potential to perform a quintillion calculations per second, roughly the combined processing power of the 500 fastest supercomputers currently in existence.

Our groundbreaking HPE Moonshot systems provide significant power, cooling, and space savings by optimizing server modules for specific workloads. By using liquid cooling technologies, our HPE Apollo 8000 systems continue to offer high-performance computing customers significant reductions in energy costs compared with conventional servers.

The future of data centers

Traditional data centers cannot meet global computing demands in a sustainable way. We enable our customers to maximize the efficiency of their existing infrastructure, while pioneering the data centers of the future.

We provide our customers with tailored solutions to reduce data center inefficiencies and optimize management of energy, capacity, and costs. Our partnership with ABB, for example, contributed to an initial 10% reduction in data center energy use by a Swiss customer and is projected to result in a 20% reduction in energy use, as well as a 25% reduction in required electrical infrastructure.[26]

Harnessing the power of connection

Today's IT systems span the physical and virtual worlds, connecting the cloud and the growing IoT with computing hardware, software, and data centers.

We enable our customers to capitalize on the potential of these converged systems to reduce the costs and the environmental footprint associated with their evolving IT requirements. Since 2010, for example, our HPE StoreOnce Backup converged solution has saved customers an estimated 13.8 exabytes of storage capacity and $68.8 million.[27,28]

We are the industry's leading provider of hybrid IT, combining cloud computing with traditional IT structures to facilitate an efficient transition between the two.

Test-driving hydrogen-powered computing

Decarbonizing data centers is inevitable. The current cost of operations and the carbon footprint are unsustainable as data grows.

To explore the possibility of building a carbon-free data center, we are partnering with Daimler, Power Innovations, and the National Renewable Energy Laboratory. One current avenue of research: coupling an on-site renewable supply with Daimler's compact hydrogen fuel cells to deliver a more stable zero-carbon power supply than renewable sources alone can ever achieve. As a bonus, this solution does away entirely with the need for conventional distribution infrastructure, such as expensive copper wires, large uninterruptable power supplies (UPS), and diesel-powered backup generators.

We shared the first project results at the 2017 SuperComputing conference, and we will begin the full pilot phase in 2018.

Bringing AI to the data center

Reactive data center infrastructures waste time and resources. The current approach of patching up performance issues after they occur won't work in the future, as the data boom continues and systems are required to handle ever-increasing complexity.

We're taking a new approach to data center management. Our cloud-based HPE InfoSight platform is the industry's leading artificial intelligence for storage systems. It enables systematic optimization and eliminates painful management tasks, freeing up time for our customers. And even more exciting is its ability to anticipate and prevent storage problems across the entire data center infrastructure. HPE estimates InfoSight predicts and resolves 86% of storage issues before customers even know they exist, potentially driving down operational storage costs by 79%.

Estimates suggest more than 28 billion Internet of Things (IoT) devices will be in operation by 2020,[29] with the potential to drive economic value of $3.9-11.1 billion by 2025.[30]

Our long-term partnership with DreamWorks Animation, for example, has led to savings of tens of millions in business expenses.

Read more about how we are harnessing IT to create a more sustainable world.

Computing on the edge

By 2022, an estimated half of all data generated by enterprises will be processed outside the cloud. Data analysis at the site of generation—on the edge—offers a future where effective decision-making is the norm.

HPE intelligent edge solutions make it possible for our customers to capture a wealth of previously untapped data in real time. For example, HPE Edgeline EL1000 and EL4000 offer the power of a data center in a box. They combine storage, processing, analysis, and control in a single compact module, empowering customers to extract real-time insights from multiple data sources connected by the IoT.

All HPE Edgeline systems are portable and durable, suitable for use in harsh environments. Their small physical footprint limits the amount of materials they require to build and deploy, and we build them using the highest-performing energy-efficient processing modules in the industry.

Hirotec Group, a global auto parts manufacturer and supplier, used HPE Edgeline to transform its data analytics capability and drive efficiency improvements. The resulting IoT solution helped eliminate the need for planned asset investments, reduced the time to manually inspect product systems, and prevented costly downtime.

Data security

With the digitization of business, cybercrime has become more frequent and organized, putting enterprises and supply chains at risk of costly disruptions such as loss of data, privacy, and revenue.

This operating environment requires an agile and adaptive approach to security, something our market-leading technology enables.

Helping our customers stay secure

Cyberthreats are increasingly sophisticated and expensive, costing enterprises billions of dollars in breach remediation, reputational damage, and regulatory penalties each year. We offer market-leading technologies, products, and solutions that provide high levels of security protection. These offerings help our customers identify, defend against, and recover from threats, making their businesses more resilient. Our approach begins at the silicon and firmware layers and flows through the supply chain, manufacturing processes, development environment, hardware, data centers, and the cloud.

When developing servers, we meet standards including the Common Criteria, the Federal Information Processing Standard Publication 140-2, and the Payment Card Industry Data Security Standard. We also use the National Institute of Standards and Technology Special Publication 800-193, a standard to which HPE contributed. In 2017, we introduced HPE-developed "silicon root of trust" ↗ technology, which gives our HPE ProLiant Gen10 servers an immutable fingerprint that prevents malicious code from corrupting essential firmware in our servers. HPE designs and creates its own silicon, unlike competitors that buy their silicon off the shelf. Our servers are tested by an external agency that validates that our security surpasses that of our competitors. These qualities make our servers the most secure on the market.

Security software adds another layer of protection. Announced in 2017, Innovative

Edge defense through Aruba ClearPass and Aruba IntroSpect provides customers with advanced attack detection, accelerated investigation, and proactive policy-based enforcement. Aruba IntroSpect uses machine learning to baseline enterprise user activity and device behavior, surfacing anomalous activity. Aruba ClearPass communicates with Aruba IntroSpect, changing authorization of suspicious users or devices. This system gives customers the opportunity to remediate threats and minimize damage.

Our HPE Pointnext organization provides services which, with the right mix of security, help keep Hybrid IT simple and power the Intelligent Edge. HPE Security and Digital Protection Services integrate and operationalize security as part of digital transformations. The services provide increasing automation and intelligence to reduce complexity and accelerate time to value in order to minimize risk, achieve compliance, and optimize resilience.

Our security efforts reach back to our supply chain, shielding against threats that could introduce malicious code, compromise intellectual property, disrupt manufacturing, and damage customer relationships. To combat these risks, we maintain strict control over firmware code access, vet component vendors against anti-counterfeiting laws, and prefer to source from Trade Agreements Act designated countries.

Policies

HPE Standards of Business Conduct

HPE U.S. Public Sector Code of Conduct

HPE Supplier Code of Conduct

Protecting our business from evolving threats

In 2017, HPE funded trends-based research by the Ponemon Institute on the Cost of Cyber Crime and Risk of Business Innovation. The research explored the most common types, causes, and costs of cybercrime and identified best practices for enterprise resilience. The research confirmed that innovative and cybersecure organizations share three characteristics: they conduct security risk assessments, they use advanced backup and recovery systems, and they take part in industry organizations focused on security.

We participate in coalition groups and continue to support research to stay ahead of emerging risks. We contribute to domestic and international cybersecurity efforts through the National Technology Security Coalition and the World Economic Forum's Financial Stability, Innovation, and Economic Growth Cyber Initiative.

To protect HPE operations, we have two Security Operations Centers that monitor 1.7 billion events daily, resulting in over 200 actionable incidents per day. We review our learnings regularly, fine-tuning our action plans to better predict and prevent future incidents. HPE employees receive training on how to properly handle sensitive company data and how to recognize phishing tactics. Our HPE Cybersecurity Yammer Group, Cybersecurity Organization website, and Cybersecurity Central website all serve as consistent sources of support and information for employees.

As the cybersecurity landscape evolves, we analyze and, when necessary, remediate data security issues reported by customers or identified through the National Vulnerability Database.

Privacy

We are accountable for protecting the data and the privacy of our employees, our customers, and our business partners.

Companies that control and process information are increasingly challenged by the complexity and proliferation of security threats. As global privacy regulations expand, our robust program seeks to meet or exceed legal requirements.

Protecting privacy in a connected world

HPE is at the forefront of technologies enabled by data collection—such as the Internet of Things, Precision Medicine, and Hybrid IT—making privacy material to our business. In 2017, we introduced a Privacy Impact and Compliance Assessment (PICA) tool to evaluate privacy risk in our services, solutions, and business processes. PICA is a company best practice that we use to ensure legal compliance across our organization.

Meeting elevated regulatory requirements

HPE fosters relationships with regulators, think tanks, and industry groups to positively influence the development of new privacy law, policy, and practice. These groups include the global privacy and security think tank the Centre for Information Policy Leadership and the International Association of Privacy Professionals.

In May 2018, the EU General Data Protection Regulation (GDPR) went into effect—this is the most significant change to privacy law in 20 years. The GDPR will place more stringent requirements on the collection, storage, processing, transfer, and use of personal or sensitive data related to EU citizens. In 2016, the HPE Privacy Office established a GDPR Compliance program to ensure full compliance with the new regulation. GDPR work streams were established across the organization for the main business units and global functions. The teams leading those work streams worked closely with the Privacy Office to conduct a detailed GDPR impact assessment and compliance program focused on:

- Analyzing and addressing the impact of the GDPR on HPE's data processing activities

- Enhancing HPE's global privacy and data protection compliance program to meet GDPR requirements

- Identifying products, or features of our products, that may assist customers with GDPR compliance when they deploy them on-premises

Policies

HPE Privacy Statement

HPE Global Human Rights Policy

Network resilience

Networks are the arteries of the modern world, and we are building them to adapt to changing patterns and loads.

The average company is likely to experience 130 security breaches per year,[31] and each data breach costs an average of $3.62 million.[32] We enable our customers to use streamlined architectures with intelligent, resilient technology that can withstand everyday disruptions and unexpected threats.

Intelligent networks for a complex world

In our data-rich, resource-limited world, connectivity is key. From small businesses to multinational corporations, the ability to maximize value from an abundance of data is critical to success. Avoiding downtime from cyberattacks, extreme weather, or power outages is crucial. This is particularly the case for organizations that support vital public services or handle sensitive information, although any company that relies on internal or external connectivity to operate their business is subject to these threats.

