Do environmental rating schemes capture climate goals?

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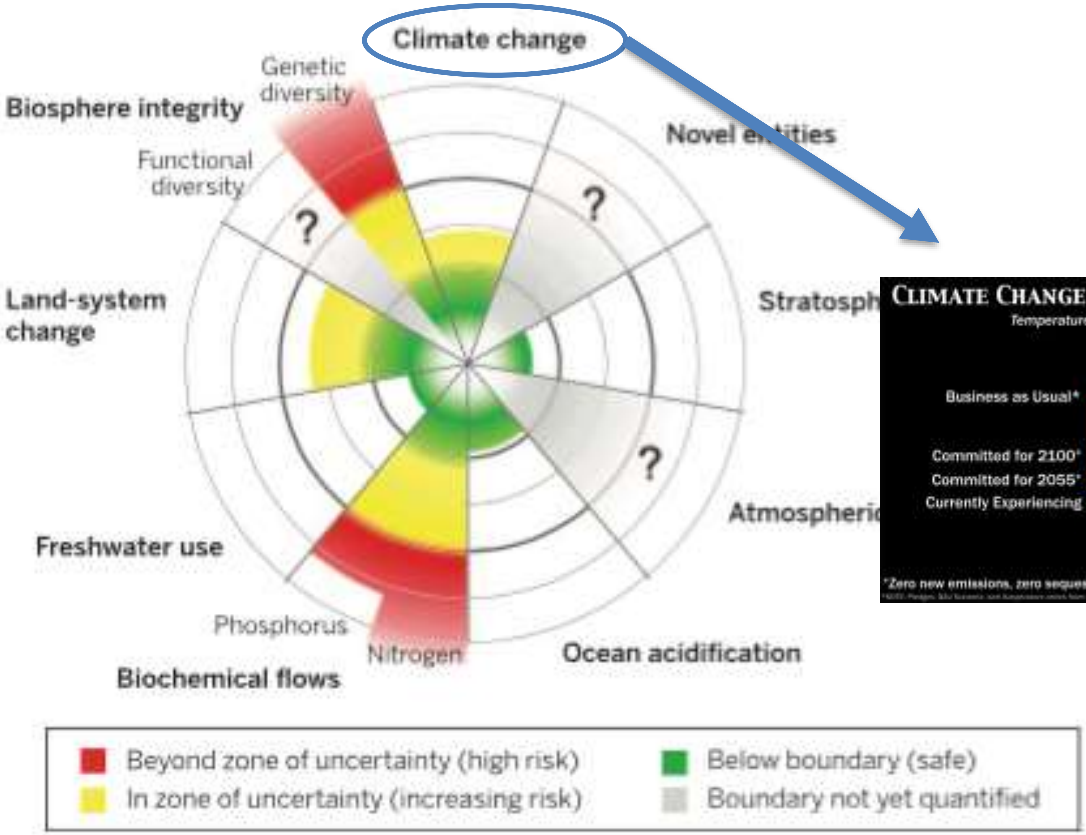

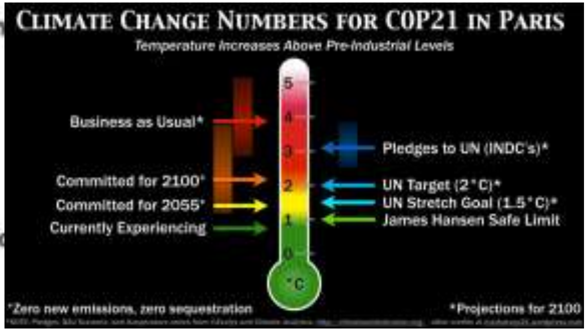

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Background

- Current national pledges to reduce emissions insufficient to meet the agreed 2°C goal (Rogelj et al., 2015).
- Meeting the 2°C target requires action from a number of additional stakeholders
- Corporations are a particularly important party in meeting climate goals
- Significant greenhouse gas emission reductions need to be made by corporations in order to meet the 2°C target (see e.g. Krabbe et al., 2015).
- Therefore it is important to be able to measure how well companies are performing in terms of reducing GHG emissions.
    - Company
    - Stakeholders: Government, investors, consumers, suppliers.
- Rating schemes have a critical role to play in this by providing independent information on company environmental performance (Chatterji & Toffel, 2010; Chelli & Gendron, 2013)

