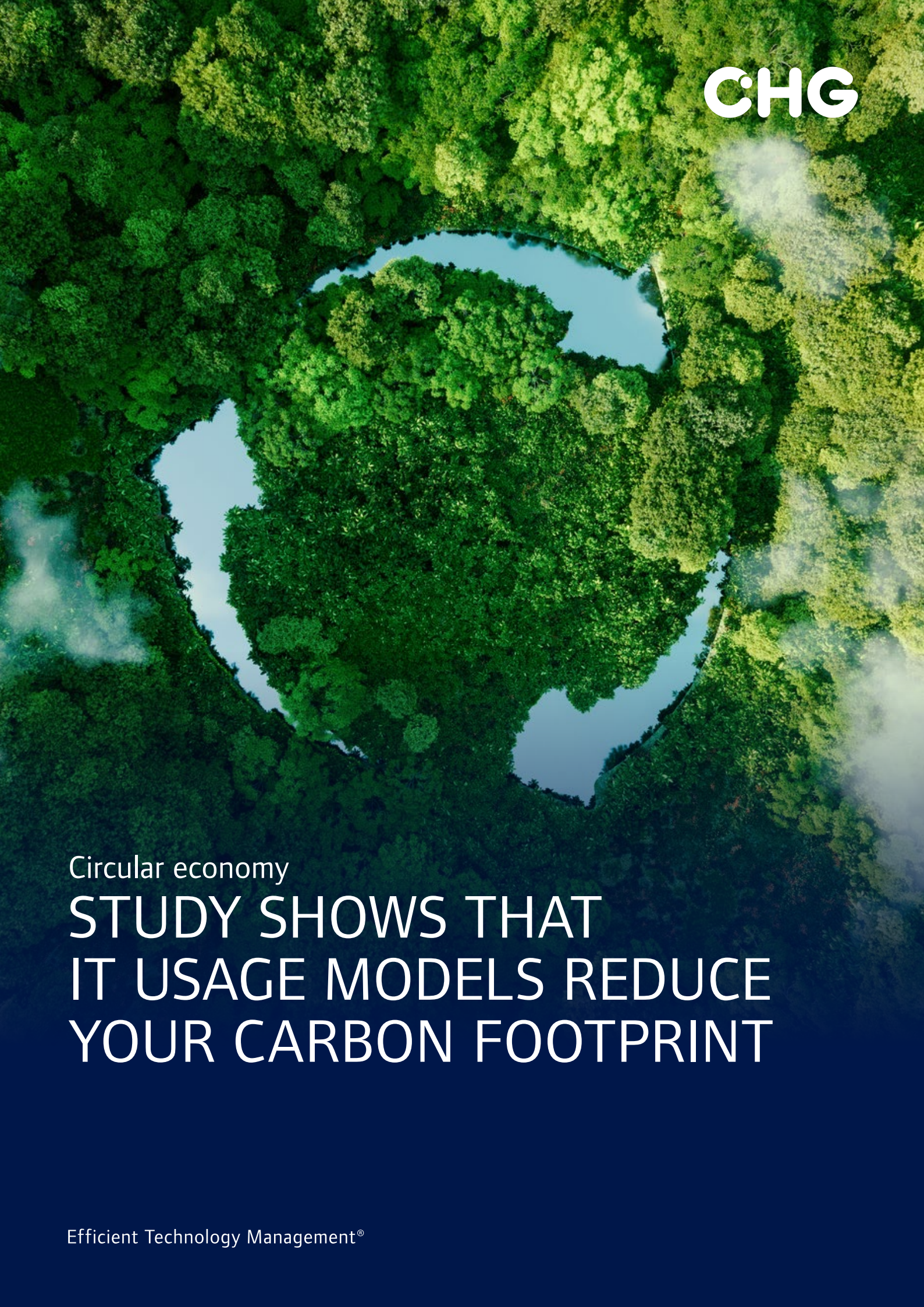


Circular economy

STUDY SHOWS THAT IT USAGE MODELS REDUCE YOUR CARBON FOOTPRINT

Efficient Technology Management®

Usage models can boost corporate green IT strategies

It might seem hard to believe, but almost one in two people buy a new computer or smartphone when the one they already own is still functional.

According to a Bitkom study [1], on average two out of three old devices end up unused in drawers or gathering dust in cupboards until they are finally disposed of.

Many take a similar approach to their IT equipment, with many devices replaced after two or three years of use. The unused devices are sent to storage until they eventually become technically obsolete and no longer usable. The only option then is to dispose of them as electronic waste.

According to a 2020 study by IT service provider Blancco [2], 92 per cent of respondents are already looking at how to appropriately store and dispose of devices issued to employees during the pandemic once they are no longer used. This is a positive trend, as not using or selling decommissioned hardware ties up capital. It is a pivotal for anyone responsible for IT, procurement, or sustainability to bear in mind, particularly in times of economic uncertainty. Storing old devices does not add value, nor does it benefit liquidity; quite the opposite, it incurs comparatively high costs. However, these costs can be avoided by choosing the right usage model for IT hardware. A point that is more relevant than ever in times of remote working and increased demand for mobile devices.

In addition, the IT sector, just like many industrial sectors, is experiencing supply problems. Supply chains have become fragile, and there is a shortage of electronic parts. Sought-after smartphone models, tablets, and laptops have longer delivery times or, in some cases, are not available at all. Storing fully functional hardware is not in keeping with the times. It is wasteful and does no justice for the environment.