HPE forms long-term partnerships with customers to develop their networks for such resilience. Together, we create secure, stable solutions that adapt to changing business requirements and that harness the potential of the Internet of Things (IoT). Our approach covers the entire lifecycle of network design, transformation, integration, and management.

Our intelligent edge network architecture enables customers to respond to data from real-time events within and outside their operations. It offers an efficient, flexible IT system, with the ability to react quickly to potential threats and changing requirements. By collecting data to be analyzed close to where it is generated, intelligent edge systems sidestep both the security risks and the cost associated with transferring data to a central site.

We provide HPE customers with unique tools to increase the resilience and efficiency of their networks:

- **Automating network deployment.** Existing network deployments are 90% manual. Our network build-and-deploy process, by contrast, offers customers end-to-end automation. We enable network

Reliable networks in critical environments

Secure, reliable IT is essential in healthcare environments, where patient outcomes can depend on accessing accurate data at speed. We worked with Wirral University Teaching Hospital in the UK to transform their aging network infrastructure, offering a future-proof solution with zero downtime. The result is a resilient, reliable, easy-to-manage network, achieved with minimal disruption to hospital operations.

"Once the detailed design was complete, the configuration, testing, integration, and deployment of the solution was seamless."

Phil Scott, Delivery Manager Head of Informatics, Wirral University Teaching Hospital.

devices to be automatically deployed in response to changing requirements, which means avoiding the cost, the complexity, and the risk of error associated with traditional manual deployment. Initial use of this process at one government organization with a network of 15,000 devices saved 15,000 work hours.

- **Secure networks.** Our security offerings include device profiling—allowing or denying network access as needed. This ability is essential for responding to potential threats the multitude of IoT devices (known or unknown) represents. Additional deployment of Aruba IntroSpect User and Entity Behavior Analytics enables customers to spot changes in user and entity behavior, and to act before any

damage can be done. Read more about our approach to data security.

- **Seamless integration of mobile technology.** Tablets, phones, and wearable technology such as smart glasses offer enterprises the potential for immediate connection with their customers. To function effectively and maximize business value, these devices require secure integration into existing networks. We enable the systematic integration of mobile technology—including wearables—into business networks, reducing the time and resources required to diagnose and respond to customer issues in the field.

HPE internal networks

To share in the benefits of automation and simplification available to HPE customers, we use our cutting-edge networking expertise within our own operations as well. By building our own business on intelligent networks, we:

- **Ensure** consistent levels of contact and service for HPE customers

- **Enable** our mobile workforce to access relevant information whenever they need it and to stay connected wherever they are

- **Retrieve** insights from multiple data sources within and outside HPE, supporting real-time business intelligence and responsiveness to change

Product lifecycle management

We aim to make each product more energy and material efficient than the last.

As billions of connected devices continue to come online, computing demand will exceed today's infrastructure, consuming energy and materials at unprecedented rates. As a technology provider for the world's largest companies, we use product design principles to yield environmental savings at scale.

A lifecycle approach to design

By assessing the total cost of ownership during development, we improve our products. This holistic approach results in lower product power consumption and refined designs that eliminate waste. HPE engineers identify these opportunities by producing product carbon footprints with our **Product Attribute to Impact Algorithm**. Our teams also calculate product end-of-life recyclability using our Recyclability Assessment Tool (RAT). In 2017, we incorporated the RAT into our New Product Introduction process and produced assessments for our HPE Gen10 product family. Our Design for the Environment program extends beyond product footprint, targeting inefficiencies in the manufacturing process and facilities.

In 2017, we incorporated the Recyclability Assessment Tool into our New Product Introduction process and produced assessments for our HPE Gen10 product family.

Eco-label certification or qualification indicates that a product has met an internationally recognized social and environmental standard, which is often above and beyond regulatory requirements. Many HPE products have eco-labels, such as **Energy Star**, **80 Plus**, **China SEPA**, or **China Energy Conservation Program**. In addition, we played an influential role in the development of a new EPEAT standard for servers. We plan to register servers to this standard when it opens in 2018. These

eco-labels differentiate HPE products and drive purchase behavior, particularly among those customers that include social and environmental qualifications in their procurement criteria.

As a best practice, we produce IT Eco Declarations for new HPE products.[33] Eco Declarations include legally mandated disclosures, such as notices about hazardous substances, as well as industry-specific details such as disassembly instructions. By publishing these declarations, we provide visibility into product components and guidelines for responsible end-of-life management.

Extending product life

The rapid pace of technological advancement drives the continued evolution of products. We recognize that our business model produces electronic waste[34] (e-waste), generating a corresponding need for a circular economy.

We design our products to make it easier for our customers to repair, upgrade, or reuse HPE products to extend their useful life. To facilitate this, we provide guidance on self-repair and upgrades, including spare parts availability. If a repair is overly complex or presents a risk to the customer or unit, we readily recommend skilled maintenance professionals. In 2017, 71% of the items collected through our circular economy programs were repurposed. We offer multiple programs[35] across our global markets to encourage participation in the circular economy including:

- **HPE Renew**—offers current remanufactured HPE products with as-new reliability and performance at a reduced cost, typically less than 18 months old

- **HPE Certified Pre-owned**—offers previous-generation HPE product certified to HPE standard, typically between 18 months and 25 years old

- **HPE Trade-In**—offers customers trade-in value for used HPE products when they purchase new products

- **HPE Asset Recovery**—provides a secure and legally compliant process for retiring and remarketing used equipment

- **Hardware recycling**—identifies recyclers with a strong history of compliance and good practice in 64 countries. HPE Technology Renewal Centers recycled over 6 million pounds of equipment in 2017

In 2017, 71% of the items collected through our circular economy programs were repurposed.

HPE RETURN AND RECYCLING PROGRAMS
countries and territories with programs, 2017

64

TOTAL REUSE AND RECYCLING COMBINED
metric tons, approximate, 2017

23,341

If repair, upgrade, or reuse are not viable solutions, products can be recycled through our robust global programs. Our network of e-waste recyclers in 64 countries must meet HPE's global corporate policy for reuse and recycling, regardless of where they operate. To meet our requirements, recyclers adhere to the International Standards Organization framework for the environment and for quality and safety, as well as applicable industry standards such as eStewards, R2, and WEEELABEX. An independent firm regularly audits our network of recycling facilities to ensure compliance with HPE policies, which prohibit:

- Unauthorized dumping of e-waste and disposal of electronics to landfill where other viable alternatives exist

- Export of nonworking e-waste from OECD[36] and EU countries to non-OECD countries outside the EU, either directly or through intermediaries

Read more about our approach to waste and hazardous materials.

Packaging reimagined

In 2017, we continued to reduce packaging waste without compromising product protection or customer satisfaction. Where possible, successful packaging innovations are scaled across HPE's product lines and regions. In 2017, our packaging design teams won awards from the Singapore Packaging Agreement (SPA) for efforts such as:

- Replacing foam packaging with air bag cushions led to an emissions reduction of 29 metric tons CO_2e and saved $69,000 in waste costs

- Reusing inbound packaging and ISS shock pallets reduced emissions by 187 metric tons CO_2e and saved $345,000 in waste costs

- Replacing nonrecyclable foam with recyclable foam across multiple regions reduced emissions by 907 metric tons CO_2e and yielded a saving of $140,000 in waste costs

We also include environmental criteria in our packaging supplier selection. We give preference to suppliers with a strong environmental performance and a commitment to source paper from responsibly managed forests.

Policies

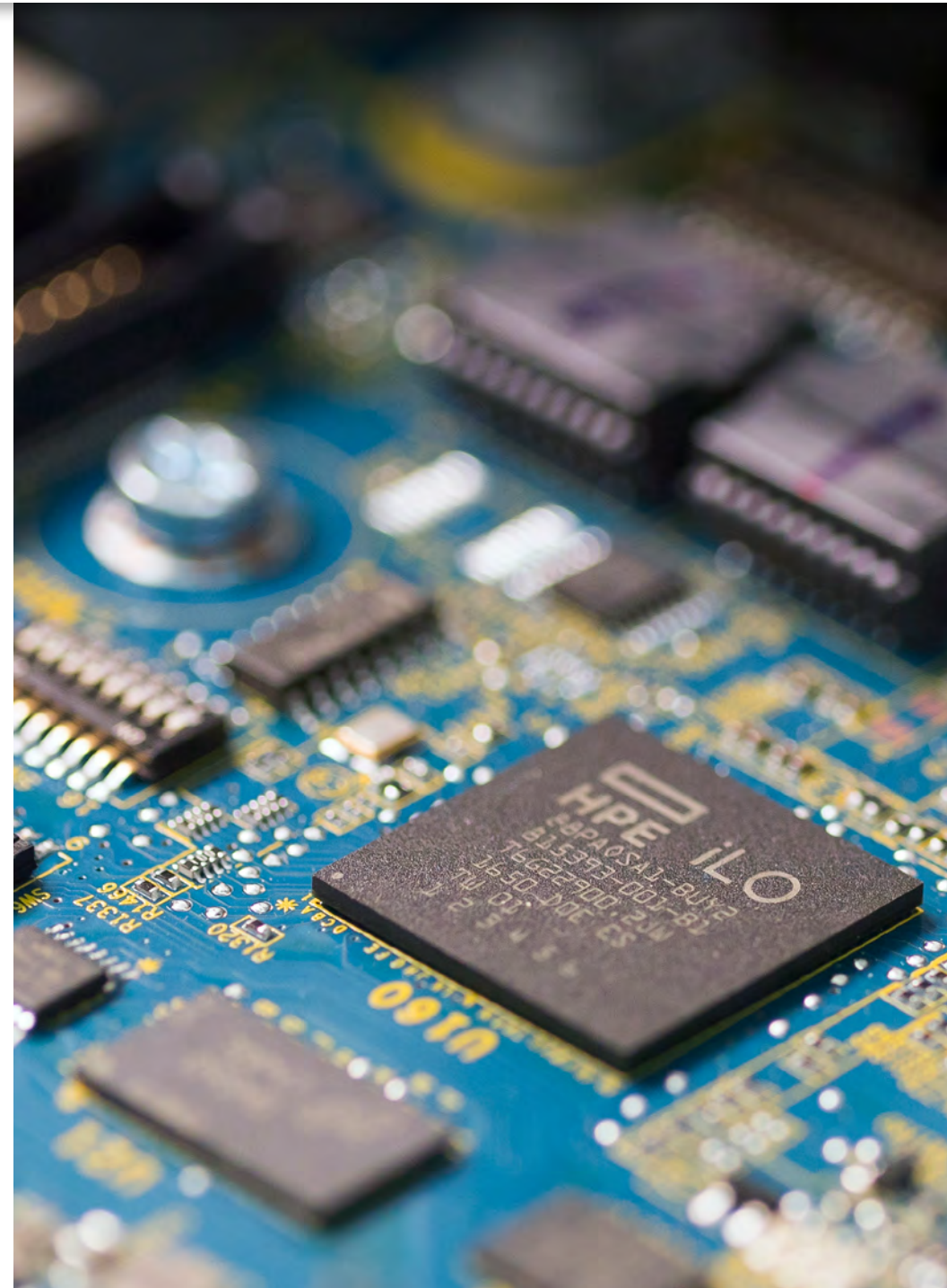HPE Export of Electronic Waste to Developing Countries Policy

