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Sustainable
decarbonisation
New options for mobility

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About the study

This study considers the challenges and opportunities currently facing Switzerland in its attempts sustainably to decarbonise its mobility sector. It is based on a survey of private individuals and interviews with experts from the private sector (companies) and the public sector (government, agencies and universities). Sustainable decarbonisation of food production and consumption, homes and workplaces will be the focus of separate studies.

The survey was conducted in early May, with 1,501 individuals completing a questionnaire. Half were men and half women, and respondents were aged between 15 and 67. Thirty-five per cent of the sample lived in large towns and cities (of more than 50,000 inhabitants), 30 per cent in other urban areas, and 35 per cent in rural areas.

Face to face interviews were also conducted in June 2021 with experts from AMAG Innovation & Venture LAB; the Mobility Office of the Canton of Zurich; ETH Zürich (Swiss Federal Institute of Technology Zurich); Mobility; the Mobility Academy of the Touring Club Switzerland (TCS); and the General Secretariat of the Swiss Federal Department of the Environment, Transport, Energy and Communications (DETEC). Comments from experts who did not wish to be identified or quoted have been anonymised in the study.



Summary and key findings



- Swiss voters recently rejected draft legislation on reducing greenhouse gas emissions, creating fresh challenges for the country's climate change policy. Strategies to achieve the target set out in the Paris Climate Agreement to halve greenhouse gas emissions by 2030 now have to be reviewed, along with the Swiss Federal Council's ambitious 2050 net zero target.
- A Deloitte survey of the reasons underlying the rejection of the draft legislation shows that most citizens are not actually sceptical about climate change and are in fact keen to avoid emissions, and that most advocate climate-friendly mobility solutions.
- Respondents were asked how probable they thought various measures were. The responses varied:
 - They believe that progress towards cutting emissions by 2030 is most likely to come from electrification of vehicle fleets and promoting electric cars as well as switching freight from road to rail.
 - By contrast, they believe that progress towards reducing emissions by 2030 is least likely to come from cutting both private and business air travel and reducing private car travel using fossil fuel.
- Many citizens want more low-emission goods and services within mobility to help cut CO₂ emissions.
- Employers also face a challenge cutting the emissions caused by staff travel. The most important measures focus on subsidising employees' use of public transport and promoting e-mobility (the use of electric vehicles) and cycling.
- Achieving a balanced mix of complementary measures and approaches to sustainable decarbonisation of mobility will become increasingly important in future. Alongside simple offsetting of CO₂ emissions and more consistent public information on the topic, everyone involved needs to rethink their behaviour and take measures to promote new technologies and fresh incentives, new business models and innovative mobility concepts.
- A relatively high proportion of those surveyed are unwilling to pay extra for goods and services that will reduce emissions. By contrast, many support the use of tax revenues to support low-emission goods and services – and, of course, these revenues come indirectly from taxpayers.

The background

Deloitte's 2020 [Power Up Switzerland](#) study identified sustainability, infrastructure and energy as key areas in efforts to enhance the country's long-term competitiveness as a business location. A healthy environment – including, in particular, the mobility sector – is crucial to the success of all sectors of the economy.

However, enforcing effective and targeted regulation in the area of environmental protection without excessively restricting a liberal economic order is a considerable challenge. Achieving climate targets and securing buy-in to the necessary measures requires broad social consent. In addition, promoting Switzerland as a place to do business rather than impeding business means a compromise has to be struck between market-oriented policy measures and restrictions. Voters' rejection of the draft legislation on climate change in a referendum on 13 June 2021 demonstrated clearly that most citizens perceive the draft as 'imposing greater restrictions on their freedom, new levies and higher taxes'. The fact that most political parties and business representatives supported the legislation as a good compromise shows how split Swiss society is on this issue.

A survey of 1,501 citizens conducted by Deloitte in early May 2021 demonstrates, however, that most Swiss nationals are not climate change sceptics but actually want to avoid emissions and advocate climate-friendly mobility. However, the survey also identifies areas of mobility and measures to reduce emissions that represent significant challenges in terms of implementing decarbonisation of mobility.

