

# Impact Report

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# impact

2018 - 2020

## Scaleway

## Impact Report

# Scope of This Report

The information and data in this report cover Scaleway's global sustainability, corporate responsibility and philanthropic performance for 2018-2020. This report includes information about our management processes and performance across our whole value chain. This report has been prepared in accordance with ISO 50001:2018 - Energy management systems. We are committed to providing data and information in the most reliable, comprehensible and transparent way. What effect do our activities have on our society, environment, people, partners, suppliers and shareholders? We set out to answer these questions in this report.

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# Powering our Current and Future Digital World

The internet serves as the central nervous system of the modern economy, and shaping Europe's digital future relies on the cloud providing computing power that is flexible, cost effective, reliable, secure, sovereign and sustainable. Not surprisingly, it takes a tremendous amount of energy to manufacture, power and support our devices, data centers, and infrastructures.

While internet traffic has increased twelvefold since 2010, the International Energy Agency notes that the power consumption of data centers has remained stable: 200 TWh in 2019, or 0.8% of world consumption, which is explained by a general gain in network efficiency and a movement from hosting to the cloud and renewable energies.

The cloud computing revolution is certainly part of the environmental equation because once widespread, it can reduce greenhouse gas emissions from the IT industry by 95%, or 4.5 million tonnes of CO2 emissions (Global e-Sustainability Initiative 2013).

Our commitment to sustainability stems from a profound belief that the only way forward is to build new systems for a better future. At Scaleway, we had to choose between two paths - one that could potentially lock our digital infrastructure into long-term dependence on coal and natural gas, or a longer one to transition to renewables, toward a brighter and more sustainable future.

Global digital transformation offers tremendous opportunities to be smarter about how we use energy, enabling us to better measure and manage our energy consumption.

It is within our individual and corporate responsibility to make sure that we build and power our quickly growing global digital infrastructure in a smarter, more responsible and renewably powered way in order to fight climate change.

We believe we have a critical role to play in catalyzing a transformative change in the consumption and production of energy and how we use it.

Our efforts as a regional and global citizen deliver meaningful and measurable progress that positively impact our customers, partners, investors and people. We have a responsibility to them to act ethically and with respect for our modern society and the environment. We aim to implement a list of actions across the whole chain, from eco-friendly and environmental challenges, transparency and trust, to equality, parity, inclusivity and ethics.

In order to establish these actions and to assess them with data, we tasked AdVaes with identifying the key areas of our activities which have a high impact for the UN's Sustainable Development Goals (SDGs)<sup>1</sup>, and to summarize them in this impact report to be more transparent with our stakeholders by highlighting objective data and actions which can also have an impact on their own activities.

Some examples of progress we have made over the last few years include:

- Launching rDCE, as a new metric to measure the impact of our data centers as a cloud operator
- Making our real-time data center dashboards available at all times on our website
- Advocating for reducing water consumption in data centers and banning water cooling towers in Europe
- Continuing to add new layers of transparency and call for the industry to follow suit; for that we partnered with Sustainable Digital Infrastructure Alliance (SDIA) to support the launch of their Open Data Hub
- Taking ambitious climate action for a 1.5°C future, following Science Based Targets
- Applying our values to our whole supply chain, and actively building trust with our partners and suppliers
- Engaging in open discussion and co-creating a supportive company culture, thus demonstrating that the well-being and integrity of our Scalars (of over 22 nationalities!) is highly important to us

**Yann Lechelle,**  
CEO,  
Scaleway, the cloud that makes sense.



# Corporate Social Responsibility at Scaleway

At Scaleway, we have chosen to actively work toward selected SDGs in order to lead the way in making our sector more environmentally responsible. We fight for transparency, with the hope to inspire other Cloud Services Providers to join the conversation, and work to both acknowledge and reduce their environmental impact.

**6** CLEAN WATER AND SANITATION



- Controlled and low water consumption (among the best in the sector)

**7** AFFORDABLE AND CLEAN ENERGY



- Renewable or low carbon energy supply

**8** DECENT WORK AND ECONOMIC GROWTH



- Making responsible purchases: supporting actions against child labor, respecting workers' rights, etc.
- Supporting providers in difficulty as well as entrepreneurship (Startup Programs)

**9** INDUSTRY, INNOVATION AND INFRASTRUCTURE



- Infrastructure performance
- Lean design and assembly
- Product design standardization
- Unifying offers

**12** RESPONSIBLE CONSUMPTION AND PRODUCTION



- Extending the life cycle of our equipment
- Optimizing performance and density
- Recycling and refurbishing our hardware
- Reducing waste and toxic products
- Reducing the volume of packaging

**13** CLIMATE ACTION



- Energy effectiveness and energy mix of data centers
- Efficiency of cooling systems
- Continuous improvement of the logistics chain
- Reducing high carbon emissions transport

Environmental  
Sustainability

Environment  
Environmental  
Sustainability



# Editorial

*At Scaleway, our actions are, and always will be based on data, and the impact that we can have in designing systems for a better future. That's why I'm openly calling for a ban on water cooling towers in the data center industry, and more transparency from industry players.*

*Although positive, the actions taken by the digital sector as a whole remain insufficient. According to the IPCC's latest report, "emissions reductions by energy and process efficiency by themselves are insufficient for limiting warming to 1.5°C with no or limited overshoot"<sup>1</sup>. The actions of our sector have a long way to go to integrate the whole lifecycle and value chain of digital uses, as well as all stakeholders involved.*

*Global warming is forcing us to question the techniques ordinarily used to cool data centers, as they are responsible for a significant part of the digital economy's energy consumption. However, cutting their water usage is still a taboo despite them consuming significant amounts — a single data center can use millions of cubic meters of water, and it is more often than not stored in cooling towers, a process that is characterized by considerable environmental and health risks.*

*Also, according to the only GHG emissions registry, the global digital sector is responsible for 3-5% of emissions, 20-25% of which are linked to data center activities<sup>2</sup>. In 2019, the IEA calculated that the global electricity demand from data centers and data transmission networks each represents 1% of worldwide electricity use<sup>3</sup>.*

*Improving the impact of our sector and bringing innovation back to the forefront of data centers has never been more urgent. But let's not forget there's no such thing as "pure" innovation! Even our adiabatic process is based on what the Ancient Egyptians used and massively reduces our water and energy consumption.*

*At Scaleway, we are pushing the data center market toward a more sustainable, transparent and sensible approach, and we are leading the new standards worldwide in data center water usage.*

*I'd like to invite you to now read on in order to find out more about the measurable progress we have made at Scaleway, as well as our ambitious plans for the future, and the impact that we hope to have on the environmental responsibility of our sector.*

*The first chapter of Scaleway's 2018-2020 Impact Report is dedicated to environmental and eco-responsible actions. It has been independently written by AdVaes as a neutral party, upon request by Scaleway.*

**Arnaud de Bermingham,**  
Founder and President,  
Scaleway, the cloud that makes sense.



<sup>1</sup> IPCC (2018). Global Warming of 1.5 oC. [online] Ipcc.ch. Available at: <https://www.ipcc.ch/sr15/>.

