

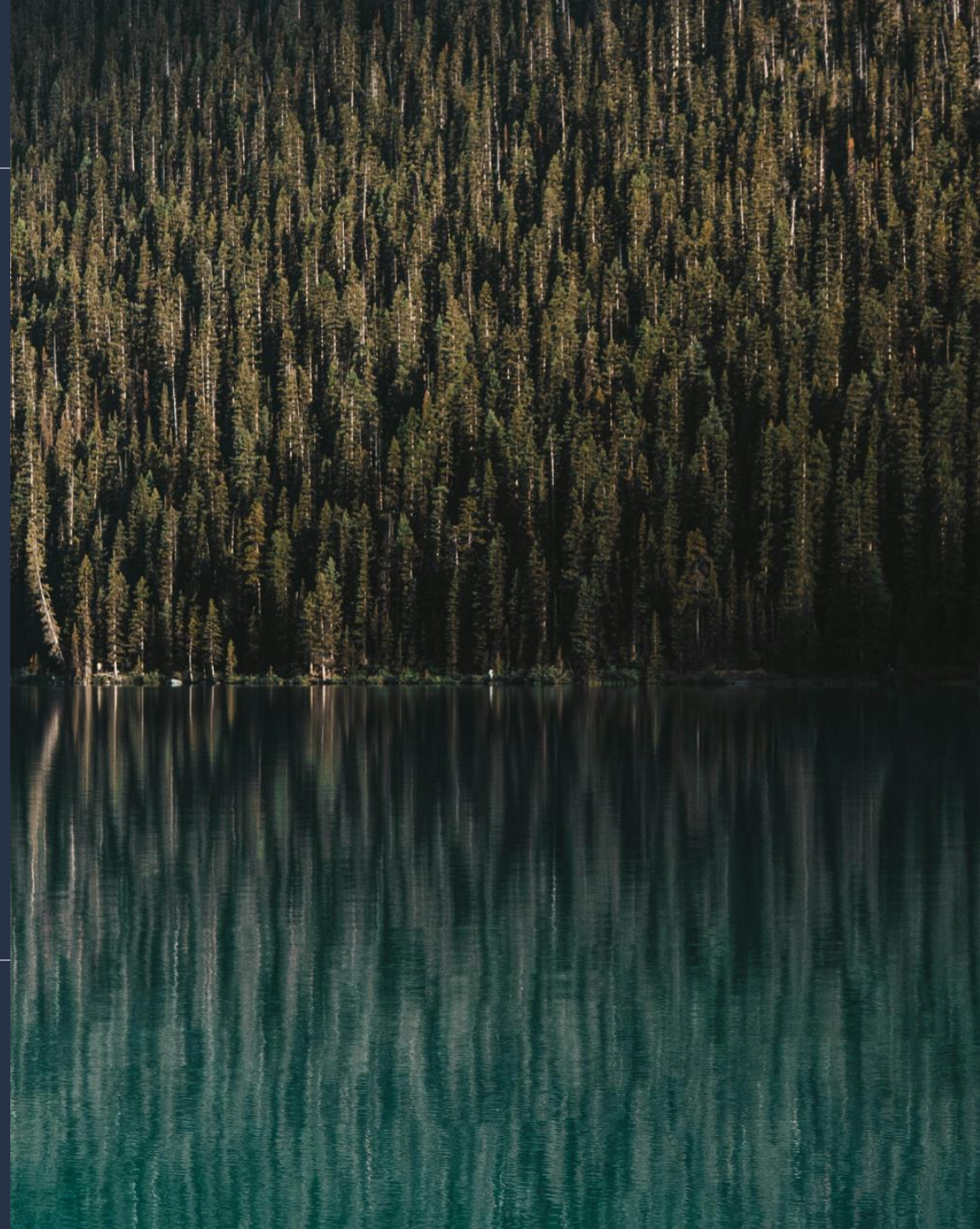
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Forest & Paper: A sector with tree-mendous potential

Walkthrough of Carbon4 Finance's latest publication

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Summary

1. Overall presentation of Carbon4 Finance

2. Overview of the sector

3. CIA Methodology for Forestry & Paper sector

4. Results

Summary

- ▶ **1. Overall presentation of Carbon4 Finance**

- 2. Overview of the Forestry & paper sector

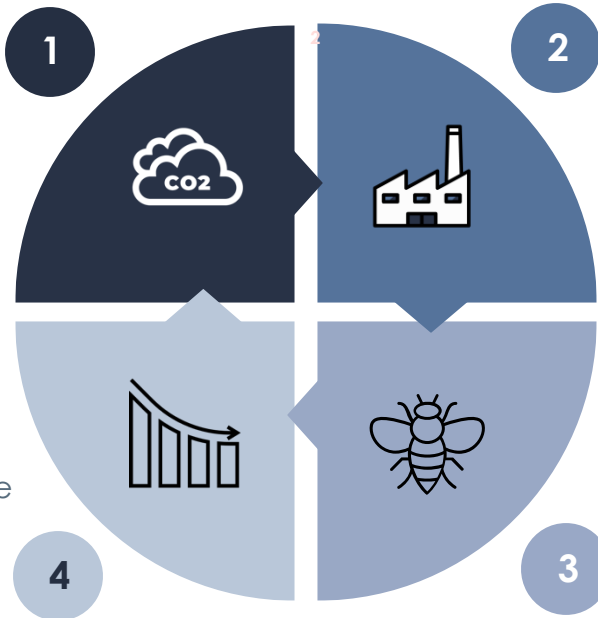
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Our services