The findings of the survey and the impact of the referendum were discussed in detail with experts from both the private sector (businesses) and the public sector (government, agencies and universities). This validation from mobility experts enables us to formulate new options for both companies and government in pursuing the target laid down in the Paris Climate Agreement of a 50 per cent reduction in greenhouse gas emissions by 2030 as well as Switzerland's own long-term climate strategy of net-zero emissions by 2050.



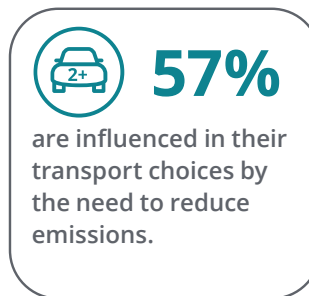
Cutting emissions in the mobility sector: desirable but unlikely?

A significant majority (70%) of Swiss nationals believe it is important to avoid emissions in their everyday lives. As is often the case with such surveys, however, this high figure may be influenced by a desire to give the expected answer, or political correctness. Nevertheless, the finding indicates that most Swiss citizens are not climate change sceptics. There were no significant differences between women and men, but the over-50 age group believes it is more important to avoid emissions than younger age groups. This is an astonishing finding, given that recent climate protests have been initiated by younger people, who are generally thought to be more concerned about climate change than older people.

A breakdown of the areas of their lives in which individuals are able to avoid or reduce emissions (mobility, food, in homes, and in workplaces) shows that more than half of those surveyed are influenced by the need to reduce emissions when making decisions about both personal and work-related transport. This is more marked among the under-30 age group and those living in towns and cities than among older age groups and those living in rural areas. However, sustainable mobility seems to be firmly anchored in the awareness of most Swiss nationals.

The survey findings reveal clear differences between respondents' assessment of the desirability of different measures to cut mobility emissions by 2030 and of how successful such measures will probably be (see Chart 1).

A large majority of respondents (68%) see **shifting freight from road to rail** as the most desirable course of action. But they might be influenced less by the need to take action on the climate than by a perception that they are hindered by freight traffic on the roads – despite the fact that Switzerland already leads other European countries in shifting to rail. However, at least half of all respondents also rate all the other measures – on air travel, use of fossil fuels for personal transport, and e-mobility – as desirable.

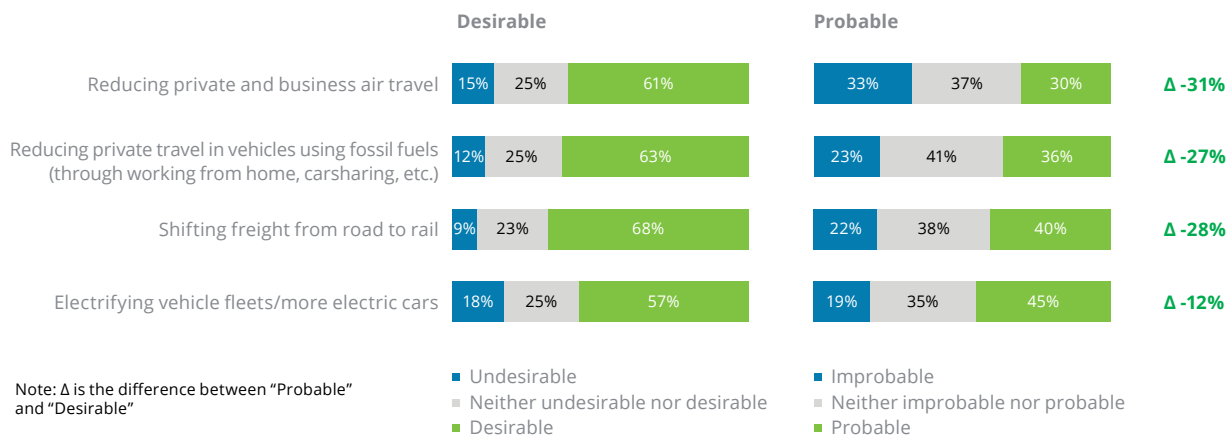


“Freight remains a major challenge, especially in urban areas. E-commerce businesses are using more and more small-scale transport to deliver small consignments in densely populated areas. These businesses cannot use rail, so we need innovative approaches and a complete rethink of current consumer behaviour. Solutions under discussion, such as the ‘Cargo sous terrain’ underground logistics system, only address hub-to-hub transport; what is needed is efficient city logistics.”