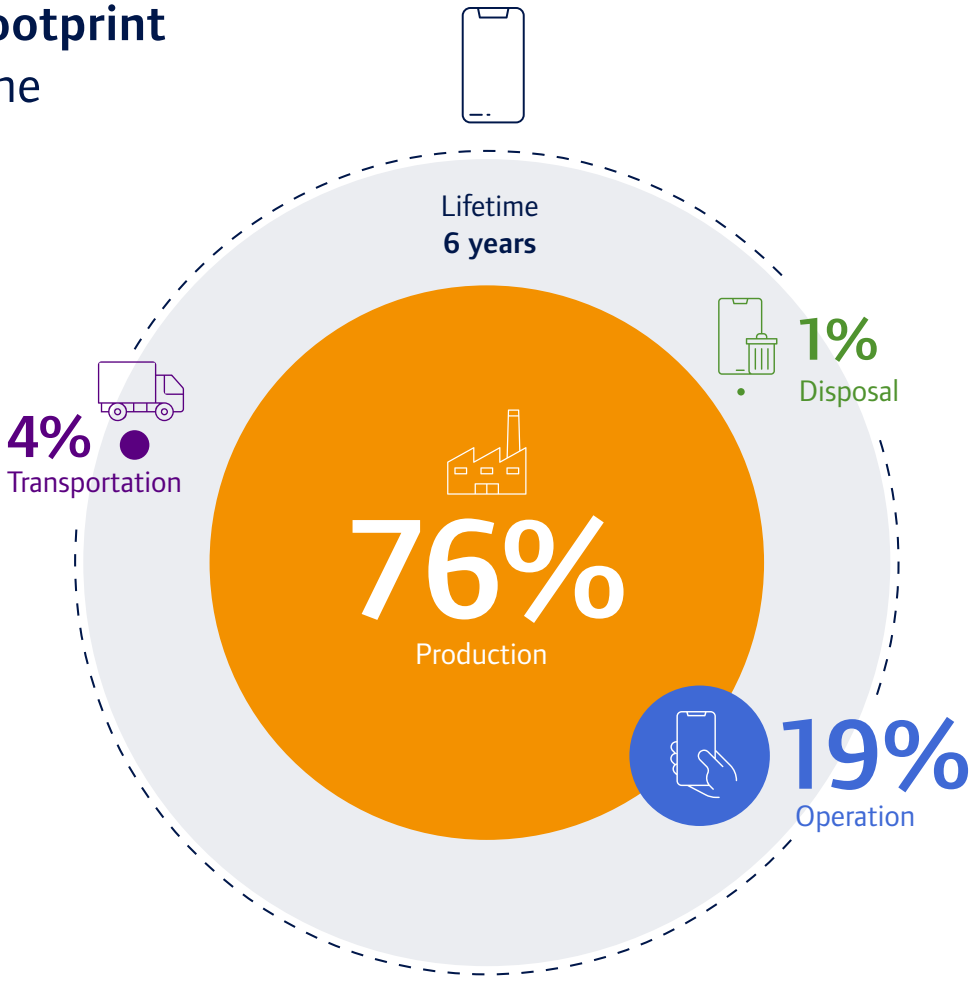
A fundamental challenge for effective IT

Many companies are working hard to become more sustainable and efficient in the face of stricter regulations and growing cost pressures. An effective and well-designed IT infrastructure is key as it provides the platform for optimised processes, reduced energy consumption, and unlocks the potential for higher levels of productivity. Getting it right is not easy. However, as a company's IT environment becomes more complex and successful, the greater its negative impact on the environment can become.

In 2021, management consultancy Deloitte predicted that smartphones would account for around 146 million tonnes of CO_2 or equivalent (CO_2e) emissions in 2022.[3]

On average, three quarters of a smartphone's emissions are generated during production. The remaining quarter is generated during transport, use, and subsequent disposal. This fact is addressed by the Green IT study commissioned by CHG-MERIDIAN and is presented in this whitepaper.

Carbon footprint
Smartphone



Rethinking procurement – car sharing and similar models point the way

Sustainability, procurement, and operations generate a lot of work for IT managers, and the resulting challenges tie up personnel and organisational resources in the long term. So, why not consider all three in a single solution? Why not find a sustainable solution for decommissioned IT equipment? And why always buy when it is possible – and more efficient – to pay to use equipment only for the period you need it for?

A recent study[4] by Stena Circular Consulting and Cradlenet, the Swedish network for the circular economy, found that service-based business models are considered the cornerstone of any shift to a circular economy. The models help to create product and material flows suitable for the circular economy. And, thanks to integrated usage models such as leasing or Device-as-a-Service (rental), companies can protect their IT budgets and increase their profitability and sustainability.

Specialised service providers offer hardware to rent or lease. Following the use period, providers take the returned equipment and refurbish it professionally. After the hardware is repaired, it is put back on the market for further reuse. As a result, companies no longer tie up capital unnecessarily in unused assets that still have value.

Usage models facilitate the switch to the circular IT economy by allowing companies to reduce their IT equipment's carbon footprint and contribute to the fight against climate change. This is supported in the Green IT study conducted by the respected Belgian research institute, VITO, on behalf of CHG-MERIDIAN. The study also found that usage models, where hardware is refurbished several times and made available for a second, third or even fourth lifecycle, are generally more sustainable than models where IT equipment is purchased in a conventional way.

