FULFILL

Fundamental decarbonisation
through sufficiency by lifestyle changes

# Less is more?
# An overview of sufficiency policies to reduce emissions and increase quality of life

Fiona Breucker, Jacques Delors Institute, Dr. Elisabeth Dütschke, Fraunhofer ISI
Sergio Olivero, The CONCERTI Project, Yves Marignac, Association Négawatt
Matteo Giacomo Prina, Eurac Research, Gunnar Olsen, Inforse Europe
Thomas Pellerin- Carlin, MEP, Dr. Frank Sieber-Thomas, European Commission

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101003656

# Fiona Breucker

Research Fellow Energy Sufficiency

**Jacques Delors Institute, Energy Center**

EC.EUROPA.EU/EUSEW
EUENERGYWEEK
@EUENERGYWEEK
#EUSEW2024

# Agenda

**Introduction to the session and sufficiency,** Fiona Breucker (Jacques Delors Institute)

**Presentation of results from the FULFILL project**

**Dr. Elisabeth Dütschke**
(Fraunhofer ISI)

**Sergio Olivero**
(Politecnico di Torino)

**Yves Marignac**
(Négawatt)

**Matteo Prina**
(EURAC)

**Audience engagement**

**Taking sufficiency to the European policy level**

**Yves Marignac**
(Négawatt)

**Gunnar Olsen**
(Inforse)

**Thomas Pellerin-Carlin**
(Member of European Parliament)

**Dr. Frank Siebern-Thomas**
(Head of Unit, DG EMPL, European Commission)

**Audience engagement and Discussion**

# FULFILL

*Fundamental decarbonisation through sufficiency by lifestyle changes*

- EU- funded research project on sufficiency
- empirical research in 5 EU countries + India
- the project included analyses of:
  - 9500 surveys
  - 50 citizen initiatives
  - comparative analyses of 16 policies
  - 3 citizen science workshops
  - input-output models
  - quantification of sufficiency measures

Fraunhofer

Wuppertal Institut

eurac research

NOTRE EUROPE – Institut Jacques Delors
Thinking Europe • Penser l'Europe • Europa denken

