

# Mobility Budget Policy Guidance

*Fact Sheets*



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# Individual Mobility Budgets

*Fact Sheet*

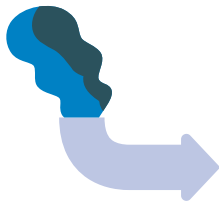


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# Why Mobility Budgets

Road travel accounts for about three-quarters of global transport emissions, mainly from passenger vehicles such as cars. Emissions per person-kilometre need to be reduced dramatically for us to have any chance of stopping global warming.

European countries need to reduce transport emissions by up to 95% by 2050. The data has been clear for years, but regulatory measures and technological solutions have been unable to reverse the trend.



The concept of Mobility Budgets breaks down larger emission reduction targets into smaller efforts.

To reach the goal of reducing emissions by 95% in 16 years, each year has to see a reduction by 17% compared to the previous year. This means measures will have to be taken to ensure that households produce on average 17% fewer emissions through their mobility every year.

In this way, a massive challenge becomes a goal reduced to a personal level. How savings are achieved and what framework conditions are necessary to make this possible can be determined by those affected.

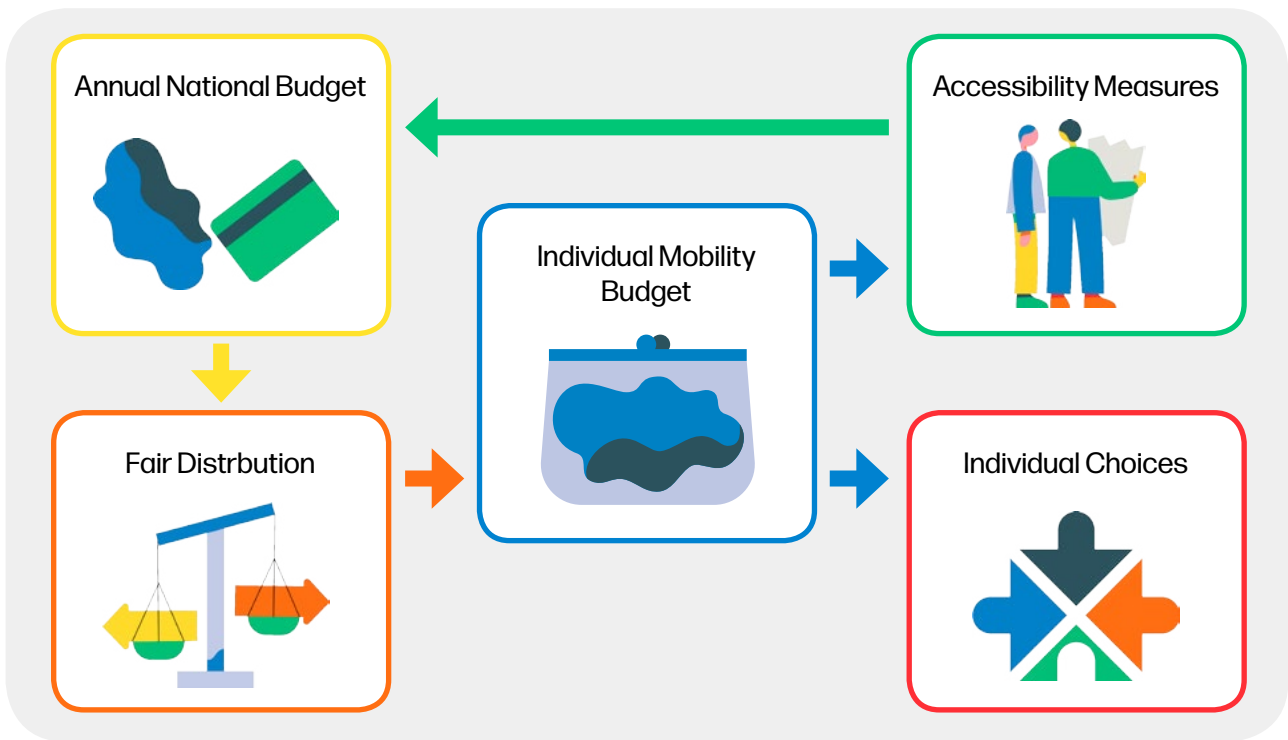
## How does it work

1. The nationally available CO<sub>2</sub> emissions are calculated based on national emission targets, which are derived from Nationally Determined Contributions (NDCs) following the Paris Agreement. This process leads to a gradual reduction of mobility budgets as nations progress towards climate neutrality.
2. Every year, this annual emission budget in the passenger transport sector is broken down to the level of the population to achieve an average personal emission budget.
3. Until measures which allow low-emission accessibility are in place, the individual budget shall not jeopardize a person's needs. Therefore, individual budgets are adapted to social and geographical needs.
4. People are free in their choice how to use their budgets, which can be just provided as information or reduction achievements could be rewarded.
5. In regions where low-emission mobility is not feasible, measures are demanded to improve accessibility of locations providing everyday functions such as schools, workplaces, retail options, and recreational areas.