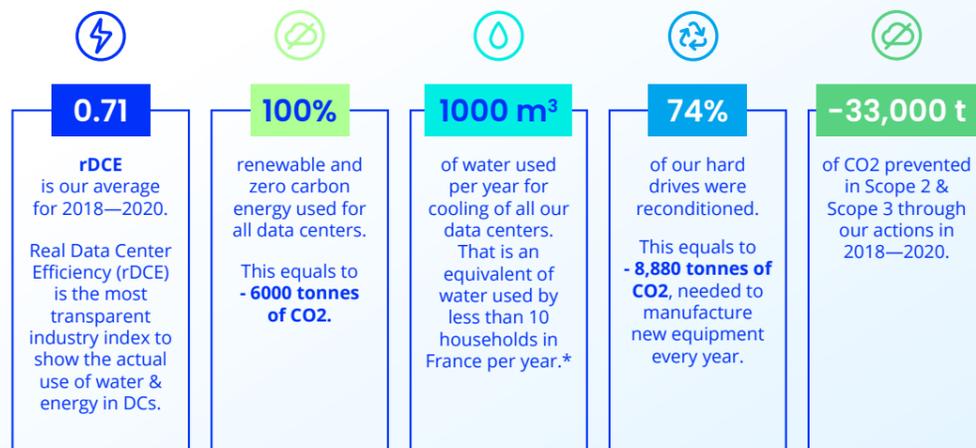
<sup>2</sup> IEA. (n.d.). Data Centres and Data Transmission Networks – Analysis. [online] Available at: <https://www.iea.org/reports/data-centres-and-data-transmission-networks>.

<sup>3</sup> Ibid.

# Designing New Systems for a Better Future

We are ambitious — we continuously improve the energy and water effectiveness and quality of our data center activities. We believe our efforts have paid off, as we are pushing the data center market toward a more sustainable and sensible approach.

## Actions Taken by Scaleway Between 2018—2020 Having Major Impact



\*Le Centre D'Information Sur L'eau [online] Available at: <https://www.cieau.com/le-metier-de-leau/ressource-en-eau-eau-potable-eaux-usees/quels-sont-les-usages-domestiques-de-leau/>

Source: Scaleway

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# Environmentally Responsible Data Centers

## Data Center Efficiency and Energy Mix



Europe needs to take the energy consumption of data centers more seriously. *"One data center can consume the same amount of energy as 370,000 households. That's a lot of energy."*<sup>4</sup>

With the rise in digital uses, the number of data centers that we will require to support our new infrastructures will only increase. It is our aim, at Scaleway, to lead the way in reducing the impact that our data centers have on our environment and daily lives in terms of energy, water consumption and carbon emissions.

We do this via a **unique, patented, adiabatic cooling system** which not only uses less power, but is also based on more efficient configurations – for instance using Hexacore design, low-energy lighting

systems (LED) and optimizing the power density of our cabinets to maximize the efficiency of power distribution within the building. Power distribution optimization permits us to augment the power density per square meter without a linear increase in cooling costs. This also allows us to stack more power efficient servers in a single rack, leading to a decrease in costs, and in the quantity of supporting hardware required such as switches.

We have developed the most **cost-effective** balance in terms of electrical consumption, cooling and productivity for the whole chain, including building operations, adapted for all types of hardware within racks ranging up to 22kW.

How else can data centers follow our lead to improve their energy consumption?

- By systematically **switching off servers** when they are not being used — we interrupt any non-rented servers in production until services are activated
- By developing **management and infrastructure monitoring programs** internally. At Scaleway this is how we avoid unnecessary consumption
- By ensuring that renewable energy comes **with origin guarantee certificates**. We have a compensation agreement with Alpiq, a Swiss hydraulic energy provider, and agreements with Enedis as well as a provider from Norway<sup>5</sup>
- By stopping some unspeakable practices — the waste of millions of cubic metres of water in cooling towers to cool data centers, a process that is characterized by considerable environmental and health risk. Nearly banned in France, this practice persists in some European countries and needs to be globally regulated. It's time to take tangible steps towards change and ban them in Europe<sup>6</sup>

## @ Impact

### Improving our environmental footprint — we are committed to going further:

- By actively working on implementing PPAs (Power Purchase Agreements), our goal is to source 20% of power from PPAs in 2035
- By setting an ambitious PUE (Power Usage Effectiveness) goal of <1.15 for all new data centers built after 2018, and 1.3 for all previously constructed data centers, achieved through continued improvement to cooling systems (e.g. free & natural cooling, natural cooling using outside air) and the modernization of primary infrastructure through the use of high energy efficiency equipment
- By going beyond the PUE indicator and integrate water usage and efficiency into the equation
- By letting our energy purchasing decisions be guided by renewable and low carbon energy principles. We prioritize certified local and European energy sources (where possible). We advocate for favorable renewable energy policies and take renewable energy availability into consideration when choosing the locations of new data centers
- By actively working on our environmental policies and committing to banning all products which have a harmful impact on the ozone layer, create greenhouse gases and are toxic, as well as the use of Chlorodifluoromethane

<sup>4</sup> nos.nl. (n.d.). "Datacenters in Noord-Holland kunnen leiden tot drinkwatertekort." [online] Available at: <https://nos.nl/artikel/2373234-datacenters-in-noord-holland-kunnen-leiden-tot-drinkwatertekort>.

<sup>5</sup> lafibre.info. (n.d.). Scaleway innove pour le refroidissement de DC5. [online] Available at: <https://lafibre.info/scaleway/online-dc5/>.

<sup>6</sup> Scaleway Blog. (2020). Changing data center efficiency practices — the heat is on! [online] Available at: <https://blog.scaleway.com/changing-data-center-efficiency-practices-the-heat-is-on/>.



Data Center	Certifications	PUE	WUE	Energy Source	Renewable	Cooling System
DC2 PARI Paris	ISO27001 ISO50001 HDS 1 Code of conduct	1.55	0	100% Hydraulic	Carbon Neutral 100% renewable	Chilled water system
DC3 PARI Paris	ISO27001 ISO50001 HDS 1 Code of conduct	1.31	0	100% Hydraulic	Carbon Neutral 100% renewable	Indirect Freecooling with closed-loop high- temperature chilled water system
DC4 Paris	ISO27001 ISO50001 HDS 1 Code of conduct	1.50	0	100% Hydraulic	Carbon Neutral 100% renewable	EC (direct) with variable compressor (VRV)
DC5 PAR2 Paris	ISO27001 ISO50001 HDS 1 Code of conduct	1.15	< 0.2	100% Hydraulic	Carbon neutral 100% renewable	Direct Freecooling with adiabatic cooling
AMS1 Amsterdam	ISO27001 ISO50001 ISO14001 ISO9001 PCI-DSS SOC1 TYPE2	1.2	N-A	100% Hydraulic	Carbon Neutral 100% renewable	EC on closed- loop hot water system
WAW1 Warsaw	ISO9001 ISO27001 PCI-DSS	1.51	N-A	100% Wind	Carbon Neutral 100% renewable	Closed-loop chilled water system

## “We show you our numbers, show us yours.”

At Scaleway, we value transparency, and PUE is not just a marketing term for us. We believe that other ways to calculate efficiency should not be called PUE. This is why we display our PUE (Power Usage Effectiveness), as defined by ISO/IEC 30134-2:2016, and backed by our ISO 50001:2018 certification, for our data centers publicly and in real time. Our PUE figures range from 1.15 to 1.55, all of which are under the global average for data centers — estimated at 1.59 by the Uptime Institute in 2020. We actively encourage all data centers to follow suit and display their PUE figures openly.

Measurements are taken every five minutes by certified Class 1 or Class 0.2C true-RMS meters as defined by Directive 2004/22/CE (Measuring Instruments Directive).