The Green IT study at a glance

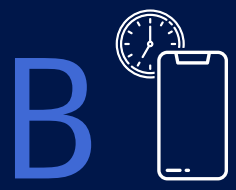
As a rule, usage models significantly improve resource efficiency and positively impact a company's carbon footprint compared to conventional purchasing because the models involve using IT assets for longer over their lifetime. This was a key finding of a 2022 study carried out by the VITO Institute in Belgium on behalf of CHG-MERIDIAN. The independent VITO Institute is a global leader in sustainability research.

Methodology:

Three use cases with different usage scenarios were devised to reflect the lifecycle impacts of providing a device to a customer. An estimated lifetime for each device category was used. Both the smartphone and desktop used a six-year estimated lifetime, and a five-year lifetime was used for a laptop.

Conventional purchasing

with single use and subsequent disposal (A0). Alternative scenarios: subsequent resale on the second-hand market and further one or two years of use (A1) or use until the end of the estimated lifetime (A2).



Leasing

with subsequent refurbishment, resale on the second-hand market by the lessor, and further one or two years of use (B1) or use until the end of the estimated lifetime (B2).

DaaS model

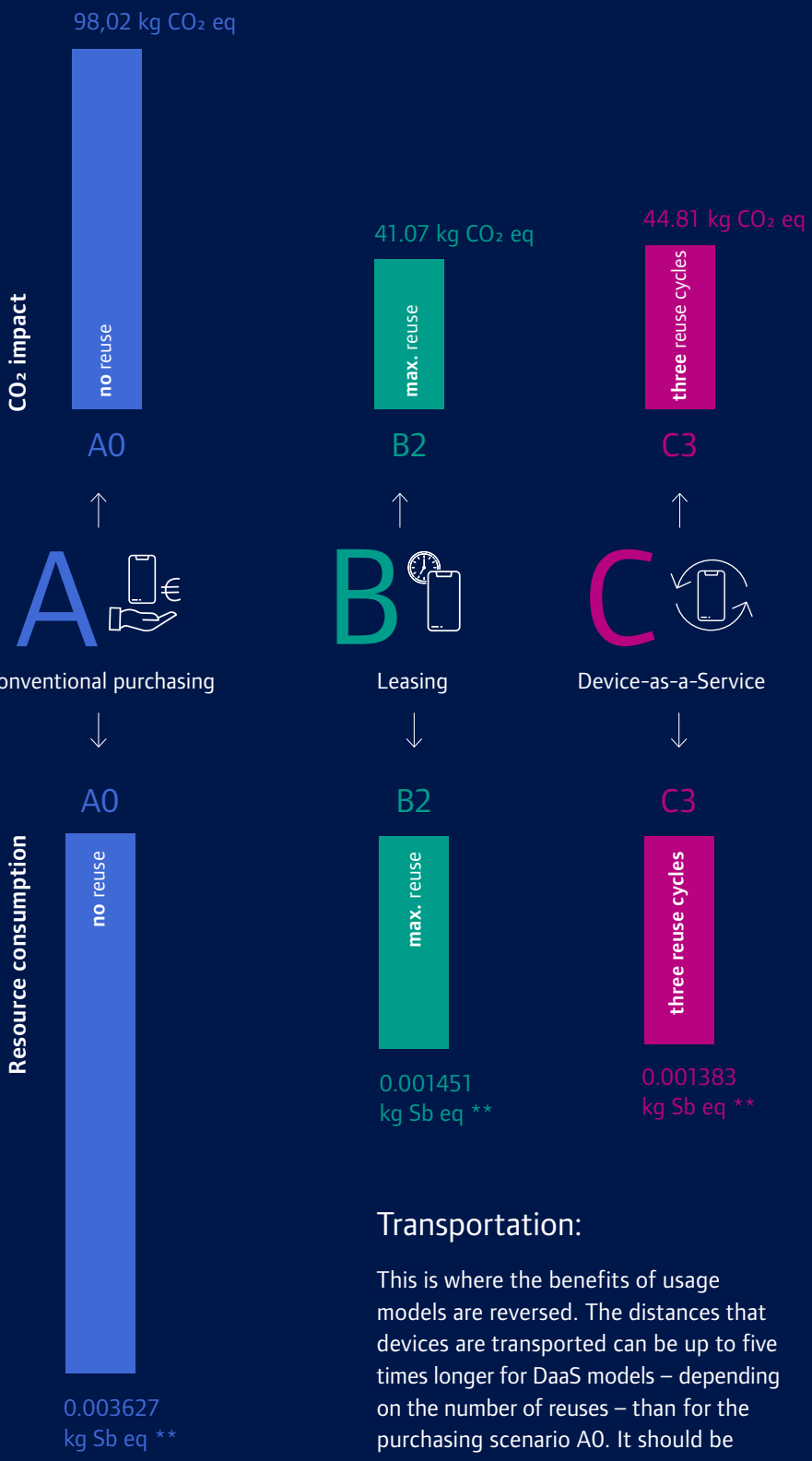
with subsequent refurbishment and one reuse cycle (C1), two reuse cycles (C2), or three reuse cycles (C3), each until the end of the estimated lifetime.

