## The business case for one-planet prosperity

Global Footprint Network and Schneider Electric highlight the powerful competitive advantage of building one-planet compatibility into companies' strategy





Global Footprint Network®

## Contents

Executive summary	3
Why a partnership between Global Footprint Network and Schneider Electric?	4
The human enterprise operates as if we lived on 1.75 Earths	5
The business case for one-planet prosperity	7
One-planet prosperity companies are a transformative force towards a one-planet compatible economy	8
One-planet prosperity translates into new business risks and opportunities	10
The case to act now: as pressures intensify, unsustainable business models are becoming exposed to accelerating risks	14
One-planet compatibility is a strategic compass to gauge the sustainability value propositions of companies	15
A new strategic compass to assess companies' strategies	16
Schneider Electric technologies can help #MoveTheDate by 21 days	17
One-planet prosperity business models are already thriving in many sectors	21
Looking ahead: Innovation and collaboration to cut CO <sub>2</sub> emissions by half and #MoveTheDate by 93 days	29

## Executive summary

By July 29, 2019, humanity's demand for nature will exceed what Earth's ecosystems can replenish during the entire year. It is Earth Overshoot Day and the 2019 date is the earliest ever. Since overuse is only possible for a limited duration in time, human demand on nature will be brought in balance with what Earth can provide – the question is whether this happens by design or disaster.

The current trend can be reversed. Not only is 'one-planet compatibility' within reach, but it is the strategic compass that can guide businesses to their own long-term success. The business case for one-planet compatibility strategies is clear: expanding markets fueled by increased customer expectations for transparency and traceability; reduced exposure to shrinking ecological resources with volatile flows and prices; optimized chances at securing long-term value of assets and financing.

**The pressure is intensifying** as resource imbalance increases, while markets and brand reputation can shift (nearly) overnight. As Millennials grow their influence in the

Figure 1 The human enterprise now

operates as if we lived on **1.75 Earths.** 

consumer base and are entering the workforce in larger numbers, expectations from civil society shifts towards a clearer sense of purpose and accountability.



For the last two years, Schneider Electric has been working with Global Footprint Network to gauge its activities against oneplanet compatibility using Ecological Footprint accounting. This simple yet impactful approach provides businesses with a critical metric to answer this strategic question: "Are my products and services aligned with moving customers and humanity out of ecological overshoot?"

Because energy is central to three of the five levers to #MoveTheDate of Earth Overshoot Day, Schneider Electric and Global Footprint Network partnered up to assess energy solutions. Our joint research team found that **readily available technologies from Schneider Electric's and its partners' offering can #MoveTheDate of Earth Overshoot Day at least 21 days** by reducing global carbon emissions. With energy management, industrial automation and renewable electricity, we can act now to #MoveTheDate by 21 days. And with cross-sector innovation, cutting CO2 emissions by half would #MoveTheDate by 93 days.

With this report, **Global Footprint Network and Schneider Electric are joining forces** to explore the relationship between business strategy and 'one-planet compatibility.' They also evaluate what influence Schneider Electric could have to **#MoveTheDate** of Earth Overshoot Day with its technology. Moving out of ecological overshoot **calls for the kind of creativity, ingenuity, and drive that can only be unleashed through a new type of collaborative conversation between players.** Here's to getting the conversation started.

## Why a partnership between Global Footprint Network and Schneider Electric?



#### Mathis Wackernagel, President and founder of Global Footprint Network:

"Schneider Electric is among the few companies whose business model is aligned with moving humanity out of ecological overshoot. These companies have an inherent economic advantage since they address the increasingly urgent imperative to live within the means of our one planet. Because of their forward-looking strategic focus, they're advantageously positioned on a necessarily growing market.

"By contrast, companies whose success is incompatible with one-planet prosperity will inevitably face a shrinking demand. Schneider Electric is driving its business strategy based on this insight. As such, the company embraces the sustainability challenge not just as a symbolic CSR ("corporate social responsibility") gesture, but as a vital guiding post for building a business that can thrive now and in the future.

"Global Footprint Network is proud to promote such companies because they are critical engines for the transformation that is required to help humanity operate within the means of our one planet."



#### Xavier Houot, SVP Safety, Environment and Real Estate, Schneider Electric:

"We need to adopt an outside-in lens to define our strategy. Planetary constraints are clear and have been highlighted for decades by environmentalists and economists.

"Global Footprint Network stands out by providing a simple, quantitative and robust analysis of humanity's ecological overshoot: we can all assess where we stand now (1.75 Earths), what the trend is (the date of Earth Overshoot Day moving backwards every year), and where we want to move towards (back to 31st of December and beyond).

"To demonstrate the positive impact of energy management and industry automation technologies, we need clear and simple metrics to spell-out the measurable benefits our EcoStruxure<sup>™</sup> technologies provide to our customers."

## The human enterprise operates as if we lived on 1.75 Earths

Earth Overshoot Day, based on Global Footprint Network's Ecological Footprint accounting data, marks the date when humanity's demand for ecological resources and services in a given year exceeds what Earth can regenerate in that year. In 2019, Earth Overshoot Day is on July 29th, the earliest date ever.

Ecological overshoot stems from overuse of ecological assets, including liquidating stocks (e.g. overfishing, deforestation, freshwater depletion) or accumulating waste (e.g. eutrophication, ozone depletion, accumulation of greenhouse gases in the atmosphere).

Overshoot is measured by comparing demand with availability. On the supply side, a country or region's biocapacity is the measure of its biologically productive land and sea area, including forest lands, grazing lands, cropland, fishing grounds, and built-up land. On the demand side, the Ecological Footprint measures a population's demand for plant-based food and fiber products, livestock and fish products, timber and other forest products, space for urban infrastructure, and forest to absorb carbon dioxide emissions from fossil fuels. Currently, the emission of carbon dioxide from fossil fuel burning is the largest contribution to humanity's footprint.



#### Figure 2

Source: WWF Japan and Global Footprint Network; Ecological Footprint for Sustainable Living in Japan

Each person, city, region or country's Ecological Footprint can be compared to the biocapacity of the planet or that of its own territory. If a country's or region's demand for ecological assets exceeds the available supply, it runs an ecological deficit. In this case, it meets demand by overusing its own assets (local overshoot), net-importing ecological resources, liquidating its own ecological assets (as in overfishing), and/or exploiting the global commons, for instance by fishing in international waters or by emitting greenhouse gases that accumulates into the atmosphere.

To determine the date of Earth Overshoot Day each year, Global Footprint Network translates the results from its National Ecological Footprint and Biocapacity Accounts<sup>1</sup> into the number of days in that year for which humanity's Ecological Footprint can be supported by Earth's annual biocapacity – 210 days in 2019, i.e. July 29. The remainder of the year corresponds to global overshoot.