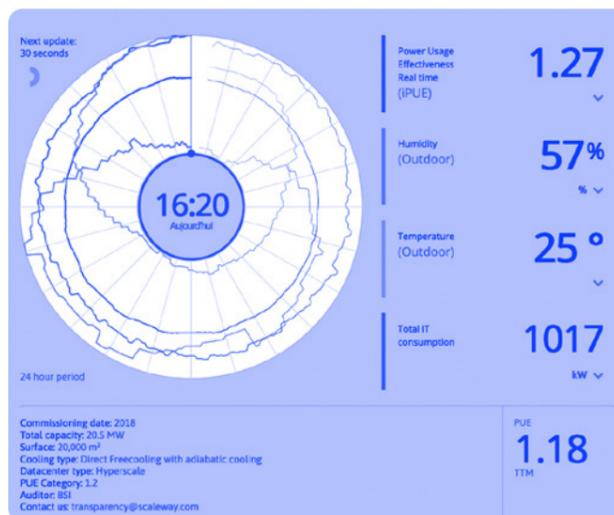
As defined by ISO/IEC 30134-2:2016:

- Our PUE is a category 1 PUE and calculated with the last 12 months' measurements
- Total energy power consumption (E-DC) is calculated on medium voltage from the national grid
- IT Load (E-IT) is calculated on UPS output
- Energy consumed by non-data center equipment (such as offices) is excluded
- Real-time values are calculated from the last five minutes' average measurements and must be considered as i-PUE for information purposes

# Taking Transparency to the Next Level

At Scaleway, we are proud to lead the way in recognizing the impact we can play in mitigating climate change by **questioning the techniques used to run data centers**. Rather than only planting trees, we prefer to think outside of the box and innovate where it counts most, at the source.

We do this by lowering our actual resource consumption, and by providing **transparent information** at every step of the process. We commit to including all information regarding PUE and WUE in our real-time dashboards ([pue.scaleway.com](https://pue.scaleway.com)) and in our annual impact reports, and we want to bring this further and have a product-by-product, line-by-line, environmental footprint on all client invoices in 2021.



We openly communicate on the following metrics:

- The main features of our sites — surface area in square meters, total capacity (in MW), cooling system types, redundancy (N+1, 2N)
- The performance and consumption-related indicators — PUE, WUE, external humidity levels and temperature, IT room consumption (kW)

How else can data centers follow our lead and communicate transparently about their indicators?

- By **using the same comparable metrics** so that customers can make informed choices
- By communicating transparently on their data
- By **calculating and communicating their rDCE** (real Data Center Efficiency)

## What is the rDCE metric?

It is unacceptable that today, in 2021, we still omit water consumption from the equation when calculating a data center's responsibility and efficiency. Thus, Scaleway's approach consists in combining the PUE and the WUE, to relate them to each other and to the actual use of each in data centers.

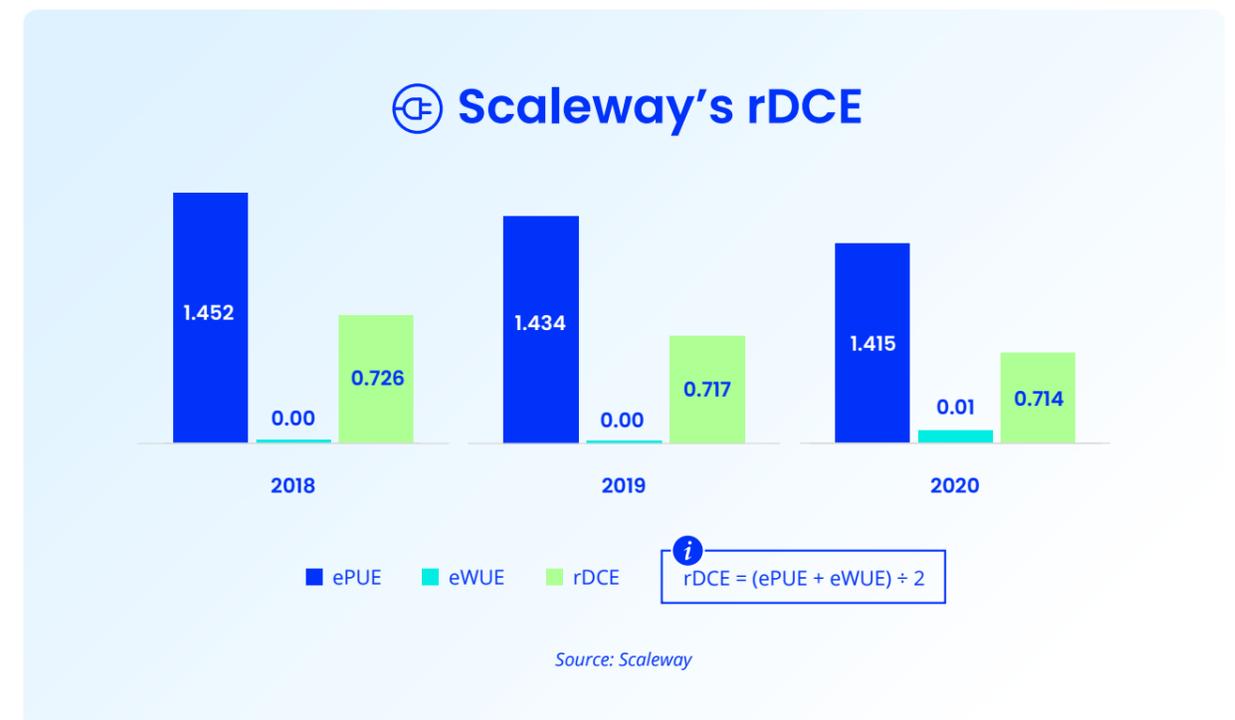
The rDCE is measured in megawatt hours (MWh), and is based on weighting the PUE and the WUE in relation to distributed uses and the average of both, not in relation to the most efficient datacenter, which would be too easy and misleading.

For the products used by our clients, we use the following formula: (average) consumption in kilowatt (kW) of the product used [x] PUE of the data center where the product is hosted [x] the energy mix of the same data center [x] the number of hours consumed by the client.

$$[rDCE = (ePUE + eWUE) \div 2]$$

$$[x] = \text{multiplier factor}$$

We are committed to publishing this metric for all data centers each year, with the goal of steadily lowering it through innovation and investment. **We invite all industry players to follow suit.**



# Cooling Systems Efficiency

At Scaleway, we are calling for a ban on practices which consume high quantities of water and present health risks such as water cooling towers. Our natural resources are precious, and need to be used sustainably. There is a rising trend of international data center operators setting up operations in Europe, and we want to demonstrate that it is possible to run data centers in a transparent way which gives customers visibility of the way in which resources are used and protected.

Water is a resource that Scaleway never takes for granted, as one of the first data center operators to implement a WUE (Water Usage Effectiveness) measurement system, and to ban water cooling towers. **The WUE for three of our data centers (DC2, DC3 and DC4) is zero, and it is 0.15 for DC5** — well below the global minimal average — estimated at 1.8 by the US Department of Energy in 2016<sup>7</sup>. We also have a patented adiabatic cooling system developed internally (used at DC5), which offers maximum performance and consumes a minimal amount of water (about two milliliters of water are required to cool an IT room of 550 - 600 square meters)<sup>8</sup>.

