

**Incada**

**Carbon Footprint & Environmental  
Declaration 2024**

**HOLMEN**

# Carbon Footprint

Company	Holmen
Site	Workington Mill
Product	Incada family
Period	2023-01-01 – 2023-12-31

## Carbon Footprint Framework

The Carbon Footprint is calculated according to the guidelines given in the CEPI (Confederation of European Paper Industry) publication “Framework for the development of carbon footprints for paper and board products”. The framework is aligned with the GHG Protocol standard and is available at [www.cepi.org](http://www.cepi.org). The carbon footprint is updated annually and based on figures from the previous year.

## Fossil Carbon emissions

	CO <sub>2</sub> e (kg/tonne board)	Percentage of total
Greenhouse emission from paperboard manufacturing facilities	221	47%
Greenhouse emission associated with purchased electricity	16	3%
Greenhouse emission from producing the wood fibres	13	3%
Greenhouse emission from producing other raw materials	192	41%
Greenhouse emission associated with transportation	29	6%
<b>Carbon Footprint SUM</b>	<b>471</b>	<b>100%</b>

## Biogenic Carbon uptake and storage

Annual carbon storage in Holmen forest	1070 kg CO <sub>2</sub> /tonne board
Carbon stored in paperboard	1500 kg CO <sub>2</sub> /tonne board

## Avoided Greenhouse gas emissions

Avoided emissions from sold renewable electricity	137 kg CO <sub>2</sub> e/tonne board
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## Explanations and comments to Carbon Footprint calculations

**Greenhouse gas emission from paperboard manufacturing facilities**  
Fossil CO<sub>2</sub>e emissions from combustion of fossil fuels during pulp and paperboard production.

**Greenhouse gas emission associated with purchased electricity**  
Fossil CO<sub>2</sub>e emissions associated with purchased electricity.

**Greenhouse gas emission from producing the wood fibres**  
Emissions from forest management and harvesting.

**Greenhouse gas emission from producing other raw materials**  
Fossil CO<sub>2</sub>e emissions from production of non-wood based raw materials and fuels.

**Greenhouse gas emission - general**  
Emissions outside of own operations consist of a mix of primary data and industry average data and are therefore subject to a degree of uncertainty. We strive to use as much primary data in our calculations as possible and continuously work with our suppliers to secure robust and accurate data. As such, emissions from the value chain will change over time as primary data replaces industry average data.

## Explanations and comments to Biogenic Carbon uptake and storage

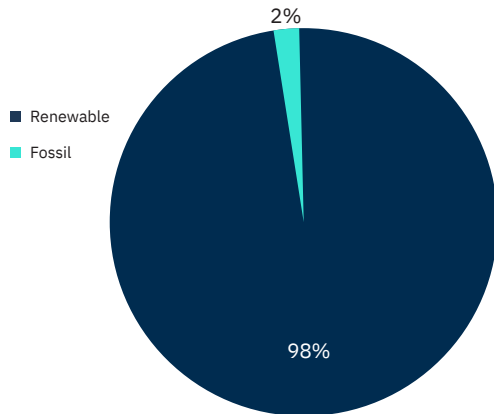
**Annual carbon storage in Holmen forest**  
Growing forests capture carbon. The quoted figure is calculated by dividing the net CO<sub>2</sub> capture in Holmen’s own forests by the yearly tonnage produced of all Holmen products.

**Carbon stored in paperboard**  
Biogenic carbon stored in the products.

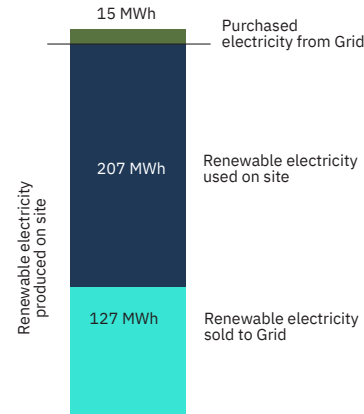
**Avoided Greenhouse gas emissions**  
Surplus electricity from renewable sources exported to the UK National Grid. Avoided emissions occur when this electricity replaces fossil based electricity, thereby lowering the total fossil emissions of the UK electricity mix.