Assessment of transition risks (CIA)

Carbon footprint
Scope 1, 2 & 3
Emission Savings
Climate scenario alignment



Web platform & Datafeed

Issuer Analysis
Portfolio performance

Assessment of physical risks (CRIS)

7 climate Hazards
3 IPCC Scenarios
2 time-horizons

Assessment of Biodiversity risks and Impacts (BIA-GBS™)

MSA.Km2
Scope 1, 2 & 3
10 Terrestrial and Aquatic pressures

Our approach



An innovative bottom-up technology



An international coverage (c. 125,000 instruments, corporate and sovereign)



25 analysts, each specialized in specific sector



A multi-sector approach
Listed and unlisted Assets

Climate



 **carbone4** | conseil

 carbon
impact
analytics

 climate
risk
impact
screening

Biodiversity



CDC BIODIVERSITÉ | 

 **GLOBAL
BIODIVERSITY
SCORE**

 biodiversity
impact
analytics

Our approach



Robust, scientific and
transparent methodologies

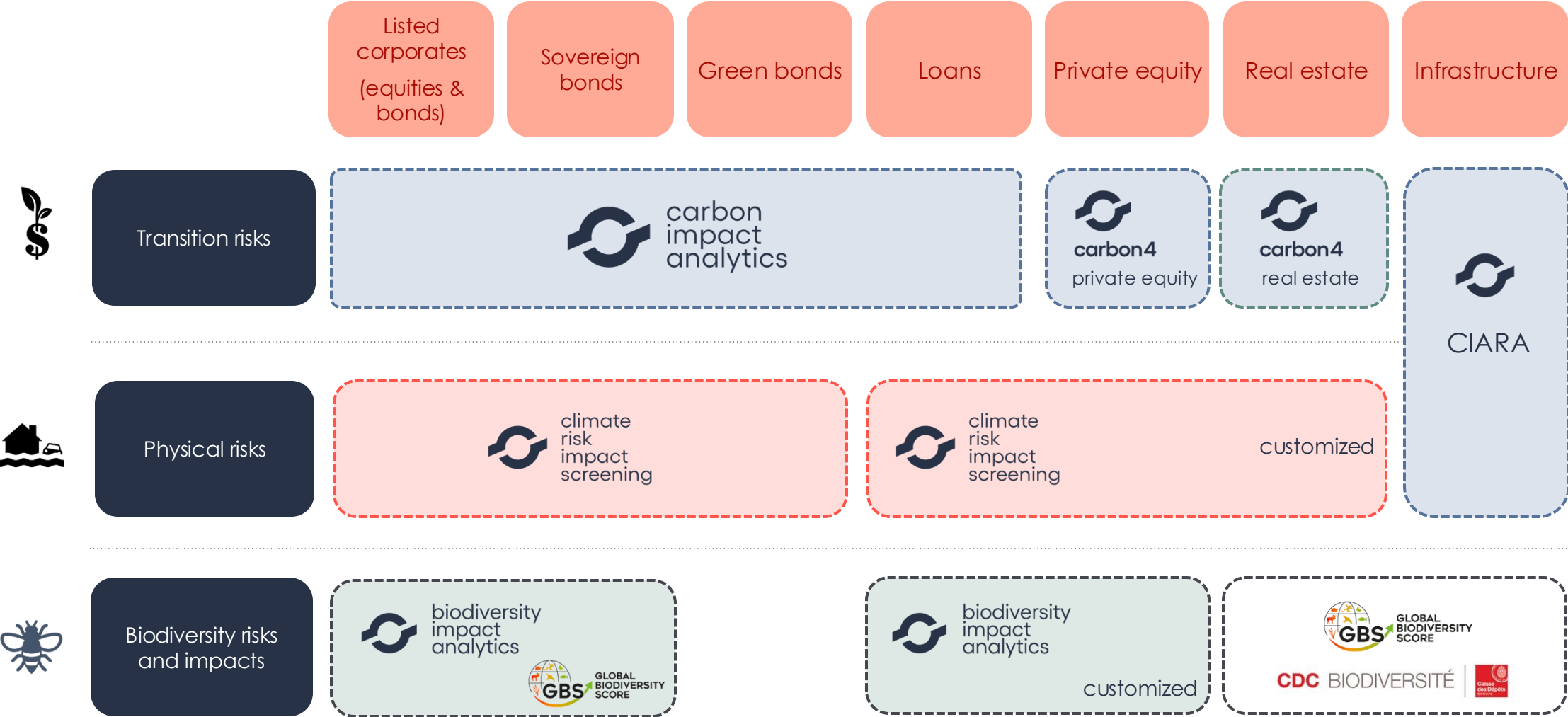


Support by methodological
experts and analysts



Customized and adapted to
Clients' needs

A comprehensive service offering with common methodological principles for all asset classes



Common methodological principles for all asset classes: bottom-up logic, measurement of Scope 3 emissions and saved emissions, qualitative forward-looking assessment, etc.