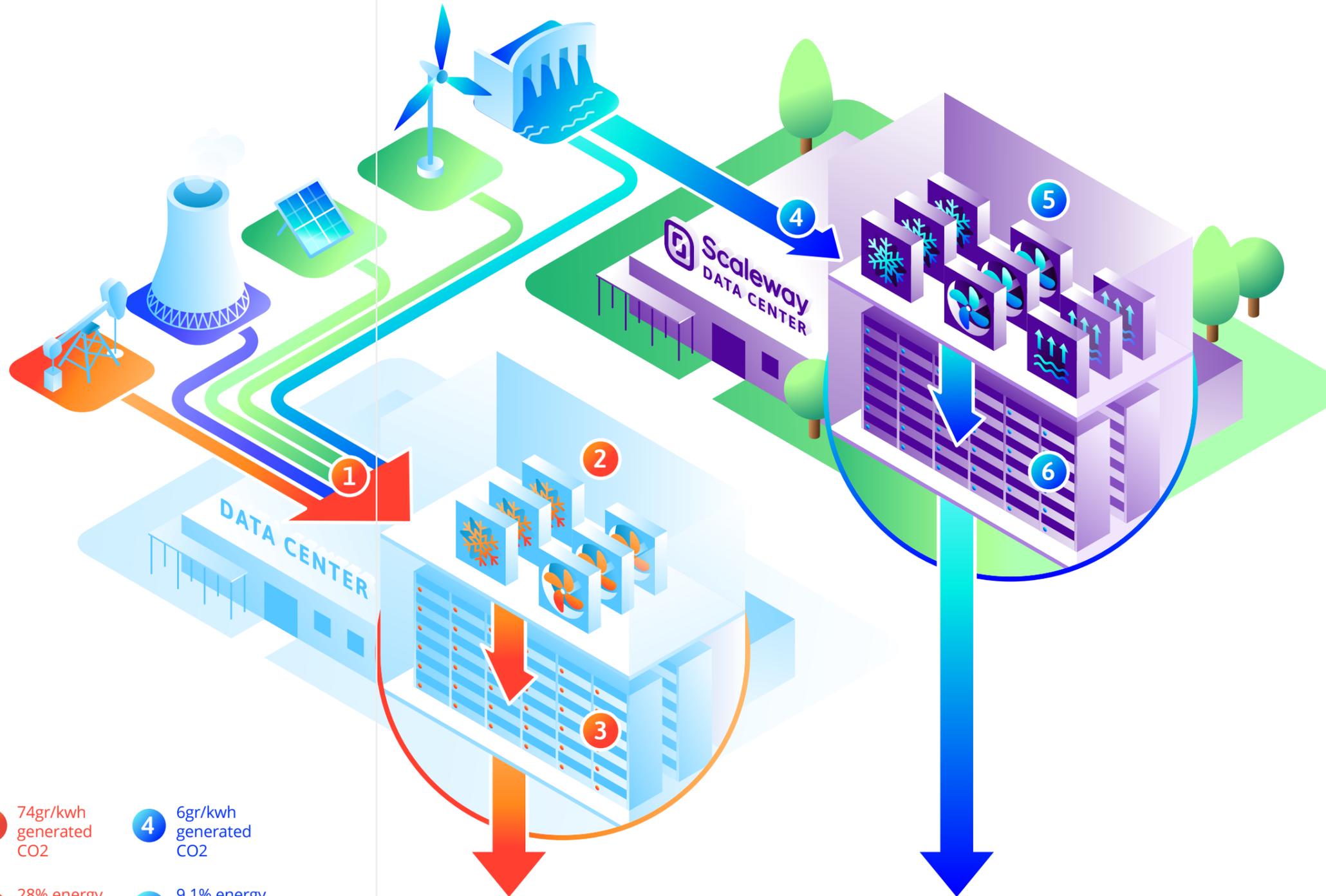
How else can data centers follow our lead to improve their water consumption?

- **By favoring closed circuits** in data centers to reduce water loss. We have these systems in place for three of our own data centers (DC2, DC3, DC4), and with both of our industrial partners (in Amsterdam and Warsaw)
- **By banning cooling towers.** At Scaleway, this has been the case since the year 2000

- |   |  |
|---|--|
| <b>1</b> 74gr/kwh generated CO2               | <b>4</b> 6gr/kwh generated CO2             |
| <b>2</b> 28% energy used for air conditioning | <b>5</b> 9.1% energy used for free cooling |
| <b>3</b> 70% energy available to compute      | <b>6</b> 90.4% energy available to compute |

<sup>7</sup>Lbl.gov. (2016). United States Data Center Energy Usage Report | Energy Technologies Area. [online] Available at: <https://eta.lbl.gov/publications/united-states-data-center-energy>.

<sup>8</sup>Ambition4climate. (2021). The first datacenter in France with an high environmental performance. [online] Available at: <https://ambition4climate.com/en/the-first-datacenter-in-france-with-an-high-environmental-performance/>.



**Traditional Data center**

**126.17** gr/kwh generated CO2

**1.8** Water Usage Efficiency (WUE)

**1.58** Power Usage Efficiency (PUE)

**Cutting-edge Data center**

**7.59** gr/kwh generated CO2

**< 0.2** Water Usage Efficiency (WUE)

**1.15** Power Usage Efficiency (PUE)

# Improving Infrastructure Performance Through Technological Innovation

The energy and water performance of data centers are not the only factor that need to be considered, the equipment used also has a massive impact on a site's performance.

In recent years, there has been a huge shift in the industry toward more power efficiency for rack equipment (servers, switches). For example, if we take a similar server at a 10 year interval, it's performance index will increase by over 900% for power consumption that will decrease by 20%, this is nearly a 1000% increase in performance per watt<sup>9</sup>.

At Scaleway, we take energy consumption parameters into account, such as CPU when choosing the managed servers we offer. This is because their energy performance and CPU has an impact on equipment density.

Our Dedibox dedicated servers use efficient processors such as AMD EPYC™ 7003 Series processors to cut energy usage by 50%<sup>10</sup>, provide 1/3 more computing density, and add more servers to each rack.

How else can data centers follow our lead?

- By configuring products, especially those which are shared, to ensure they **only use the resources they need**
- By carefully selecting a small number of providers to optimize purchasing and reduce materials and packaging
- By unifying storage offers — we use the same hardware for both “object” and “block” storage. This makes it simpler to exploit these offers, and **reduce their complexity via densification**
- By managing the end-of-life of equipment — this enables us to **reduce the volume of materials to be reused or disposed**
- By **optimizing transport**, transit and related storage. For example, we use one chassis instead of two, with two types of drives instead of three or four

## Impact

### Lower energy consumption:

- The densification of storage servers enabled us to reduce storage power consumption per GB by up to 20%
- Switching to energy efficient servers for cloud/CPU's means we use less energy while conserving the same performance metrics for our customers
- Via streamlining storage, network and CPU's, we were able to save a significant number of kilowatt hours for the same performance metrics

<sup>9</sup> Example based on calculations of the specific power consumption of a dual E5504 system from end of 2010 to a dual Xeon Silver 4210 from early 2021.

<sup>10</sup> AMD, Scaleway. High-performance cloud solutions—Scaleway delivers with AMD EPYC Processors, 2019. [online] Available at: <https://www.amd.com/system/files/documents/scaleway-case-study.pdf>.



# Industrialization of Our Working Processes

## Lean Design and Assembly

The assembly and design of all components used inside data centers has an impact on the carbon footprint of a site due to the logistics involved in the whole process. By adopting a lean process, it's possible to shift toward a **demand-driven server offering**, which has helped us to limit the number of components required by a single server, to **reduce the quantity of end-of-life waste**, and to **reduce our carbon footprint** (for component manufacturing) as we only order what is necessary.