HPE Supplier Code of Conduct

HPE Vendor Requirements for Hardware Recycling Standard
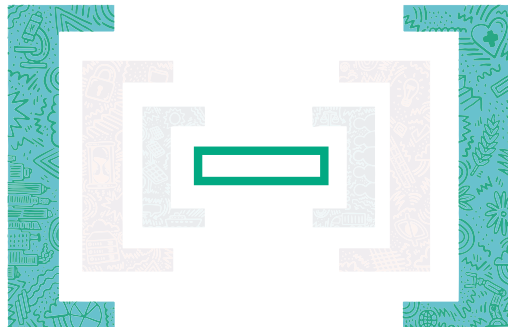
HPE Vendor Requirements for Hardware Reuse Standard

HPE General Specifications for the Environment

Our world

How the connected, digital world is creating a sustainable society.

Our progress in harnessing technology to solve urgent social and environmental challenges.

Harnessing IT to create a sustainable world

Advances in IT are creating breakthrough solutions to the key social and environmental issues of the twenty-first century.

The startling growth in the Internet of Things (IoT), edge computing, supercomputing, and artificial intelligence is the force behind a paradigm shift in our ability to solve intransigent social and environmental problems. We now have access to unprecedented amounts of information about the world—information which, until now, had never been fathomable. It is changing how we do things. The new power of IT—combined with advances in key technologies in manufacturing, in medicine, in agriculture, and in transport—is dismantling historical barriers to sustainability.

And it is business that is driving this revolution, at scale, in the marketplace. Formidable sustainability issues often present new business opportunities for companies that can harness technology to create solutions. The opportunities are global, they are multi-sectoral, and they are driven by social, as well as environmental, challenges. Of course, technological disruption also has negative impacts which we must address, including potential loss of jobs and increased risks to privacy and security.

At HPE, designing transformative solutions and bringing them to market is undertaken by interdisciplinary teams that combine our expertise in IT innovation with our customers' operational and industry skill sets. It's a fertile combination, and together, we are solving some of the world's toughest challenges, while propelling our business forward. The opportunities are abundant, and our customer partnerships are developing rapidly in four sectors:

Industrial intelligence

Fueled by intelligent edge computing, the Industrial Internet of Things (IIoT) is powering a new revolution in industry, resetting efficiency and reducing environmental impact. Manufacturers are now able to collect and analyze data from connected assets—and to act on these insights in real time at their own factories. The market opportunities for IIoT are still unfolding, yet they reach across regions and industries to touch us all.

Almost every stage in the industrial value chain is being automated, from customers validating their orders remotely, to machines in factories scheduling their own maintenance, to utilities automatically adjusting supply to real-time demand.

As part of this radical new way of doing things, HPE is partnering across a variety of industries to transform business with intelligent edge computing which processes data from multiple sensors, close to their operations. Intelligent edge proximity increases security and efficiency, and reduces latency (those short but critical delays that come from transmitting digital information to the cloud and back). Absent the lags, important insights are instantly available.

Smarter factories use less energy and fewer raw materials. They leverage analytics and intelligence to improve maintenance and prolong useful equipment life. They quickly identify and correct manufacturing problems. They monitor equipment use and performance. And they better align production. With these advantages, smarter factories place a lighter demand on the environment than ever before.

Lessening environmental impact: Intelligent Industrial Plants

HPE and ABB formed a global partnership which will create sweeping new business opportunities for our shared customers, transforming the way energy and materials are used and dramatically lessening environmental impact. Our joint offering combines ABB's industry-leading digital offerings, ABB Ability™, with HPE's innovative Hybrid IT and Intelligent Edge solutions.

The partnership will enable customers to generate actionable insights from vast amounts of industrial data to increase the efficiency and flexibility of their factories and operations. Together, HPE and ABB are equipping machines with the intelligence to collaborate, allowing plants to adapt nimbly to changing demands and enabling global supply chains to react to incidents instantaneously.

Digitally efficient automation will cut costs, resource consumption, and climate impact in a wide array of manufacturing sectors.

Global healthcare

Applying advanced IT to the global healthcare sector opens up profound opportunities for enlarging the scope of medical research and streamlining healthcare delivery.

Medical research

Unravelling the mysteries of the human genome has meant great strides forward for medical research, but it is also dramatically increasing the quantity of data researchers must contend with. High-performance computing is making it possible for pharmaceutical companies and research organizations to process vast amounts of data faster, in the search for cures to some of the world's most serious and debilitating diseases.

Healthcare delivery

In the multi-trillion-dollar global industry of healthcare delivery, providing value for funders and improving the quality of care for patients are strong drivers. By offering healthcare providers new opportunities for reengineering how healthcare is administered and delivered, digital technology both strengthens the investment value and enriches the patient experience.

Digital technology is changing the way clinics and providers work with patients, making it possible for them to:

- Fine-tune the efficiency of their scheduling process, for example, with automated mobile reminders of patient appointments. Missed appointments are a major source of lost revenue and increased paperwork

- Incorporate telemedicine into their practice, so that patients can consult clinicians remotely by video. This not only reduces travel time and stress for patients, but gives them access to a wider range of practitioners as well. With video, specialists can reach out to patients anywhere, regardless of how remote the location

- Receive real-time health information from patients by using the Internet of Medical Things (IoMT) to connect devices such as at-home diagnostics and wearables

- Empower patients to make more fully informed choices about healthcare providers by giving them access online to data on treatment outcomes

From data to discovery, faster: Next Generation Sequencing

The Technical University of Denmark conducts research in bioinformatics and systems biology—fields that employ powerful computers to explore biological data.

After the university installed the fastest high-performance supercomputer in Denmark, the runtime for data-intensive medical research was reduced by nearly one-third. This substantial gain is made possible by HPE Next Generation Sequencing Solution, **which helps reduce the processing time for data-heavy genome analytics, ultimately speeding up the pace of medical discovery.**

"We found we could do the analysis in 60% less time. That's the time it takes to transfer the data from one university to another. The cloud automated everything, and the data is now always available and analyzed in one place."

Peter Løngreen, Acting Deputy Director, Center for Biological Sequence Analysis, Systems Biology, Technical University of Denmark

Speeding up cures:
The Machine – Memory-Driven Computing

As the world's population ages, the human and economic toll of currently incurable neurodegenerative diseases such as Alzheimer's is mounting, and expected to exceed $1 trillion by 2018.

The German Center for Neurodegenerative Diseases (DZNE) fights these diseases using Big Data analytics, but the limitations of traditional computer systems have been a major bottleneck. Seeking a breakthrough solution, DZNE turned to HPE Memory-Driven Computing.

DZNE and HPE researchers together achieved more than a 100x speed improvement in data processing time after just three months' work. With the promise of Memory-Driven Computing, DZNE believes progress against Alzheimer's will happen much sooner than ever thought possible before.

PHOTOGRAPH: THE GERMAN CENTER FOR NEURODEGENERATIVE DISEASES (DZNE)

Bringing healthcare to remote communities: eHealth Centers

HPE is delivering an affordable and rapidly deployable digital healthcare solution for remote and underserved communities in India and the Philippines. We are working in a groundbreaking partnership with multiple healthcare providers, NGOs, and government organizations.

HPE eHealth Centers pair online training materials for remote healthcare workers with diagnostic tools that capture vital statistics on a cloud-based application. This provides on-site specialized healthcare in the most remote Indian communities and enables diagnoses from highly skilled medics hundreds of miles away. To date, the program has treated more than 530,000 patients across nearly 100 centers in 18 Indian states, as well as centers in Bhutan and the Philippines.

Precision agriculture

The global population is predicted to top 9 billion people by 2050, and experts estimate that agricultural output will need to double to meet the demand. Advanced IT solutions are laying the foundation for a digital agriculture revolution, with the potential to significantly increase the food produced from finite land and water resources.

The breakthrough is the ability to get real-time data from the fields. Sensors measure the condition of the soil and drones monitor the condition of the crops. Intelligent edge computers, located close to the field, analyze this data to give the farmer up-to-the-minute information on the crop's needs.

Where before, water and agrichemicals were applied uniformly across a field, IoT and intelligent edge can specify the exact amounts of water, fertilizer, herbicides, and pesticides needed in each specific area of the entire crop.