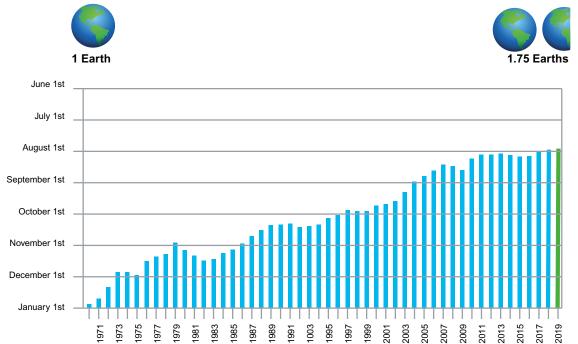


#### More about Earth Overshoot Day **Click here**

<sup>1</sup> 1 The National Footprint and Biocapacity Accounts are described here:. https://www.footprintnetwork.org/resources/data/. All country results are available on the open data platform at http://data.footprintnetwork.org

#### Human demand keeps increasing, bringing the date of Earth Overshoot Day sooner year after year.

Over the last decades, the date has been creeping up the calendar, although at a slowing rate. Since 1961, when UN data for countries started to become consistently available for all countries, humanity's demand on resources has gone from being within the means of nature to growing significantly over budget. Our planet went into global overshoot in the early 1970s.



#### Earth Overshoot Day 1970 - 2019

The current trend is reversible: technologies and know-hows are readily available to push the date of Earth Overshoot Day back towards December 31st and even beyond. Taking into account immediate savings from resource efficiency and the long-term increased value of future-proofed assets and business models, this is also the most financially desirable path with regard to both short-term and long-term value.





Source: Global Footprint Network National Footprint and Biocapacity Accounts 2019



**Explore Ecological** Footprint accounting data **Click here** 

Why one-planet prosperity is becoming an essential component of corporate strategy

#### One-planet prosperity companies are a transformative force towards a one-planet compatible economy.

**"One planet"** is not a metaphor – it is a fact. It is not a goal, but the stark recognition of our inescapable context. From this vantage point, any forward-looking business is bound to wonder: "How can we best operate, given that humanity is already demanding more than Earth's ecosystems can renew?"

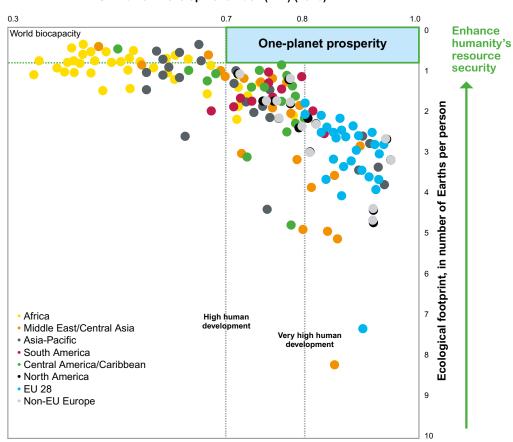
One-planet prosperity companies are aligned with the emerging imperative to thrive within the means of our one planet. These are companies that increase humanity's chance of a stable future.

The pathway towards one-planet prosperity can be mapped through two axes: human well-being (as tracked by the United Nations' Human Development Index) and ecological resource security (based on Ecological Footprint accounting data). The UN defines levels above 0.7 HDI to be "high human development." Most OECD countries are above 0.8, identified as "very high human development." Ecological Footprint accounting identifies how many Earths would be necessary if everybody lived at a given level of resource demand.

The figure below (Figure 4) shows the current position of countries along both axes. It makes evident that very few countries today come close to operating within the "one-planet prosperity quadrant" marked in the upper right corner of Figure 4. This quadrant highlights where high well-being and ecological resource security converge. It can be applied to any communities beside countries, including cities, regions, or households.

Improve people's well-being

#### The "one-planet prosperity" quadrant points to humanity's goal



#### UN Human Development Index (HDI) (2016)

Source: Ecological Footprint per person: National Accounts 2019 Edition, Global Footprint Network. Human Development Index: Human Development Report UNDP 2017

#### Figure 4

The Ecological Footprint per person and HDI of countries (2016) define the "one-planet prosperity" quadrant where humanity must operate to ensure its sustainable future. Well-being can be approximated by the UN's Human Development Index (HDI) capturing longevity, basic education, and income. The United Nations considers an HDI over 0.8 on a scale from 0 to 1 to be "very high human development." Whether we also operate within the means of nature, can be tracked thanks to the Ecological Footprint.

Companies may embrace the movement towards global sustainable development with two (non-exclusive) strategies:

**VERTICAL MOVE** 

Enhance humanity's resource security strategy: One-planet prosperity companies contribute to getting out of ecological overshoot and improving resource security through their offerings and supply chain.

For instance, in the agriculture or fast-moving consumer goods sectors, one-planet prosperity companies contribute to protecting and restoring natural resources and ecosystems by joining forces with suppliers for sustainable resource management.

In the capital goods and consumer durables sectors, one-planet prosperity companies design low-CO<sub>2</sub> and circular offers, allowing their customers to achieve greater efficiency and "do more with less," or to shrink demand by replacing energy-intensive processes with much nimbler ones (smart phones replacing books, calendar, camera, dictaphone, newspaper, phone, photo album, Rolodex, scanner, ticket, Walkman, wallet, etc). Service providers invent new offers to share, repair, and reuse, allowing consumers to prolong and optimize the useful lifetime of goods.

HORIZONTAL MOVE

Improve people's well-being strategy:

One-planet prosperity companies provide for basic needs (nutrition, health, shelter, water etc.), improving well-being within the budget of the planet's natural ecosystems.

For instance, infrastructure operators retrofit assets for greater efficiency and resiliency to climate change (such as energy-efficient and climateproof buildings) and commission new assets to enable sustainable lifestyle (such as electric bicycles for low- $CO_2$  mobility). In the healthcare sector, equipment manufacturers innovate to design machines that can operate safely with low- $CO_2$  and decentralized power. Agriculture sector protects ecosystems and reduces wastage to feed population while ensuring sustainability of long-term yields.

**One-planet compatibility is a simple way to demonstrate companies' comprehensive contribution to the Sustainable Development Goals,** the UN and its member states' shared blueprint to achieve a better, sustainable future for all. The business challenge is massive: the UN estimates that meeting the SDGs will require 5 to 7 trillion USD in investment each year from 2015 to 2030. The opportunities are just as significant.



## One-planet prosperity reveals emerging risks and identifies new opportunities

Awareness of environmental and resource risks is growing. Over the last ten years, six or seven of the top-10 global risks identified each year by the World Economic Forum's "Global Risks Report" have consistently dealt with resource or environmental threats. Step by step, we increasingly see this global understanding of risks translating into concrete business decisions. A poll of Schneider Electric's customers in Europe revealed that 82% of them consider resource scarcity and sustainability as key elements in their decision-making processes. Yet the shift is not happening fast enough.

#### Here is the case of why opportunities for change outweigh risks.



#### Capture market shifts in favor of sustainable technologies and lifestyles

Major technology shifts are already a reality in some markets. According to IEA<sup>2</sup>, in 2016, for the first time ever, the electricity sector became the largest recipient of energy investment, ahead of oil and gas. Granted, the path to market growth of low-CO<sub>2</sub> technologies is not a stable and quiet one: falling unit capital costs of renewables, for instance, are reducing overall investment and margins in the renewable sector.