The following values show the net impact of each scenario, i.e. the difference between a device's direct impact (e.g. from production, transportation, refurbishment) and any impact avoided. When a device is given a second lifecycle, the user does not need to buy a brand-new one. The resources that would have been consumed to produce a new device and the emissions that it would have generated represent the avoided impact.

Selected figures for smartphones

CO_2 impact:

Taking advantage of leasing or DaaS models for smartphones reduces the proportion of greenhouse gases emitted by more than 50 per cent (58 per cent and 54 per cent, respectively) compared to conventional purchasing without reuse (A0). The figures for the other asset classes examined are similar. *



Resource consumption:

When buying a smartphone, the purchasing without reuse (A0) model consumes around two-and-a-half times more resources than the leasing or DaaS models (irrespective of the number of reuses). The figures for the other asset classes examined are similar. *

Transportation:

This is where the benefits of usage models are reversed. The distances that devices are transported can be up to five times longer for DaaS models – depending on the number of reuses – than for the purchasing scenario A0. It should be noted, however, that the carbon emissions generated during transport represent only a comparatively small proportion of the total carbon emissions. The advantages of longer use outweigh the transportation-related disadvantages.

* With scenarios A1 and A2, the difference to B and C is smaller, although studies show that these are less common. [1]

** Indicator of the depletion of natural, non-fossil resources.

Base data:

Where possible, data from 2022 has been used. The data provided by CHG-MERIDIAN relates to 2021. Data from generally available sources (e.g. Ecoinvent database) and CHG-MERIDIAN's own data was used for the illustrative calculations of greenhouse gas emissions, resource consumption, and transportation impact.

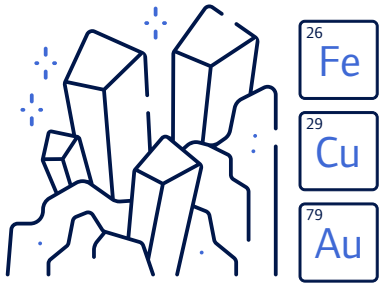
If you would like to know how IT usage models can help your company to reduce its carbon footprint and resource consumption, please contact us for further information. We would be delighted to hear from you.

greenIT@chg-meridian.com

It's time to rethink IT usage

Using hardware longer and more effectively via usage models aligns perfectly with many companies' sustainability goals. According to a study conducted by the consulting firm IDC[5] in spring 2022, nine out of ten organisations in Germany (94 per cent) are pursuing at least a selective strategic sustainability approach in their processes and products. And 38 per cent have fully integrated sustainability into their strategies, processes, and products.

This whitepaper shows the impact that usage models have on IT infrastructure in terms of sustainability, costs, planning, and organisation. It also explores what solutions for integrated lifecycle management are available and explains how professional technology and financing specialists can support companies with the switch from IT purchasing to flexible IT usage.

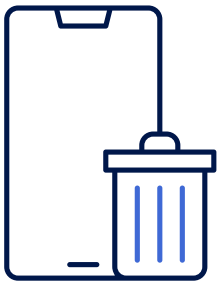


92
billion tonnes

of raw materials are extracted and processed every year.[6]

The circular economy is the way to greater sustainability

Over 92 billion tonnes of raw materials are extracted and processed annually, causing half of the world's greenhouse gas emissions. And, resource consumption is rising. Less than 20 per cent of decommissioned electronic devices are recycled. Among experts, the circular economy is seen as a promising model for achieving key sustainability targets, including reducing carbon emissions, conserving resources, and protecting the environment. The underlying idea is that the resources consumed by economic activity are made available again for reuse as part of a cycle. Achieving this requires new processes and new business models. The goal is to ensure that resources last longer and are used more than once by sharing, repairing, and reusing. In this context, the EIONET report[8] lists the following approaches: sharing platforms, Product-as-a-Service (DaaS models), extending product lifetimes, circular supply chains, and refurbishment and recycling.



Less than
20 percent
of decommissioned electronic devices are recycled.[7]

Increasing importance at government level

In the circular economy, the focus is not on owning a product but on reusing it, which increases the lifetime of a product and is more sustainable. It is important to note that legislators are increasingly asking companies to ramp up their transition to climate-neutral, sustainable business models.

The European Commission's comprehensive Green Deal aims to make the EU carbon-neutral by 2050 to meet the goals of the Paris Agreement. Part of this is the Circular Economy Action Plan (CEAP), which the Commission adopted in 2020. The EU's shift to a circular economy will provide the basis for achieving the defined climate targets.

From 2024, more companies will also be required under the EU-wide CSR Directive (CSRD) to produce a sustainability report with information on non-financial aspects such as environmental, employee, and welfare matters, respect for human rights, and the fight against corruption and bribery. And in the USA, President Joe Biden introduced a law that provides extensive investment in measures to combat climate change. It is hoped that the financed measures will reduce the carbon emissions of the world's largest economy by around 40 per cent from the 2005 figures by 2030.[9]

A sustainability-oriented IT strategy is a key component of any company's overall sustainability strategy.

Many goals, one challenge

Ensuring that procurement is sustainable on tight budgets is a challenge that procurement managers often face. They must address three corporate goals in their IT procurement. The first goal is to optimise processes and drive forward digital transformation. Second, to reduce costs, or at least keep them stable, at a time of uncertainty in the markets. Third, to meet defined sustainability targets with the help of a sustainable IT strategy. Conflicts between these targets are inevitable, but a range of solutions have already proven themselves in the market, demonstrating that commercial priorities and sustainability are indeed compatible, for example, through sustainable and TCO-optimised usage models.