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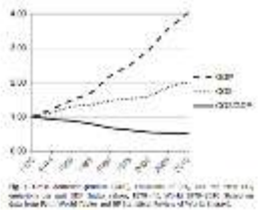
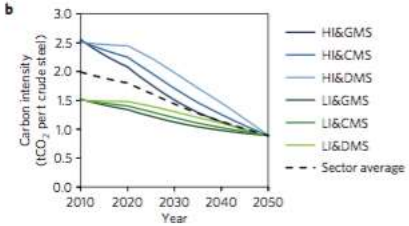
Research question

- Do currently available corporate environmental performance ratings capture corporate performance in meeting the 2°C degree target?
- If not, could their data be used to track this performance, e.g. by using methods that have recently been developed in the environmental science literature (GEVA and SDA methods) (Krabbe et al., 2015; Randers, 2012)?

GEVA



SDA



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Approach

- We examine ratings used by investors and those used by academics
- Look at:
  - descriptions of climate change related indicators
  - whether quantitative measures are used to capture emission performance
  - focus of the rating schemes: comparative or limits-based.
    - Problem with comparative is it does not capture performance in meeting earth system limits!
  - for ratings schemes used in academic research, we use actual data to examine if their climate change ratings are consistent (are the ratings measuring the same thing?)
    - Inconsistent ratings may make it difficult to alter company behaviour though market mechanisms (e.g., investors using different information may be targeting different firms, and consequently may never achieve the 25% divestment needed to alter corporate behavior).

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Do rating schemes capture 2 degree target?

DATA

Investors

- Global Initiative for Sustainability Ratings (GISR)
  - used by investors
  - include environmental factors
- Sample – 9 rating schemes

Qualitative

Information disclosed by agencies
E.g. "rating range", quantitative indicators, science-based CC thresholds?

Academic research

- Rating schemes;
  - MSCI ESG
  - Thomson Reuters ASSET4
  - RobecoSAM
- Yearly data: 2006-2015

Qualitative

Actual ratings data
Additional questions, e.g. how many environmental indicators? How many related to CC? How are they coded? Mapped against "2 degree" target?

Quantitative

- Summary statistics
- Correlations

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Results: ratings used by investors

