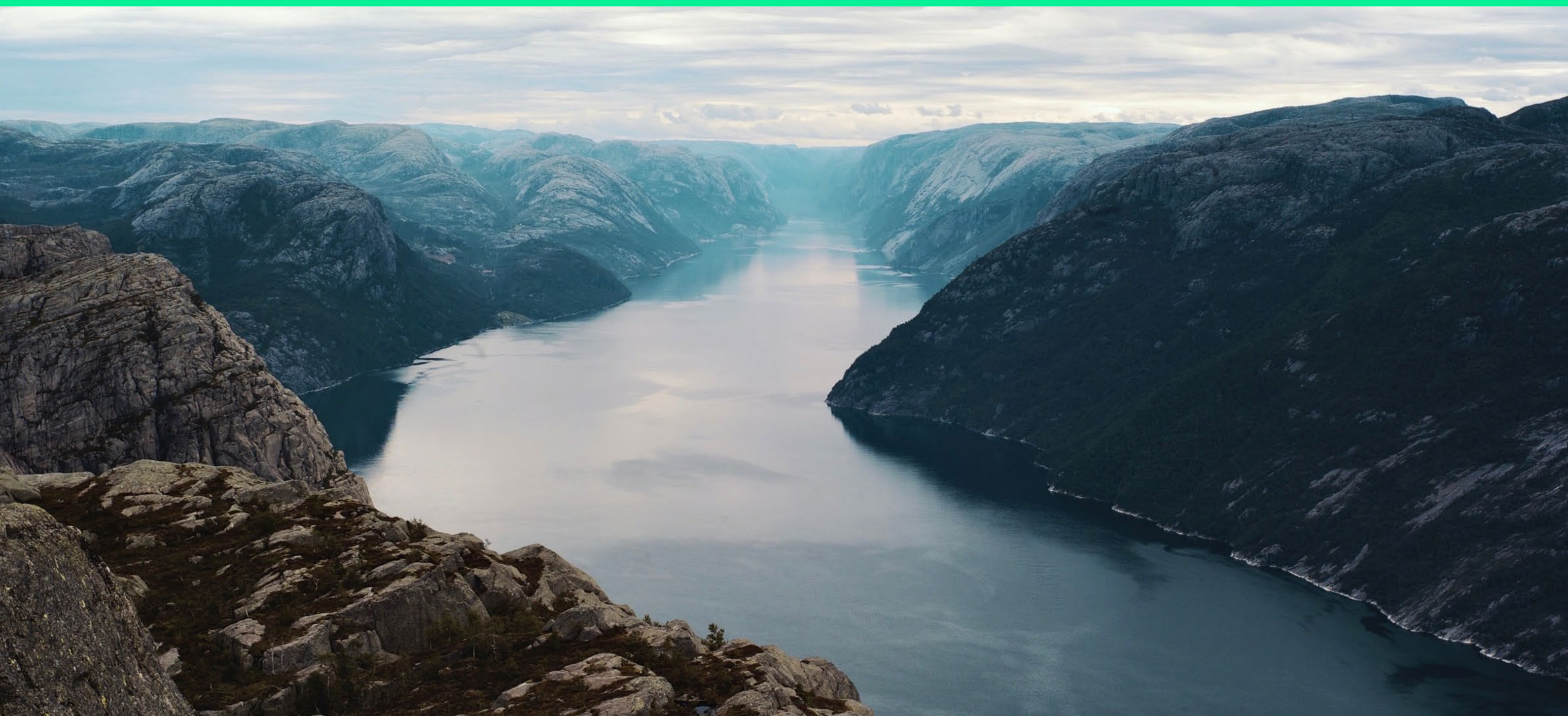


Sustainable Platform

Report on sustainability for 2021



A message from the CEO

In August 2021, the United Nations Intergovernmental Panel on Climate Change (IPCC) launched its sixth main report. The report is clear – severe climate change is ongoing, accelerating, becoming more intense and some of the trends are now irreversible.

A responsibility rests on the business community to innovate, choose sustainable solutions and collaborate with partners to reduce our environmental footprint. Intility aims to conduct business in a way that minimizes negative impact on the environment while ensuring sustainable development both locally and globally.

Reducing the carbon footprint of our end-to-end platform solution is essential, as efforts to digitize core business is increasing across all sectors.

Our business model, which revolves around a multi-tenant and industrialized service, is based on a shared platform where companies favor access over ownership, enabling them to use resources more efficiently.

Sustainability is important for Intility. We are increasing our efforts to reduce the use of environmentally damaging resources as well as improving our environmental accounting standards, adopting suitable frameworks and audits by third-parties.



A stylized, handwritten signature of Andreas Hisdal in a light blue or green color.

Andreas Hisdal
CEO

The importance of sustainable deliveries

Global and local focus on data center sustainability

Throughout 2021, there has been a great global focus on the environmental impacts represented by an ever-increasing number of data centers. Particular focus has been placed on the environmental footprint of energy intensive crypto mining, while the enormous data growth in the consumer and business segments continue to be an area of focus.

In Norway, the Government released a revised data center strategy in August 2021: “Norwegian data centers – sustainable, digital powerhouses”, focusing on sustainability initiatives such as heat recycling and national heat maps. Furthermore, the newly elected Government (2021) has put forth a governing platform (Hurdalsplattformen), specifically addressing an ambition to weigh sustainability with at least 30% in Public tenders.

Continuing our efforts

In 2021, we have continued our sustainable delivery of data center services with environmentally conscious data center suppliers, 100% renewable energy, good resource and capacity planning, energy efficient hardware, multi-tenancy, a high degree of industrialization and fully virtualized data centers. We have

started adopting the Greenhouse Gas Protocol (GHGP) for reporting and monitoring of emissions. GHGP is used to calculate large parts of the environmental footprint of our data center operations, while we at the same time acknowledge that the reporting will steadily improve with more data points and greater insights into the supply chain emissions. Using data points from our hardware partners, we have started the work with reporting on our scope 3 emissions originating from the manufacturing and transportation of hardware used in our data centers. For 2020, we have calculated scope 3 emissions for 70% of our server hardware.

New Data Center Architecture

Weighted selections criteria for Data Center partners 2022-2030:

Sustainability	Multi layer security design
Compliance & certifications	Geo locations
Stability	Total cost of ownership

We are well underway with a signature project for a new and improved platform architecture in Norway. Throughout 2021, Intility expanded the number of data centers in the Oslo region as well as a Dark Site in Stavanger. Furthermore, energy efficient cooling solutions have been installed across all central data centers. One of the most important assessment criteria in the choice of new data center suppliers was their approaches to sustainable operations.






Erfan Mohammadi
Head of Cloud Infrastructure

Intility's data center partners

Intility has a long-standing partnership with Digiplex for central data center facilities, and together we have had multiple sustainability initiatives throughout the years. In 2021, Intility expanded the central Data Center Platform and entered into two new long-term partnerships with Bulk Infrastructure and Green Mountain. We are proud to state that all our data center partners are highly focused on delivering sustainable services and running on 100% renewable energy.

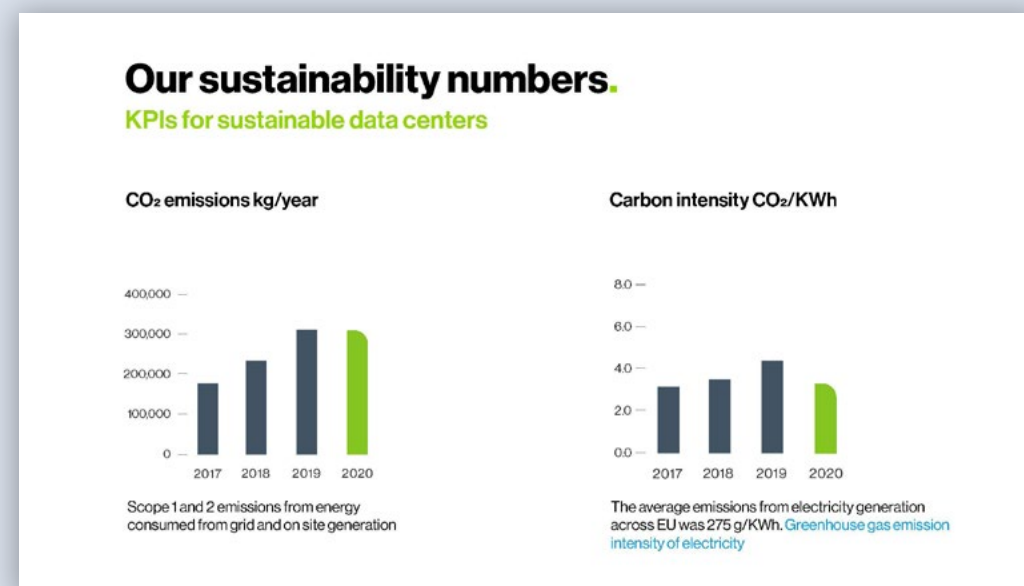
**Power usage effectiveness (PUE) is a metric used to determine the energy efficiency of a data center. PUE is determined by dividing the amount of power entering a data center by the power used to run the computer infrastructure within it. PUE is therefore expressed as a ratio, with overall efficiency improving as the quotient decreases toward 1*