Carbon4 Finance

Carbon4 Finance, a pioneer in measuring the carbon impact of financial institutions

Securities portfolio



- ✓ Reporting requirements (TCFD-compliant, Article 29, SFDR)
- ✓ Transition and Physical risks
- ✓ Bottom-up data on 60 sectors (Equity, Sovereign, Green bonds)
- ✓ Additional sectoral data (energy, green/fossil shares, reserves, etc.)

Assets & Loan Book



- ✓ Carbon footprint of Loan & Credit Portfolios
- ✓ Implementation of climate score into credit process
- ✓ Exposure's assessment of central banks assets
- ✓ Research papers on climate risk impacts on financial value

Other collaborations



- ✓ Indices – Recast of Low Carbon 100, Euronext's low carbon index
- ✓ Fintech – positive impact financing and savings platforms
- ✓ Data integration into platforms
- ✓ Schools – conferences on the role of finance in climate mitigation, research paper

Climate data provider of the Eurosystem



- ✓ European Central Bank
- ✓ +20 Central Banks in Europe

Carbon4 Finance

BIA-GBSTTM, trusted to assess the biodiversity impact of investment portfolio

Securities portfolio



- ✓ Impact of an investment portfolio on biodiversity
- ✓ Communicate impacts on biodiversity
- ✓ Engagement with companies

Transparency & research



- ✓ Regulatory requirements (Article 29 French Energy & Climate Act)
- ✓ Research paper on biodiversity risk impacts on financial valuation
- ✓ Reporting

Summary

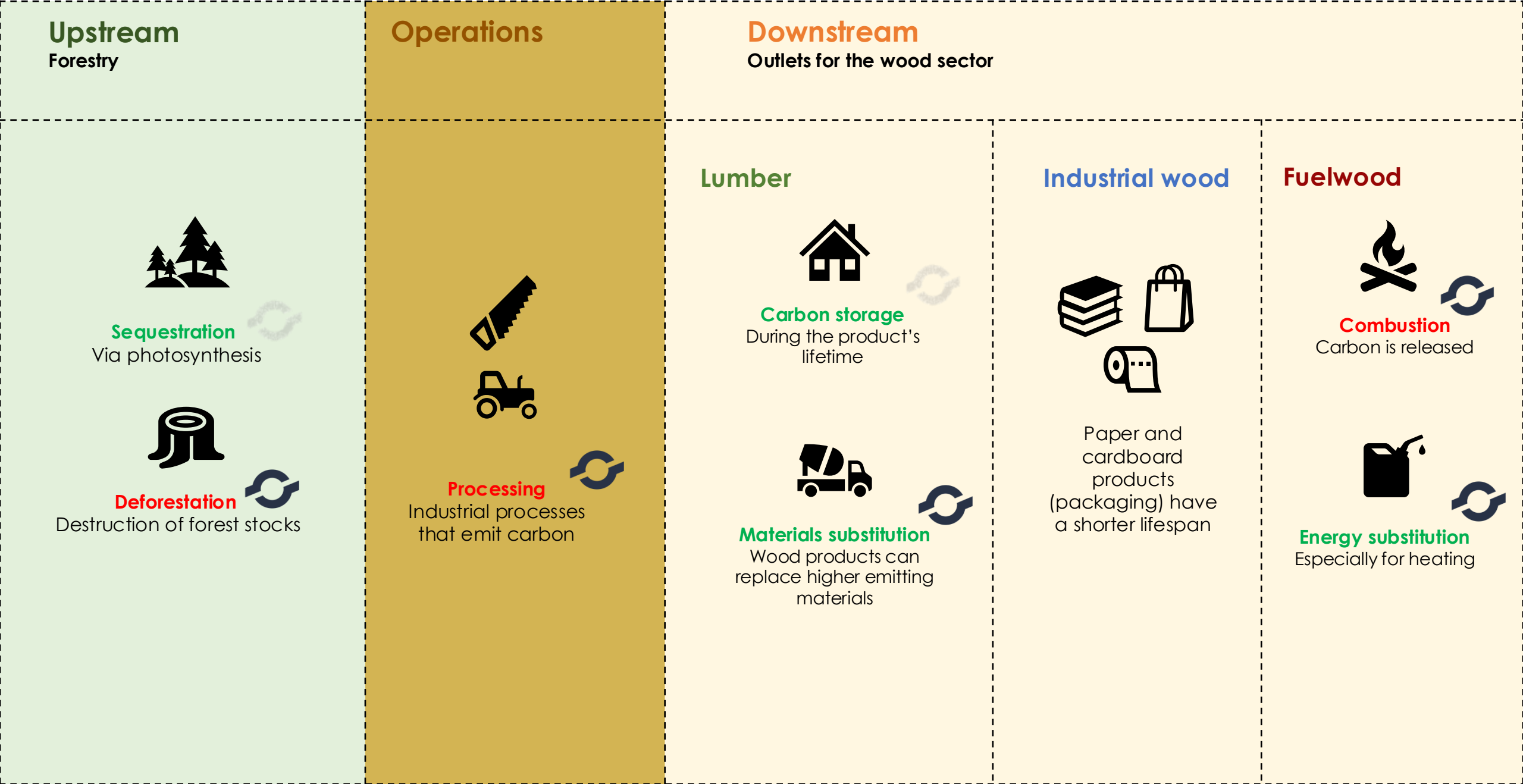
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Climate impacts for each step of the value chain



