

INCADA

CARBON FOOTPRINT
& ENVIRONMENTAL
DECLARATION 2023

HOLMEN
IGGESUND

CARBON FOOTPRINT

Company	Holmen Iggesund Paperboard Ltd
Site	Workington Mill
Product	Incada family
Period	2022-01-01 – 2022-12-31

Carbon Footprint Framework

Holmen Iggesund Paperboard calculates the Carbon Footprint of its products based on the guidelines given in the publication "Framework for the development of carbon footprints for paper and board products".

The framework is available at www.cepi.org

The carbon footprint is updated annually and based on figures from the previous year.

Fossil Carbon emissions	CO ₂ (kg/tonne board)	Percentage of total	GHG protocol scope
Greenhouse emission from paperboard manufacturing facilities	128	34%	1
Greenhouse emission associated with purchased electricity	29	8%	2
Greenhouse emission from producing the wood fibres	14	4%	3
Greenhouse emission from producing other raw materials	184	49%	3
Greenhouse emission associated with transportation	18	5%	3
Carbon Footprint SUM	373	100%	

Biogenic Carbon uptake and storage

Annual carbon storage in Holmen forest	545 kg CO ₂ /tonne board
Carbon stored in paperboard	1500 kg CO ₂ /tonne board

Explanations and comments to Carbon Footprint calculations

Greenhouse emission from paperboard manufacturing facilities

Fossil CO₂ emissions from combustion of fossil fuels during pulp and paperboard production.

Greenhouse emission associated with purchased electricity

Fossil CO₂ emissions associated with purchased electricity.

Greenhouse emission from producing the wood fibres

Emissions from forest management and harvesting.

Greenhouse emission from producing other raw materials

Fossil CO₂ emissions from production of non-wood based raw materials and fuels.

Greenhouse emission associated with transportation

Emissions from transport of harvested wood and other raw materials. Transport to customer is not included as this varies strongly from case to case dependent on transport mode and distance. The emissions related to transport to customer can on request be calculated separately for specific cases.

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 CO₂ capture in Holmen's own Forests by yearly tonnage produced of all Holmen products.

Carbon stored in paperboard

Biogenic carbon stored in the products.



ENVIRONMENTAL DECLARATION

Product	Incada family, 200-350 gm ²
Site and company	Workington Mill and Holmen Iggesund Paperboard
Paper type	Folding box board, fresh fibre
Period	2022-01-01 – 2022-12-31

Product composition

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

Sourcing of energy

On site dedicated biomass fuelled Combined Heat and Power (CHP) Plant. Under normal circumstances the biomass CHP generates the full requirement of renewable electricity and the surplus is sold to the UK National Grid.

Renewable sources – 97,5% Fossil – 2,5%

Environmental load

Production site process water use, waste water discharges, atmospheric emissions and solid waste per tonne products in year 2022 (total environmental load of the production of pulp and board produced at the site divided with total production of board and market pulp).

Emissions to water

COD	44 kg/t
AOX	– kg/t
Nitrogen	0,14kg/t
Phosphorus	0,02 kg/t
Water use	37 m ³ /t

Emissions to air

S (total)	0,02 kg/t
NO _x	0,79 kg/t
CO ₂ (from fossil sources)	36 kg/t

Waste to landfill

26,4 kg/t

Explanations and comments to Carbon Footprint calculations

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. All 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_x 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.

CO₂ (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 CO₂ from the production of Incada. All energy used will be pre-dominantly from renewable sources resulting in reduced CO₂ 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

Wood traceability	FSC® SA-COC-012971
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Methods

Certification scheme	Method
FSC® Mix	All FSC certified deliveries contain 100 % certified fibre according to the volume credit system.

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 information, Workington 2022

Country of origin	%	Procurement region	Species	Forest owners	Certificates
United Kingdom	67,9	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 Iggesund's Bruk in Sweden and plantation eucalyptus from approved mills in Iberia.

Pulp sourcing information, Workington 2022

Country of origin	%	Procurement region	Species	Forest owners	Certificates
Spain	16,0	Navia	Eucalyptus	Private owners	SCS-COC/CW-004865
Sweden	12,9	Central Sweden	Pinus sylvestris, Picea abies, Betula spp, Populus tremula	Own forest and private owners	TUEV-COC/CW-000232
Portugal	2,9		Eucalyptus	Private owners	NC-COC/CW-014433
Brazil	<0,5	Rio Grande do Sul	Eucalyptus	Private owners	NC-COC/CW-006571

Environmental management

Environmental management	ISO14001:2015 LRQA 10420770 since 2003
Energy management	ISO 50001:2018 LRQA 10420770 since 2015
Environmental licence no.	BJ7590

Additional certifications

Incada is intrinsically biodegradable. For additional certifications like compostability and recyclability please contact your representative at Holmen Iggesund Paperboard.

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