



# **TVILUM ESG 2021**

## **ENVIRONMENTAL SOCIAL GOVERNANCE**

## CONTENTS

Message from our CEO .....	3
Doing our first CO <sub>2</sub> e mapping – learnings to share .....	4
Handling opposing needs in packaging development.....	6
The 10 principles of the United Nations Global Compact.....	8
Supporting local sport .....	10
Developing our future workforce .....	11
ESG data .....	12
Reporting principles .....	15

Version 1.0  
Published by:

**Tvilum A/S**  
Egon Kristiansens Allé 2  
8882 Faarvæg  
Denmark

Phone +45 87 57 36 00

E-mail tvilum@tvilum.com

©2022 Tvilum A/S - All rights reserved

## MESSAGE FROM OUR CEO

We live in interesting times – never in our lifetime have we seen such disruptions to the ways we have been used to doing things – in business, in society or at home. Simultaneously, the debate on environmental issues are only becoming more and more influential. We stand at a crossroads – giving it our best to follow all relevant rules and regulations, and at the same time trying to ensure the sustainability of our business.

In this Tvilum ESG report on Environmental, Social and Governance issues, we are highlighting some of our initiatives to offset the negative impact on the world around us. Here is what we are working on:

The impact of all major initiatives should be measurable. For that reason, we have committed through Science Based Targets initiative (SBTi) to set emission targets and are currently engaged in mapping our CO<sub>2</sub> emissions. We all have a role in reducing emissions resulting from our actions. We have successfully mapped our scope 1 and 2 emissions related to our own actions and the mapping of scope 3 (indirect emissions) is ongoing.

Packaging plays a significant role in minimizing our environmental footprint. As a mass producer of furniture; the daily consumption of packaging materials is overwhelming. We are actively researching opportunities to reduce waste and claims to a minimum. E-commerce is a major driver in packaging development as its ability to withstand transport and handling has become one of the main evaluation criteria here.

A company like ours relies heavily on its workforce and we are very committed to developing our employees and supporting the local communities around us. Our commitment is visible in our attention towards employee training and taking on apprentices. For our local community, we have also taken on sponsorships, thus we sponsor Horn Fårvæg Football Club as well as "Lykkeliga" team in Kjellerup Handball Club.

Our commitment to ESG is taken very seriously at Tvilum. Once we have reliable data to measure our impact, we are better equipped to take further targeted actions to make our contribution even greater. Work has already started.



Torben Porsholdt  
CEO, Tvilum Group

# DOING OUR FIRST CO<sub>2</sub>e MAPPING – LEARNINGS TO SHARE

When we started taking a systematic approach to sustainability in Tvilum, we focused on CO<sub>2</sub>e emissions. Diving into this topic, we quickly realized there was no easy solution. Seeking advice from people more experienced in the topic, one advice kept reoccurring: “Just get started”.

## Committing to data driven ESG

We soon acknowledged that relevant high-quality data is the only thing that can provide proper insight into our performance and document our progress (or deterioration) in steering our CO<sub>2</sub>e emissions. A data-driven approach will provide unique knowledge that we believe can accelerate the sustainable operations across the entire value chain.

In the past year we have expanded our ESG team to strengthen our data-driven approach. During autumn 2021 we made a commitment to SBTi (Science Based Target initiative) to reduce emission and help keep the global temperature rise below 1.5 °C.

In order to ensure we stay on track, we have improved our accounting practices and aligned them with Green House Gas (GHG) protocol. To safeguard these new practices, we are in the process of purchasing a dedicated system to collect, verify and calculate our data.

## 2020 restated

While we truly made our best effort with the 2020 scope 1 and 2 data mapping, we have come to the realization, that it did not fully reflect reality. It was not aligned with the GHG protocol. For this reason we have restated our 2020 figures, which can be found in this report. This is also the reason why we are not following up on last year's measure of transport between sites, as the data is simply too unreliable. We have gained some insights during 2021 and must acknowledge all new initiatives can be difficult to launch. Regardless of this, starting from 2021 our CO<sub>2</sub>e emission data will be valid, following the GHG protocol accounting standards.

## Improving data quality

While this all sounds straightforward, the road to verifiable data is long. First indications of the distribution of emission can be based on expenditure, like the very rough prediction illustrated to the right. Using such screenings, we are able to prioritize where to focus our efforts. Since we have large quantities of data in all scope 3 categories, there is a great effort ahead of us in verifying existing data and collecting new, relevant data. This will be both data we can measure ourselves, but also data we have to collect from our suppliers. This, in turn, calls for new ways of working with our suppliers.

