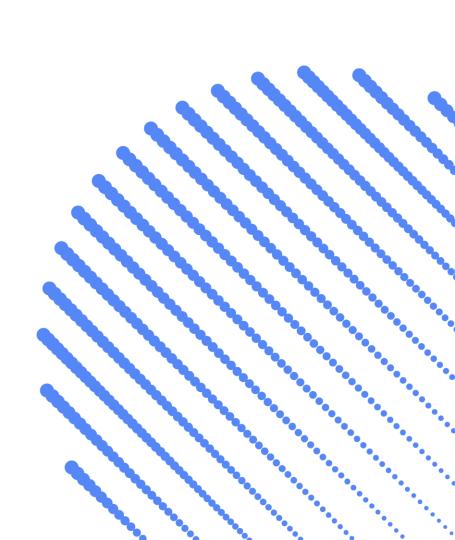


Management Quality and Carbon Performance of paper producers:
November 2018 update

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Research Funding Partners









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About the Transition Pathway Initiative



About TPI and this slide set

TPI is a global initiative led by Asset Owners and supported by Asset Managers

Aimed at investors, it assesses companies' progress on the transition to a low-carbon economy, supporting efforts to address climate change

Established in January 2017, TPI is now supported by more than 30 investors with over £8.2/\$10.7 trillion AUM

Using companies' publicly disclosed data, TPI:

- Assesses the quality of companies' management of their carbon emissions and of risks and opportunities related to the lowcarbon transition, in line with the recommendations of TCFD
- Assesses how companies' planned or expected future Carbon Performance compares to international targets and national pledges made as part of the 2015 UN Paris Agreement
- Publishes the results via an open-access online tool: www.transitionpathwayinitiative.org



TPI Partners

The Grantham Research Institute on Climate Change and the Environment, a research centre at the London School of Economics and Political Science (LSE), is TPI's academic partner. It has developed the assessment framework, provides company assessments, and hosts the online tool.

FTSE Russell is TPI's data partner. FTSE Russell is a leading global provider of benchmarking, analytics solutions and indices.

The Principles for Responsible Investment (PRI) provides a secretariat to TPI. PRI is an international network of investors implementing the six Principles for Responsible Investment.











TPI Design Principles

Company assessments are based only on publicly available information: disclosure-based

Outputs should be useful to Asset Owners and Asset Managers, especially with limited resources: accessible and easy to use

Aligned with existing initiatives and disclosure frameworks, such as CDP and TCFD: not seeking to add unnecessarily to reporting burden

Pitched at a high level of aggregation: corporation-level



Overview of the TPI Tool

TPI's company assessments are divided into 2 parts:

- Management Quality covers companies' management/governance of greenhouse gas emissions and the risks and opportunities arising from the low-carbon transition
- Carbon Performance assessment involves quantitative benchmarking of companies' emissions pathways against the international targets and national pledges made as part of the 2015 UN Paris Agreement, for example limiting global warming to below 2°C

Both of these assessments are based on company disclosures





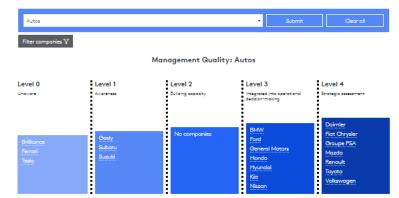
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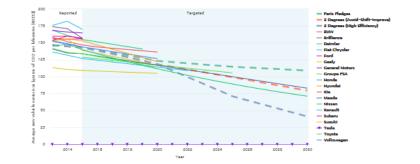
The TPI tool enables the assessment of companies' carbon management quality and carbon performance, within a selected sector.

A tutorial to help you use the tool can be found here

ownload complete data set as an MS Excel file



Carbon Performance: Autos



Management Quality

Level 0
Unaware

Level 1

Awareness

Level 2

Building capacity

Level 3

Integrating into operational decision making

Level 4

Strategic assessment

TPI's Management Quality framework is based on 16-17 indicators, each of which tests whether a company has implemented a particular carbon management practice. These 16-17 indicators are used to map companies on to 5 levels/steps. The data are provided by FTSE Russell.