## In a nutshell

- Emissions per person-kilometre need to be reduced dramatically for us to have any chance of stopping global warming.
- The concept of Mobility Budgets breaks down larger emission reduction targets into smaller efforts, making them easier to grasp and achieve.
- Mobility Budgets represent a (theoretical) right to mobility that can be freely utilised.
- Where a reduction is not possible, the conditions for this must be created.



## How can Mobility Budgets be applied

### For information and education

- ... in **apps** for self-monitoring
- ... as **illustration** for explaining emission goals and reduction opportunities



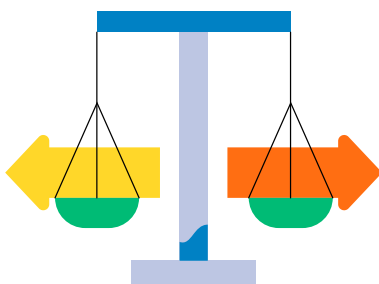
### For targeting measures

- ... in **planning tools** for soft infrastructure to improve local accessibility
- ... in **transport management tools** for optimising fair transport access



### For improving fairness

- ... in **analysis and monitoring tools** for assessing minimum mobility needs
- ... as **discussion base** for public debates about a fair future of mobility



### For creating new businesses

- ... in **guidelines** for re-installing access to local everyday functions
- ... as **analysis tool** for strategic local reduction consultation



# Communicating Mobility Budgets

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# Communicating Mobility Budgets

Based on the findings from the Living Labs, we hereby present insights into communication that promotes acceptance on the topic of individual carbon budgets for mobility.

The mobility carbon budget defines the upper limit for an acceptable level of greenhouse gas emissions for all activities involving means of transportation. It provides the framework within which activities or the places where they take place and mode choices are adapted.

This approach aim of the budget is to persuade people to limit themselves and change their behavior - which is not very popular.

The aim of the communication strategy is therefore to further the understanding and acceptance of the budget among relevant target groups.

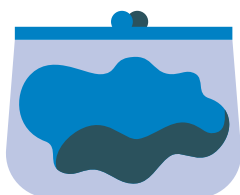


## Aspects of Carbon Mobility Budgets

In the six Living Labs the following four aspects of Carbon Mobility Budgets have been considered.

**The Carbon Mobility Budget as:**

- a thought experiment
- a political measure with various design options
- a budget to limit car use
- a guidance for climate-friendly mobility behaviour



The six Living Labs investigated different aspects of the mobility budget.

- **Raising awareness and influencing behavior:**

We investigated how feedback on personal mobility behavior affected participants' awareness and understanding and whether this feedback influenced their intentions and actually changed their travel behavior.

- **Monitoring the carbon budget:**

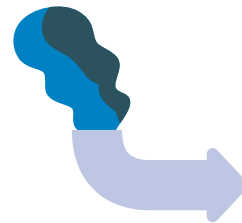
We investigated methods for monitoring the consumption of the mobility carbon budget, including the potential use of cell phone data.

- **Fairness and decision making:**

We investigated participants' perceptions of fairness and the decision-making processes involved in the introduction of mobility carbon budgets.

- **Acceptance of carbon budgets:**

We investigated the acceptability of individual carbon budgets, considering different designs and types, and their impact on participants' attitudes and behavior.



## Target Groups

**For direct communication:**

- Citizens
- Employers
- Businesses / Chambers of Commerce and Industry
- Policy-makers (members of national and European parliaments as well as) and Local Political Decision-Makers

**As multipliers:**

- Media Outlets
- Organized Civil Society

# How to Support Acceptance

## Inform clearly on goals and benefits

- Expert discussions and mobility budget details can motivate and engage people
- Context-specific information on climate change and car use is appreciated, but should be easy to understand.
- Address doubts about the achievability of climate protection targets and the ability of individuals to make a difference.
- Avoid generic, moralizing information; focus on arguments relating to the environment and public health.

