

SBTi för Finans

Metoder & Verktyg

7 Oktober 2020



SCIENCE
BASED
TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

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Världsnaturfonden WWF

PARTNER ORGANIZATIONS



WORLD
RESOURCES
INSTITUTE



IN COLLABORATION WITH

WE MEAN
BUSINESS

Agenda

- Introduction
- Why set SBT?
- SBTi Framework
- Criteria & Guidance
- Methods & Tools
- Next steps
- Q&A

Science Based Target initiative (SBTi)

All Companies

992

Committed

~36

join per month

472

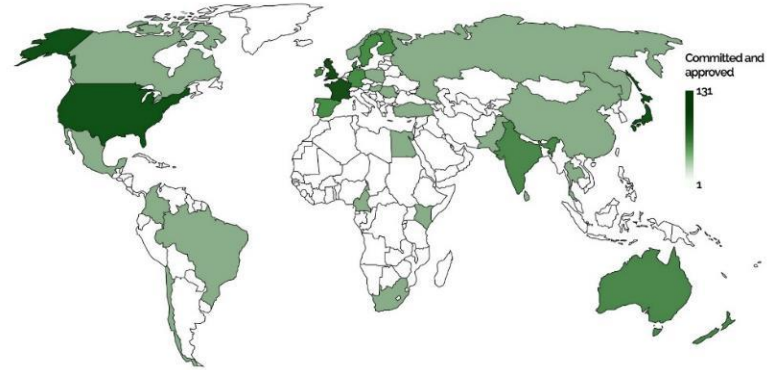
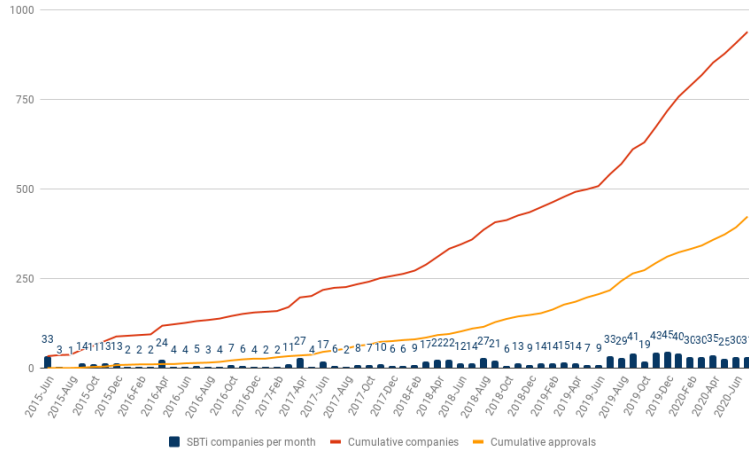
Approved

Financial Institutions

58

Committed

Number of companies that have set or committed to set SBTs since June 2015



SBTi Finance | Background

All Sectors

- 992* companies committed to set science based emissions reduction targets
- 476* companies have targets approved by SBTi

Financial Institutions

- SBTi Finance development started 2018
- 58* financial institutions committed to set SBTs within 2 years from 1 October on lending & investment portfolios

Primary Users of SBTi Finance

- Banks
- Asset Managers / Owners
- Mortgage Lenders
- Real Estate

SBTi Finance | Mark Carney @ Pilot Launch

- “Every financial decision need to take into account **climate** just as **interest rates**, **credit risks**, **future cash flows** – determining risk adjusted returns”
- “Companies should have net zero transition plans... set up clear short term milestones” - **set emission reduction targets**
- “The highest degree of sophistication is to map that into a form of **portfolio [temperature]** to judge the aggregate impact of the portfolio, which is what we’re seeing today”

See the full SBTi Finance [presentation](#) from 1st October [here](#).

SBTi Finance | Why Should We Set SBTs?

Companies

- Increase competitiveness, innovation & profitability
- Reduce risk – regulation uncertainty
- Attract capital – strengthen investor confidence & credibility

Financial Institutions

- Risk & Return – understand climate related risks & opportunities
- Regulation (EU Disclosure, Article 173, ...) – anticipate regulatory shifts
- Attract capital – client demand – SBT provides transparent credibility

Planet

- Need absolute emissions reduction – Relative may still miss the target
- Essential to ensure financial stability

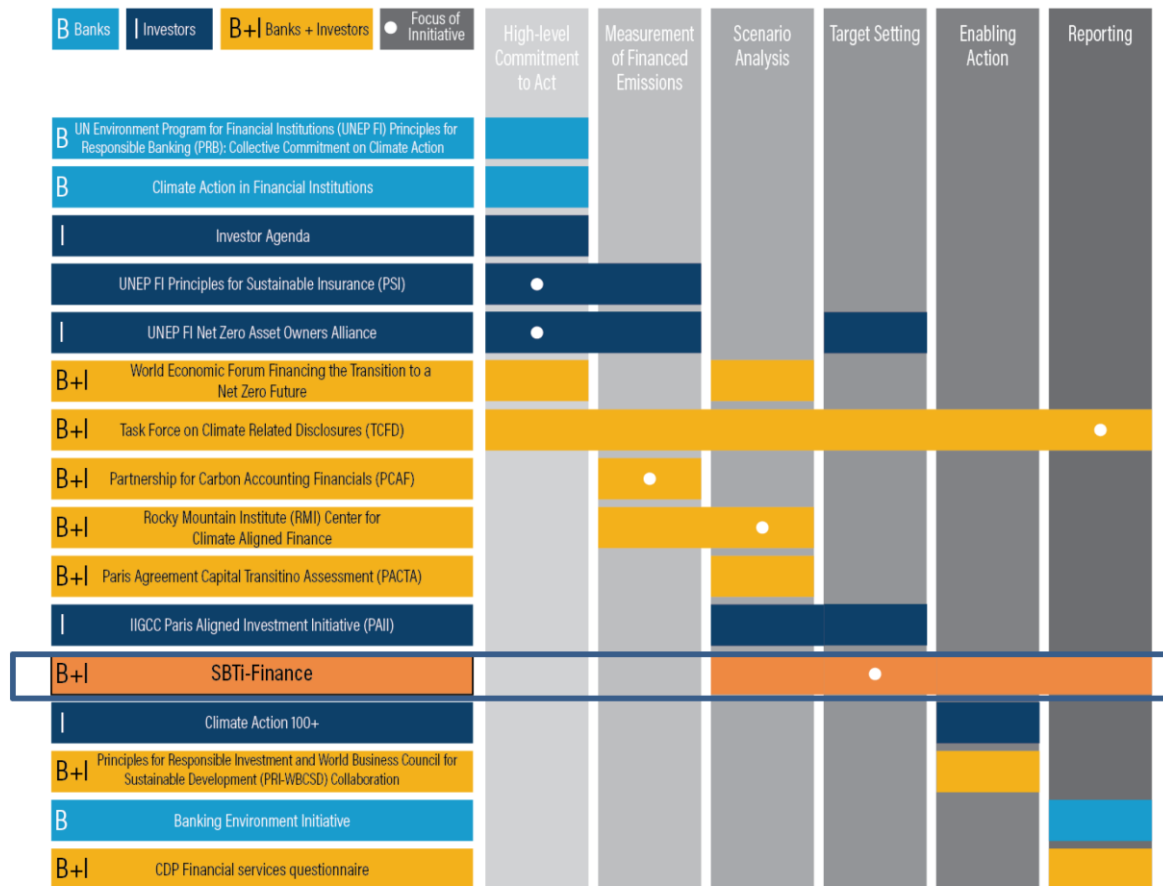
SBT focuses on absolute targets – Shows your contribution to the Paris agreement