INFORSE-EUROPE
International Network for Sustainable Energy

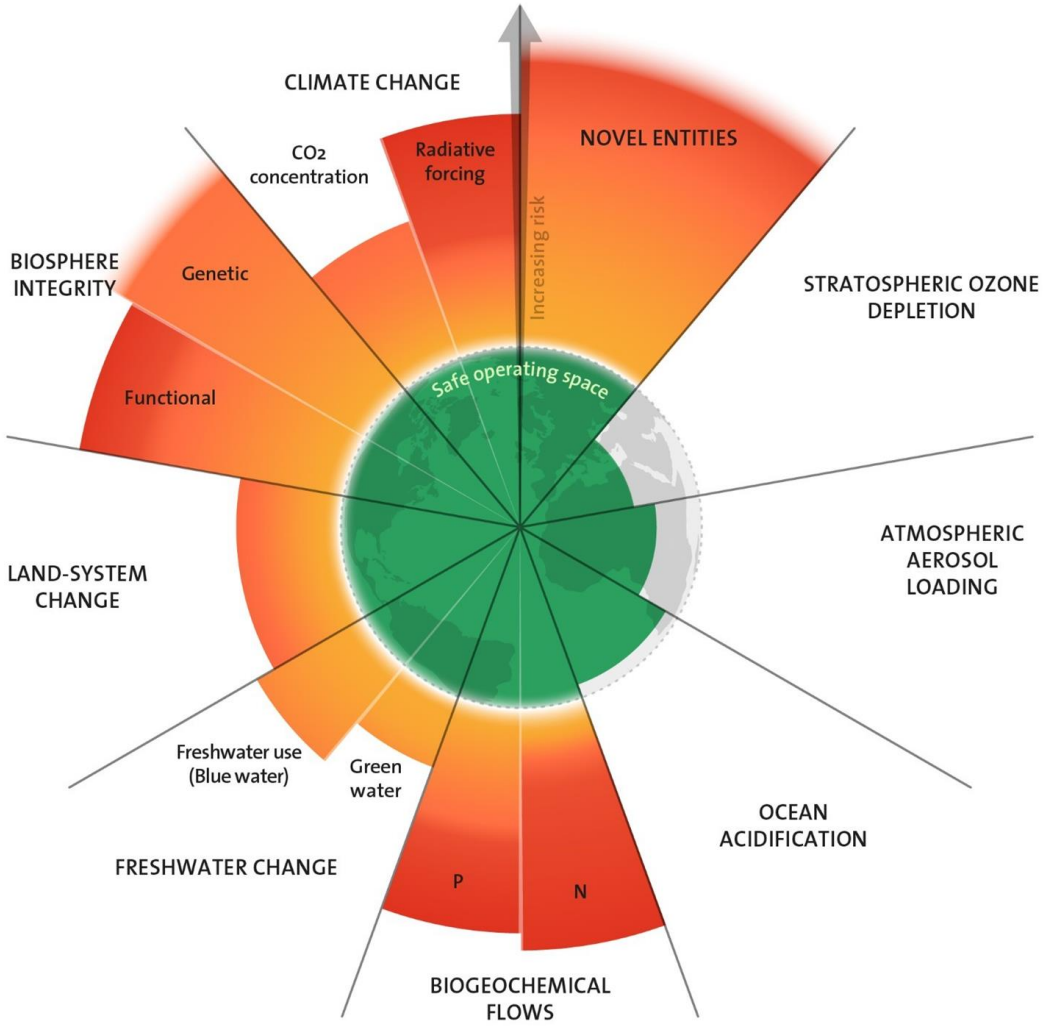
POLITECNICO MILANO 1863

ASSOCIATION négaWatt

Zaļā brīvība

FULFILL

# Why is this important?



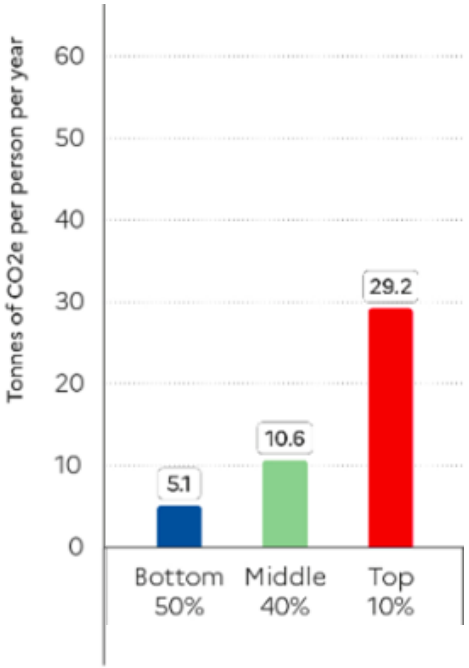

- crossing planetary boundaries threatens ecosystems and human societies.

- six planetary boundaries have already been transgressed
  - climate change
  - biodiversity loss
  - land-system change
  - biogeochemical flows
  - freshwater use
  - novel entities


# Well-being for all within planetary boundaries

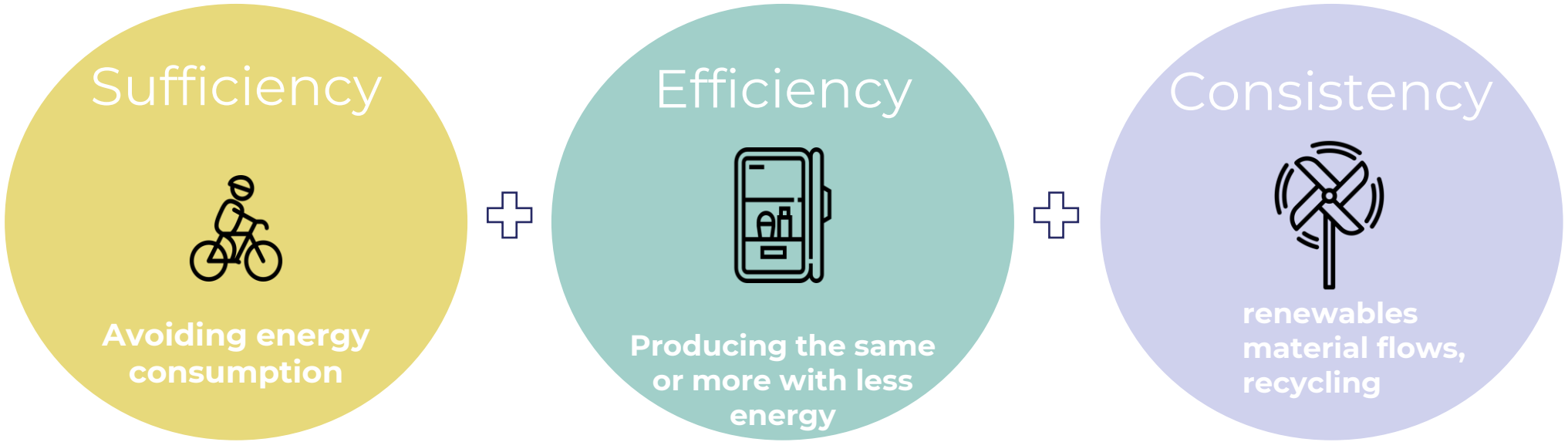
- Overshoot day for the EU was on May 3rd, 2024
- We would need 3 planets to satisfy our demand if everyone on Earth lived like Europe's residents.
- Sufficiency aims to provide well being for all without overshooting planetary boundaries!

## Per capita emissions, Europe, 2019




Source: Chancel, L., Piketty, T., Saez, E., Zucman, G. et al. World Inequality Report 2022, World Inequality Lab wir2022.wid.world

