A case for co-benefits

Andrew Sudmant, Data Programme Manager, Edinburgh Climate Change Institute

"To view [climate change] in isolation from the rest of the world predicament would be to repeat the mistakes of many narrowly specialised observers who have examined the prospects for the future only through the tunnel of their expertise." (Stephen Schneider, 1976)

Writing in 1976, a decade that saw the foundations of climate science developed, Stephen Schneider was one of the first to realise that climate action could not be achieved in isolation. While acid rain could be addressed by adding 'scrubbers' to industrial facilities, and the ozone layer (which was to become an issue in the 1990s) could be healed with the invention of new refrigerants, climate change required changes to our energy system, our economy and our society that were too fundamental to be undertaken in isolation.

That addressing climate change has far-reaching implications for our society is well recognised. At the same time, 48 years after Schneider's quote, 36 years after the setting up of the Intergovernmental Panel on Climate Change (IPCC), 16 years after climate action was embedded in UK law, and two years after Scotland reduced its 1990 greenhouse gas (GHG) emissions by half, the design of climate actions remains narrowly focused on GHG emissions. Impacts on biodiversity, the risk of flooding, heatwaves and fires, public health, urban mobility, and economic productivity, among many other impacts, remain sidelined as so-called 'co-benefits'.

Foregrounding the wider impacts of a shift to net zero has particular importance at the stage of the transition we are about to embark on. Climate action to date, in the UK and globally, has been led by actions to reduce emissions from the energy grid. New electricity has come from natural gas instead of coal, and increasingly from wind and solar instead of natural gas. These changes have happened rapidly. But if you weren't reading the news or working on climate change it's entirely possible you could have missed that it happened at all. Electrons from a wind turbine heat your kettle just the same as those from a coal generator. The climate action we are about to embark on, by contrast, will be much more visible, tangible and, unfortunately, political. Homes and offices and shops will need to be zero carbon. Transport networks, food systems, and our water and waste services will be affected.

The case, and in my opinion the necessity, for foregrounding co-benefits lies in the fact that co-benefits are the essential reason actions are already taking place. People cycle for the enjoyment and health benefits of cycling. Homes are retrofitted to make them more comfortable. Public transport networks are built to reduce congestion and make cities more accessible. Parks and wilderness are protected to bring peace and calm and happiness from the knowledge we are supporting nature and biodiversity. To make the case for bike lanes, building retrofits, public transport, parks and wilderness with a focus first on GHG emissions is to put the reasons we do things already as secondary.

There are two wider reasons to emphasise the co-benefits of climate action. First is to recognise and engage with the co-costs of climate action. Closely planted coniferous forests sequester far more carbon than native mixed or deciduous forests but are also far less biodiverse. Retrofitting listed homes and buildings brings forward tricky questions about the way we bring our heritage into the 21st century. Understanding where, when and to what extent there are conflicts between climate action and a range of social, economic and environmental challenges is essential to avoid unintended consequences. Trade-offs are inevitable; a poorly planned transition is not.

Finally, we need to prioritise the co-benefits of climate action in order to ensure we are not forgoing massive social and public benefits. Our research shows that the social benefits from climate action in the UK, in the form of warmer homes, a healthier population, and improved mobility, are eight times larger than the costs of action.

"Homes are retrofitted to make them more comfortable."

At the Co-Bens project at the Edinburgh Climate Change Institute, we are working to further our understanding of the science of co-benefits by working with the UK Climate Change Committee and researchers at the Department of Geosciences at Edinburgh University. With private sector actors including PwC and Abundance Investment we are working to understand how the co-benefits of climate action can help to scale climate investment. With Scottish Climate Intelligence Service and the Scottish Sustainability Network we are working to understand how public sector and local government climate action plans can be developed in ways that realise the co-benefits of climate action. In January 2025 we will be launching the UK Co-Benefits Atlas, a set of visualisations and data sources co-created with stakeholders that support the use of co-benefits in climate science, policy and practice.

Scotland's ambitious climate targets are already yielding benefits. The expansion of wind farms in the Highlands contributes to clean energy and boosts local economies. Green infrastructure projects in Glasgow and Edinburgh are simultaneously addressing flood risks and creating vibrant community spaces. By placing co-benefits at the forefront of our climate strategies, we can build a movement that resonates with people's needs and aspirations, making the transition to a zero-carbon future not just necessary, but desirable.

FURTHER READING

SH Schneider, LE Mesirow (1976) *The genesis strategy: climate and global survival*

A Sudmant, D Boyle, R Higgins Lavery et al (2024) *Climate policy as social policy? A comprehensive assessment of the economic impact of climate action in the UK* (*Journal of Environmental Studies and Sciences*, doi.org/10.1007/s13412-024-00955-9)