

# COP26 deal sparks hope for positive tipping points

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The TIST project harnesses positive tipping points. Credit: John Ambler

The [Breakthrough Agenda](#) agreed at COP26 could help trigger positive tipping points to tackle the climate crisis, researchers say.

At the summit in Glasgow, leaders of countries covering 70% of world GDP pledged to "make clean technologies and sustainable solutions the most affordable, accessible and attractive option in each emitting sector globally before 2030".

This signals a key shift in thinking—instead of focussing directly on

emissions targets, it aims to tip [economic sectors](#) into a new state where the "green" option is cheapest and easiest.

A tipping point occurs when a small intervention sparks a rapid, often irreversible transformation—and a new paper offers a "recipe" for finding and triggering positive tipping points.

"The only way we can get anywhere near our global targets on key issues like [carbon emissions](#) and biodiversity is through positive tipping points," said lead author Professor Tim Lenton, Director of the Global Systems Institute (GSI) at the University of Exeter.

"The challenges are enormous—we need to cut greenhouse gas emissions in half by 2030, and reverse biodiversity loss to make our impact 'nature-positive'.

"The Breakthrough Agenda is the first time a large group of countries has agreed joint climate change goals in the form of economic tipping points.

"We argued for precisely this in a [previous paper](#), and we are heartened to see world leaders adopting this approach.

"Our new paper shows a variety of ways that tipping points can be activated.

"Societies worldwide will need to put all of these into action to bring about low-carbon transitions at the pace and scale required to avoid dangerous climate change."

The paper examines the "enabling conditions" for a tipping point (such as the declining price of a green technology), and how the tipping point can be triggered (for example by coalitions of committed individuals).

Combinations of factors such as cost and [public attitude](#) have helped to trigger tipping points in [electric vehicles](#) and [solar energy](#), and both are rapidly advancing around the world—which in turn leads to feedbacks of technological improvements and lower costs.

Greta Thunberg's climate protest triggered a global surge of activism that continues to grow, with diverse impacts.

Asked about positive tipping points that could soon be triggered—or might already be tipping—Professor Lenton highlighted the [growth and uptake of plant-based diets](#), including meat substitutes.

Co-author Scarlett Benson, from global sustainability consultancy SYSTEMIQ, said: "Policymakers have a critical role in triggering the shift away from meat-rich diets, for example by investing the trillions of dollars of public R&D spend into the development of plant-based and cell-based meat and dairy alternatives, and by directing the trillions of dollars of public procurement spend towards these products to stimulate demand and drive down costs."

Co-author Dr. Tom Powell, from GSI, added: "In other cases, transformation can start with grassroots communities.

"For subsistence farmers facing land degradation and drought, regenerative farming methods can help rebuild the health of their soils and ecosystems, making them more resilient. A farmer-led scheme called TIST has spread to over 150,000 subsistence farmers in East Africa, because it supports farmers to share these practices and learn from one another.

"International voluntary carbon markets have enabled TIST members to collectively access payments for carbon sequestered in trees on their land, building in a further reinforcing feedback."

The researchers say positive tipping points can help to counter widespread feelings of disempowerment in the face of global challenges, and they stress that everyone can play a part in triggering positive tipping points.

"These changes often start with small groups of people with a big idea," said Professor Lenton.

"These can become networks of change that grow into large movements with a major impact.

"Public and private money is also important. Public money is often first, funding research and development, and private finance then comes to drive an idea at scale."

The paper notes the importance of equity when seeking to trigger tipping points. The authors write: "It is vital to consider what social safety nets can help ensure a just transformation."

The researchers say their framework for finding and triggering tipping points needs "testing and refining", adding: "There is no better way forward than to learn by doing.

"Continuing to delay action to accelerate a just transformation towards global sustainability will only accentuate the need to find and trigger even more dramatic positive tipping points in the future."

The paper, written by a team including researchers from Hamburg University and University College London and published in the journal *Global Sustainability*, is entitled: "Operationalising Positive Tipping Points towards Global Sustainability."

**More information:** Timothy M. Lenton et al, Operationalising

Positive Tipping Points towards Global Sustainability, *Global Sustainability* (2022). [DOI: 10.1017/sus.2021.30](https://doi.org/10.1017/sus.2021.30)

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