# Sustainability strategies




## Examples

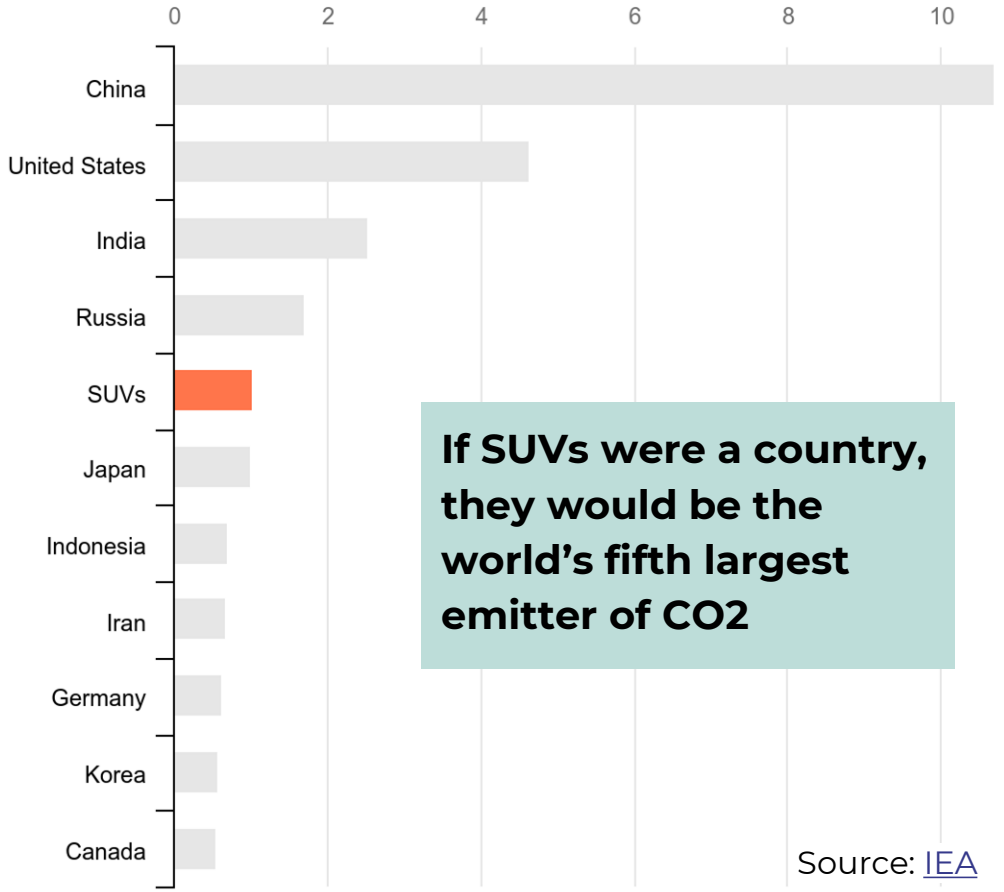
| | | | |
|---|---|---|---|
| Take the car with combustion engine | cycling, public transport, car sharing, work from home | electric car | electric car with renewable electricity |
| Heat all rooms at 22°C with fossil fuel boiler | put the heating to 19°C , heat less rooms | invest in building renovation | install a renewable heating system (e.g. heat pumps) |

Source: Leuser L. & Pellerin-Carlin T. 2022. "Energy Sufficiency. The missing lever to tackle the energy crisis", Policy brief, Paris: Jacques Delors Institute, 13 May.

# Why do we need sufficiency?

- SUVs accounted for 48% of global car sales in 2023.
- **Trend towards heavier, less efficient vehicles largely nullifies recent global gains in car emissions and energy use.**
- SUV's: responsible for over 20% of the growth in global energy-related CO2 emissions in 2023
  - ~ 20% more emissions than an average medium-sized car
  - more critical materials and parking space in constrained urban areas
  - pedestrian safety

Source: Pexels




**If SUVs were a country, they would be the world's fifth largest emitter of CO2**

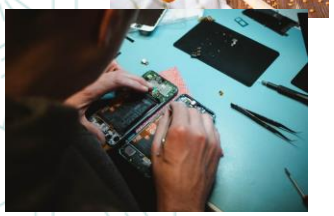
Source: IEA


"FULFILL understands the **sufficiency principle** as **creating the social, infrastructural, and regulatory conditions** for changing individual and collective lifestyles in a way that **reduces** energy demand and greenhouse gas emissions to an extent that they are **within planetary boundaries**, and simultaneously **contributes to societal well-being**."

"**Sufficiency policies** are a set of **measures and daily practices** that **avoid demand** for energy, materials, land and water while **delivering** human **well-being** for all within planetary boundaries."

(**IPCC** 2022. Summary for Policymakers, p. 41)

# Sufficiency needs policies and infrastructures



Policies, infrastructure, regulatory conditions, social norms


## Individual level

- choosing plant-based diets
- Biking and using public transport
- repairing and sharing goods
- reconsidering consumption demands

- Policies and infrastructures often favour unsustainable consumption patterns
- Enabling regulation not necessarily expensive or slow to implement