Framework

SBTi Finance | The wider ecosystem

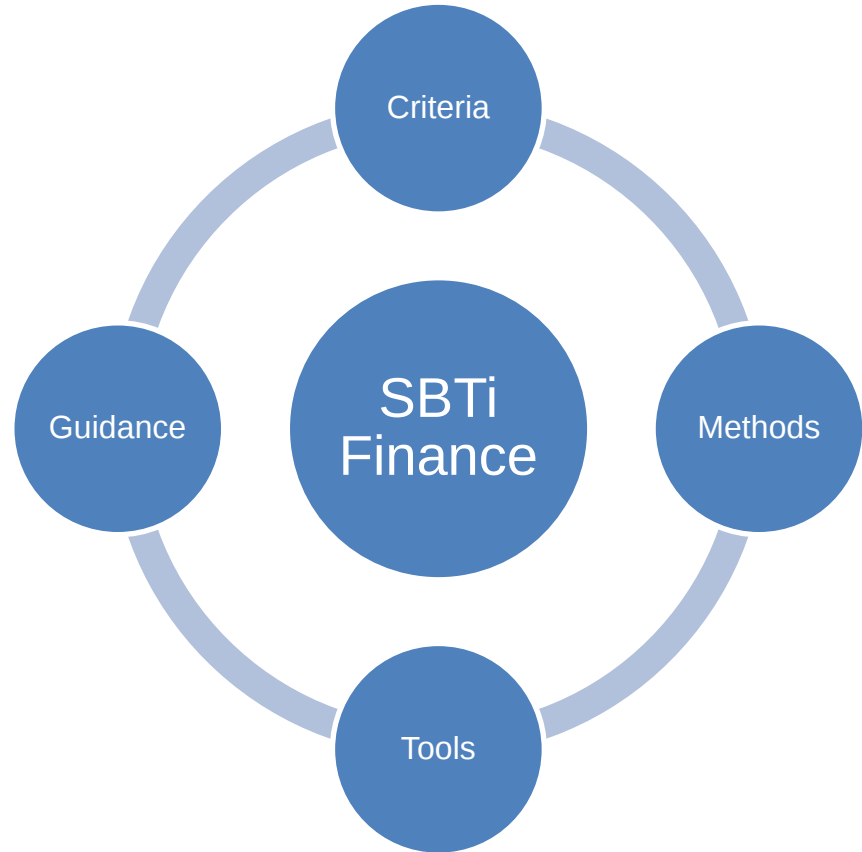
Spans across

- Scenario analysis
- Target setting
- Enabling action
- Reporting



SBTi Finance | Framework

- Criteria – for valid SBT
- Methods – for setting SBTs
- Tools – analysing, modelling & reporting
- Guidance – how to set targets, use the methods & tools, case studies, business case for SBTs



Criteria & Guidance

SBTi Finance | Guidance

Business case for setting SBTs

- Why should we set SBTs?

Guidance on how to use

- Criteria
- Methods & Tools
- Prepare SBT submission

Case studies

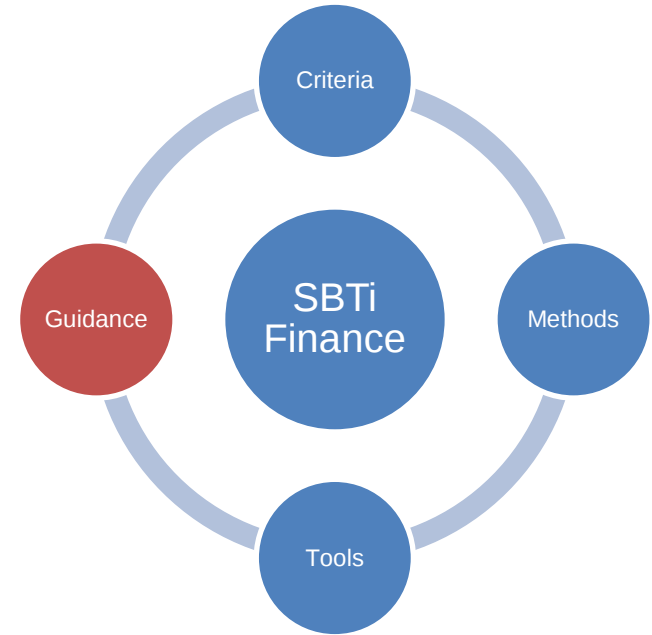
- Global financial institutions road tests of framework

Target communication

- Recommendations on target communication

Achieve targets

- Recommendations on steps to take to achieve targets



SBTi Finance | Criteria

C15 – Set targets on investment and lending activities

- Chose method (SDA, Portfolio Coverage, Temperature Rating)

C16 – Set targets on all required activities, including:

- Equity & bond portfolios
- Corporate & real estate loans
- Electricity generation project finance

C17 – Targets must be fulfilled within:

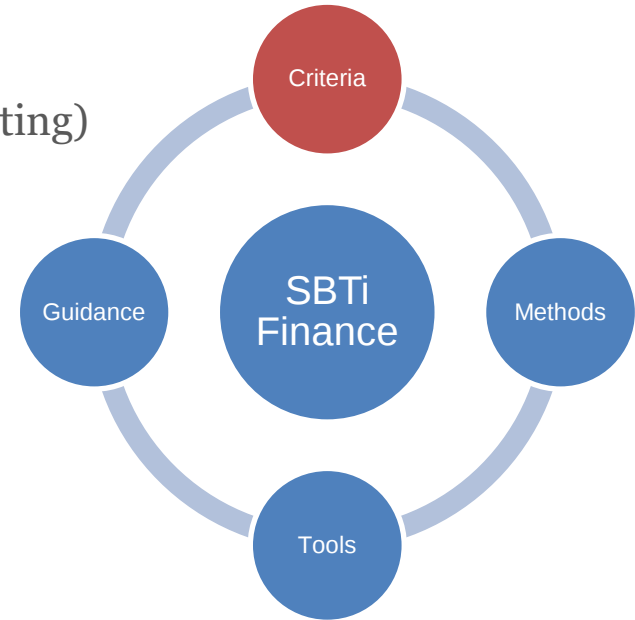
- SDA 5 – 15 years
- Portfolio coverage & Temperature rating – up to 5 years

C19 – Implementation reporting

- At submission, summary of how it intends to meet targets

C20 – Target progress

- Annual disclosure of progress against all approved targets



Methods

SBTi Finance | Current Methods & Asset Class Coverage

Asset Class	Method	Description
Real Estate	Sector Decarbonization Approach (SDA)	Emissions-based physical intensity targets are set for non-residential buildings' emissions intensity & total GHG emissions.
Mortgages	SDA	Emissions-based physical intensity targets are set for residential buildings' emissions intensity & total GHG emissions.
Electricity Generation Project Finance	SDA	Emissions-based physical intensity targets are set for electricity generation projects' intensity and total GHG emissions.
Corporate Instruments (equity, bonds, loans)	SDA	Emissions-based physical intensity targets are at sector level withing the portfolio for sector where sectoral decarbonization approaches are available.
	SBT Portfolio Coverage	Financial institutions engage a proportion of their investees to have their own science based targets such as they will reach 100% coverage by 2040.
	SBT Temperature Alignment	This approach enables financial institutions to determine the current temperature rating of their portfolio and take actions to align their portfolios to ambitious long-term temperature goals by engaging with portfolio companies to set ambitious targets (e.g. 2.6°C in 2019 and 1.7°C in 2025).

SBTi Finance | What Does a Target Look Like?

SDA

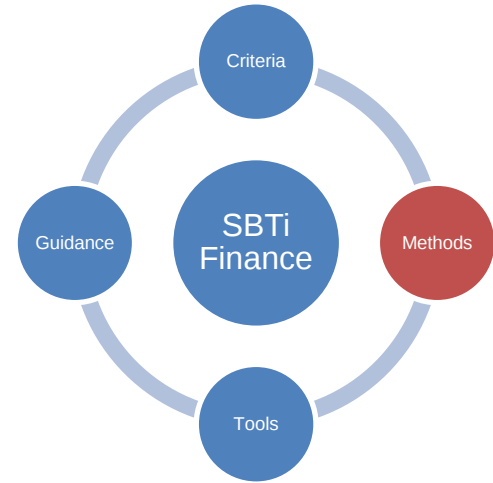
Financial institution A commits to reduce its mortgage/real estate portfolio GHG emissions XX% per m2 by 2030 from a 2017 base year.

Portfolio Coverage

Investment firm A commits that 30% of its equity portfolio by market capitalization will have science-based targets by 2024.

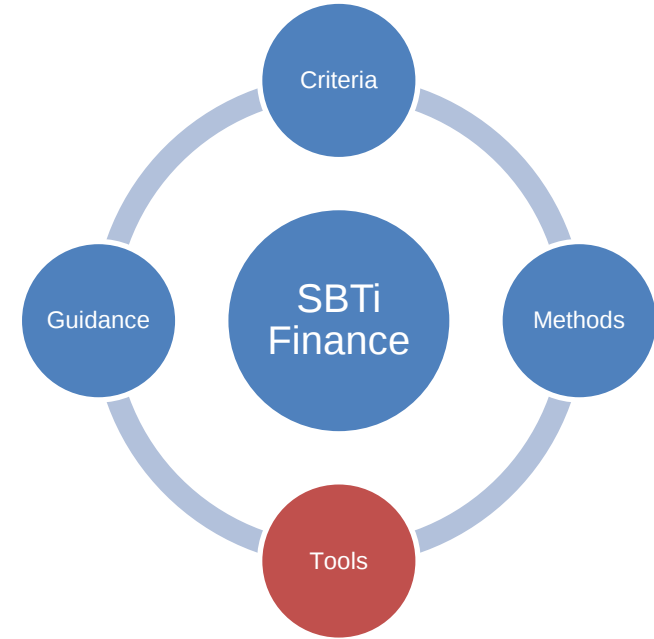
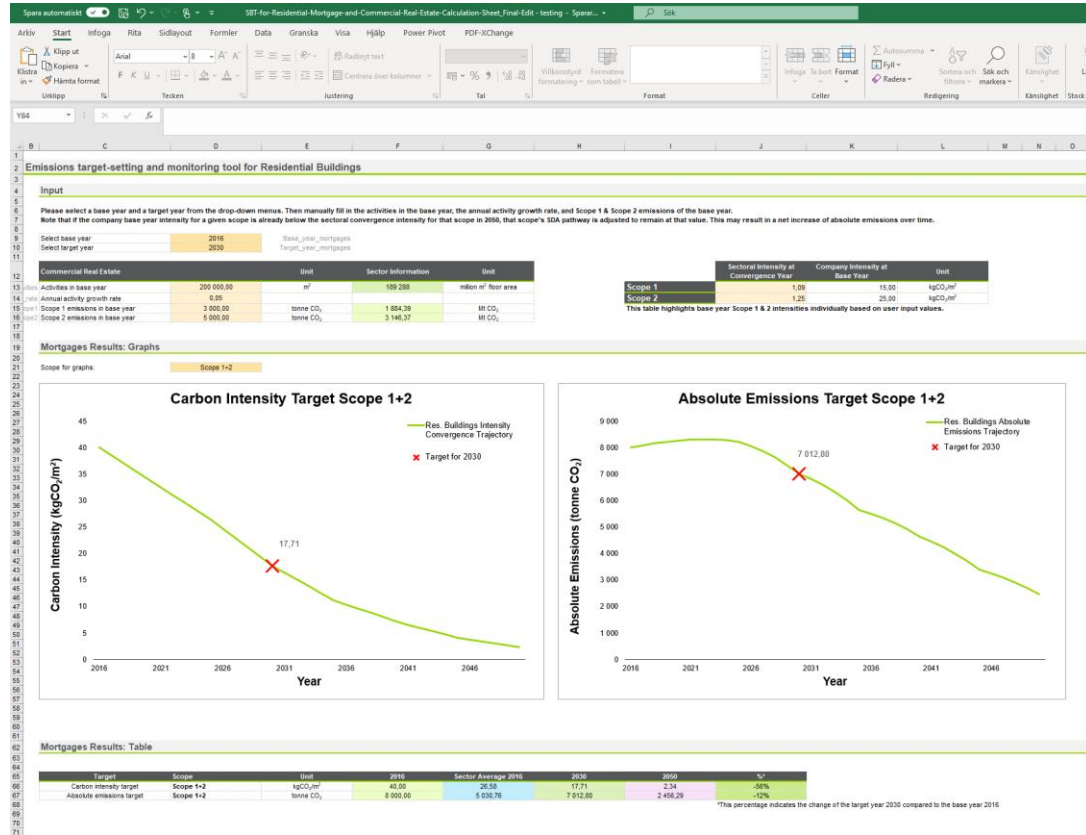
Temperature Rating