Upstream Forestry



Sequestration
Via photosynthesis



Deforestation
Destruction of forest stocks

Operations



Processing
Industrial processes that emit carbon

Downstream Outlets for the wood sector

Lumber



Carbon storage
During the product's lifetime



Materials substitution
Wood products can replace higher emitting materials

Industrial wood



Paper and cardboard products (packaging) have a shorter lifespan

Fuelwood



Combustion
Carbon is released



Energy substitution
Especially for heating

Transition risks for the Forestry & Paper sector



Policy

Risks

- New regulations limiting deforestation
→ *EU 2023 Deforestation law*
- New regulations to eliminate single-use packaging

Opportunities

- Promoting wood as a building material and energy source
→ *France RE2020 law*



Market

- Reduced availability and rising costs of certified sustainable raw materials
- Rising energy costs
- Consumer demands concerning deforestation and recycling

- Consumer preference for paper and cardboard packaging instead of plastic
- Choice of wood as a heat source for economic and climatic reasons



Reputation

- Environmental scandals linked to deforestation, poor forest management and deceptive practices

Decarbonation levers for the Forestry & Paper sector



Reducing energy consumption through operational efficiency



Quality and stringency of wood sourcing standards



Material sobriety through recycling and use of by-products



Choice of manufactured products

Summary

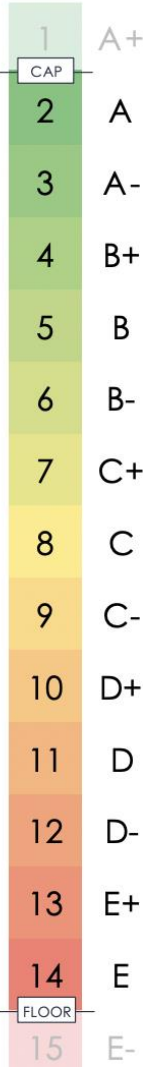
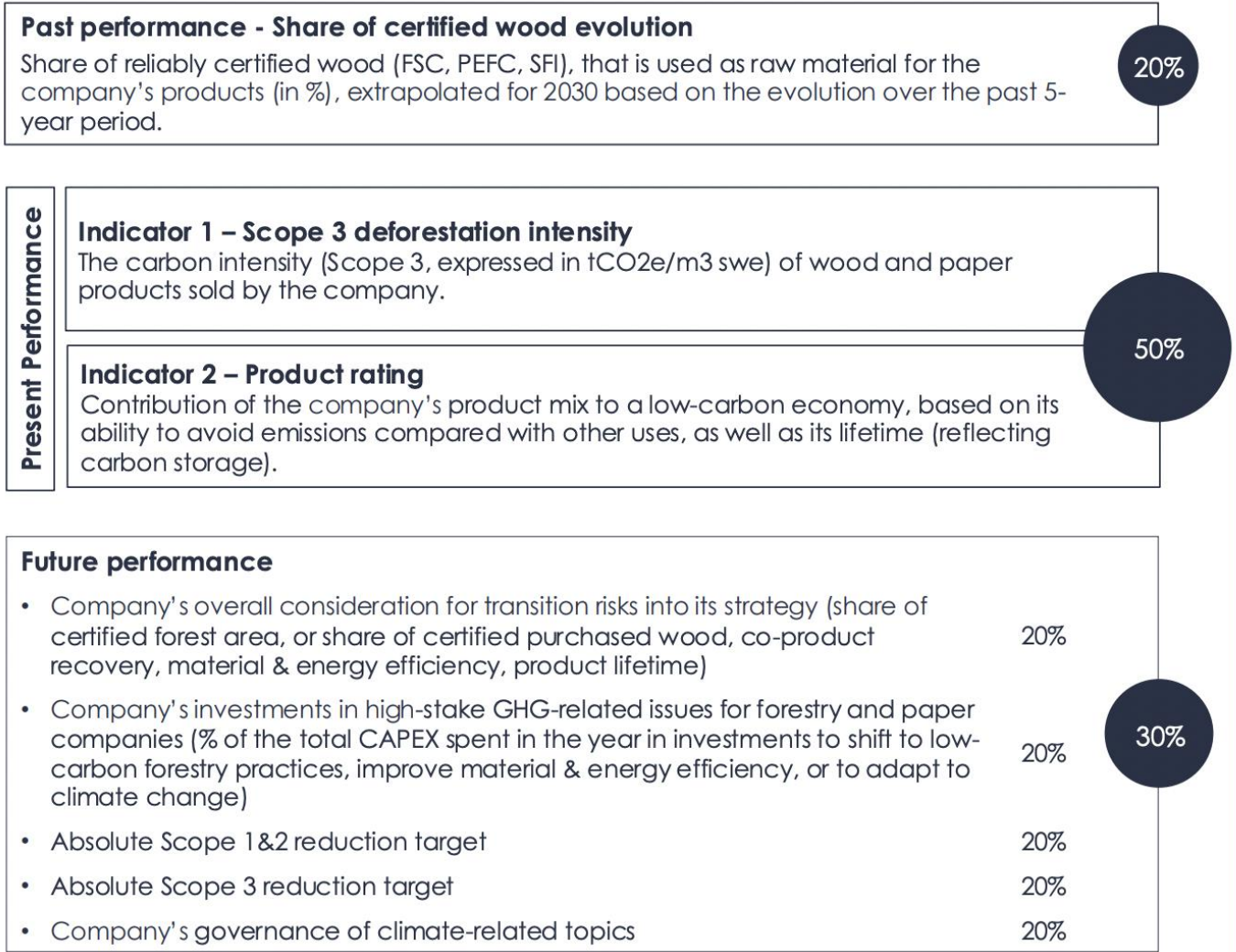
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Calculation of the CIA score