At Scaleway, we always focus on what makes sense for our clients, for our technology and for our sustainable approach. In 2014, in order to save raw materials, energy and reduce the risk of service outages, we designed and assembled all the components used in our data centers. Before this, we used to purchase pre-assembled servers and transfer them to the relevant sites. However, years later we decided to reassess our processes to adapt to the ever-changing world of technology. We now purchase the exact number of components required and have a dedicated logistics site. This allows us to assemble servers in one location before sending configured racks to our sites. The change in approach is also due to the fact that we have new offerings with different servers which are more suited to our new logistics system.

We now have an industrial and centralized assembly model for our components according to customer demand and our service offering. We systematically address all potential alternatives and choose the components that seem to best suit our needs.

Assembling materials deployed in IT rooms in this way, only integrating the right components and otherwise opting for efficient processors, helps us to densify and reduce power consumption to one service perimeter, and has a positive impact on our carbon footprint.

### @ Impact

#### Lower Energy Consumption

- We use up to 10% less power per new generation server (compared to an older model from the same family) by adapting our SKUs with suppliers to only receive what we need
- This approach allows for the power consumption of our entire park of servers (at DC2, DC3, DC5 and in Amsterdam) to be significantly reduced

# Standardization of Offers and Product Designs

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At Scaleway, we design our offers and products to optimize the usage of our infrastructure. In other words — aiming for the best power efficiency possible.

We carefully design our hardware to meet the actual needs of our customers, we then scale these optimized models and use standard bricks for more modular assembly.

This approach is achieved through:

- Qualifying and testing equipment in real-life conditions
- Estimating energy consumption and predicting expenses
- Visualizing a full rack setup, and developing an optimal model via iterative processes
- Standardizing uniformed models where possible

## @ Impact

### Equipment rationalization between 2018—2020

- Optimization of supply on newer server ranges by using the same parts in differing combinations in order to create a complete range
- Optimization of the physical storage of parts and components, thereby reducing the amount of stock needed to meet all customer needs, and streamlining supply routes for a few key suppliers

How to implement this same process:

- By documenting each standard model according to the type of data center, the characteristics of the IT rooms, and the provision timeframe of the equipment (4, 6, 8 weeks or more)
- This documentation includes the references of the main servers' components, their locations within the racks, the wiring system chosen, the locations (servers, network equipment etc.), the weight, the consumption and the cooling system used
- By creating a database which references all standard components

The main advantages of this approach are that:

- Different offers can be designed according to the assembly methods of standardized components
- More offers can be created while keeping components to a minimum. For instance, one of our more recent series launched in early 2021 was made available in nine different offers by exploiting only two bases of different components, which were assembled, mixed and matched



# Reducing Businesses' Environmental Footprint

## Extending Equipment Lifespan

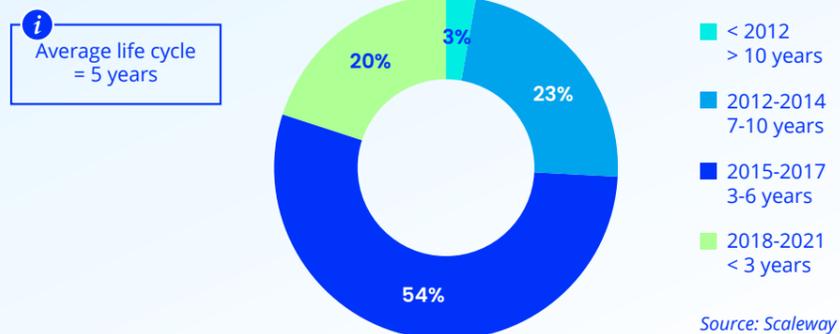
At Scaleway, we are committed to extending the lifespan of all our equipment (servers, hard drives, network equipment, as well as other electronic hardware, cooling and power systems such as inverters) to **up to 10 years**, the industry average being 3-5 years<sup>11</sup>.

How did we achieve this, and how can other data centers follow our lead?

- By taking **preventative measures** — replacing hard drives as soon as they show signs of failure. We test and upgrade those that present a risk before reusing them
- By using an osmosis plant to produce pure water. This is used by our adiabatic cooling system to avoid risks of corrosion

## ⌚ Extending the Life Cycle of Scaleway-Managed Servers

Breakdown by servers' stock age and production launch date - 2021



## @ Impact

In our Circularity Hub in DC5, the level of hardware salvage and reuse in a second life allowed us to avoid producing 8,880 tCO<sub>2</sub>e (CO<sub>2</sub> that would have been emitted during production for the same quantity of new equipment).<sup>12</sup>

<sup>11</sup> Editorial, H. (n.d.). Analyzing Hardware Refresh Cycles in the Data Center 2021. [online] Horizon. Available at: <https://horizontechnology.com/news/data-center-hardware-refresh-cycles/>.

<sup>12</sup> Ambition4climate. (2021). The first datacenter in France with an high environmental performance. [online] Available at: <https://ambition4climate.com/en/the-first-datacenter-in-france-with-an-high-environmental-performance/>.

# Equipment Reconditioning

The rapid pace at which technology advances today, as well as growing consumer demand, means that many devices reach the end of their useful life after only a few years. As such, electronic waste is now the world's fastest-growing waste stream. Even if Europe can pride itself on having the highest collection and recycling rate for e-waste, at 42.5 percent<sup>13</sup>, it's still less than 50 percent. At Scaleway, we are committed to contributing to waste reduction by equipment reconditioning.

This is why anything that can be **salvaged and reused** is reintroduced into Scaleway's park. Our initiative has allowed us to reuse key components from high-end servers aged over 10 years (power supply and CPU for example), and to recondition reliable, high-quality equipment by changing hard drives and RAM to then serve as a different offer for customers. Our "block storage" offer, for example, has been built with recycled materials.

## @ Impact

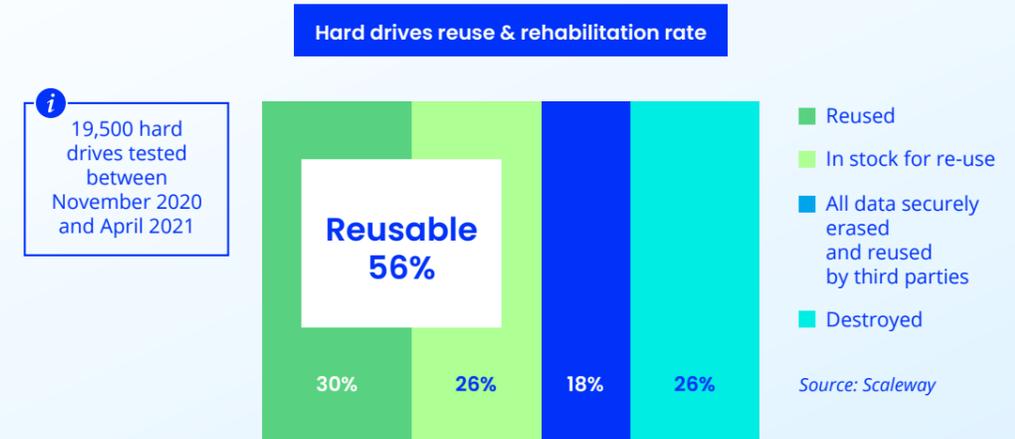
### Carbon footprint compensation

The reconditioning processes at Scaleway follow proven industrial processes that make it possible to counterbalance part of the carbon footprint caused by the production of new servers which aren't purchased.