## Communicate proactively before implementation

- If the carbon budget is being considered as an actual policy measure, provide information on the impact of the instrument before its implementation to build support and understanding.

## Present the budget as guidance

- Present the carbon mobility budget as a tool to increase awareness of people's carbon footprints and to help track individual impact and progress over time.
- Highlight that the budget can provide a data source for evidence-based decision-making.

## Do not overstate individual responsibility

- Highlight the need for systemic measures alongside individual actions.

## Put solidarity and fairness at the center

- Emphasize the importance of sharing the burden of emission reduction fairly and of maintain social balance
- Show that special circumstances of people who are highly dependent on cars, e.g. due to long commutes or poor public transport services, are taken into account

## Frame climate action as self-empowerment

- Address a lack of trust in politicians' ability to act on climate change. Highlight the role of civil society in the implementation of climate protection measures.
- Encourage others to stay voluntarily within the personal budget limits.
- Avoid the impression of authorities trying to control and interfering in the citizens' lives.



# How to Involve Target Groups

## Citizens

- ... reach out to the public via Media coverage
- ... encourage initiatives and policy makers to have a public debate

## Policy-makers and Local Political Decision-makers

- ... make direct contact with politicians and leading administrative staff responsible for transport and climate issues
- ... offer consultancy, provide information

## Employers and Business Representatives

- ... identify interested and progressive employers and contact them
- ... offer consultancy, provide information

## Organized Civil Society and Media Outlets

- ... provide tangible and easy-to-understand information via website and by approaching people directly
- ... offer scientific support on how to present information

# Mobility Budget Planning Scenarios

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# Why Planning Scenarios

A series of initiatives have been adopted in the European Union to address greenhouse gas emissions and establish a society that is resilient to climate change.

In response to these initiatives, the implementation of mobility budgets offers a more precise strategy for addressing carbon footprints associated with travel.

Prioritizing localized carbon footprint control, mobility budgets are calculated and customized according to distinct regions, goals, and target demographics.

When prioritizing the mobility budget as the central objective in municipal transport route planning, the focus should encompass principles of fairness and equity in travel. This entails considering factors such as accessibility, variety of mobility choices, inclusivity of transportation modes, and social justice.