## First scope 3 insights

While the data collection is ongoing, we are now able to start addressing our first insights. One of the first areas of scope 3 we have mapped is waste from our own operations and the CO<sub>2</sub>e emissions from their treatment.

In our US operation, we learned that until now we have been sending 100% of the waste to the landfill. These practices will lead us to investigate alternative solutions as we know our waste is easily recyclable. In our Danish operation we can see a slight increase in the amount of waste being sent to the landfill compared to 2020 in absolute numbers. A positive learning is that our Polish operation is recycling 100% of their waste.

## Moving forward

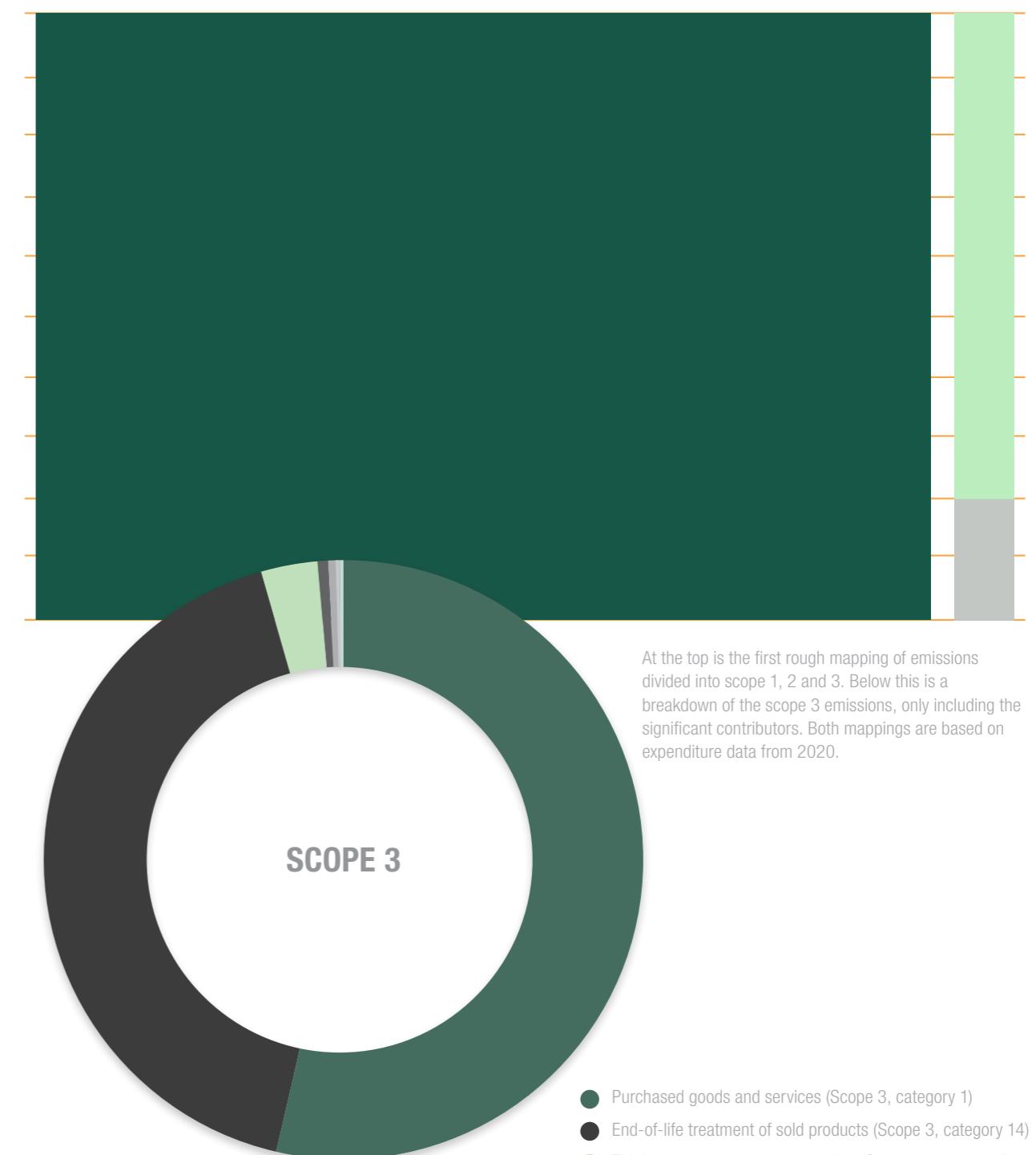
In 2021 we focused on calculating the emission figures closely related to all employees day-to-day work. Scope 1, 2 and 3, category 5 waste figures are therefore highlighted in this report.