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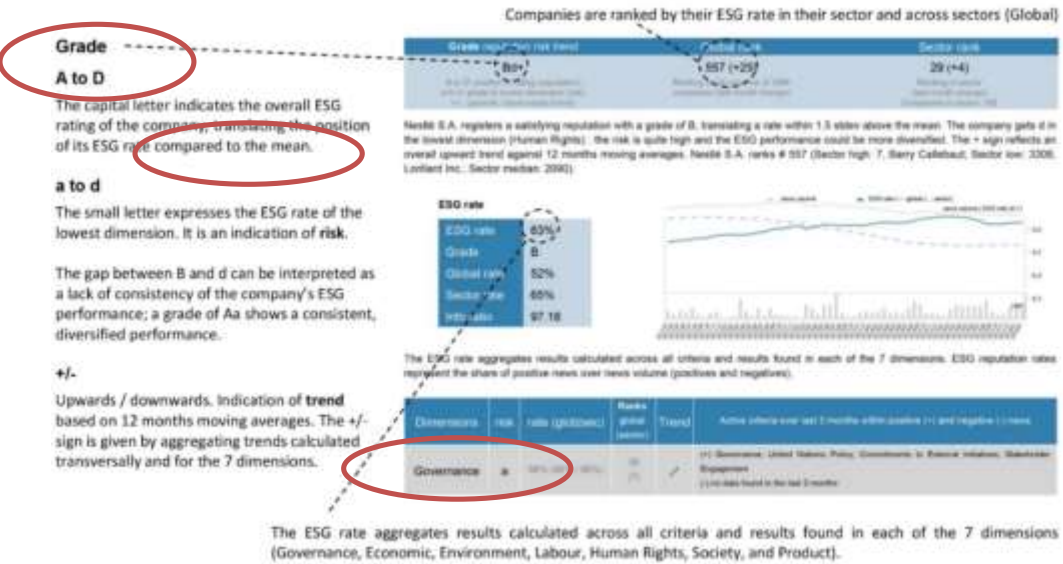
Product	Rating range	Separate rating available for environment? If yes, how?	Description	Includes # GHG emissions	To what are GHG emissions compared?	Compared to 2°C target?
Covalence Ethical Snapshot	Grade: Aa+/Ee- Rate: 0-100%	Yes, unclear	A – D, indicates the overall ESG rating of the company, translating the position of its ESG rate compared to the mean a –d, expresses the ESG rate of the lowest dimension, it is an indicator of risk. +/- upwards or downwards trend	GHG (Scope 1, 2), NO, SO	Not compared	Unclear
MSCI ESG Ratings	AAA-CCC	Yes, unclear	AAA-CCC is measured relative to industry peers.	Carbon emissions, product carbon footprint	Unclear	Unclear
Oekom Carbon Risk Rating	0-100	Climate Focus	0 to 100, which indicates how a company is managing its industry-specific climate risks, not just in production but in its supply chain and product portfolio as well	GHG (Scope 1, 2 and 3)	Unclear	Unclear
ValDa	0-5	Unclear	Unclear	GHG emissions, GHG intensity	Unclear, but "GHG intensity" indicates a benchmark is used.	Unclear
Vigeo Eiris Climate Risk Assessment	Carbon Footprint: moderate – intense Energy transition: 0-100	Climate Focus	Carbon Footprint: Moderate: 0 – 100,000; Significant: 100,000 – 1,000,000; High: 1,000,000 – 10,000,000; Intense: > 10,000,000 (t CO_2 eq) Energy Transition Score: 0 to 100: Weak 0-29; Limited 30-49; Robust 50-59; Advanced >60	GHG (Scope N/A)	Footprint based on 3 key factors (nature of activities, size of company, carbon footprint of its peers) Energy transition, specific to each sector and each company's activities (Sectoral contextualisation, Assessment grid, energy transition score)	Potential
CDP Climate Performance	A-E	Climate Focus	"A" [...] has a fully integrated climate change strategy driving significant reductions in emissions due to climate change initiatives. (performance score of greater than 85) "E" [...] will show little evidence of initiatives on carbon management, potentially due to the company just beginning to take action on climate change (typically performance score around 20)	GHG (Scope 1, 2, 3)	Previous year, total revenue, FTE employee, appropriate to business operations'	Potential
Inrate Climate Change Assessment	Unclear	Climate Focus	Unclear	GHG over entire life cycle. envIMPACT – proprietary quantitative methodology	Unclear	Unclear
The Sustainability Yearbook	Industry Leader, Industry Mover, Gold/Silver/Bronze	No	Within each industry, [....]	Operational Efficiency – GHG emissions (Scope 1 and 2)	KWh	Potential
Sustainalytics Company ESG reports	Unclear	Yes	Options for environmental score are; Leader, Outperformer, average performer, underperformer, laggard. No description provided.	Unclear	Unclear	Unclear

E.g. Covalence Ethical



Some form of quantitative GHG emissions, BUT

- no mention of mapping against climate goals
- Overall rating is compared to the mean

Basic metrics: quantities of positive and negative news items

The basic metrics used by Covalence are quantities of news items gathered on the web (texts, web pages), that can be coded as having a positive or a negative orientation towards named companies (polarity, sentiment).

Environmental	Emissions, Effluents, and Waste	19	**Emissions**	Direct and indirect greenhouse gas emissions; Initiatives to reduce greenhouse gas emissions; Emissions of ozone-depleting substances; NO, SO, and other significant air emissions; Initiatives to reduce emissions of ozone-depleting substances and air emissions. (GRI G3.1 EN16, EN17, EN18, EN19, EN20)

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Results: ratings used by academics

