AXESS

GHG EMISSIONS REPORT

2023

Hiking in Ålesund, Norway

Summary

In 2023, we have done a tremendous effort in every entity worldwide to monitor and report on our emissions on a monthly basis. This has led to an awareness about our status and provided management an opportunity to report on these numbers in the quarterly management reviews.

At Axess, we have had a green growth [6] over the last five years since we started to monitor our emissions, meaning that while growing rapidly as a company, our absolute emissions increase only moderately. For every year we have progressed as a company, we have shown a significant reduction in greenhouse emissions per value added (GEVA). Simultaneously, we continue to deliver solutions that reduce emissions for our clients, and collaborate with our suppliers to ensure that they are making improvements on their end as well.

Footprint
Our footprint refers to the GHG emissions from our own operations and value chain. The absolute emissions for Axess Group were 4800 tCO_2e in 2017, 8240 tCO_2e in 2022 and 8764 tCO_2e in 2023. This means that our emissions have increased by 83% since 2017, and by 7% in the last year.

Simultaneously, our company has had a steep growth, with 265% increase in turnover and 203% employee growth over the same period. The requirement for a green growth in alignment with the Paris Agreement, is that a company must reduce its GEVA by more than 5% every year [8]. At Axess, we have reduced our GEVA by 19% from 2022 to 2023 and 58% since 2017. Ultimately, this is a testimony to our culture where our employees make responsible business decisions in our daily operations.

Activity areas	Status 2023	2025 Goal	Focus areas	Strategies
Services	-48%	-60%	Mobilisations	Use local people, local warehouses, digital solutions and bundle tasks.
			Purchased equipment	Work with suppliers and reuse equipment.
Products	-84%	-30%	Steel production and product transport	Recycle steel, work with suppliers, use local suppliers, reuse products and promote leasing models.
Office	-62%	-60%	IT consumption	Reuse and recycle IT hardware, optimise data storage.
			Business travel	Digital meetings, longer stays and bundle activities.
			Commuting	Motivate and facilitate biking, walking and public transport.

Handprint

Our handprint refers to the reduction of our clients' carbon footprint through our solutions. To achieve this, we are working on three focus areas for handprint solutions:

- Support vessels: We offer innovative lifting solutions to avoid the use of support vessels, such as Inspection, Maintenance and Repair (IMR) vessels
- Flaring: We offer products and solutions that avoid production shutdown and flaring
- Service efficiency: We offer products and solutions that reduce the need for mobilisation of personnel and equipment.

In 2023, we saved our clients 11.9 tCO_2e for every MNOK of value we created. At the same time, we know that we have only been able to quantify some of the solutions we provide for our clients and that the total savings might be higher. We continuously work to capture and quantify more of the services we deliver, and in 2023, we were able to quantify 217% more of the avoided emissions from our initiatives that improve our service efficiency.

Focus areas	**Base year 2017 (tCO_2e)**	**Status 2020 (tCO_2e)**	**Status 2022 (tCO_2e)**	**Status 2023 (tCO_2e)**	**Status 2023 (tCO_2e/ MNOK)**
Support vessels	1700	0	0	0	0
Flaring	0	12000	12500	16100	11.8
Service efficiency	0	44	66	211	0.2
Total	**1700**	**12044**	**12566**	**16311**	**11.9**

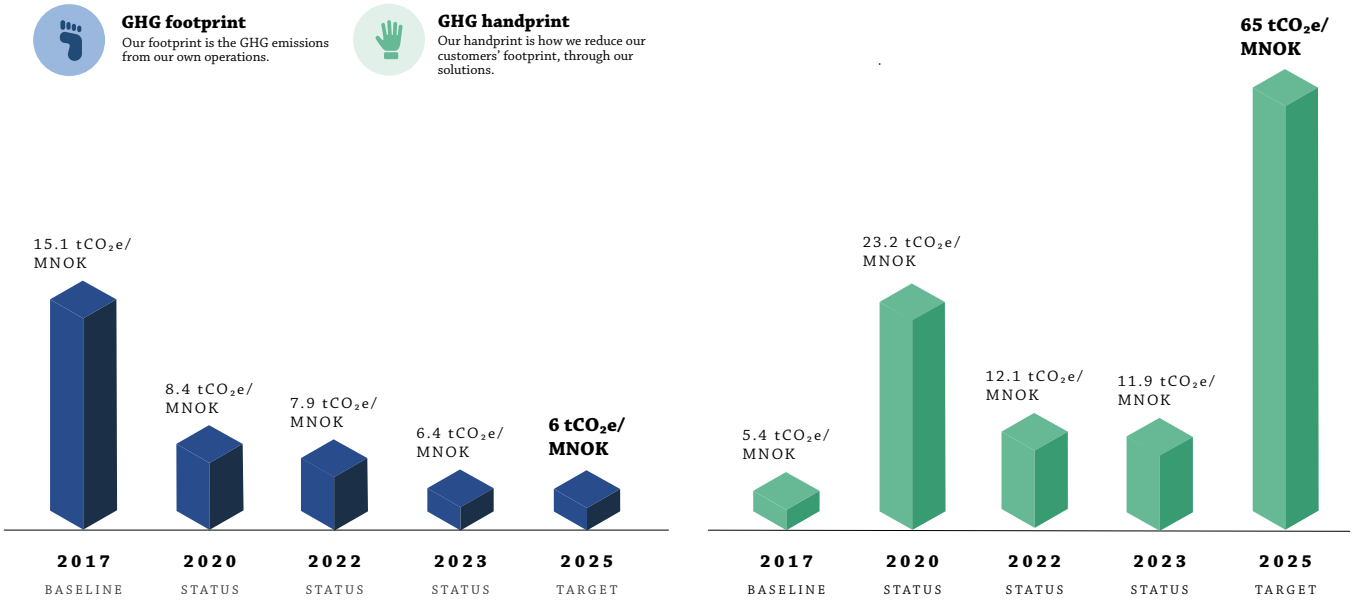
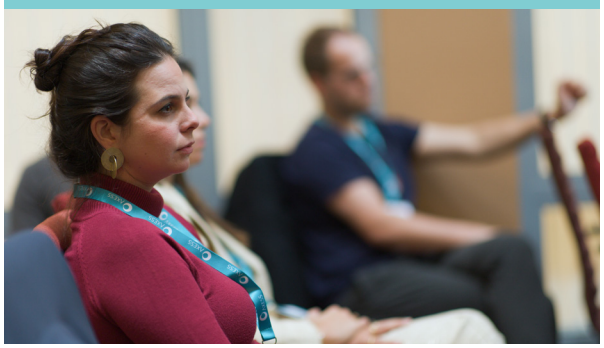


Figure 1: Overview of Axess' footprint and handprint development towards our targets

CONTENTS

INTRODUCTION

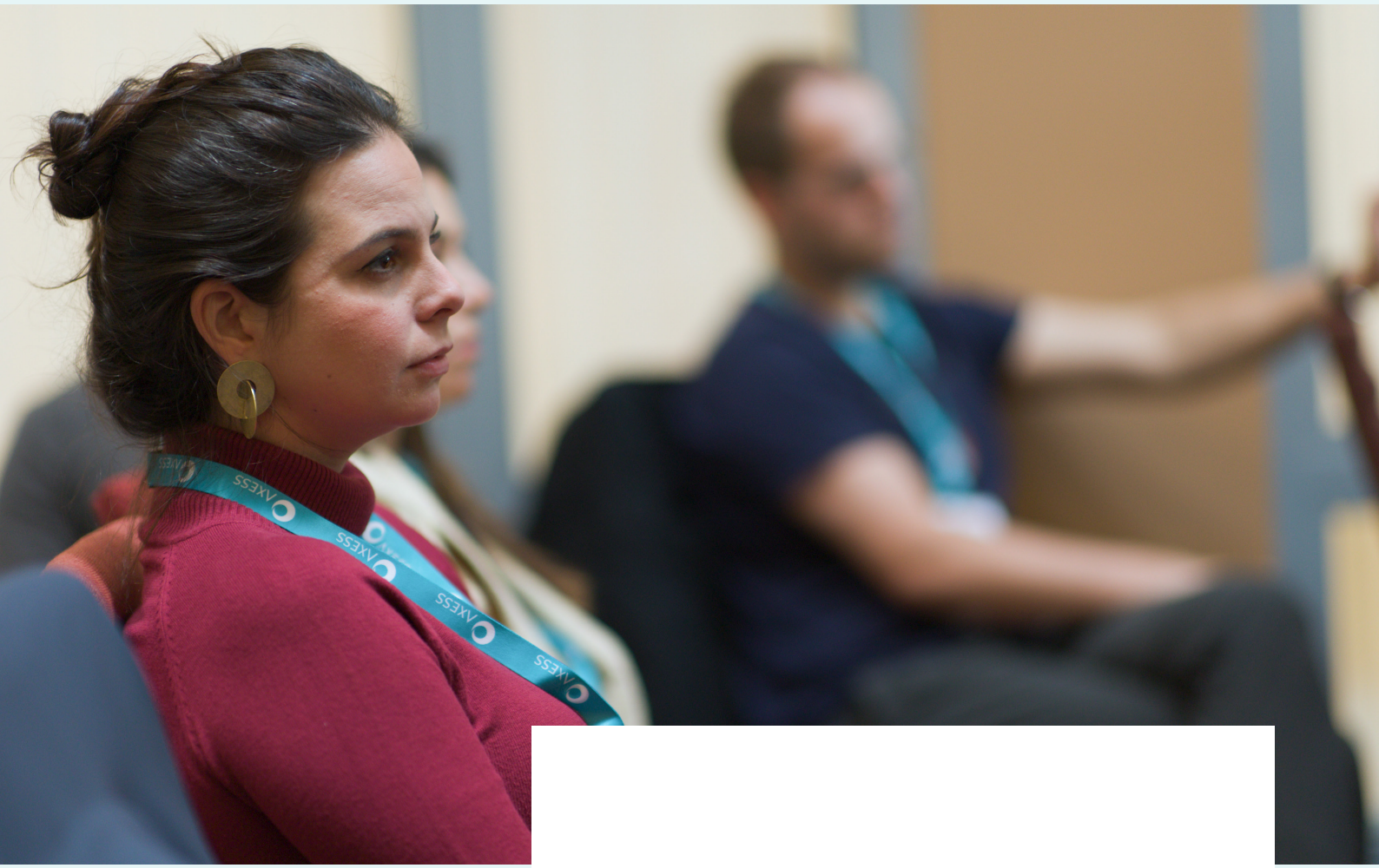


FOOTPRINT

HANDPRINT

APPENDIX

INTRODUCTION



Meeting during Axess Ignite 2023

About this report

Climate change is one of the greatest threats of our time, and at Axess Group we have a passion to combat climate change, driven by our employees' strong bond to nature through their love for outdoor activities. In 2018, we established our Climate Roadmap with goals for how we can reduce our own greenhouse gas (GHG) emissions and what we can do to help our clients reduce theirs. This report documents the systematic work with our Climate Roadmap from 2017 to 2023.

Main information about this report:

- The reporting covers all global activities in Axess Group's 26 locations worldwide.
- We report on our carbon footprint according to the GHG Protocol Scope 1, 2 and 3 [1] [2].
- Our Scope 3 reporting has included all activities from our entire value chain since 2017.
- We report on our carbon handprint through the Carbon Handprint Guide [3].
- The report includes information about our reduction goals and strategies for subsequent years.
- In 2023, we have included a status on our net-zero roadmap, see Appendix F.

Our **footprint** refers to the GHG emissions from our operations, while our **handprint** refers to our contribution to reducing our clients' GHG emissions. The goal is to minimise our carbon footprint, while maximising our handprint.

Continuous reporting on emissions, reduction strategies, and performance are crucial aspects of our work. Each entity collects and monitors its data monthly, and we evaluate the status of each entity and region in our quarterly management reviews. Additionally, the data is consolidated into Axess Group's annual GHG Emissions Report. This report is highly anticipated by Axess' management and our Board of Directors, and of interest to many of our employees and clients.

Since 2022, our calculations primarily employ supplier-specific and hybrid methods, with only a few final adjustments made using the spend-based method, resulting in high quality data. This offers deep insights into our emissions. The improvement of quality and insights remains a continuous process and involves long-term collaborations with our suppliers.

[1] World Resources Institute and World Business Council. (2004). *A Corporate Accounting and Reporting Standard*. https://ghgprotocol.org/sites/default/files/standards/ghg-protocol-revised.pdf

[2] Greenhouse Gas Protocol. (2013). Corporate Value Chain (Scope 3) Accounting and Reporting Standard. https://ghgprotocol.org/sites/default/files/standards/Corporate-Value-Chain-Accounting-Reporing-Standard_041613_2.pdf

[3] Pajula, T., Vatanen, S., Behm, K., Grönman, K., Lakanen, L., Kasurinen, H., & Soukka, R. (2021). *Carbon handprint guide*. VTT Technical Research Centre of Finland Ltd and LUT University. https://www.vttresearch.com/sites/default/files/pdf/publications/2021/Carbon_handprint_guide_2021.pdf

Footprint definition and framework

Footprint definition

Carbon footprint is a measure of the amount of carbon dioxide that is produced by the activities of a person or company [4].

At Axess, our footprint is the GHG emissions from our own operations and value chain.

Footprint framework

Axess reports on its carbon footprint according to the GHG Protocol Scope 1, 2 and 3.

Scope 1 emissions are the direct emissions from our owned facilities and vehicles, while Scope 2 emissions are the indirect emissions from purchased electricity at owned facilities. Since Axess leases almost all assets, such as buildings and vehicles, and do not own or control any industrial production on its own, our scope 1 emissions are minimal, and our scope 2 emissions are zero.

Scope 3 emissions, often referred to as the corporate value chain, are the emissions from our upstream and downstream activities, including our suppliers and our deliveries to clients. According to the standard, one should report on all relevant scopes and categories, and Axess report on 10 of 15 categories. For further details on this selection, refer to Appendix B.

The Scope 3 categories relevant for Axess are:

- **C1: Purchased goods and services** - Equipment, steel material and miscellaneous.
- **C4: Upstream transportation** - Transport of purchased goods to Axess.
- **C5: Waste generated in operations** - All our offices and warehouses.
- **C6: Business travel** - Flights and hotels.
- **C7: Employee commuting** - Employees travelling from home to the office and back.
- **C8: Leased assets** - Electricity used in office facilities and emissions from leased vehicles.
- **C9: Downstream transportation** - Mobilisation and transport of equipment (from Axess to client).
- **C11: Use of sold products** - Emissions from the operation of Axess' products.
- **C12: End-of-life treatment of sold products** - Disposal of Axess' products.
- **C13: Downstream leased assets** - Emissions from the operation of leased Axess' products.