Markus Traber,
Director of the Mobility Office of the Canton of Zurich

Chart 1: Progress towards reducing emissions

Question: How do you rate the desirability and probability of the following measures to reduce emissions by 2030?



Respondents consider progress towards **electrifying vehicle fleets and promoting electric cars** as the most probable area for success (45% of respondents), followed by progress towards shifting freight from road to rail (40% of respondents). Potential obstacles to further electrification and take-up of electric cars include the ongoing inadequacy of the charging infrastructure, the high purchase price of electric vehicles (despite their low running costs), concerns about their limited range, and widespread scepticism about battery life and recycling options.

Respondents expect **private and business air travel** and **private vehicles using fossil fuels** to be the areas where least progress is made towards a reduction in emissions by 2030 (30% and 36% of respondents, respectively). They expect the greatest transformation in air travel over the coming years to come from offsetting emissions, emissions trading certificates, and the addition of synthetic fuels to fossil fuels. They view technological improvements, such as more efficient engines, as most likely to make the greatest contribution to cutting emissions from private cars that continue to use fossil fuels.

“Switzerland is far from having a democratic charging infrastructure for electric mobility. House-owners can easily install charging points, but it is much harder for those living in multi-occupancy properties with communal parking. And public charging is still too expensive.”

Philipp Wetzel,
Managing Director, AMAG Innovation and Venture Lab

“If electric cars are to gain greater social acceptance, consumers need more information: they are still concerned about the operation, range and costs involved in electric vehicles.”

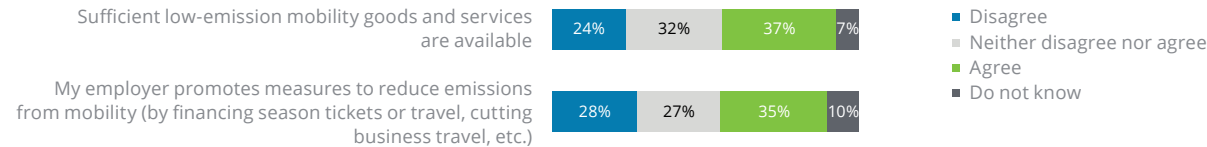
Reto Meier,
Project Manager for Corporate Development, Mobility

Wish-list: more low-emission goods and services

Wider availability of sustainable mobility is crucial to making significant progress towards cutting greenhouse gas emissions by 2030. Almost one-quarter of those surveyed (24%) would like to see more low-emission goods and services in the area of mobility, with 28% believing that employers are not yet doing enough to reduce their company's emissions (see Chart 2).

Chart 2: Low-emission goods and services

Question: Please indicate the extent to which you agree with the statements below.



The three most important measures employers can take to cut their employees' emissions in the area of mobility are **subsidising use of public transport** (76% of respondents), **promoting e-mobility** (59%) and **supporting cycling** (56%) (see Chart 3).

