XDC Climate Impact Report

XDC Analysis for Sample Inc.

June 2022

right.
based on science

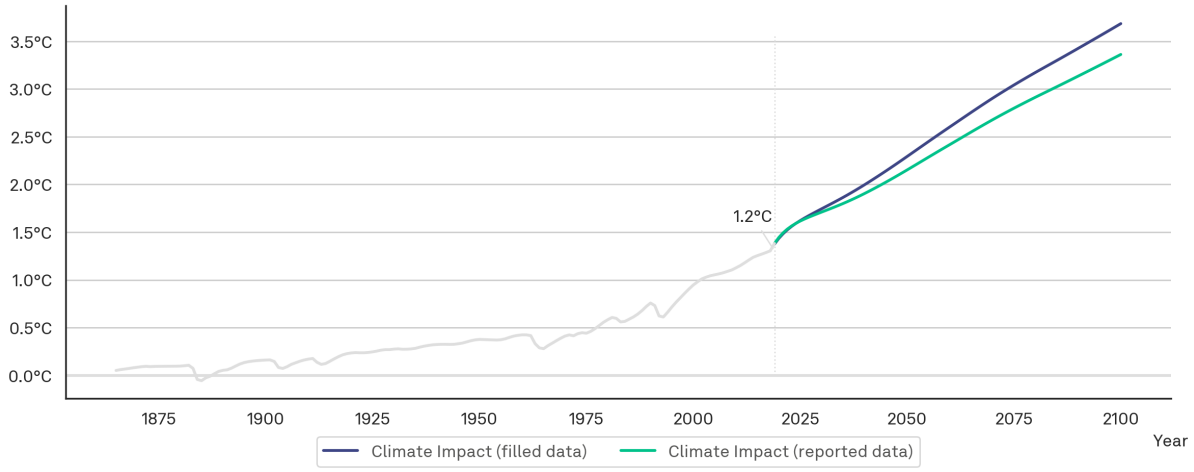
Snapshot of results

3.4°C min – max **3.7°C**

Baseline XDC

Sample Inc. is not Paris-aligned.

Climate Impact of Sample Inc.

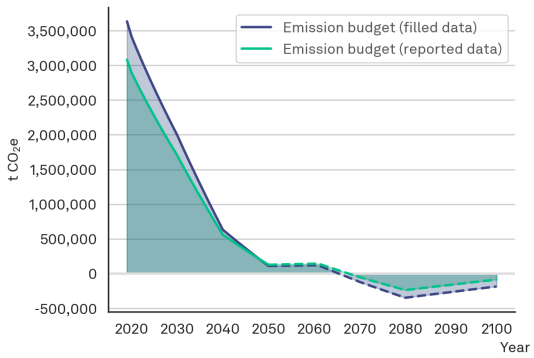


Since the pre-industrial era, global mean temperatures have increased by about 1.2°C. If everyone performed like Sample Inc., a warming of 3.4°C compared to the pre-industrial age could be expected by the end of the century. The climate targets of the Paris Agreement would thus not be met.

Competitor comparison

Company	Baseline XDC
Sample Inc.	3.4°C
Mercedes-Benz Group AG	2.9°C
Tesla Inc	5.1°C
Nissan Motor Co., Ltd.	6.1°C
General Motors Co	6.7°C
Ford Motor Company	7.8°C

Remaining emission budget



Overview of data used

Base year:	2019
Sector (EU NACE):	29.20 | Manufacture of motor vehicles, trailers and semi-trailers
Headquarter:	United States

Financial figures during base year

EBITDA	Personnel costs	Revenue
530,000,000€	290,000,000€	7,500,000,000€

The **gross value added** (GVA) of a company is the sum of **EBITDA** and **personnel costs**. GVA is used in the XDC calculations to determine the economic emission intensity (EEI), i.e., the ratio of emissions to GVA.

Emission data in base year

Emission category	Reported CO_2e	Remark
Scope 1 Emissions	**52,000 t**	
Scope 2 Emissions	**41,000 t**	
Scope 3 Emissions	**2,986,658 t**	
Purchased goods and services	*26,666 t*	
Capital goods	*26,666 t*	
Fuel- and energy-related activities	*266,666 t*	
Upstream transportation and distribution	*266,666 t*	
Waste generated in operations	*266,666 t*	
Business travel	*266,666 t*	
Employee commuting	*266,666 t*	
Upstream leased assets	*266,666 t*	
Downstream transportation and distribution	*266,666 t*	
Processing of sold products	*266,666 t*	
Use of sold products	*266,666 t*	
End of life treatment of sold products	*266,666 t*	
Downstream leased assets	*266,666 t*	
Franchises	*not available*	*filled*
Investments	*not available*	*filled*

A reliable data set is important for the interpretation of your XDC. However, it may happen that some emissions data are not available or not complete. In this case, the respective emission categories are filled with estimated values and the XDC is provided as an interval. The minimum value shows the XDC based on the reported data, the maximum value additionally considers the filled emissions.