	Environmental certifications		Sustainability initiatives		PUE*
	Implemented	Planned	Implemented	Planned	
	ISO 14001 ISO 45001	EU Code of Conduct for Datacenter Energy Efficiency (EN 50600)	Cold Aisle Containment Heat recycling (Rosenholm) Free Cooling (Rosenholm)	Heat recycling (Ulven & Fortum project)	1.49
 Green Mountain	ISO 14001	x	Hot Aisle Containment Water cooling from fjord	Heat recycling (Lobster Farm)	1.15-1.2
	ISO 14001	EU Code of Conduct for Datacenter Energy Efficiency (EN 50600)	Cold Aisle Containment	Heat recycling Replacing diesel with advanced biofuel HVO	1.26

Digiplex

DNAS & DRAS sites — Oslo

Sustainability is an integral part of Digiplex’s business goals and values, and the company has won several [awards](#) for their environmental work. The Digiplex Sustainability Report is published annually. The report highlights that the company is industry-leading and/or has lower average values within areas such as greenhouse gas emissions, carbon intensity, water usage, PUE and customer satisfaction. Digiplex is continuing their sustainability efforts and has started the adoption of the widely recognized [Global Reporting Initiative](#) (GRI) standard for higher environmental transparency and accountability.



Excerpt from the [Digiplex Sustainability Report 2020](#)

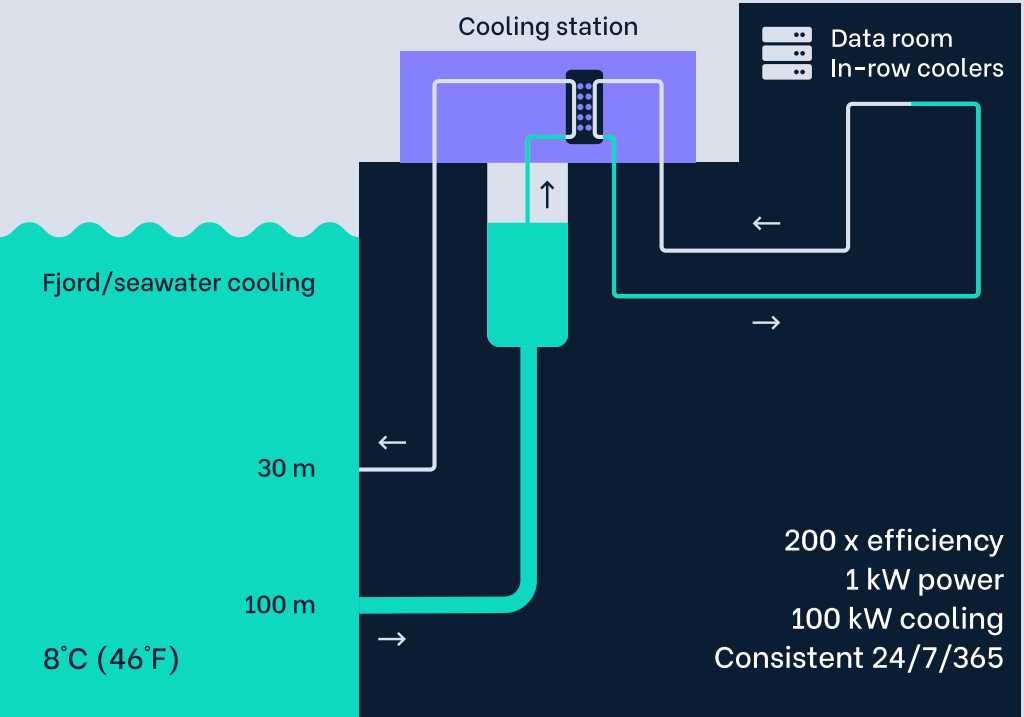




Green Mountain

DC Rennesøy — Stavanger

Green Mountain has a strong green profile and uses innovative methods to deliver environmentally friendly data centers. The data center is cooled using water from the surrounding fjord, where the use of gravity allows the cold water to flow freely to the data center’s cooling station without the use of electricity. Green Mountain has won several international awards for their work on sustainable data centers, including “The Greenest Data Centers in the World”. The company has received international attention for its unique data center on Rennesøy from, among others, BBC World News and Al Jazeera’s award-winning environmental program “Change of Power” (May 2021).



Green Mountain’s innovative cooling solution

Bulk Infrastructure

OS-IX - Oslo

Bulk is dedicated to its vision - racing to bring sustainable infrastructure to a global audience. For Bulk, sustainability means to build and operate long term solutions within the planetary boundaries. This means that Bulk will act to:

1. Cut carbon emission to net zero by 2050
2. Design and operate circular data centers with zero waste and reuse of excess heat
3. Reduce its impact on biodiversity loss

Bulk's journey towards net zero carbon emissions started with setting the baseline. Bulk mapped its carbon emissions in scope 1, 2 and 3 according to the Greenhouse Gas Protocol for 2020. Lesson learned was the importance of addressing scope 3 with indirect emissions and collaboration with the value chain. Oslo Internet Exchange, OS-IX, is a good example of reuse of an old building, that saves huge amount of carbon emissions compared to building a new data centre. For all new fitouts at OS-IX, Bulk is asking for EPDs (Environmental Product Declaration) from its suppliers to be able to consider sustainability in procurement.



Sustainable virtual workloads

The Intility Cloud Platform is built to handle the highest level of requirements regarding security, stability and performance. On behalf of our customers we are managing business- and mission critical workloads as well as supporting critical functions in society.

Our delivery of data center services is built on a virtualized multi-tenant platform with a high level of compute density and minimal degree of dedicated customer hardware. This aligns with Intility's business strategy of industrialization and standardization which is reflected in all aspects of the platform. As a result, energy efficiency in our data centers offerings is in the very nature of our delivery model.

Alternative models where organizations are running workloads on dedicated hardware often represents less energy efficiency, as it is challenging to achieve the same levels of resource utilization compared to pure multi-tenant models.

Intility has implemented several measures which increases energy efficiency for cloud workloads:

- Fully virtualized data center infrastructure on Compute, Storage and Network
- Resource planning using live monitoring
- Balancing buffer capacity vs. idle hardware in terms of available capacity to meet growth and shortening procurement cycles
- Exclusively using SSD-based storage for production workloads
- Data reduction technologies such as deduplication, compression and thin-provisioning
- Virtualization of physical servers where possible for new and existing customers
- Virtualized GPU in Virtual Desktop deliveries (VDI)

Win-win-win

The measures implemented on Compute and Storage are good examples of how effects on cost, utility and sustainability can harmonize:

Compute density reduce costs on both hardware and operations, presents easier management than silo-based architectures as well as reducing physical space and emissions from energy usage and hardware supply chains.

SSD presents lower costs in operations by enabling more stable performance and responsive systems as well as representing a more sustainable option with less physical space needed and higher energy efficiency.

Hewlett Packard Enterprise (HPE)

Choosing sustainable partners on hardware is key in our strategy for sustainable data centers. HPE is Intility’s primary supplier of Compute & Storage hardware and is a strategic partner in our Partner ecosystem.

Through its measures and strategies related to sustainability, HPE has been recognized as one of the world’s leading companies in the fight against climate change by the CDP (Climate A List) and the Dow Jones Sustainability Index.

HPE has reduced their operational carbon footprint by 62% since 2016 and continue their work towards customers and partners in improving sustainability measures.

- Dow Jones Sustainability World Index (DJSI): nine consecutive years; sector leader in 2019 and 2020 (100th percentile)
- Sustainalytics: 80/100 score (96th percentile)
- CDP Climate A List: eight consecutive years (98th percentile)
- MSCI ESG: AA ranking (81st percentile)
- EcoVadis: Platinum level recognition (99th percentile)
- FTSE4Good Index Series: fifth consecutive year



"We recognize that limited resources and impacts on the climate are some of the most complex challenges facing our world today. We're committed to innovating transformative sustainable solutions that decrease the time to value for our customers, while also working together with our suppliers and industry peers to drive strategies that reduce climate impacts."