Smart, risk-free procurement

Renting or leasing IT infrastructure provides an answer to the challenges of regulation and sustainable IT, and allows companies to be active in several areas defined by the circular economy. Smart IT procurement reduces costs and is more sustainable and resource-efficient than conventional purchasing, where the company owns the IT equipment. As the owner, the company carries the risk of depreciation, loss, and damage, and the company also has to manage the resale of any equipment that is replaced. Due to short innovation and development cycles in the IT sector, this is generally the case after two to three years. Additionally, if decommissioned equipment is put into storage, the company has to dispose of it correctly or pay a service provider.

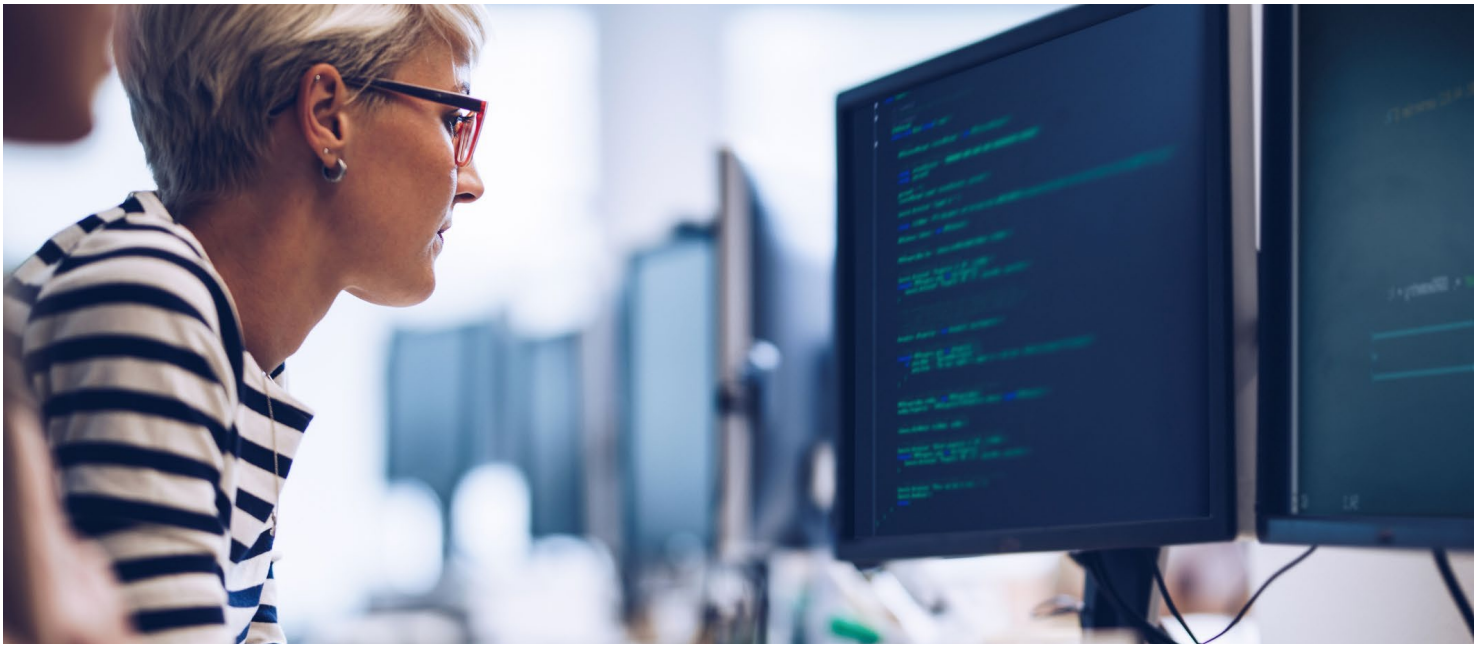
That is not the case with leasing and DaaS models. The leasing or rental company makes the equipment available to the lessee for a specified period of time, during which the company pays a monthly installment. The leasing or rental company assumes any investment risk relating to the loss in the equipment's value. Additionally, full-service leasing and rental contracts include all related services, such as support and an exchange in the case of damages. There is also another factor to consider: as the owner of the equipment, the leasing or rental company has a strong incentive to maximise product use and keep the total number of devices that need to be purchased to an absolute minimum. [4]

The benefits of this type of usage model are obvious. Fixed monthly installments mean that the cost of each IT investment can be planned and calculated without the upfront investment costs associated with conventional purchasing. The company ties up less capital and is able to increase its liquidity. At the same time, the company has the flexibility to expand its IT infrastructure at short notice and keep it up-to-date at all times. It is also possible to reduce its infrastructure should requirements change or if capital is needed in other areas of the business.

Competitive advantage meets sustainability

Professional lifecycle management and integrated procurement and financing solutions allow companies to act more sustainably. At the end of the period of use, the leasing or rental company takes care of professional data erasure and refurbishment in preparation for remarketing the equipment on the second-hand IT market. At the end of its lifetime, any equipment that can no longer be used is dismantled, recycled, and returned to the material cycle – as far as possible – by specialised partner companies.