Our end of life process for servers involves:

- Hardware experts who qualify each piece of hardware
- The use of tools and hardware which have been developed internally for hardware diagnosis and refurbishing
- Ensuring that hardware is used in the right way depending on its state and type — this can be with new equipment, for repair or for retirement
- The identification of companies which re-use all hardware that cannot have a second or third life at Scaleway

## ♻️ Reconditioning Hard Drives at Scaleway



How we implemented a reuse and recycle program:

- First, we check the use level of each hard drive
- Second, we assess, based on quality criteria and tests, whether or not failing or old hard drives can be reconditioned or must be replaced by new ones
- Third, we avoid throwing hard drives away by mistake or for the wrong reasons, and determine whether they might be salvaged for other uses

For example, in 2019, out of 100 servers installed at the start of the year, and approximately 110 by the end of the year:

- 5 servers were retired (end of life, beyond repair, or too old) after all recyclable components had been rehabilitated such as hard drives, RAM, fans, power supply etc. Precious metals and plastic were extracted for reprocessing
- 15 new servers were added
- 10 to 20 were extended to an existing offer or reconditioned for a new offer to extend their lifespan for one, two, or three years

<sup>13</sup> Forti, V., Baldé, P., Kuehr, R., Bel, G., Adrian, S., Drisse, M., Cheng, Y., Devia, L., Deubzer, O., Goldizen, F., Gorman, J., Herat, S., Honda, S., Iattoni, G., Jingwei, W., Jinhui, L., Khetriwal, D., Linnell, J., Magalini, F. and Nnororm, I. (n.d.). Quantities, flows, and the circular economy potential The Global E-waste Monitor 2020. [online] Available at: <https://www.itu.int/myitu/-/media/Publications/2020-Publications/EN--Global-E-waste-Monitor-2020.pdf>.

## Recycling and Reducing Packaging and Waste

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When we cannot reuse or recondition equipment internally, rather than just disposing of this as waste, we have a partnership with Loxy, an IT recycling company (for rehabilitation outside the company by sorting metal and recyclable materials such as plastic).

Thanks to our efforts for reducing the volume of packaging, recycling wooden delivery pallets, and optimizing storage methods to better use cardboard packaging, at Scaleway we have been able to:

- **Lower the volume of cardboard** and polystyrene per server delivered between 2017 and 2020 by 15%
- **Use 2.5 times less wooden pallets** — servers are now delivered in batches of five (rather than two)

What other practices have we implemented?

- At Scaleway, we sort pallets upon delivery by type (American, European) in order to use them again later. We plan to ask a broker to salvage those that are not used in order to give them a second life. We are committed to achieving this by Q2 2022
- We have a contract with Veolia (a water management, waste management and energy services company) that provides us with dedicated dumpsters at each data center to **collect WEEE** (Waste Electrical and Electronic Equipment)
- We are reducing the use of products which have an impact on the ozone layer or produce greenhouse gases (e.g. hydrofluorocarbons)<sup>14</sup>
- We recycle water and use **separators and hydrocarbon filters in each data center to avoid water contamination**<sup>15</sup>
- As of 2020, at Scaleway we actively take part in **Digital Cleanup Day**, a day dedicated to the recycling of electronic equipment and cleaning our and our collaborators' digital waste
- We **separate and recycle** five types of waste — paper/ cardboard, metal, plastic, glass and wood

<sup>14</sup> DCmag. (2021). *Consommation d'eau par l'industrie des datacenters : Scaleway appelle à une prise de conscience.* [online] Available in French only at: <https://datacenter-magazine.fr/consommation-deau-par-lindustrie-des-datacenters-scaleway-appelle-a-une-prise-de-conscience/>.

<sup>15</sup> lafibre.info. (n.d.). *Visite du data center Scaleway DC5 (refroidissement adiabatique).* [online] Available in French only at: <https://lafibre.info/scaleway/dc5>.

# Logistics and Shipping Optimization

## Continuous Improvement of the Supply Chain

Because “90% of companies’ impacts on the environment come from supply chains”<sup>16</sup>, at Scaleway we never stop trying to find ways to improve our practices.

In February 2020, we implemented a new method for logistics and purchasing to **continuously improve our supply chain** — from the purchase of the components we need, to their assembly and deployment, including manufacturing processes, shipping, storage, and long-term management of the life cycle (reconditioning, recycling, end-of-life, etc.).

Since early 2021, 98% of our logistics system has been centralized in our data center located in Saint-Ouen-l’Aumône (DC5). This practice has allowed us to create a **logistics hub** for:

- The delivery of goods, equipment, and components
- The distribution of deliveries to other data centers in France and Europe, before or after assembly
- The monitoring of equipment orders
- The monitoring of returns and unusable goods (end of life, equipment or components to be sent for brokerage or destruction, extension, re-integration within stock)
- The centralization of supply needs, negotiations with providers, purchases, stock and invoicing

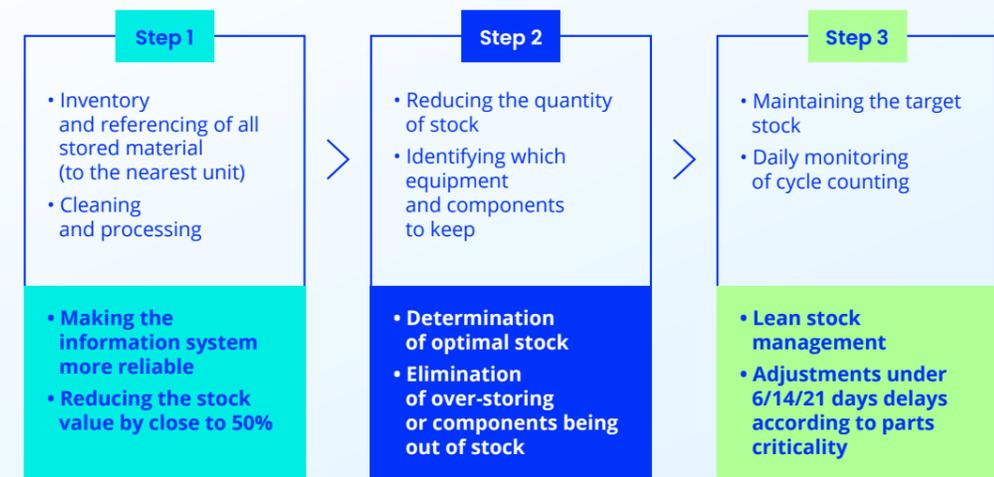
### @ Impact

#### Reducing our carbon footprint

We reduced the value of our available stock between May 2020 and late March 2021, which meant more than 5.3 tons of goods were processed thanks to:

- Optimizing stock management
- Discontinuing orders which are no longer useful, and reducing orders which are too large

### ⚙️ Continual Improvement Project for Scaleway’s Supply Chain



Source: Scaleway

<sup>16</sup> Bové, A.-T. and Swartz, S. (2016). Starting at the source: Sustainability in supply chains. [online] McKinsey & Company. Available at: <https://www.mckinsey.com/business-functions/sustainability/our-insights/starting-at-the-source-sustainability-in-supply-chains>.

# Reducing Carbon-Heavy Shipping

Like the majority of infrastructure hosting and Cloud Service Providers, we have no choice but to purchase most components from far-away markets (e.g. China).