# Energy

Sources for Energy production at Workington Mill



Electricity balance at Workington Mill



**Avoided emissions based on GHG Project Protocol**  
 Workington Mill sold 127 MWh to the UK National Grid resulting in 25 000 tonnes of avoided CO<sub>2</sub>e emissions during 2023.

# GHG Protocol Reporting

**GHG Protocol reporting – site emissions**

Scope 1: Direct GHG emissions
Scope 2: Indirect GHG emissions from electricity
Scope 3: Other indirect GHG emissions from value chain

CO <sub>2</sub> e '000 tonne	Percentage of total
6,5	7%
3,1	3%
80,3	89%
<b>89,9</b>	<b>100%</b>

**Greenhouse Gas emissions**

Sustainability information is reported in accordance with the Global Reporting Directive's GRI Standards 2021 in Holmen's annual report. Workington site emissions are a part of the Holmen sustainability information that is audited by PwC.

Scope 3 emissions consist of a mix of primary data and industry average data, and are therefore subject to a greater degree of uncertainty. We strive to use as much primary data in our calculations as possible and continuously work with our suppliers to secure robust and accurate data. As such, Scope 3 emissions will change over time as primary data replaces industry average data.

## Explanations and comments to Energy reporting

The Workington mill is self-sufficient in renewable steam and electricity, supplied from the dedicated on-site biomass CHP. Additional energy is used for drying on the boardmachine. On balance the mill net export of renewable electricity to the UK National Grid was 112 GWh.

The emission intensity for the on-site produced renewable electricity is 11 kg CO<sub>2</sub>e/MWh. The corresponding emission intensity for electricity from UK National Grid is 207 Kg CO<sub>2</sub>e/MWh.

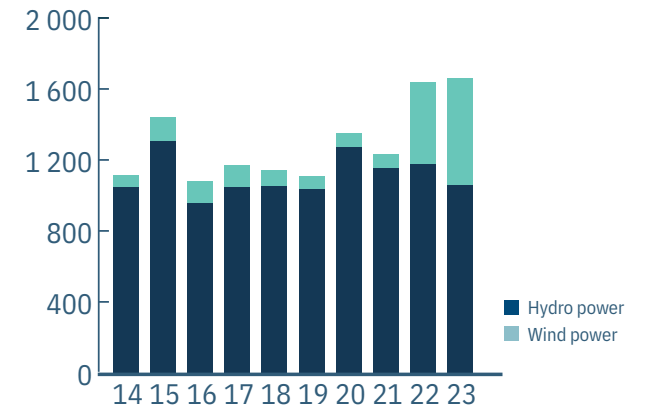
## Explanations and comments to GHG Protocol reporting

Scope 1: Calculated in accordance with the GHG Protocol Corporate Standard and includes the six greenhouse gases covered by the Kyoto Protocol. Our Scope 1 emissions are reported into Swedish authorities.

Scope 2: Calculated in line with market-based methodology.

Scope 3: Calculated using primary data when available and industry averages when needed from data bases like Sphera/GaBi and EcoInvent.

Holmen Group deliveries of hydro and wind power, GWh



Holmens deliveries of energy from own hydro power and wind power contributes to a great extent with renewable electricity to the Swedish Grid.

# Environmental Declaration

Product	Incada, 200-350 gm <sup>2</sup>
Site and company	Workington Mill, Holmen
Paper type	Folding boxboard, fresh fibres
Period	2023-01-01 – 2023-12-31

## Product composition

Wood fibre pulp	60%-90% of which 100% produced at site
Chemical pulp	15%-25% of which 0% produced at site
Coating	5%-15%

## Environmental management

Certified environmental management system	ISO 14001:2015 LRQA 10420770 since 2003
Certified energy management system	ISO 50001:2018 LRQA 10420770 since 2015
Environmental licence no.	BJ7590

## Handling after use of the product and its packaging

All our products are intrinsically recyclable and biodegradable. Products can be recoverable as a material or energy resource. For quantification regarding composting, tests should be made on the final packaging after the converting process (EN 13432:2000). The packaging of the product can be recoverable as a material or energy resources.