In 2022 we will collect data for the categories in scope 3, which we, in the screening of all Tvilums activities, have identified as material and contributing to significant emissions. This will allow us to formally submit our GHG accounting to SBTi and set a verifiable target which is in line with the latest scientific practices.

Compared to 2021 we are now in a better place to make fact-based decisions and we have identified opportunities on which to act. We will monitor our progress monthly as it enables us to adjust the business in due time if any deviations are identified in the data we collect.

Looking back, we did not know what we were headed for when we started talking about CO<sub>2</sub>e and we are still just in the very beginning of our journey. While the initial interest in some kind of CO<sub>2</sub>e emission certification scheme evolved into a 360 degree ESG program, we still see our commitment to reduce CO<sub>2</sub>e emission as the single most urgent challenge.

## TVILUM CO<sub>2</sub>e SCREENING



At the top is the first rough mapping of emissions divided into scope 1, 2 and 3. Below this is a breakdown of the scope 3 emissions, only including the significant contributors. Both mappings are based on expenditure data from 2020.

- Purchased goods and services (Scope 3, category 1)
- End-of-life treatment of sold products (Scope 3, category 14)
- Third party upstream transportation (Scope 3, category 4)
- Fuel and energy-related activities (Scope 3, category 3)
- Employee commuting (Scope 3, category 7)
- Business travel (Scope 3, category 6)
- Waste generated in operations (Scope 3, category 5)



# HANDLING OPPOSING NEEDS IN PACKAGING DEVELOPMENT

It is a natural part of being a flat pack furniture producer that packaging is an essential part of the product. It is also a part of the product that currently receives an unprecedented amount of attention. The attention focused on packaging presents two apparently opposing needs. One that points in the direction of developing the packaging to be bigger and more material consuming – to suit the needs of growing e-commerce business – and one that points in the direction of downsizing the packaging – to reduced the negative impact of the products on sustainability.

Being ambitious about both customer experience and sustainability means one requirement cannot be allowed to overrule the other. By looking at the e-commerce claim rates one quickly realizes that there lies a huge sustainability reward in reducing those as well, the majority of the goods damaged in transport becomes waste.

## E-commerce sets different requirements for packaging

With a growing part of our products being sold online, requirements for the packaging are increasing. Packages must be able to withstand the handling of the carrier who, typically singlehandedly, has to bring the heavy boxes in and out of the delivery truck without a lot of equipment. The effect of this potentially rough handling is seen in claim rates, when (rightfully) unsatisfied end-consumers receives broken boxes/furniture parts at their door step.

Making the boxes withstand rough treatment is not easy, and realising we were in a trial and error process made us invest in equipment for testing the packaging at our own facility back in 2019. With this we are able to do drop-testing of the boxes according to internationally acknowledged standards. Dropping is by far the biggest hazard for flat pack furniture made of particleboard.

With this new tool we can test and benchmark our packaging performance to international packaging test standards. The typical outcome is more material added to the boxes; more expanded polystyrene (EPS), thicker cardboard or even add an additional layer of cardboard, for the products that were not originally designed for the rough e-commerce transport environment. In some cases we have acknowledged certain products are ill-suited for parcel delivery and have started looking at the construction of the furniture, to make the individual components smaller, and thus better subjects for packaging.

While we have gathered a lot of experience and expertise based on the numerous tests, we have also learned that a test environment may not always simulate real-life conditions. Therefore, we are monitoring the claims data closely, in order to understand the root cause of transport-related claims, while concurrently evaluating the effect of our efforts in improving the packaging.

## Reducing fossil based materials in packaging

EPS is a very efficient material to use in packaging. It provides equal shock absorption from all directions, and the memory-effect allows it more or less to go back to its original shape after impact, making it an excellent choice for packaging protection. However the material is fossil based, does not easily break down in nature and even though it is possible to recycle, the collection of EPS from household waste is not

very well developed. Therefore we set out to replace EPS with the paper-based product honeycomb. Honeycomb has the advantage of being able to be recycled together with cardboard but also the disadvantage of not having the same impact resistance as EPS.