Source: @EmmanuelSPV

## Changing infrastructures

Source: @CarlosMorenoFr

Source: Franceinfo

# Sufficiency Video

European Commission

# Elisabeth Dütschke

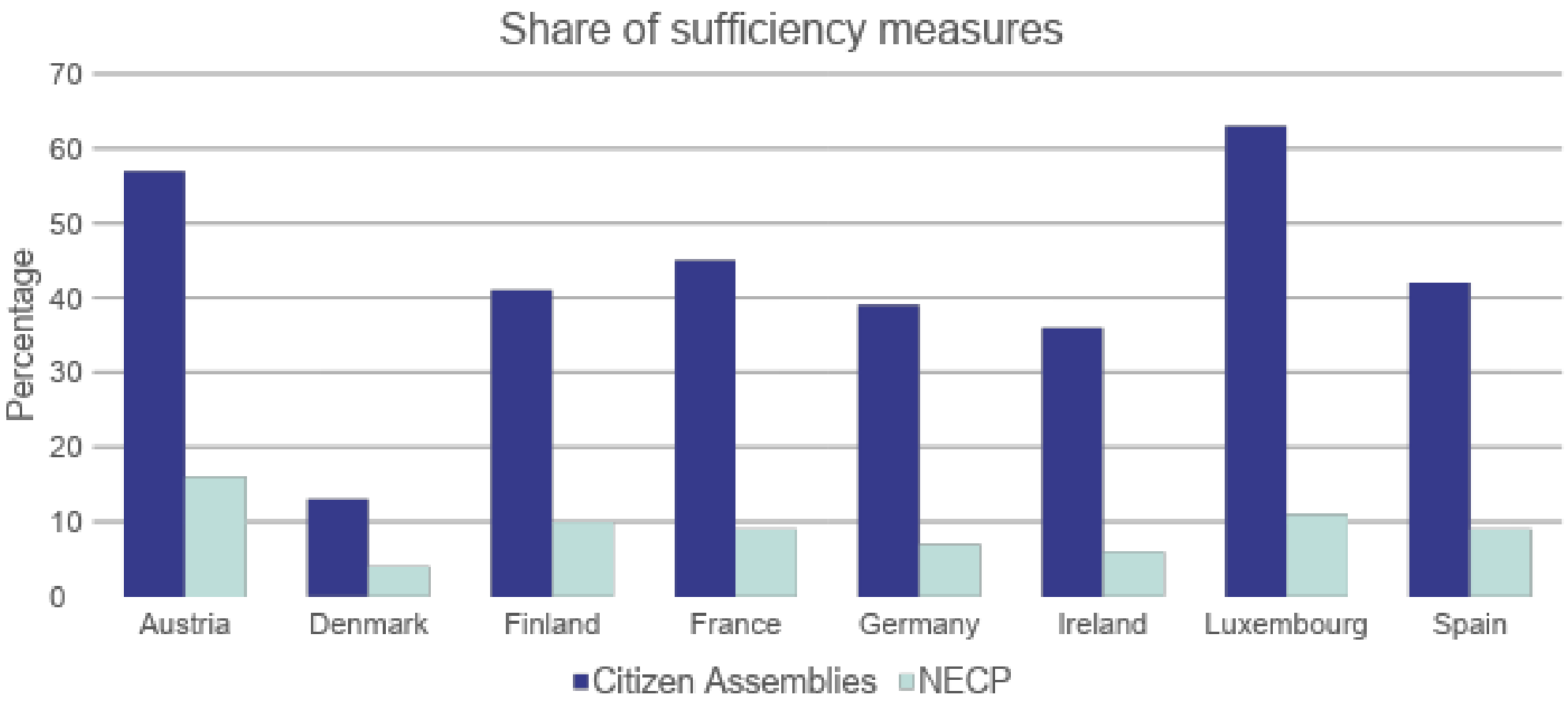
Head of Actors and Social Acceptance in the Transformation of the Energy System

**Fraunhofer Institute for Systems and Innovation Research ISI**

EC.EUROPA.EU/EUSEW
EUENERGYWEEK
@EUENERGYWEEK
#EUSEW2024

# European citizens and sufficiency - previous findings

Engaged citizens suggest sufficiency




Source: Lage, Jonas, et al. "Citizens call for sufficiency and regulation—A comparison of European citizen assemblies and National Energy and Climate Plans." *Energy Research & Social Science* 104 (2023): 103254.

# European citizens and sufficiency - studying their current views

What are everyday experiences with sufficiency?

What do unprepared publics prefer?

9500 surveyed on lifestyles

160 interviewed on daily life and sufficiency


45 initiatives studied

85 participants in citizen workshops

9900 surveyed on policy measures



Photos by Thomas Lefebvre, Christin Hume and Franck on Unsplash and by JDI & Inforse

# European citizens and sufficiency - everyday experience

*"I always say that participating to this initiative gives me a lot of energy".* (Woman, 47, Italy, reduced consumption)

Living in a tiny house allows me to be less a slave to work." (Woman, 25, France, tiny house)

## Very sufficient
3-4% per country

- Very low in emissions in all behavioural domains and high in well-being
- Female, higher income, supporting sufficiency-oriented lifestyles and environmental identity

## Partly sufficient
8-9% per country

- Very low in emissions in some behavioural domains and below average overall as well as high in well-being
- Eco-friendly, support for environmental policies

## Deprived
12-14% per country

- Very low in emissions in all domains and low in well-being
- More often female, low income, not working full-time