## Environmental load

Production site process water use, waste water discharges, atmospheric emissions and solid waste per tonne products (total environmental load of the production of pulp and board produced at the site divided by total production of board).

### Emissions to water

COD	42.2 kg/t
AOX	0 kg/t
Nitrogen	0.12 kg/t
Phosphorus	0.02 kg/t
Water use	39.3 m <sup>3</sup> /t

### Emissions to air

S (total)	0.03 kg/t
NO <sub>x</sub>	0.88 kg/t
CO <sub>2</sub> e (from fossil sources)	33.9 kg/t

### Waste to landfill

0.59 kg/t
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**Emissions to water** The Workington mill is situated on the UK's west coast. The mill's compliance with all the emission levels set by the UK authorities is monitored by the continuous measurement of discharge levels. Studies of the marine ecosystems around the mill are also made to ensure their balance is not disturbed.

**Process water discharge** The Workington mill is geographically located in an area of abundant water supply and there is no shortage of availability. Process water is recirculated and reused within the process a number of times before final discharge to the open sea. Process water is treated according to a standard agreed with the authorities

**COD** Chemical Oxygen Demand is a surrogate measurement of the amount of oxygen consumed in the environment resulting from the decomposition of organic compounds. The presence of wood extractives and carbohydrates resulting from the pulping process form the main contribution to COD levels. The UK licensing authorities set emissions based on COD levels that are suited to local conditions and the marine environment adjacent to the mill.

**AOX** These are adsorbable organic halogens produced during the pulp manufacturing process. High levels of AOX negatively affect marine organisms. The process used in the manufacture of mechanical pulp at Workington does not give rise to AOX.

**Nitrogen and phosphorus** Nitrogen and phosphorus are elements that when present in large amounts contribute to the overfertilisation (eutrophication) of marine environments.

**Emissions to air – S and NO<sub>x</sub>** These normally arise from combustion processes used in the production of energy. They contribute to eutrophication, acidification and the creation of ground-level ozone. All emissions are regulated and monitored by the UK licensing authorities.

**CO<sub>2</sub>e (from fossil sources)** Carbon dioxide is a naturally occurring gas but increasing emissions from fossil fuels are contributing to global climate change. This value indicates the emission of fossil CO<sub>2</sub> from the production of Incada. All energy used will be predominantly from renewable sources resulting in reduced CO<sub>2</sub>e emissions. This value should not be confused with the far broader concept of carbon footprint which encompasses much of the product's lifecycle.



# Wood supply and certifications

## Certifications

Mill's environmental certificates:	FSC® SA-COC-012971
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## Methods

Certification scheme	Method
FSC® Volume credit system	All FSC® certified deliveries contain 100 % certified fibre

## Wood supply

All the mechanical pulp used in the production of Incada is produced onsite from locally sourced UK grown spruce, with independent verification according to FSC. The wood raw material for the Incada product is sourced from forest lands which are replanted with trees to grow new forest. Therefore Incada manufacture doesn't contribute to any land use change or deforestation. Wood sourcing compliance

## Wood sourcing compliance

All fibre sourcing, including Due Diligence requirements, complies with the current EU Timber Regulations and the (Regulation EU No 995 /20 10 ). The EUTR is replaced by EU Deforestation regulation (Regulation EU No 2023/1115) which entered into force on June 29 2023 and will enter into application on December 30 2024.

Country of origin	%	Procurement region	Species	Forest owners	Certificates
United Kingdom	58	Northern England Scotland	Picea Sitchensis	Forest Commissions and private owners	SA-FM-COC-006972 SA-FM-COC-007002 SA-COC-012972 SA-COC-004821

## Pulp supply

All of the chemical pulp used in the production of Incada is manufactured from birch, pine and spruce supplied by our sister mill Iggesunds Bruk in Sweden and plantation eucalyptus from approved mills in Iberia.