Brian Tippens
VP, Chief Sustainability Officer,
Hewlett Packard Enterprise

Reporting on greenhouse gas emissions of our data center services

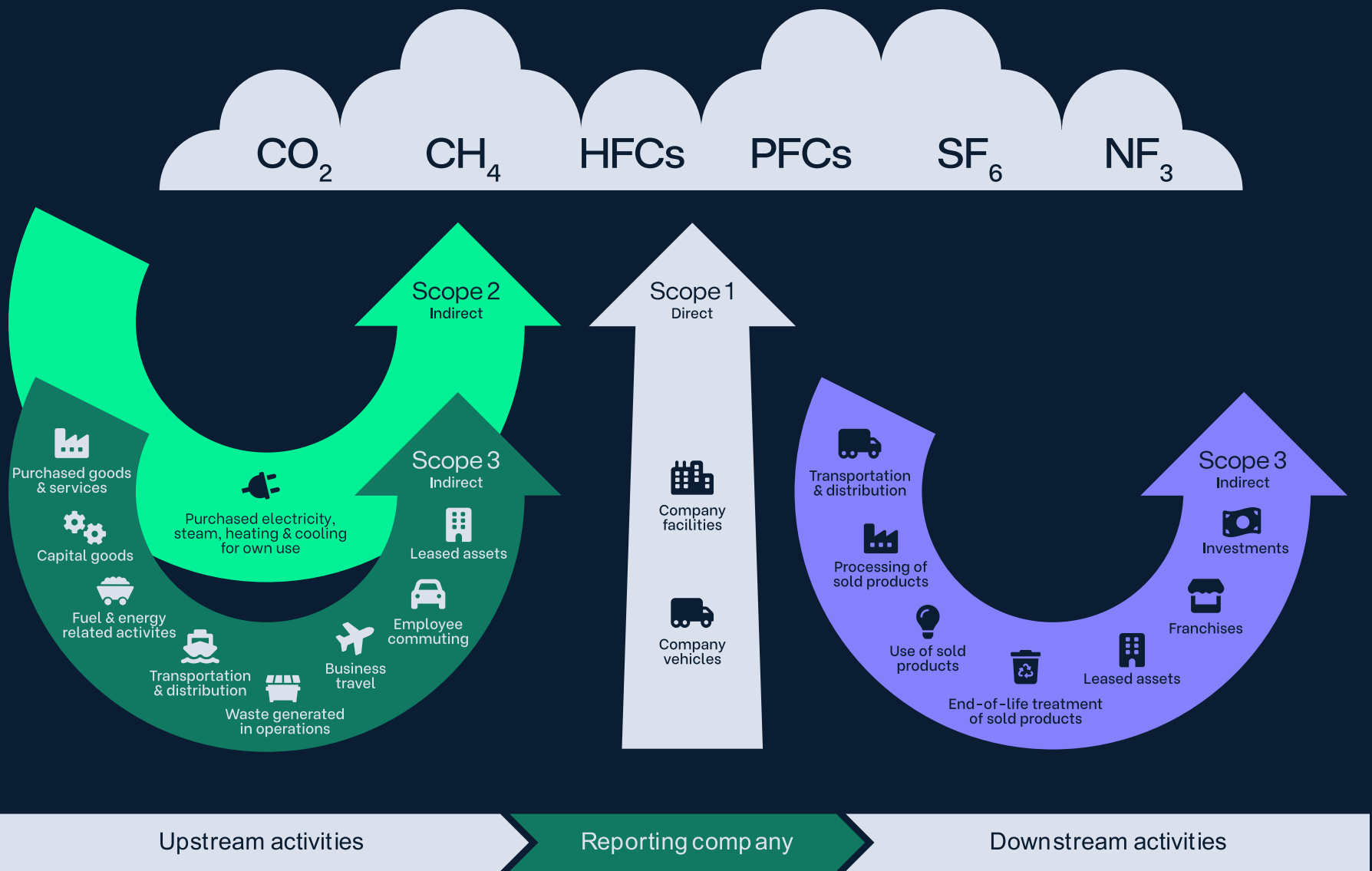
To calculate and report greenhouse gas emissions, Intility uses the Greenhouse Gas Protocol – the world’s most widely used reporting framework for calculating greenhouse gas emissions.



Scope 1 is addressed in Intility’s wider organizational reporting on fuel combustion related the company fleet and is not included in this report. We have calculated the CO2 equivalents for our data center electricity usage, covering scope 2 fully. For Scope 3, we have calculated supporting electricity and cooling fully (by using PUE factors), as well as partially for our server platform. We acknowledge that we have a long way to go to fully cover Scope 3 and will continue our engagements with our hardware partners to gather more data points from the supply chain.

The main GHG input factors for our data centers:

- Electricity to run hardware (Scope 2)
- Supporting facility electricity and cooling of hardware, provided by data center partners – Power Usage Effectiveness (Scope 3)
- Hardware supply chain – including production and transportation (Scope 3)



Scope 1	Direct emissions from activities under the organizations’ control, including fuel combustion
Scope 2	Indirect emissions from the production of purchased electricity, steam, heating or cooling
Scope 3	All other indirect emissions that occur in the company’s value chain



Tips on how to read the reporting numbers

In the following pages of the report, we show the sustainability development on the data center platform throughout the last 3 years. We have focused on KPIs such as CO2 equivalents and energy usage (kWh). In the first pages, we are using Scope 2 (electricity) and partially Scope 3; supporting infrastructure such as cooling and other data center power factors (PUE). This is followed by reporting on our ongoing work with extending scope 3, including hardware supply chain for our data center products. Finally, we show our work with reporting on Public Cloud workloads, focusing on Microsoft Azure.

We have calculated CO2 emissions and energy consumption per user and per server on the Intility platform. The terms “Intility user” and “Intility server” is not to be mistaken with users or servers internal to our organization, but rather represent users and servers on the Intility platform. Our customers can use these numbers to calculate their own footprint originating from our data center services (scope 3), by multiplying with their respective number of users or servers. It’s important to note that each company should only choose one of these inputs and not add them together, as the underlying calculations distribute the total energy consumption/CO2-equivalents

on users and servers separately. Inventory on number of users and servers are available live in the Intility Portal.

It’s also important to note that the underlying calculations which results in a number per user/per server, have encompassed all electricity usage/CO2-equivalents on the data center platform. This means that the numbers include all Intility platform services originating from our data centers:

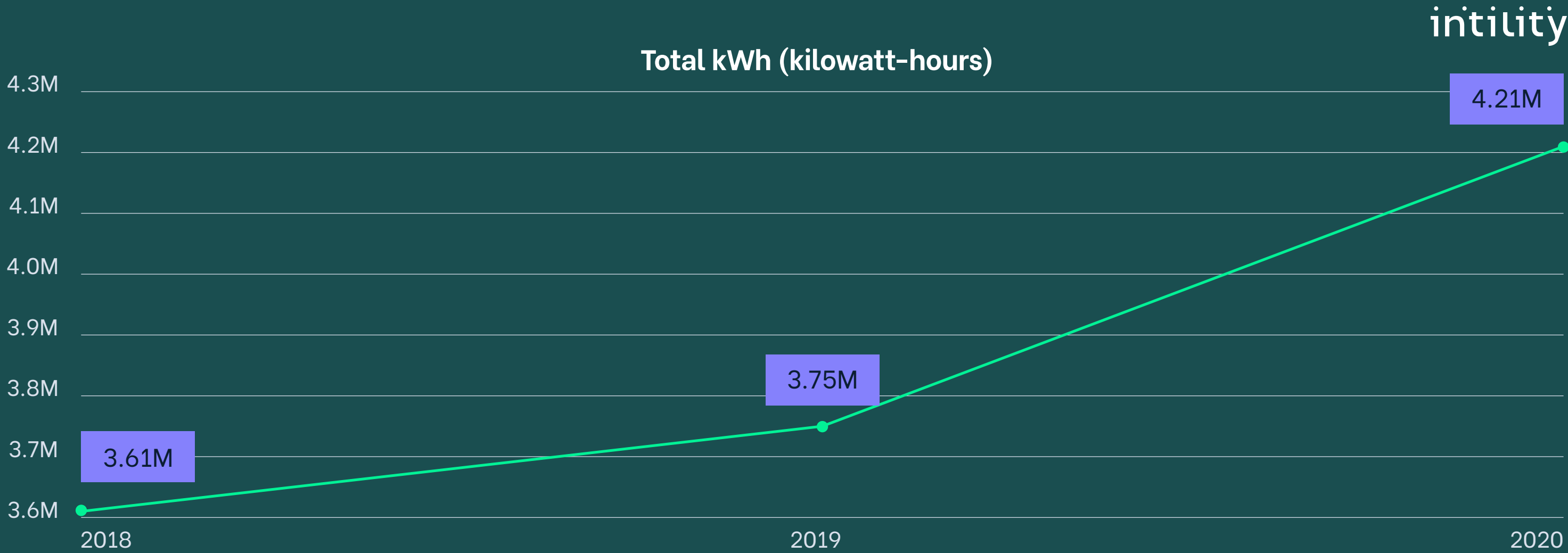
Backup	Storage
Network	Firewall
Identity	Load Balancing
Security	Geo-redundancy

Intility's energy consumption from data center activities is increasing with growth in our customer base, increased degree of digitization, new services included in the Intility platform service as well as an ever-increasing number of integrated services in our eco-system. The effect is to a degree countered by relocation of workloads to public SaaS, especially migrations to Microsoft 365 in 2018-2020.

