

Well-meaning climate measures can make matters worse

July 1 2019



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Lifestyle changes can reduce our greenhouse gas emissions and help protect nature. While some actions offer great potential, some aren't as effective as we think and may even require more land and water, such as

shifting to renewable energy.

We need to change our lifestyle if we want to make a dent in [greenhouse gas emissions](#) in Europe. But not all changes proposed in the name of climate mitigation are for the better, according to research from NTNU and others.

"The most promising solutions involve reducing motorized transport, switching to a more shared economy, saving energy, using fewer household chemicals and plastics, reducing [food waste](#) or food surpluses, and increasing the lifetime of clothing and other durable goods. These measures assume that we shift our focus from infinite economic growth to building a more sustainable society and achieving environmental goals," says Gibran Vita, a researcher in NTNU's Industrial Ecology Programme and at the University of Kassel in Germany.

Risky tactics

First, let's take a look at what tactics fall short or could even make matters worse, at least in some areas.

True enough, transitioning to more renewable electricity may lessen our carbon footprint by around 3 per cent, but at the same time land use could increase by more than 3 per cent, which is no doubt apparent to anyone who has been following the debate on wind turbines in Norwegian wilderness areas. These factors need to be weighed against one another.

The spring UN report by Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) pointed out that changes in land and sea use pose the greatest threat to the world's species, more than direct exploitation of organisms, with climate change in third place.

Increasing the use of renewable fuels is another risky tactic. Despite its potential to reduce carbon emissions by up to 12 per cent, such a measure would also increase land use and water consumption by 5-6 per cent. This should likely be considered in the debate on electric and hydrogen cars.

To exhaustively repair and renovate the existing building stock might help energy efficiency but also, perhaps somewhat surprisingly, increase land use by over 10 per cent. The materials have to come from somewhere.

If we want to reduce the impact of Europeans on the environment, then we need to know what we're doing.

Rich countries: going for growth or enough?

Specialists in consumption and how different choices affect emissions of greenhouse gases, land use, [water consumption](#) and toxicity were part of a research group that analysed two different main directions, with several sub-scenarios, that the world can take.

Green Consumption or Less Consumption? Varying creeds exist even among people who know the climate crisis is real and human caused. These include:

Green growth: Some people believe it's possible to achieve "green growth." They tend to think that it is enough to consume products that pollute less and to adopt more environmentally friendly technologies like [renewable energy](#), while at the same time producing renewable materials. Green growth also includes moving to a circular economy where we minimize raw material use, energy consumption, and emissions—and throw away as little as possible.

Enough is enough: Other people think we need to take more drastic steps and believe that those of us in the richest parts of the world have to learn to live with just enough to maintain the standard of living we have today instead of pursuing continued growth. This option means that people work less and have more time, but also that we protect the quality of life with strong welfare systems.

300 proposals analysed

About 200 people with backgrounds in business, academia, agencies and other sectors came together to hammer out proposals for reducing greenhouse gas emissions. The working groups generated more than 300 visions for change.

Gibran Vita and his group in turn divided the proposals into 36 different scenarios, 17 of them for green growth, and 19 of sufficiency, assuming consumption is limited to a reasonable level in the richest parts of the world.

"Although the scenarios that assume no increased consumption would be the most effective, the measures proposed in them are less popular than green consumption, since they're at odds with today's view that consumption equates to quality of life," says Vita.

The impacts of the various measures naturally vary greatly.

Food, transportation and reuse

"We found that switching to plant-based foods, less motorized transport and energy-efficient houses can reduce climate impact in Europe by 10 per cent or more," says Vita.

A large scale switch to plant-based foods can reduce your carbon footprint by up to 15 per cent. Throwing away less food could yield an additional 5 per cent reduction in carbon and up to 16 per cent less water.

A massive transition to cycling and walking could by itself offset European greenhouse gas emissions by up to 26 per cent and reduce the pressure on land and water resources by up to 4 per cent.

"But if you walk or bike daily and then reward yourself with a plane flight, you could still end up with a bigger footprint than today," Vita says.

Repairing and buying less household electronics could reduce emissions and consumption by up to 6 per cent.

Repairing and re-using clothing would reduce consumption more than 2 per cent. But switching to plant-based textiles would amount to very little, if anything. Only lowering fashion consumption makes a significant difference.

People can share more

The effects of switching to a more local economy, where numerous tasks are taken care of cooperatively in the local area, vary greatly depending on how this is done. The impact can therefore range from a 3 to 23 per cent reduction in a community's climate footprint.

If we build fewer homes because more people choose to live together, or we divide existing units into smaller ones, Europe's [carbon footprint](#) could shrink by about 1.8 per cent, and the pressure on rural areas by about 3.5 per cent. Using natural building materials probably has no significant effect.

Vita notes that some of the measures may have effects in other parts of the world than Europe. Because of an increase globalized economy, reduced [consumption](#) here at home can mean less damage in the manufacturing countries.

More information: Gibran Vita et al, The Environmental Impact of Green Consumption and Sufficiency Lifestyles Scenarios in Europe: Connecting Local Sustainability Visions to Global Consequences, *Ecological Economics* (2019). [DOI: 10.1016/j.ecolecon.2019.05.002](https://doi.org/10.1016/j.ecolecon.2019.05.002)

Provided by Norwegian University of Science and Technology

Citation: Well-meaning climate measures can make matters worse (2019, July 1) retrieved 4 May 2024 from <https://phys.org/news/2019-07-well-meaning-climate-worse.html>

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