[4] Oxford Learner's Dictionaries. (n.d.). *Carbon footprint definition*. https://www.oxfordlearnersdictionaries.com/definition/english/carbon-footprint?q=carbon+footprint

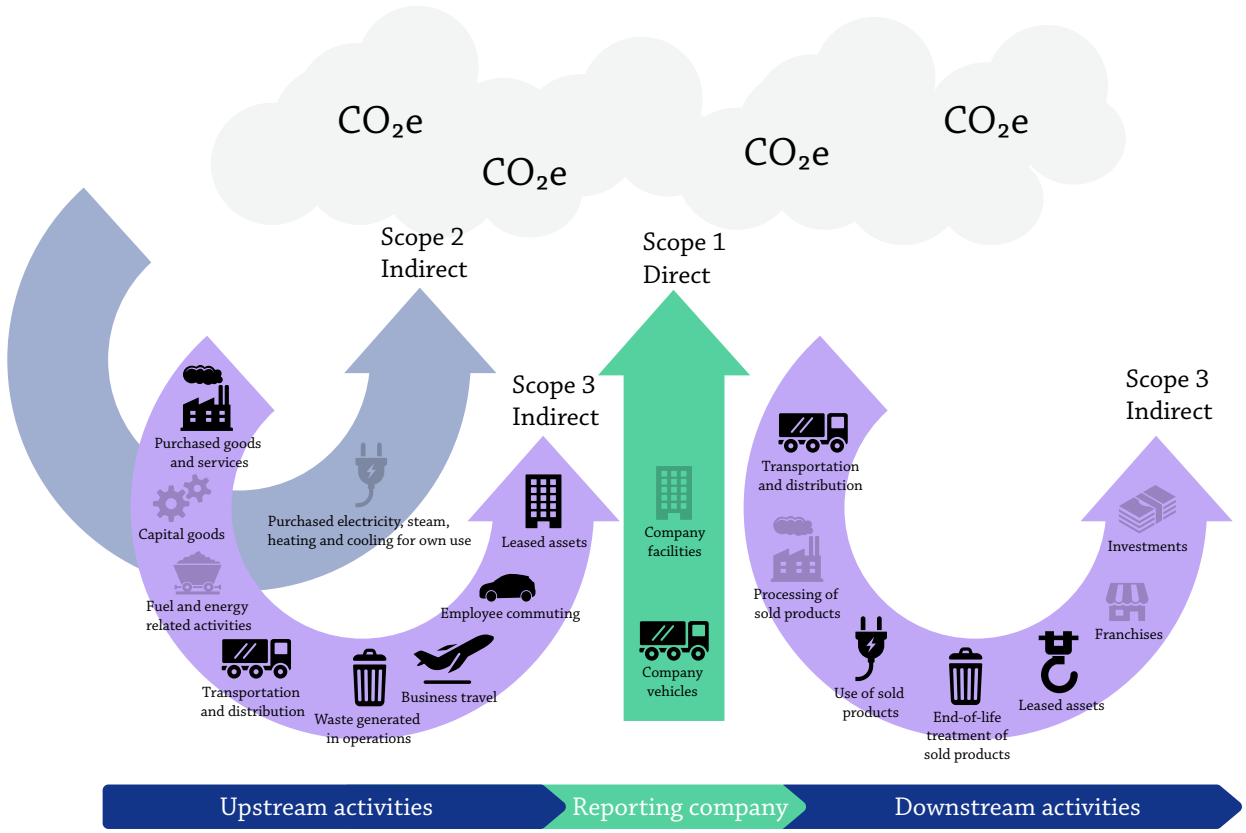


Figure 2: The relevant scope 1, 2 and 3 emissions categories for Axess as indicated in black

Footprint activity areas and reduction targets
The relevant emission categories for Axess are further grouped into three activity areas that relate to the way we operate, and this grouping is used consistently throughout the report.

Services: 60% reduction by 2025

The services area involves the mobilisation of personnel and equipment to clients' facilities, equipment used for these mobilisations and the waste that is produced. This covers all our field work, including inspection, quality control, lifting operations, installation and maintenance, and more. The main source of emissions is our travels via planes and helicopters required for mobilisations on these jobs.

Products: 30% reduction by 2025

The products that we deliver include all materials used in production and the transportation of the finished products from the production facility to our clients. The production is performed by suppliers, which mainly includes steel construction, hydraulics, electrical equipment and machinery. The emissions are primarily from the production and transportation of steel. This area will also include end-of-life treatment of sold products and downstream leased assets when we have data for this.

Office: 60% reduction by 2025

The office category consists of all onshore activities at our offices, including the project phases that are completed at the office, all our project support and all other business functions at the company. The main sources of emissions are business travel, IT and office operations.

Handprint definition and framework

Handprint definition

A handprint refers to the beneficial environmental impacts that can be achieved by offering products and services that reduce the footprint of others [3].

At Axess, our handprint refers to the GHG emissions saved by our clients, as a direct result of choosing Axess' innovative solutions over conventional solutions.

Handprint framework

We use the Carbon Handprint Guide [3] to define and measure our contributions to the reduction of our clients' GHG emissions. These contributions are in addition to, but partly overlap with the GHG protocol Scope 3 categories. However, our footprint and handprint will be approached separately and never summarised.

To determine the handprint, the following calculations are made:

- **Handprint solution**: The emissions resulting from Axess' solutions
- **Baseline solution**: The emissions from the industry standard

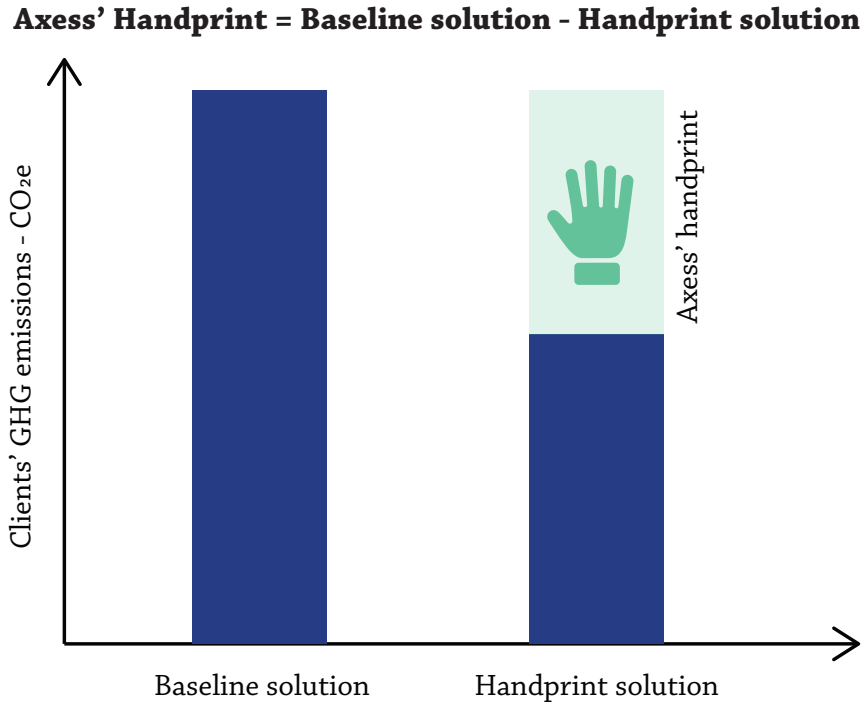


Figure 3: The handprint, or the reduced emissions for the client, is defined as the difference between the baseline solution and the handprint solution [3].

We perform an annual internal quality control of the baseline solutions we use, to ensure that they are still representative of the industry standard. Unlike the footprint, the handprint has no defined boundaries, and we calculate the handprint case by case. Detailed calculations are provided in Appendix E.

[3] Pajula, T., Vatanen, S., Behm, K., Grönman, K., Lakanen, L., Kasurinen, H., & Soukka, R. (2021). *Carbon handprint guide*. VTT Technical Research Centre of Finland Ltd and LUT University. https://www.vttresearch.com/sites/default/files/pdf/publications/2021/Carbon_handprint_guide_2021.pdf

Handprint focus areas

For our handprint initiatives at Axess, we already have three well-established focus areas that we have been working strategically to increase over many years. Our goal is to continuously develop new initiatives within these focus areas and we have specifically succeeded with new solutions to improve service efficiency over the past years.

Support vessels	**Flaring**	**Service efficiency**
We offer innovative lifting solutions to avoid the use of support vessels, such as Inspection, Maintenance and Repair (IMR) vessels.	*We offer products and solutions that avoid production shutdown and flaring.*	*We offer products and solutions that reduce the need for mobilisation of personnel and equipment.*
Our solutions include a unique method for caisson replacement that eliminates the need for IMR vessels.	Our solutions include the double secured Alpa Winch that allows lifting above pressurised equipment. Preventing production shutdown and flaring.	The solutions include different strategies; travelling shorter distances, using less people, lighter equipment, or reducing the need for mobilisation with drones, digital solutions or more efficient solutions.
Saves more than 200 tCO_2e per caisson	**Saves 500 - 6000 tCO_2e** per year, depending on the installation	

We aim to reduce need for IMR vessels because a typical IMR vessel emits about 21.7 tCO_2e every day it is operating offshore and we aim to help our clients avoid flaring because it causes 353 million tons of CO_2e emissions worldwide annually [5].

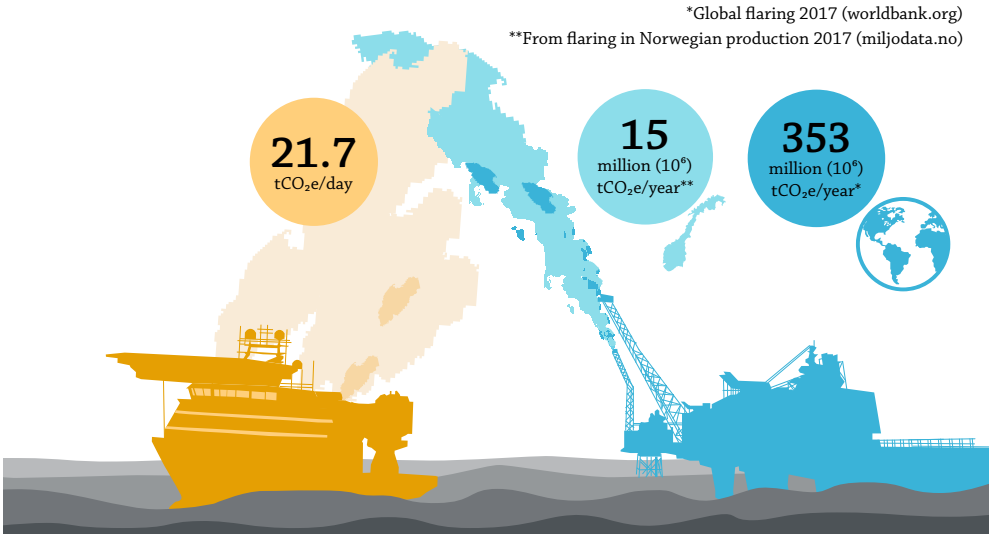


Figure 4: Typical emissions from IMR vessels and flaring

[5] World Bank. (n.d.). *Gas Flaring Explained*. https://www.worldbank.org/en/programs/gasflaringreduction/gas-flaring-explained

Base year 2017

We started collecting GHG emissions data in 2017 and have since chosen this to be our base year. This means that this is the year where all our reduction targets are derived from.

2017 was considered a typical year of operations for Axess Group.

	Employees	Turnover (MNOK)	No. of offices
2017	208	431	12
2023	631	1574	26

Table 1: Axess' business growth from 2017 to 2023

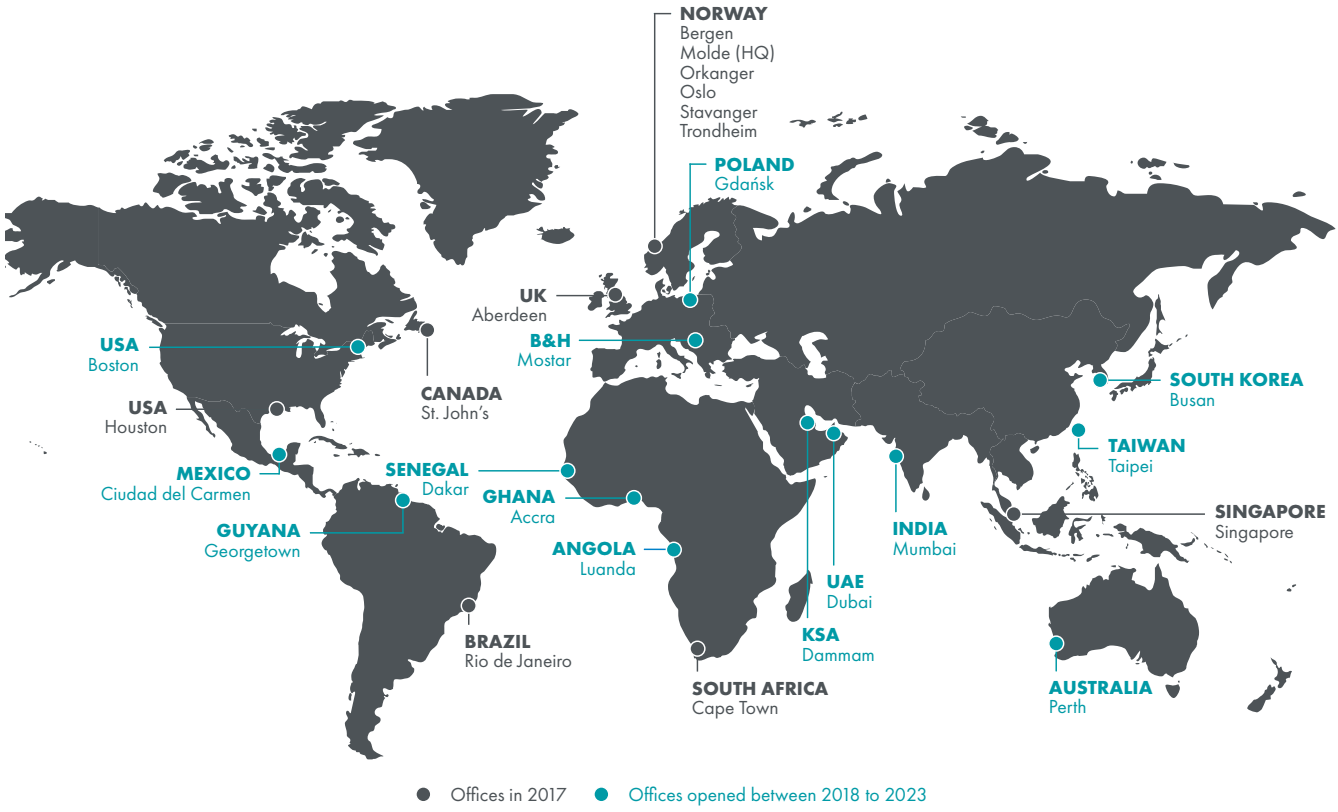


Figure 5: Map of Axess' office locations in 2017 and 2023

GEVA and green growth

We are growing rapidly and as part of reducing our carbon footprint, we are working strategically to emit less and less CO_2 per value we create at Axess Group. This is how we ensure a green growth [6] in alignment with the goals of the Paris Agreement.

