Briefing Sheet 4

What role do health co-benefits play in households' decision-making?

Health co-benefits are motivators for reducing greenhouse gas emissions

HOPE
HOusehold Preferences for reducing greenhouse gas emissions in four European high income countries

In 2015, world leaders in Paris agreed to limit global warming to 1.5°C to avert the most dangerous impacts of climate change. Households in high-income countries heavily contribute to climate change due to their lifestyles. Interestingly, climate friendly lifestyles are also healthy (cycling more, eating less meat). So far it remains unclear if and how these health co-beenfits can promote climate-friendly behavior among households. In the HOPE study we tested the effect of giving households information about the health co-benefits of mitigation actions on their willingness to implement them. We found that providing such information significantly increased households' willingness to choose mitigation actions in the areas of food and housing. In our qualitative interviews, health showed to be a motivator for climate-friendly behaviour in all sectors, especially in food and mobility.

Climate policies addressing households can promote health of individuals and populations

Health co-benefits are health effects of actions or policies that are primarily intended to mitigate climate change. One example at a country level is if a country stops using brown coal for electricity generation, it will lower levels of air pollution and increase population health. But from our perspective, health co-benefits can also accrue at the level of the individual/household: When someone decides to eat no meat because of the climate change, they reduce the risks of suffering from heart attacks or cancer.

Inducing decision-makers and individuals to act climate-friendly is fraught with two fundamental problems: 1) the free-rider issue – an individual/country that does NOT act climate-friendly reaps the benefits of the climate-friendly behaviour of others, which our respondents found demotivating. 2) the time horizon issue: climate change and any actions or policies to mitigate it take effect over the long-term. The key advantages of invoking health co-benefits is that they generate benefits to the acting individual/country NOW.

Under conservative assumptions, individual health co-benefits occur in the sectors *Mobility*, *Housing* and *Food*

Table 1 shows actions with health benefits individuals could select during the HOPE simulations. We displayed the health effect in a simplified version on action cards, as described in Table 1 and Figure 1. Overall, there were 12 actions with a health effect. Only one action, lowering in-house temperature by 3°C, had a negative health effect. The other 11 actions had differing but positive impacts on health.

The information we presented on the action cards for households is based on estimates from existing literature for quality adjusted life years (QALYs) gained. For measures with conflicting scientific evidence (e.g. organic food) no health effects were considered.

Table 1: **All mitigation actions with health effect available to HOPE-participants**

Consumption	Mitigation action	Health effect
Food & Recycling	Eat 30 % more vegetarian food (less meat and fish).	+++
	Eat 60% more vegetarian food (less meat and fish).	+++
	Become a vegetarian (stop eating meat and fish).	+++
	Gradually give up on ready-made meals (e.g. frozen pizza, canned soups, frozen lasagne).	++
Housing	Insulate your roof/ attic.	+
	Insulate your walls.	+
	Improve your windows (increase glazing of your windows).	+
	Lower in-house temperature by 3°C	-
Mobility	Shift significantly (more than 30%) from car to public transport (bus, tramway, metro, train).	++
	Shift to non-motorized modes of transport (walk, bike) instead of public transport.	++
	Decrease your travel with cars, public transport and other motorized vehicles by 30%.	++
	Give up your car(s) and other motorized vehicle(s)	++

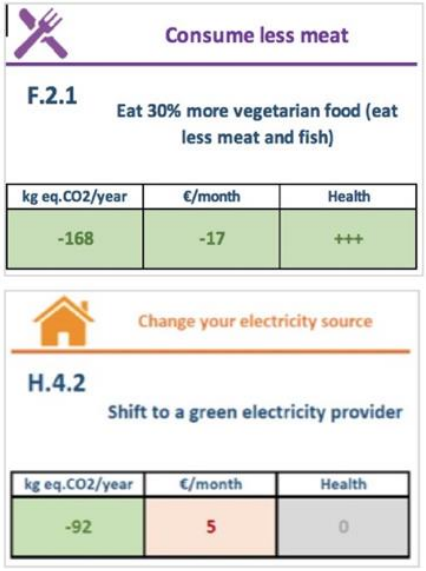
< 1 month QALY = +; 1-3 months QALY = ++; > 3 months QALY = +++; < 1 month QALY = -

Information on health co-benefits increased households' willingness to reduce their carbon footprint in the sectors food and housing