Investment Firm A commits to align its scope 1 + 2 + 3 portfolio temperature score within the [asset class or sector] from XX°C in 2018 to XX°C by 2025



Tools

SBT SDA Tool | Residential Mortgages & Commercial Real Estate



SBTi Finance Tool | Objectives

Methodologies: Temperature Rating & Portfolio Coverage

- Open Source – Continued development
- Widely distributed
- Transparent – from corporate ambition through to portfolio temperature score
- Data Agnostic – any data provider & own data lake
- Any User Interface – service provider & homegrown portfolio management solutions
- Workflow tool for:
 - Portfolio managers & CIO
 - ESG & Financial analysts
 - Risk management & Compliance

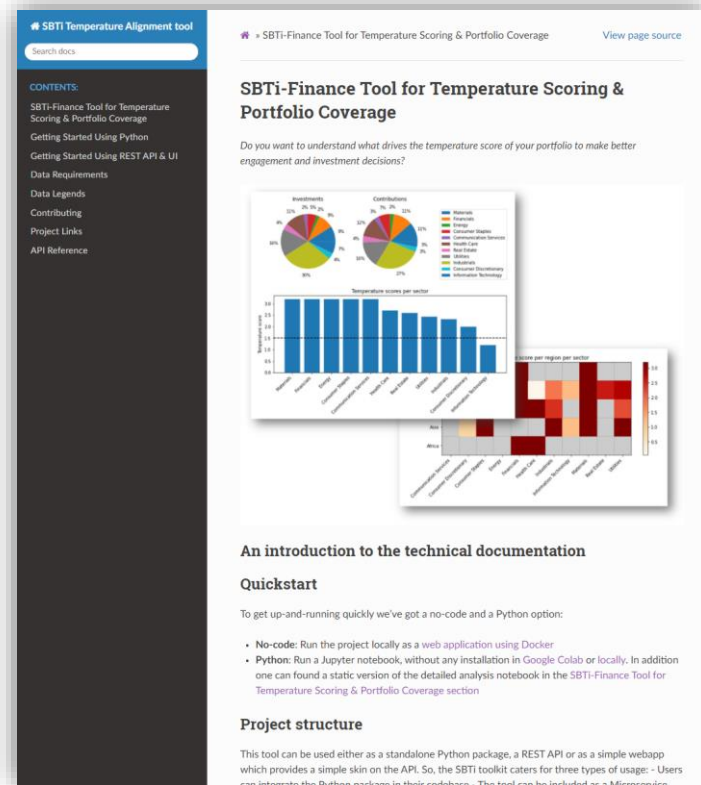
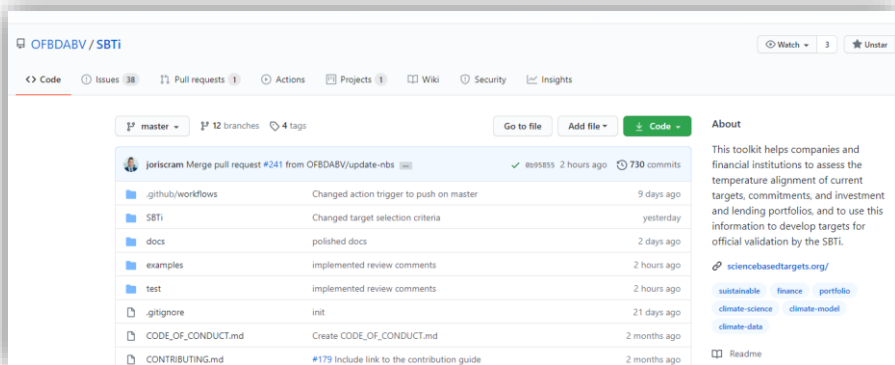
SBTi Finance Tool

Objective – Integrate into:

- Commercial platforms
- Asset managers' in-house solutions
- Via Python or API

Learn & Test the Tool

- Interactive Jupyter Notebook – [Analysis Workflow Example](#)
- Tool website: <https://sciencebasedtargets.org/finance-tool/>
- Technical Documentation - <http://getting-started.sbti-tool.org/>
- GitHub Repository for Code - <http://www.sbti-tool.org/>



SBTi Finance Tool | Development Team

- Science Based Target initiative (SBTi)
 - WWF (project manager)
 - CDP
 - World Resources Institute
- Developers
 - Ortec Finance
 - OS-Climate
- Data & Service Providers
 - Bloomberg
 - CDP
 - ISS ESG
 - MSCI
 - Trucost
 - Urgentem
- Users
 - Net-Zero Asset Owner Alliance