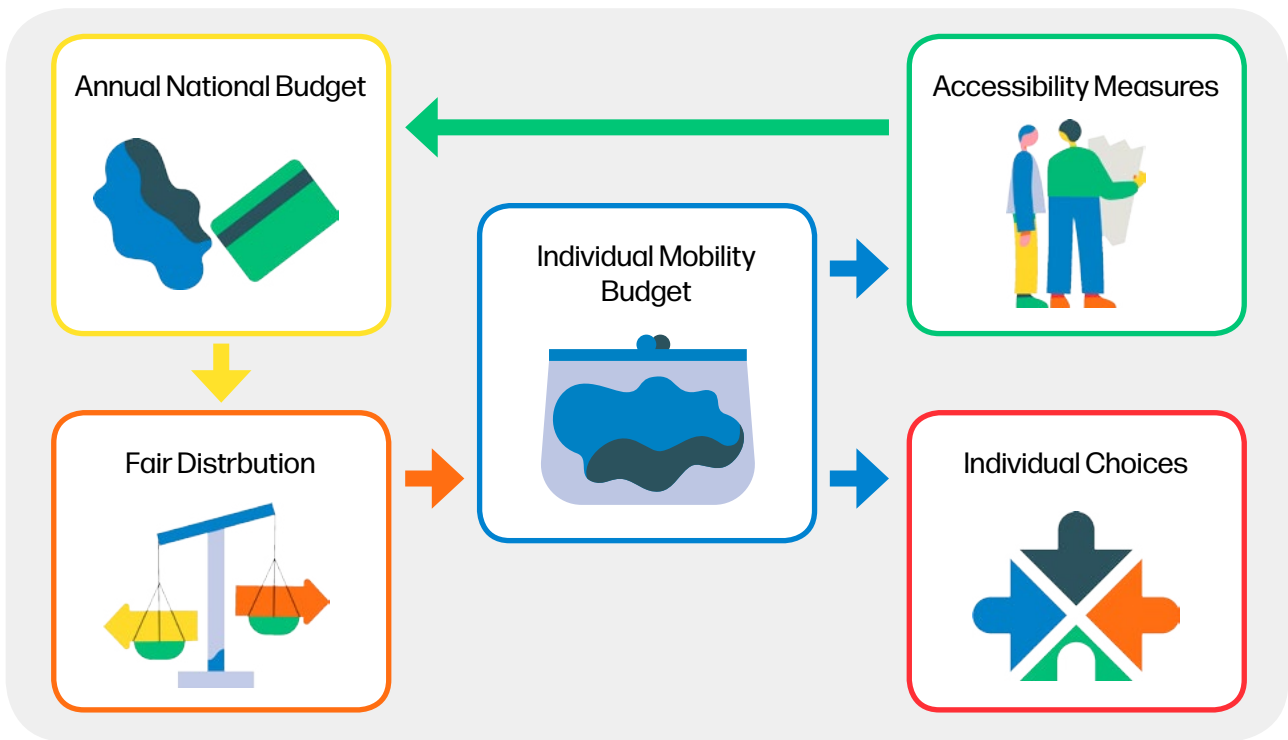
## How does it work

1. Carbon footprint management typically involves the implementation of carbon budgets that are applied on regional, national, and industry levels.
2. By equity understanding fair accessibility to the public transport what means accessible, fast, secure, reliable and CO2 neutral transportation.
3. By placing an emphasis on localized carbon footprint management, mobility budgets are calculated and customized based on specific regions, objectives, and target demographics.
4. Minimum mobility budget is defined by how much CO2 emissions have to be accepted for a person to reach the nearest everyday functionalities.
5. Data-driven decision-making in the planning of municipal transport routes that considers the principles of fairness and equity in travel, using a monthly mobility budget as the basis.
6. Users can personally customize the online self-assessment tool and are requested to furnish statistical data on their personal mobility behaviour, including daily distances travelled per mode of transport.
7. Users can contribute input for potential scenarios related to the evolution of transportation options.



## In a nutshell

- For planning the municipal transport system, public transportation routes and travel times are used.
- The tool allows modelling and what-if analysis based on different input data and input parameters for travel frequency and travel mode.
- Different input data could be used to model exceptional situations like special events and extreme behaviour of people.
- Balance can be achieved between meeting the decarbonization objectives and establishing a sustainable public transport network that caters to the needs of the citizens.



## How can Planning Scenarios be applied

### For citizens

- ... **new accessibility to social infrastructure and working places** by optimization and planning of the public transport network.
- ... the provision of **optimized public transport** routes and timetables.
- ... use of alternative, more **carbon neutral** transportation modes.



### For targeting measures

- ... **re-planning actions** concerning the locations of public transport stations.
- ... **data-driven approach** to successfully model, implement, monitor and communicate changes.



### For municipalities

- ... to deploy **specific strategies** that will require restrictions on the use of some transport modes.
- ... **the decision-making process and decision explanation** for modelling and presentation.
- ... to provide **fair accessibility** of social infrastructure by making **trade-offs between travel time and CO<sub>2</sub> footprint**.