Climate Impact of Sample Inc.

Baseline XDC

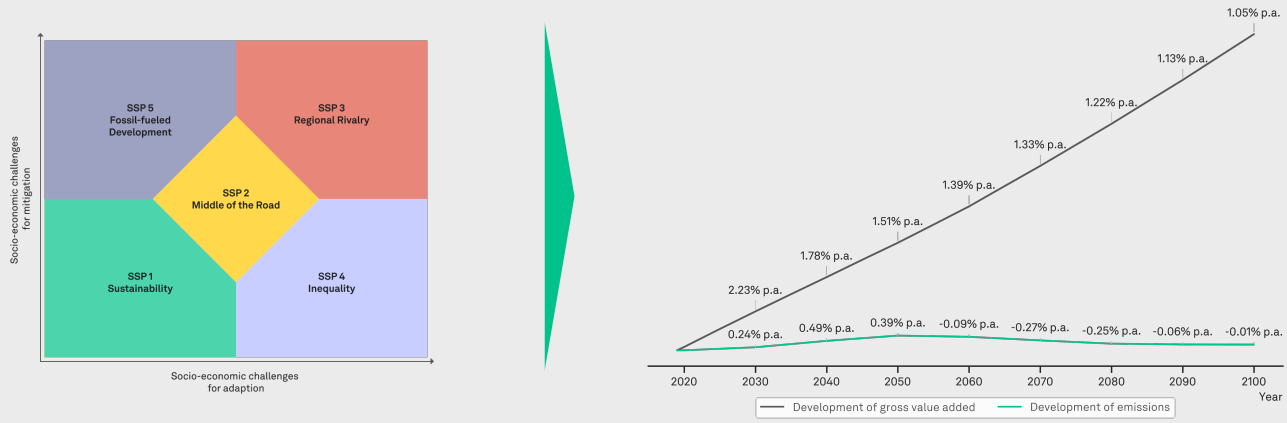
3.4°C – 3.7°C

Scope 1	Scope 2	Scope 3
3.7°C	3.0°C – 3.7°C	3.4°C – 3.7°C

The **Baseline XDC** answers the question: How much global warming could we expect by 2100 if the entire world exhibited the same climate performance as Sample Inc.. The climate performance of Sample Inc. is measured in relation to sector-specific Emission Intensity benchmark pathways. The company's development up to 2100 is modelled using standardized assumptions.

Scenario overview

Shared Socioeconomic Pathway 2



O'Neill, B.C., et al., The roads ahead: Narratives for shared socioeconomic pathways describing world futures in the 21st century. Global Environ. Change, 2015.

The Shared Socioeconomic Pathway 2 describes sustainable development in small steps. Social, economic and technological trends are in line with historical patterns. Global and national institutions are working toward achieving the Sustainable Development Goals, but progress is slow. Environmental systems are deteriorating, while the intensity of resource and energy use is declining.

Competitor comparison

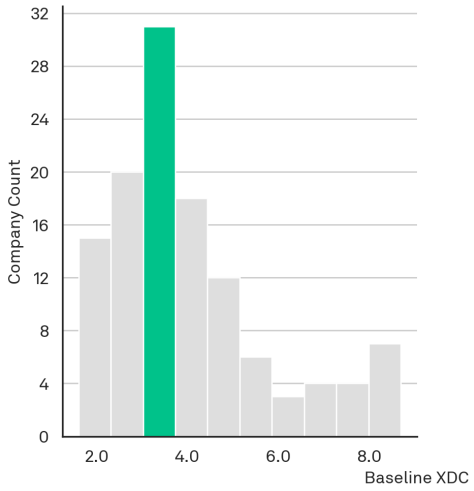
NACE 29 - Manufacture of motor vehicles, trailers and semi-trailers

Our database holds the XDCs of 119 companies in Sample Inc.'s sector. To allow a competitor comparison, the economic and ecological development of the competitors is likewise projected with Baseline assumptions. The underlying emissions data may include modelled emissions from our data provider Urgentem.