This new accuracy means less water and fewer agrichemicals are needed to grow healthier, more abundant crops—while at the same time protecting the soil and ecosystem.
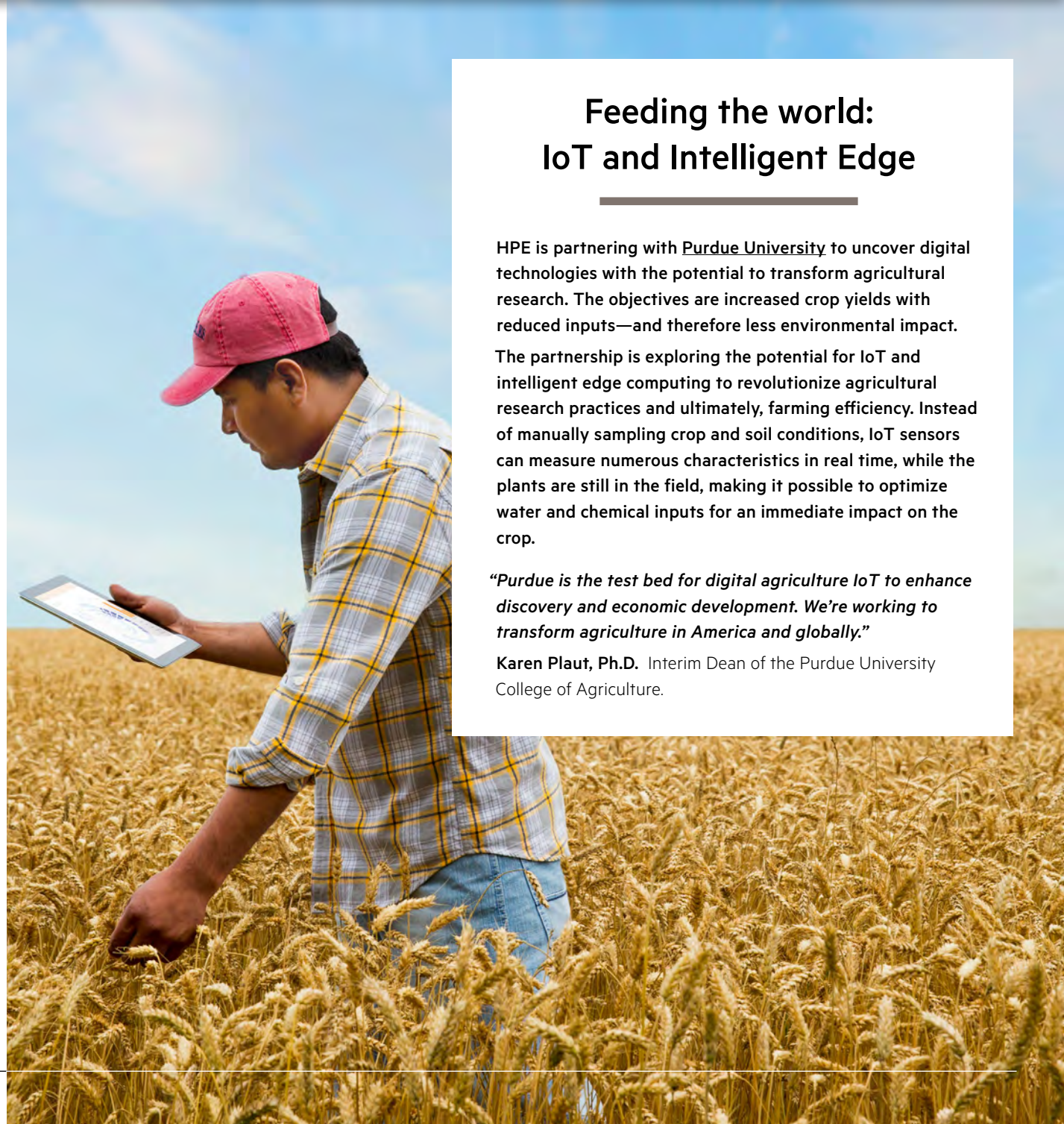
Feeding the world: IoT and Intelligent Edge

HPE is partnering with <u>Purdue University</u> **to uncover digital technologies with the potential to transform agricultural research. The objectives are increased crop yields with reduced inputs—and therefore less environmental impact.**

The partnership is exploring the potential for IoT and intelligent edge computing to revolutionize agricultural research practices and ultimately, farming efficiency. Instead of manually sampling crop and soil conditions, IoT sensors can measure numerous characteristics in real time, while the plants are still in the field, making it possible to optimize water and chemical inputs for an immediate impact on the crop.

"Purdue is the test bed for digital agriculture IoT to enhance discovery and economic development. We're working to transform agriculture in America and globally."

Karen Plaut, Ph.D. Interim Dean of the Purdue University College of Agriculture.

Smarter cities

Over half the world's population is already urban and the proportion is increasing, pushing city infrastructure to its limits. The challenge to envision and establish smarter, more sustainable cities could hardly be more urgent.

Smarter cities will accommodate economic and population growth. They will make our everyday tasks more efficient, while easing the burden on the environment. Examples include:

- **Transportation and commuting times.** Road congestion can be relieved by sensors collecting traffic data processed in real time to regulate flows with traffic signals. This data can be integrated with GPS information from the transit management system to provide accurate estimated times of arrival.

  Robot cars are currently in the experimental stage, but rapid progress combining in-car sensors with car-to-car and car-to-infrastructure communications is on track to make this technology viable and widely adopted. The technology aims to make roads safer and reduce congestion and pollution.

- **Energy generation and management.** The IIoT can transform the way energy is used and supplied to cities. Connected sensors provide data for sophisticated building energy management systems, saving energy and reducing demand peaks. In the near future, the IIoT will facilitate distributed energy generation and storage across microgrids, allowing locally generated renewable energy to be bought and sold between buildings and integrated with existing utilities. This increases resilience and encourages investment in renewables. Through IoT technologies we are also helping to enable a more intelligent grid, partnering with companies like <u>CenterPoint Energy</u> ⬉ to improve the quality of energy services using Big Data.

- **Air quality.** Sensors and cameras measure pollution levels, providing data to city administrators, which triggers pollution control measures such as restricting car access. Timely information alerts the public to conditions that may be harmful to health, helping people to limit their exposure.

- **Water supply and wastewater treatment.** Smart metering informs consumers about their consumption in real time, encouraging them to save water. The technology also allows water utilities to manage demand in periods of water scarcity, through variable pricing. Smart meters accelerate leak detection times, enabling repair work to be scheduled more promptly.

Many of our customers are working to develop services for smarter cities, and the <u>HPE Universal IoT Platform</u> is a powerful and flexible tool for these applications.

Bhopal smart city

HPE is partnering with the <u>Bhopal Smart City Development Corporation Ltd</u> (BSCDCL), India, to enhance safety and security, while providing better public services to Bhopal and six other cities.

HPE and BSCDCL are creating India's first cloud-based integrated command and control center. The center enables monitoring and administration of multiple civic utilities and citizen services in each city, through a central cloud. It also provides for state-wide monitoring of the cities.

There are multiple benefits to the citizens of the seven cities. Public services are made more efficient and better coordinated: these include emergency services, disaster response, traffic management, environmental pollution control, conservation of water and electricity resources, and provision of health and education services.

Integrating the IT systems of different service providers is a major step toward the vision of a smart city, improving lives and managing resources sustainably.

Coming together to transform technology

When we build on the ideas of others, we're able to make technology more effective—faster. We look for opportunities to share our expertise, becoming the catalyst for individuals and organizations to contribute innovative solutions. Our Living Progress Challenge and our participation in open source technology are just two examples of how HPE collaborates with others to share ideas for the greater good.

Living Progress Challenge

Recognizing the unique potential of technology to help solve some of the world's most complex social and environmental challenges, HPE's Living Progress Challenge put a call out to the global community: "What digital tools and software applications would you create to improve people's lives?"

Individuals or teams were invited to detail their ideas, and HPE received over 130 proposals from 28 countries—a testament to the power of the crowd and co-innovation. The winners benefited from HPE technology and expertise to develop their applications and bring them to market. Each winner is currently working toward a full rollout. On the right, we share their goals and initial progress.

We will continue to track the impact of these solutions and their contribution to sustainable development.

WWF, Detect-IT
A web-based tool to detect and tackle illegal trade of fisheries products. More than 30% of all fish caught globally is illegal, causing up to $36.4 billion in global losses each year while contributing to overfishing and threatening food security. Already, the app has gained 1,000 users and results have been shared to drive advocacy and engage enforcement agencies in several countries across Europe, Asia, and Africa.

Pact, MyWORTH
Helping rural women increase their worth through a digitized recordkeeping system for community-based savings groups, designed to meet the unique needs of poor and financially excluded women globally. The app is currently being piloted by 1,600 users in Tanzania.