Consumers' shifting habits is another trend worth noting. In many markets, sustainability-marketed products grow faster, with double digit-growth of organic or local offers in some food segments. Additionally, "sustainable" value propositions can also mean savings for consumers (car sharing, repair stores, bulk food, tool rental, etc), making those markets all the more resilient. Consumer Insights Manager at Pinterest reports "a rise in people searching for sustainable and eco-friendly ideas across areas like travel, food, parenting, and style<sup>3</sup>." An example from the US consumer packaged goods sector shows that sustainable-marketed products have represented 50% of the growth in the past 5 years, with only 16% of market share<sup>4</sup>.

Civil society's pressure on infrastructure projects is also increasing. The "licence to operate" is increasingly conditioned to one-planet compatibility. In France in 2018, Notre-Dame des Landes airport project was finally abandoned after decades of planning and a long stand-off between protesters and government officials<sup>5</sup>. Not even to mention all student led initiatives, climate protests, brand boycott, or class actions.



#### Anticipate regulatory change

Rapid change can also come from legislation. For instance, in February 2016, France enacted Loi Garot, a legislation designed to cut the national food waste in half, eliminating 5 million tonnes of food from landfills by 2025. Its main tenet makes it illegal for supermarkets with a surface area of more than 400 m<sup>2</sup> to dispose of food that is still perfectly safe for consumption. Instead, they must donate unwanted food surpluses to at least one non-profit organization who serves the underprivileged. By February 2018, 93% of supermarkets targeted by the law were donating unwanted food surpluses, according to IPSOS<sup>6</sup>, compared to 33% before the law came into effect. By February 2019, food donations had increased increased between 15% and 50% in volume, depending on the county, since 2015. The same applies to Circular Economy directives in various world regions, which sends strong signals on the need to develop further options to serve, repair and maintain, a great variety of product categories and assets installed base.

Legislation can also trigger business innovation: a whole new crop of start-ups have been addressing food waste through various innovative services to farmers, food distributors, and consumers, improving economic benefits for all parties while diverting dozens of tonnes of food away from landfill. Such legislative change can make a difference, both on the competitive landscape and for the planet: Global Footprint Network has calculated that if we cut worldwide food waste in half, we would move the date of Earth Overshoot Day by 10 days.

IEA, World Energy Investment 2017, https://www.iea.org/publications/wei2017/ Pintrest, How Pintrest inspires people to live a more sustainable lifestyle, February 7th 2019, https://newsroom.pinterest.com/en/node/5601

NYU Stern CSB, Sustainable Share Index, Research on IRI Purchasing Data (2013-2018) https://www.gouvernement.fr/partage/9900-le-projet-d-aeroport-a-notre-dame-des-landes-est-abandonne

<sup>&</sup>lt;sup>6</sup> https://www.ipsos.com/fr-fr/loi-garot-ou-en-est-lapplication-des-mesures-anti-gaspillage?\_sm\_au\_=iVVwWTV3M2RH072t



## Answer growing consumer expectations for transparency and end-to-end traceability

Consumers increasingly expect transparency, traceability

and the ability to choose. The phenomenon is especially visible in the food industry. For instance, the organic food market has grown by 47% from 2012 to 2016, and organic farmland has increased by 18%<sup>7</sup>. Substance regulations such as RoHS and REACh are engines to boost traceability and quality.

**Reputational impacts can be sudden,** and lack of transparency exposes brands to adverse publicity. NGOs and consumer associations test products against environmental claims and can lead detailed investigations on supply chain ramifications. Coupled with social media snowball effect, this can result in damaging campaigns. For instance, palm oil controversy has hit major food brands<sup>8</sup>.



## Protect operations from commodity price volatility and shortage risks

**"Doing more with less"** is increasingly becoming a new business mantra: in addition to delivering savings, resource efficiency protects companies from commodity-price volatility and shortage risks. Resource efficiency is especially critical in low-margin, high-resource intensity businesses, such as heavy industry and agriculture. Energy costs typically represents 60% of operating costs in the cement industry, and 34% in wastewater treatment facilities. Lower resource intensity also prevents future (and well-needed) costs from CO<sub>2</sub> or other environment externalities pricing. For instance, BNPP Exane research estimates that a  $\in$ 40 carbon tax would lead to around a 20% increase in cement, aluminum and BF steel production costs globally<sup>9</sup>. Protecting a business from price volatility can be a strong differentiator, and even a key to survival considering potential cash flow impacts of un-hedged commodity sourcing.

Shortage risk of biological resources is also bound to increase because of global warming. Extreme weather events, floods, droughts, and other climate impacts will put unprecedented pressure onto supply chains. Shortage can translate directly into revenue loss (missed orders), increased costs (urgent shipping) and increased working capital requirements (stock management).

<sup>7</sup> http://www.europarl.europa.eu/news/en/headlines/society/20180404STO00909/the-eu-s-organic-food-market-facts-and-rules-infographic

<sup>9</sup> Exane BNP Paribas, SRI Climate Change, April 2015, Erwan Crehalet

<sup>&</sup>lt;sup>8</sup> https://www.worldwildlife.org/industries/palm-oil



## Plan now to avoid future liabilities and stranded-assets

#### Companies' balance sheets can suffer or gain from

**one-planet compatibility.** Physical assets need to be retrofitted for resource efficiency, as competition with newbuilt efficient infrastructure will increase. For instance, energy-efficient and digital buildings provide superior comfort to users while lowering operating costs, which translates into higher asset value. In a study published in Nature Climate Change, researchers show the existence of a carbon bubble in the fossil industry which, if not deflated early, could lead to a discounted global wealth loss of between \$1,000-4,000 billion. A loss comparable to the 2007 financial crisis<sup>10</sup>.

Parties who have suffered loss or damage from the effects of climate change or environmental pollution could increasingly seek compensation from those they hold responsible. For instance, 47 companies among the worlds' largest carbon emitters are facing charges of human rights violations resulting from climate change, with an ongoing investigation from the Philippines Commission on Human Rights<sup>11</sup>. In 2016, the International Criminal Court (ICC) said it would start to focus on crimes linked to environmental destruction, illegal exploitation of natural resources and unlawful dispossession of land<sup>12</sup>.



## Secure financing, with investors who increasingly value transition risks and opportunities

The strongest nudge might come from investors, whose understanding of long-term financial risks and opportunities related to one-planet compatibility is growing at full speed. The European Commission is currently working on a legislative package to finance sustainable growth, looking at how to create a classification of sustainable economic activities ("taxonomy") and new categories of investment benchmarks<sup>13</sup>. California's new legislation signed into law on Sept. 23, 2018, requires the two largest pension funds in the country with over \$550 billion in combined assets under management, CalPERS and CalSTRS, to publicly report their climate-related financial risks every three years starting in 2019<sup>14</sup>.