The carbon footprint caused by transporting goods between their production sites in South-Eastern Asia, our logistics hub (DC5), and the other data centers is something we are working on improving by:

- **Reducing the use of air transport** for the delivery of purchased materials (cut by 80% between 2018 and 2019). In late 2020, the means of transport used from the production sites of goods we purchased to DC5 were: 62% road freight, 35% ocean freight, 3% air freight
- Changing our intervention model — instead of replacing parts with a “next day building technician” intervention, we now have a “locally managed pool” model of our own technicians

## Reducing Carbon-heavy Transport

Inter-site trips in France: change in km traveled per fortnight



Source: Scaleway

How else can data centers follow our lead and optimize the management of goods transportation?

- By **reducing the use of certain carbon-heavy means of transport** for strategic providers, despite optimization being very complicated due to production-related tensions (e.g. the Covid-19 pandemic, component shortages) and because order volumes vary significantly
- By implementing countrywide internal policies regarding round trips between data centers. This is the case for our DC5 and other data centers in France (DC2, DC3, and DC4), in Amsterdam (Netherlands) and Warsaw (Poland)
- By **consolidating goods shipments** within a country. Thanks to planning round trips between data centers with a company truck, we managed to reduce the distance travelled from 320 to 80km per fortnight — equating to a 75% decrease, since Q2 2021

How we try to go even further:

- We have also been providing **electric vehicles for employee use** for several years. Since early 2021, 95% of our fleet is composed of electric vehicles (100% for cars and one diesel truck for transporting goods between sites). All our data centers in France have electric terminals to charge our electric cars, and those belonging to employees



# Scaleway's Carbon Report

In order to improve our carbon footprint, it was first necessary to understand where we currently stand. With the help of a consulting firm Carbone 4, we issued a report analyzing our data from 2018, 2019 and 2020 in terms of all three scopes.

The main results of the report were as follows:

- 94% of emissions are connected to data center operations
- Over 75% of these emissions are from both data centers located in Vitry-sur-Seine (DC2 and DC3)
- Less than 10% are from our international operations (Amsterdam and Warsaw)

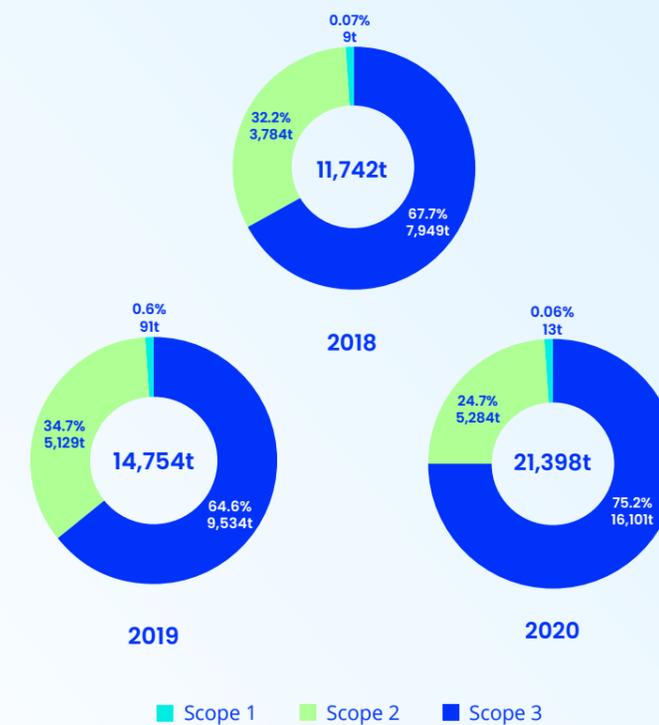
To go further, we are currently undertaking another environmental and social assessment in 2021 in order to analyze our progress and determine the impact of the actions we have taken to reduce our greenhouse gas emissions, following Science Based Targets.

Also, we will adopt a multi-criteria reporting method to include:

- Our power consumption and energy mix
- Our waste production and processing
- Our water consumption

## Scaleway's Carbon Report

Breakdown according to three scopes - in tonnes CO2 equivalent



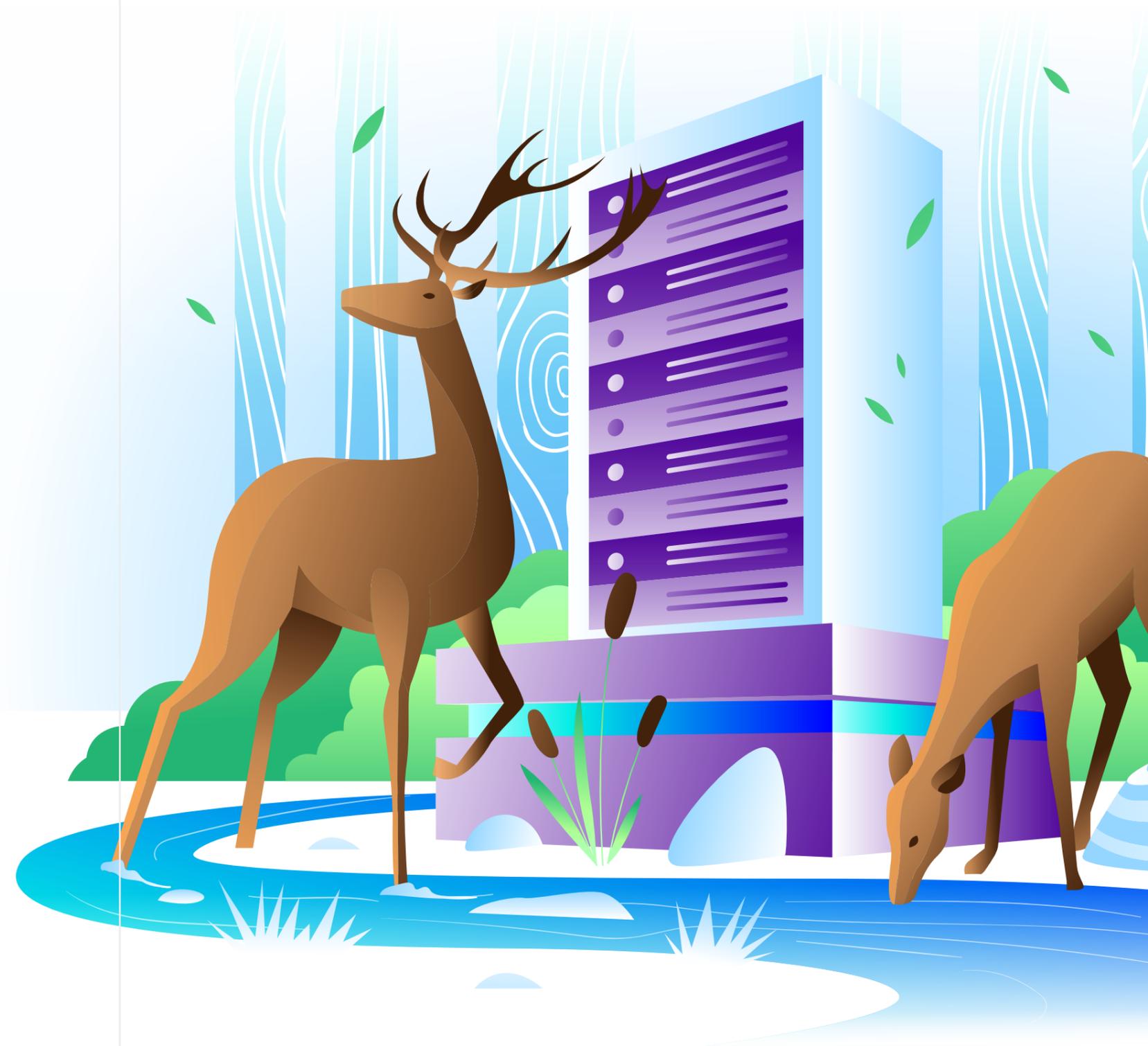
Source: Scaleway

# Methodology

This report was created by AdVaes for Scaleway, and used the following methodology:

- Drawing a list of over 70 key indicators to assess the impact of the actions and initiatives conducted by Scaleway in terms of eco-responsibility and sustainability
- Selecting 40 indicators, specifically those with data reaching back three years, or that are comparable with market benchmarks
- Scaleway collected related data internally (including reports, the carbon report made by Carbone 4, specific web pages, etc.) and provided this information to AdVaes
- AdVaes held qualitative interviews (lasting over one hour each) with five Scaleway and Iliad Group managers: COO | VP Hardware | VP Supply Chain | Group Head of CSR (Iliad) | Head of Hardware R&D
- Collecting and analyzing external information from public sources related to what is said about Scaleway in terms of eco-responsibility. This information was collected via web analytics software belonging to one of AdVaes' partners, and over a million links were analyzed
- Extracting information from AdVaes' database regarding strategies, approaches, and investments by cloud ecosystem and data stakeholders in France in terms of reasonable and responsible uses of digital technology. AdVaes' database compared these stakeholders against one another and against referential indicators, to classify them according to their commitments, their added value, and their respective market performance
- Conducting a transversal analysis of information and data, to select key elements to include in the report

Except for specific mentions and references, the data in this report was provided by Scaleway. AdVaes prepared this report with the utmost care and considers the information contained in it to be correct. However, AdVaes may not be held responsible for any damage, loss or costs resulting from an omission or inaccuracy in the reported information.



# Key Terms & Definitions



## **CPU** (Central Processing Unit)

Or processor of a computing system.

## **WEEE** (Waste Electrical and Electronic Equipment)

Waste from all electrical or electronic products having reached end of life, that must be processed according to the conditions specified by law (see 2002/96/CE or RoHS (2002/95/CE) Directives).

## **LEED** (Leadership in Energy and Environmental Design)

Buildings design standard, created by the US Green Building Council (United-States). Related to the French HQE certification (High Environmental Quality). It addresses building energy, water, and heating efficiency, the use of local materials during building design, and the reuse of any surplus materials.

## **PUE** (Power Usage Effectiveness)

The power effectiveness indicator for data centers. This corresponds to the ratio between the total energy used by a data center and the energy used exclusively by the computing systems hosted and/or exploited by the data center. If the indicator is close to 1, it means that the power consumption of the data center is efficient. According to the Uptime Institute, the global average for data centers was 1.59 in 2020<sup>17</sup>.

## **RAM** (Random Access Memory)

The live memory of any computing equipment.

## **UPS** (Uninterruptible Power Supply / Source)

The backup system that helps provide power in case of a blackout in order to ensure the operational continuity of a data center. This system, often called an inverter by default, makes it possible to ensure uninterruptible power supply (UPS).

## **WUE** (Water Usage Effectiveness)

An indicator to measure the amount of water used to cool a data center or for other uses. According to the US Department of Energy, the global average for data centers is 1.8 l/kWh (US Department of Energy).

## **rDCE** (real Data Center Efficiency)

An indicator used to weight the PUE and the WUE measurements in relation to distributed uses, not in relation to the most efficient datacenter. rDCE is measured in megawatt hours (MWh).

## **Scope 1, 2 and 3 GHG emissions**

The GHG Protocol Corporate Standard classifies a company's GHG emissions into three 'scopes'. Scope 1 emissions are direct emissions from owned or controlled sources. Scope 2 emissions are indirect emissions from the generation of purchased energy. Scope 3 emissions are all indirect emissions (not included in scope 2) that occur in the value chain of the reporting company, including both upstream and downstream emissions<sup>18</sup>.

## **Carbon Zero Energy**

Means no carbon was emitted from the get-go, so no carbon needs to be captured or offset. For example, a company's building running entirely on solar, and using zero fossil fuels can label its energy as "zero carbon"<sup>19</sup>.

<sup>17</sup> Missioncriticalmagazine.com. (2021). [online] Available at: [https://www.missioncriticalmagazine.com/gdpr-policy?url=https%3A%2F%2Fwww.missioncriticalmagazine.com%2Fext%2Fresources%2Fwhitepapers%2F2020%2F2020AnnualSurvey\\_EndUser\\_v4s.pdf](https://www.missioncriticalmagazine.com/gdpr-policy?url=https%3A%2F%2Fwww.missioncriticalmagazine.com%2Fext%2Fresources%2Fwhitepapers%2F2020%2F2020AnnualSurvey_EndUser_v4s.pdf)

<sup>18</sup> Ghgprotocol.org. (2019). Calculation Tools | Greenhouse Gas Protocol. [online] Available at: <https://ghgprotocol.org/calculation-tools-faq>.

<sup>19</sup> Plan A Academy. (2021). What is the difference between carbon-neutral, net-zero and climate positive? [online] Available at: <https://plana.earth/academy/what-is-difference-between-carbon-neutral-net-zero-climate-positive/>.

# About Scaleway and AdVaes



## Scaleway

Scaleway, leading multi-cloud service provider for developers and teams is catering to the global market with the essential mix of cloud computing resources that is flexible, cost effective, reliable, secure and sustainably powered. Scaleway is one of the few European providers to have full ownership over its stack, with no dependence on three levels: data center design and operation, hardware and software infrastructure, IaaS and PaaS. Scaleway has a daring approach that challenges the status quo, its ecosystem is designed to leverage market standards to make things simpler: S3 compatibility, a rolling up-to-date Kubernetes and Terraform support. Scaleway is constantly growing around the world, and currently serves hundreds of thousands of clients in over 160 countries. Scaleway's services are deployed via six data centers located in three regions: Paris (France), Amsterdam (Netherlands) and Warsaw (Poland).

More on: [www.scaleway.com](http://www.scaleway.com)

## AdVaes

AdVaes specialises in prospective analysis, market research, positioning and scoring of digital solution providers in terms of reasoned and responsible uses as well as in strategic operational support to help them develop their business and improve their CSR practices. Digital areas analysed focus more specifically on the cloud computing ecosystem (IaaS/PaaS/SaaS), data analysis and processing (inc. AI and ML). Through reasoned and responsible digital uses, AdVaes is interested in actions carried out in the following areas of CSR/ESG (Corporate Social Responsibility | Environment, Social and Governance) perimeters: respect for the environment and sustainability; equity, parity, and inclusion; ethics and trust, protection of IT environments and data. The company was created in July 2020 by Emmanuelle Olivié-Paul, previously Associate Director of MARKESS, a market research firm, and member of exaegis' CoDir, company specialised in small to medium-sized digital vendor business scoring, and financing. Emmanuelle Olivié-Paul has more than 25 years of experience in the software and services markets related to information technology, and especially those related to the Internet and digital ecosystems.

More on: <https://advaes.fr/>

The logo consists of a white square with rounded corners containing a stylized white icon of a server rack or a square with a smaller square inside, rotated 45 degrees.

**Scaleway**