Greenhouse gas emissions per value added
Greenhouse gas emissions per value added (GEVA) [7] is measured in tCO_2e/MNOK. At Axess, we have used this as our KPI for measuring our footprint* and handprint.

Value added [6], or sometimes referred to as value creation, at Axess, is defined as EBITDA + payroll + COGS, and this definition encompasses not only the added value within the company, but the value for our employees and suppliers. We have included COGS to reflect the large amount of hired personnel that we have at Axess.

"Value creation reflects the value that a company creates for employees and shareholders, before financial costs, depreciation, write-downs, taxes, etc." [8]

Green growth
How can growing businesses that primarily deliver services, and hardly have any direct emissions, contribute towards reaching the Paris Agreement? Traditionally, there would be a linear correlation between business growth and increased emissions. However, Axess aims for green growth [6], which can be achieved by reducing our GEVA with at least 5% per year [8] which is an established calculation of how a business in growth can contribute towards the goal of the Paris Agreement.

In other words, as we grow, we commit to deliver more with a relative reduction in emissions year after year, and monitor this through our KPI for GEVA in tCO_2e/MNOK.

* Axess has primarily scope 3 emissions, but any scope 1 or scope 2 emissions will always be reported in absolute numbers, as we are working to keep these at zero.

[6] OECD. (2012). *Definition of Green Growth*. https://www.oecd.org/greengrowth/

[7] Randers, J. (2012). *Greenhouse gas emissions per unit of value added ("geva") - a corporate guide to voluntary climate action*. https://sciencebasedtargets.org/resources/legacy/2014/10/p120329-Randers-on-GEVA-Energy-Policy-color.pdf

[8] Stoknes, P. E. (2019). *KPI: Hvordan måle ekte grønn vekst og unngå grønnvaskingsfellen. Fagpressenytt*. https://fagpressenytt.no/artikkel/hvordan-m%C3%A5le-ekte-gr%C3%B8nn-vekst-og-unng%C3%A5-gr%C3%B8nnvaskingsfellen

FOOTPRINT

Warehouse in the Cape Town office

Footprint reporting - Scopes 1 and 2

Traditionally, Axess has never had any Scope 1 or Scope 2 emissions. Most of our emissions are Scope 3 emissions, as all our buildings are leased, and we do not have any in-house production.

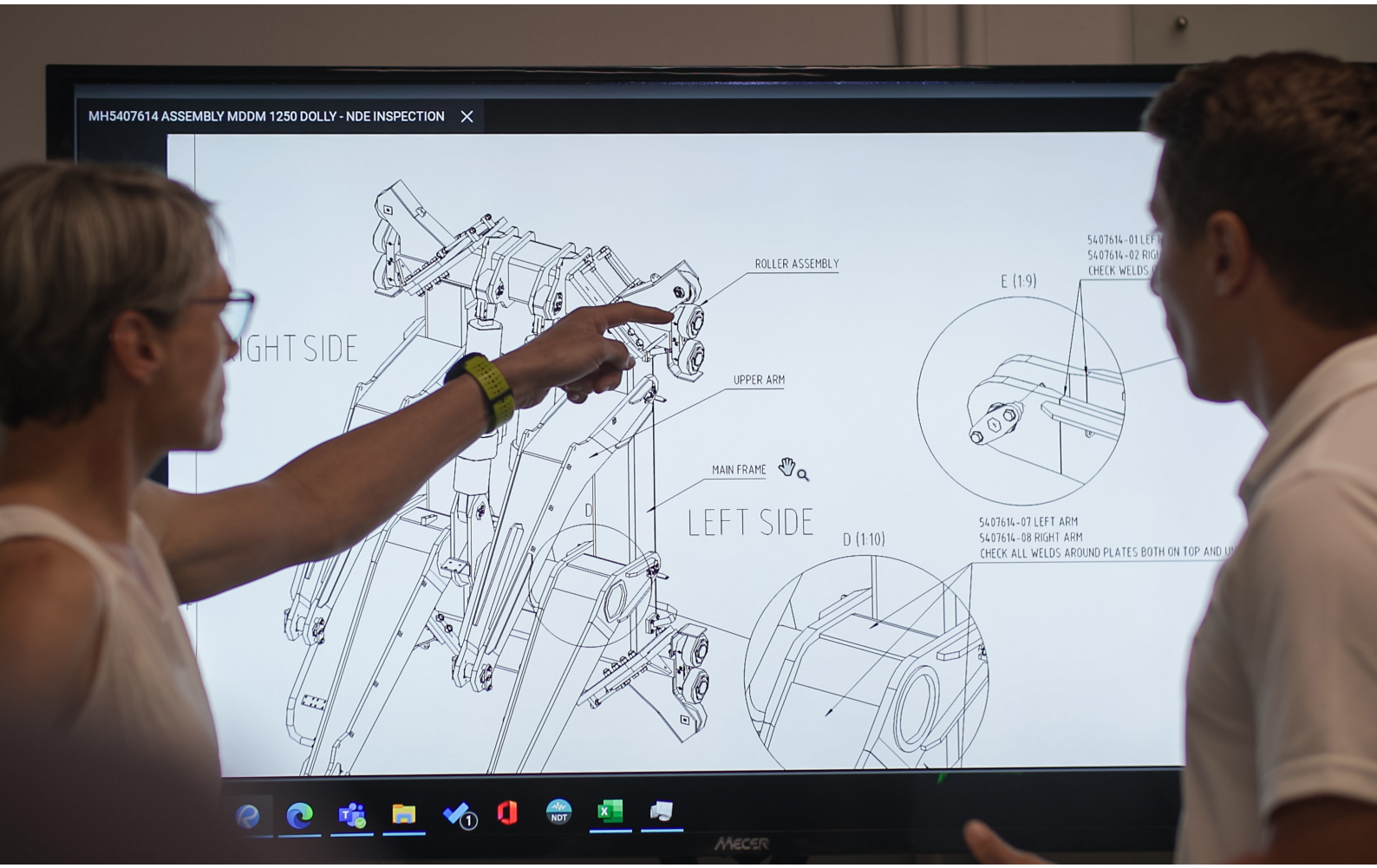
In 2023, Axess bought six of the vehicles that we had previously leased over a long period. The use of these vehicles resulted in some Scope 1 emissions in 2023.

Since our offices and all other vehicles are leased, the power consumption from all our offices worldwide and emissions from the rest of our vehicles are accounted for in our Scope 3 category C8: Upstream leased assets.

Absolute emissions

	2017	2020	2022	2023
Scope 1 (tCO_2e)	0	0	0	20.4
Scope 2 (tCO_2e)	0	0	0	0

Table 2: Development in Scopes 1 and 2 emissions



South Africa colleagues in the Cape Town office

Footprint reporting - Scope 3

Development in 2023

Axess had a strong green growth [8] in 2023, with 19% reduction in GEVA from 2022. We acknowledge that some of the effect is caused by improvement in data but know that most of the improvement this year is due to the reduction in 'emissions per value added' from IT, mobilisations, and business travel. In fact, we see that we had lower emissions per mobilisation in many entities this year, and that we overall mobilised less people per value added in 2023. The absolute emissions from IT were significantly reduced, and in Norway, the absolute emissions from business travel increased only moderately from 2022. Overall, we made strong improvements across our three largest sources of emissions. Further analysis and explanation of the results are found in the sections that follow.

	2017	2020	2022	2023	% Change 2017-2023	% Change 2022-2023
Company growth						
Turnover (MNOK)	431	621	1202	1574	**265%**	**31%**
Value added (MNOK)	317	518	1042	1369	**331%**	**31%**
Number of employees	208	329	558	631	**203%**	**13%**
Absolute GHG emissions						
Scope 3 (tCO_2e)	4798	4356	8240	8790	**83%**	**7%**
GEVA - GHG emissions per value added						
Services (tCO_2e/MNOK)	5.4	3.0	3.4	2.8	**-47%**	**-16%**
Products (tCO_2e/MNOK)	0.4	0.4	0.2	0.1	**-84%**	**-58%**
Office (tCO_2e/MNOK)	9.3	5.0	4.4	3.5	**-62%**	**-20%**
Total (tCO_2e/MNOK)	**15.1**	**8.4**	**7.9**	**6.4**	**-58%**	**-19%**

Table 3: Global GHG emissions for Axess Group from 2017 to 2023

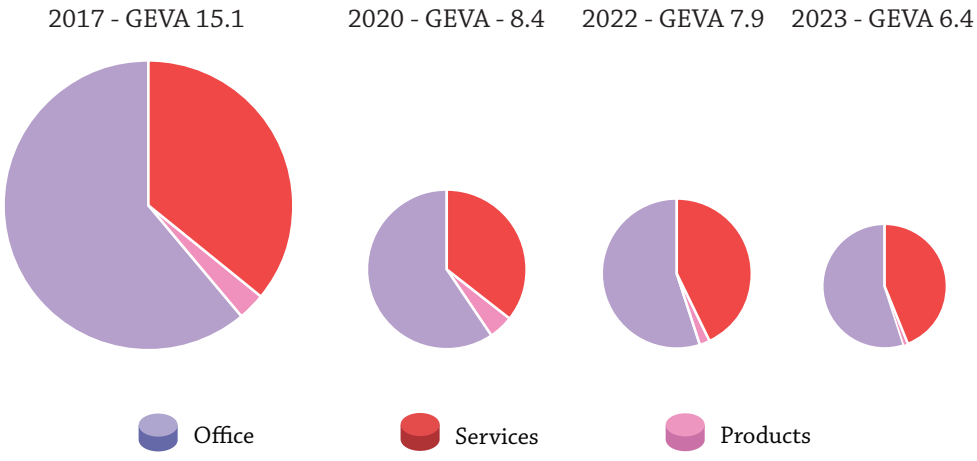


Figure 6: Axess' GEVA has drastically decreased since 2017, and the distribution between activity areas has also changed over time.

[8] Stoknes, P. E. (2019). *KPI: Hvordan måle ekte grønn vekst og unngå grønnvaskingsfellen. Fagpressenytt.* https://fagpressenytt.no/artikkel/hvordan-m%C3%A5le-ekte-gr%C3%B8nn-vekst-og-unng%C3%A5-gr%C3%B8nnvaskingsfellen

Footprint in 2017 (base year)

Distribution of emissions per category in 2017

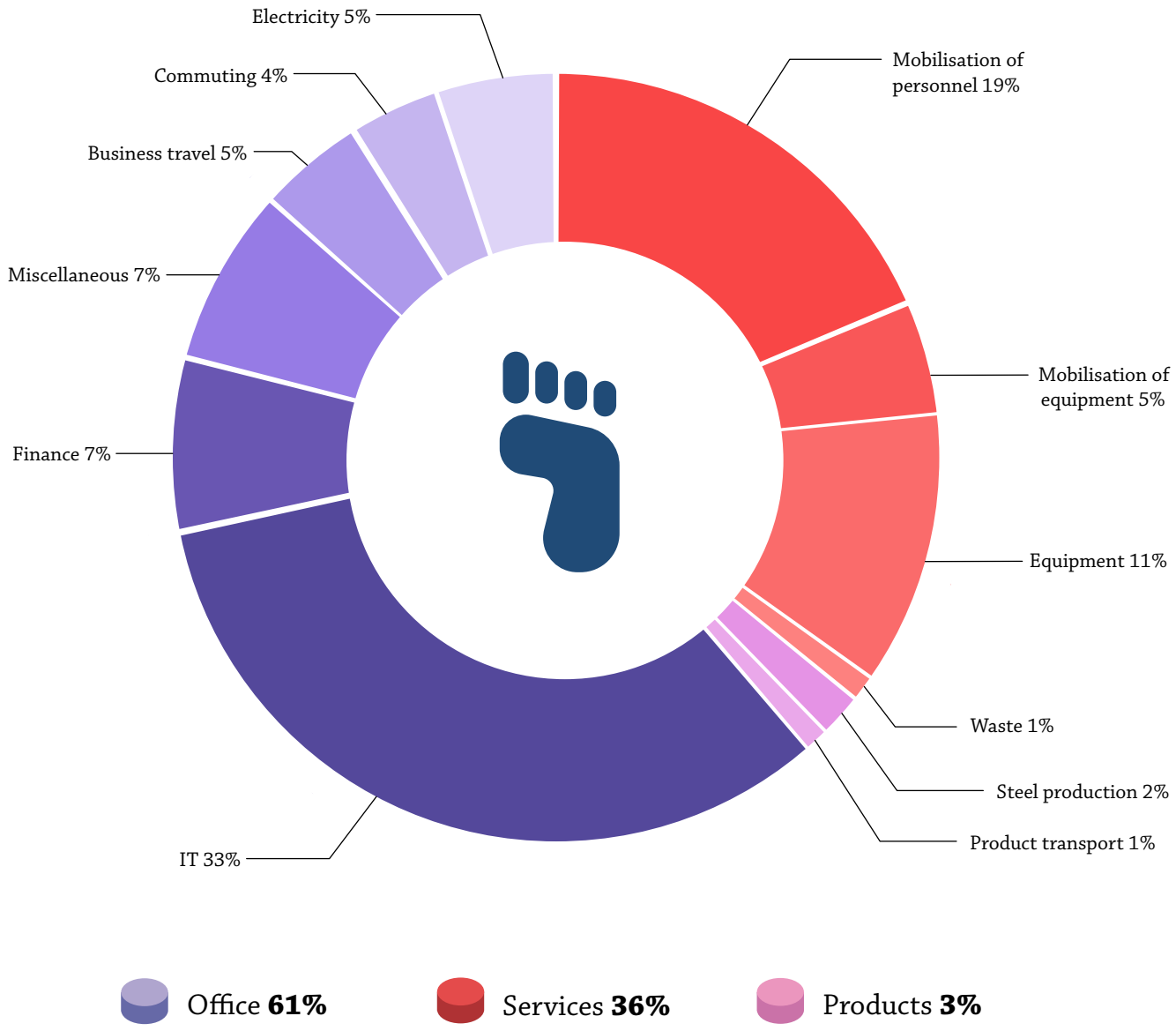


Figure 7: Pie chart showing the distribution of Axess' footprint in 2017

GHG emissions in 2017	tCO_2e	GEVA
Services	1724	5.4
Products	134	0.4
Office	2940	9.3
Total	4798	15.1