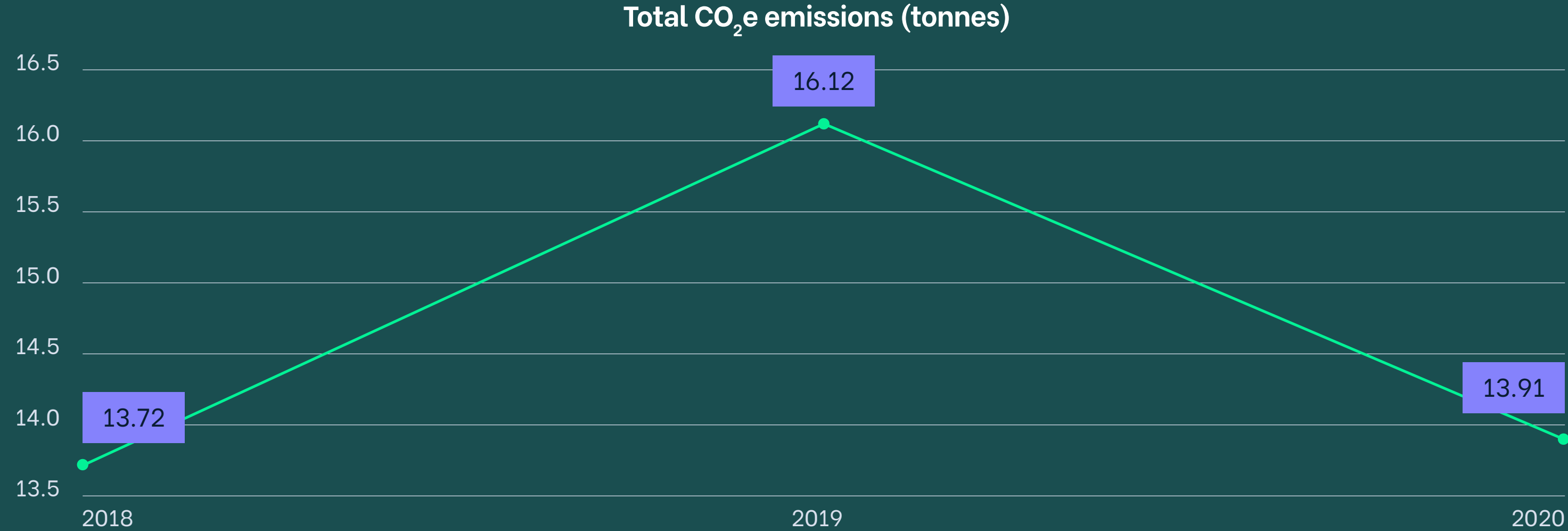
131

Number of new services
on the Intility Platform
2018-2021

<https://roadmap.intility.com>



Total energy consumption from Intility's central data centers (scope 2) + supporting data center infrastructure, PUE (scope 3)



Total CO₂e emissions as a factor of energy consumption. The calculations are based on the data center partners' calculations for carbon intensity (g/kWh)

Yearly CO₂ emissions from electricity and cooling are increasing with our growth but distributed across the number of users or servers we see a clear downward trend.

3.3 grams

Intility's data center CO₂ equivalent emission factor for electricity supply

<https://digiplex.com/wp-content/uploads/2021/10/DigiPlex-Sustainability-Report-2020.pdf>

300 grams

EU average CO₂ equivalent emission factor for electricity supply

<https://www.regjeringen.no/no/aktuelt/ny-side2/id2722277/>

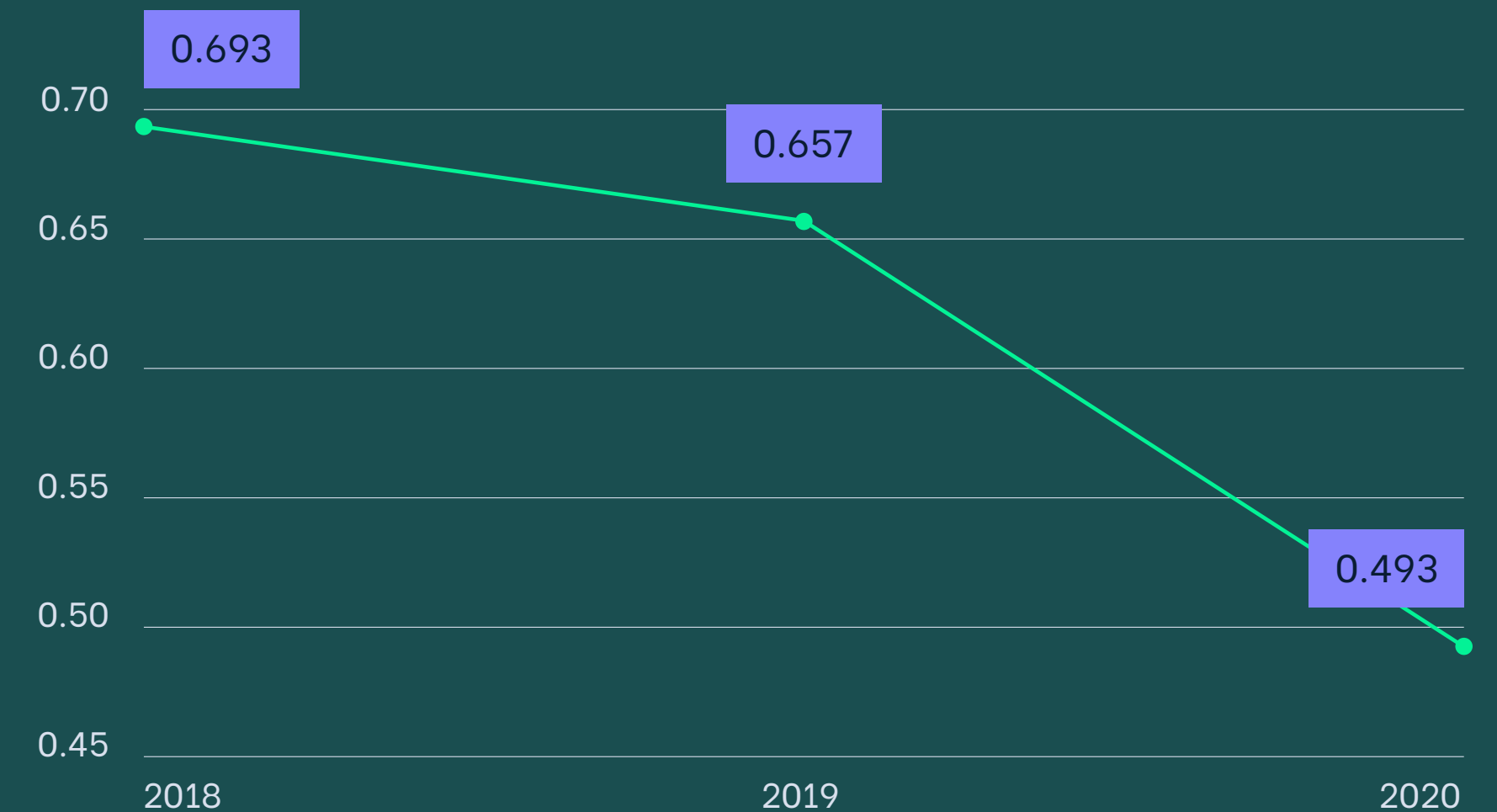
17 grams

Norwegian average CO₂ equivalent emission factor for electricity supply

<https://www.nve.no/nytt-fra-nve/nyheter-energi/stromforbruk-i-norge-har-lavt-klimagassutslipp/>