Bloomberg

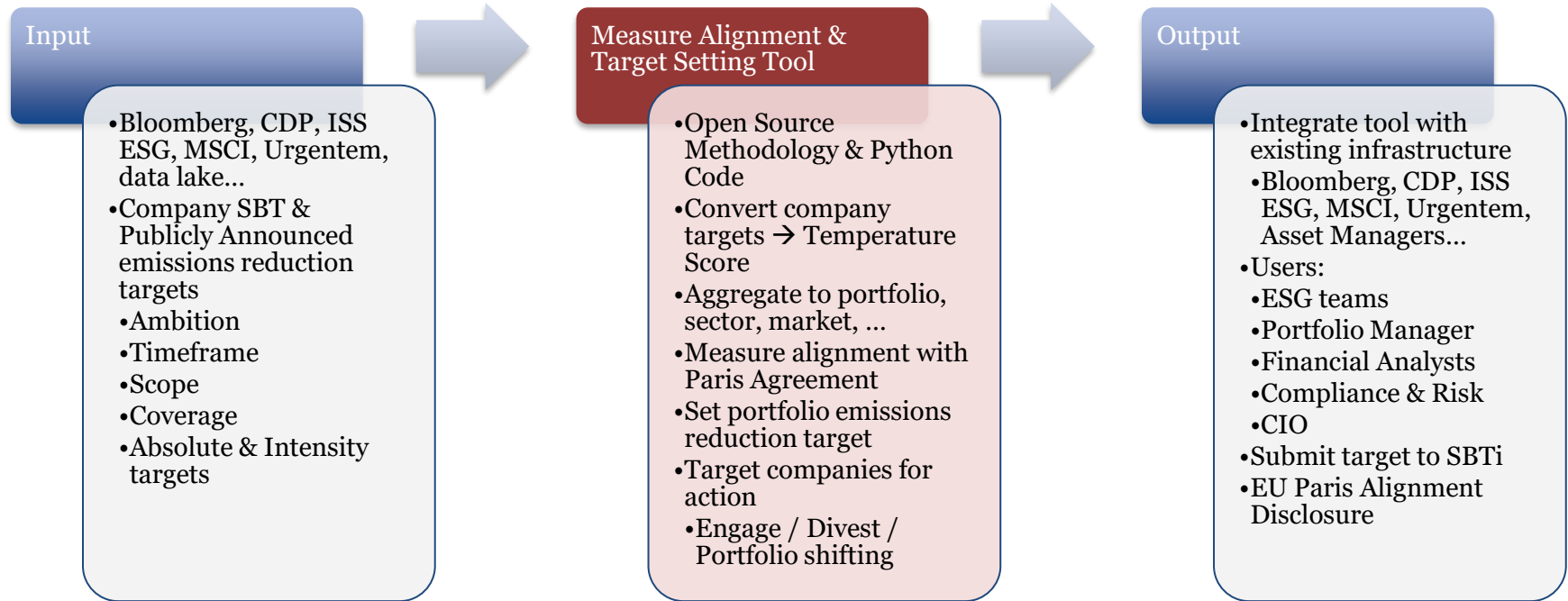


Trucost
ESG Analysis

S&P Global

URGENTEM

SBTi Finance Tool | Structure



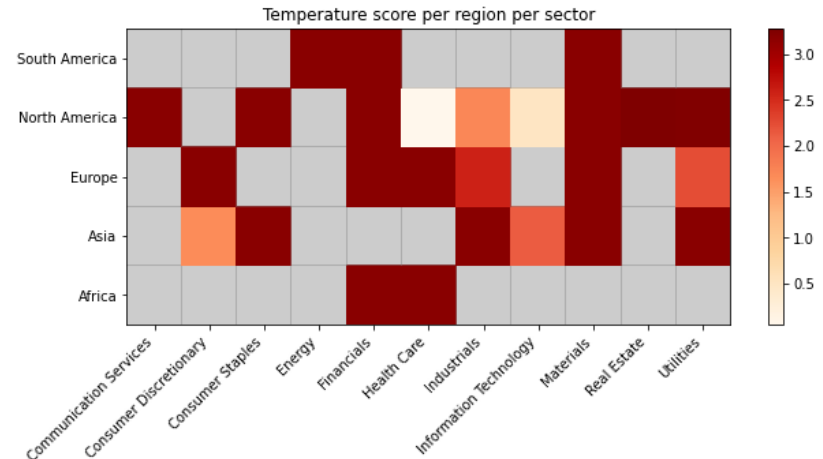
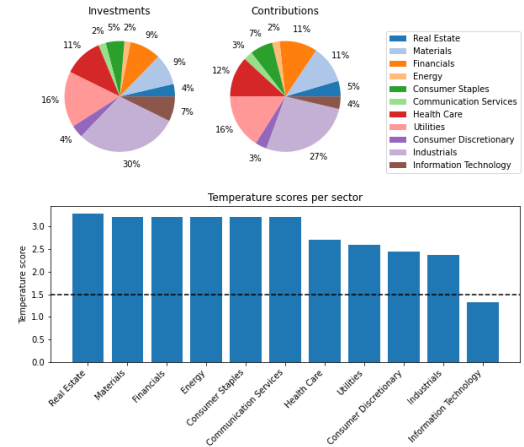
SBTi Finance Tool | What Can We Use It For?

Portfolio manager / analyst analyzing:

- **companies, sectors**, countries, investment strategies and portfolios to
- understand how they **contribute to climate change**.

You can for example:

- Measure a **portfolio's temperature score**
- Identify biggest contributors – e.g. company, country and sector basis
- Strategic allocation and securities selection
- Analyze effects of changes in a portfolio
- **Model impact of engagement on temperature score**
- **Plan engagement strategies** based on your modelling
- Help you create an action plan for reaching your emission reduction target



SBTi Finance Tool | What data do we need?

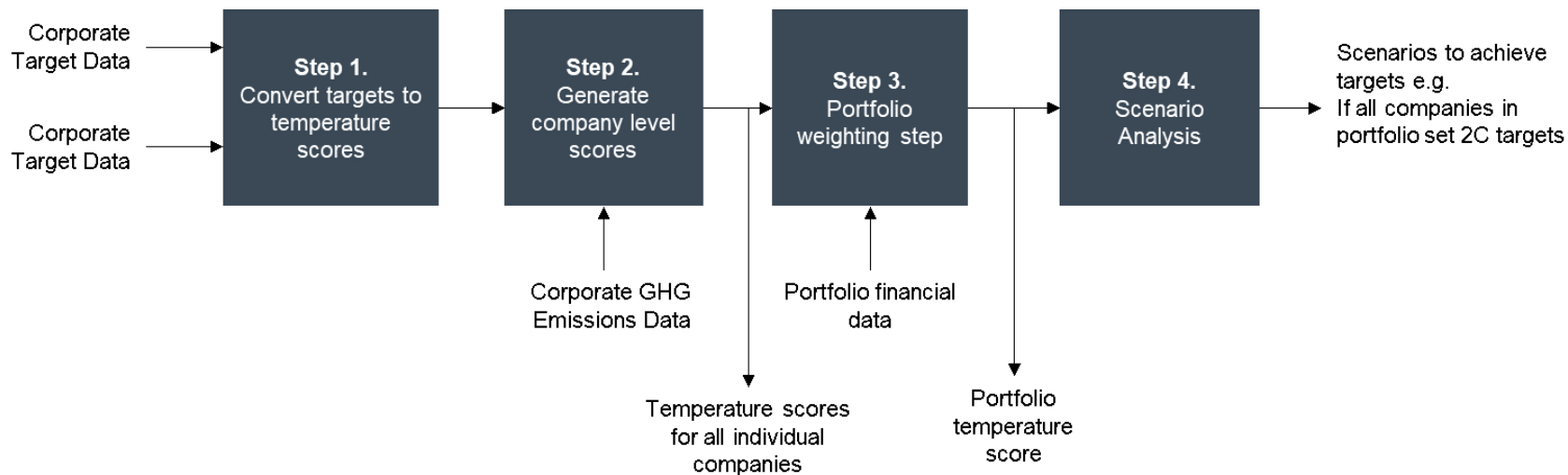
- Portfolio
- Financials + Emissions
- Emissions Reduction Targets
- +4,000 publicly disclosed targets
- +470 SBTi approved target

