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Rebound and Risks Summary Report | Executive Summary

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EXECUTIVE SUMMARY

Policy can help households adopt the lifestyle changes necessary to meet the targets of the Paris Agreement by incentivizing low-carbon behaviours and disincentivizing carbon-intensive actions. Often, however, incentives to switch to a more sustainable behaviour encourage increased consumption in other areas or feature other hidden costs to the climate.

This dynamic, called rebound effects, can be measured as the percentage of an action's emissions reduction that is eaten up by resulting emissions increases elsewhere. Effective policies must account for rebound effects in designing interventions that promote 1.5-degree lifestyles. This report identifies rebound effects commonly featured in the environmental economics and psychological literature and identifies their effects on climate policies in four areas: transport, housing, food, and leisure. Afterwards, the report summarizes the results of co-creation workshops where participants described their personal experiences living low-carbon lifestyles and successful strategies to adapt to new habits.

Different climate policies and lifestyle changes have different rebound effects. Within transport, studies suggest that the emissions reduced from shrinking the number of cars on the road are often largely offset by the emissions gained from people who switch out of public transport and into carsharing. Similarly, buying a cheap electric vehicle can free up disposable income that is spent on other carbon-intensive activities. Giving up cars entirely often leads to more flying, producing rebound effects that offset up over 60% of emissions savings. Gradually switching from driving to walking or cycling, without increasing flying, only has a rebound effect of 25% and may thus be a more effective change.

The rebound effects from housing-related lifestyle changes are much smaller, but highly variable between communities. The rebound effect of insulating homes, generated by spending savings from lower energy bills on purchasing goods or services, may only be between 20%-30% of reduced emissions. Similarly, installing efficient light bulbs and solar photovoltaics, as well as downsizing to a smaller house, all appear to only generate modest rebound effects.

Quantifying the rebound effects of food and leisure lifestyle changes is difficult. Diet changes appear to have high rebound effects and small net impacts while rebound effects on leisure decisions depend heavily on the specific consumption choices made by individuals. Savings generated from decreasing food waste can produce high rebound effects if used to purchase higher quality, carbon-intensive foods. Using the savings to buy expensive organic food, in contrast, leads to positive rebound effects. Studies looking at rebound effects for leisure decisions highlight the critical importance of flying. Individuals in wealthy countries commonly use their extra time and money to fly, drastically limiting their positive impact on climate mitigation.

After completing a comprehensive literature review, the project consortium carried out workshops featuring sustainable lifestyle "pioneers" who engaged in low-carbon behaviours like becoming vegan, giving up their cars, stopping flying, or reducing their living space.

Participants reported they initially changed their lifestyles for a variety of reasons, including aligning closely with core values like care and safety, as well as saving money in response to cost of living increases. Participants also mentioned social and health-related motivations as reasons for their sustainable choices. In several cases, structures like well-functioning public transport systems or limited access to larger accommodations facilitated the implementation of participants' lifestyle changes.

The participants reported several negative and positive consequences of their lifestyle changes, including sadness and loss of freedom, as well as a sense of pride and improved wellbeing over giving up



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flying. After giving up meat, participants mentioned negative consequences including increased plastic packaging waste and time-consuming cooking. Conversely, the participants reported their increased awareness of the benefits of low-carbon food consumption as a positive ripple effect. The participants also reported desirable and undesirable effects of giving up car ownership and reducing living space options.

In general, participants developed adaptation strategies to cope with the unpleasant aspects of their shifts, including intentionally reorganizing their time and possessions and avoiding uncomfortable conversations with friends and family about their motivations. Importantly, most participants described efforts to avoid consuming more to adapt to their new lifestyles and instead invest time and money in education, sport, and art.

Synthesizing the existing literature on rebound effects with the insights shared by workshop participants help capture the economic, environmental, and social dimensions of rebound effects. In general, research suggests that when efficiency measures lead to cost savings, the savings should be spent on higher-quality goods or services with lower carbon impacts. Savings should also be directed towards low-impact, and socially valuable, categories such as health, education and cultural activities. Policymakers should also actively encourage low-carbon behaviors by supporting the health and wellbeing of individuals during potentially difficult adjustments and investing in educational campaigns to mainstream sustainable lifestyles.

More specifically, policymakers can take the following specific actions to promote sustainable lifestyles that avoid rebound effects:

Short term actions

- Support niche communities in trying out and adopting more climate friendly lifestyles
- Enhance and support consumers' digital literacy
- Provide information about lifestyles changes
- Promote positive narratives and communicate co-benefits
- Financial incentives and support
- Support professional health services
- Encourage consumption of services and education with lower carbon impacts

Long term actions

- Reframe and change societal norms and narratives
- Invest in education and skills training
- Invest in infrastructure/structural changes
- Change economic incentives
- Support economic development towards "localization" and digitalisation