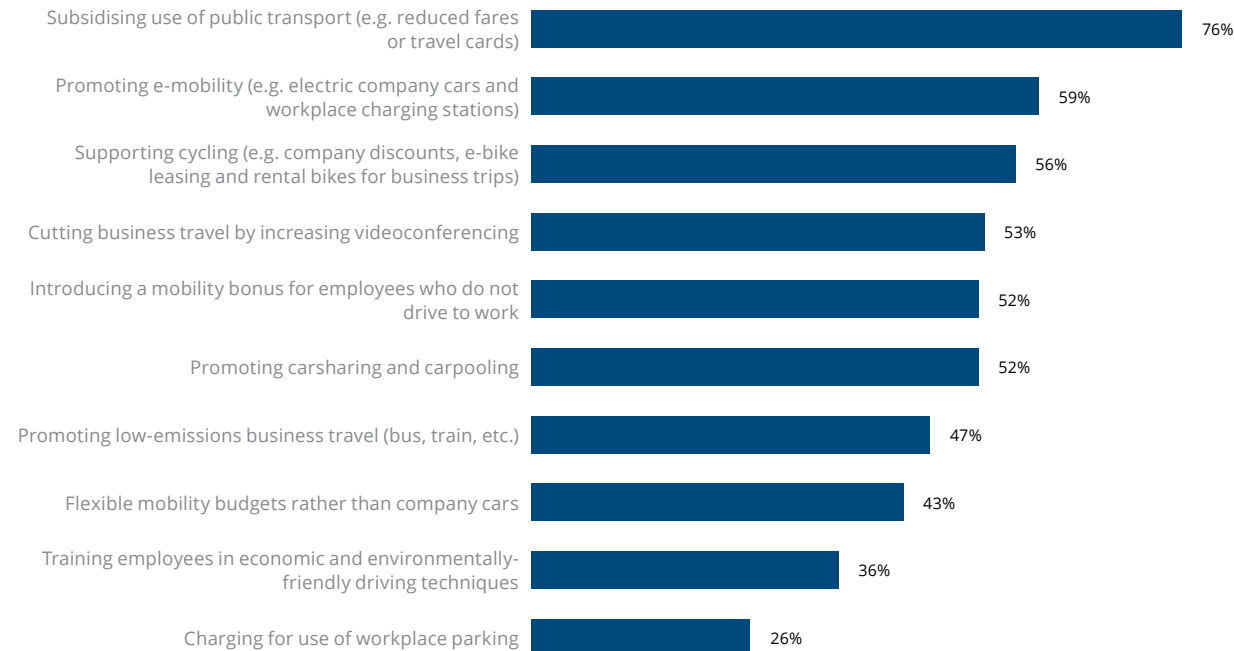
Many companies have long subsidised employees' use of public transport through staff benefits such as the "Halbtax" half-fare card or "GA" travel card. Electric company cars require companies to invest more in charging infrastructure, but company discounts on bicycles or the cost of leasing e-bikes are likely to gain in popularity as employee mobility budgets are rolled out.

"Electrification of private transport does not wholly solve the problems of space and noise in urban areas. And concepts for shared mobility also offer only a partial solution – any kind of individualisation simply accentuates existing problems. Where there is high demand for mobility, public transport, is in practical terms, the only way to meet demand in an emissions-efficient way. There is substantial potential for walking and cycling over short distances in such cases."

Pascal Kern,
Head of the Infrastructure Planning Department
at the Mobility Office of the Canton of Zurich

Chart 3: Employer measures

Question: How do you rate the desirability of the following measures to cut employees' transport-related emissions?



More than half of those surveyed would also like to see **videoconferences replace at least some business travel**, the **introduction of a mobility bonus for employees who do not drive to work** or measures to promote the use of **carsharing or carpooling**.

“The COVID-19 crisis has proved that a lot of business flights can be replaced by videoconferences. But not every partnership or exchange can simply be switched to an online platform. In future, more efficient technological tools, training and support will become more important.”