With impact investing, innovative finance actors are seeking to differentiate by providing intentional and identifiable environmental and social outcomes alongside financial results. One-planet compatible offers are also seen as a market differentiator by some financial players.

- <sup>11</sup> https://www.climateliabilitynews.org/2018/03/27/philippines-human-rights-climate-change/
- <sup>12</sup> https://www.reuters.com/article/us-global-landrights-icc-idUSKCN11L2F9
- <sup>13</sup> https://ec.europa.eu/info/publications/180524-proposal-sustainable-finance\_en
- <sup>14</sup> https://www.ckrlaw.com/our-voices/2018/12/28/new-california-pension-fund-climate-law/

<sup>&</sup>lt;sup>10</sup> Mercure, Jean-Francois & Pollitt, Hector & Vinuales, Jorge & Edwards, Neil & Holden, Philip & Chewpreecha, Unnada & Salas, Pablo & Sognnaes, Ida & Lam, Aileen & Knobloch, Florian. (2018). Macroeconomic impact of stranded fossil fuel assets. Nature Climate Change. 8. 10.1038/s41558-018-0182-1.

To protect your own success, act now: As pressures intensify, unsustainable business models are becoming exposed to accelerating risks

**Society is changing**. As per a recent Deloitte survey, Millennials will account for two-thirds of the world population by 2020. Millennials grew up in a world where information is just a click away. They expect transparency, are used to fact checking, and value opinions from peers and influencers. With a strong sense of purpose they are accustomed to asking "Why?". Millennials aspire to sustainable lifestyles more than previous generations. The rapid surge of #FridaysForFuture, the youth protest movement for climate action, originally inspired by Swedish high-schooler Greta Thunberg and positively received by all generations, as shown in shifting electoral choices, is a sign of possible acceleration.

**Generational change also means wealth transfer:** Forbes estimates that USD 30 trillion of wealth (or three times the US

GDP) will be transferred from Baby Boomers to Generation Xers and Millennials over the next 30 years – the largest transfer of wealth recorded in history<sup>15</sup>. As a result, Millennials' aspirations, both as consumers and investors, are bound to shape financial markets in the near future.

**Millennials demonstrate the capacity to drive rapid change.** In 2019, the aforementioned #FridaysForFuture movement demonstrated how youth across the globe can embrace civil unrest to push for change. This mobilization translated into direct business impact: the "flygskam" trend, attributed to Greta Thunberg's no-flight policy, is one factor explaining a 15% decrease in air travel in Sweden in April 2019 compared to the year prior<sup>16</sup>. Young people's opinions can change the business context (nearly) overnight!

<sup>15</sup> Forbes, The Millennial Wealth Transfer: I Don't Think You Are Ready For This, 2018

<sup>16</sup> https://www.weforum.org/agenda/2019/06/sweden-has-invented-a-word-to-encourage-people-not-to-fly-and-it-s-working/

One-planet compatibility is a strategic compass. It reveals the sustainability value propositions for companies

FP

Jun

# One-planet prosperity: a new strategic compass to enhance your companies strategies

"How do my offerings help the end users of our products and services operate within our planet's constraints and help the world move out of ecological overshoot?"

One simple and strategic way to assess the sustainability value proposition of businesses is to evaluate how they support societies in achieving the goal of moving out of overshoot. For the last two years, **Schneider Electric has** been working with Global Footprint Network to measure its activities against one-planet compatibility.

#### "Are my products and services needed in a one-planet context?"

Looking from upstream suppliers to downstream partners and all the way to the end users of our products and services, what is the resource intensity of my offerings and how does it measure against the planet's ecological budget? How can I move away from ecosystems overuse and towards regeneration?

## "How do my offerings allow the end users operate within our planet's constraints, making them more secure, while also helping the world move out of ecological overshoot?"

Do my offerings enable my customers and the end consumers of our value chains to reduce their own Ecological Footprint, through improved efficiency, longer-lifetime, better solutions, and higher service quality, or by enabling circular loops of materials?

Do I help my customers, the final consumers, and humanity at large move from where they are now, to where they want to be, thereby increasing their well-being?

## Schneider Electric technologies can help #MoveTheDate by 21 days



#### Figure 6

Existing off-the-shelf, commercial technologies for buildings, industrial processes, and electricity production could move Overshoot Day at least 21 days, without any loss in productivity or comfort, according to an analysis by researchers from Global Footprint Network and Schneider Electric At Schneider Electric, we aspire to overcome the energy paradox: balancing the need to reduce the planet's carbon footprint with the fundamental human need of quality energy. Our mission is to provide energy, digital and automation solutions for efficiency and sustainability. We combine world leading energy technologies, real time automation, software and services into integrated solutions for homes, buildings, data centers, infrastructure and industries. Moving humanity out of ecological overshoot is core to our strategy.

In the capital goods and consumer durables sectors, typically over 80% of environmental impact and savings opportunities are during the use phase of sold products, on customers' end. This is no different for Schneider Electric: offers are designed to last for years or even decades, and efficiency in operation is paramount to the value we deliver to our customers. The four key markets Schneider serves consume 70% of the world's energy.

Global Footprint Network researchers teamed up with engineers from Schneider Electric to assess opportunities to #MoveTheDate within the technology portfolio offered by Schneider Electric and its partners. We asked ourselves: Assuming no shift in human habits, by **how many days could Earth Overshoot Day be moved using current off-the-shelf, commercial technologies for buildings, industrial processes, and electricity production as already available within Schneider Electric's ecosystem of offering?** The assessment assumes retrofitting existing buildings and industrial processes rather than speculating on future developments. On the energy side, we estimated current decarbonization opportunities of the electricity systems, taking current grid limitations into account.

We found that **by applying existing technology worldwide in these arenas alone, the energy retrofit and the decarbonization of electricity generation combined would move the date by 21 days**. This is a conservative estimate as it is strictly based on Schneider Electric's and partners' tested offerings. Other technologies may exist that could make those sectors even more efficient, thus moving the date even further. In addition, shifting people's resource-use behaviors, further innovation, or complementary technologies such as energy storage, also hold a large potential.

### Buildings: Energy and building management

In Europe, buildings account for about 40% of total energy consumption and are responsible for just under 40% of total greenhouse gas (GHG) emissions. Everything that is built new today has to be designed with the predictable future in mind, since initial design will largely determine the asset's energy and resources use over its entire lifespan. At the same time, we should not forget about retrofitting existing buildings. In OECD countries, about 50% of buildings that will be in use in 2050 are already built. Retrofitting is a high-leverage opportunity that we cannot afford to miss.

Building management technologies bring efficiency by addressing intermittent occupancy levels. Examples include putting controls on idle mode when hotel rooms are unoccupied; using CO<sub>2</sub> sensors to better control temperature, air quality and ventilation; optimizing heating by occupancy level; opening and closing blinds to leverage the sun for free natural light and heat, or to keep heat out.