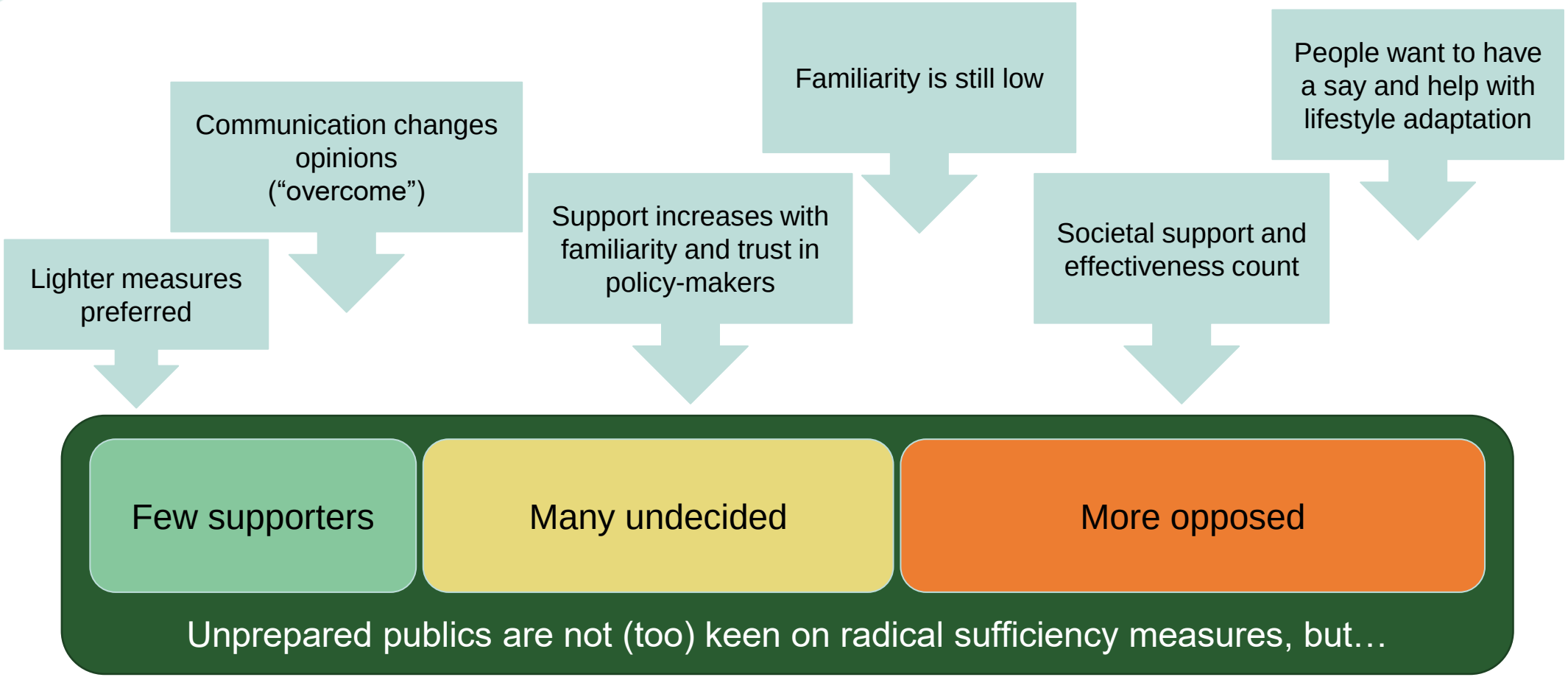
Time availability

Income and affluence

Well-being as consequence and motivator

Sufficiency as a side-effect in joining initiatives and unknown as a concept

# European citizens and sufficiency - policies



# Sergio Olivero

Head of Business and Finance Innovation

**RESCOOP.EU, CONCERTI, Energy Center of the Politecnico di Torino**

EC.EUROPA.EU/EUSEW
EUENERGYWEEK
@EUENERGYWEEK
#EUSEW2024


# The CONCERTI Project

## Renewable Energy Communities (REC): creating value for sustainable growth and sufficiency

an Italian best practice

https://progettoconcerti.it

*Sergio Olivero*

Politecnico di Torino | ENERGY CENTER

# **Renewable Energy Communities (REC)**: *definition*

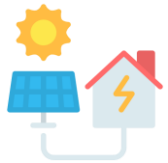
A ***Renewable Energy Community*** (**REC**) is a **legal entity** made up of energy ***users***, ***producers*** and ***prosumers*** (*producers+users*) who are clustered to generate <u>economic</u>, <u>social</u> and <u>environmental</u> benefits deriving primarily from the **sharing of electricity** produced by **renewable** sources.

**USER**

Draws electricity from the grid and is the owner of the connection point to the grid, identified by a POD (Point Of Delivery) code

**PRODUCER**

Producer of energy from renewable sources, that is totally fed into the grid (potentially shareable energy)



**PROSUMER**

Producer of energy from renewable sources, which is partly consumed on site (physical self-consumption) and partly fed into the grid (potentially shareable energy)

# REC and sufficiency

On 14 July 2021 the European Commission adopted the "**fit for 55**" package, which adapts existing climate and energy legislation to meet the new EU objective of a **minimum 55 % reduction** in greenhouse gas (GHG) emissions by 2030.

A key element in the 'fit for 55' package is the revision of the **Renewable Energy Directive** (**RED II**), to help the EU deliver the new 55 % GHG target.

The revised directive (**RED III**) was published in the Official Journal on 31 October 2023, and entered into force on 20 November 2023.

**Italy transposed the RED II Directive** with the Law Dlgs 199/2021, that entered into force on 24 January 2024: **the "engine" of RED II are RECs**. RECs are therefore a major catalyst of fossil fuel reduction, paving the way to **sufficiency**.

# **Renewable Energy Communities (REC)**: *Magliano Alpi and follow-ups*

**December 18th, 2020**: the **first** Italian **Renewable Energy Community** (**REC**) was founded in the City of Magliano Alpi **https://cermaglianoalpi.it/** with the scientific support of the Energy Center of the Politecnico di Torino

**April 9th, 2024**: the Renewable Energy Community "**CONCERTI**" **https://progettoconcerti.it** was founded by the "*Consortium Bealera Maestra Destra Stura*" (CBMDS), clustering **25 Municipalities** (including Magliano Alpi) in the Province of Cuneo

starting from April 2024, the Italian Government is making **€ 2,2 BILLION** available to support RECs in cities with less than 5,000 inhabitants

# *Best practice:* **CONCERTI**: **REC + water saving**

The project **CONCERTI** is promoted and managed by the **Irrigation Consortium BMDS**

The Consortium is currently moving from traditional *"flowing water"* irrigation to **pressure pipes** [**€ 76 million** were awarded to create the infrastructure, also implying 2 MW hydropower production]

Pressure pipes mean:

1) **Less water** needed for irrigation (pressure&focused use  lower losses, better use)
2) More water **left to rivers**
3) **Renewable energy by hydro power plants**: 2MW (especially used for public lighting of cities in the night, **reducing the use of energy from the grid**)

The Magliano Alpi is one of the Cities partner of Consortium BMDS

http://progettoconcerti.it/

**Promoted and managed by CBMDS**

**Technical partners**

Politecnico di Torino | ENERGY CENTER

fabbricadigitale IT ENABLING TECHNOLOGY

CER CONCERTI | Politecnico di Torino | ENERGY CENTER

# *Best practice:* **CONCERTI**: **REC + water saving**

The Consortiun is a no-profit private-law company, owned by 16 Municipalities and actively cooperating with SMEs