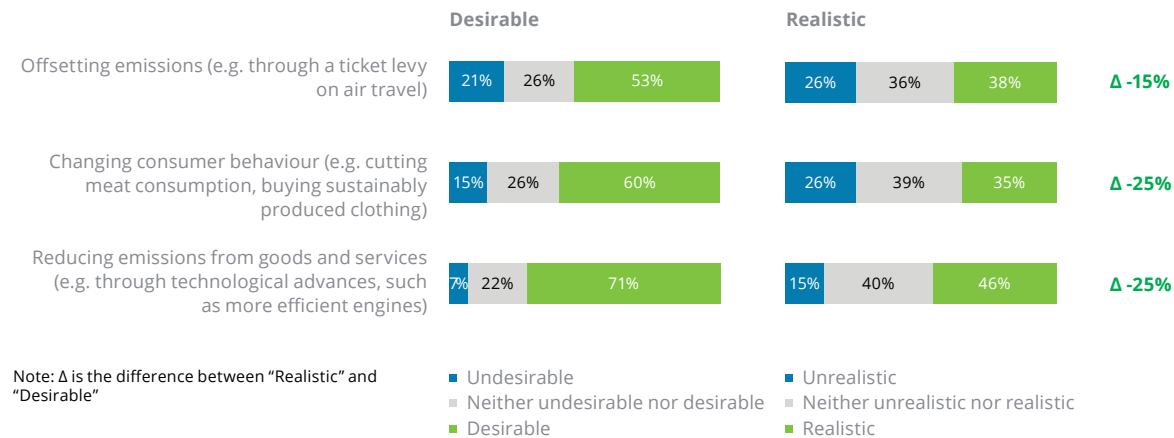
Dr. Susann Görlinger,
Project Manager, Reducing Air Travel, ETH Zurich

A good mix of reduction measures

Most respondents welcome the different approaches to reducing the environmental pollution caused by emissions and consider them desirable – in some cases, by a large majority – but up to one-quarter of respondents doubt whether such measures are actually realistic (see Chart 4).

Chart 4: Approaches to reducing environmental pollution

Question: There are a number of approaches to reducing environmental pollution caused by emissions. How desirable and realistic do you consider each of the following approaches?



Offsetting carbon emissions, for example through a ticket levy on air travel, is seen as desirable by just over half of all respondents (53%), but only 38% see rate offsetting as realistic. One-quarter (26%) view attempts to reduce environmental damage by making the polluter pay as unrealistic. An additional question about Switzerland's draft climate legislation in the run-up to the referendum produced a similar response, with half the respondents advocating an air travel levy but one-quarter clearly opposing it.

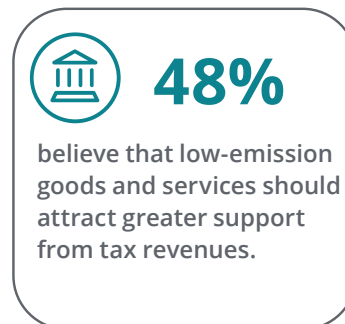
The question on **changes in personal behaviour** as a contribution to cutting emissions, such as reducing driving, reveals a discrepancy between perceptions of the desirability of such changes and judgements of how realistic they are. Six out of ten respondents see changing their own behaviour as desirable. However, only just over one in three think it is also realistic to do so. Respondents appear to be less critical of their own actions than those of others.

Using **new goods and services** to cut emissions is seen as both most desirable and most realistic (71% and 46% of responses, respectively). New innovations and technological advances are seen as most promising in terms of reducing the environmental pollution caused by emissions. One encouraging finding is that the Swiss are less sceptical about technology than other countries, including Germany.

A balanced mix of complementary measures to sustainably decarbonise mobility will probably be most important in future – that is, not just offsetting emissions but also adopting behavioural shifts, financial incentives, support for new technologies, and new business models and mobility concepts.

This mix of measures will be required because even if 40% of respondents are willing to pay more for goods and services to reduce emissions, 28% are not. The under-30 age group shows a greater willingness to pay more than the over-50 age group. The referendum on climate legislation has demonstrated, however, that there is a limit to people's willingness to accept higher levies and increases in taxation to pay for such measures.

Respondents are, however, more open to using tax revenues to fund low-emissions goods and services. Almost half of all respondents think there should be greater taxpayer support for low-emission goods and services, while one-third (34%) disagree. It does not appear to bother a majority of respondents that the population also pays for measures that are funded out of tax revenues.



“Despite the outcome of the referendum on 13 June, there remains broad political consensus that Switzerland urgently needs to take action under its international obligations to meet its existing climate targets. We rapidly need to find a mix of decarbonisation measures that will gain the support of a majority of the population.”