Company explicitly recognises climate change as a relevant risk/opportunity for the business

Company has a policy (or equivalent) commitment to action on climate change

Company has set GHG emission reduction targets

Company has published info. on its operational GHG emissions

Company has nominated a board member/committee with explicit responsibility for oversight of the climate change policy

Company has set quantitative targets for reducing its GHG emissions

Company reports on its Scope 3
GHG emissions

Company has had its operational GHG emissions data verified

Company supports domestic & international efforts to mitigate climate change

Company has a process to manage climate-related risks

Company has set long-term quantitative targets (>5 years) for reducing its GHG emissions

Company has incorporated ESG issues into executive remuneration

Company has incorporated climate change risks and opportunities in its strategy

Company undertakes climate scenario planning

Company discloses an internal carbon price

Company does not recognise climate change as a significant issue for the business



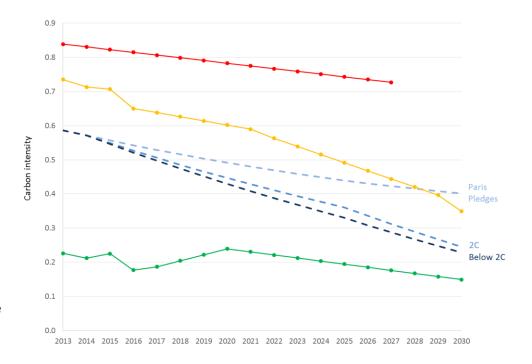
Carbon Performance

TPI's Carbon Performance Assessment tests the alignment of company targets with the Paris Agreement goals, using the same approach as Science-Based Targets

TPI uses 3 benchmark scenarios:

- Paris Pledges, consistent with emissions reductions pledged by countries as part of the Paris Agreement (i.e. NDCs)
- 2 Degrees, consistent with the overall aim of the Paris Agreement, albeit at the low end of the range of ambition
- Below 2 Degrees, consistent with a more ambitious interpretation of the Paris Agreement's overall aim

Benchmarking is sector-specific and based on emissions intensity



Company A is not aligned with any Paris benchmark

Company B is eventually aligned with the Paris Pledges, but neither 2C nor Below 2C

Company C is aligned with all Paris benchmarks, including Below 2C

Latest results: Management Quality of paper producers



Management Quality level

Level 0	Level 1	Level 2	Level 3	Level 4	
Unaware	Awareness	Building capacity	Integrating into operational decision making	Strategic assessment	
				4 companies	
			4 companies	Fibria	
		3 companies	Domtar Mondi	International Paper Sappi Stora Enso	
2 companies	5 companies	СМРС			
		Ence Energia Y	Nippon Paper	Stord Eriso	
	Daio	Celulosa	UPM-Kymmene		
Lee & Man Paper Manufacturing	Hokuetsu	Suzano			
	Pap Y Cart Euro				
Nine Dragons Paper Industries	Oji Holdings				
	Shandong Chenming				

Management Quality level

Paper producers average Management Quality score is 2.2, which means that the average company in this sector is "Building capacity" (Level 2)

"Building capacity" means a company has acknowledged climate change as a business issue and is at the point of (i) setting an emissions reduction target and (ii) disclosing operational emissions, but has yet to do both (i) and (ii)

This is similar to cement and steel, the other two carbon-intensive manufacturing industries TPI currently covers

Lee & Man Paper Manufacturing and Nine Dragons Paper Industries are on Level 0: they are yet to demonstrate awareness of climate change as a business issue. Nine Dragons is the world's 2nd largest producer (source: RISI)

The leaders are Fibria, International Paper, Sappi and Stora Enso, which are all on Level 4

No company in this sector satisfies all Management Quality criteria, i.e. there are not yet any 4* paper producers



Management Quality: indicator by indicator

Most companies do the basics; fewer take the more advanced steps. We see this general pattern in all TPI sectors.