MentorME
Connecting youth to mentorship opportunities with an app that uses a gaming approach to track students' progress. MentorME will help students in Mexico—which has among the highest high school dropout rates in the world—and beyond to complete school, train for good jobs, and achieve their potential. Twenty-seven active mentees have already been matched to mentors with over 40 hours of mentorship provided.
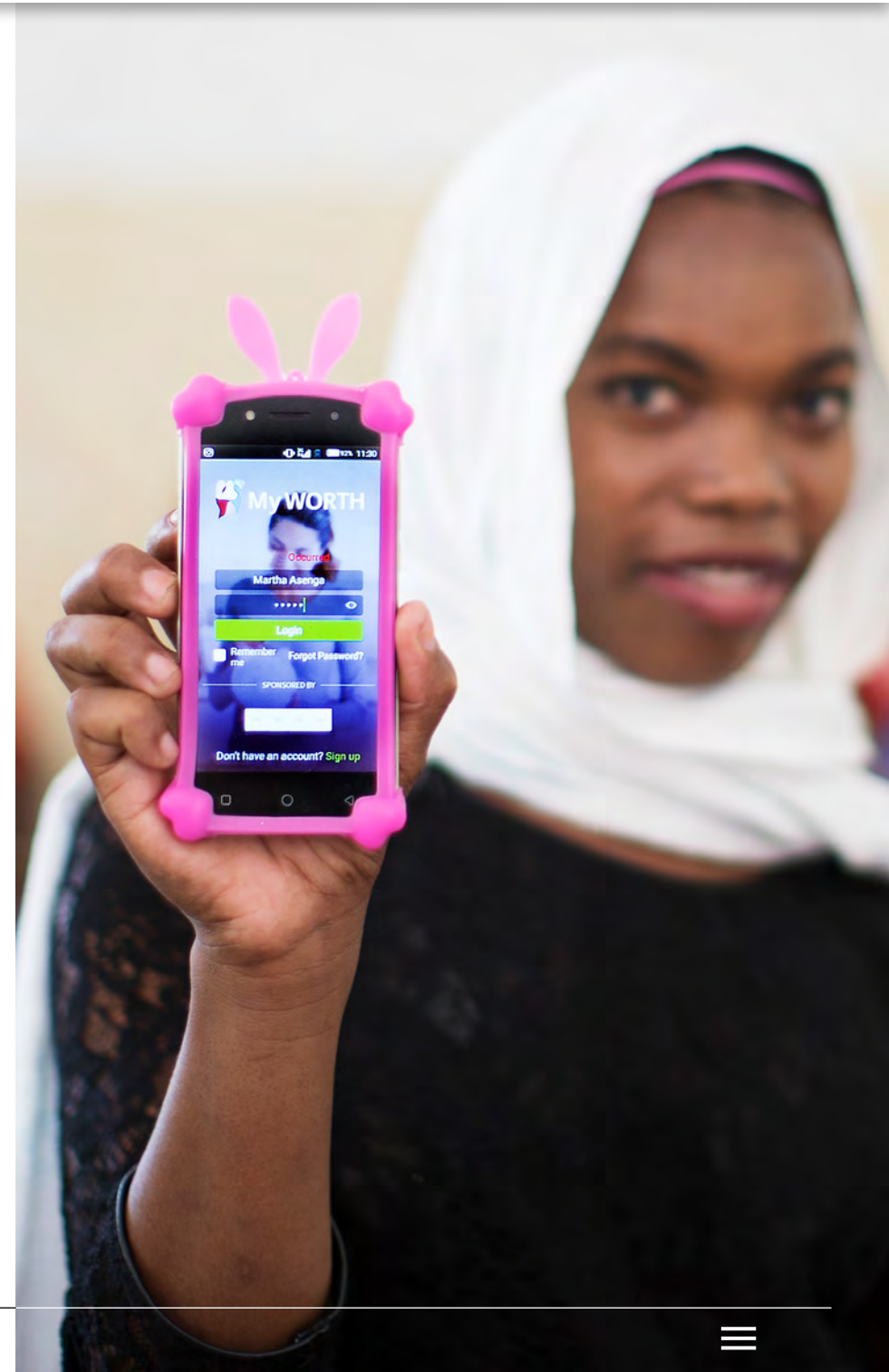
Open source technology

As we move toward a more software-enabled world, open source technology has become an important resource and means to drive communities forward. The power of open source allows faster innovation at lower cost, creating solutions collaboratively by sharing ideas and building on and improving existing code. Both business and society benefit.

HPE is at the forefront of open source technology. In some cases, we join communities for existing technologies—most of the products and services we deliver leverage open source code in some way. Other times, we share our own technology and ideas, such as with The Machine. Concepts and software from The Machine are challenging existing paradigms and accelerating cutting-edge technology in a way never possible before. A whole new generation of solutions is made possible by inviting developers to help build components from the ground up. It is expected to be one of the most transformative, enterprise-supported projects in the open source community. Once released, it promises enhanced device connection, tighter security, and expanded knowledge, with implications that span industries.

The social and environmental benefits offered by open source are dramatic.

> The Machine uses memory driven computing to analyze significant amounts of data in a way never done before. As of 2017, it has the largest amount of memory on a computer system globally.

Corporate philanthropy

We empower our employees to strengthen their communities and leverage our technology and expertise to drive social impact in the digital age.

How we give back

Our philanthropy is focused on three areas that are strategically aligned with HPE's business priorities.

First, we support HPE employees by amplifying the impact of their giving and volunteering efforts through HPE Gives—our global giving, volunteering, and grants program. HPE Gives matches employee donations of money and time, totaling over $4.5 million in 2017. Every employee has 60 hours of paid time each year to devote to volunteer activities, allowing them to give back locally, enriching their communities and developing their team-building and leadership skills in the process.

Second, the HPE Foundation and HPE Gives seek to strengthen our local HPE communities. For example, through Community Impact Grants, launched in 2017, employees nominate the nonprofit organizations they are engaged with for grant funding. Over the last year, a total of nearly $400,000 was donated to local organizations through employee-nominated grants such as this. Our site-based approaches allow us to prioritize donations and volunteer time to have a greater local impact in the communities in which our employees live and work.

Third, we are cognizant that not everyone has shared in the economic growth and opportunities created by the proliferation of technology. Emerging technologies offer new opportunities to address many of the world's biggest challenges, and HPE and the HPE Foundation are working to ensure that these technologies are harnessed for social good.

In addition to our work on the Living Progress Challenge referenced earlier, we have supported pilot projects such as Fast Forward (an accelerator for technology nonprofits committed to scaling social impact) and Curated Pathways (an educational nonprofit which helps to prepare young women and minorities for careers in STEM). We continue to seek opportunities like these to support efforts that expand technology's benefits for all and create greater opportunities for inclusion in the digital economy.

EXPANDING THE REACH OF TECH FOR GOOD

Curated Pathways

STEM skills for underrepresented groups via a virtual coach and classroom curriculum

546 students in pilot (84% with high socioeconomic need).

37% of students are more interested in pursuing a career in computer programming

OneJustice

Community Impact Grant recipient nominated by employees giving pro bono legal aid

$50K grant.

50 employee volunteers from Office of General Counsel provided hundreds of hours in pro bono services to more than 100 clients

HPE India

Employee volunteers create local impact around the globe

45 employees from our Bangalore office engaged students at a science and tech exhibition in Udupi and cleared 175 bags of garbage from the local beach

In 2017, HPE Gives provided funding to 4,300 charities in 41 countries.

Disaster relief

With extreme weather events becoming more frequent, our employees and the Foundation continue to contribute to disaster relief efforts. The Foundation supports the American Red Cross Disaster Responder Program, which ensures that the Red Cross can pre-position supplies, secure shelters, maintain vehicles, and train volunteers so it can respond immediately to disasters. In addition, after a disaster strikes, HPE deploys resources from both the company and the Foundation and engages employees in the response.

When damaging hurricanes struck the United States in 2017, employees were quick to act. Hurricane Harvey impacted many of our HPE colleagues in Houston. Employees stepped up to donate $470,000 in just 48 hours, raising nearly $700,000 in total. When Hurricane Maria hit Puerto Rico, where HPE has two sites, employees continued to show up for one another by donating to relief efforts. Combined with grants and matching donations from the Foundation, HPE's disaster relief efforts in 2017 reached almost $2 million.

Advance preparedness is key to effective disaster response. In 2017, the Foundation supported NetHope's Data for Disaster Preparedness Project, which is a key piece of NetHope's commitment to Caribbean disaster preparedness and response. For this project, NetHope will use information as aid and develop a data-sharing platform to support operational decision-making during disasters in this region. HPE employees will be contributing their skills in support of this project.
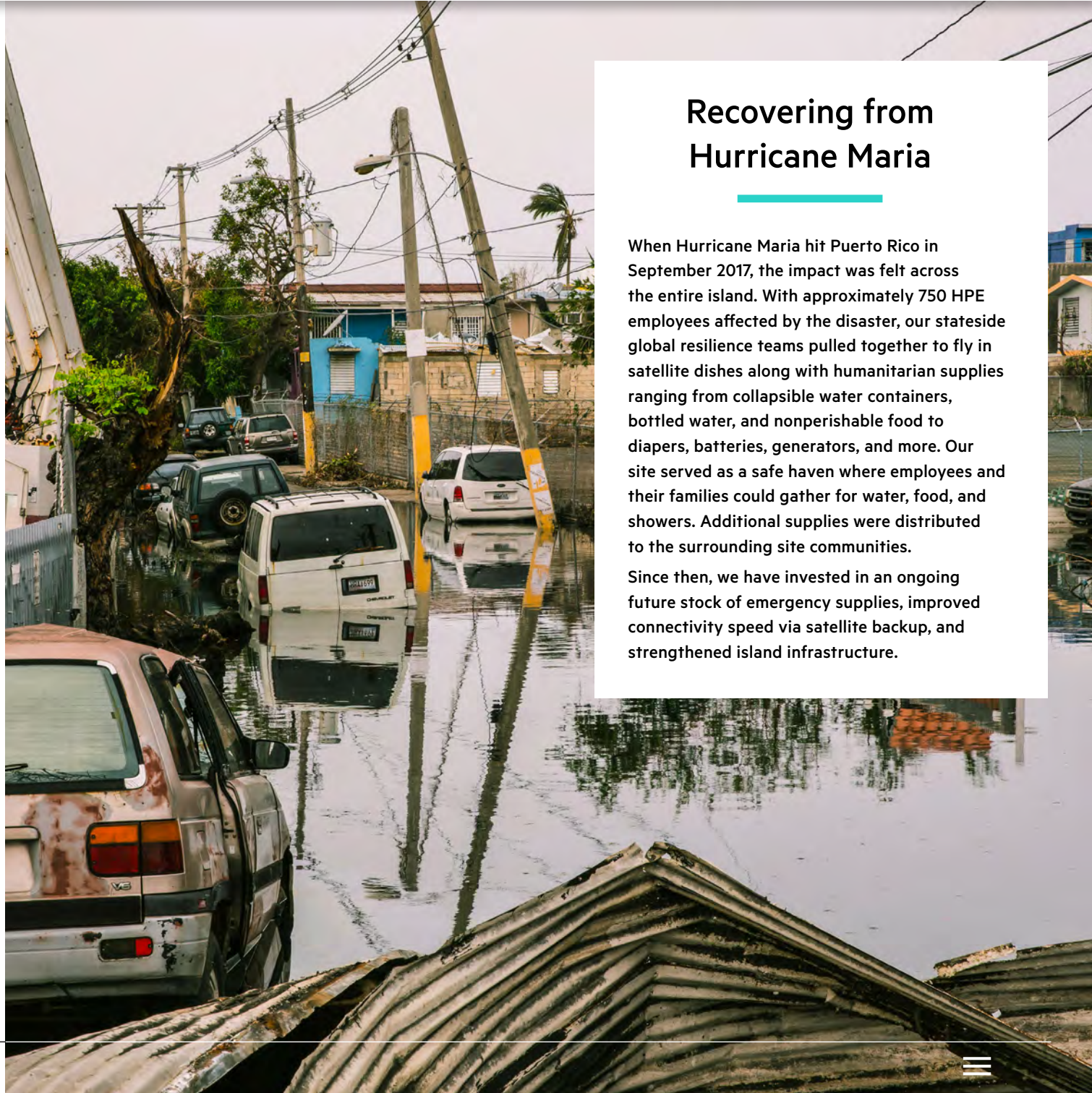
Recovering from Hurricane Maria

When Hurricane Maria hit Puerto Rico in September 2017, the impact was felt across the entire island. With approximately 750 HPE employees affected by the disaster, our stateside global resilience teams pulled together to fly in satellite dishes along with humanitarian supplies ranging from collapsible water containers, bottled water, and nonperishable food to diapers, batteries, generators, and more. Our site served as a safe haven where employees and their families could gather for water, food, and showers. Additional supplies were distributed to the surrounding site communities.