Footprint in 2023

Distribution of emissions per category in 2023

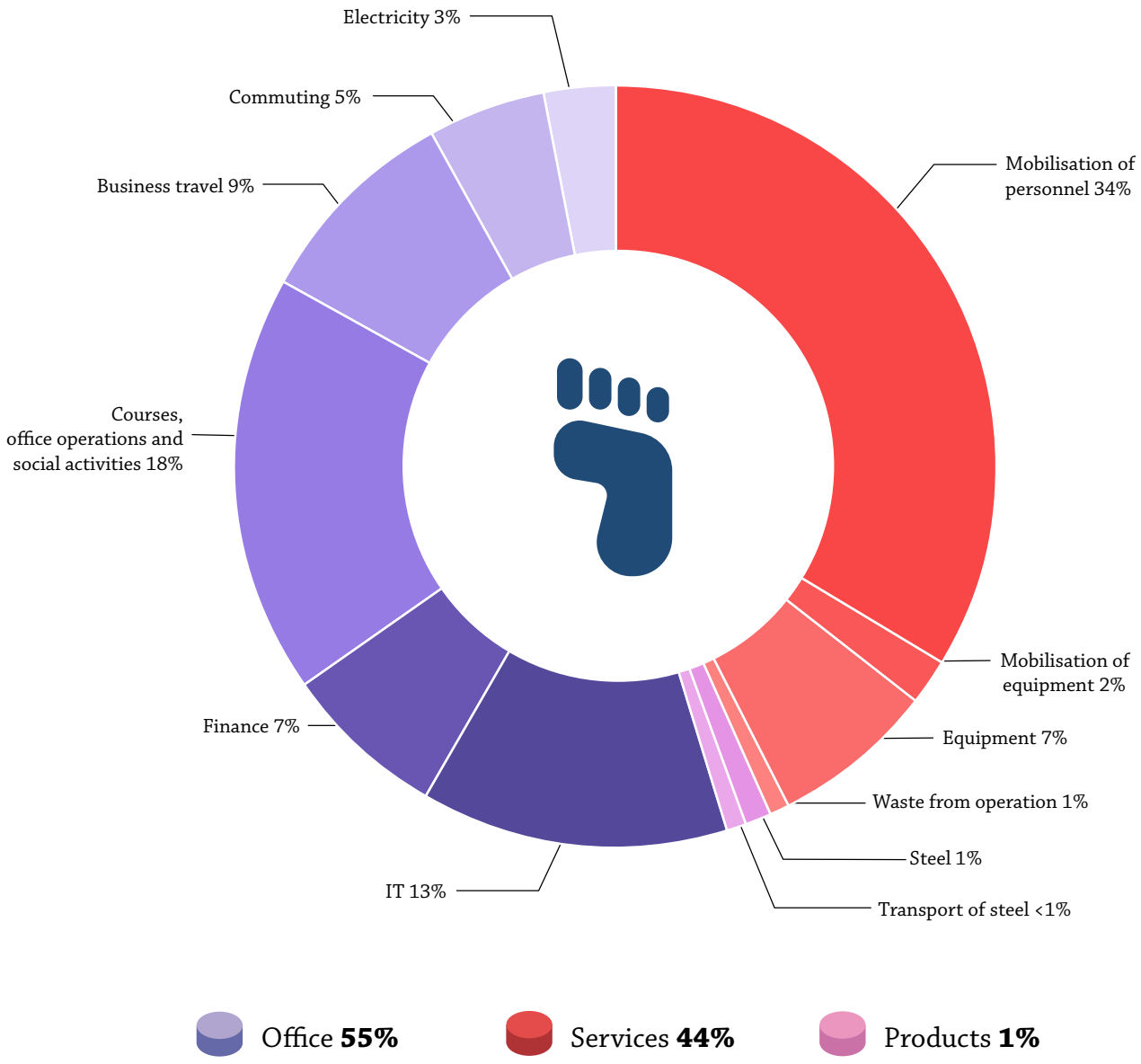
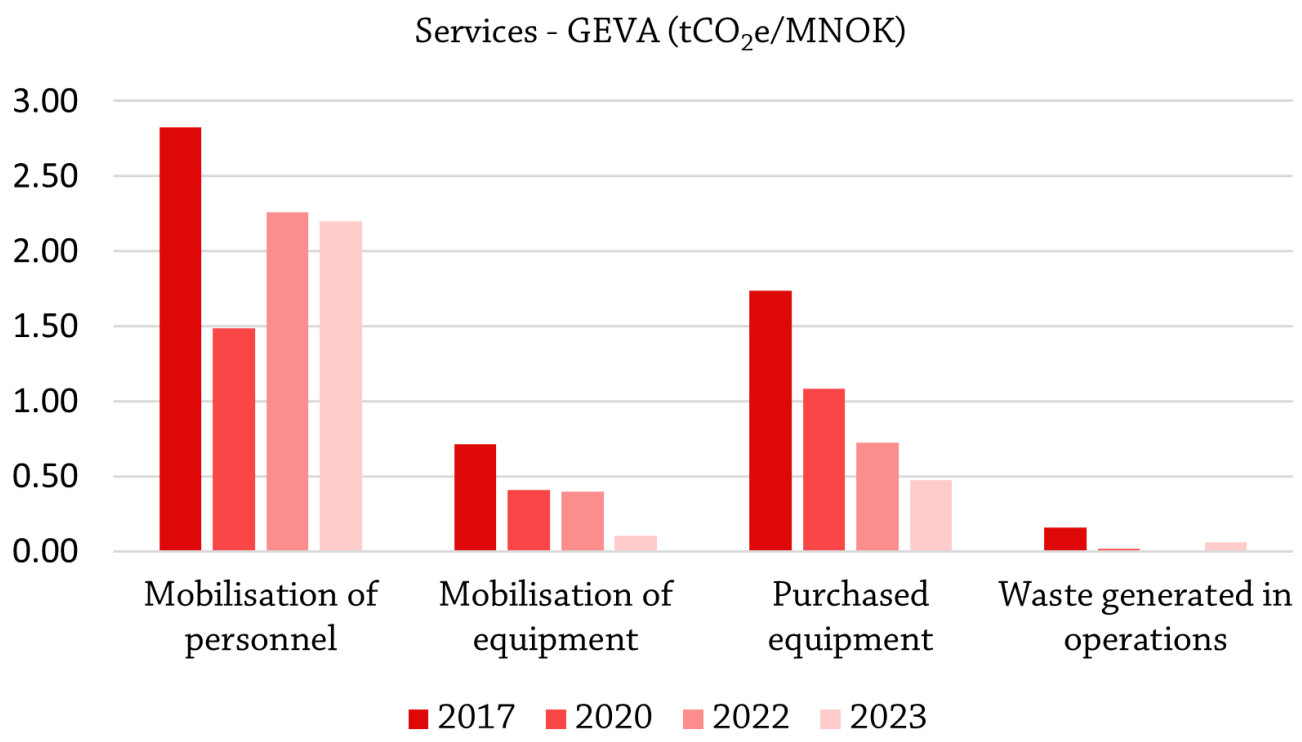


Figure 8: Pie chart showing the distribution of Axess' footprint in 2023

GHG emissions in 2023	tCO_2e	GEVA
Services	3909	2.8
Products	95	0.1
Office	4786	3.5
Total	**8790**	**6.4**

Progress from 2017 to 2023

Services



Mobilisation of personnel
In 2023, we saw a decrease in emissions from mobilisation per value creation for the Group, which is precisely the development we are working towards. We want to deliver our services at lower and lower emissions by continuously being more resource-efficient. When studying the data in detail, we found that we also mobilised less personnel per value added, which seems to be mostly affected by increased onshore and office work in several regions. In Norway, we saw a small improvement directly from using less contractors and more of our own employees that mobilised closer to heliport. For some entities, it is worth to mention that we had some projects that forced us to fly longer for our mobilisations, and although it is visible on a regional level, it did not affect the overall result for the Group. We will still work on minimising the emissions in such projects going forward.

Mobilisation of equipment
The emissions from mobilisation of equipment fell quite drastically in 2023, mainly due to better data quality from all regions. For 2022, this information was extrapolated from Norway, while we have detailed data from all regions in 2023. What causes the greatest effect here is that our employees bring along the equipment they need on the helicopter or surfer in many of our entities, resulting in no additional transport. At the same time, the data quality for transportation in Norway has been great for many years, thanks to close collaboration with our suppliers and our absolute emissions from transport in 2023 were lower than in 2022, indicating an improvement on our end as well as from our suppliers. We will continue to collaborate with our suppliers to gain a better understanding of these details.

Purchased equipment
We have a focus on reusing our equipment to save emissions and costs, and some entities have improved in this area thanks to specific initiatives throughout the year. The largest improvement here, however, comes from collecting more specific information about the equipment from each entity, so that we could apply more accurate factors for the different equipment groups.

Waste generated in operations
Our business is growing rapidly, and it is likely that this results in more waste generated from operations. At the same time, the factor for waste has been updated this year, and is now twice the old factor. Also, emissions from waste are extrapolated from our large warehouse in Norway. This is very conservative, as only a few of our locations have a warehouse. It is also worth noting that the new warehouse in Norway has a better system for recycling, and the emissions from this specific warehouse was reduced by 50% from 2022 to 2023.

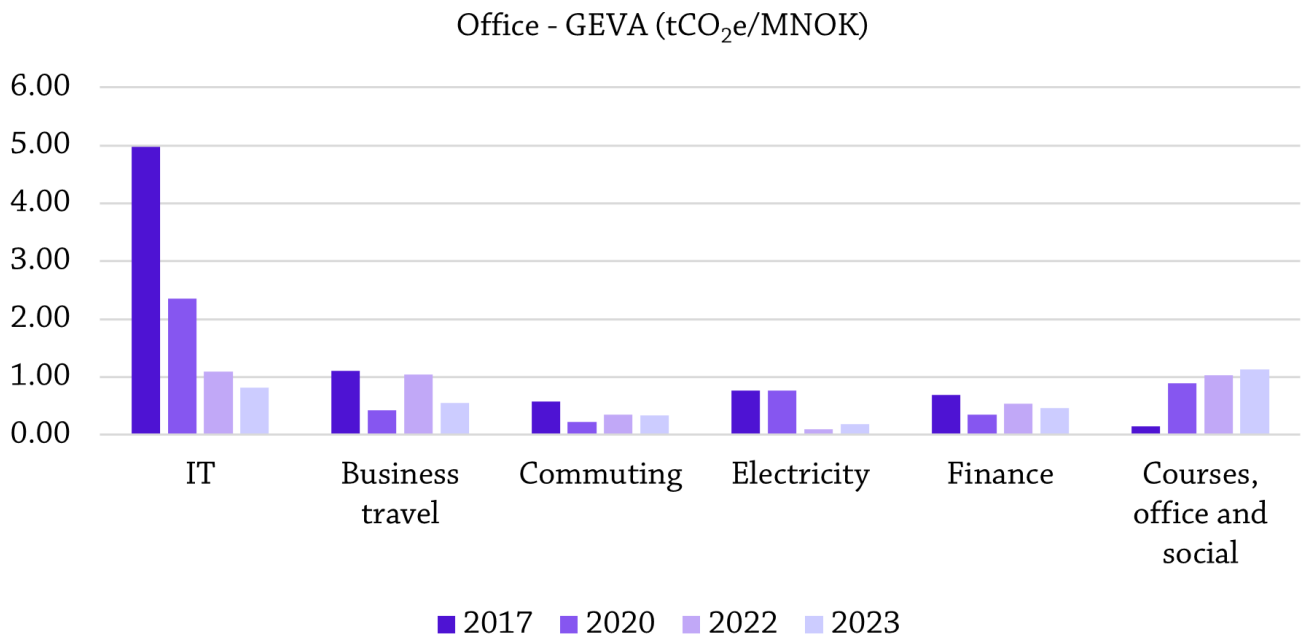
Products

Production of steel
Emissions from the production of steel are greatly affected by the type of projects we have and the number of products we sell. In 2023, we produced only 50% of the steel we produced in 2022, mainly due to product demand, but we are working on ways to better monitor and control the consumption of steel in projects. On a group level, emissions from products are about 1% of our total emissions, but now that we have better control of the larger categories we can begin to improve here too.

Transportation of steel
Transportation of steel is reduced in line with production of steel, as these two are closely related. The result might also be affected by improvements on our suppliers' side, as was identified under mobilisation of equipment. We will investigate this observation in more depth.

Unreported categories
We are working on finding data to report the end-of-life of our products, but most of the products are still young and most end up in our clients' control. We are working to change this. Emissions from our leased products have thus far been assumed to be negligible, but we will continue to evaluate this.

Office



IT

In 2023, the reduction in emissions from IT is mainly caused by a reduction in hardware consumption. In a year where we moved into many new offices, this might sound surprising, but this is a result of several conscious decisions we have made throughout 2023.

Firstly, we started to charge each entity directly for the cost of their IT consumption in 2023, a cost that had previously been part of the global IT budget. This was a simple step to ensure minimum consumption from a cost- and an environmental perspective. In total, our emissions from IT hardware went from 1,579 tCO_2e in 2022 to 1,112 tCO_2e in 2023 - a 30% reduction in absolute emissions.

Simultaneously, we had a year of great growth with many new employees and new offices. We moved into several new offices in Norway, including our new headquarters in Molde. By reusing equipment, we kept purchases to a minimum, as our Norwegian offices only bought three more screens in 2023 (130) compared to 2022 (127) and only about 20 more computers than the year before. At the same time, we had more than 40 new office-employees in 2023. Additionally, by making conscious decisions, the new screens and laptops bought in Norway in 2023 generally had lower GHG emissions per unit. An example is the new HP Z34c curved screens we now use in many of our offices, that saves 67 $kgCO_2e$ compared to the screens we have used most before. Additionally, this screen replaces the need for two screens, bringing the actual saving to about 10 times that value.

Regarding emissions from software, we have an ongoing dialogue with Microsoft regarding reported numbers for 2023, as they were much lower than anticipated. Last year's emissions with a 10% increase in activity is used this year, to make sure we never under-report on our emissions.

Additionally, but not accounted for in these numbers, we saved 4.9 tCO_2e from returning our IT equipment back into the IT loop system in Norway. We have a similar initiative in South Africa and Singapore, and aim for a similar agreement for all entities in Axess Group in the near future.