	A	B	C	D	E	F
1	company_name	company_id	company_isin	weights	investment_value	engagement_target
2	Advanced Micro Devices	US0079031078	US0079031078	6.36%	35000000	true
3	Adobe Systems Inc.	US00724F1012	US00724F1012	1.82%	10000000	
4	Capgemini Group	FR0000125338	FR0000125338	1.82%	10000000	
5	Cisco Systems	US17275R1023	US17275R1023	1.82%	10000000	
6	Coca-Cola HBC AG	CH0198251305	CH0198251305	1.82%	10000000	
7	CVS Health	US1266501006	US1266501006	1.82%	10000000	
8	Danone	FR0000120644	FR0000120644	1.82%	10000000	
9	Dell Technologies	US24703L1035	US24703L1035	1.82%	10000000	
10	Delta Electronics	TW0000108804	TW0000108804	1.82%	10000000	

	A	I	J	K	L	M	N	O	P	Q
1	company_name	industry_level_4	sector	ghg_s1s2	ghg_s3	company	company_m	company_enterprise_value	company_total_assets	company_cash_eq
2	Advanced Micro Devices, Inc		Industrials	24965246,13	66591747,47	20248547997	10464805624	20370723453	814618,2057	4528467715
3	Adobe Systems Inc.		Utilities	1288468,92	1739806,666	276185899,6	170431377	348843699,9	27314,64803	69006941
4	Capgemini Group		Consumer Discretionary	230191,469	1285703,571	10283015132	3087133686	4800604057	343642,4737	1163119848
5	Cisco Systems, Inc.		Industrials	178705,0618	476673,9446	1860376238	1395966781	1849921444	159262,6094	117630751,5
6	Coca-Cola HBC AG		Industrials	97771,83581	260794,4407	31781332590	20377644508	34890123636	43112605,78	28933197273
7	CVS Health		Health Care	466041,1002	1094183,453	22080444056	89487875452	1,42816E+11	12916972,79	51876930016

	A	C	D	E	F	G	H	I	J	K	L	M	N
1	company_name	target_type	intensity_metric	scope	coverage_s1	coverage_s2	coverage_s3	reduction_ambition	base_year	end_year	start_year	base_year_ghg_s1	base_year_ghg_s2
2	Advanced Micro De	Absolute		S1+S2	1	1		0,3	2018	2025		2020	11000
3	Adobe Systems Inc	Intensity	Revenue	S2		1		0,4	2015	2030		2019	1558
4	Capgemini Group	Intensity	Revenue	S3			0,6	0,15	2018	2050		2018	1209218,586
5	Cisco Systems, Inc.	Intensity	Revenue	S1+S2+S3	0,95	0,95	0,5	0,91	2018	2035		2020	184098,8183
6	Coca-Cola HBC AG	Intensity	Revenue	S1+S2+S3	1	1	0,7	0,93	2015	2025		2016	27727,46028
7	CVS Health	Intensity	Revenue	S1+S2	1	1		0,76	2015	2025		2015	0
8	Danone	Absolute		S3			0,8	0,21	2015	2030		2015	545004,528
9	Dell Technologies	Intensity	Revenue	S1+S2	1	1		0,6	2015	2020		2015	814592,7738
10	Delta Electronics	Intensity	Revenue	S1+S2	1	1		0,47	2015	2020		2015	37200,15376

SBTi Finance Tool | Analysis Process



SBTi Finance Tool | Temperature Score Calculation

1) Convert individual targets → Target Temperature Scores

- Target validation protocol – minimum quality criteria
- Regression models of estimated warming in 2100 from IPCC [scenarios](#)

2) Aggregate targets to company level scores

- Default score for no valid targets
- Weighted based on reported emissions
- → Company Temperature Scores

	Short-term 2021-2024	Mid-term 2025-2035	Long-term 2035-2050
Scope 1+2	Temp score	Temp score	Temp score
Scope 3	Temp score	Temp score	Temp score

3) Aggregate to portfolio, sector, market level Temperature Scores

- 7 aggregation methods: Weighted average TS, Total emissions weighted TS, market owned emissions weighted TS, total assets emissions weighted TS...
- Portfolio TS per scope & per time frame
- Portfolio coverage: companies that have SBTi-approved targets

4) What-if analysis

- 6 engagement scenarios – model effect on TS of companies setting targets
- → Design engagement strategy

SBTi Finance Tool | Analysis Example

Company Temp Score

	Short-term 2021-2024	Mid-term 2025-2035	Long-term 2035-2050
Scope 1+2	Temp score	Temp score	Temp score
Scope 3	Temp score	Temp score	Temp score

Portfolio Temp Score (50 company portfolio with randomized data)

```
temperature_score.aggregation_method = PortfolioAggregationMethod.WATS  
aggregated_portfolio = temperature_score.aggregate_scores(amended_portfolio)  
print_aggregations(aggregated_portfolio)
```

Timeframe	Scope	Temp score
mid	S1S2	2.63
mid	S1S2S3	2.88

Portfolio Coverage

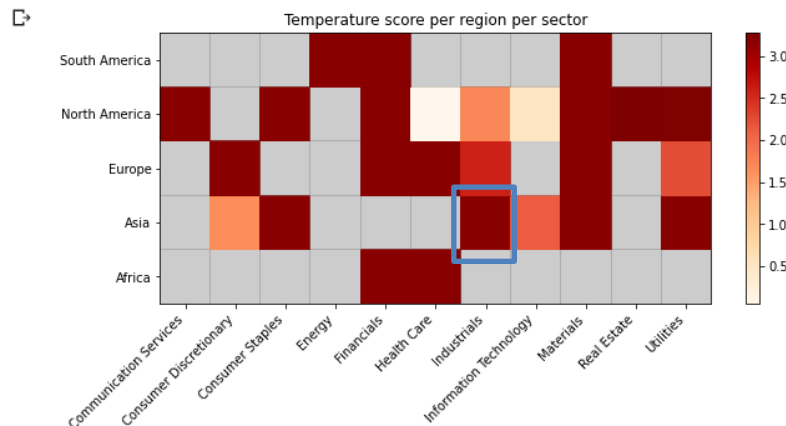
```
portfolio_coverage_tvp = PortfolioCoverageTVP()  
coverage = portfolio_coverage_tvp.get_portfolio_coverage(amended_portfolio.copy(), temperature_score.aggregation_method)  
print("Part of portfolio with climate targets is {c:.2f}%".format(c=coverage))
```

Part of portfolio with climate targets is 35.45%

Where are my hot spots?