Since then, we have invested in an ongoing future stock of emergency supplies, improved connectivity speed via satellite backup, and strengthened island infrastructure.
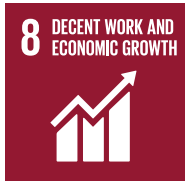
Sustainable Development Goals

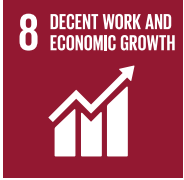## The social and environmental challenges facing our world today cannot be solved by one sector alone.

Meaningful progress will require collaboration between business, government, nongovernmental organizations, and citizens.

As a global community, we struggle to meet the needs of society while respecting the resource limitations of the planet. We are faced with urgent challenges—with 11% of our global population undernourished, 760 million people living in poverty today,[37] and 2 billion people living in water-stressed regions.

The UN Sustainable Development Goals (SDGs), established in 2015, are a global call to action to address challenges like these. At HPE, we focus our efforts on the Goals where we can make the biggest impact (7, 8, 9, and 13) and best use our unique capacity as a global IT company. Below we map our contributions to the SDGs that are described in this report.

We also recognize the instrumental impact that our employees can have toward achieving the SDGs. As a partner of Impact2030, HPE supported private-sector collaboration to mobilize employee volunteering to advance the Goals.

SDG Goal		Content	Sections in this Report
7 AFFORDABLE AND CLEAN ENERGY	Ensure access to affordable, reliable, sustainable, and modern energy for all.	• Through RE100 we have committed to 100% renewable energy in the long term with a 2025 interim goal of achieving 50% • We are active in the Renewable Energy Buyers Alliance and the Future of Internet Power • Since 2015, we have increased our product energy effectiveness 1.7 times toward our goal of 30 times by 2025 compared with 2015 • We are partnering with our customers to develop multiple low-carbon and carbon-free technologies for data centers, smart factories, energy grids, and other production sectors	• Our environmental footprint • IT efficiency • Harnessing IT to create a sustainable world
8 DECENT WORK AND ECONOMIC GROWTH	Promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all.	• We are committed to protecting workers throughout our supply chain and to preventing forced labor and human trafficking • We remain active in the Leadership Group for Responsible Recruitment • We were the first IT company to require our suppliers to hold direct employment contracts with foreign migrant workers, and we advocate for others to make similar commitments in the IT sector and beyond	• Human rights • Ethical sourcing • Public policy engagement • Inclusion and diversity

SDG Goal	Content	Sections in this Report
8 DECENT WORK AND ECONOMIC GROWTH — Promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all.	• We work directly with labor and recruitment agents regarding their employment practices • We promote public policies that encourage growth and innovation. Specifically, we support laws that protect intellectual property, remove trade barriers, promote competition, and encourage economic development • We spent over $1 billion in 2017 with small enterprises as well as minority, women, and veteran-owned businesses • In 2017, our diversity and inclusion efforts were acknowledged with 100% ratings by the Human Rights Equality Index and the U.S. Business Leadership Network Disability Equality Index	• <u>Human rights</u> • <u>Ethical sourcing</u> • <u>Public policy engagement</u> • <u>Inclusion and diversity</u>
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE — Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation.	• Since 2015, we have increased our product energy effectiveness 1.7 times toward our goal of 30 times by 2025 compared with 2015 • Our research organization—Hewlett Packard Labs—is working on a supercomputer with the potential for 100 times faster computing to meet the needs of growing data demands while being more energy efficient • HPE is partnering with industries to transform their business with intelligent edge computing The proximity of data processing increases security and reduces latency, and is more efficient • Through our IoT technologies we help enable a more intelligent energy grid, improving the quality of energy services with Big Data • HPE customers use our technology to address global challenges in areas such as: industrial intelligence, global healthcare, precision agriculture, and smarter cities	• <u>IT efficiency</u> • <u>Harnessing IT to create a sustainable world</u>
13 CLIMATE ACTION — Take urgent action to combat climate change and its impacts.	• Proactively support the leading climate organizations/campaigns including: Paris Climate Agreement, Business Backs Low-Carbon USA pledge, We Mean Business, and the WEF Alliance of CEO Climate Leaders • Our operations and supply chain goals have been approved by the Science Based Targets Initiative • We achieved a 29% reduction in our operational emissions in 2017, surpassing our 2025 goal of 25%. • Since 2015, we have increased our product energy effectiveness 1.7 times toward our goal of 30 times by 2025 compared with 2015	• <u>Our environmental footprint</u> • <u>IT efficiency</u>

About this report

Our third annual Living Progress report offers an overview of our approach, our programs, and our progress on the corporate responsibility issues most significant to our business.

The report covers HPE's fiscal year 2017 (November 1, 2016 – October 31, 2017) and is part of the Living Progress reporting suite, along with our complete performance data available in our Data Summary.

Information within this report adheres to the following specifications:

- Contents cover all HPE operations but do not cover joint ventures
- Except where otherwise noted, data relating to our Enterprise Services business and our Software business are included up until the date of completion of their sale
- Data are rounded to reflect the appropriate level of certainty
- References to years are to HPE's fiscal year, unless otherwise stated
- References to dollars are to U.S. dollars

All information in the report is current as of the date of initial publication. The report has not been updated to reflect any changes that may have occurred after such date, including any changes to HPE's business or strategy.

As a forward-looking document, our report contains statements that involve inherent assumptions, risks, and uncertainties. HPE assumes no obligation and does not intend to update these statements based on changes resulting from the emergence of any of these risks or uncertainties, or in the case of assumptions proving incorrect.

We welcome any questions or feedback relating to our Living Progress report. Contact us here.

You can remain up to date on Living Progress through our Inspiring Progress blog, hpe.com/livingprogress, and join us in conversation on Twitter at @HPE_LivingProg.

Transparency

Transparency builds trust with our customers, employees, and communities. Our Living Progress reporting and disclosure to third parties keeps us accountable and helps meet our stakeholders' expectations. We report each year to the following third-party organizations:

- CDP
- Dow Jones Sustainability Index
- EcoVadis

We also contract external assurance provider Ernst & Young LLP to perform an independent review of selected key performance indicators in the 2017 Data Summary. This is in accordance with attestation standards established by the American Institute of Certified Public Accountants, including AT-C sections 105 and 210.

Engaging stakeholders

We regularly engage with our customers, investors, and other important stakeholders for their insights and feedback on our shared sustainability objectives. This helps us understand expectations and priorities and form leading-edge sustainability partnerships.

We also engage stakeholders to help us identify and address our material issues. In 2017, we refreshed our materiality assessment based on feedback from internal and external stakeholders. Read more about this process in Reporting our material issues. The table on the following page outlines some of our key collaborations referenced in this report.

KEY COLLABORATIONS

Organizations	Material issues
Business Backs Low-Carbon USA	Our environmental footprint
Business for Social Responsibility	Our environmental footprint
	Reporting our material issues
CDP	Our environmental footprint
Centre for Information Policy Leadership	Privacy
Clean Production Action	Substances of concern
EPEAT	Product lifecycle management
Future of Internet Power	Our environmental footprint
Global Business Initiative on Human Rights	Human rights
Institute for Human Rights and Business	Ethical sourcing
International Association of Privacy Professionals	Privacy
Leadership Group for Responsible Recruitment	Ethical sourcing
	Human rights
National Center for Women in Technology	Inclusion and diversity
	Corporate philanthropy
Responsible Business Alliance	Ethical sourcing
	Human rights
	Substances of concern
RE100	Our environmental footprint
Renewable Energy Buyers Alliance	Our environmental footprint
Responsible Minerals Initiative	Ethical sourcing
Science Based Targets Initiative	Our environmental footprint
World Economic Forum	Employee development and engagement
We Mean Business Coalition	Our environmental footprint
UN Global Compact	Sustainable Development Goals

Reporting our material issues

In 2017, we partnered with Business for Social Responsibility (BSR) to refresh our materiality assessment.

The updated assessment takes into account changes to HPE's operations from spin-offs as well as emerging priorities in the external sustainability agenda.

The findings are shown in the chart right. Issues are rated by their importance to HPE's business (i.e. impact and alignment with our business strategy) on the x axis, and importance to external stakeholders on the y axis. This Living Progress Report addresses our top material issues. These include issues that are of high importance to our business and/or our stakeholders. We also cover additional issues that are fundamental to the corporate responsibility of any business.

To assess the relative importance of issues, BSR consulted key internal and external stakeholders, including customers, industry analysts, nongovernmental organizations, and HPE management.

BSR also considered recent policy developments and trends recognized by industry groups to better understand emerging concerns. Additionally, BSR used Polecat's artificial intelligence software to analyze online and social media to reveal conversations in the public domain that may indicate current or potential sustainability risks—making HPE an early adopter of this technology to specifically inform a materiality assessment.

When compared with the 2016 assessment, we see a notable decrease in the importance of issues related to HPE's operation of data centers, including energy use and greenhouse gas (GHG) emissions, waste, and water in operations, and freedom of expression. Issues related to corporate governance and public policy engagement have increased in importance, and we have also added a standalone supply chain resilience issue to the assessment. These changes are due to the increasing customer and business interest in reducing risks across our value chain.