Business travel
In 2023, we celebrated Axess Group's 25th anniversary and welcomed many employees from around the world to gather in Molde, Norway. This was an important priority for us this year, and while many travelled, we also encouraged everyone to stay for as long as possible. The goal was to consolidate many meetings within the same week, minimising total travel. Overall, the celebration in Molde did not affect the total results. In absolute numbers, we decreased our emissions from business travel by 30% from 2022 to 2023, and with our strong value creation, the GEVA from business travels specifically was reduced by 47% this year. Our employees are very focused on conducting several errands per travel, keeping the overall demand for travel down. We have also succeeded in completing more types of meetings digitally, including Factory Acceptance Test (FAT) of our equipment and training activities.

Commuting
We collected commuting data from all our offices around the world and have evaluated the improvement potential for this category over several years. Europe and APME are the regions where we have the most potential, and some of our entities are already doing very well here too. The results for 2023 are only a slight improvement from 2022, because we have not prioritised specific initiatives here this year.

Electricity
In 2023, we have moved offices at many of our locations to cater for our big growth. Additionally, we have welcomed new entities. In total, our emissions from electricity consumption have increased in 2023 even when considering the emissions per value creation. It is our new and large facilities in Mexico and Guyana that have the largest emissions.

Finance
Since last year, we have analysed the finance category to better understand where the emissions from finance originate, as these emissions are based on our annual accounts. Finance has been a significant source of emissions for us every reporting year, and this is mainly due to the growing need for services related to our global growth. Our emissions in this category come from legal services, accounting services, banking, licences, and other external services. We see a slight decrease in emissions per value creation for 2023, but believe this is mainly due to our improved insights and better evaluation of which categories to exclude. We realise that we have significant emissions from finance and will evaluate how much of this we can affect, and what our next actions should be.

Courses, office operations and social activities
In 2023, the emissions per value creation continued to increase from courses, conferences, office operations and social activities. A part of the increase from 2022 to 2023 is caused by the establishment of new offices, as well as all activities and increased consumption related to office relocations in many cities worldwide.

Both in 2022 and 2023, we see that this category has become a significant share of Axess' emissions. Going forward, we need to investigate what we can do to ensure that our office activities, as well as social activities, are more resource-efficient. Apart from that, we see it as a positive sign that we continue to invest more money in our people as we grow, and we also expect that some of the increase is related to our business diversification.

Footprint reduction strategy

Approach

To succeed with emission reduction, we have worked for a long time to understand our emissions and to monitor them continuously. We collect data systematically every month in all entities globally, which has resulted in local engagement, local control, and great data quality for all relevant categories.

Every year we assess the reduction potential for all emission categories that we collect data for. By discussing the local potential together with each entity, we can set relevant focus areas locally, and it is only when all these initiatives come together that we can see what can be achieved as a group.

Focus areas

To achieve significant emission reduction, the following focus areas within services, products and office are the most important ones for Axess*, as defined together with all entities and regions during an extensive mapping process in 2021.

Activity areas	Reduction targets	Focus areas	Description	Reduction strategies to explore
Services	60%	Mobilisations 	Reduce our travel and transport related to mobilisations of personnel and equipment. Streamline and digitalise our services.	Use local people, local warehouses and digital solutions. Bundle tasks and stay longer.
		Purchased equipment 	Reduce our footprint from purchased equipment. Reuse and collaborate with suppliers.	Work with suppliers, ask for product footprint/ EPD, reuse equipment.
Products	30%	Production and transport 	Reduce footprint from steel products manufactured and transported to Axess. Reuse and recycle steel products.	Use recycled steel, work with suppliers, use local suppliers, reuse of products, circular economy, leasing models.
Office	60%	IT Consumption 	Reduce our footprint from IT hardware and cloud storage. Collaborate with suppliers.	Reuse and recycle IT hardware, optimise data storage, reduce email attachments, IT campaign.
		Business travel 	Reduce our air travel related to business and sales meetings.	Digital meetings, stay longer/do more when we travel.
		Commuting 	Facilitate carbon-efficient transport to our offices.	Motivate and facilitate biking, walking and public transport. Have commuting campaigns.

* Our focus areas are chosen based on the criteria of size, influence, risk, and stakeholder engagement as defined by the GHG Protocol.

HANDPRINT

Robotic crawler inspection in Norway

Handprint reporting

Development in 2023

In 2023, we delivered many handprint solutions that contributed towards reducing our clients' GHG emissions. However, with Axess' rapid economic growth, we struggle to improve our handprint per value added. It is still important for us to aim towards this, as our opinion is that our contribution to reduce emissions for our clients should increase in line with our growth. Simultaneously, it is equally important that all our projects contribute towards reducing our clients' emissions, independent of the handprint size. When considering the absolute emissions saved in 2023, we notice that we increased the handprint from service efficiency by 217% this year.

	2017	2020	2022	2023	% Change 2022-2023
Company growth					
Turnover (MNOK)	431	621	1202	1574	**31%**
Value added (MNOK)	317	518	1042	1369	**31%**
Number of employees	208	329	558	631	**13%**
Absolute handprint					
Support vessels (tCO_2e)	1700	0	0	0	**0**
Flaring (tCO_2e)	0	12000	12500	16100	**29%**
Service efficiency (tCO_2e)	0	44	66	211	**217%**
Total Handprint (tCO_2e)	1700	12044	12566	16311	**30%**
Handprint per value added					
GEVA (tCO_2e/MNOK)	**5.4**	**23.2**	**12.1**	**11.9**	**-1%**

Table 4: Handprint results from 2017 to 2023

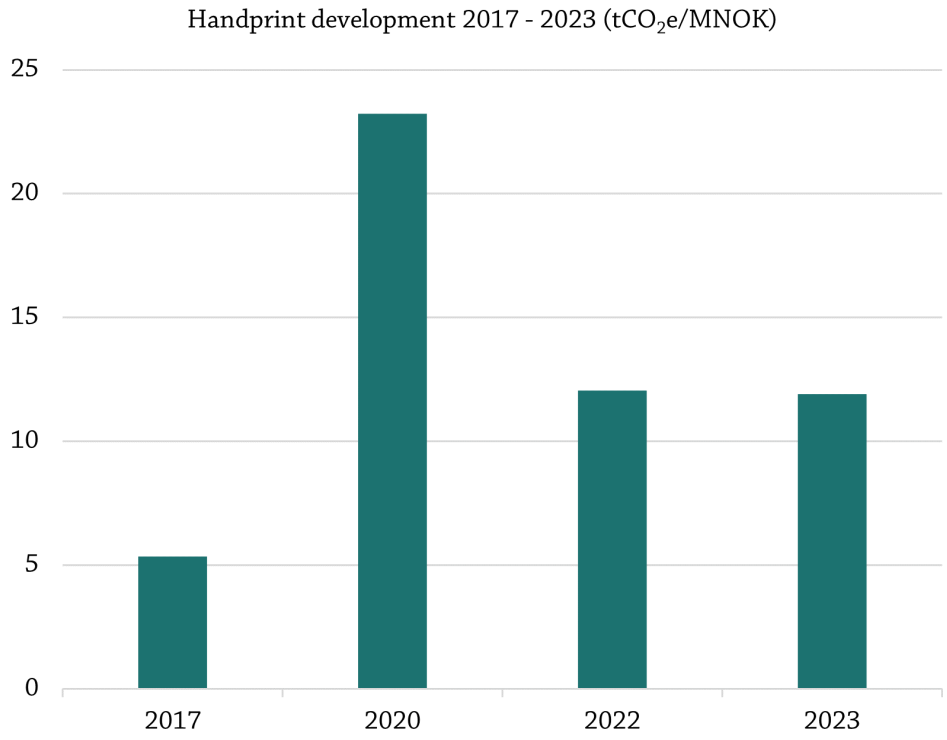


Figure 9: Handprint development from 2017 to 2023

Handprint in 2017 (base year)

The innovative caisson replacement without IMR vessel was the first handprint estimation in Axess' history and makes up the entire calculated handprint for 2017. For calculation, see Appendix E.

Focus area	Operation	Baseline solution	Handprint solution	Deliveries in 2017	Handprint in 2017 (tCO_2e)
Support vessels	Caisson replacement	IMR vessel	Lifting solution without IMR	7 caissons replaced	1700

Table 5: Axess' handprint in 2017

Handprint in 2023

In 2023, we contributed towards reducing flaring and improving service efficiency for many of our clients and had a significant increase in activity within both these focus areas. We also quantified several new handprint solutions. All calculations are found in Appendix E.

Focus areas	Operations	Baseline solutions	Handprint solutions	Deliveries in 2023	Handprint in 2023 (tCO_2e)
Support vessels	Caisson and thruster replacement	IMR vessel	Lifting solution without IMR	No activity	0
Flaring	Lifting over pressurised equipment	Shutdown and flaring	Double secured lifting (i.e. with Alpa Winch)	4 winches	16 100
Service efficiency	Rig integrity operations	Singular services	Total Rig Integrity Management (TRIM)	1 contract	47.3
Service efficiency	Bridge inspection	Truck lift	Drone inspection	12 bridges	9.6
Service efficiency	Pressure Safety Valves (PSV) and Instrument Calibration	Annual inspection	Risk-Based Inspection (RBI)	1 contract	2.6
Service efficiency	Brazilian Regulatory Compliance (BRC)	Intercontinental travelling	TRIM and local competence	1 contract	140
Service efficiency	Drone services for farm fields in Mexico	Tractor	Farm field drone services	70 jobs	11.8
Total					**16 311.3**

Table 6: Axess' handprint in 2023

Progress from 2017 to 2023

To properly evaluate how the distribution of our services has developed over time and to consider our potential going forward, it is necessary to assess the progress for all handprint solutions we have delivered over time. Note also that these only represent the cases we have been able to quantify, and that we believe the actual emissions saved for our clients is higher. We will continue our process to quantify more of our handprint solutions and the effects of these going forward.

Focus areas	Handprint cases	2017 (tCO_2e)	2020 (tCO_2e)	2022 (tCO_2e)	2023 (tCO_2e)
Support vessels	Caisson Replacement	1700	0	0	0
Support vessels	Thruster Replacement	0	0	0	0
Flaring	Top drive mounted Double Secured Winch (DSW)	0	10800	11300	14800
Flaring	Double secured hoist and lifting frame for SIMOPS	0	0	0	1300
Flaring	Traverse crane mounted DSW	0	1200	1200	0
Service efficiency	Digitalisation of TRIM	0	44.1	47.3	47.3
Service efficiency	Inspection of bridges with drones	0	0	19.2	9.6
Service efficiency	RBI for PSV and Instrument Calibration	0	0	0	2.6
Service efficiency	TRIM and local competence for BRC	0	0	0	140
Service efficiency	Drone services for farm fields	0	0	0	11.8
Total		**1700**	**12044.1**	**12566.5**	**16311.3**

Table 7: Progress of all quantified handprint solutions delivered by Axess

Summary of 2017 - our first handprint calculation

Support vessels

After proving our method through one caisson installation in 2012 / 2013 and one replacement in 2014, we got our first full-scale caisson replacement of 7 caissons without the use of IMR in 2017. This was also the first handprint calculation for Axess.

Summary of 2023

Support vessels

No saved emissions for any client in 2023, but Axess has started the engineering work for a new caisson replacement project that has its offshore execution phase in 2024.

Flaring

After providing our clients with double secured winches for several years already, we are continuously saving emissions for our clients. In 2023 we have increased our position with one new installation, but already have three more winches in the pipeline for 2024. In addition, we are looking into other areas where we can contribute with our competence to help our clients reduce / avoid flaring.

Service efficiency

Over the years, we have gradually introduced and identified more services that reduce emissions for our clients. Service efficiency is our largest area in terms of activity, but the contribution to the handprint is relatively small compared to avoiding support vessels and flaring. Still, the significance when it comes to company values, building culture and continuously challenging the market should not be underestimated.

In 2023, we continued to deliver our TRIM concept with bundling of scopes and utilising digitalisation to minimise mobilisations. We delivered digital dropped object inspections (eDROPS) and remote inspections through augmented reality (AxEye) to one of our clients.

We delivered 12 bridge inspections with drones, which reduce both the number of personnel and the duration for a typical inspection. At the same time, we can continue the inspection from the office based on the generated 3D models captured by the drones, further reducing the need to mobilise.

We have introduced our first project where we incorporated RBI for PSV and Instrument Calibration, reducing man-mobilisations, man-hours and offshore nights. We also reduced the size of mobilised equipment from a container down to a euro-pallet in this project.

In 2023, we were also able to quantify the effect of utilising local personnel for BRC, eliminating the need for flights between Singapore and Brazil. Additionally, we quantified the effect of utilising drones for farm fields in Mexico.

We are also working to quantify the effect of other services that we already provide, like our remote monitoring system for cranes and winches.

Handprint improvement strategy

Axess' vision is to create world-class sustainable solutions, where an essential part of our value proposal is to offer solutions that reduce our clients' emissions. We take ownership of reducing our own emissions regardless of this, but to be the best provider of solutions, we need to also offer innovative solutions for our clients.

Ultimately, our handprint strategy is about being both innovative and resource-efficient, so that we can stay competitive. Our success depends on several factors and these are the ways in which we will be a strategic partner to our clients going forward:

- We need to identify the initiatives we already have, calculate the effect from these and sell more of what we have already developed.
- Simultaneously we need to provide our clients with new and innovative solutions to reduce their emissions.
- We also aim to collaborate more with our clients, as we depend on each other to improve and develop in a sustainable direction.

Our goal for 2025 is to provide a handprint of 65 tCO_2e/MNOK, which we are currently struggling to meet. However, we have faith in our solutions and know that this number is only dependent on how many of these we sell going forward. Additionally, we see the need for more KPIs to oversee that we succeed not only with the largest contributors, but that we provide handprint effects in all types of projects at an increasing rate.

Strategies for improvement within each focus area:

Support vessels

- Continue to promote our solutions for thruster and caisson replacements without IMR vessels.
- Continue sales work for caisson replacements and find pilot case for thruster removal.
- Develop solutions to other lifting operations where IMR vessels can be avoided.

Flaring

- Continue sales (and preferably leasing) of our Alpa Winch.
- Collaboration with clients to better identify the emissions saved from our products.
- Explore other areas that might reduce flaring, such as non-intrusive inspection (NII).

Service efficiency

- Collaboration with clients and set KPIs together that promote or reward service efficiency.
- Present our handprint solutions to our clients to achieve more through our contracts.
- Explore new areas for use of drone inspections, magnetic crawler and our digital solutions.
- Continue to evaluate use of RBI in new areas to challenge industry standards and regulations.