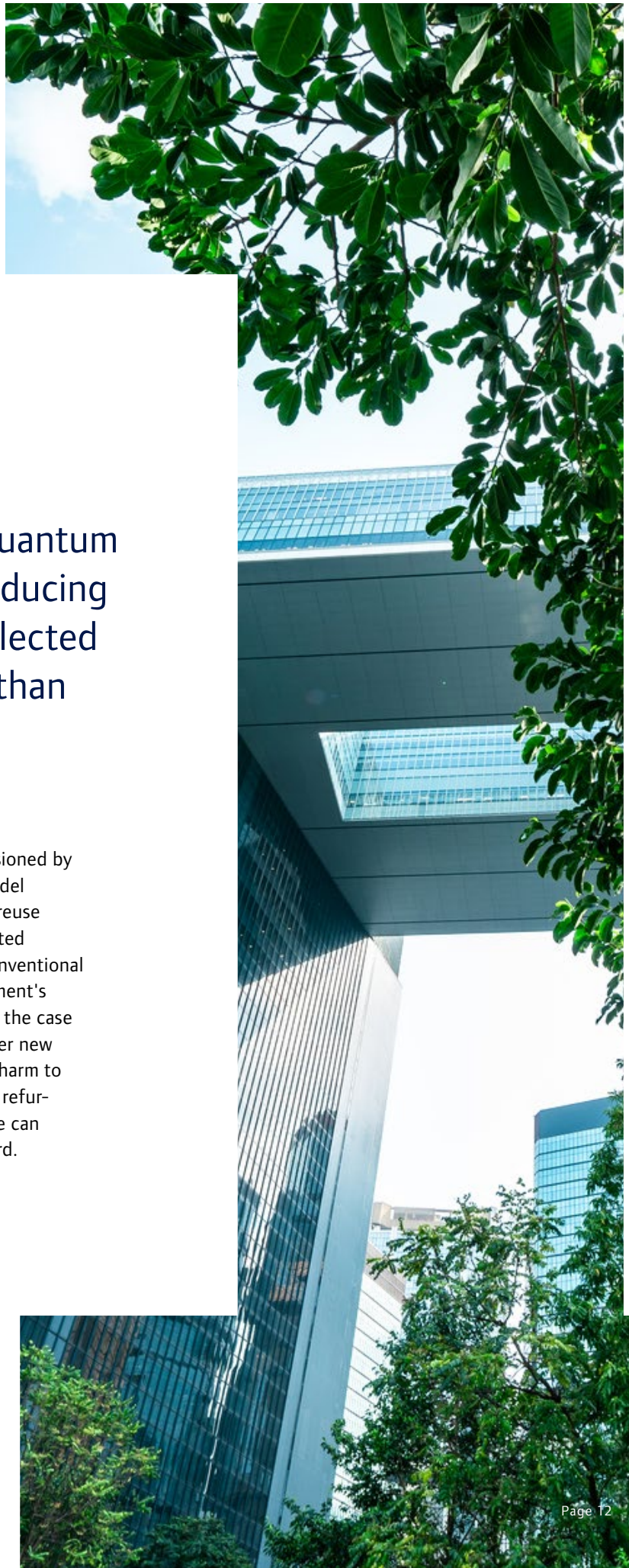
The benefits of this circular system are greater resource efficiency, a smaller carbon footprint, lower costs and less harm to the environment. Overall, companies can gain a long-term competitive advantage while improving their sustainability.



Usage models offer greater efficiency in green IT

SIX PROPOSITIONS

PROPOSITION



Usage models provide a quantum leap in sustainability by reducing the carbon footprint of selected IT infrastructure by more than 50 per cent.

The figures from the latest Green IT study commissioned by CHG-MERIDIAN speak for themselves. A usage model that includes refurbishment, resale, and maximum reuse reduces the proportional carbon emissions of selected IT infrastructure by more than half compared to conventional purchasing with a single lifecycle. When the equipment's assumed entire lifetime is used to the maximum (in the case of a smartphone, the study assumes six years), fewer new devices need to be manufactured, resulting in less harm to the environment. But, even where devices are only refurbished and remarketed once, the extended lifecycle can reduce overall carbon emissions by more than a third.

DaaS models can reduce the volume of resources used by around two thirds.

Regarding resource consumption, the latest usage models have clear advantages over purchasing. DaaS models are particularly effective, as the findings of the latest Green IT study commissioned by CHG-MERIDIAN show. With a DaaS model and subsequent maximum reuse of IT equipment until the end of its expected lifetime, companies can save up to two thirds of non-fossil resources compared to purchasing, where the device is used for a single lifecycle before being placed in storage or disposed of. And leasing with just one subsequent reuse of the refurbished smartphone still saves around a third of raw materials.

PROPOSITION

Usage models are an effective means of bypassing supply bottlenecks and increasing sustainability.

With the market situation remaining difficult, usage models offer clear benefits on all levels. Many items of IT hardware will remain in short supply for the foreseeable future, and usage models will not change this. But, using existing IT equipment multiple times and for longer can reduce demand for brand-new devices. This reduces production volumes and carbon emissions. The growing popularity of usage models has an immediate, positive impact on climate change mitigation and the development of a circular economy.

The providers of usage models are specialists in lifecycle management and offer comprehensive tracking of IT equipment across its entire useful life. As service providers and the equipment's legal owners, they can ensure that devices are used for a long time and professionally recycled at the end of their lifetime. They can also capture valuable data in real-time, which they can make available to the companies leasing or renting the equipment or to other partners in the supply chain. This is essential for establishing robust climate KPIs and for the companies' sustainability reporting, which can help them to boost their image, reputation, and credibility.