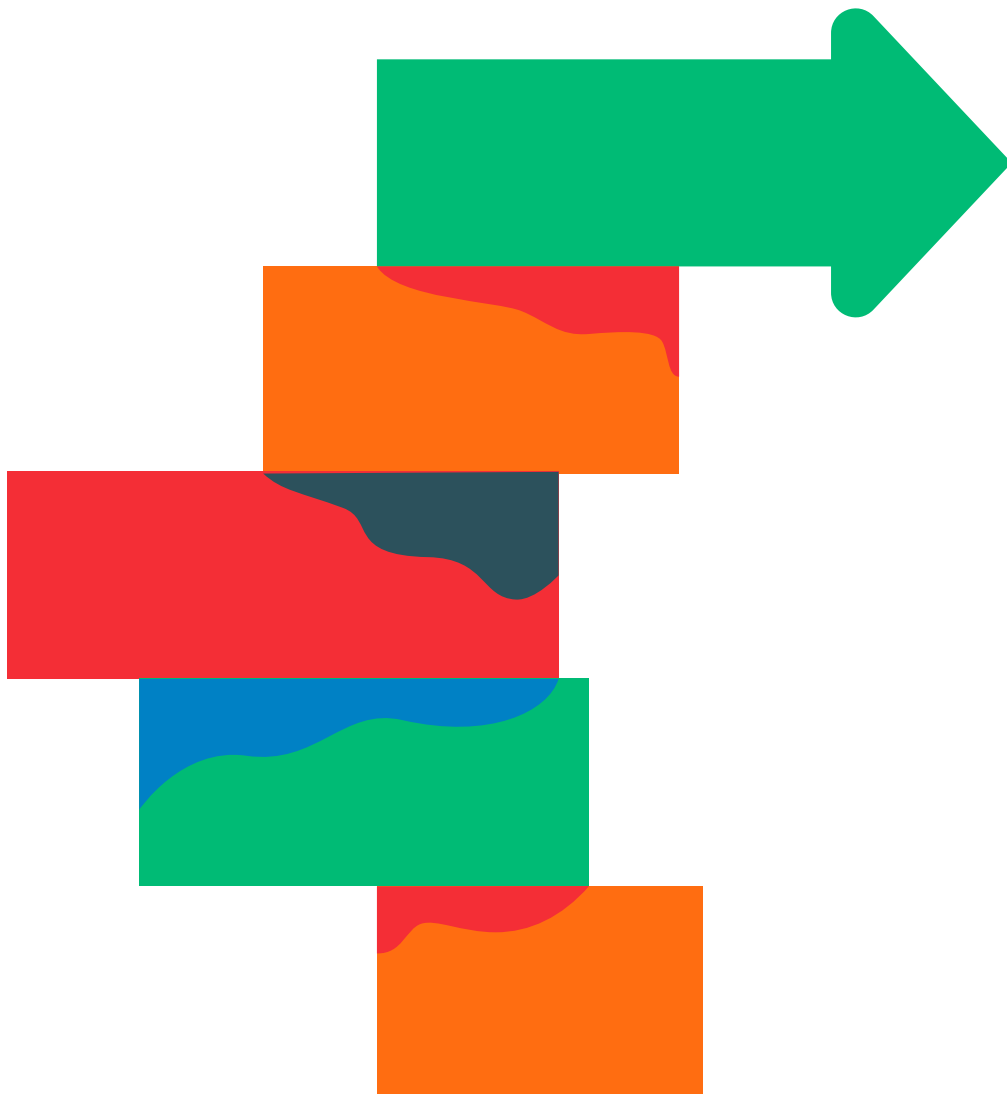
### For creating new businesses

- ... improving public transportation **efficiency**.
- ... visualization tool acts as a **guide for estimating** the mobility budget in different scenarios.
- ... city planning and **social infrastructure planning to provide greater accessibility** with minimal mobility budgets.



# Dealing with Ripple Effects

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# Dealing with ripple effects from mobility budgets

To avoid simply shifting problems to other sectors, mobility budgets need to be carefully designed. For example, saving my personal mobility budget could be achieved by deliveries instead of shopping myself.

Therefore clear **system boundaries** are required, which define the spatial, temporal, modal, and physical dimensions of the mobility budget. These boundaries clarify which human activities and GHG emissions are to be covered, also helping decide on the proper accounting method to quantify GHG mitigation.

The globally accepted Greenhouse Gas (GHG) Protocol defines **3 scopes**:

Scope 1 includes direct emissions, e.g. fuels used in vehicles.

Scope 2 covers emissions occurring during energy supply, e.g. from electricity generation.

Scope 3 includes all indirect emissions that occur along global supply chains.

## An example for mobility budgets

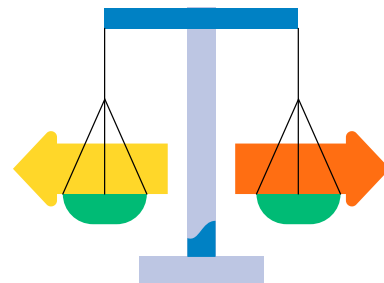
Mobility budgets for individuals in Austria, per month, in greenhouse gas emissions per passenger km for all modes of transport, calculated as scope 1+2+3 consumption-based GHG/carbon footprints.

The focus of mobility budgets on individuals and their mobility allows to clearly communicate and monitor the important goal of reducing GHG emissions of personal mobility. At the same time, it is essential to avoid unintended ripple effects.

Importantly, changing everyday mobility practices requires adequate infrastructure, cultural meaning and individual competencies. Mobility budgets should be flanked with additional measures to accelerate the uptake of low-/no-carbon mobility modes, fostering social justice and climate change mitigation.