APPENDIX

Norway colleague walking to office

A. Climate Roadmap history

The Axess Climate Roadmap initiative was launched in early 2018, with the main goal of reducing the most obvious source of GHG emissions, which was our extensive travel activity. This included client projects worldwide (mobilisations) and management activities in our global enterprise (business travel). We started by manually mapping the carbon footprint for 2017, but soon realised that we needed more efficient methods to collect and analyse data for regular monitoring.

Automated monitoring
In 2019, we began developing systems and tools for monitoring our carbon footprint, and we are still continuously adjusting and improving them today.

- Mobilisation: Integrated functions in our digital resource planner (Horizon Planner) to track the carbon footprint from mobilisations of personnel.
- Commuting: Integrated functions in our hourly system, Agresso, to track employees' mode of transportation.
- Business travel: Regular, automated reports from our travel agencies worldwide.
- IT: Power BI report from IT suppliers (from 2022 onwards)
- Semi-automatic monitoring from all entities (from 2022 onwards)

Choosing a standard
When we resumed work on GHG emissions after COVID-19 in early 2021, we decided to use the GHG Protocol standard for our future initiatives. To align with the standard, we scanned our entire value chain, involving all entities worldwide. This resulted in a mapping of our complete carbon footprint and the establishment of extended reduction targets, as described in the report.

Our first GHG emission report was completed in May 2022, using 2017 as the base year. Due to COVID-19, 2020 and 2021 were not representative years since business was not as usual for Axess. Office employees stayed at home, and business travel was negligible. Therefore, we decided to report only for 2020 to indicate our progression over these years and not include an additional report for 2021. All our reports have been aligned with the GHG Protocol Reporting standard, and we have reported in 2020, 2022 and 2023, with this being a central part of our annual reporting on sustainability at Axess.

The first footprint calculation
The first calculation we did of the 2017 carbon footprint was performed in 2018. This was before we adopted the GHG Protocol standard (calculations were adjusted and aligned later on). Already in 2018, we covered several of the categories from the GHG protocol, including C9 Downstream transportation (mobilisation and goods), C8 Leased assets (electricity), C7 commuting and C6 Business Travel (management and sales). The total scan revealed a footprint of about 1600 tCO_2e. When aligning this year with the GHG Protocol Scope 3 Standard later on, we found that the total emissions for 2017 were 4798 tCO_2e.

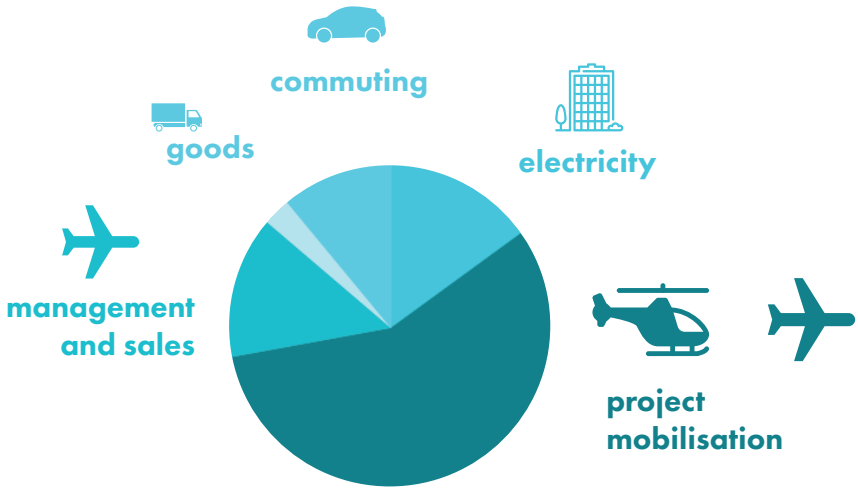


Figure 10: Distribution of Axess' footprint from the first calculations in 2018

The second footprint calculation – Scope 3
For 2020, we decided to implement the GHG Protocol Scope 3 Standard. The procedure involved doing a scan to identify significant sources of emissions. Based on this analysis, we identified appropriate focus areas and developed reduction strategies. We also evaluated which categories needed higher data quality and developed ways to obtain this.

We calculated the emissions for the relevant categories for 2020 and also re-calculated our 2017 emissions to be aligned with the GHG Protocol. For some of the categories, we specified several subcategories, as there are different reduction strategies for them and tracking progress became easier by keeping them separate. Emissions were calculated using collected data from internal systems and suppliers' invoices for the focus areas, and the Scope 3 Evaluator and data from annual accounts on the others. We had extensive use of extrapolating data, mostly from Norway, to cover the activity for the whole Group.

The third footprint calculation – Scope 3
For the 2022 report, we kept the same categories and subcategories as for the previous years. We improved the data quality and the engagement around the report throughout the group. We used detailed data from each entity rather than extrapolating based on Norway and only a minimum of categories still relied on annual accounts.

The fourth footprint calculation – Scopes 1 and 3
In 2023, we had an improvement in the data quality, mainly because our data from all entities became more consistent and comparable. The effort to engage each region and entity resulted in more accurate data and a more representative picture of the group emissions. Each entity and region have dedicated resources locally that understand the principles of gathering data and how the GHG emissions are calculated. Some of our least important categories were still calculated on data from annual accounts, like hotels and restaurants, financial services, courses, office operations and social activities. This year is the first time we have Scope 1 emissions, and we have reported these, because we bought six of our previously leased cars in 2023.

B. Footprint - Reporting scopes

Scopes 1 and 2

Scope 1 includes direct emissions from operations owned or controlled by the reporting company. Axess did not own any buildings or vehicles up until 2023 or control any operations, hence Scope 1 has not been relevant until this year. Now Axess owns six cars, which we have reported on.

Scope 2 includes emissions from purchased electricity for own facilities. Axess does not own any buildings, hence Scope 2 is not relevant. Since our offices are leased, electricity from our offices counts under leased assets and are accounted for in Scope 3 – Category 8: Upstream leased assets.

Scope 3

Axess report on all relevant Scope 3 categories. We continue to improve our data, and further define our focus areas and reduction strategies based on this. The relevant scopes for Axess were the same in 2023 as in 2022.

Relevant Scope 3 categories

C1: Purchased goods and services
Defined as emissions from extraction, production and shipping of products and services purchased by Axess, e.g., steel constructions, machine parts, IT, cloud services, project equipment.

C4: Upstream transportation and distribution
Transportation of purchased goods from suppliers to Axess.

C5: Waste generated in operations
Disposal and treatment of waste generated in Axess' operations. Project waste, typically ropes, slings, aerosols, packaging and office waste (e.g., electronics, packaging, food waste, etc).

C6: Business travel
Employees' engagement in business-related activities such as flights, and transportation to hotels and restaurants and meeting venues, typically for Axess' sales and management meetings, project meetings, social events, visits, training, etc.

C7: Commuting
Transportation of employees between their homes and our offices. The typical Axess employee travels by personal car, bus, train, motorbike, bike, walk or carpool together with other colleagues.

C8: Leased Assets
Emissions from operation of assets leased by Axess. Includes emissions from electricity used to operate offices and warehouses, and emissions from leased vehicles, running on electricity or fuel.

C9: Downstream transport and distribution
Transport of products and services sold by Axess. For work on offshore installations this includes transport of personnel from home to heliport with plane or car, and transport to installation by helicopter or boat. For work on land-based installations transport methods are typically leased cars or plane. Category also includes transport of equipment from warehouse to clients' sites.

C11: Use of sold products
Direct emissions from end use of products and services sold by Axess, over their expected lifetime. Typically sold products that consume electricity or fuel, such as the Alpa Winch.

C12: End-of-life treatment of sold products
Emissions from waste disposal and treatment of Axess' products at the end of their life, typically, disposal of steel structures, and energy used for recycling of steel. Today, Axess has little control over end-of-life treatment of equipment other than our leased winches. Axess' strategy is to lease more of our products to our clients, which will change this in the future.

C13: Downstream leased assets
Direct emissions from end use of Axess' products and services leased to clients in the reporting year. Typically leased products that consume electricity or fuel, such as the Alpa Winch.

Categories that are not relevant for our value chain, and excluded from the report:
- C2: Capital goods
- C3: Fuel- and energy related activities (not included in scope 1 or scope 2)
- C10: Processing of sold products
- C14: Franchises
- C15: Investments

C. Footprint - Calculation methods

The footprint has been calculated for our 2017, 2020, 2022 and 2023 emissions. We use the GHG Protocol Standard with supplier-specific method and hybrid method, limiting the spend-based method only to least important categories.

2017

In 2017, data was collected without basing it on a standard. Our extensive travel activity was what trigged us to investigate our emissions. We saw a potential in more resource-efficient mobilisations of personnel. An identification of the main activities in the company led to the selected categories. Data was collected manually from suppliers, software and questionnaires. This is specified per category below:

Mobilisation (C9 Downstream Transportation):
Our services require mobilisations of personnel to client installations for different projects. For Norway, this was calculated based on data from Horizon Planner and an online carbon footprint calculator. The other offices used excel to collect data.

Transportation of equipment (C9 Downstream Transportation):
Calculated based on accounts from transporters and DHL's online carbon calculator. These were the least complete datasets.

C6 Business travel:
The calculation was based on data from travel agencies for management and sales employees.

Electricity (Category 8 Upstream leased assets):
Power consumption was calculated based on electricity bills. To calculate electricity footprint, we used the average emission factor for the OECD countries for all of our offices. Norwegian electricity had a much lower footprint, but as we were in an international energy market, we thought it was fair to use the same factor for all at that stage. We found that the largest part of our electricity was for heating and cooling of our office facilities.

C7 Commuting:
Employee commuting was calculated based on an employee survey and an online carbon emission calculator.

Since business travel, mobilisation of personnel and employee commuting were collected specifically for the purpose back in 2017/2018, this data was of good quality. The rest of the categories were calculated in 2021 to complete the picture in accordance with the GHG Protocol standard. Most of these categories were calculated using the spend-based method, which is less accurate. This method is based on the annual account and the emission calculator provided by the GHG Protocol. In the following years, we worked on improving the quality and insight of the data, but for 2017, we used what we had.

2020

In 2020, we aligned everything with the GHG Protocol standard. To make the data set more complete, we used the Scope 3 Evaluator to report on all relevant categories. This is a scan based on the spend-based method, meaning it gives a brief scan of the emissions. We still collected data from mobilisations, business travel, electricity etc. as we did for 2017.

2022
In 2022, we continued to report according to the GHG Protocol Standard. This year, we have good data quality on all focus areas, involving all entities and regions of Axess Group and our suppliers. This has made it possible to use the supplier-specific method and hybrid method together for all our focus areas (and more), and the spend-based method only on the least important categories (i.e. finance and miscellaneous). Very few categories were extrapolated at this stage, mainly some missing data from a few entities.

2023
The footprint for 2023 was calculated using the same principles as for all previous years according to GHG Protocol. The quality of data was already improved in 2022, and 2023 was therefore mostly of the same quality. The main improvements compared to 2022 was less extrapolation and updated factors for hybrid- and spend-based method.

Additionally, the following was improved in 2023:

Mobilisation (C9 Downstream Transportation):
This year, we have accurate GHG data on plane travel from all entities, improved data on helicopter and boat. We are still extrapolating for travel from home to airport.

C1 Purchased equipment:
We have improved the differentiation of product groups based on material it is made of.

Base year emissions recalculation policy
For 2023, our policy is to acknowledge and specify that some of the reduction and changes are due to improved data quality and updated emission factors. With greater insights, we can now quite confidently differentiate between effects of better data and actual improvement. We will still evaluate the need to set a consistent recalculation policy in the near future, although we acknowledge that improvements yearly is in the nature of Scope 3 reporting. We remain focused on the purpose of Scope 3, which is to disclose, understand and improve by utilising our position to impact our value chain.

D. Footprint - Calculations 2017 and 2023

Data information overview 2017

Scopes and categories	Specifications	Total emissions for Axess Group (tCO_2e)	Description of the types and sources of data used to calculate emissions	Description of the data quality of reported emissions	Description of the methodologies, allocation methods, and assumptions used to calculate emissions	Emission factor used
Scope 1: Direct emissions from owned/controlled operations		**0**	Axess do not own any production facilities, buildings or vehicles.			
Scope 2: Indirect emissions from the use of purchased electricity, steam, heating, and cooling		**0**	Axess do not own any production facilities, buildings or vehicles.			
Category 1: Purchased goods and services	Steel Production	**90**	Internal data systems	Fair	Hybrid method, estimating weight of end product to estimate steel purchased. Based on information of Alpa only, which stands for most of the steel production in Axess.	Emission factor for steel 1.85 (global average from, World Steel Org, https://www.mckinsey.com/industries/metals-and-mining/our-insights/decarbonization-challenge-for-steel)
	Computers/ IT/ technology	**1 579**	Annual account	Fair	Spend-based method. Extrapolated based on employees using data from Axess Europe.	WIOD emission factors, Electrical and optical equipment, 0,82.
	Services (grouped)	**552**	Annual account	Poor	Spend-based method, using the Scope 3 Evaluator. Extrapolated based on employees using data from Axess Europe.	WIOD emission factors. Factors listed in calculations.
	Office/other (grouped)	**579**	Annual account	Poor	Spend-based method, using the Scope 3 Evaluator. Extrapolated based on employees using data from Axess Europe.	WIOD emission factors. Factors listed in calculations.
	Finance	**248**	Annual account	Poor	Spend-based method, using the Scope 3 Evaluator. Extrapolated based on employees using data from Axess Europe.	WIOD emission factors. Factors listed in calculations.
Category 4: Upstream transportation and distribution	Transport of steel mainly	**44**	Data from supplier	Fair	Fuel-based method. Own calculations based on own record and emission factors from DHL, as if and assuming that transport is done with them.	DHL Carbon Calculator https://dhl-carboncalculator.com/#/scenarios. Factors $kgCO_2e$/km differ between countries 0,0013 for Norway, 0,159 Brazil, 1,27 Singapore
Category 5: Waste generated in operations		**50**	Annual account	Poor	Spend-based method, using the Scope 3 Evaluator. Extrapolated based on employees using data from Axess Molde office	WIOD emission factors, 0,95 $kgCO_2e$/$
Category 6: Business travel		**351**	Travel agency	Very good	Fuel-based method. CO_2 emission account from travel agency Spend-based method for hotel and restaurants. Based on Axess Global.	Emission factors used by travel agency Berg Hansen for travel. WIOD emission factors, Hotels and restaurants, 0,56 $kgCO_2e$/$
Category 7: Employee commuting		**186**	Automated and manual registration	Good	Fuel-based method. Own calculations based on global employee survey.	Emission factors from 'Ducky', a Norwegian company specialised in digital carbon footprint calculation. Simplified categories, e.g., same emission factor used for tram/short distance train/long distance train/bus to represent "public transport". Factors listed in calculations.
Category 8: Upstream leased assets	Electricity used in leased facilities	**245**	Data from supplier	Good	Asset-specific method. Own calculations using electricity consumption per facility, based on electricity bill. Based on Axess Global.	Based on average/flat emission factor for OECD 2013. E.g., Norway does not benefit from clean energy/hydropower. http://www.compareyourcountry.org/ (electricity data no longer available on this site)
Category 9: Downstream transportation and distribution	Mobilisation of personnel	**896**	Data from supplier and automated and manual registration	Good	Fuel-based method. Own calculations using data from Horizon planner (Norway) and manual registration in Excel (globally). Accounting for plane and helicopter travel only. Transport in vehicle and boat are small, and will not be registered in the coming years.	Emission factor helicopter: U.S. Energy Information Administration, https://www.eia.gov/environment/emissions/CO2_vol_mass.php, 2,5 $kgCO_2$/litre. Simplification: Same flight distance for all mobilisations. Emission factor plane: Online, free carbon calculator https://www.carbonfootprint.com/calculator.aspx
	Equipment	**226**	Suppliers invoices	Fair	Spend-based method. Extrapolated based on employees using data from Axess Norway.	WIOD emission factors. Air transport 1,97, Inland transport 0,96
Category 11: Use of sold products		**0**	Internal data systems	Fair	The fuel consumption of the products in use are neglectable.	
Category 12: End-of-life treatment of sold products		**0**			Products have not reached end-of-life yet and have not been estimated.	
Category 13: Downstream leased assets		**0**	Internal data systems	Fair	The fuel consumption of the products in use are neglectable.	