In order to understand honeycomb as a packaging material, we compared it to EPS. We found that while honeycomb is in fact stronger, in terms of compression strength, it does not have the same impact resistance. EPS will more or less bounce back into its original shape while honeycomb cells will collapse on impact.

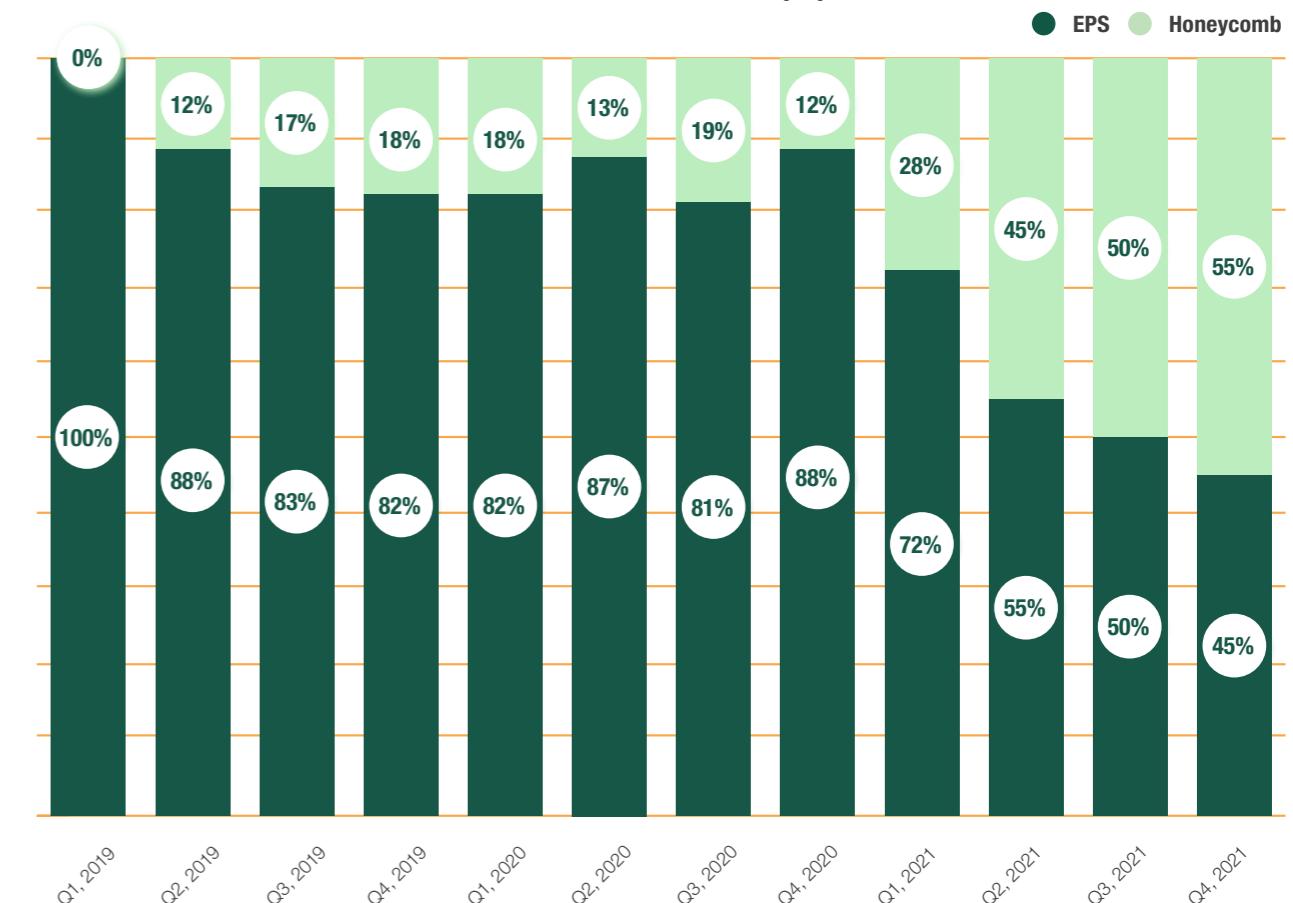
## The solution for the future

While we wish to proceed in our journey of converting to a paper-based packaging protection material, we know that the process is very resource demanding, as it requires individual packaging test, analysis and solutions.