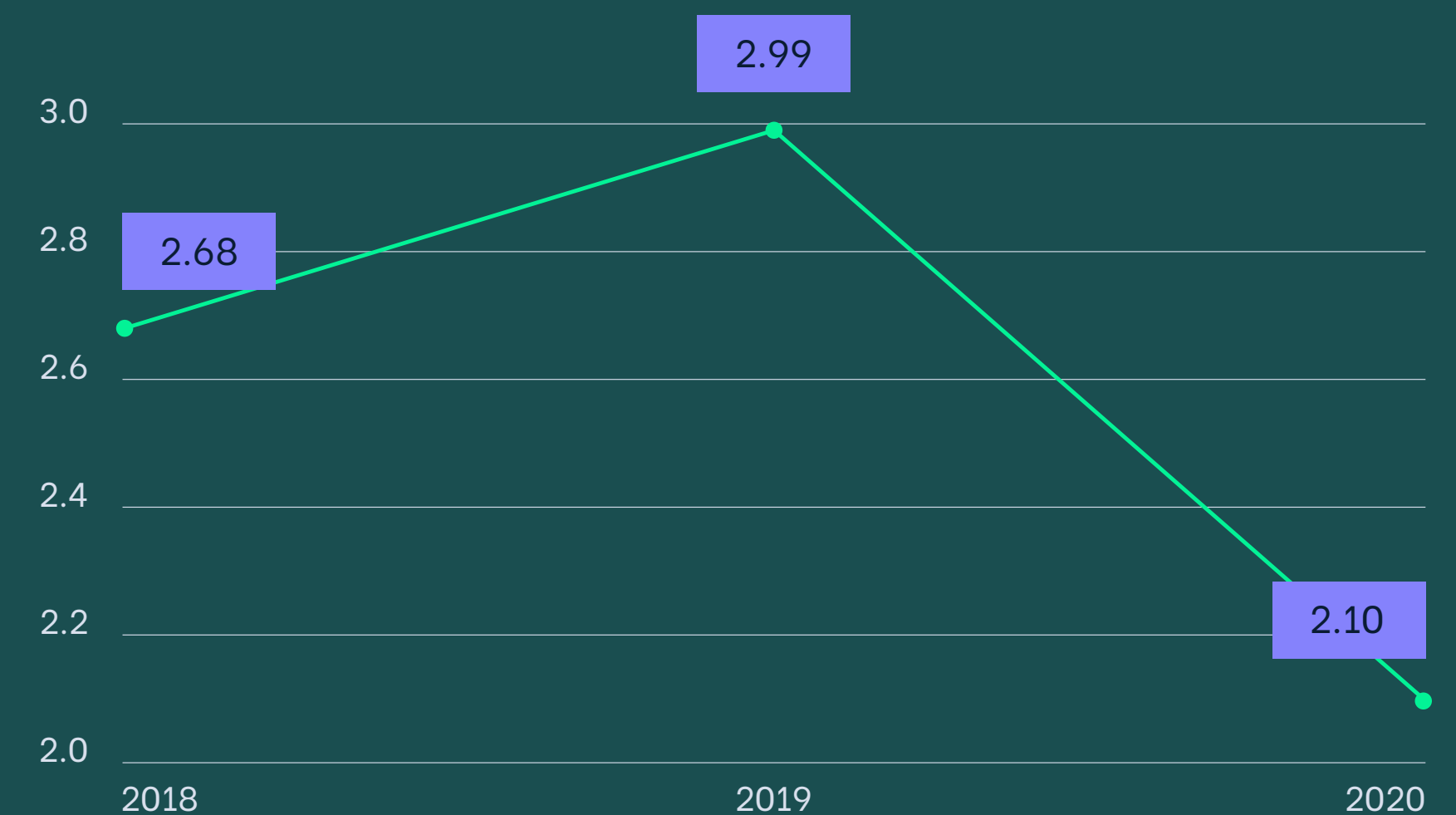
intility

Yearly CO₂e emissions (kg) per Intility user

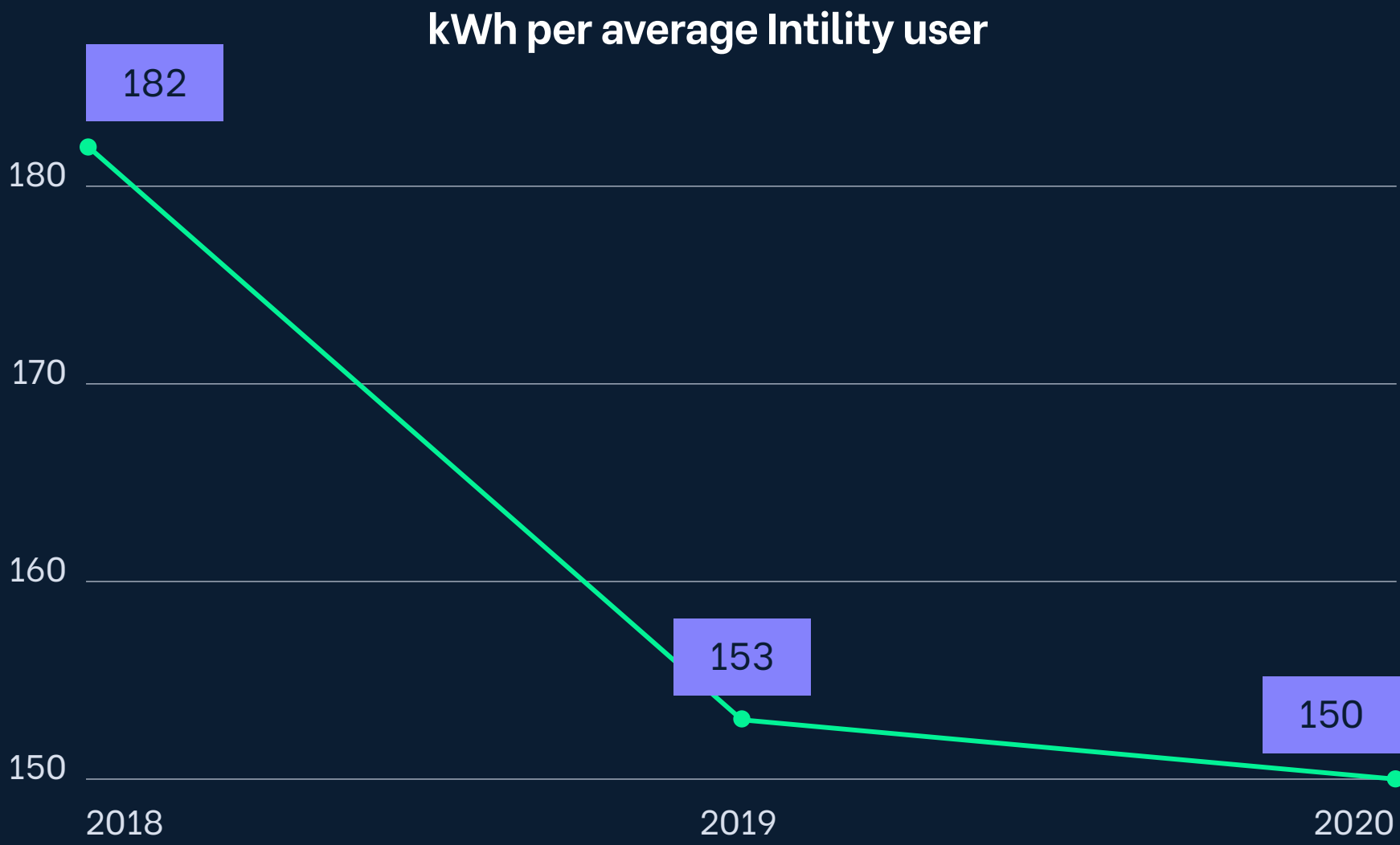


CO₂e emissions as a factor of energy consumption, scope 2 electricity + scope 3 PUE. The calculations are based on the data center partners' calculations for carbon intensity (g/kWh)

Yearly CO₂e emissions (kg) per Intility server



Sustainable Platform



265

Yearly kWh consumption for
1 laptop and 2 screens | 8 hours
on and 16 hours sleep mode

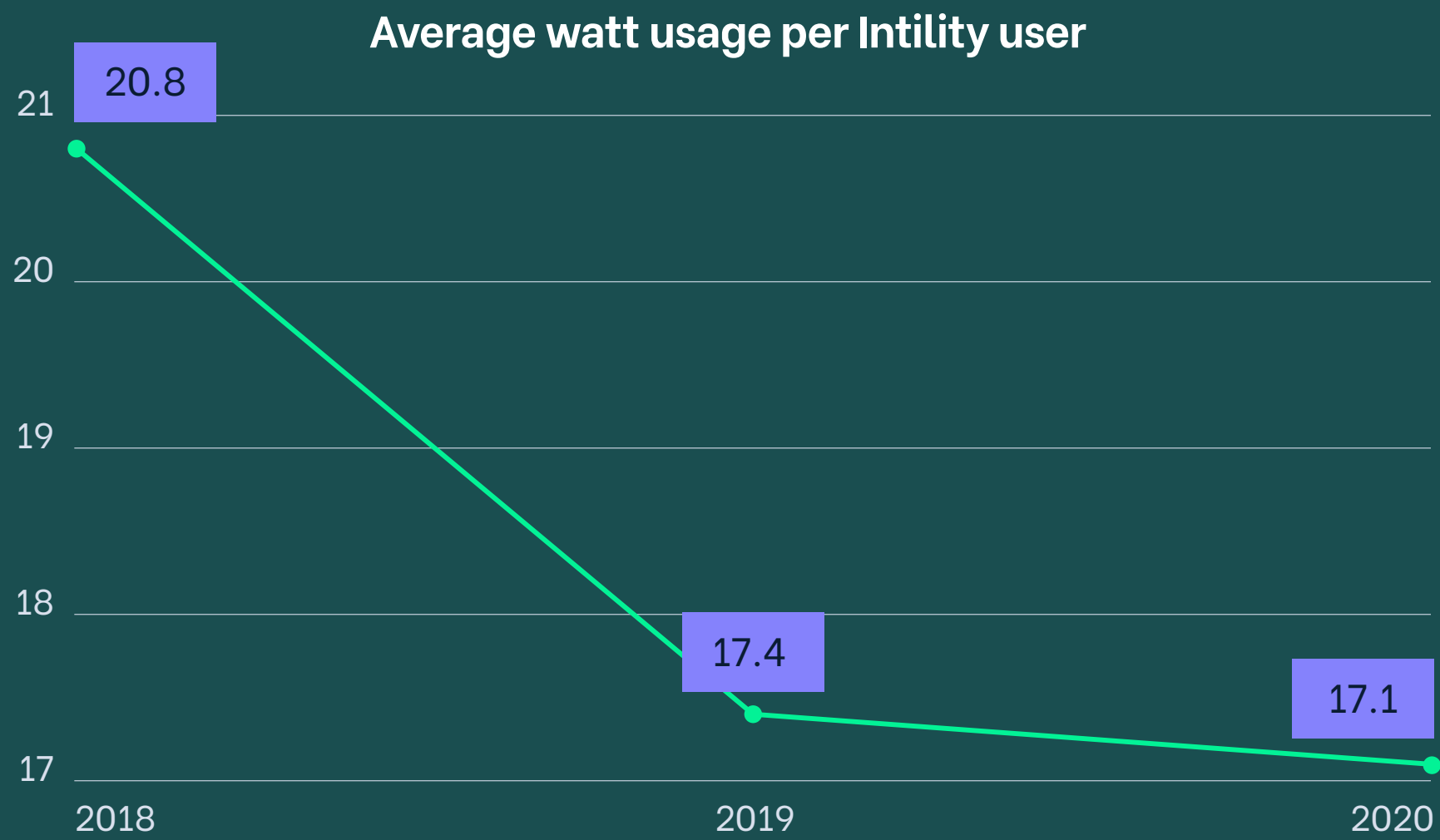
(2x Lenovo P24q-20 og 1x Lenovo T14)