## In a nutshell

- Carbon footprints of everyday life need to be reduced to stop global warming.
- Mobility Budgets help to reduce personal carbon footprints by defining targets and benchmarks which are easy to communicate, and which are transparent and fair.
- Reducing mobility carbon footprints must not result in causing more emissions with other activities. Their ripple effects need to be addressed pro-actively.
- Changing the structural conditions for everyday life across all activities, i.e. mobility, housing, food, work, care and leisure is crucial to achieve internationally agreed upon climate protection targets.
- Individual carbon budgets for mobility as well as other domains can help communication, inform specific measures, monitor progress, and to address fairness. and justice.



## Other domains

**Carbon budgets can also be developed for other domains**, such as buildings and housing, consumer goods, and food

**It is crucial to ensure** high quality service provisioning, appropriate infrastructure, positive health effects and time wealth, for a good life for all!

## What is a ripple effect?

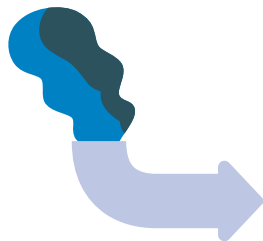
The concept of ripple effects summarizes several specific issues, including rebound effects, spillovers, moral licensing and burden-shifting.

'**Rebound effects**' occur due to the individual re-allocation of money and time saved because of certain improvements. For example, more fuel-efficient car engines can result in more car driving (direct rebound), the money saved on fuel might also be spent on air travel, as well as other goods and services ('indirect rebound').

'**Spillover effects**' can be positive, when environmental-friendly behavior spills over to other areas of consumption. They can also be negative when people calm their conscience

with environmentally friendly behavior in one area, and because they have 'done their part', engage in more energy-intensive consumption behavior in other areas. For example, because someone achieved car-free everyday mobility, they might say that holiday travel by airplane is okay.

'**Burden shift effect**' occurs when solving one environmental burden creates other, or even new environmental problems. For example, more stringent social and environmental standards in one country can result in increased production and exports in other countries with lower standards.



## ... in personal mobility?

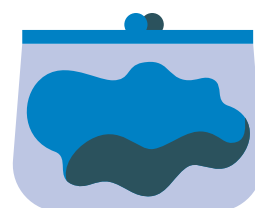
**Energy efficient vehicles** can increase car usage, leading to a 30-80% loss of emission reductions from efficiency improvements.

**Teleworking** reduces work-related commuting, but potentially results in longer overall distances travelled. Teleworking could potentially reduce 300.000 tons of CO<sub>2</sub>-eq./yr, offset by 90 kt CO<sub>2</sub> eq./yr in Austria.

Spending carbon and financial savings of car sharing in **other consumption sectors**.

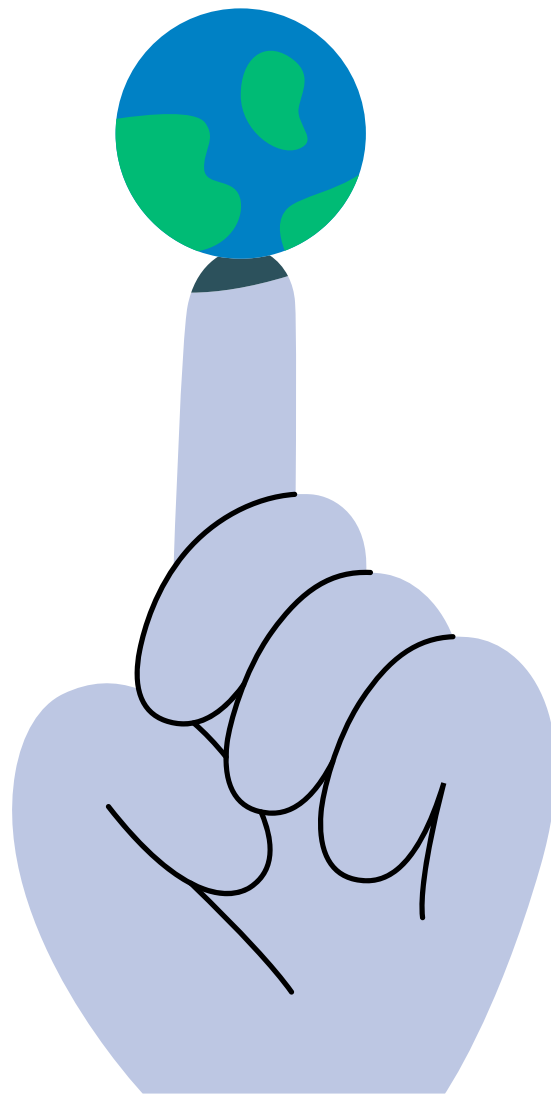
The closely related concept of '**moral licencing**' describes how people rationalize that certain activities with known high climate impacts are okay, because of some other climate-friendly activity. For example, going on holidays by airplane is being legitimated because of a vegan diet.