We need to make sure that the shift to a paper-based packaging solution does not come at the cost of increasing claim rates even further.

One thing is certain – packaging is, and will continue to be, a very hot topic for Tvilum.

PURCHASED VOLUME OF HONEYCOMB AND EPS (%)



# THE 10 PRINCIPLES OF THE UNITED NATIONS GLOBAL COMPACT

We are a signatory of the United Nations Global Compact (UNGC) and support all ten principles. This report is our annual COP report (Communication on Progress) showing how we support the UNGC principles.

During 2021 several activities were directly related to the principles of UNGC, including:

Our activities	Relation to the 10 principles
<b>Restarting whistleblower scheme</b> We have reconstructed our whistleblower scheme and reintroduced it in the organization. Being governed by an external partner everyone should feel sure to report any wrongdoing observed. The scheme is 84 % implemented. We expect implementation to be finished in 2022.	Having a functional whistleblower scheme taps in to all principles relating to Human rights, Labour and Anti-corruption.
<b>Renewing Code of Conduct</b> Our existing Code of Conduct was heavy reading, making it hard for us to use both internally and amongst suppliers. In 2021 we have rewritten the Code of Conduct to make it easy to understand our requirements. The content is approved by internal stakeholders, and the implementation will start in 2022.	The Code of Conduct addresses all ten principles of UNGC towards our first tier suppliers, and obligates them to pass it on in their supply chain.
<b>SBTi commitment</b> A major milestone for our environmental work in 2021 was the commitment to the Science Based Targets initiative 1,5 °C trajectory. We are working on establishing our CO <sub>2</sub> e baseline, to be able to set a target within the 24 months deadline.	Working with the CO <sub>2</sub> e emission relates directly to principles 7 and 8. When we start looking at solutions to reduce our emission we will hopefully be able to contribute to principle 9 as well.
<b>Introducing FSC as an requirement for more materials</b> Having produced all furniture under FSC certification since 2019, the time was ripe for also introducing FSC requirements on packaging materials in 2021. This ensures that in 2022 a larger portion of the raw materials purchased will be FSC or other controlled sources.	There are many benefits to buying FSC certified materials. It has a direct relation to principle 8. But with the requirements set by FSC towards certified companies and forests its related to every UNGC principle.
<b>Paying more attention to recycled materials</b> Starting to systematically record to what degree our raw materials are produced from recycled sources has made us realize that we are not that far of being able to produce furniture entirely of recycled materials. In 2022 we will further investigate our options for utilizing recycled materials.	By focusing on recycled materials we are contributing to principle 8 and 9.



## HUMAN RIGHTS

### Principle 1:

Businesses should support and respect the protection of internationally proclaimed human rights; and

### Principle 2:

Make sure that they are not complicit in human rights issues

## LABOUR

### Principle 3:

Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining

### Principle 4:

The elimination of all forms of forced and compulsory labour

### Principle 5:

The effective abolition of child labour, and

### Principle 6:

The elimination of discrimination in respect of employment and occupation

## ENVIRONMENT

### Principle 7:

Businesses should support a precautionary approach to environmental challenges;

### Principle 8:

Undertake initiatives to promote greater environmental responsibility; and

### Principle 9:

Encourage the development and diffusion of environmentally friendly technologies

## ANTI-CORRUPTION

### Principle 10:

Businesses should work against corruption in all forms, including extortion and bribery.

# SUPPORTING LOCAL SPORT

We want to support local initiatives in the communities we operate in. It is our way of giving back to the society that supports us in reaching our ambitions. Local initiatives based on voluntary work are favored for our sponsorships.

We have been sponsors of the local football club, Horn Färvang IF since 2018, and since April 2021 we have been sponsors for a team in Kjellerup handball club. But not just any team.

The club in Kjellerup is involved in the activities of "Lykkeliga" (Happiness Liga) – a program with a goal to develop a national network of handball teams for developmentally disabled

children generally aged 6-15 years. However, Kjellerup Handball Club has members between the ages of 5-27. The project aims to activate more than 300 developmentally disabled children on a minimum of 15 teams. With our contribution the handball club was able to purchase brand new uniforms for the entire team, which made the kids especially happy.

Ann Kirkegaard, coach and chairman of the club says: "We are happy about your sponsorship to the club and the team. Your support is valued, and it makes us happy to be able to order the team matching uniforms without charging extra from parents."