Data information overview 2023

Scopes and categories	Specifications	Total emissions for Axess Group (tCO_2e)	Description of the types and sources of data used to calculate emissions	Description of the data quality of reported emissions	Description of the methodologies, allocation methods, and assumptions used to calculate emissions	Emission factor used
Scope 1: Direct emissions from owned/controlled operations	Owned vehicles at Orkanger	**20**	Data from supplier and internal calculation	Good	Hybrid method. Using registered distance traveld for each vehicle.	Factor from Ducky: 0,25 $kgCO_2e/km$
Scope 2: Indirect emissions from the use of purchased electricity, steam, heating, and cooling	-	**0**	-	-	-	
Scope 3: Corporate Value Chain, Categories 1-13		**0**				
Category 1: Purchased goods and services	Steel	**89**	Internal data systems, Agresso	Good	Hybrid method. Calculating kg of steel bought from suppliers with relevant secondary (e.g. industry average) emission factor.	Factor from Ecoinvent: 1,82 $kgCO_2e/kg$
	IT - Total	**1,112**	Data from supplier, Atea and Power BI, Purchase orders	Good	Hybrid method. Exact emission provided by our supplier in Norway. Extrapolated average emission per product category for number of units bought in entity.	Factor from supplier
	Hardware - laptops	**137**	Data from supplier, Atea and Power BI, Purchase orders	Good	Described in IT Total	Factor from supplier
	Hardware - screens	**44**	Data from supplier, Atea and Power BI, Purchase orders	Good	Described in IT Total	Factor from supplier
	Hardware - accessories	**12**	Data from supplier, Atea and Power BI, Purchase orders	Good	Described in IT Total	Factor from supplier
	Hardware - other	**2**	Data from supplier, Atea and Power BI, Purchase orders	Good	Described in IT Total	Factor from supplier
	Software	**917**	Data from supplier, Atea, through Axess' Power BI	Good	Supplier-specific method. Emission provided by supplier and their suppliers on software services and solutions (Microsoft 365) and Cloud-services from Azure for all of Axess Group 2022 and increased by 10% to cover for company growth. Emission per entity is calculated based on average emission per employee in Axess Group and number of employee in each entity.	Factor from supplier
	IT - hardware savings	**5**	Supplier, Atea, Loop	Good	The saved CO_2e emissions from returning goods. System only implemented in Norway.	Factor from supplier
	Purchased equipment - Total	**647**	Purchase orders, Agresso, and yearly account	Poor	Hybrid method. Manual calculation of average emission per type of equipment. Calculation emission based on number of units bought in each enitity. Adding emissions from relevant posts in each entity's yearly account.	Factors from Ecoinvent and WIOD
	Hardware/metal material (climbing and lifting equipment)	**28**	Purchase orders	Fair	Described in Total	Factor from Ecoinvent: 1,94 $kgCO_2e/kg$
	Software/textile material (climbing and lifting equipment)	**228**	Purchase orders	Fair	Described in Total	Factor from Ecoinvent: 7,3 $kgCO_2e/kg$
	New aerosols and other chemicals bought	**92**	Purchase orders	Poor	Described in Total	World Input-Output Database (WIOD) emission factors 2021: 1,80 kg $CO_2e/\$$

Data information overview 2023

Scopes and categories	Specifications	Total emissions for Axess Group (tCO_2e)	Description of the types and sources of data used to calculate emissions	Description of the data quality of reported emissions	Description of the methodologies, allocation methods, and assumptions used to calculate emissions	Emission factor used
	New coveralls and protection clothing, PPE (personal protection equipment)	**77**	Purchase orders	Fair	Described in Total	Factor from Ecoinvent: 3,91 kgCO_2e/kg
	Mechanical equipment and services. Expenses related to Services	**223**	Yearly account	Poor	Spend-based method. Emission per entity is calculated based on relevant posts in each entity's yearly account.	Factor from Ecoinvent: 1,82 kgCO_2e/kg
	Courses, office operations and social activities. Expenses related to Office	**1,551**	Yearly account	Poor	Spend-based method. Emission per entity is calculated based on relevant posts in each entity's yearly account.	World Input-Output Database(WIOD) emission factors 2021: 0,03 kg CO_2e/$
	Finance, expenses related to Office	**639**	Yearly account	Poor	Spend-based method. Emission per entity is calculated based on relevant posts in each entity's yearly account. Evaluated posts with low activity, e.g. card fees, as not relevant.	World Input-Output Database(WIOD) emission factors 2021: 0,02 kg CO_2e/$
Category 4: Upstream transportation and distribution	Transport of steel	**6**	Data from supplier, SR Group being the largest	Good	Supplier-specific method. Exact emission provided by our suppliers for transport.	Factor from supplier
Category 5: Waste generated in operations	Waste group	**81**	Yearly account	Poor	Spend-based method. Based on cost on Renovation in annual account of Axess AS 2023. Using average of emission per employee to estimate emission for entities based on number of employees.	World Input-Output Database(WIOD) emission factors 2021: 0,1 kg CO_2e/$
Category 6: Business travel	Total	**760**	Internal tool Horizon Planner, local travel agency or Google flights. and yearly account	Good	Supplier-specific method, CO_2 emission account from travel agencies or manual calculation using Google Flights. Spend-based method for hotel and resturants and outlays.	Factor from supplier, Google flights Travel Impact Model (TIM) and WIOD
	Business travel entity	**482**	Travel agency	Good	Supplier-specific method, CO_2 emission account from travel agencies or manual calculation using Google Flights.	Factor from supplier, Google flights Travel Impact Model (TIM)
	Business travel Group	**0**			-	
	Business travel (hotel and restaurant)	**278**	Yearly account		Spend-based method for hotel and restaurants and outlays.	World Input-Output Database(WIOD) emission factors 2021: 0,07 kg CO_2e/$
Category 7: Employee commuting	Transport from home to office, roundtrip	**469**	Manual calculation	Good	Hybrid method. Employee survey or estimated by manager per entity for average days in office, distance roundtrip home-office and transportation method.	Factors from Ducky. Fossil car/bike: 0,25 kgCO_2e/km Electric car/bike: 0,12 kgCO_2e/km Public transport/car pooling: 0,075 kgCO_2e/km
Category 8: Upstream leased assets	Electricity used in leased facilities and emissions from leased fuel vehicles - Total	**255**	Data from supplier and internal calculation	Good	Hybrid method. Own calculations using electricity consumption in kWh per facility for each office, based on electricity bill. Using local emission factor for each region. Using registered distance traveled for each vehicle and factors from Ducky.	Climate Transparency (2022 Report), 2022 Grid Electricity Emissions Factors v0.1 – February 2023
	Electricity	**187**	Data from supplier and internal calculation	Good	Own calculations using electricity consumption in kWh per facility for each office, based on electricity bill. Using local emission factor for each region	Factors from Ducky. Fossil car/bike: 0,25 kgCO_2e/km
	Leased fuel vehicles	**68**	Data from supplier and internal calculation	Good	Using registered distance traveld for each vehicle.	
Category 9: Downstream transportation and distribution	Mobilisation of personnel - Total	**3,015**	Internal tool Horizon Planner, local travel agency or Google flights, and manual calculation.	Good	Supplier-specific method for all regions for plane, using internal tool Horizon Planner, local travel agency or calculated using Google flights. Hybid method for helicopter, surfers and vehicle. Some entities have calculated helicopter mobs using same methid as for plane. Others are using an average distance for trip to calculate emissions using number of trips travelled. If no data exist on number of trips we have extrapolated relative to emission of plane mobilisation.	Factor from supplier, operator, Google flights Travel Impact Model (TIM) and Horizon Planner

Data information overview 2023

Scopes and categories	Specifications	Total emissions for Axess Group (tCO_2e)	Description of the types and sources of data used to calculate emissions	Description of the data quality of reported emissions	Description of the methodologies, allocation methods, and assumptions used to calculate emissions	Emission factor used
	Plane	**1,970**	Internal tool Horizon Planner, local travel agency or Google flights.	Good	Supplier-specific method for all regions for plane, using internal tool Horizon Planner, local travel agency or calculated using Google flights.	Factor from supplier, Google flights Travel Impact Model (TIM) and Horizon Planner
	Helicopter	**657**	Internal tool Horizon Planner, local travel agency or Google flights.	Fair	Axess manual calculation. Assuming the helicoper is 9 ton and Axess personnel is 1/16 onboard, and average distance in 418 km/trip (based on Australia data from HP). And aligned with operator in Norway. Average distance used to calculate emissions for entities not collecting CO_2e emissions direcly.	Factor from Ecoinvent: 0,75 $kgCO_2e/tkm$
	Surfer	**68**	Manual calculation	Fair	Axess manual calculation. Assuming the boat is 8 ton and Axess personnel is 1/10 onboard, and average distance in 418 km/trip (based on Australia data from HP)	Factor from Ecoinvent: 0,11 $kgCO_2e/tkm$
	Car	**16**	Manual calculation	Fair	Using registered distance traveled for each vehicle or estimation of average per mobilised trip	Factors from Ducky. Fossil car/bike: 0,25 $kgCO_2e/km$
	Car, travel home-airport	**303**	Manual calculation	Fair	Average emission per mobilisation by plane per trip based on Axess AS 2023. Average distance roundtrip home-airport data from HP Axess AS and ckecked with distance Byåsen-Værnes.	Factors from Ducky. Fossil car/bike: 0,25 $kgCO_2e/km$
	Mobilisation of equipment - Total	**165**	Manual calculation and data from suppliers SR Group	Fair	Hybrid method. Emission data provided by the suppliers in Norway and other entities where available. Manual registration and calculation for others.	Ducky and Ecoinvent, supplier and Google flights
	Land	**80**			Emission data provided by the suppliers in Norway and other entities where available. Manual registration and calculation for others.	Factor from supplier. Factors from Ducky. Fossil car/bike: 0,25 $kgCO_2e/km$
	Sea	**0**			Emission data provided by the suppliers in Norway and other entities where available. Manual registration and calculation for others.	Factor from supplier. Factor from Ecoinvent: 0,11 $kgCO_2e/tkm$
	Air	**85**			Emission data provided by the suppliers in Norway and other entities where available. Manual registration and calculation for others.	Factor from supplier, Google flights Travel Impact Model (TIM)
Category 11: Use of sold products		**0**			No data collected for 2023. Expected to be neglectible.	
Category 12: End-of-life treatment of sold products		**0**			No data collected for 2023.	
Category 13: Downstream leased assets		**0**			No data collected for 2023.	
		8,810				

E. Handprint - Calculations 2023

In the following section, we present the detailed calculations for all the baseline solutions and Axess' handprint solutions. We then show how the final handprint effect for each solution is calculated. This involves subtracting the emissions associated with Axess' handprint solution from those of the baseline solution.

Support vessels
No activity to report in 2023, please refer to earlier reports for calculations from previous years.

Flaring
The Alpa Winch is a solution for lifting above pressurised equipment to avoid production shutdown and flaring, resulting in a positive handprint. In this case, the baseline solution refers to the traditional approach with production shutdown and flaring.

Detailed results
A detailed overview of all winches and systems in use since 2020 is provided below, and detailed calculations are found in the following paragraphs.

Installation reference	Double secured winch application	Operation period	Contract	Estimated by	2020 (tCO_2e)	2022 (tCO_2e)	2023 (tCO_2e)
A	Top drive mounted DSW for BOP/ XMT and riser handling	2020 -	Purchase	Client	6000	6000	6000
B	Top drive mounted DSW for BOP/ XMT and riser handling	2020 -	Purchase	Client	4800	4800	4800
C	Traverse crane mounted DSW for XMT handling	2020 - 2021	Rental	Client	1200	1200	0
D	Top drive mounted DSW for BOP/ XMT and riser handling	2021 -	Rental	Axess	0	500	4000
E	Chain hoist with lifting frame for SIMOPS XMT handling whilst drilling	2023	Rental	Axess	-	-	1300
Total					**12 000**	**12 500**	**16 100**

Table 8: Overview of winches and systems

Different applications

- The Alpa DSW can be used in several configurations for different applications. Current uses are for handling of BOP / XMT and riser. Additionally, a solution with a double secured hoist and a lifting frame is used for SIMOPS XMT handling for jackup drilling operations. In all cases, the need for shutdown is eliminated and flaring is avoided. For double secured lifting in jackup drilling operations, the operation days are also reduced. Additionally, we are investigating the use of DSW for other applications.

Emissions from baseline solution

- DSW:
  The baseline solution involves shutdown during lifting operations over pressurised systems, which result in flaring. The savings depend on the configuration and classification of wells (e.g. adjacent producing wells, oil/gas, injection wells and inactive wells). The savings thus need to be retrieved specifically for each installation. In 2020, we received data from client with the estimated savings for three installations, see cases A, B and C in Table 8. Since then, we have sold two new systems where the savings have been estimated by Axess based on an evaluation of production activity, similarities with other installations and the numbers first provided by client. In general, we estimate that a DSW solution saves 4000 tCO2e/year, based on the average of the three original client calculations.