In addition to energy savings, space optimization holds a huge potential in the service sector: by using existing building surfaces more efficiently, we can deliver more value from existing assets and limit the need to build new infrastructure. IEA estimates that by 2050, in a +2°C scenario, the strong increase in floor area in non-OECD countries will drive the doubling in energy consumption between 2010 and  $2050^{17}$ . Saved surfaces translate directly into lower  $CO_2$  emissions, as well as spared natural habitats and agricultural land.





<sup>17</sup> International Energy Agency, 2013, Transition to Sustainable Buildings, Strategies and Opportunities to 2050

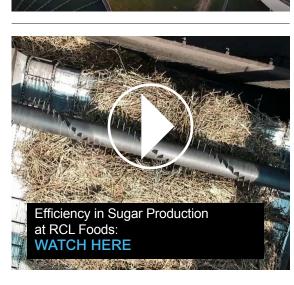
### Industry 4.0: Digital transformation of industry

Industry supplies the materials and goods needed to enable the well-being of 7.7 billion people on Earth but is, at the same time, a major source of unsustainable resource depletion. The Fourth Industrial Revolution holds the potential to bridge this gap, enabling us to "do more with less" thanks to efficient, digital and circular supply chain loops that deliver added value to customers. The potential is huge: according to the World Economic Forum, more than 70% of industrial companies are still either at the start of the 4th industrial revolution journey or unable to go beyond the pilot stage<sup>18</sup>.

With EcoStruxure, Schneider Electric leverages IoT (Internet of Things) and real-time control to empower factory operators to become performance managers. Material and energy savings directly impact the bottom-line, while reducing CO<sub>2</sub> emissions and waste. Similarly, space and asset optimization reduce capital investment requirements, while avoiding primary use of resources (such as plastics, steel or cement) needed to build new infrastructure and equipment.

Advanced analytics also unlocks the potential of preventive and predictive maintenance. Real time monitoring of assets enables early detection of abnormal behavior and to prevent failure. Remote analytics also enable us to pinpoint problematic systems and determine appropriate actions to resolve issues, prior to on-site field service visits. In addition to preventing downtime and urgent maintenance, that are costly for industrial operations, predictive and preventive maintenance increase assets' lifetime (therefore saving materials) and optimize field operations (therefore saving travel and  $CO_2$  emissions).





<sup>18</sup> International Energy Agency, 2013, Transition to Sustainable Buildings, Strategies and Opportunities to 2050

### Decentralized, decarbonized and digital power

The electricity system is shifting from a traditional centralized model, with centralized generation and passive consumption, to a decentralized, decarbonized and digitalized system. End consumers become "prosumers", active players in the grid who are able to source, sell and optimize energy. With Microgrid Operation and Advisor, Schneider Electric empowers customers to actively manage renewable production, storage (for instance with batteries or EV charging), demand response and energy consumption for better value and lower CO<sub>2</sub> emissions. Microgrid EcoStruxure can be used at many scales, from a single site, to a campus, district or island. At a larger scale, Grid EcoStruxure technologies manage electricity distribution networks, enabling power quality and reliability, demand management, reduction of electricity losses, and the integration of renewable sources in the grid.

Schneider Electric's Energy & Sustainability Services also support the increase of renewable in the grid by providing advisor services for corporate procurement of renewable energy. By the end of 2018, 155 companies had joined RE100 (including Schneider Electric), an initiative that brings together companies committed to source 100% of their electricity demand from renewables. Total consumption of RE100 companies is 155TWh – equivalent to the 23rd largest country's electricity consumption in the world<sup>19</sup>.



<sup>19</sup> RE100 2018 Progress and Insights Annual Report, http://media.virbcdn.com/files/fd/868ace70d5d2f590-RE100ProgressandInsightsAnnualReportNovember2018.pdf

## One-planet compatible business models are already thriving in many sectors

"The notion of one-planet compatibility simply solidifies the need for companies to change by incorporating sustainability into overall strategy and by innovating to adopt circular, regenerative principles that allow us to live within Earth's regenerative capacity – and not beyond it. There is no choice, because there is no Planet B to fall back on. The opportunity provided by that stark choice should – and must – be embraced by companies. Clinging to linear take-make-waste models without regard for resource consumption and planetary limits is unsustainable for companies and for humanity."

Steven Finn, Vice President of Food Waste Prevention for Leanpath

## 😃 Leanpath

## One-planet prosperity strategy: Food

#### Summary info

•Name: Leanpath

- Location: Beaverton, OR (USA)Date founded: 2004
- •Mission: To make food waste prevention and measurement everyday practice in the world's kitchens.
- •Business model: Food waste prevention platform offered on a subscription basis to the foodservice sector.
- •Geographical area served: Global.
- •Sustainability impact: Since 2014, Leanpath has prevented the occurrence of more than 54 million pounds (24 million kilograms) of food waste with foodservice clients in 40 countries around the world. We're preventing one pound of food waste every 1.7 seconds.
- •Revenue or other data to give an idea of your organization's size: 60 employees, operating ir 40 countries across more than 2.000 sites.

#### www.leanpath.com



IKEA Switzerland (Lyssach) Learn more

#### 1 How does your business or strategy align with one-planet compatibility?

We know the world cannot sustainably feed 9.6 billion citizens by 2050 while wasting anywhere from a third to half of the global food supply. For 15 years Leanpath's sole focus has been on eliminating the excessive and costly amount of food waste in the foodservice sector.

While efficiently recovering excess food resources for downstream applications (feeding people and animals, creating energy, or composting) is beneficial, we also recognize that preventing food waste is the most impactful opportunity for people and planet - optimizing resource efficiency and minimizing environmental degradation.

Food waste is a critical link in the food-water-energy nexus challenge. Leading foodservice organizations, which serve millions of meals per day, can play a pivotal role in addressing it. The food waste they typically generate has been excessive and largely unaddressed. Leanpath has not only made that waste visible through measurement, we've made it a safe topic for discussion, and we've provided the automated tracking tools, analytics platform, and behavior-change coaching to reduce food waste at scale while preventing it from recurring.

Leanpath typically achieves a 50% reduction in food waste at client sites, reduces food costs between 2% and 8%, and generates 300% to 400% ROI. Customers are seeing the value in investing in our food waste prevention tools to generate financial savings, achieve CSR gains, aid the environment, and inspire their employees (improving retention and attracting talent.) Since 2014 alone, Leanpath has prevented over 18 million kilograms of food waste in multiple sectors, including colleges and universities, healthcare, hospitality, and with enterprise customers such as IKEA, Aramark, and Sodexo. Google alone has prevented more than 1,800 tonnes of food waste from going to landfill since partnering with Leanpath in 2015.

In the process, we assist one-planet compatibility by conserving resources for the future, mitigating the impacts of climate change by minimizing all of the environmental externalities that would otherwise occur in the production and distribution of that food, and freeing resources for other beneficial societal purposes (such as addressing root cause issues of hunger).

## 2 From your vantage point, has it become easier or harder for you to align your strategy with one-planet compatibility?