The energy consumption for an average user of the Intility platform is decreasing. We have calculated that the yearly energy consumption for Intility’s data centers, distributed on all users, is approximately 43% lower than a typical setup of PC and screens in office environments.

In 2020, the average wattage throughout the year was 17 watts per Intility user. This corresponds to what a single PC screen or a Philips OL-R Eco 4-P light bulb (Energy Class A) consumes.

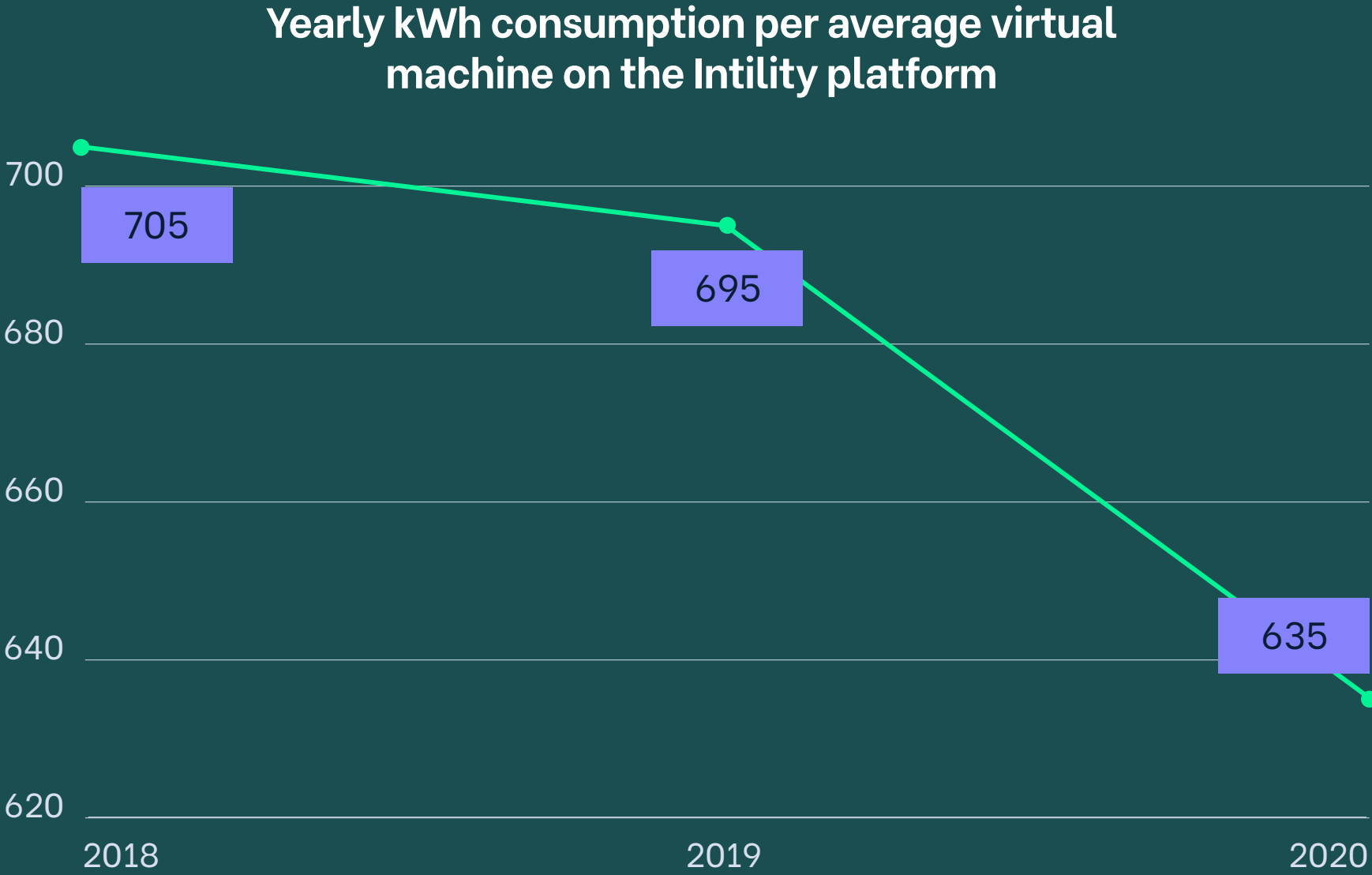
20-25

Wattage on Apple iPhone
and Samsung USB-C
Fast Chargers



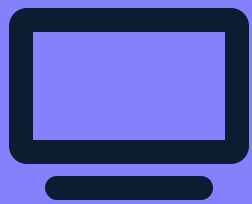
The energy consumption of an average server on the Intility platform is decreasing. The yearly power consumption of Intility’s data centers, distributed across all servers, is less than a tenth of what a single physical server consumes.

In 2020, the average wattage per virtual machine was 73 watts, about half of what a 50” Smart TV can consume.