Carbon budgets in other areas of activities are needed to avoid the **increase in online shopping, food delivery and demand for technical equipment**, eventually resulting from a mobility budget.



# MyFairShare Project Information

*Fact Sheet*



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# Sufficiency - Not the best is just enough, but just enough is the best

Reducing carbon emissions is one of the most important goals to prevent the world from disastrous future consequences of climate change. The transport sector requires specific actions, as it proves most difficult to decarbonise and transport emissions are decreasing too slowly.

However, efforts to foster mobility behaviour change largely fail, as future national reduction goals are too unspecific for citizens to induce a sense of personal responsibility and engagement.



MyFairShare builds on studies exploring the applicability of sufficiency principles to change mobility habits, e.g. through individual mobility budgets. Transport emissions can be effectively reduced by limiting allowances for carbon-intensive transport modes, but would only be acceptable if the individual share of allowances is perceived as fair.

MyFairShare combines and expands relevant knowledge, data and models to construct a scheme for fair distribution of individual mobility budgets, and identifies effective policy strategies.

## Main objectives

- To identify baseline conditions and perceptions regarding mobility budgets** through defining fairness in the mobility context, exploring baseline conditions (e.g., spatial structure, accessibility), and categorising needs of target groups.
- To design methods for allocating mobility budgets and assessing impacts** by combining existing knowledge, data and models with the identified constraints and requirements, including an estimation of potential rebound and spill-over effects.
- To test selected cases of potential mobility budget scenarios** using the methods to distribute mobility budgets and measure the consumption of allowances and impacts in Mobility Budget Living Labs to analyse effects and observe the dynamics of communities acting within budget limits.
- To provide guidance to launch mobility budgets in different settings** by condensing the findings and results into recommended guidance for adapting mobility budgets to different local framework conditions, cutting across national, regional and city level governance.

## Project profile

### Funding programme

JPI Urban Europe ERA-NET Cofund Urban Accessibility and Connectivity (ENUAC)

### Project title

*MyFairShare – Individual Mobility Budgets as a Foundation for Social and Ethical Carbon Reduction*

### Coordinator

- AIT Austrian Institute of Technology

### Project partners

- German Aerospace Center
- Florian Lorenz, PR-Consultant
- Latvia University of Life Sciences and Technologies
- University of Latvia
- London School of Economics and Political Science
- Institute of Transport Economics
- University of Natural Resources and Life Sciences