The Consortium BMDS have created a dedicated **no-profit company** (cooperative) in order to manage all RECs that will be activated in the area of the Province of Cuneo

A digital **IoT-AI platform** is being developed

The value:

- **50% cut of water necessary for irrigation** (farms located in 25 Municipalities)
- **50 MW** of installed PV power [**€ 45 million investment**], that will save up to 25.000 tons of CO2/year and generate up to **€ 1.5 million/year** (for a period of 20 years) for social initiatives.
- RECs will assure a **circularity between production and use of energy** and will give money (incentives) for people who will **change their energy consumption behaviours**

http://progettoconcerti.it/

**Promoted and managed by CBMDS**

**Technical partners**

# *Best practice:* ***CONCERTI****:* ***behavioural change***

**In a REC, if you use energy when it is available you get incentives** (about € 100/MWh), since you help matching production and consumption at local level according to a circular approach.

The matching means that you are using **renewable energy produced at local level only**.

Thanks to Law Dlgs 199/2021 (that transposes EU RED-II Directive), **if you change your consumption habits you get money** → major catalyst of innovative mood towards energy transition.

The Law also states that **all incentives related to energy sharing > 55% is devoted to social initiatives**: CONCERTI will use this money [€ 1.5 million/year] to fund energy efficiency projects and raising awareness campaigns

# THANK YOU FOR YOUR ATTENTION

**Sergio Olivero**

Politecnico di Torino | ENERGY CENTER

Head of Business&Finance Innovation

*Chair ETIP-SNET WG5 «Innovation implementation in the business environment»*
*Member of the Scientific Committee of the Italian Forum of Energy Communities - IFEC*
*Member of the Scientific Committee of the Symbola Foundation*
*Vice-President of CONCERTI*
*President of the Scientific Committee of Magliano Alpi's REC*

**sergio.olivero@polito.it**

# Yves Marignac

Energy expert and spokesperson

**Association négaWatt**

EC.EUROPA.EU/EUSEW
EUENERGYWEEK
@EUENERGYWEEK
#EUSEW2024

FULFILL

Fundamental decarbonisation
through sufficiency by lifestyle changes

# Sufficiency policies

Yves Marignac, Association négaWatt

**Energy expert and spokesperson**
yves.marignac@negawatt.org

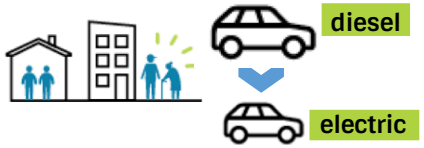
12/06/2024

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101003656

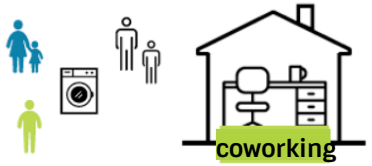
# **Sufficiency levers** can be identified and related **policies and measures** can be designed

1. **Servicial**
   Intensity and duration of use of equipments


2. **Dimensional**
   Size, nominal capacity of equipments




3. **Organisational**
   Collective planning and sharing




| Residential | Tertiary | Mobility | Freight | Industry | Agriculture |
|---|---|---|---|---|---|
| Heating temperature | | Flying less | | Long-lived goods | Change of diet |
| Built areas | | Car sizing | | | |
| Sharing products | | Modal shift | | Circular economy | |

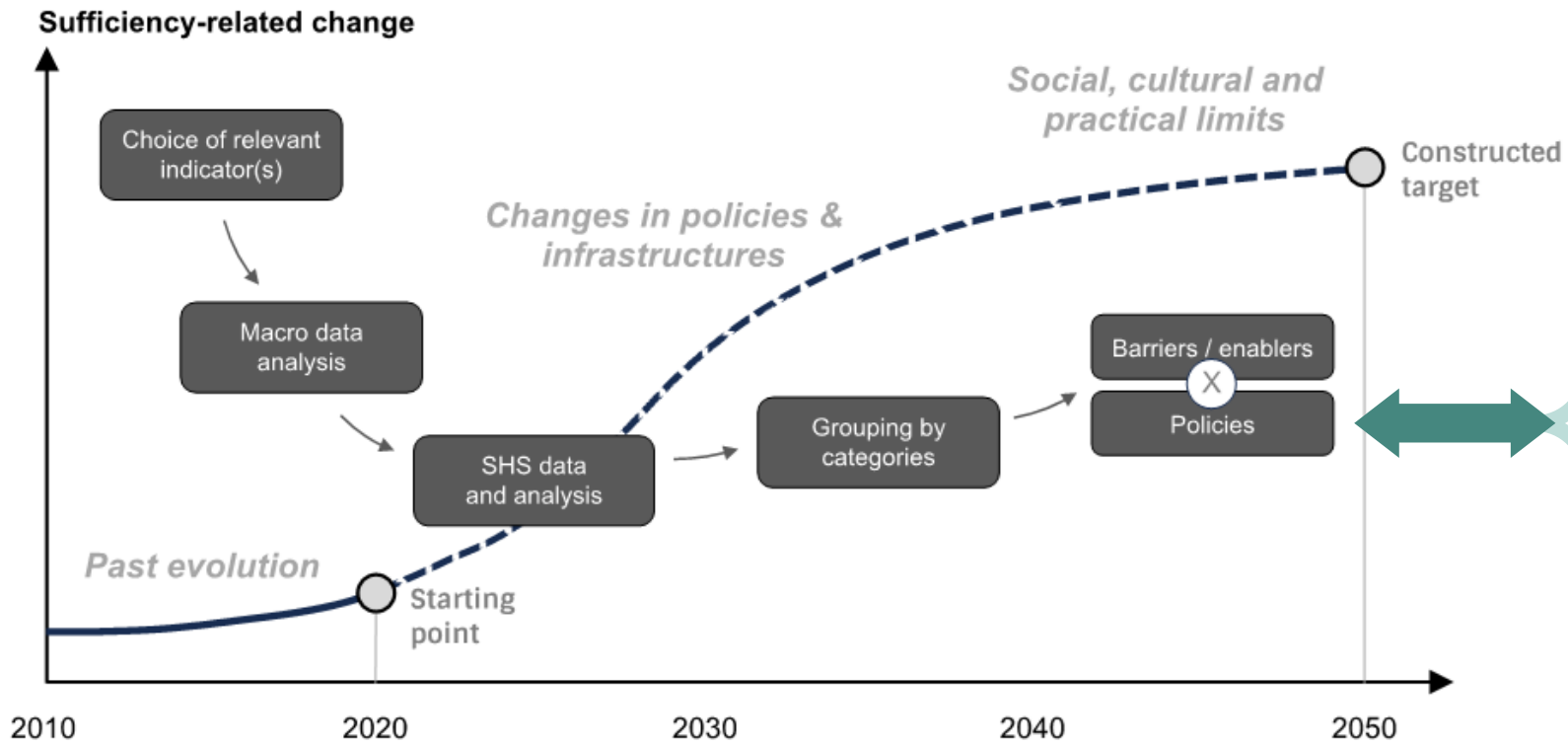
## Policies and measured to be developed