# DEVELOPING OUR FUTURE WORKFORCE

Having employees with the right competences is a necessity for keeping a healthy business. At Tvilum this is especially true, and therefore we have a proud tradition of taking on apprentices and training them on the job. While employed at Tvilum they are taught the necessary skills at the workplace combined with a program of classroom training. Graduates of this vocational education program will receive a diploma upon completion to certify that they are skilled workers in their trade.

One of the apprentices is Mathias who started in the prototype workshop in April 2021, after having finished the introductory course at school. Mathias was 25 years old at the time and had already finished high school and worked as a pedagogical assistant before starting his education as a wood machinist. "I knew I would like to work with furniture, but also that I wanted a work day with a lot of variation" Mathias says; "when

I heard about the job at the workshop at Tvilum, I could tell it sounded just right". Mathias will finish his education in 2024, and plans to stay with Tvilum.

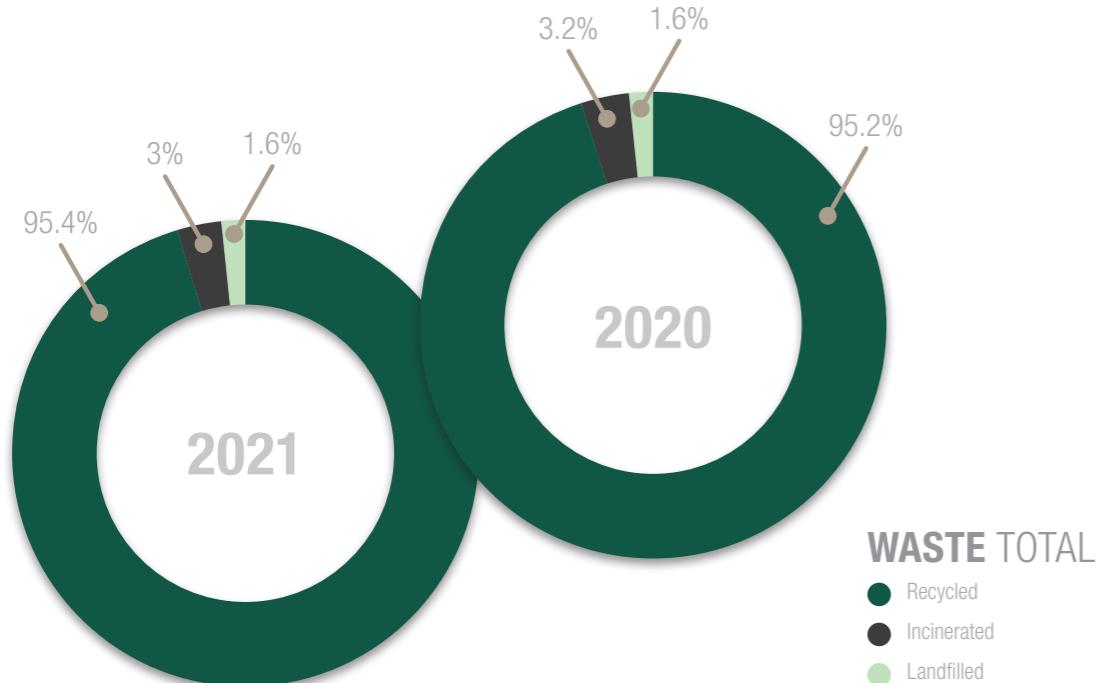
During the last couple of years Tvilum have had an increase in the number of apprentices, and at the moment there are 12 active apprentices. Some are already employees at Tvilum when they begin their apprenticeship, while others, like Mathias, are new to Tvilum.

According to Rikke Bentzen, HR Business Partner, taking on apprentices is a benefit to everyone: "Skilled employees are the foundation for any companies' success. We are happy to see that our people show initiative and will to develop and grow. Developing existing employees is always the favored way of building competence for the workplace of the future. This is benefiting both the employee as well as the company."

