

# Companies are missing their climate goals with misaligned behaviour, new research suggests

Submitted by: BlueSky Education

Wednesday, 6 December 2023

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The emissions pathways of most publicly traded companies in high-emitting sectors are not aligned with the climate targets of the Paris Agreement. To better contribute to national and global sustainability efforts, corporate behaviour must change. This is the main message of a new study by Imperial College Business School (<https://www.imperial.ac.uk/business-school/>) published in Nature Communications (<https://www.nature.com/articles/s41467-023-43116-2>).

The study aims to better understand what differentiates companies that are able to reduce their emissions to levels compatible with the targets of the Paris Agreement and those which do not.

It provides an extensive analysis of companies' sustainability behaviour and offers insights into the origins of their failure to meet their climate change goals.

To abide by the Paris Agreement, countries have put forward emission targets and national plans, but meeting these depends on the actions of non-state actors, most notably corporations, which are responsible for a significant component of global greenhouse gas emissions.

Understanding corporate climate actions and behaviour, is therefore crucial, according to Dr Simone Cenci, an Advanced Research Fellow at the Leonardo Centre on Business for Society (<https://www.imperial.ac.uk/business-school/faculty-research/research-centres/leonardo-centre-business-society/>) at Imperial College Business School and one of the authors of the study.

“Currently, we don't really know in enough detail what large publicly traded companies are doing to lower their emissions because there aren't clear reporting standards on the disclosure of sustainability activities. So far we have not been able to identify effective behaviours and companies that are taking the right actions.” says Dr Cenci.

The team, together with the GOLDEN foundation (<http://foundationgolden.org/golden-what/#approach>), used a database comprised of over 800,000 sustainability initiatives extracted from over 40,000 corporate sustainability reports published by over 9,000 companies to carry out their analysis. The database includes major global publicly traded companies across all sectors, spanning the last 20 years

The GOLDEN dataset allowed the team to analyse the activities companies implemented – such as investment in R&D, or modification of assets and procedures, and the objectives of those activities – such as reducing emissions or improving efficiency of production processes.

By focusing on a subset of 1,900 companies in high emitting sectors (Energy, Industrial, Material, Utilities), the team investigated what differentiates those companies which have been able to reduce their emissions to a level compatible with the climate targets of the Paris Agreement, from those which have not.

Their results revealed that the differentiation lies in corporate sustainability behaviour.

Companies with emission pathways aligned with the targets of the Paris Agreement focused more effort on developing innovative solutions to meet their energy goals and the investment in renewable resources, as opposed to managing existing assets.

In contrast, the focus of misaligned companies lies more heavily in risk-mitigating activities, such as the modification of existing assets and procedures.

These findings, Dr Cenci says, are of vital importance for industry, government and wider society, by highlighting that companies need to strategically choose their investments when planning their actions around climate change.

To address these concerns, the team has developed a framework to track the effectiveness of companies' climate actions and behaviour providing greater transparency across sectors and countries.

“Beyond reporting standards and the introduction of mandatory compliance on impacts, our findings point to corporate behaviour that generates the desired impacts, aligned with Paris Agreement targets. We know what Sustainable Development Goals and type of activities companies over-invest and under-invest in. This is critical to adjusting climate strategies for companies, investors and policy-makers,” says Professor Maurizio Zollo, a co-author on the paper and Scientific Director of the Leonardo Centre on Business for Society.

The framework offers many practical benefits. Not only can business leaders gain a detailed understanding of the sustainability behaviours of peers and competitors to improve their own climate strategies, but investors will be able to utilise the GOLDEN dataset to improve sustainable capital allocation strategies. For policymakers, the dataset will allow them to assess effective corporate sustainability behaviours and design behaviourally founded climate policy interventions to build the right incentives.

The usefulness of the data for decision-making is already being introduced through Imperial College Business School's teaching activity. This includes an Executive Education Sustainability Leadership programme

(<https://www.imperial.ac.uk/business-school/executive-education/sustainability-climate/sustainability-leadership-programme/>) and a new Executing Sustainability Strategies

(<https://www.imperial.ac.uk/business-school/executive-education/sustainability-climate/executing-sustainability-strategies/>) programme, which are designed specifically for business leaders looking to develop corporate sustainability strategies that align the right actions for the best outcomes.

The study was conducted by Dr Simone Cenci (<https://www.imperial.ac.uk/people/s.cenci>), Mr Matteo Burato (<https://www.imperial.ac.uk/people/m.burato>), Dr Marek Rei (<https://marekrei.com/>) and Professor Maurizio Zollo (<https://www.imperial.ac.uk/people/m.zollo>) at the Leonardo Centre on Business for Society (<https://www.imperial.ac.uk/business-school/faculty-research/research-centres/leonardo-centre-business-society/>) at Imperial College Business School (<https://www.imperial.ac.uk/business-school/>), and the Department of Computing at Imperial College London (<https://www.imperial.ac.uk/computing>).

The study has been published this month in Nature Communications

(<https://www.nature.com/articles/s41467-023-43116-2>).

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