like for any kind of lever

Informing & supporting actions → Guiding & regulating innovation and markets → Changing social norms & practices → Regulating & adapting infrastructures

Habits
Infrastructures
Societal framework

# **Sufficiency policies and measures** can be discussed in relation with projected dynamics of possible change




Social and human sciences (SHS) can help identify barriers, enablers and possible dynamics through categories. Policies and measures can build on positive factors and address barriers to drive sufficiency-related change.

**Sharing space in housing**
*Focus on people aged 65+*

**Cohousing**

**Sharing products**
*Focus on washing machines*

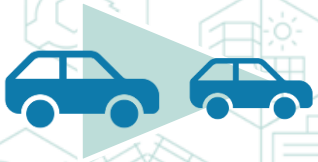
**Reduced car sizing**

**Biking more**
*Focus on daily trips*

**Flying less**

**Change in diet**

# Sufficiency policies: car sizing



**Car industry** manufacturers

**Car fleet users**

**Households** (≠ categories)

**Market** Increasing **share targets**, standards

**Labels** **Life cycle** CO2 & energy, material footprint

**Fiscal.** Weight / size **malus-bonus**

**Support** Support EU micro-car EV **industry**

**Tarifs** **Progressive tolls** (motorways, parking…)

**Info.** Raise awareness, build **new narrative**

## Enablers

- **EU/national goals** for greening vehicles
- Increasing pressure re. **material resources**
- **Social awareness** re. climate / greening
- Urban / spatial planning **constraints**
- Need to transform **funding schemes**

## Mixed

- ± Individual / social priority re. **road safety**
- ± **High cost of EVs** re. just transition
- ± Influence of **advertisement**

## Barriers

- Complex calculation and **traceability**
- **Lobby** of car industry (business models)
- Lock-in of a tailpipe **$CO_2$ free only** prism
- **Lack of awareness** on weight/size impacts
- World **trade rules**, free market
- Link to **social status**, freedom, masculinity…

# Sufficiency policies: car sizing

| | Policies | Enablers: Existing EU/national mandatory targets on greening of vehicles | Enablers: Increasing pressure on material resources consumption and extraction | Enablers: Social awareness on climate change, increasing will to buy green products | Enablers: Urban/ spatial planning constraints | Enablers: Necessity to find sustainable funding schemes for policies for transports beyond CO2 | Mixed: Road safety as a political priority | Mixed: Necessity to make electric vehicles more financially accessible | Mixed: Influence of advertisement on vehicles | Barriers: Complexity of calculation and traceability | Barriers: Lobby of car industry (less profit on smaller cars, employment rates) | Barriers: World trade rules and free market | Barriers: Policy prism on tallpipe CO2 emissions / policy resistance to change measures | Barriers: Lack of awareness on the impact of weight and size even for EV | Barriers: Social incentives to own a large car (link to freedom, social status, masculinity...) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Market | Include progressive targets of share of new A et B category vehicles sold on EU market for manufacturers | +++ | +++ | ++ | + | - | + | +++ | + | + | +++ | | +++ | ++ | ++ |
| Market | Include material consumption standards/caps for new vehicles sold on EU market, including electric vehicles (EV) | +++ | +++ | + | | | ++ | +++ | ++ | + | +++ | + | + | ++ | + |
| Labels | Shit to a life cycle analysis to measure CO2 emissions and energy consumptions of vehicles sold on EU market | ++ | ++ | +++ | | | ++ | + | +++ | + | +++ | ++ | ++ | + | |
| Labels | Include weight and size standards/caps in targets set for the greening of public and private vehicle fleets | +++ | +++ | + | + | | | ++ | | | ++ | ++ | ++ | + | |
| Fiscal. | Include weight and size and material consumption criterion in the calculation of car energy and emissions labelling | ++ | +++ | +++ | | | ++ | + | ++ | ++ | ++ | | ++ | + | + |
| Fiscal. | Include weight and size criterion in fiscal schemes targeting physic and moral persons | ++ | ++ | ++ | + | + | +++ | +++ | | ++ | +++ | + | + | + | ++ |
| Sup. | Support the development of microcar industry in Europe to make EV accessible and relocate some of the production | | + | + | | | | +++ | | + | ++ | | | | ++ |
| Sup. | Support the development of accessible car sharing practices in Europe, to adapt vehicles uses to the needs | | + | ++ | | + | | +++ | | + | ++ | | + | + | ++ |
| Tarifs | *National level:* adapt motorway toll rates to size and weight of vehicles (existing in many country) | +++ | - | + | ++ | + | +++ | - | + | + | +++ | - | ++ | ++ | + |
| Tarifs | *Local level:* adapt parking toll rates to size of vehicles | + | - | + | +++ | +++ | +++ | + | - | | +++ | - | + | + | + |
| Info. | Raise awareness on the impact of size on CO2 emissions, atmospheric pollutants, energy and material consumption | ++ | ++ | ++ | ++ | ++ | ++ | ++ | | ++ | +++ | | ++ | + | ++ |
| Info. | Build a breaking narrative on mobility to tackle values and misconceptions around cars and support smaller affordable cars | ++ | ++ | ++ | ++ | ++ | + | ++ | | ++ | +++ | | ++ | + | +++ |