2017 HPE MATERIALITY MAP

Medium | High

Importance to stakeholders

- Corporate governance
- Energy use and GHG emissions in the supply chain
- Ethical sourcing practices in the supply chain
- Human trafficking and forced labor in the supply chain
- Responsible sourcing of minerals
- Substances of concern in products
- Product lifecycle management

- Ethical behavior and business partnerships
- Inclusion and diversity
- Employee engagement and development
- Data security
- IT efficiency
- Privacy
- Social possibilities of technology

High

- Employee health, safety, and well-being
- Public policy engagement
- Supply chain resilience

Medium

Importance to business

Key ■ Our company ■ Our customers ■ Our world

Defining our material issues

The table below provides definitions for the issues in the chart. The definitions are based on input from internal and external stakeholders, as well as best practice guidelines from the Global Reporting Initiative and the Sustainability Accounting Standards Board.

Topic area	Issue	Definition
High importance to external stakeholders, high importance to HPE's business success		
Our Company	Ethical behavior and business partnerships	Promoting high standards of ethics and eliminating corruption, extortion, and bribery in employee, business partner, joint venture, and customer relationships.
		Ensuring that the marketing and communication of products and services is honest, transparent, and fair
Our Company	Inclusion and diversity	Ensuring that the HPE workforce reflects our global business and customers.
		Maintaining a supply chain that is diverse, inclusive, and global.
		Preventing discriminatory outcomes resulting from the use of customer data and Big Data analytics.
Our Company	Employee development and engagement	Promoting rapid professional growth and matching employee skills to future business needs in the ever-evolving technology industry.
		Fostering employee engagement and open communication. This includes effectively managing the negative impacts of workforce reductions and relocations.
Our Customers	Data security	Protecting information managed by HPE and customers from unwanted parties and unauthorized access, such as security threats and cyberattacks. Processes managed include the collection, use, processing, storage, transfer, sharing, and end-of-life disposal of data.
Our Customers	IT efficiency	Providing IT services, products, and solutions and engaging with customers to solve customer business and sustainability challenges
		Increasing the energy efficiency of HPE products and enabling customers to reduce their energy use.
Our Customers	Privacy	Upholding the right to privacy and protecting personal data from unwanted parties, including privacy by design. This includes the management of requests for private or personal information from government or law enforcement agencies to determine their legitimacy and comply with local, regional, and national laws and standards.
Our World	Social possibilities of technology	Providing IT solutions that improve access to health, finance, food, government services, education, information, and markets.
		Taking account of ethical considerations in the social applications of Big Data and the social implications of IoT.

Topic area	Issue	Definition

High importance to external stakeholders, medium importance to HPE's business success

Topic area	Issue	Definition
Our Company	Corporate governance	Improving diversity of HPE's board structure, as well as its independent oversight of the company, governance of sustainability, and role of CEO/chairman. Managing executive compensation relative to average worker salaries. Providing accessible, clear, and comparable business and sustainability information on products, operations, and supply chain.
Our Company	Energy use and GHG emissions in the supply chain	Encouraging our suppliers to adopt energy efficiency and GHG emissions reduction practices in their operations.
Our Company	Ethical sourcing practices in the supply chain	Maintaining and elevating ethical standards in the supply chain, including services and manufacturing supply chains, which maintain labor standards in working hours and conditions, wages and benefits, and humane treatment of workers employed. Achieving fair and beneficial outcomes for supply chain participants, especially workers and communities.
Our Company	Human trafficking and forced labor in the supply chain	Eliminating slavery and forced labor in the HPE supply chain.
Our Company	Responsible sourcing of minerals	Responsible sourcing of raw minerals for HPE products, reducing the negative social and environmental impacts of raw materials extraction, including rare earth elements and conflict minerals.
Our Company	Substances of concern in products	Designing and developing products and solutions that use alternatives to materials and substances of concern to human health and the environment.
Our Customers	Product lifecycle management	Managing the impacts of HPE products and services through their entire lifecycle, including production of raw materials, engineering, design, manufacturing, use, and end-of-life options. Contributing to a more circular economy.

Topic area	Issue	Definition

Medium importance to external stakeholders, high importance to HPE's business success

Topic area	Issue	Definition
Our Company	Employee health, safety, and well-being	Creating a healthy, safe, and secure working environment for all HPE employees. Promoting employee well-being.
Our Company	Public policy engagement	Influencing public policy development through direct engagement and multi-stakeholder associations or initiatives. Responsible and ethical public policy engagement, including lobbying and political contributions. Fulfilling taxation responsibilities to the economies in which HPE operates.
Our Company	Supply chain resilience	Managing risk and potential exposure of our supply chain to impacts from natural resource constraints, extreme and unpredictable weather events related to climate change, and geographic-specific considerations of supply chain risk.

Additional fundamental issues covered in the report

Topic area	Issue	Definition
Our Company	Energy use and GHG emissions in our operations	Improving energy efficiency and using renewable energy sources to reduce GHG emissions in our operations, including for HPE buildings, employee travel, and transportation logistics.
Our Company	Waste and hazardous materials in our value chain	Managing and disposing of hazardous and nonhazardous waste responsibly across the HPE value chain.
Our Company	Water in our value chain	Conserving water across the HPE value chain and improving transparency and water stewardship of suppliers.
Our Customers	Network resilience	Managing reliable information networks—including those that support critical infrastructure and public goods—to reduce and rapidly respond to systemic risks and disruptions such as programming errors or server downtime.
Our Customers	IT products and services and human rights	Taking measures to prevent the use of HPE products and services by individuals, groups, or entities that are restricted or who may use IT to infringe on human rights.
Our World	Corporate philanthropy	Supporting local communities with employee volunteering or providing monetary contributions to qualified organizations. Additional monetary and product contributions are donated in response to natural disasters.

Standards index

Our 2017 Standards Index references two prominent reporting standards, the Global Reporting Initiative (GRI) and the Sustainability Accounting Standards Board (SASB).

The index is intended to help our stakeholders locate content of interest. It does not represent a complete or inclusive view of HPE's reporting or practices.

GRI index

Disclosure number	Description	Location
GRI-100		
102-2	Activities, brands, products, and services	HPE 2017 10-K
102-3	Location of headquarters	HPE 2017 10-K
102-4	Location of operations	HPE 2017 10-K
102-5	Ownership and legal form	HPE 2017 10-K
102-6	Markets served	HPE 2017 10-K
102-7	Scale of the organization	HPE 2017 10-K
102-8	Information on employees and other workers	Employees
102-9	Description of the supply chain	Our environmental footprint
102-10	Significant changes to the organization and its supply chain	HPE 2017 10-K
102-11	Precautionary Principle or approach	Substances of concern
102-12	External economic, environmental, and social initiatives to which the organization subscribes	Our environmental footprint Privacy Employee health, safety, and well-being Product lifecycle management Data security
102-13	Membership of associations	Our environmental footprint Substances of concern Data security
102-14	Statement from senior decision-maker	CEO Letter
102-15	Key impacts, risks, and opportunities	Living Progress overview Sustainability and shareholder value

Disclosure number	Description	Location
102-16	Values, principles, standards, and norms of behavior	Public policy Privacy Inclusion and diversity Employee health, safety, and well-being
102-17	Mechanisms for advice and concerns about ethics	Corporate governance and ethical behavior
102-18	Governance structure	Corporate governance and ethical behavior HPE Governance
102-20	Executive-level responsibility for economic, environmental, and social topics	Corporate governance and ethical behavior
102-21	Consulting stakeholders on economic, environmental, and social topics	Corporate governance and ethical behavior HPE Governance
102-22	Composition of the highest governance body and its committees	Corporate governance and ethical behavior
102-23	Chair of the highest governance body	Corporate governance and ethical behavior
102-24	Nominating and selecting the highest governance body	Corporate governance and ethical behavior
102-25	Conflicts of interest	Corporate governance and ethical behavior
102-29	Identifying and managing economic, environmental, and social impacts	Corporate governance and ethical behavior HPE Governance
102-31	Review of economic, environmental, and social topics	Corporate governance and ethical behavior HPE Governance
102-32	Highest governance body's role in sustainability reporting	Corporate governance and ethical behavior
102-33	Communicating critical concerns	Corporate governance and ethical behavior HPE Governance
102-35	Remuneration policies	HPE 2017 10-K
102-40	List of stakeholder groups	About this report
102-42	Identifying and selecting stakeholders	About this report
102-43	Approach to stakeholder engagement	About this report
102-45	Entities included in the consolidated financial statements	HPE 2017 10-K
102-46	Defining report content and topic boundaries	Reporting our material issues
102-47	List of material topics	Reporting our material issues
102-48	Restatements of information	2017 Living Progress Report
102-49	Changes in reporting	Goals About this report Reporting our material issues
102-50	Reporting period	About this report

Disclosure number	Description	Location
102-51	Date of most recent report	June 2017
102-52	Reporting cycle	About this report
102-53	Contact point for questions regarding the report	About this report
102-55	GRI content index	Standards Index
102-56	External assurance	About this report Data summary

GRI-200

205-2	Communication and training about anti-corruption policies and procedures	Corporate governance and ethical behavior

GRI-300

301-1	Materials used by weight or volume	Product lifecycle management
301-2	Recycled input materials used	Product lifecycle management
301-3	Reclaimed products and their packaging materials	Product lifecycle management Product return, reuse, and recycling
302-3	Energy intensity	Operations
302-4	Reduction of energy consumption	Our environmental footprint
302-5	Reductions in energy requirements of products and services	IT efficiency
305-1	Direct (Scope 1) GHG emissions	2017 Carbon Accounting Manual Our environmental footprint Carbon footprint
305-2	Energy indirect (Scope 2) GHG emissions	2017 Carbon Accounting Manual Our environmental footprint Carbon footprint
305-3	Other indirect (Scope 3) GHG emissions	2017 Carbon Accounting Manual Our environmental footprint
305-4	GHG emissions intensity	2017 Carbon Accounting Manual Operations
305-5	Reduction of GHG emissions	2017 Carbon Accounting Manual Our environmental footprint
308-2	Negative environmental impacts in the supply chain and actions taken	Our environmental footprint