Lawmakers are also tightening sustainability legislation, for example, in the shape of the Supply Chain Due Diligence Act in Germany, which will come into effect in 2023. The act places greater responsibility on businesses, and over time it will cover more and more companies in Germany based on specific size criteria. But, even companies that are not subject to disclosure requirements will be indirectly affected. They will likely have to regularly provide their large corporate customers with data on their sustainability so that these customers can fully comply with their reporting obligations.

»The circular economy is firmly embedded in our corporate DNA. We finance and manage cutting-edge technology and provide comprehensive usage-based lifecycle solutions that help our customers to drive forward their digitalisation projects. We are helping to set the pace when it comes to achieving macroeconomic climate goals.«

Dr. Mathias Wagner, Chairman of the Board of Management of CHG-MERIDIAN

Usage models boost profitability, reduce energy consumption, and offset rising costs.

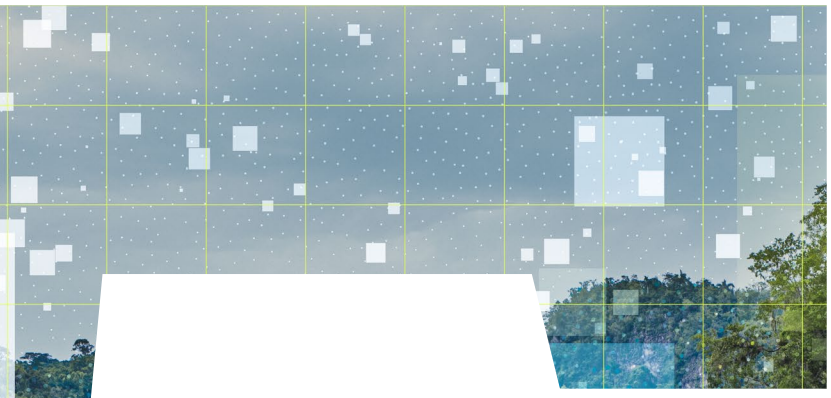
Always having access to the latest technology, particularly IT equipment, is crucial to most companies' success. Today, this means that devices must offer high performance and low energy consumption. With the current sharp rise in energy costs, this can bring immediate cost benefits. Usage models with an average device lifecycle of around two years and regular device replacement allows companies to automatically keep the energy efficiency of their IT equipment at a comparatively high level, which is reflected in lower electricity costs.

Usage models offer cost benefits on many levels. While older devices might not be as energy efficient as the latest models, buying, renting or leasing second-hand IT equipment is more affordable than purchasing brand new devices. Optimised use of the entire stock of smartphones, for example, reduces overall demand for devices within the company and the economy. This reduces investment costs at the company level and for entire sectors.

In a direct comparison, usage models have clear benefits over purchasing as they provide a reliable and scalable solution. Furthermore, total cost of ownership (TCO) analyses allow for a reduction in overall IT costs. In CHG-MERIDIAN's experience, double-digit percentage savings are possible. The Swedish Cradlenet study mentioned above comes to a similar conclusion, finding that usage models can directly lower costs by reducing the total cost of ownership.[4]

PROPOSITION

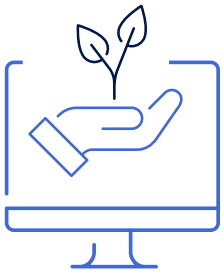
Usage models offer straightforward procurement with a focus on sustainability.



PROPOSITION

To meet sustainability, technology, performance, and cost optimisation requirements, a significant amount of human resources must be dedicated to the ongoing management of IT infrastructure procurement. Usage models offer companies a one-stop solution for resolving the conflicts that arise from competing objectives and allow them to get started in the circular economy. These models also provide integrated usage management over the equipment's entire useful life, thus reducing companies' costs and enabling them to achieve their sustainability goals through greater resource efficiency and lower carbon emissions.

In comparison, purchasing involves more administrative effort. The owner has to manage all IT infrastructure aspects, including support, repairs, and replacements. Medium-sized businesses, in particular, often lack the requisite expertise and resources. With a usage model, the leasing or rental company uses its expertise and a network of professional partners to manage all aspects of the IT equipment's lifecycle. In addition to financing, this also covers procurement, logistics, secure data erasure, and professional refurbishment, plus remarketing on the second-hand IT market or professional recycling if devices are no longer usable.



PROPOSITION

State-of-the-art usage models are the future

The findings of the latest Green IT study commissioned by CHG-MERIDIAN illustrate that usage models offer companies genuine added value and positively impact their IT infrastructure's environmental footprint. This makes usage models an indispensable part of any corporate, sustainability-focused ecosystem.

In the past, companies often looked to usage models solely as a means of reducing their ongoing IT costs. But, the pandemic changed that with companies suddenly having to facilitate working from home, therefore facing high demand for mobile devices. And, remote working is not going anywhere. According to the Australian Bureau of Statistics, working from home is much more common in Australia than before the coronavirus pandemic. [10] That will remain the case going forward. A survey by the Forsa Institute in spring 2022 found that 17 per cent of employees would like to permanently work remotely. The survey also found that 14 per cent would like to see a hybrid system where they can work three quarters of their hours from home.[11]

Usage models allow companies to conduct their business more sustainably, thus safeguarding their future competitiveness while providing the basis for adding long-term value. From a business perspective, usage models are the future.