Thankfully, it's become easier. Individuals and policymakers are waking up to the fact that wasting up to 50% of the global food supply annually while 800 million are hungry is nonsensical. Beyond the obvious social cost, they are beginning to see the environmental cost of that waste (unnecessary resource consumption, greenhouse gas emissions contributing to climate change, wasted water, water pollution, ocean acidification, deforestation, soils depletion, species loss, and more.) Critically, business leaders – particularly in the foodservice sector – are increasingly drawn to the financial savings from food-waste prevention and are seeing sustainability as a key driver of competitive advantage; one that must be a core tenet of overall business strategy.

The release of the Sustainable Development Goals (SDGs) in 2015 has provided a powerful overarching frame to accelerate corporate sustainability efforts. Specifically, Target 12.3 has greatly aided our efforts and the work of many leading NGOs (such as WRAP and the World Resources Institute) to raise awareness of the scope and scale of food waste and prompt action for solutions.

The European Union is seeking to halve food waste among member countries in accordance with Target 12.3. In the U.S., many cities and states are implementing legislation to divert food waste from



landfills. Global companies are also stepping up and making commitments. IKEA, for example, has committed to cutting its food waste in half by 2020. Foodservice giants Aramark and Sodexo as well as all major UK retailers (and more than 50 large food businesses) have committed to a similar goal by 2030. Consumers are becoming more aware of the food waste challenge and are raising expectations of organizations not only in terms of how they source food, but in how they deal with their excess. And investors are beginning to pressure retail food organizations for more transparency on food waste in operations.

## 3 Where do you see risks and opportunities for aligning companies strategies with one-planet compatibility?

At Leanpath, we are excited by the critical role that we are playing in scaling food waste prevention throughout the world. Reducing overproduction, preventing excessive waste, and optimizing use of food resources are critical steps toward creating a sustainable food system that is critical to humanity's success – one that provides not only for food security, but global security.

At the same time, change does not come easy to many. Our culture of abundant food is driven by a perception that food is relatively inexpensive, coupled with business operations built on low-cost disposal to landfill. According to the Food and Agriculture Organization, if food waste were a country, it would be the third-largest emitter of greenhouse gas emissions behind the U.S. and China.

By embracing food waste prevention, foodservice organizations can play a pivotal role in advancing the transition to a sustainable food system. Because food lies at the heart of the SDGs, preventing food waste has a strong multiplier effect – reducing unnecessary packaging, cutting air and water pollution, avoiding soils depletion and deforestation, etc. – thus advancing global progress toward all of the other goals. We see frontline foodservice workers as the key changemakers in this effort, for they have the ability to drive food waste prevention efforts daily.

## 4 "One planet" is our context. We often say that the choice going forward is quite simple: one-planet prosperity or one-planet misery. What, according to you, are the most limiting factors and forces that currently push us to misery rather than prosperity? And how can they be overcome?

At the most basic level we must re-examine the degree to which we (under) value our precious food resources. In high-income countries, food is everywhere. In the past 75 years we have transitioned from a war-era culture of frugality around food, which frowned upon waste, to a culture of abundance which easily accepts it. That culture fuels overproduction and excessive waste at a high cost to people and planet. This cost is still not sufficiently visible to many in business, while others may seek to ignore the externalities associated with overproduction in a misguided effort to minimize their own operating costs. Such short-term, insular thinking is incompatible with long-term organizational success.

Our value system must change, driven by awareness-raising and education efforts. Further, increased visibility can accelerate the needed change in social norms. Organizations in the food sector must continue to shine the spotlight on food waste in operations and to focus on solutions that not only reduce it but prevent its recurrence. They can track and measure pre-consumer food waste to drive behavior change in operations, and they can engage diners with a post-consumer platform (ex. Leanpath Spark) to highlight plate waste and drive behavior change through impactful messaging.

We must also elevate the food-waste conversation from downstream recovery applications to prevention because it is best aligned with one-planet compatibility. To successfully drive prevention efforts, we must embrace tracking and measurement of food waste, for only by accurately measuring our food waste can we accurately assess our progress. Automated tracking tools and analytics, coupled with a behavior change focus, allow us to optimize prevention efforts.

## **PHILIPS** One-planet prosperity strategy: Healthcare

#### Summary info

•Name: Royal Philips

- •Location: HQ in Amsterdam, the Netherlands
- •Date founded: 1891
- •Mission: We strive to make the world healthier and more sustainable through innovation. Our goal is to improve the lives of 3 billion people per year by 2030 across the health continuum from healthy living and prevention, to diagnosis, treatment and home care.
- •Business model: Products, services, solutions, software for the healthcare industry diagnostic imaging, image-guided therapy, patient monitoring and health informatics, as well as consumer health and home care.
- •Geographical area served: Global.
- •Sustainability impact: 1.43 billion lives improved in 2018 with health and well-being solutions, of which 175 million in underserved communities (an increase of 22 million compared to 2017), while on course to achieving net carbon neutrality in its operations by 2020.
- •Revenue or other data to give an idea of your organization's size: Philips generated 2018 sales of EUR 18.1 billion and employs approximately 77,000 employees in more than 100 countries.

Sustainability is at the core of our company's vision Learn more

#### 1 How does your business or strategy align with one-planet compatibility?

At Philips, we strive to make the world healthier and more sustainable through innovation. To guide our efforts and measure our progress, we take a two-dimensional approach – social and ecological – to improving people's lives.

Products or solutions from our portfolio that directly support the curative or preventive side of people's health determine the contribution to the social dimension. This is also our contribution to UN Sustainable Development Goal 3 ("to ensure healthy lives and promote well-being for all at all ages").

As healthy ecosystems are also needed for people to live a healthy life, the contribution to the ecological dimension is determined by means of our steadily growing Green Products and Solutions portfolio, such as the energy-efficient products in our Personal Health businesses. This is our contribution to Sustainable Development Goal 12 ("to ensure sustainable consumption and production patterns"). In fact, Green Revenues (revenues generated through products and solutions that offer a significant environmental improvement) increased to EUR 11.5 billion in 2018, or 64% of sales, compared to 60% in 2017. And last year, we invested approximately EUR 1.4 billion in our Sustainable Innovation program.

Finally, our program to become carbon-neutral in our operations by 2020 contributes to SDG 13 ("take urgent action to combat climate change and its impacts"). **Philips became the first health technology company in the world to have its CO**<sub>2</sub> **emission targets accepted by the Science Based Targets initiative**, a collaboration between the UN Global Compact, the World Resources Institute and the World Wide Fund for Nature aimed at driving ambitious corporate climate action.

## 2 From your vantage point, has it become easier or harder for you to align your strategy with one-planet compatibility?