Sector-specific indicators

Weight

Sector rating



Calculation of the CIA score : focus on Scope 3 deforestation intensity

Calculation depends on two main factors :

Carbon intensity of company's wood supply

- Share of certified wood
- Quality of wood certification standard
- Geographical origin of the wood supply

Quantity of wood for company's product manufacturing

- Quantity and type of wood products manufactured
- Share of recycled materials

Calculation of the CIA score : focus on product rating

Each category of products is attributed a rating that depends on two factors :

Product's ability to store carbon
The proxy for this is the product category's average lifespan.

Product's ability to avoid emissions
Products that can avoid emissions are the ones that can be used in place of more emissive materials in construction and heating.

The categories considered are the following :

Round wood, undefined use	Sawn wood - Construction	Sawn wood - Packaging	Sawn wood - Furniture	Particle board	Plywood	Pulp & Paper	Cardboard	Wood pellets	Wood chips (industrial heat)
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Calculation of the CIA score : forward-looking performance

While some Forward-looking criteria are common to all CIA sectors, there are some issues specific to the Forestry & Paper sector

Energy

- Freight optimization,
- Process energy efficiency
- Renewable energies

Wood supply

- Transparency on certification and wood origin
- Share of wood certified and type of certification
- Elimination of wood supplied from high-risk countries

Circularity

- Use of recycled materials and byproducts
- Repairability and recyclability of products
- Steering business model towards longer lifespan products

Additionally, the forward-looking performance uses a sector specific scenario to assess the company's reduction targets : the SBTi's FLAG scenario.



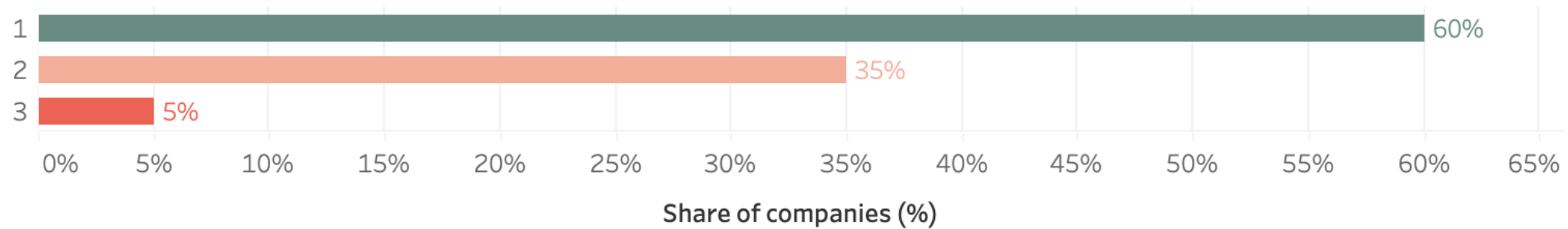
Forest, Land and Agriculture (FLAG)