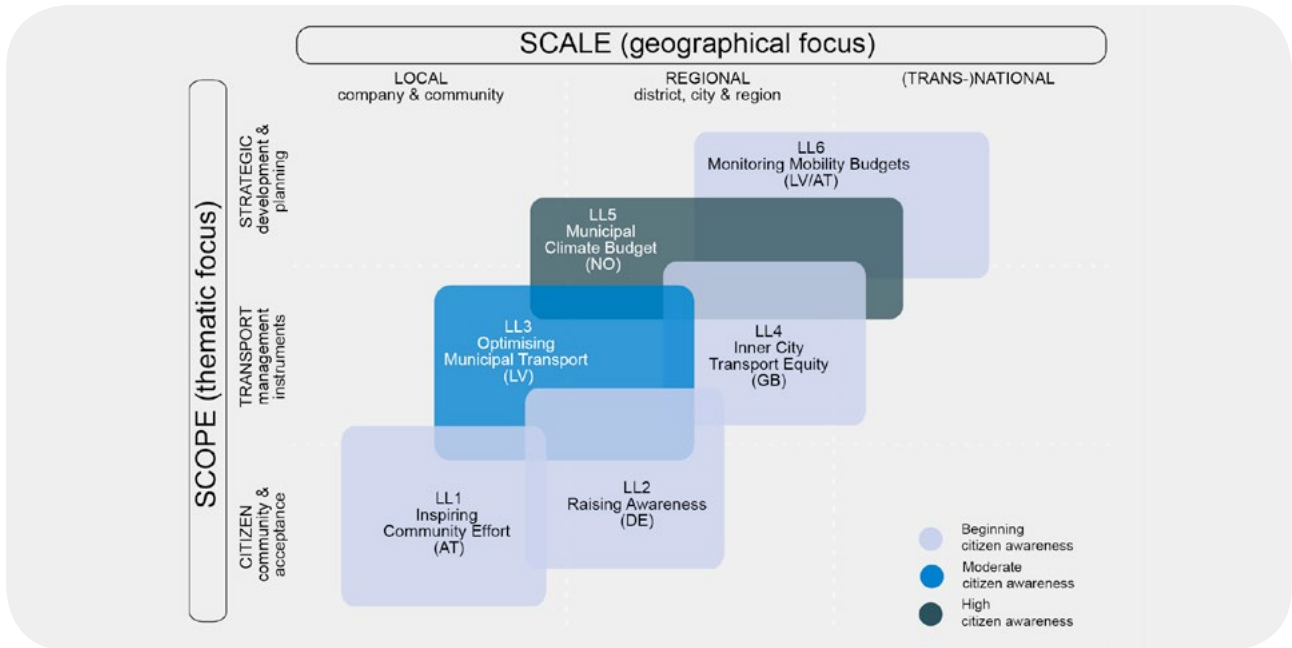
### Project duration

05/2021 – 07/2024

### Project funding

EUR 1.500.000

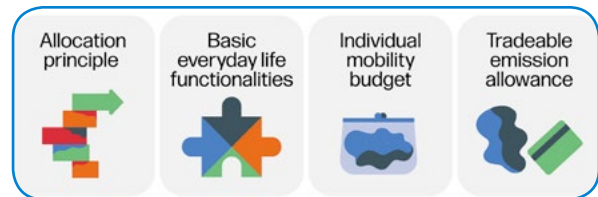
# Six Living Labs across Europe



## Main results

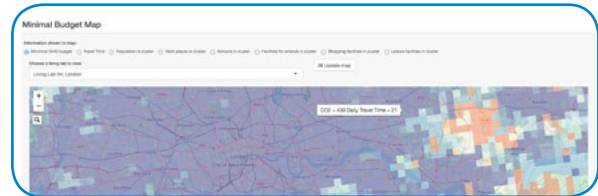
### Accessible and comprehensible knowledge

The MyFairShare website provides easy to follow explanations about how sufficiency can help to reduce emissions and improve fairness.



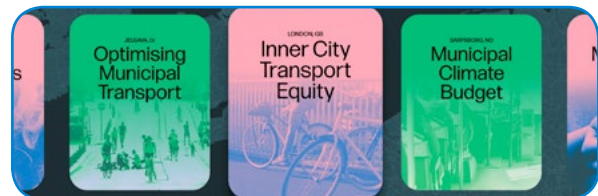
### Transparent standards and tools

MyFairShare developed a definition for group-specific Minimum Mobility Standards that can disclose what needs to be done for starting discussions about how this can be done.



### Hands-on best practice

Experiences and Learnings from our Living Labs help developing processes for communicating sufficiency and motivating active engagement.



### Recommendations and actionable guidance

Change can happen now! Fact Sheets and Tool Manuals provide orientation and practical advice for effectively applying the project results.





**MyFairShare** is a pan-European research project that builds on the sufficiency principles to change mobility habits through individual mobility budgets.

## Project partners



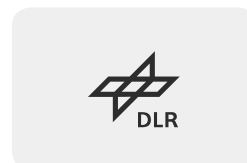
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German Aerospace Center



Latvia University of Life Sciences and Technologies



University of Latvia



London School of Economics and Political Science



Institute of Transport Economics

*MyFairShare* is a JPI Urban Europe project selected within the ERA-NET Cofund Urban Accessibility and Connectivity (ENUAC) call. The ENUAC call aims at creating and testing new solutions and approaches for sustainable urban mobility.



JPI Urban Europe



European Commission



ERA-net

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## Imprint

This publication serves the dissemination of results of the project „MyFairShare – Individual Mobility Budgets as a Foundation for Social and Ethical Carbon Reduction“. The authorship lies with the MyFairShare project consortium, represented by project lead AIT Austrian Institute of Technology

The MyFairShare project consortium partners: AIT Austrian Institute of Technology GmbH; Deutsches Zentrum für Luft- und Raumfahrt e.V.; Florian Lorenz, PR-consultant; Latvia University of Life Sciences and Technologies; London School of Economics and Political Science; Transportökonomisk institutt; University of Latvia; University of Natural Resources and Life Sciences, Vienna

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