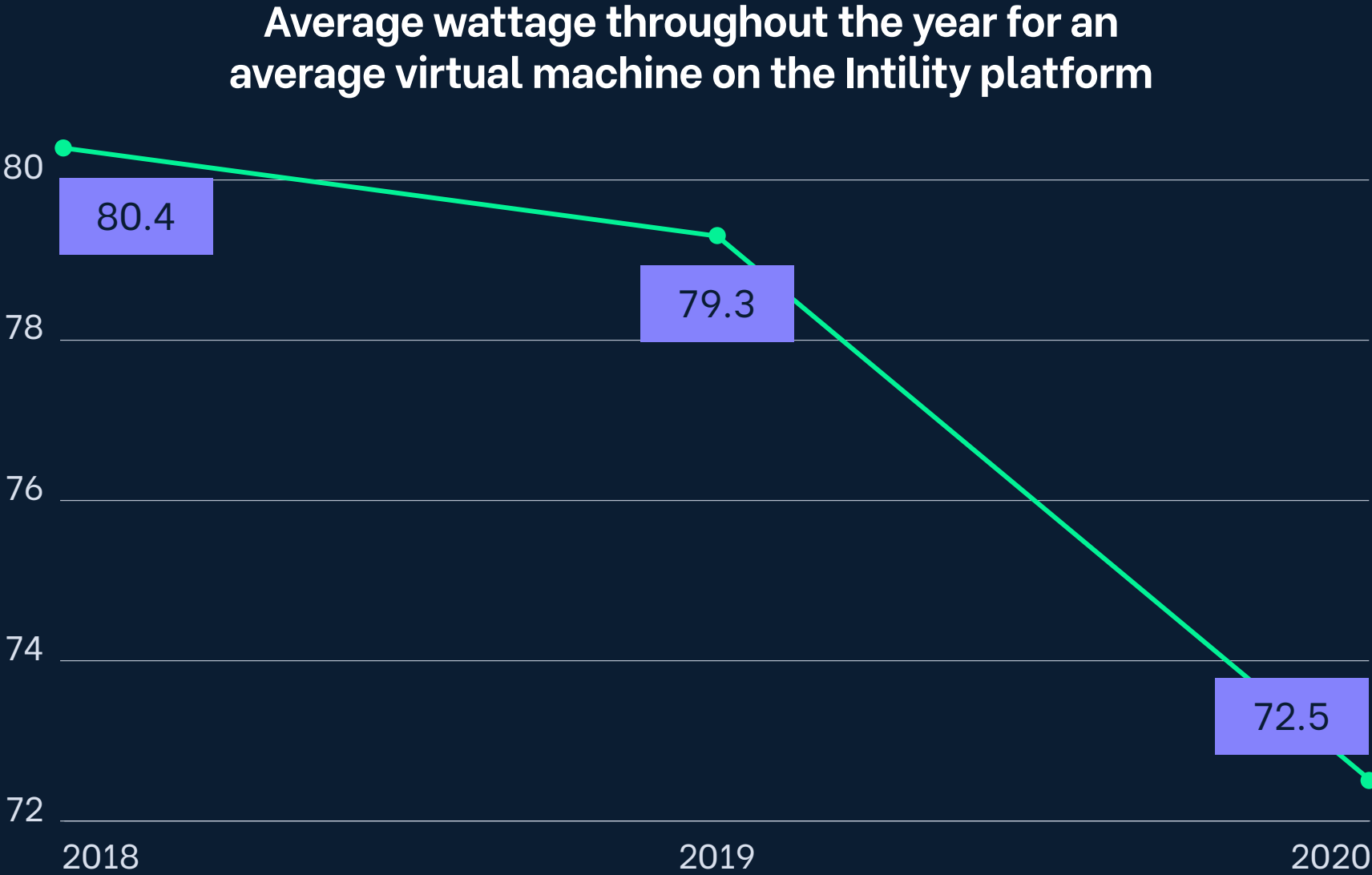
7000

Yearly kWh consumption for a single physical server HPE DL360 (800 watt)



92–140

Wattage on Samsung 50”4K Smart TV UE50AU8005



Continuing to gather data for scope 3

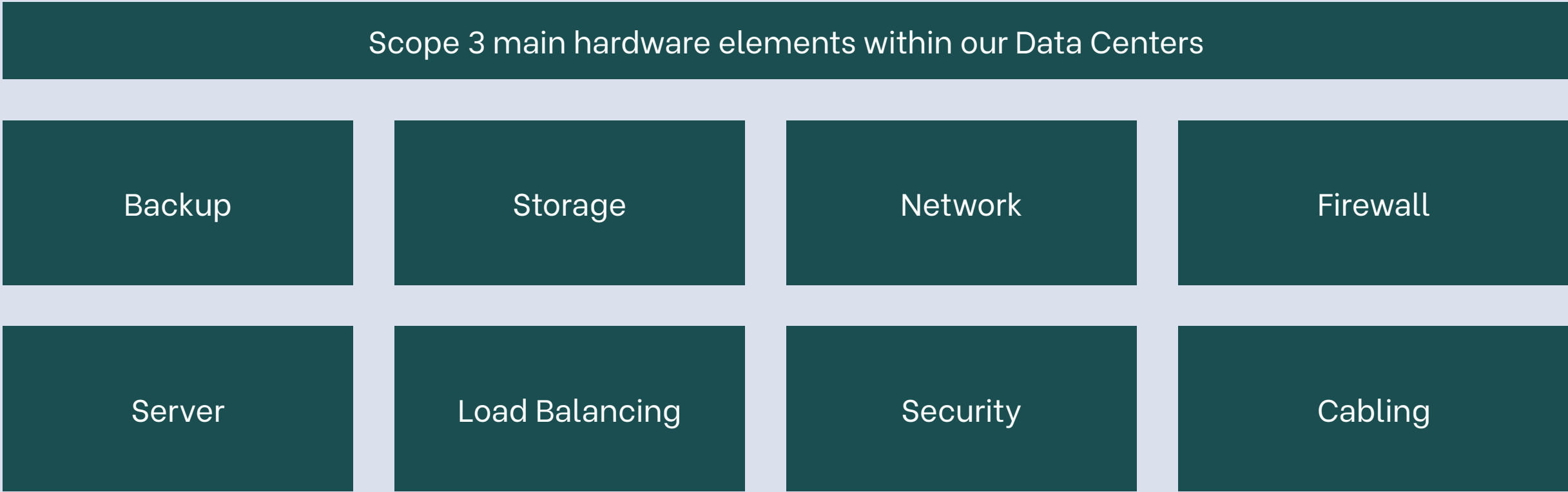
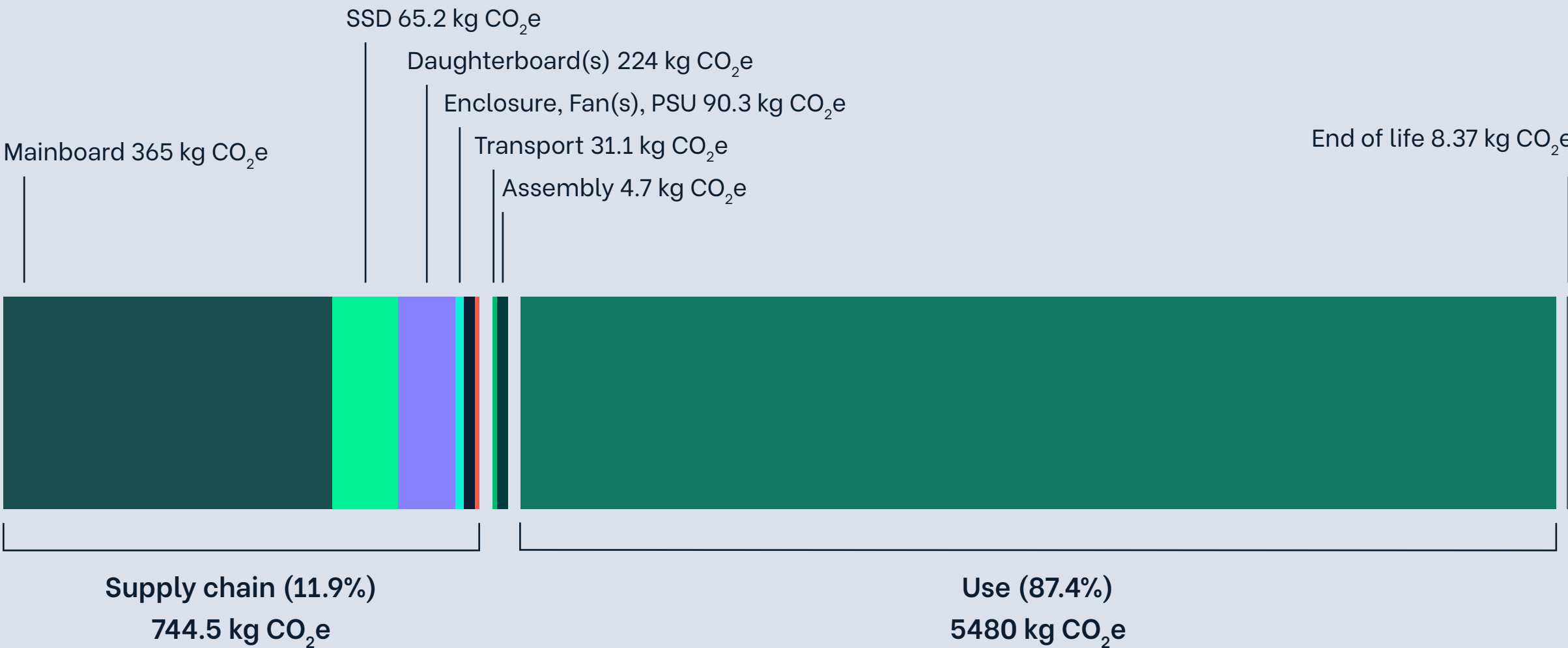
A considerable amount of CO2 emissions for Intilitys scope 3 calculations are derived from the PUE-factors of our data centers. Emissions originating from PUE is straightforward calculate and we have been tracking it for several years.

The more challenging scope 3 data points have to do with hardware supply chains – including production, assembly, transport, use and disposal. With thousands of hardware units in our data centers, from a variety of vendors, this effort is continuous and requires considerable effort from us and our partners. Indeed, we are dependent on available calculations from our hardware partners, which in turn are dependent on calculations from their respective supply chains.

For 2020, we are pleased to report that we have calculated the scope 3 Supply Chain CO2e for 70% of our server hardware (HPE DL360 and DL380), based on Hewlett Packard Enterprise’s Product Carbon Footprint initiative.



The HPE DL360-server.





15.7 tonnes

Total 2020 Scope 3 CO₂e footprint of 70% of Intility's server hardware

0.6 kg

2020 yearly Scope 3 CO₂e per Intility user

Calculating on 70% of server hardware supply chain

2.4 kg

2020 yearly Scope 3 CO₂e per Intility server

Calculating on 70% of server hardware supply chain

Why are we not showing the development charts on CO₂ footprint for scope 3 hardware supply chains?

Our underlying technology platform is continuously evolving, and product series get replaced as technology evolves and the requirements for cloud workloads changes over time. Although we have calculated the supply chain CO₂ footprint for 70% of our server hardware in 2020, this share was lower in 2019 and 2018. As the CO₂ equivalency calculations are not available for the older hardware that was naturally replaced during the last 3 years, a development chart would be inaccurate.