  The calculation of the exact savings is challenging. The potential varies according to the number of producing wells that are affected by the lifting operations, the production in those wells and the annual need for lifting operations. We suspect that the savings are larger than first estimated by the client. It is our impression that the clients utilise the winches more than what was estimated in 2020. Hence, our estimates should be considered as conservative.

- Tower + simops:
  The baseline solution involves longer operation by jackup as well as normal flaring activities.

Jackup diesel consumption	20 m^3/day (Source: IPIECA)
Diesel emissions	2.66 tCO_2/m^3 (Source: Miljødirektoratet)
Jackup emissions:	52 tCO_2/day
Extra time used:	5 days = 260 tCO_2e
Reduced flaring:	min. 1000 tCO_2e
Estimated savings:	1300 tCO_2e

Emissions from Axess' handprint solution

Axess' emissions related to providing the Alpa Winch solution to client:

Production:	10t steel x 1.85 tCO_2e/t = 18.5 tCO_2e
Transport:	10t/4m^3 on ship/truck 1800 km (Gdańsk-Molde) = 0.3 tCO_2e (shared transport)
Total emissions:	19 tCO_2e (negligible compared to flaring)

Additionally, Axess Technologies is offering a leasing model for the Alpa Winch, meaning that the production footprint from the Alpa Winch will be shared between multiple clients over its lifetime. When it comes to the calculation of the handprint solution, the emissions from the production of the winch are negligible, but we still account for all these emissions in calculation of our footprint (Scope 3 GHG emissions).

Service efficiency

Detailed results
Axess provided these solutions in 2023 with the following handprint effect:

	Handprint solution	Savings in 2023 (tCO_2e)
1	Bundling and digitalisation of TRIM	47.3
2	Drone inspection of bridges	9.6
3	RBI for PSV and Instrument Calibration	2.6
4	Local competence for BRC	140
5	Drone services for farm fields	11.8
	Total savings	**210.9**

1. Bundling and digitalisation of TRIM

In collaboration with a major client, we have increased efficiency and reduced mobilisations through a combination of bundling jobs and digital tools such as eDROPS and AxEye.

Bundling and digitalisation of TRIM			
The baseline is singular projects for the client. Solutions provided: - Bundling of jobs - Axess eDROPS - Axess AxEye (remote inspection)			
Emissions from baseline solution			
Typical helicopter emissions per mobilisation*	0.315	tCO_2e	
Typical number of mobilisations per rig per year (baseline)	22	mob	
Number of rigs	20	rigs	
Total emissions in a year for all rigs:			
20 rigs x 22 mobs/rig x 0.315 tCO_2e/mob	138.6	tCO_2e	
Emissions from Axess' handprint solution			
Reduction in mobilisation in **2017**	0	mob	
Emissions from Axess in **2017**	138.6	tCO_2e	
Reduction in mobilisation in **2020**	7	mob	eDROPS since 2017
Emissions from Axess in **2020**	94.5	tCO_2e	
Reduction in mobilisation in **2022**	7.5	mob	Remote inspection
Emissions from Axess in **2022**	91.4	tCO_2e	
Reduction in mobilisation in **2023**	7.5	mob	
Emissions from Axess in **2023**	91.4	tCO_2e	
Axess' Handprint - Total emissions saved for client			
2017: 138 tCO_2e - 138 tCO_2e	0	tCO_2e	
2020: 138 tCO_2e - 94.5 tCO_2e	44.1	tCO_2e	
2022: 138 tCO_2e - 91.4 tCO_2e	47.3	tCO_2e	
2023: 138 tCO_2e - 91.4 tCO_2e	47.3	tCO_2e	

* Estimated distance both ways to Houma (600 km)

2. Inspection of bridges with drones

At Axess, we perform many bridge inspections with drones, instead of the traditional inspection by utilising a truck lift. These are often stationed in the Oslo area.

Inspection of bridges with drones			
Office in Orkanger. Contracts in Trøndelag and Møre og Romsdal			
Emissions from baseline solution			
Average transport distance for truck lift	1000	km	Both ways
Emissions from transport of truck-lift	0.8	tCO_2e	800 gCO_2e/km*
Emissions from transport of personnel	0.042	tCO_2e	See calculation below
Total emissions for baseline solution	0.842	tCO_2e	
Emissions from Axess' handprint solution			
Average transport distance from Orkanger	300	km	Carpooling
Emissions from van with drone and personnel	0.042	tCO_2e	Diesel: 140 gCO_2e/km
No. of bridges in **2022**	24.0		
No. of bridges in **2023**	12.0		
Axess' Handprint - Total emissions saved for client			
2022: 24 mob x (0.842 - 0.042) tCO_2e/mob	19.2	tCO_2e	
2023: 12 mob x (0.842 - 0.042) tCO_2e/mob	9.6	tCO_2e	

* Value from transport of truck lift on a typical truck used in EU.

3. RBI for PSV and Instrument Calibration

PSV inspection and instrument calibration are typically performed yearly. As Axess employs RBI for this scope, this extends the inspection interval. This results in reduced man-mobilisations, man-hours and offshore nights. Equipment is also limited to one Euro-pallet compared to a complete container.

RBI for PSV and Instrument Calibration			
Incorporating RBI for PSV and Instrument Calibration, reducing man-mobilisations, man-hours and offshore nights			
Emissions from baseline solution			
Flights to heliport: 4 mob x 2 people x 110 $kgCO_2e$/person return	0.88	tCO_2e	Molde - Bergen
Mobilising of 1 container with equipment: 4 mob x 0.8 $kgCO_2e$/km x 650 km	2.08	tCO_2e	Molde - Bergen/ Stavanger
Accommodation: 4 mob x 2 people x 14 days x 15.1 $kgCO_2e$/day	1.69	tCO_2e	4 weeks inspection + 4 weeks calibration
Helicopter: 4 mob x 2 people x 177 $kgCO_2e$/person return	1.42	tCO_2e	
Total baseline emissions	6.07	tCO_2e	
Emissions from Axess' handprint solution			
Flights to heliport: 3 mob x 2 people x 110 $kgCO_2e$/person return	0.66	tCO_2e	Molde - Bergen
Mobilising equipment: 1 Van 3 mob x 0.23 $kgCO_2e$/km x 650 km	0.45	tCO_2e	
Accommodation: 3 mob x 2 people x 14 days x 15.1 $kgCO_2e$/day	1.27	tCO_2e	2 weeks inspection + 2 weeks calibration
Helicopter: 3 mob x 2 people x 177 $kgCO_2e$/person return	1.06	tCO_2e	
Total Axess' emissions	3.44	tCO_2e	
Axess' Handprint - Total emissions saved for client			
2023: Total saved emissions	2.6	tCO_2e	(6.07 tCO_2e - 3.44 tCO_2e)

4. TRIM and local competence for BRC

Bundling scopes for inspection of piping and lifting equipment, reduces mobilisation needs. In addition, by using local personnel with competence within Brazilian compliance, we avoid the long-distance flights, which are heavy contributors of carbon emissions.

TRIM and local competence for BRC		
For rigs destined for Brazil in 2023, the combination of TRIM and local regulatory compliance has resulted in a reduction of: **100-150 man-days** of inspection **5 roundtrip flights** for teams of 5-8 people.		
Emissions saved by offering local competence		
Flights: Rio to Singapore (return) Average of 6.5 people x 5 trips x 4.24 tCO_2e [9]	137.8	tCO_2e
Hotel nights: 125 nights x 0.0151 tCO_2e/night [10]	1.9	tCO_2e
Axess' Handprint - Total emissions saved for client		
2023: Total saved emissions	139.7	tCO_2e

[9] Source: Carbon calculator, including radiative forcing

[10] Source: Hotel Footprinting Tool, where the emissions for a hotel in Houston, USA is used

5. Drone services for farm fields

In Mexico, Axess offers inspection and precision treatment of farm fields with drones. Compared to a tractor, the spraying time is reduced by 70% with the use of a drone, In the case of insecticide or pesticide application, the speed of application is very important for the farmer. While a tractor cannot be used during humid conditions, the drone can do the job without any problems. In corn fields, a drone can spray 7-10 hectares per hour depending on weather and field conditions.

Drone services for farm fields			
In Mexico, Axess offers inspection and chemical treatment of farm fields with drones, with time saving of 70%.			
Emissions from baseline solution			
Tractor time to cover one hectar at 15 km/h	0.13	h/ha	w/5m spraying width
Tractor diesel emissions	2.66	$kgCO_2e/l$	
Emissions per hectar	25.24	$kgCO_2e/ha$	73l/h fuel consumption
Area covered	560	ha	
Total emissions for baseline solution	14.14	tCO_2e	
Emissions from Axess' handprint solution			
Transport to and from field with drone in van	23	$kgCO_2e$	100 km return
Total transport emissions in 2023 from 70 jobs	1610	$kgCO_2e$	
Total area covered in 2023	560	ha	
Drone fuel consumption via diesel generator	0.5	l/ha	
Drone diesel emissions	2.66	$kgCO_2e/l$	
Total emissions from Axess' solution	2.35	tCO_2e	
Axess' Handprint - Total emissions saved for client			
Handprint 2023: 14.14 tCO_2e - 2.4 tCO_2e	11.8	tCO_2e	

Discarded handprint solution - Steel production

In 2022, we included Steel Production as a handprint strategy. Axess aimed to reduce steel production by optimising designs, reusing products and extending the lifetime of products and installations.

Suggested handprint solutions were:

- EMAG – cleaning and inspection of crane wire ropes to extend their lifetime
- Crane refurbishing – to extend the lifetime of (offshore) cranes and lifting appliances

This initiative has been disregarded as Axess provides a lot of maintenance services to improve or prolong lifetime of structures, but to report on this according to the Carbon Handprint Guide, it needs to be something quantifiably better for the environment than what other competitors are offering. The decision to prolong the lifetime or replace steel structures as cranes and wire ropes, is not something Axess is able to influence directly. We will continue to deliver these services, as our contribution is essential from a circular economy perspective.

F. Roadmap to net-zero

In 2023, we started the work to develop our climate roadmap beyond 2025, with a net-zero roadmap to be presented in 2024. We finally have a big enough understanding of our Scope 3 emissions to make a qualitative evaluation of how much we can reduce our emissions over time. Other things that affect this number will be how much our suppliers and clients improve on their sides, which is something we need to account for in addition to our actions (electrification of transport etc.).

We are aligning our work with the guidelines released by the World Business Council for Sustainable Development (WBCSD) as well as the Science Based Target guidelines (SBTi) to ensure that we continuously measure and plan against science-based standards, rather than our own internal standards. The thought process behind this is to develop a realistic and transparent roadmap that is built on science-based objectives and is comparable on a global scale. These standards state that we first need to take all measures to reduce our current emissions to a minimum, before starting to remove the residual amount when no more reduction is possible.

This is much like what our focus has always been, to put all our effort into reducing our current emissions before anything else. Since our reduction efforts are calculated per value creation, we will consider both the decreasing GEVA and the development of our absolute emissions over time. When we have all this in place, we will develop a plan for how to remove the remaining emissions, as well as consider if we should have a continuous emission removal initiative.

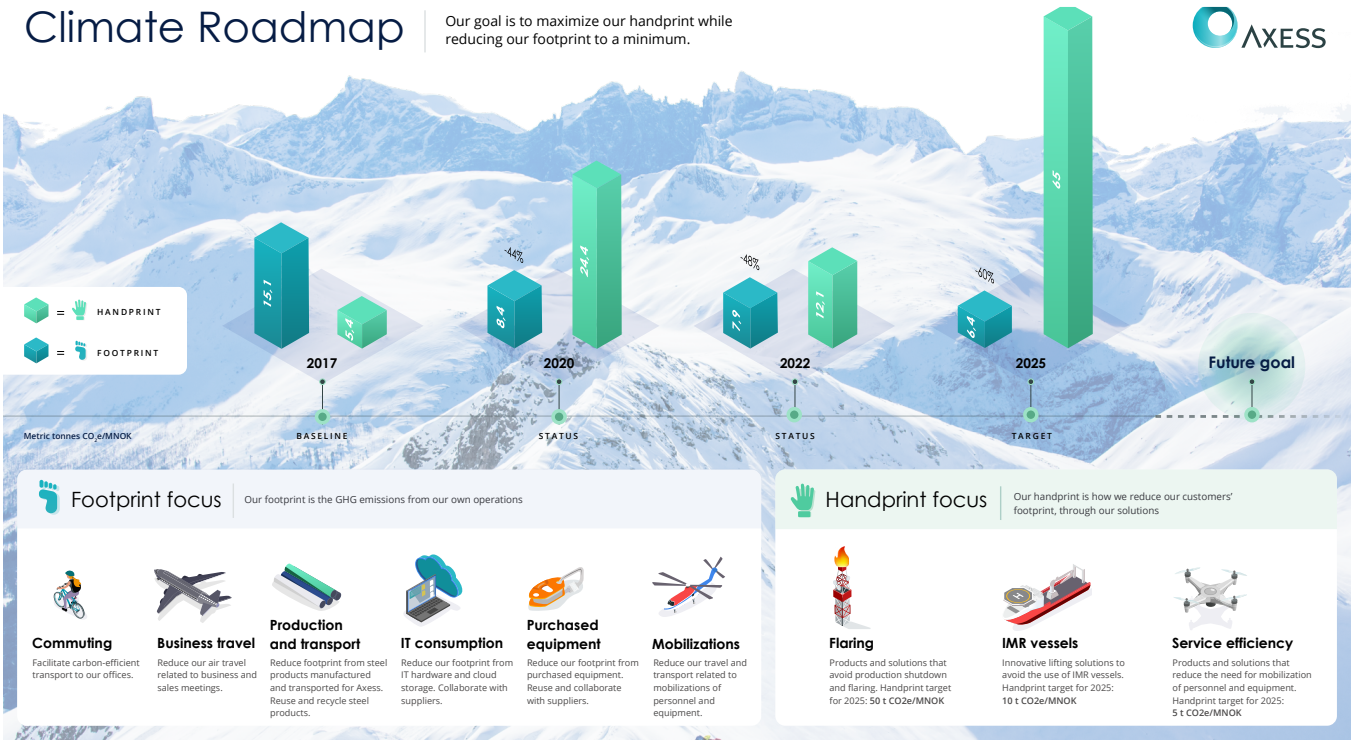


Figure 11: Axess' existing climate roadmap, where our net-zero plan will be reflected

Axess AS
Grandfjæra 22C
6415 Molde, Norway
+47 982 43 600
post@axessgroup.com

www.axessgroup.com