Easier! Institutional **investors** are very supportive, as they look for long-term investment options:

- Green bond example: On May 15, 2019, Philips announced the successful pricing of its issuance of EUR 750 million 0.500% Green Innovation Bonds due 2026, in collaboration with Rabobank as Sustainability Structuring Advisor. This is the first bond issued under the Philips Green & Sustainability Innovation Bond Framework, under which it can issue Green and/ or Sustainability Innovation Bonds as a means to finance its sustainability activities. The net proceeds will be allocated to a portfolio of eligible green innovations.
- Sustainable credit facility: In April 2017, Philips was one of the first companies to develop a Revolving Credit Facility with an interest rate linked to its sustainability performance. Philips signed an agreement for a new EUR 1 billion loan. The construction for the revolving credit facility was created in collaboration with ING and is the first deal in the syndicated loan market where the pricing is linked to a Sustainalytics rating. If the rating goes up, the interest rate goes down and vice versa.



Customer demand for improving the sustainability of their supply chain and of their operations is slowly increasing, as best illustrated by:

- Kaiser Permanente environmental stewardship program
- · Increasing weight of sustainability in hospital tenders
- Growing customer demand for home appliances repair and refurbishment options

**Regulators** have been introducing stricter product requirements, as in the case of the European Union's Circular Economy policy and product reparability.

## 3 Where do you see risks and opportunities for aligning companies strategies with one-planet compatibility?

#### Benefits:

- · We've become the preferred partner of leading customers
- We've enjoyed increased price stability in energy and resource procurement
- We've increased our brand value
- We enjoy cheaper access to capital (green bonds, sustainable credit facility ING)
- · We've observed positive impacts on talent attraction and retention
- · We engage in good-will and proactive consultations with regulators
- We've strengthened our risk management

#### Costs:

- Efforts bound in internal organizational transformation towards a one-planet company: communication, competences, systems and structures, engagement
- Efforts building coalitions and partnerships (e.g. PACE, capital equipment coalition, Healthcare Without Harm, renewable energy PPAs)

#### 4 "One planet" is our context. We often say that the choice going forward is quite simple: one-planet prosperity or one-planet misery. What, according to you, are the most limiting factors and forces that currently push us to misery rather than prosperity? And how can they be overcome?

Narrow financial accounting that disregards true costs is the most limiting factor to achieving one-planet compatibility. The biggest opportunity lies in harnessing the existing management, controlling, and decision-making mechanisms to minimize the environmental and social costs that are currently externalized.

Looking at the larger picture, short termism still outweighs long termism. Business should balance long-term sustainability and societal goals against short-term business objectives. What is needed in the private sector is a corporate governance framework with a focus on the long-term sustainability of corporations and the long-term goals of society.



## One-planet prosperity strategy: Waste remediation

#### Summary info

- •Name: Drylet, LLC
- •Location: Houston, TX (USA)
- •Date founded: 2013
- •Mission: We harness the power of microbiology, material science, and data in order to remediate organic waste, creating diverse outcomes that benefit people and planet.
- •Business m odel: Organic waste prevention and waste-to-energy solutions offered to wastewater treatment (municipal and industrial) and livestock production facilities.
- •Geographical area served: Global.
- •Sustainability impact: 30%-70%sludge reduction (results vary depending on facility size, design and process) directly impacts waste processing, treatment, and disposal. At a wastewater treatment facility, this translates into lower use of chemicals (30+%), lower energy consumption (2-5%), fewer hauls and dumps at landfills where sludge emits methane (CH<sub>4</sub>) while decomposing at the rate of 0.43 Kg/ ton. In addition, improving a facility's capacity to bioremediate organic waste lowers the risk of a toxic polluting stream being released into the environment, threatening the natural ecosystem and public health. It also increases the volume of treated water available for agriculture or recycled back to the tap with added treatment. 30+%biogas generation boost increases on-site reliance on renewable energy.

•Revenue or other data to give an idea of your organization's size: Some 80 sites serviced throughout North-America, Central America, and Europe.



BioReact AD boosts biogas generation Learn more

#### 1 How does your business or strategy align with one-planet compatibility?

Drylet helps manage humanity's metabolism so that organic waste doesn't degrade natural ecosystems or compromise public health.

As long as humans eat, they will generate organic, and potentially toxic, waste. So will the animals they raise for food, for as long as current industrial livestock production models persist. Already, humans and animals generate waste faster than nature can process. The challenge is only bound to get more acute as population grows and demand for animal proteins increases. Through its innovative microbe-delivery platform, Drylet boosts the natural process of microbial digestion that degrades solids in municipal and industrial wastewater, and in manure lagoons. Applied to biodigesters, Drylet's solution boosts the waste-to-energy process by more than 30%, enhancing reliance on renewable energy produced onsite while improving solids reduction.

## 2 From your vantage point, has it become easier or harder for you to align your strategy with one-planet compatibility?

#### In other words, how has the market evolved over the past 5 years for the type of service and/or product you offer (customers' demand, shareholders' scrutiny, regulation, etc.)?

As global population keeps increasing and urban centers in particular are growing, aging, insufficient or even unavailable wastewater treatment infrastructure fails to address the increasing human waste stream. Extreme weather events like hurricanes and floods are compounding the problem. A growing number of communities are feeling the pain around the world, including in high-income countries like the United States, where large cities are increasingly shipping their sludge to less populated areas to dump it in "remote" landfills.

The most effective solution to remediate those woes is provided by nature. Microbes have been the operating system of modern wastewater treatment ever since William Joseph Dibdin, Chief Chemist of the London County Council, devised the process in the 1880s. Microbiology remains the most readily available, scalable, affordable, effective technology to remediate organic waste. Despite the growing pressures mentioned above, however, making microbiology significantly more available and effective through a simple innovative process that shelters beneficial microbes is still hitting strong resistance in the market. To many, machines and chemicals are still the way to go.

We look with great interest as regulations shape new markets. For instance, California's regulation creates the target of diverting 75% of organic waste (from 2014 levels) from landfills by 2025, forcing local municipalities to reconsider their sludge management programs. It also requires lower methane emissions 40% below 2013 levels by 2030, moving dairy farms to adopt waste-to-energy solutions. And in Europe, German wastewater treatment plants are mandated to be self-powered through the biogas they can generate from sludge.



So yes, the market is stirring. In fact we were encouraged to receive the EPA's determination, in May 2020, that our biogas-boost solution has no impact on RIN designation in the context of the Federal Renewable Fuel Standard program. We still have a long way to go, however, before humanity acts to bring about a most basic aspect of one-planet compatibility: generating just as much, or even less, waste than our planet can handle.

## 3 Where do you see risks and opportunities for aligning companies strategies with one-planet compatibility?

Helping nature remediate organic waste is simply what we do. The main issue we are facing is one of recognition, in the market, that

- the overproduction of organic waste is an overwhelming problem that business-as-usual fails to effectively address;
- there is an urgent need to think out of the box in order to achieve transformational outcomes.

Being early on a market is exciting, especially when you are driven by the conviction that your product is providing a great benefit to the world. After all, we are proud to point out that our business model is aligned with Sustainable Development Goal 6 on clean water and sanitation for all. Operating on a new frontier is also nerve-racking. Each new customer who becomes a champion of what we're trying to do, and shares

## 4 "One planet" is our context. We often say that the choice going forward is quite simple: one-planet prosperity or one-planet misery. What, according to you, are the most limiting factors and forces that currently push us to misery rather than prosperity? And how can they be overcome?