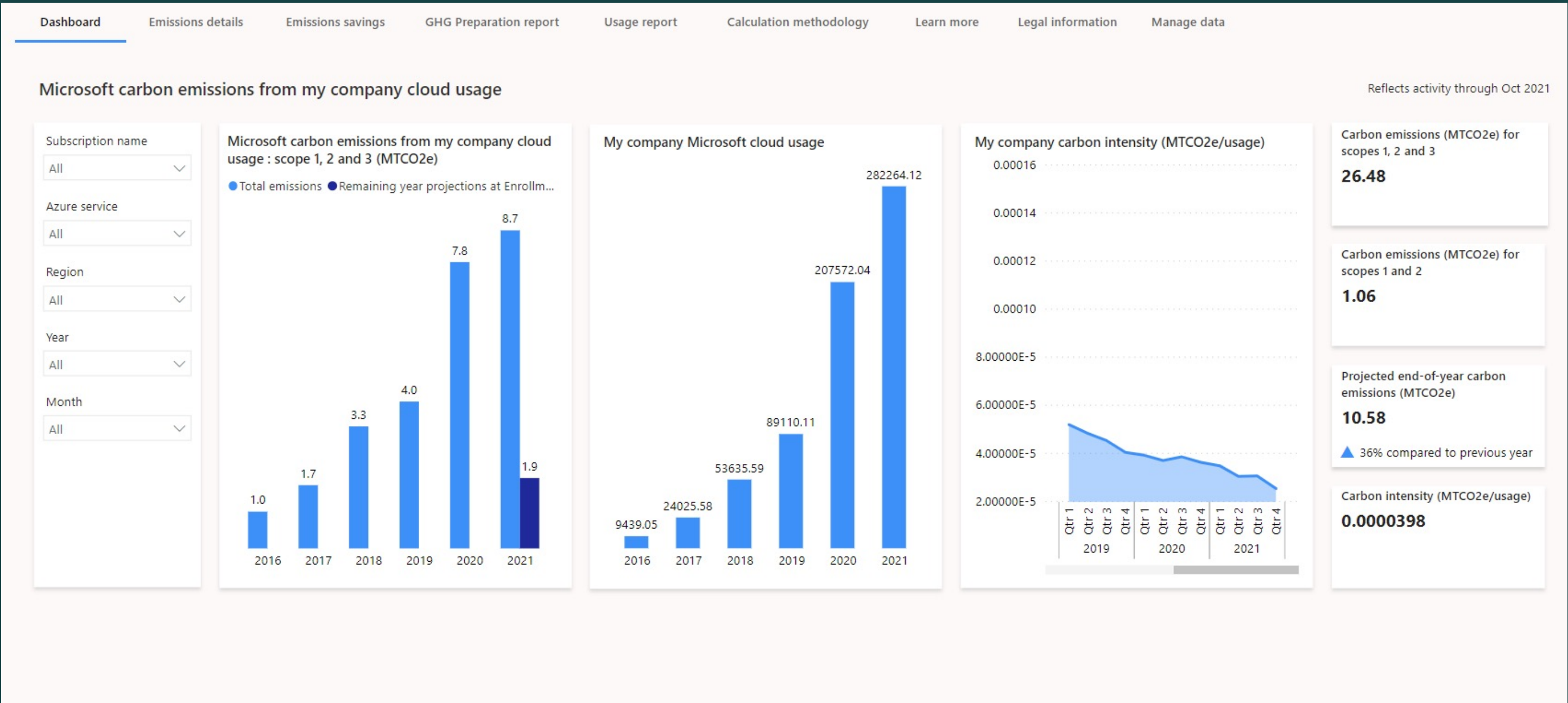
As more data points become available our ambition is to report on the development over time of CO₂ footprint for hardware supply chains. For this year's report, we've included the numbers for 2020. The calculations include supply chain production (mainboard, SSD, daughterboard, enclosure, fans, PSU), transport and assembly, spread over 5 years (product lifetime).

Carbon emissions from public cloud workloads

In 2021, Intility started work with gaining more insight into the carbon footprint beyond our own data center infrastructure, mainly focusing on Microsoft Azure. Microsoft is a strategic partner in Intility’s eco-system, and an increasing number of our customers are leveraging Azure services in their digitization endeavors.

Using the [Microsoft Emissions Impact Dashboard](#) (readily available as a PowerBI App), we can track scope 1, 2 and 3 emissions, extending our use of the GHG protocol. The application has a GHG Preparation report section, making it easier for organizations to use accurate carbon accounting to track greenhouse gas emissions for Azure workloads.

Our ambition moving forward is to integrate the data points in our reporting framework, use the data to strengthen sustainability endeavors as well as helping our customers to leverage these dashboards in their work with sustainability and reporting.



Intility’s MS Carbon Emission Dashboard per December 2021. Note that the numbers represent Intility’s internal workloads, which may be used to provide specific services to our customers. The numbers do not include customer workloads.

Platform Sustainability in Numbers 2020

An average Intility user has yearly CO₂e emissions of 0.49 kg, equivalent to:

Calculating scope 2 + 3 electricity from Intility’s data centers



7 km driven with diesel car¹



A mouthful of beef (22 grams)²



2 cups of coffee³

An average Intility user has yearly CO₂e emissions of 1.05 kg, equivalent to:

Calculating scope 2 + 3 electricity + 70% server hardware supply chain (scope 3) from Intility’s data centers



29 hours of Netflix streaming⁴



2 tubes (100 ml) of toothpaste⁵



26 hours of using of hairdryer⁶

¹<https://www.ssb.no/transport-og-reiseliv/artikler-og-publikasjoner/mindre-utslipp-fra-vei-trafikk-fly-og-tog?tabell=439538>

²<https://www.miljodirektoratet.no/globalassets/publikasjoner/m1497/m1497.pdf>

³<https://www.ucl.ac.uk/news/2021/jan/analysis-heres-carbon-cost-your-daily-coffee-and-how-make-it-climate-friendly>

⁴<https://www.carbonbrief.org/factcheck-what-is-the-carbon-footprint-of-streaming-video-on-netflix>

⁵<https://www.sciencedirect.com/science/article/pii/S0959652619347304>

⁶Comparing to most popular hairdryer in Norway, Remington PROluxe AC9140, <https://www.prisjakt.no/category.php?k=547> per December 2021. Using Norwegian electricity with CO2 intensity of 17 g/kWh

Sustainability throughout the Intility Platform

Intility’s Approach to Sustainability

Sustainability is about how our business and operations create impact and value in all three dimensions of sustainability; the social, environmental and economic. Intility is determined on building a long-term sustainable IT platform for our customers, employees and stakeholders, that contributes to solving the environmental challenges facing society.

As sustainability is a prerequisite for doing business right, Intility is fortunate to have engaged and dedicated employees, caring for each other, society and the planet. Employees at all levels are responsible for developing sustainable solutions, as well as complying with responsible operations. Complementing our existing internal policies, an Environmental, Social and Governance (ESG)-policy has been added, applying to all employees.

At Intility, we approach sustainability as a continuous process in which we always strive to improve.

UN Global Compact and the Sustainable Development Goals (SDG)

Through 2020, we analyzed the impacts and potential impacts of our core business towards the SDG’s. This resulted in six emphasized SDG’s in which Intility can contribute or already contributes significantly. In 2021, Intility joined UN Global Compact; the world’s largest voluntary corporate sustainability initiative. 2021 is our first reporting year, aligning both the SDGs and the [ten principles for responsible](#) business with strategy and operations. Working continuously with the SDG’s in relation to our own business model, our goal is to minimize the negative impacts and maximize the positive impacts. The report (CoP 2021) will be available in March 2022.



Increased Efforts in Understanding Intility’s Climate Impact

Intility is certified by Eco Lighthouse and has worked targeted with our climate impact since 2013. However, we acknowledge that our full carbon footprint is challenging to measure. We are committed to increase our efforts and work together with our partners in order to calculate and reduce our emissions. This involves gathering more data points for activities generating emissions associated with the Intility Platform. These activities are either originating from Intility’s internal operations such as office locations and business travel, or from services provided for our customers such as the data center services addressed in this report. Aligning our reporting with the GHGP, the goal is to achieve a greater understanding of our own climate impact, both as a platform provider and as a responsible workplace.





Our Sustainability Principles

- Intility shall be an organization which has a clear relationship to sustainability throughout the business and takes responsibility for contributing to solutions to the climate and environmental challenges facing society.
- Intility has a precautionary approach to environmental challenges and will engage employees at all levels to take responsibility for developing sustainable solutions.
- Intility shall contribute to technological development that benefits society and the world.
- Intility shall always respect human rights, labor rights, freedom of association and ensure safe workplaces.
- Intility shall value quality, sustainability and costs while evaluating suppliers.
- Intility shall ensure that all forms of forced labor and child labor do not take place, neither at Intility nor in the company's value chain.
- Intility must always ensure honest, fair and responsible operation and has zero tolerance for all forms of corruption, money laundering or bribery.

intility