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Transparency score



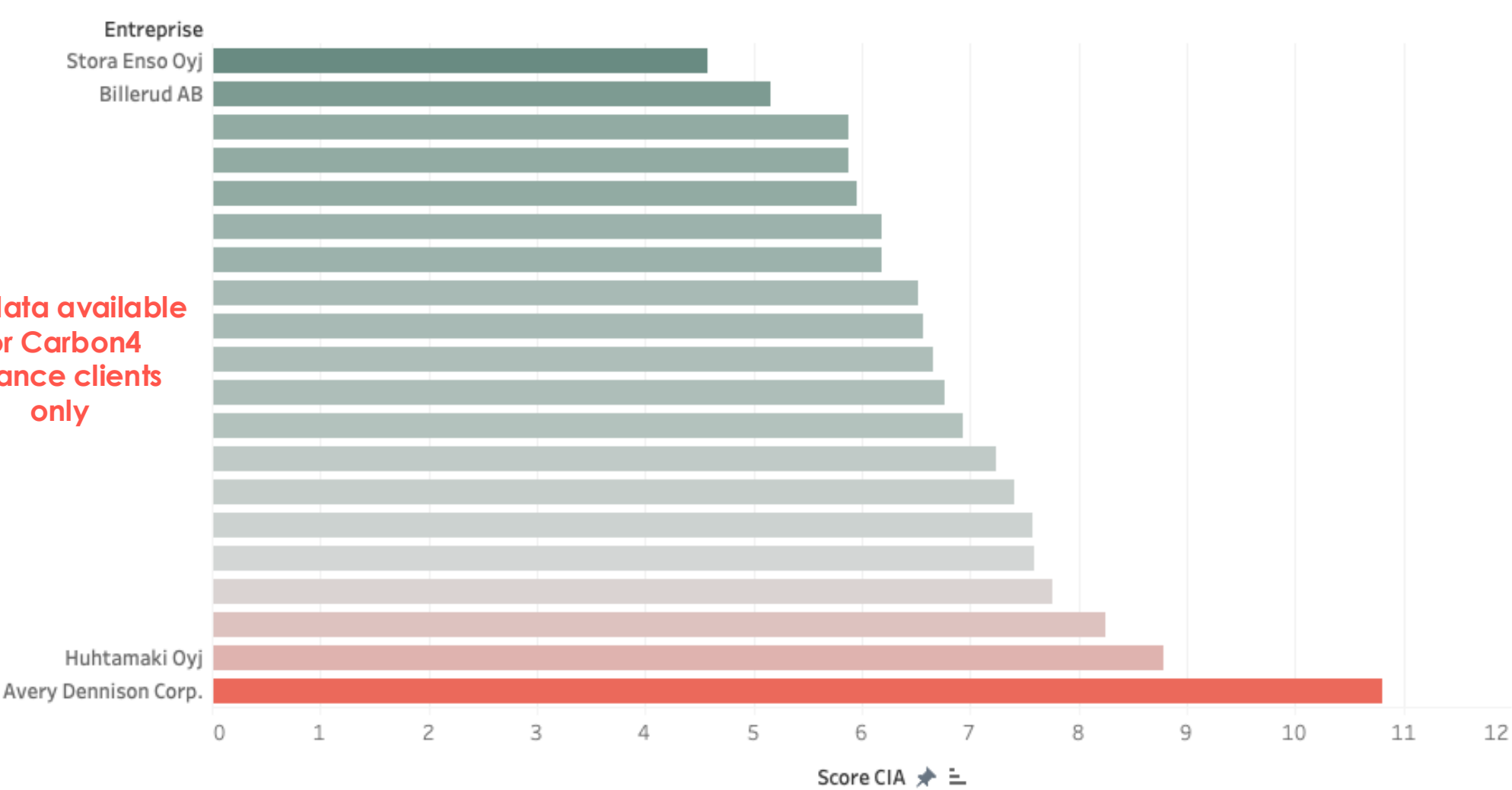
Score 1 - The company reports its Scope 1, 2 and 3 emissions transparently, for the most significant categories.

Score 2 - The company reports its emissions with some transparency, but these only cover Scope 1 and 2.