GRI-400

408-1	Operations and suppliers at significant risk for incidents of child labor	Ethical sourcing Supply chain responsibility
414-2	Negative social impacts in the supply chain and actions taken	Ethical sourcing Supply chain responsibility

Hewlett Packard Enterprise

SASB index

Code	Metric description	HPE 2017 Disclosure

Technology and Communications - Hardware
Product security

TC0103-01	Discussion of approach to identifying and addressing data security risks to new and existing products	2017 Living Progress Report - Data security HPE 2017 10-K

Employee inclusion

TC0103-02	Percentage of gender and racial/ethnic group representation for: (1) executives and (2) all others	2017 Living Progress Report - Inclusion and diversity HPE 2017 EEO-1 Report

Product lifecycle management

TC0103-03	Percentage of products by revenue that contain IEC 62474 declarable substances	2017 Living Progress Report - Substance of concern 2017 Living Progress Report - Product lifecycle management HPE General Specification for the Environment
TC0103-04	Percentage of eligible products by revenue meeting the requirements for EPEAT® certification or equivalent	2017 Living Progress Report - Product lifecycle management
TC0103-05	Percentage of eligible products by revenue meeting ENERGY STAR® criteria	2017 Living Progress Report - Product lifecycle management 2017 Living Progress Data Summary - Design for the environment
TC0103-06	Weight of products and e-waste recovered through take-back programs, percentage of recovered materials that are recycled	2017 Living Progress Report - Product lifecycle management 2017 Living Progress Data Summary - Product return, reuse, and recycling

Technology and Communications - Hardware
Supply chain management and materials sourcing

TC0103-08	Percentage of tungsten, tin, tantalum, and gold smelters within the supply chain that are verified conflict-free	2017 Living Progress Report - Ethical sourcing 2017 Living Progress Data Summary - Supply chain responsibility Conflict Minerals Report

Code	Metric description	HPE 2017 Disclosure
TC0103-09	Discussion of the management of risks associated with the use of critical materials and conflict minerals	2017 Living Progress Report - Ethical sourcing 2017 Living Progress Data Summary - Supply chain responsibility Conflict Minerals Report
TC0103-10	Percentage of suppliers audited in the EICC Validated Audit Process (VAP) or to an equivalent social and environmental responsibility code of conduct	2017 Living Progress Report - Ethical sourcing 2017 Living Progress Data Summary - Supply chain responsibility Conflict Minerals Report
TC0103-11	Suppliers' social and environmental responsibility audit compliance: (1) priority nonconformance rate and associated corrective action rate, and (2) other nonconformance rate and associated corrective action rate	2017 Living Progress Report - Ethical sourcing 2017 Living Progress Data Summary - Supply chain responsibility

*Note to TC0103-03 – Disclosure shall include a discussion of the approach to managing the use of IEC 62474

Technology and Communications - Software and IT Services
Environmental footprint of hardware infrastructure

Code	Metric description	HPE 2017 Disclosure
TC0102-01	Total energy consumed, percentage grid electricity, percentage renewable energy	2017 Living Progress Report - Our environmental footprint 2017 Living Progress Data Summary - Operations
TC0102-02	Total water withdrawn, percentage recycled, percentage in regions with High or Extremely High Baseline Water Stress	2017 Living Progress Report - Our environmental footprint 2017 Living Progress Data Summary - Our water footprint 2017 Living Progress Data Summary - Operations
TC0102-03	Description of the integration of environmental considerations to strategic planning for data center needs	2017 Living Progress Report - Our environmental footprint 2017 Living Progress Report - IT efficiency

Technology and Communications - Software and IT Services
Data privacy and freedom of expression

Code	Metric description	HPE 2017 Disclosure
TC0102-04	Discussion of policies and practices relating to collection, usage, and retention of customers' information and personally identifiable information	2017 Living Progress Report - Privacy HPE Privacy Statement

Hewlett Packard Enterprise

Code	Metric description	HPE 2017 Disclosure
Data security		
TC0102-09	Number of data security breaches and percentage involving customers' personally identifiable information	2017 Living Progress Report - Data security
TC0102-10	Discussion of management approach to identifying and addressing data security risks	2017 Living Progress Report - Data security
Recruiting and managing a global, diverse, skilled workforce		
TC0102-12	Employee engagement as a percentage	2017 Living Progress Report - Employee development and engagement
TC0102-13	Percentage of gender and racial/ethnic group representation for (1) executives and (2) all others	2017 Living Progress Report - Corporate governance and ethical behavior 2017 Living Progress Data Summary -Employees HPE 2017 EEO-1 Report
Managing systemic risks from technology disruptions		
TC0102-15	Discussion of business continuity risks related to disruptions of operations	2017 Living Progress Report - Network resilience

Footnotes

1 Climate Disclosure Project.

2 This recognition was received by Hewlett Packard Enterprise for the first time in 2016. Hewlett-Packard Company received all prior recognitions.

3 Formerly the Electronic Industry Citizenship Coalition (EICC).

4 For audits on RBA member facilities and their suppliers' facilities, independent third-party specialists trained in social and environmental auditing carry out the audits, using the RBA Validated Audit Process.

5 Based on HPE production line workers at final assembly, and selected commodity sites participating in the HPE KPI program and audit results. Suppliers are included in the KPI program based on business risk, country risk, and identified nonconformances.

6 2017 findings relate to freely chosen employment management systems.

7 Based on a sample of beneficiaries and peer educators surveyed at each of the four suppliers. Figures represent an average percentage across the four suppliers.

8 The Responsible Labor Initiative is managed by the Responsible Business Alliance.

9 "DRC conflict free" as defined in the U.S. Securities and Exchange Commission's conflict minerals rule: products that do not contain conflict minerals that directly or indirectly finance or benefit armed groups in the DRC or an adjoining country.

10 This project developed one of the electronics industry's only closed-pipe, vertically integrated conflict-free tantalum supply chains. HPE supports this effort by purchasing tantalum capacitors from KEMET Corporation.

11 Our progress toward DRC conflict free status is based on the number (as of the 2018 Cut-Off Date of April 24, 2018) of all supplier-reported 3TG facilities that were either RMAP conformant or active, and/or that we reasonably believe exclusively source conflict minerals from recycled or scrap sources or from outside of the Covered Countries.

12 Includes diversity of ethnicity, gender, nationality, and race.

13 Some segments do not add up to total due to rounding.

14 The anti-corruption category is broadly defined and includes allegations of commercial bribery, kickbacks, and certain Global Business Amenities Policy violations, as well as alleged corruption related to foreign public officials.

15 This category was added in 2017 and therefore was not tracked in previous years.

16 https://www.researchgate.net/publication/320225452_Total_Consumer_Power_Consumption_Forecast (reported here: https://www.theguardian.com/environment/2017/dec/11/tsunami-of-data-could-consume-fifth-global-electricity-by-2025)

17 Defined as ASHRAE A3/A4 environments.

18 As compared to the Intel® Xeon® Scalable 6142 16-core processor. VMmark® is a product of VMware, Inc. VMmark® results published as of 08-26-17. VMmark® disclosures available at http://h20195.www2.hpe.com/V2/GetDocument.aspx?docname=a00023030enw and http://h20195.www2.hpe.com/V2/GetDocument.aspx?docname=a00023031enw

19 HPE Internal testing from Performance Engineering Benchmarking team, April 2017. Note: Core Boosting is a unique feature of HPE Gen10 servers when paired with select Intel® processors and specific hardware options. https://h20195.www2.hpe.com/V2/getpdf.aspx/4AA5-4487ENW.pdf

20 Performance is measured per watt of electricity across high volume server products using industry-standard test methods. This performance will reduce the carbon emissions per operation by over 95%.

21 451 Research, November 2016. https://h20195.www2.hpe.com/V2/GetPDF.aspx/4AA4-4248ENW.pdf

22 https://www.thegreengrid.org/en/resources/library-and-tools/456-WP

23 A gigaflop is a unit of computing speed equal to one billion flops (floating-point operations per second).

24 Based on a full 12.1 petaflops configuration.

25 Exascale systems are those capable of a billion billion calculations per second.

26 Projections based on completion of conversion to high-voltage direct current system from the grid to the chip.

27 Based on a 20:1 deduplication ratio. Deduplication removes duplicate copies of repeated data.

28 One exabyte equals one billion gigabytes of data.

29 https://www.hpe.com/uk/en/resources/solutions/iot-readiness-indicator.html

30 https://www.mckinsey.com/~/media/McKinsey/Business%20Functions/McKinsey%20Digital/Our%20Insights/The%20Internet%20of%20Things%20The%20value%20of%20digitizing%20the%20physical%20world/The-Internet-of-things-Mapping-the-value-beyond-the-hype.ashx

31 https://www.accenture.com/t20170926T072837Z__w__/us-en/_acnmedia/PDF-61/Accenture-2017-CostCyberCrimeStudy.pdf

32 Ponemon Institute and IBM Security, June 2017.

33 IT Eco Declarations are not generated for individual parts and accessories. Nor do IT Eco Declarations include "proactive" declarations for company products acquired by HPE. For such products, we retroactively create the declarations.

34 HPE defines e-waste as nonworking parts or devices. This does not include materials defined as nonhazardous under the Basel Convention; working equipment and parts that are not intended for disposal or recycling, but are for donation, reuse, or resale; components being returned to the original equipment manufacturer that are under warranty; and materials to be used in manufacturing that do not require further reprocessing or preparation.

35 Available services differ among countries and regions.

36 Organisation for Economic Co-operation and Development.

37 International poverty line is currently defined as $1.90 dollars per person per day using 2011 purchasing power parity.

Resources

HPE reports and online content

[HPE 2017 Living Progress Data Summary](#)

[HPE Annual 10-K Report](#)

[HPE Investor Relations](#)

[HPE Carbon Accounting Manual](#)

[HPE Water Accounting Manual](#)

External ratings

Search for Hewlett-Packard for historical Hewlett-Packard Company submissions, and Hewlett Packard Enterprise for post-separation HPE submissions.

[CDP](#)

[Dow Jones Sustainability Index (DJSI)](#)

Feedback

We welcome feedback on any aspect of our Living Progress reporting and performance. Contact us **here**.

STAY UP TO DATE