Stefan Hostettler,
Deputy General Secretary of the Swiss Federal
Department of the Environment, Transport, Energy
and Communications (DETEC)

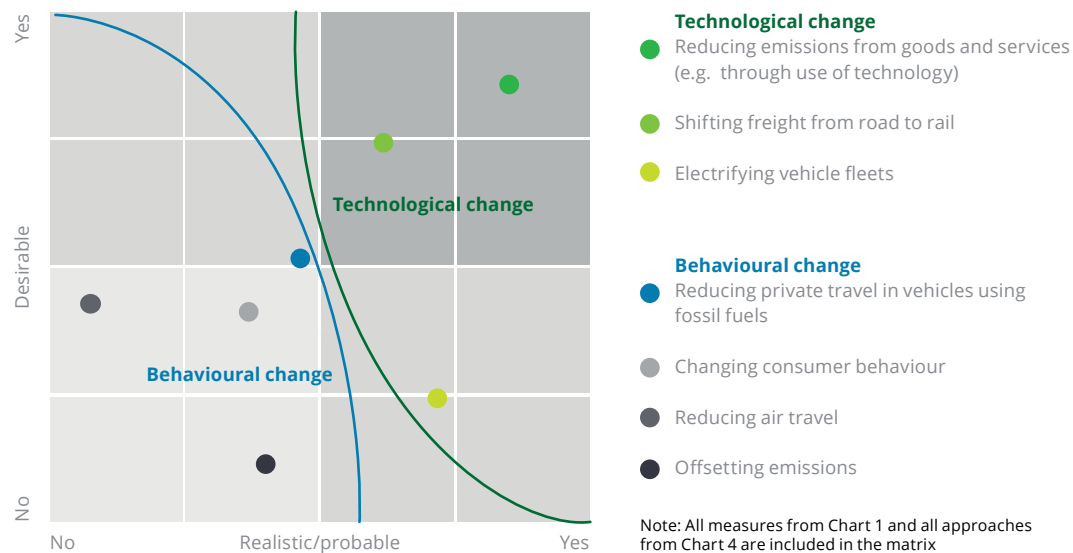
New mobility options for companies and federal government/administrations

Achieving Switzerland's ambitious target to be net zero by 2050 requires a balanced mix of policy options. Many measures and approaches also need substantial lead times before they can deliver positive outcomes. For example, the electrification of vehicle fleets within public transport has to factor in procurement cycles and will take time.

To secure an effective paradigm shift Swiss citizens need to be convinced of the practicability of the measures required and to see them as realistically likely to succeed.

From citizens' perspective, modal change or **technological change** – shifting from road to rail or adopting alternative drive technologies – is more likely to be seen as desirable and realistic/probable than **behavioural change** (see Chart 5).

Chart 5: Ratings of different measures and approaches to reduce emissions



“We will not change our behaviour using old and existing mobility arrangements. We need new technologies, greater innovation and different business models, alongside incentives and regulation. Behaviour will not change without both carrots and sticks.”

Dr. Jörg Beckmann,
Deputy Director of the Touring Club Switzerland,
Director of the Mobility Academy and CEO of Swiss eMobility

Technological change

Citizens tend to rate innovative approaches to cutting emissions as both desirable and realistic/probable. This includes reducing the emissions from goods and services across their entire life cycle (for example, by using new technologies) and shifting freight from road to rail. They are rather less likely to rate electrification of private transport as desirable, though this still forms part of this group of measures and approaches.