Heat map

```
[13] analysis_parameters = ([ETimeFrames.MID], [EScope.S1S2], grouping)
plot_grouped_heatmap(grouped_aggregations, analysis_parameters)
```

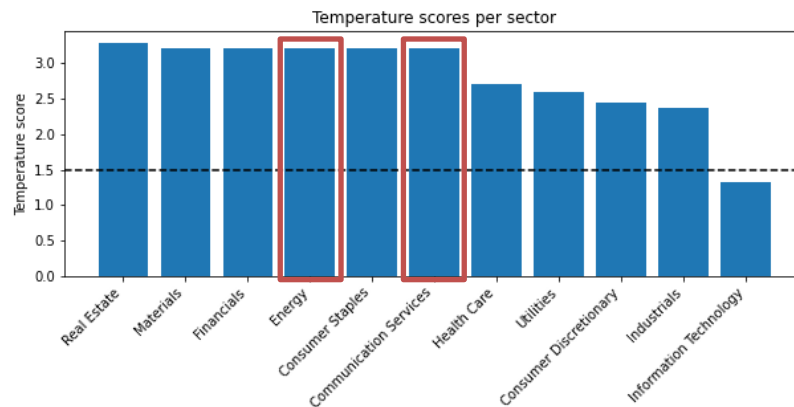
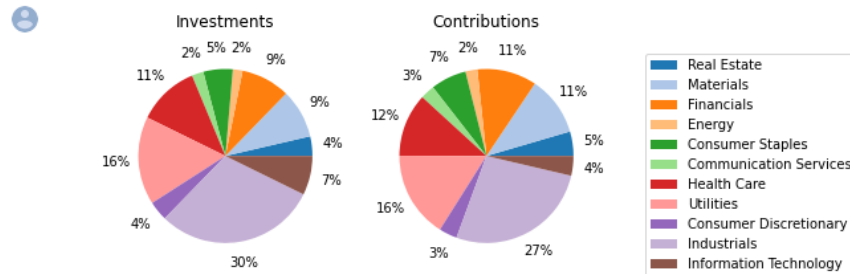


Focus on

- Asian Industrials
- Consumer staples
- Communication services
- Energy

Sector analysis

```
plot_grouped_statistics(aggregated_portfolio, company_contributions, analysis_parameters)
```



Which companies should I engage with?

Analyze temperature score contribution & ownership % of companies in my portfolio

```
company_contributions[['company_name', 'company_id', 'contribution', 'temperature_score', 'ownership_percentage',
```

	company_name	company_id	contribution	temperature_score	ownership_percentage	portfolio_percentage
0	Company N	FR0000000014	9.52	3.20	0.19	7.82
1	Company AG	US0079031078	3.29	1.36	0.33	6.36
2	Company Q	CA0000000017	2.66	3.20	4.81	2.18
3	Company AO	TW0002308004	2.65	3.83	0.01	1.82
4	Company AM	FR0000120644	2.34	3.38	12.25	1.82
5	Company U	US0000000021	2.32	3.36	0.54	1.82
6	Company AH	US00724F1012	2.29	3.31	5.87	1.82
30	Company C	IT0000000003	2.21	3.20	0.34	1.82
25	Company AF	ID0000000032	2.21	3.20	0.97	1.82
26	Company G	CN0000000007	2.21	3.20	0.05	1.82

Put Company Q & Company AM into our engagement scenario 4a: “Engage to encourage companies to set 2C targets”.

What is the impact on my portfolio TS?

Modelling 2 companies in a 50-company portfolio

```
[20] scenario_portfolio = portfolio.copy()
      scenario_portfolio.loc[scenario_portfolio['company_id'] == 'CA0000000017', 'engagement_target'] = True
      scenario_portfolio.loc[scenario_portfolio['company_id'] == 'FR0000120644', 'engagement_target'] = True
```

```
▶ scenario_companies = [SBTi.interfaces.PortfolioCompany.parse_obj(company) for company in scenario_portfolio.to_dict(orient="records")]
  scenario_data = SBTi.utils.get_data([provider], scenario_companies)

  temperature_score.scenario = scenario
  scenario_companies = SBTi.utils.dataframe_to_portfolio(scenario_portfolio)
  scenario_scores = temperature_score.calculate(data_providers=[provider], portfolio=scenario_companies)
  scenario_aggregated = temperature_score.aggregate_scores(scenario_scores)
  print_scenario_gain(aggregated_portfolio, scenario_aggregated)
```

Actual portfolio temperature score

Timeframe	Scope	Temp score
mid	S1S2	2.63

Scenario portfolio temperature score

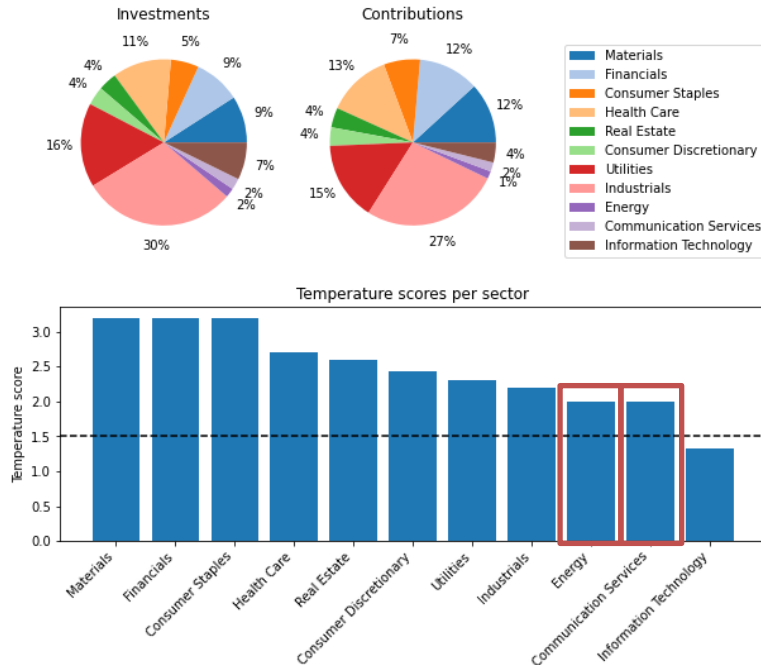
Timeframe	Scope	Temp score
mid	S1S2	2.46

Navigation icons: back, forward, search, etc.