The force of habit looms large. So does aversion to risk, in municipalities especially, where wastewater treatment operators have to contend with increasingly stringent regulations and fear for their job. We believe that decision makers and operators need to be incentivized through a process that is designed to promote innovation. Or business-as-usual will perdure until the appropriate regulation finally kicks in. And we can only hope that this is sooner rather than later.

How do we get there? Education. Training. Workshops. All who make decisions or execute on these decisions – and those who influence them such as academics and media – require being exposed to new ways of seeing and understanding the challenges we face and how they can be addressed. It is about shifting the focus and opening minds to different ideas. In this respect, the conversation opened here across sectors by Schneider Electric is filled with extraordinary potential. Enabling professionals from all horizons to connect, with nothing more in common than a shared vision for a better future and a belief that reaching one-planet compatibility is feasible, is our best chance to tip the odds in favor of one-planet prosperity.

our vision, is that much more of a victory.

#### POWERHOUSE

## One-planet prosperity strategy: Energy

### Summary info

•Location: Oakland, CA

- •Date founded: 2013
- Mission: Backing entrepreneurs building the future of energy.
- •Business model: Powerhouse is an innovation firm and venture fund. We connect startups, corporations, and investors to build an energy and mobility system that is decarbonized, democratized, and digitized. Powerhouse Ventures invests in seed-stage startups changing the way we power our world.

•Geographical area served: Powerhouse's network of startups and industry partners expands across the globe, primarily focused in the US and Europe.

•Sustainability impact: Every year, Powerhouse connects hundreds of clean technology startups to leading companies and investors, helping to deploy tens of millions of dollars in investments and contracts to help clean technology startups scale and displace fossil fuel generation.

•Revenue or other data to give an idea of your organization's size: Powerhouse Ventures is a \$7 million venture fund.

#### 1 How does your business or strategy align with one-planet compatibility?

Our current energy and mobility systems are not compatible with the physical limits of the planet that we inhabit. At Powerhouse, our mission is to identify and support startups building innovative technologies to rapidly decarbonize these systems. We believe that addressing the climate crisis requires deploying our best and most viable market-based solutions today.

Powerhouse startups harness the latest in digital technology and business model innovation to change the way we power our world. For example:

Leap's Distributed Energy Exchange (DEX) enables automated trading on energy markets, reducing power demand during peak times.

Raptor Maps, which uses aerial imagery to help develop, construct, operate, and rate utility-scale solar, is ensuring that renewable assets outperform oil and gas on an ongoing and long-term basis.

Station A, which models and predicts the performance of clean energy assets, has identified \$14.4B in positive annual bill savings opportunities across the United States..

#### 2 From your vantage point, has it become easier or harder for you to align your strategy with one-planet compatibility?

Over the past 5 years, the world's leading corporations and investors have demonstrated increasing commitment to accelerate the development and deployment of clean energy technologies. Many of the world's largest energy companies have increased their commitment to developing large scale renewable energy projects, stepped up their investment in clean energy technologies, and rolled out incubators and innovation hubs for clean technology startups. Leading corporations, including Schneider Electric, are now partnered with Powerhouse to fulfill these commitments, furthering their alignment with one-planet compatibility.

#### 3 Where do you see risks and opportunities for aligning companies strategies with one-planet compatibility? In other words, what are the costs and benefits of making sure your business is one that humanity's success depends on?

The declining costs of clean energy increasingly make one-planet compatibility a good business proposition. According to BloombergNEF, wind and solar are now the cheapest sources of electricity across more than two-thirds of the world. Implementing clean energy into a business strategy is a more cost-effective and less risky path than relying on fossil fuels.

Conversely, aligning business strategies with the clean energy transition can make businesses susceptible to the risks associated with new technologies. For example, if subsidies are phased out or consumer uptake for clean technologies is not as quick as anticipated, companies focused on enabling clean energy may experience slower growth until the market reaches its full potential.

#### 4 "One planet" is our context. We often say that the choice going forward is quite simple: one-planet prosperity or one-planet misery. What, according to you, are the most limiting factors and forces that currently push us to misery rather than prosperity? And how can they be overcome?

Achieving a zero-carbon future requires a significant and coordinated effort from both the public and private sector. In the private sector, progress is often limited by conservative, incumbent fossil fuel industries that are unwilling to pursue one-planet prosperity and an inevitable clean energy future. In the public sector, there is a lack of long-term planning and stable regulatory policies to reduce greenhouse gas emissions. The current Coronavirus crisis has shown us the scale of the response needed to fight the climate crisis.

A combination of political mobilization, innovation and cost reduction of clean energy technologies, and a positive long-term vision for the future of our planet can help overcome these obstacles.

# Looking ahead: Innovation and collaboration to cut CO<sub>2</sub> emissions by half and #MoveTheDate by 93 days











While the planet is finite, human possibilities are not. Humanity can succeed if we apply two of our species' greatest strengths: foresight and innovation.

In the previous chapter, we illustrated how we can #MoveTheDate with readily available off-the-shelf technologies and business models. But with innovation and collaboration, we can do much more. By cutting global CO<sub>2</sub> emissions in half we can #MoveTheDate by 93 days.

Bringing human activity back in balance with the regenerative rhythm of the Earth is an incredibly exciting design challenge that is going to require bold imagination, creative ingenuity, and free-spirited venturing off the beaten tracks.

Two essential navigation points guide us on that adventure: seeking biological resource resilience and security, while improving well-being for all. Through the appropriate strategy, the brilliance of engineering minds, designers, and business experts can be unleashed to bring to market the technologies, products and services that are aligned with our one-planet context. These are the ones that are bound to enhance the long-term success of businesses as they support that of the human family.



#### About Schneider Electric

As a global specialist in energy management and automation in more than 100 countries, Schneider Electric offers integrated energy solutions across multiple market segments. Our integrated solutions and expertise make electrical energy reliable, efficient, and green.

www.schneider-electric.com/ww/en/



#### About Global Footprint Network

Global Footprint Network is an international sustainability organization that is helping the world to better manage its natural resources and respond to climate change. Since 2003 we've engaged with more than 50 countries, 30 cities, and 70 global partners to deliver scientific insights that have driven high-impact policy and investment decisions. Together, we're creating a future where all of us can thrive within the limits of our one planet.

www.footprintnetwork.org/

#### Schneider Electric

35 rue Joseph Monier 92500 Rueil-Malmaison, France Phone: + 33 (0)1 41 29 70 00

www.schneider-electric.com

July 2019, 2nd edition

©2019 Schneider Electric/Global Footprint Network. All Rights Reserved. All trademarks are owned by Global Footprint Network or Schneider Electric Industries SAS or its affiliated companies.

#### Global Footprint Network

1528 Webster Street, Suite 11 Oakland, CA 94612, USA Phone : +1-510-839-8879

www.footprintnetwork.org