CHG-MERIDIAN
An international technology manager and financing expert offering sustainable usage models.

Setting a good example

The economic conditions and benefits described in this whitepaper show why a growing number of companies are making the switch to usage models and the circular economy. They need reliable, capable, and experienced partners to ensure that this step is successful.

Since its establishment in 1979, CHG-MERIDIAN has pursued the guiding principle of a resource-efficient circular economy. The Group operates its own technology centers where IT equipment is professionally refurbished. Access over ownership has been the cornerstone of the CHG-MERIDIAN Group's business model. As a technology management specialist in the areas of IT, industrial technology, and healthcare technology, we help our customers to implement their strategic digitalisation initiatives and conduct business efficiently and sustainably. Based on the principles of the circular economy, we manage our international customers' technology investments throughout the entire lifecycle, from procurement and usage to refurbishment – including certified data erasure – right up to the sale of used devices on the second-hand market.

In 2021, 96 per cent of devices were reused. The remaining 4 per cent of devices that could not be reused were returned to the material cycle by certified recycling partners.

Expansion of the business model

Refurbished IT equipment is in huge demand due to current supply bottlenecks and, more importantly, because more companies are more committed to sustainability. This is accelerating CHG-MERIDIAN's growth. Since founding the company circulee in Berlin in 2022, we have been providing certified used IT hardware and related services specifically to small and medium-sized companies. We also entered the global B2B market for Device-as-a-Service solutions in 2022 with our subsidiary devicenow, which complements our core leasing business. Through devicenow, we deliver a full-service rental solution that includes preconfigured hardware and service packages. PCs, laptops, cell phones, and tablets are offered at a fixed monthly rental price and at a consistently high level of quality – hassle-free and anywhere in the world.

Carbon-neutral IT

Usage models still generate greenhouse gas emissions. To compensate for this, CHG-MERIDIAN offers a financing solution called carbonZERO in which companies can lease their IT assets in a carbon-neutral way. It enables companies and other organisations to fully document and report on their internal environmental management and, where necessary, expand this to their supply chains.

IT carbon-neutrality is achieved by calculating the carbon emissions generated during manufacture, transportation, use, and post-use phases and offsetting the emissions via certified international climate change mitigation projects. By offsetting their emissions, CHG-MERIDIAN's customers can make a demonstrable contribution to combating climate change while reducing their own carbon footprint.

» Every day, we see how rapidly our customers are evolving in terms of sustainability and climate action. As a technology management and financing company, demand for our extensive experience of the circular economy is rising.«

Matthias Steybe, Group Sustainability Officer at CHG-MERIDIAN

Our sustainability-focused corporate strategy

We believe that a sustainable funding strategy is an integral element of a business model focused on sustainability and the circular economy. With this in mind, CHG-MERIDIAN obtained funding of € 200 million in 2022 via ESG-linked loans. We first agreed ona sustainability-linked loan of € 50 million in 2021, which was arranged via a consortium of banks and included a number of ESG criteria. At the time, this was CHG-MERIDIAN's first conscious and groundbreaking step toward an integrated approach to funding that would allow us to conduct our business in a demonstrably sustainable way.

Our high sustainability standards are certified externally by the leading international rating agency EcoVadis, who again awarded us a silver medal in 2022.

In 2021, we published our first annual sustainability report, which transparently outlines our sustainability goals and related measures. It was externally audited for the first time in 2022. CHG-MERIDIAN's operations have been carbon-neutral since 2021.

Sustainability at CHG-MERIDIAN

Four levels of sustainability engagement at CHG-MERIDIAN

Key elements:

SUSTAINABILITY REPORT

Creating more transparency with our sustainability report prepared in accordance with GRI standards

The 2022 report was the second time that CHG-MERIDIAN set out the goals and action plan for its in-house sustainability management. The report was prepared in accordance with the GRI standards – the most widely accepted reporting framework at the international level – and was externally reviewed. It brings together all of the key data and information relating to sustainability at CHG-MERIDIAN.
https://www.chg-meridian.com/sustainability.html

SUSTAINABLE FINANCE

Further ESG-linked loans arranged

We continue to pursue our sustainable funding strategy by taking out another sustainability-linked loan and an ESG-linked bonded loan of €200 million in total. To this end, we use a rating that is awarded by EcoVadis on an ongoing basis in four areas: environment, labor and human rights, ethics, and sustainable procurement.
https://www.chg-meridian.com/media-center/press/2022/ESG-linked-financing-transactions.html

UN GLOBAL COMPACT

Joining the UN Global Compact

By signing the UN Global Compact, CHG-MERIDIAN has underlined its long-term responsibility with regard to sustainability and is championing an inclusive and sustainable way of doing business.
https://www.chg-meridian.com/media-center/press/2021/Global-Compact.html

CARBON-NEUTRAL

Carbon-neutral corporate emissions

Since 2021, CHG-MERIDIAN has made its direct and indirect emissions climate-neutral (scope 1 & 2 emissions and all company-related scope 3 emissions). To achieve this, we avoid, reduce, or offset all carbon emissions generated in the course of our business activities.
https://www.chg-meridian.com/media-center/insights-overview/Interview-GSO.html

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