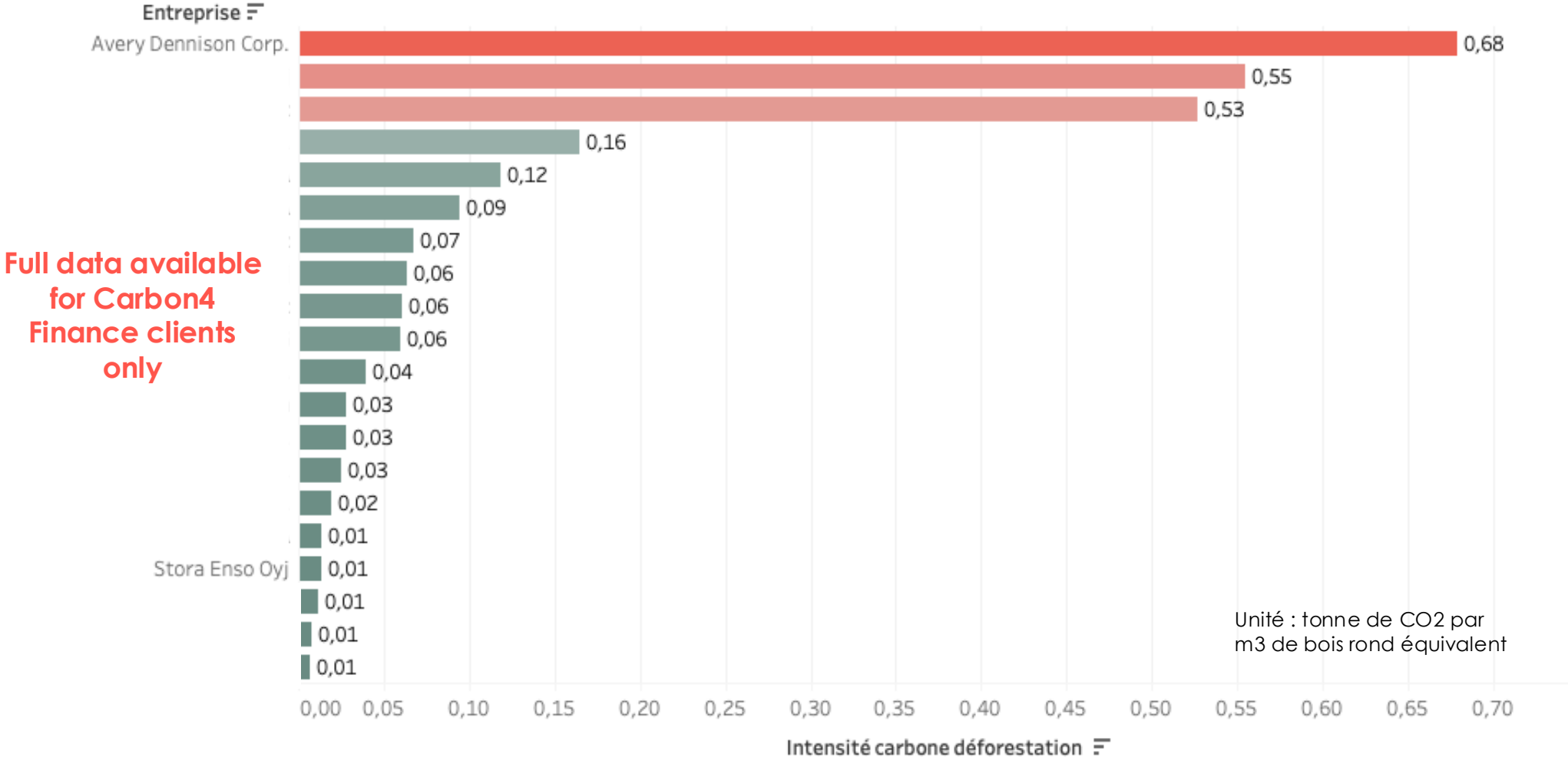
Score 3 - The company reports its emissions with little detail or transparency.