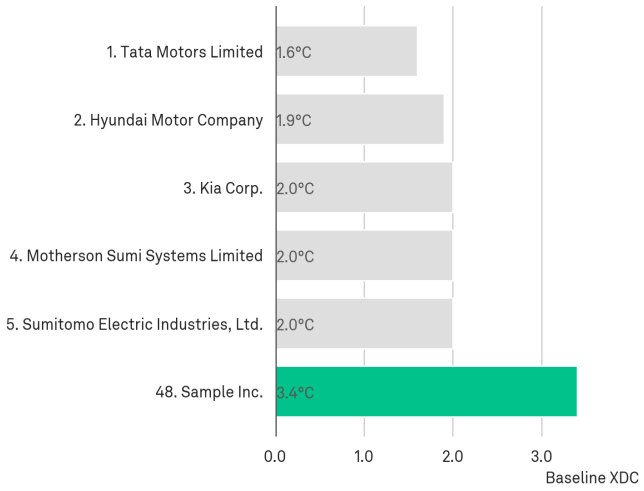
Climate Impact of selected peers

	Sample Inc.	Mercedes-Benz Group AG	Tesla Inc	Nissan Motor Co., Ltd.	General Motors Co	Ford Motor Company
HQ	USA	DEU	USA	JPN	USA	USA
Sector	29.20	29.20	29.20	29.20	29.20	29.20
Baseline XDC	**3.4°C**	**2.9°C**	**5.1°C**	**6.1°C**	**6.7°C**	**7.8°C**
Emissions	Reported	Reported	Modelled	Modelled	Reported	Reported
Reported Scope 3 categories	13 / 15	15 / 15	0 / 15	0 / 15	15 / 15	15 / 15
Profitability ($ GVA/$ Revenue)	0.11	0.30	0.13	0.12	0.17	0.08
Emission intensity (CO_2e/$ Revenue)	367	760	903	1,046	1,856	1,205
Purchasing power parity	1.00	1.24	1.00	1.08	1.00	1.00

Distribution of companies

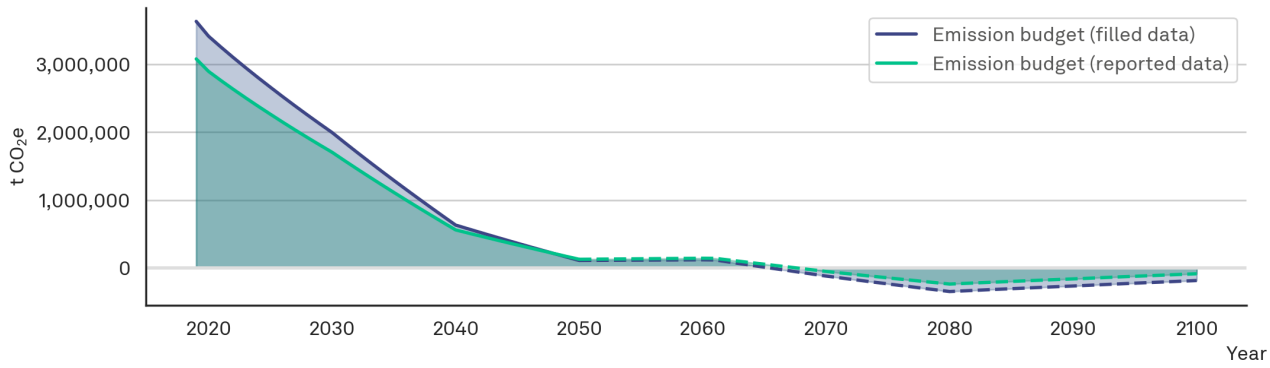


Top 5 companies of the sector



Remaining emission budget for Sample Inc.

Development of total emissions



Year	% vs. base year (reported data)	% vs. base year (filled data)
2030	-45%	-45%
2050	-96%	-97%
2100	-103%	-105%

To meet the **1.5°C target**, Sample Inc. would need to stay within the remaining emission budget. This takes into account the sector affiliation, he performance in the base year as well as the development of the company's gross value added (see page 4).
The decarbonization pathway is based on the IEA mitigation scenarios which assume the use of negative emission technologies (Carbon Capture and Storage) in the second half of the century, thereby allowing the emission budget to slightly increase again. To better understand the associated uncertainties and their implications for Sample Inc.'s short- and medium-term emission reductions, we recommend a more in-depth analysis using the XDC Scenario Explorer.

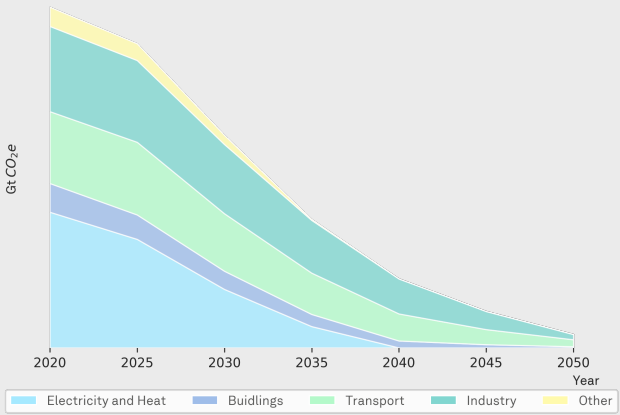
Scenario overview

IEA Net Zero by 2050

The IEA Net Zero by 2050 scenario describes a cost-optimized full decarbonization of economic sectors, consistent with a 1.5°C budget.