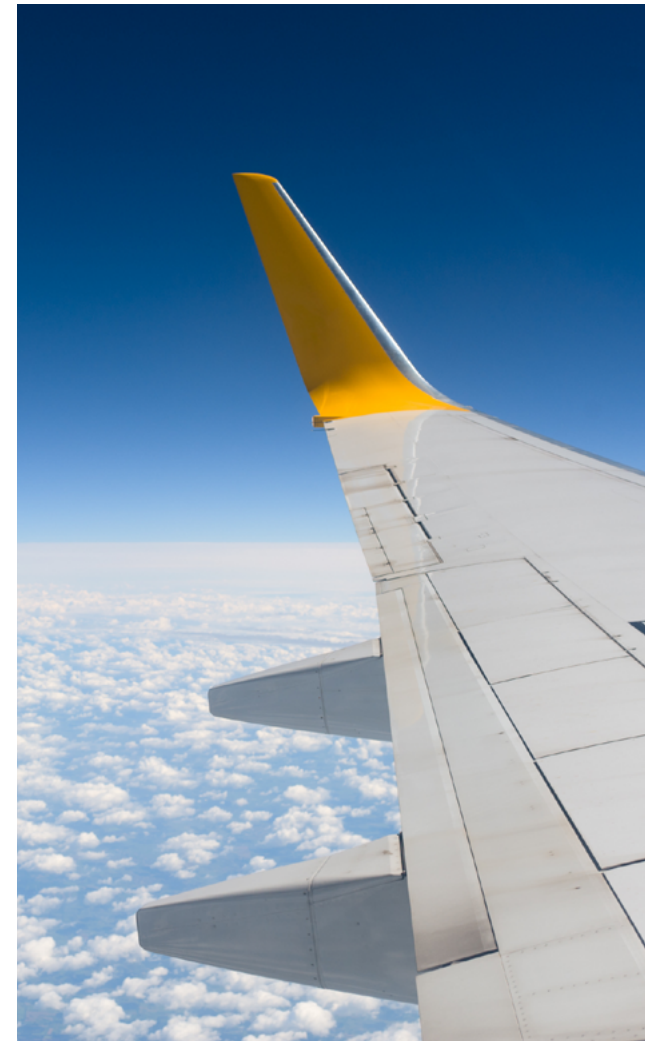
- **Reducing the emissions caused by goods and services** requires researchers and companies to cooperate more on developing new goods and services with support from the public sector, such as through cooperative pilot projects to underpin public awareness of the effectiveness of such measures. New innovative offerings and tailoring provision to users' needs, to the environment and to society is also crucial to redesigning existing goods and services. Finally, creation of competitive pricing models, such as mobility pricing, will also help boost acceptance.
- **Shifting freight from road to rail** scores highly on desirability and effectively reduces emissions but also poses challenges. Expanding infrastructure, for example, involves significant costs, and existing concepts such as underground logistics ('Cargo sous terrain') focus primarily on interurban or inter-hub transport. Rail is less suitable within urban areas, requiring innovative distribution concepts to facilitate specific shared infrastructure. Such developments also require cooperation between the public and private sectors.
- Finally, **electrification of vehicle fleets** also has a substantial role to play. The greatest challenge here is the charging infrastructure, including charging points, charging systems and a sustainable electricity supply. Alongside state programmes, such as dedicated lanes or charging points, employers could also offer specific incentives, such as dedicated parking provision for electric vehicles. Roll-out could also be boosted by having a clear framework and standards.



Behavioural change

The perceived desirability, effectiveness and practicability of any measure are crucial levers in securing behavioural change. However, achieving a balanced approach to cutting emissions, especially in urban areas, requires an absolute reduction in the level of traffic rather than just a reduction in emissions from individual journeys. This is the only way to tackle noise, pollution and fuel consumption holistically – and it requires a fundamental behavioural shift.

- Behaviour is particularly crucial to **cutting the use of private vehicles using fossil fuels**. Levers such as levies or limits on capacity in urban centres are frequently used but less and less well supported. Combining them with positive approaches to reducing driving across the board can, however, be effective: just two examples are increasing working from home and taking a more sustainable approach to local planning, removing the need for long journeys on a day-to-day basis.
- Alongside private road transport, **air travel** is a further substantial source of emissions. Binding schemes to offset emissions and competitive pricing models with levies could influence individual behaviour. Such measures would, however, require greater international cooperation.
- Simply **offsetting** emissions is rated as less desirable by survey respondents, which can be attributed to the direct impact such schemes have on individual finance.
- This approach would become unnecessary if **consumer behaviour changed**. Changes in individual consumption require either incentives – and the survey indicates that these would not attract majority support – or consistent public relations work to increase awareness of the problems caused by greenhouse gas emissions. Raising awareness has the ability almost automatically to enhance the desirability and practicability of other measures that had previously been ruled out.



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