# ESG DATA

## ENVIRONMENTAL DATA

	2020	2021	Commentary
Scope 1 CO <sub>2</sub> e emission (tonnes)	528.4	508.6	3 % reduction
Scope 2 CO <sub>2</sub> e emission (tonnes) - Location based - Market based	5139.9 9180.2	5436.6 9749.7	Change reflects grid energy mix and increase in energy consumption, since no active changes were made regarding energy sources
CO <sub>2</sub> e emission from waste generated in own operations (scope 3, cat. 5)	445.4	393.2	12 % reduction
Electricity consumption (MWh)	20,077.7	21,411.8	6.6 % increase
% of kWh consumption under ISO 50001 certification	73.4	99.1	All production facilities are certified. Sales offices and warehouses remain to be certified
kWh power usage per colli	3.0	3.1	Production planning to account for fluctuations in the market has affected energy efficiency of production
% of purchased particleboard that goes to waste (incineration)	16	14	12 % reduction
% of total spend on wood that is FSC certified	87.8	87.8	
% of total spend on packaging materials that are FSC certified	19	46	FSC requirement was introduced on materials for consumer packaging



## SOCIAL DATA

	2020	2021	Commentary
Number of employees (FTE)	873	895	
Number of work related accidents with lost time	27	32	Analysis of accident statistics shows that accidents are related to (low) employee seniority, ergonomics and behavior, and action plans are made to address this
Number of days off due to work-related accidents	232	274	
Number of near-misses reported	249	368	Increase in number of near-misses and observations is the result of a strengthened effort to have all incidents reported
Number of observations reported	713	949	
Employee turnover ratio %	10.3	20	Increase in turnover ratio is seen in all companies, but is especially high in US
Sickness absence % (measured in DK)	3.39	4.86	Increase in sickness absence is affected by Covid 19, due to sickness or precautionary isolation
% of employees being performance assessed	84	86	Hourly paid employees in Poland are still not performance assessed
Women in non executive board %	0 of 5	0 of 5	There has been no changes in composition of board or management. Target for 1 female board member by 2025 still stands
Women in senior management %	2 of 7	2 of 7	

## GOVERNANCE DATA

	2020	2021	Commentary
Number of fees and fines imposed to any part of Tvilum Group whether paid or not	0	0	
Value in DKK of fees and fines imposed to any part of Tvilum Group whether paid or not	0	0	
% of employees being trained in Tvilum whistleblower scheme	Not reported	87	New whistleblower scheme was introduced in 2021. Employees in Poland has not received training yet
Number of written complaints received	0	0	



# REPORTING PRINCIPLES

## Governing ESG

Our ESG efforts are signed off and approved by the Tvilum Supervisory Board. The strategic prioritization, ESG policies, investments and resource allocation, and KPI follow up are coordinated by our ESG board.

## Scope

This report covers the reporting period of January 1<sup>st</sup> to December 31<sup>st</sup> 2021.

The focus in this report is the relevant ESG (Environmental, Social and Governance) areas for Tvilum A/S. It is a supplement to our annual report which for 2021 still is our official report for compliance with The Danish Financial Statements Act section 99a and 99b.

## Boundaries

This report covers all majority owned subsidiaries i.e. companies, that Tvilum Group directly or indirectly have owned and controlled more than 50 % of the voting rights or that it otherwise controlled during the entire reporting period: These companies are included:

- Tvilum A/S
- Tvilum LLC warehouse
- Tvilum Poland Sp. Z o.o.

## Materiality assessment

Our ESG strategy is based on a materiality assessment conducted in 2020, based on internal and external data and stakeholders. The graphical overview of the outcome can be found on [Tvilum.com](http://Tvilum.com).

## METHODOLOGY

Indicator	Factor	Comment	Reference	Publication
Scope 1 emissions	Fossil and biomass fuels Refrigerants Biomass		UK Department for Environment, Food and Rural Affairs (DEFRA), 2021	UK government GHG conversion factors for company reporting
Scope 2 emissions	Carbon emissions from power purchased	In Denmark	EnerginetDK, 2020	General deklaration og Miljødeklaration (Generic declaration and environmental declaration)
Scope 2 emissions	Carbon emissions from power purchased	In Poland	Association of Issuing Bodies (AIB), 2020	European Residual Mixes
Scope 2 emissions	Carbon emissions from power purchased	In USA		
Scope 3 emissions	Carbon emissions from waste generated in own operations	All countries	UK Department for Environment, Food and Rural Affairs (DEFRA), 2021	UK government GHG conversion factors for company reporting

# tvilum

**Tvilum A/S**  
Egon Kristiansens Allé 2  
8882 Faarvang  
Denmark

Phone +45 8757 3600  
E-mail [tvilum@tvilum.com](mailto:tvilum@tvilum.com)  
[www.tvilum.com](http://www.tvilum.com)