Unavoidable emissions will be offset by the extensive expansion of carbon capture and storage technologies from 2030.

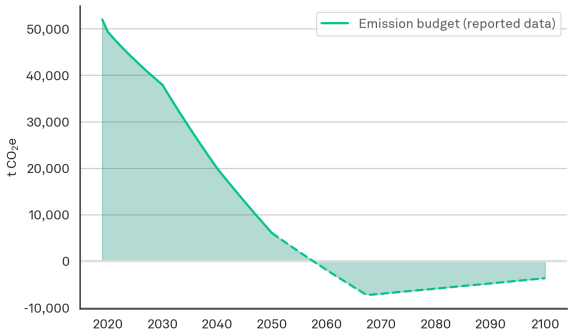
The IEA Net Zero by 2050 scenario assesses the probability of limiting global warming to 1.5°C without overshoot at 50%.



IEA(2021), *Net Zero by 2050. A Roadmap for the Global Energy Sector.*

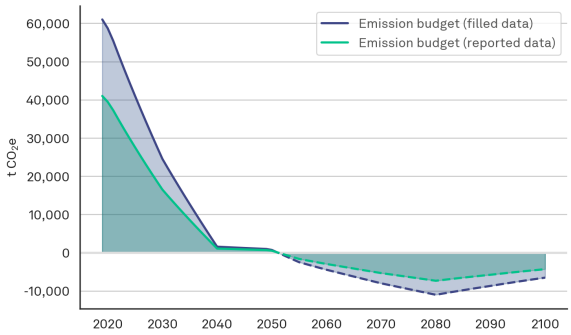
Remaining emission budget for Sample Inc.

Scope 1 emissions are reduced along the **1.5°C-budget** for the IEA sector 'Industry'.



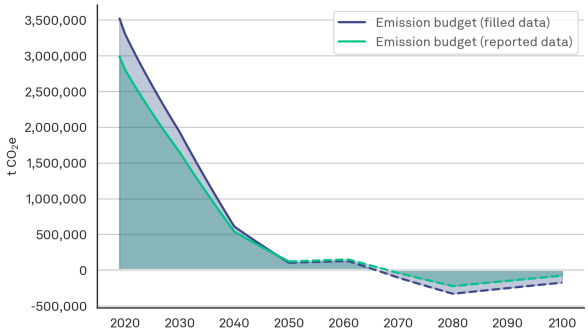
Year	% vs. base year (reported data)
2030	-27%
2050	-88%
2100	-107%

Scope 2 emissions are reduced along the **1.5°C-budget** for the IEA sector 'Energy'.



Year	% vs. base year (reported data)	% vs. base year (filled data)
2030	-60%	-60%
2050	-99%	-99%
2100	-110%	-111%

Scope 3 emissions are reduced along the global **1.5°C-budget**.



Year	% vs. base year (reported data)	% vs. base year (filled data)
2030	-45%	-45%
2050	-96%	-97%
2100	-103%	-105%

About right. based on science

right. based on science GmbH (right.) is a climate tech company that provides transparency on the climate impact of economic activities – plain & simple in °C

right.'s software and metrics enable decision makers from the real economy, finance, and real estate to plot pathways to 1.5°C alignment and to let their climate-related decisions be guided by the best available science and data.

right. was founded by Hannah Helmke and Dr. Sebastian Müller in 2016 and is a pioneer of so-called 'temperature alignment' or 'implied temperature rise' (ITR) metrics. Its unique **X-Degree Compatibility (XDC) Model** is science-based and peer-reviewed. It has been available for free use to academia since 2019 through the project right. open. At the end of 2021, it was released under an open license (open source).

The interdisciplinary team of nearly 40 experts is dedicated to continuously improving and expanding the XDC Model. right. also offers comprehensive services around the implementation and application of its software. The aim is to help shape a future, in which economic success is no longer dependent on emissions.

In 2020, right. was awarded the prestigious Next Economy Award. Hannah Helmke received the Digital Female Leader Award ('Sustainability' category) in the same year as well as the Female Founders Award by AmCham Germany in 2021.

Imprint / Contact

right. based on science GmbH
Intzestraße 1
60314 Frankfurt/Main

Phone:	+49 (0) 69 97983452
E-Mail:	info@right-basedonscience.de
Web:	right-basedonscience.de
Your contact:	Nicolas Schuerhoff | n.schuerhoff@right-basedonscience.de

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