What is the impact on a sector level?

What is the likelihood that I can reach a certain target with my engagement strategy?

```
[23] scenario_contributions = collect_company_contributions(scenario_aggregated, scenario_scores, analysis_parameters)
plot_grouped_statistics(scenario_aggregated, scenario_contributions, analysis_parameters)
```



Results:

I need a more ambitious engagement strategy to reach a 1.5°C target

Solution:

Model other scenarios with different companies and/or focus on a sector or region ...

SBTi Finance Tool provides

- Analysis
 - Modelling
 - Reporting
- for
- Alignment
 - Target setting

SBTi Finance Tool | Reporting

Reporting to SBTi

- Example notebook for reporting and submitting targets to SBTi ([5_reporting.ipynb](#))
- Anonymized data-export – no need to disclose holdings

Calculation settings:

Aggregation method: WATS
Default score: 3.20

Portfolio coverage is 35.45%

Portfolio Temperature scores:

Timeframe	Scope	Temp score
mid	S1S2	2.63
mid	S1S2S3	2.88

Percentage of score based on default:

Timeframe	Scope	% Default score
mid	S1S2	66.36
mid	S1S2S3	78.02

Temperature scores per sector:

	Temp score
mid - S1S2	
Communication Services	3.20
Consumer Discretionary	2.44
Consumer Staples	3.20
Energy	3.20
Financials	3.20
Health Care	2.70
Industrials	2.36
Information Technology	1.32
Materials	3.20
Real Estate	3.28
Utilities	2.58

	Temp score
mid - S1S2S3	
Communication Services	3.20
Consumer Discretionary	3.08
Consumer Staples	3.20
Energy	3.20
Financials	3.11
Health Care	3.05
Industrials	2.72
Information Technology	2.15
Materials	3.20
Real Estate	3.21
Utilities	2.73

SBTi Finance Tool | Reporting

Save anonymized data for SBTi target validation

In order for the targets to be validated by SBTi, you can save your data locally. By running the anonymize function, you can replace company identifiers with meaningless substitutes.

```
[12] portfolio, provider = anonymize(portfolio, provider)
```

In order to store the portfolio and provider data locally, two options apply:

1. You are running the SBTi tool locally or from Google Colab
2. You are running the SBTi tool from a Docker container

If you run the SBTi tool locally or from Google Colab, you:

- Specify and filenames in the cell below
- Run the cell below

```
[13] portfolio_filename = 'portfolio.xlsx'
      provider_filename = 'provider.xlsx'
      portfolio.to_excel(portfolio_filename, index=False)

      writer = pd.ExcelWriter(provider_filename, engine='openpyxl')
      provider.data['fundamental_data'].to_excel(writer, sheet_name='fundamental_data')
      provider.data['target_data'].to_excel(writer, sheet_name='target_data')
      writer.save()
```

Case Study

SBTi Finans | Amundi Case Study

Pilot test to demonstrate application of Temperature Rating method

- Temperature score on 4 portfolios
- Testing how to apply the method to funds
- Funds in 2.2°C to 2.7°C range
- Many portfolio companies have set targets but they are not on the Paris Agreement trajectory
- Tool enables Amundi to identify companies without valid targets
- Key challenge to build coherent strategies that foster climate action using temperature scores

Next Step

SBTi Finance Tool | Where do we start?

Company	Solution(s)
CDP	Provides cleaned input data collected via its annual disclosure system, centered on GHG emissions & target data. CDP can also provide completed temperature ratings for all disclosing companies.
Bloomberg	Has developed a temperature rating/alignment tool with the ability to call in a portfolio directly and link input data seamlessly for calculation of temperature scores at company and portfolio level.
ISS ESG	Provides data needed to run the open source tool. The SBTi temperature analysis can be used to complement ISS ESG's scenario alignment, fully automatic on portfolio level & integrated into the ISS ESG climate impact reports. Further tool integration into existing products is being explored.
MSCI	MSCI collects and provides data to institutional investors that could be used as input data for the SBTi's new methodology and tool. MSCI is testing the tool to understand similarities & differences between MSCI's Warming Potential metric and SBTi's new temperature scoring.
Ortec Finance, OS-Climate & Linux Fnd	Ortec provides temperature scoring analysis of portfolios & companies as a service for asset managers. OS-Climate Platform-building with Allianz, Amazon, Microsoft, Ortec Finance, and S&P to enhance the tool via open source development w input from SBTi, SASB, & Ceres.
Trucost part of S&P Global	Data from Trucost and S&P Global can be used by the SBTi-Finance tool. Deeper integration is being explored.
Urgentem	Urgentem will incorporate the python code (branched) as an API on one of its servers and will develop a module within its current platform (Element6) that will have company level temperature scores and portfolio and sector aggregations.
SBTi Finance	Google Colab Interactive analysis workflow example with method summary



Bloomberg

ISS ESG

MSCI



OS-C

**Trucost
ESG Analysis**

S&P Global

URGENTEM



SBTi Finance Tool | Where can we learn more?

Webinar	Date	Time	Agenda	Sign up here
User Workshop	13 October 2020	9am CEST / 3pm HKT & 3pm CEST/ 9am EST	- Which version is best for you? - Where do I get data? - Analyse and interpret output - Perform 'What-if' analysis - Design engagement strategy - Export data for reporting & further analysis	Asia / Europe: 9-10am, Europe/Brussels Europe / Americas: 9-10am, New York
Developer Technical Deep Dive	14 October 2020	9am CEST/ 3pm HKT & 3pm CEST/ 9am EST	- Setup, integrate & use the tool in your firm's infrastructure - Create integrated workflow for analysts & portfolio managers - Python library - Microservice (REST API) - User interface	Asia / Europe: 9-10am, Europe/Brussels Europe / Americas: 9-10am, New York

SBTi Finance | WWF can help

2 Hour Workshop

- CIO / CEO
- ESG / Hållbarhetsansvarig
- Förvaltare / Analytiker

Create understanding, based on your organisation & strategy, for:

- Criteria
- Methods
- Tools
- Implementation

SBTi Finance – Q&A

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Magnus Emfel
WWF International
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Appendix

SBTi Finance Tool | Architecture