Health co-benefits that depend on the uncertain actions of others (e.g., cleaner air is only achieved by collective action) may not be as effective in motivating mitigation action as direct health co-benefits, which only rely on the individual (e.g., eating less red meat). Thus, in contrast to earlier studies focusing on collective health benefits, we found that providing information on direct health co-benefits can increase the willingness to adopt climate-friendly actions in the area of dietary change and housing in contrast to the mixed results of earlier studies that focused exclusively on the collective health benefits such as cleaner air. Our individual effects also added up to small but tangible increases in simulated carbon reductions. Health co-benefits, however did not significantly improve the popularity of mitigation actions in the area of *Mobility*. This latter finding is in line with previous research showing that mobility behaviour may be very difficult to change. Furthermore, the positive health effect of walking/biking behaviour was mentioned most often in the qualitative interviews.

As we only find a small effect of the health information, further research would need if and under what conditions information on *direct* health co-benefits can be used in larger campaigns to motivate mitigation behavior. With these results, a more systematic assessment of the mitigation potential of communication campaigns in the style of "what's good for the climate, is good for your health" seems justified.

Figure 1: Action cards with health information



Health appears as a third indicator on the action cards of half of the sample. When an action has no health effect, the cell is coloured grey.

Health aspects were mainly motivators for sustainable behavior, especially for eating high quality food, using active transport, and avoiding harmful substances.

While health information did not influence mobility choices in the quantitative analysis, qualitative results showed that most participants perceived air pollution caused by motorised vehicles and power plants as unhealthy and active travel to be healthy and fun. Yet households were hardly willing to change their mobility behaviour. This was especially the case because they encountered structural barriers in changing their mobility behaviour. Especially for longer distances, active travel or other modes of sustainable transport were perceived as unfeasible.

This underlines the well-known fact that knowing that something is (un-)healthy is not enough. Households' lifestyles are influenced by multiple factors so that information on health alone is not sufficient. Studies in the sector of health promotion have shown, strong trans-sectoral policies are needed to lead to a change towards climate-friendly and healthier lifestyles.

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Table 2: Examples of health as motivator for climate change mitigation

Food & Recycling	• **Many said that eating high quality food is important:** Only some said explicitly that they thought regional/seasonal/ organic was healthier. High food quality in general and less herbicide/pesticide/antibiotics are important to households. • **Some perceived less meat to be better:** This was assumed to lower blood pressure, reduce fat, and keep weight. Lower risks of some cancers went unmentioned.
Mobility	• **Many perceived active transport as healthy and fun.** Many describe that they already use the bike or walk, but they describe that this is usually only feasible for limited distances (+ some risks, see right side) • **Some saw less motorised mobility as healthy because it reduces air pollution.**
Housing	• **Some expected better indoor environment and indoor air-quality**
Other Consumption	• **Many wanted to avoid harmful substances:** Not only in food but also in other consumption. This is an important topic, especially for clothing and cosmetics and particularly for children. • **Some thought consuming less to be good for mental health.**
Across sectors	• **Many perceived cleaner air to be healthy:** Independent of source of pollution • **Some wanted to preserve nature as a source of energy and health**. • **Some imagined sustainable societies to be better for mental health due to less stressful mobility and calmer professional lives**.

Table 2 depicts a selection of health motivators mentioned by our households in the qualitative interviews. As one can easily see, opinions on health effects were spread broader than the conservative approach for the quantitative study assumed. Sometimes health was also perceived as a barrier. For instance, some meat and fish was perceived to be part of a healthy diet. Furthermore some mentioned that plastic packaging was light to carry and hygienic. Especially for *Mobility*, some perceived walking or biking as unsafe due to accidents or violations.

Households preferred moderate changes in lifestyle, though they were not the most effective in terms of financial, climate, or health gains

In a multi-criterion-decision-analysis (MCDA), all 65 mitigation actions of HOPE were rated with a combined CO_2-equivalent reduction-health-cost score, to assess which mitigation actions were the most effective in terms of financial, climate and health gains. Most households were willing to implement 3 out of the 11 actions that stood out as the most effective ones:

- Eat 30 % more vegetarian food.
- Walk, bike instead of public transport.
- Gradually give up ready-made meals

However, most households were unwilling to make substantial shifts towards becoming vegetarian or reducing motor vehicle use.

While moderate actions may not be sufficient on their own to meet GHG reduction targets, consumption-oriented approaches represent an important supplement to the currently dominating production-oriented climate policies. Our results suggest that policies supporting such mitigation actions can succeed and they often promote the health of individuals at the same time. This is a strong motivator for promoting climate-friendly behaviour and consumption.

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