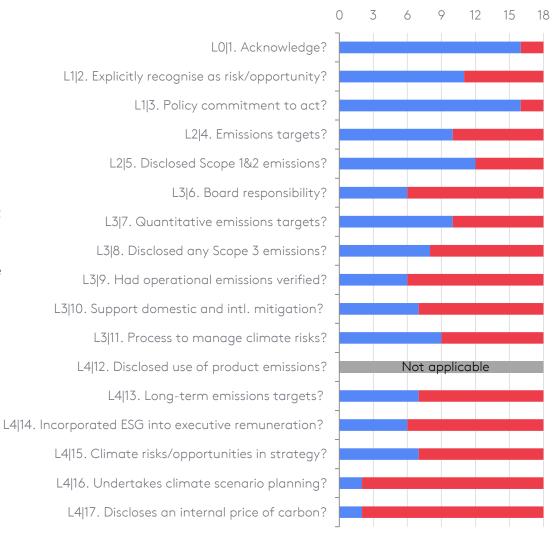
Almost all paper producers have a policy commitment to act on climate change

2/3 of companies disclose their operational (i.e. Scope 1 and 2) emissions, more than half have quantitative emissions reduction targets, and exactly half manage climate change risks

Less than half of the companies satisfy any other indicator

Only 11/18 companies explicitly recognise climate change as a business risk/opportunity, a basic step

Just 2 undertake climate scenario planning, or disclose an internal carbon price



Latest results: Carbon Performance of paper producers



Paper companies' Carbon Performance versus the benchmarks

We are able to calculate Carbon Performance for 12 out of 18 companies

Most of the 12 companies with data start below the Paris benchmarks

In 2020, 6 out of the 8 companies with quantitative emissions reduction targets are aligned with the Paris Agreement in some form; 4 are aligned with the Below 20 benchmark

Only 3 companies have a 2030 target, of which 2 – Stora Enso and UPM-Kymmene – are aligned with the Below 2C benchmark

Company		Carbon intensity (t CO2e / t pulp, paper and paperboard)						
		2014	2015	2016	2017	2020	2025	2030
Daio					No data			
Domtar	Domtar		0.577	0.540	0.526	0.497		
CMPC	CMPC			0.206				
Ence Energia y Cel	Ence Energia y Celulosa				No data			
Fibria		0.256	0.247	0.241				
Hokuetsu	Hokuetsu		0.426	0.446	0.468			
International Pape	International Paper		0.681	0.668	0.660	0.637		
Lee & Man Paper Manufacturing					No data			
Mondi	Mondi		0.830	0.760	0.720	0.717	0.711	0.706
Nine Dragons Pap	Nine Dragons Paper Industries				No data			
Nippon Paper Industries		1.209	1.210	1.191	1.111	1.090		
Oji Holdings		0.517	0.493	0.485	0.482	0.471		
Pap Y Cart Euro	Pap Y Cart Euro				No data			
Sappi		0.890	0.880	0.900	0.860	0.792		
Shandong Chenming					No data			
Stora Enso R		0.361	0.321	0.308	0.311	0.302	0.288	0.273
Suzano		0.233	0.232	0.214	0.214			
UPM-Kymmene	UPM-Kymmene		0.523	0.529	0.510	0.452	0.355	0.259
Below 2 Degrees		0.766	0.735	0.705	0.676	0.591	0.463	0.382
2 Degrees		0.766	0.743	0.721	0.699	0.638	0.544	0.442
Paris Pledges		0.766	0.760	0.755	0.749	0.734	0.714	0.697
Key	Aligned with Below 2C	Aligned	with 2C		with Paris dges	Not aligned		

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