## Pulp sourcing information, Workington 2023

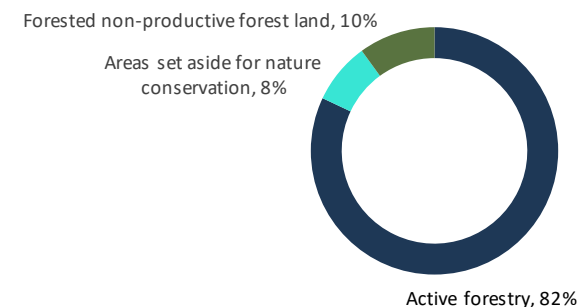
Country of origin	%	Procurement region	Species	Forest owners	Certificates
Spain	25	Navia	Eucalyptus	Private owners	SCS-COC-004865
Sweden	9	Central Sweden	Pinus sylvestris, Picea abies, Betula spp, Populus tremula	Own forest and private owners	TUEV-COC-000232
Brazil	6	Rio Grande do Sul	Eucalyptus	Private owners	IMA-COC/CW-005258
Chile	2	Bio Bio. VIII region	Eucalyptus	Private owners	NC-COC/CW-006571

## Sustainable forestry

Holmen's forest management practices are run with the aim of achieving high-volume and sustainable production of forest raw material. The forests are managed responsibly in a way that ensures the long-term survival of native plants and animals in the forest landscape and the protection of biodiversity. All wood is traceable back to its origin.

## Holmen's forests 2023

Total land acreage	13 050 km <sup>2</sup>
Total forest land acreage*	11 610 km <sup>2</sup>
of which nature conservation areas	2 070 km <sup>2</sup>
Productive forest land**	10 460 km <sup>2</sup>



## Contact information:

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lorna.casson@holmen.com

# Certificates and Endorsements



## CDP

Holmen has reported to the CDP Climate Program since 2007 and to the CDP Forest Program since 2013. The results show that we have a good strategy and management to mitigate negative impacts of climate change.

In the 2023 assessment, Holmen was rated A in the CDP Climate Program and was one of 30 companies to be rated A in the CDP Forest Program.

## EcoVadis

All Holmen's paperboard and paper mills have once more been awarded a Platinum rating by the international analysis company EcoVadis. EcoVadis assesses participating companies' performance with respect to the environment, sustainable purchasing, ethics, workers' rights and human rights. The Platinum rating confirms that Holmen is among the top 1% of companies examined.

## MSCI

ESG Ratings from MSCI ESG Research are designed to measure a company's resilience to financially material environmental, societal and governance (ESG) risks. MSCI's ESG Ratings provide a window into one facet of risk to financial performance. Holmen is ranked as a leader in the paper and forest products industry.

## SBTI

In 2021, Holmen's Group management set the target of reducing greenhouse gas emissions. Figures are compared with 2019 levels and the emissions targets are in line with the UN's climate goals under the Paris Agreement, as confirmed by the UN-backed organisation the Science Based Targets initiative (SBTI).

## The UN's Sustainable Development Goals

We have been building our experience for 400 years and we constantly work to find long-term solutions to current challenges. Thanks to the sustainable use of our forests' ecosystems, today we are able to operate a circular, renewable and bio-based business that benefits our customers, shareholders, employees and local communities. Our production, business and organisation contribute to the UN's Sustainable Development Goals and thus also to the 2030 Agenda.

## UN Global Compact

As members in UN Global Compact, Holmen annually reports on a "Communication on Progress" (COP) that describes how the work with Global Compact's principles for responsible business practice is progressing.

## GRI - Global Reporting Initiative

Holmen has opted to base its sustainability reporting on the reporting option Core in the guidelines for sustainability reporting issued by the Global Reporting Initiative (GRI). Holmen has appointed PwC to conduct a general review of the content in the Group's GRI reporting. The sustainability report is presented in Holmen's Annual report. A complete GRI register and auditors' report can be found on Holmen.com.

## Nasdaq ESG Transparency Partner

Holmen has been certified as a Nasdaq ESG Transparency Partner 2023. The certification is used by Nasdaq to signal engagement in market transparency and in raising environmental standards. The Nasdaq ESG Matrix includes data points from Environmental, Social, Corporate Governance as well as Future Sustainability Goals all of which Holmen considers in its operation.







**HOLMEN**

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