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Code	Short Description	All/Ind.	Coding	Includes # GHG emissions	To what are GHG emissions compared?	Compared to 2°C target?
MSCI ESG						
ENV-STR-D	Climate Change – Carbon Emissions	Ind	Binary (1/0)	No		No
ENV-STR-K	Climate Change – Financing Environmental Impact	Ind	Binary (1/0)	No		No
ENV-STR-O	Climate Change – Energy Efficiency	Ind	Binary (1/0)	No		No
ENV-STR-P	Climate Change – Product carbon footprint	Ind	Binary (1/0)	No		No
ENV-STR-Q	Climate Change – Insuring climate change risk	Ind	Binary (1/0)	No		No
ENV-CON-F	Energy and Climate Change	All	Binary (1/0)	No		No
ASSET4						
ENERO03S	Total CO_2 and CO_2equivalents emission in tonnes divided by net sales or revenue in US dollars	All	Percent	Indirectly	A4 universe	No
ENERO03V	Total CO_2 and CO_2 equivalents emission in tonnes divided by net sales or revenue in US dollars	All	Number/NA	Yes	Sales/Revenue	Potential
ENERO04S	Total CO_2 and CO_2 equivalents emission in kilograms per tonne of cement produced.	Ind	Percent	Indirectly	A4 universe	No
ENERO04V	Total CO_2 and CO_2 equivalents emission in kilograms per tonne of cement produced.	Ind	Number/NA	Yes	Cement Produced	Potential
ENERO22S	Is the company aware that climate change can represent commercial risks and/or opportunities?	All	Percent	No		No
ENERO22V	Is the company aware that climate change can represent commercial risks and/or opportunities?	All	Binary (Y/N)	No		No
RobecoSAM						
Operational Eco-Efficiency	Proprietary calculation based on a combination of direct GHG emissions (scope 1), indirect GHG emissions (scope 2), and electricity purchased, scaled by revenue/production	Ind*	Number (0-100)	Yes	Revenue (2011-2015) Production (2011-2015)	Potential Potential
Climate Strategy	Proprietary calculation based on 1. Climate strategy - CDP Alignment, 2. Climate Change Governance, 3. Climate Change Management Incentives, 4. Climate Change Strategy, 5. Climate Change Products, 6. Climate Strategy Impacts, 7. Financial Risks of Climate Change, 8. Financial Opportunities Arising from Climate change, 9. Internal Carbon Pricing, 10. Exposure: Carbon Targets, 11. Exposure: Scope 3: GHG Upstream	Ind*	Number (0-100)	Yes	Future annual CO_2 savings Target: Scope 1,2/base year	Potential Potential
Low Carbon Strategy	Proprietary calculation based on Governance Checks, Corporate Average Fuel Efficiency (CAFÉ) improvement, Alternative Drive Trains (Auto Manufacturers only)	Ind.	Number (0-100)	Yes	CO_2/km (2011-2015)	Potential

Descriptive statistics: climate scores

	MSCI ESG - Total				ASSET4				RobecoSAM			
Year	± N	Mean	Min	Max	± N	Mean	Min	Max	± N	Mean	Min	Max
2006	3000	-0.02	-1	1	877	43.6	33.9	99.2	519	31.4	0	100
2007	3000	-0.01	-1	1	996	44.6	26.4	94.3	576	28.8	0	100
2008	3000	-0.01	-1	1	1236	43.7	24.8	92.9	1114	26.6	0	100
2009	3000	-0.01	-1	1	1463	43.2	11.4	91.1	1712	24.4	0	100
2010	3000	0.08	-1	1	1779	43.3	21.6	89.8	1690	27.1	0	100
2011	3000	0.08	-1	1	1890	43.6	20.6	88.9	1954	23.6	0	100
2012	2700	0.08	-1	1	1965	43.7	9.8	87.8	2634	23.4	0	100
2013	2400	0.10	-1	2	2048	43.9	10.0	88.3	2872	25.5	0	100
2014	2400	0.13	-1	2	2163	44.0	10.8	89.8	2835	28.1	0	100
2015	2400	0.15	-1	2	2590	43.5	12.7	93.5	3881	25.6	0	100

[1] We used Universe D, which contains companies in the MSCI USA IMI index, across all years. This dataset decreased in coverage in 2012-2015.

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Results: correlation between climate scores from academic databases

Panel D: MSCI ESG, ASSET4 and RobecoSAM

N= 407/ O = 2246	MSCI ESG – Total	ASSET4	RobecoSAM
MSCI ESG- Total	1		
ASSET4	0.32*	1	
RobecoSAM	0.50*	0.51*	1

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Conclusion

- None of the currently available ratings are “limits-based”.
- Most indicate that they include GHG emissions in their analysis.
- Data provided by three of the ratings agencies used by investors, and two used in academic studies do have the **potential** to be used to track corporate performance against the 2 degree target
- But focus seems to be comparative rather than limits-based
- Climate change ratings used in academic research are not consistent with each other
- Therefore it is difficult for stakeholders to make informed decisions about whether companies are operating within earth system limits.

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Recommended action

Identifying earth system limits is not enough – we need to translate and integrate these limits into corporate ratings that are used to evaluate Corporate Environmental Performance.

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