Overall CIA score

Full data available
for Carbon4
Finance clients
only

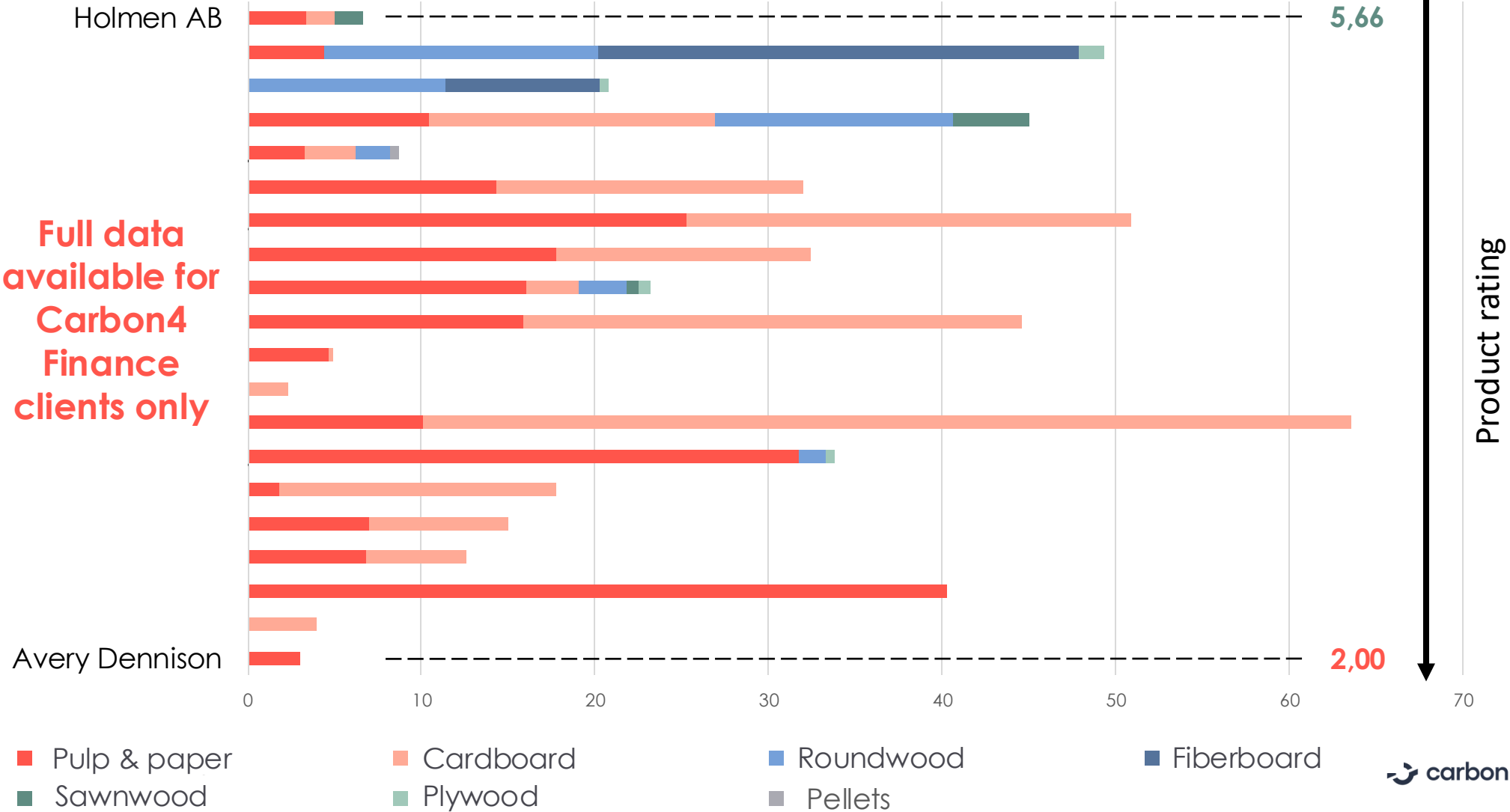


Present performance: Scope 3 deforestation intensity



Present performance: product rating top and bottom companies

Sales volumes by product category (in millions of tonnes)



Present performance: product rating top and bottom companies

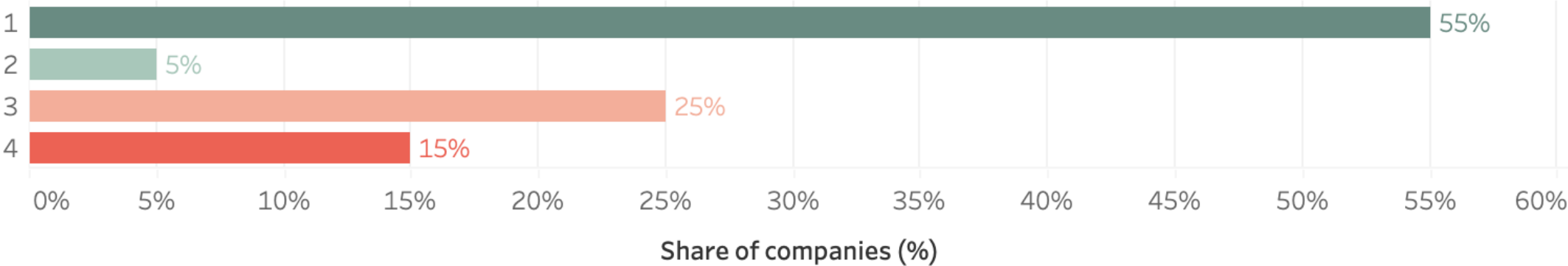
Company	Product category	Use of recycled materials and by products	Rating from 15 (best) to 1 (worst)
Holmen AB	25% « Sawnwood » 75% « Pulp & Paper » and « Cardboard »	29% use of by products	5,66
Avery Dennison Corp	100% « Pulp & Paper »	0% use of by products or recycling	2,00

Forward-looking performance: top and bottom strategy scores

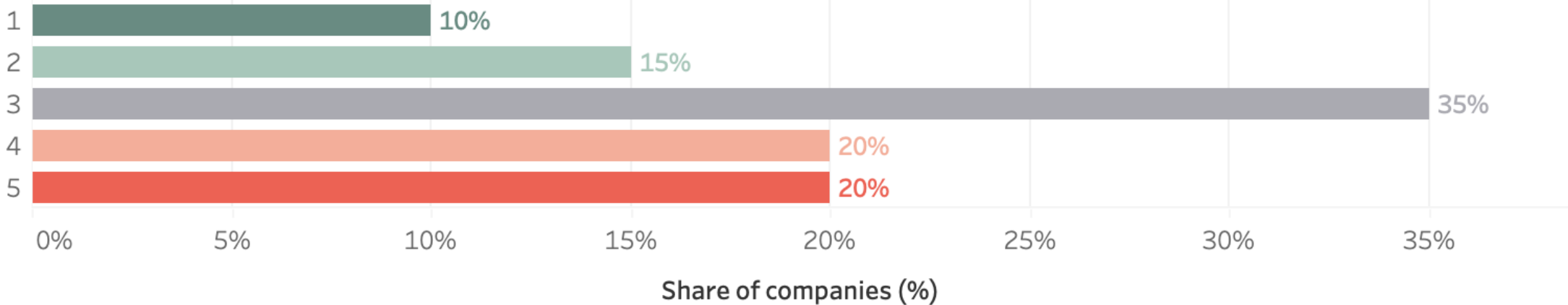
Company	Climate risk from 1 (best) to 5 (worst) (weighted 0,2)	Low-carbon strategy from 1 (best) to 5 (worst) (weighted 0,8)	Strategy rating from 1 (best) to 5 (worst)
Holmen AB	→ 3/5	→ 1/5	1,4/5
Weyerhaeuser Co.	→ 4/5	→ 4/5	4/5

Forward-looking performance: reduction target scores

Scope 1&2 target



Scope 3 target



Q & A



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