**Link**

| | |
|---|---|
| +++ | very positive |
| ++ | positive |
| + | rather positive |
| | absent |
| - | negative |

# Sufficiency policies: car sizing

Policies allow to target different groups…

… with different impacts at different time scales

| | Policies | Target group | Qualitative potential | Delay of implementation and impact | Horizon in scenarios | Comments |
|---|---|---|---|---|---|---|
| Market | **Include progressive targets of share of new A et B category vehicles sold on EU market for manufacturers** | Manufacturers | Strong | Mid term | 2040 | Complexity to implement if not aligned with offer on the rest of the world market |
| | **Include material consumption standards/caps for new vehicles sold on EU market, including electric vehicles (EV)** | Manufacturers | Strong | Mid to long term | 2050 | |
| Labels | **Shit to a life cycle analysis to measure CO2 emissions and energy consumptions of vehicles sold on EU market** | Manufacturers | A / B | Mid term | 2040 | A on the efficiency of the measure<br>B on the probability to be implemeted |
| | **Include weight and size standards/caps in targets set for the greening of public and private vehicle fleets** | Public and private entities | A / B | Mid term | 2040 | A on the efficiency of the measure<br>B on the probability to be implemeted |
| Fiscal. | **Include weight and size and material consumption criterion in the calculation of car energy and emissions labelling** | Manufacturers and buyers | B | Mid term | 2040 | Touches private entities as well as individuals |
| | **Include weight and size criterion in fiscal schemes targeting physic and moral persons** | Indiv. buyers, private entities | B | Short term | 2030 | Either through a dedicated tax, or a bonus-malus scheme |
| Sup. | **Support the development of microcar industry in Europe to make EV accessible and relocate some of the production** | Manufacturers and buyers | B | Long term | 2050 | |
| | **Support the development of accessible car sharing practices in Europe, to adapt vehicles uses to the needs** | Public author., car users | B | Mid term | 2040 | |
| Tarifs | ***National level:* adapt motorway toll rates to size and weight of vehicles (existing in many country)** | Owners, buyers of vehicles | C | Mid term | 2040 | |
| | ***Local level:* adapt parking toll rates to size of vehicles** | All | C | Short term | 2030 | Strong impact in urban areas, much more limited in rural ones |
| Info. | **Raise awareness on the impact of size on CO2 emissions, atmospheric pollutants, energy and material consumption** | Policy makers | C | Short term | 2030 | Reinforces the acceptability and feasibility of more operational policies |
| | **Build a breaking narrative on mobility to tackle values and misconceptions around cars and support smaller affordable cars** | Entities, indiv., policy makers | C | Mid term | 2040 | Reinforces the acceptability and feasibility of more operational policies |

# **Identified sufficiency policies** exist that allow to target all **sectors, players** and **uses**

energie-suffizienz
Policy Database

More than **330 sufficiency-related policies and measures** found in literature

- sector
- political target / strategy
- measure / action
- policy instrument

Cross-sectoral and sectoral policies, targeting various sufficiency levers, using the whole range of policy instruments


A comprehensive set of proposals to develop an **EU strategy for sufficiency**

**Transport / mobility**
Investment in infrastructures, modal shift, local urban planning, car sharing…

**Energy, buildings and spatial planning**
Optimising use of existing buildings, net-zero land take, progressive energy tarifs…

**Materials, products, food**
Material footprint reduction targets, circular economy, product design rules…

**Cross-sectoral: information, taxation and finance**
Public campaigns, regulated advertisement, redistributive taxation practices, funding schemes…

European Commission

# Matteo Giacomo Prina

Senior researcher

**EURAC research**

EC.EUROPA.EU/EUSEW
EUENERGYWEEK
@EUENERGYWEEK
#EUSEW2024

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101003656

FULFILL

Fundamental decarbonisation through sufficiency by lifestyle changes

# What can sufficiency contribute? Results of an input-output model

Nicolò Golinucci, Lorenzo Rinaldi, Francesco Tonini & Matteo Vincenzo Rocco, Matteo Giacomo Prina, Filippo Beltrami, Erwin M. Schau, Wolfram Sparber
SESAM – Politecnico di Milano, Eurac Research
12th Jun 2024, EUSEW sufficiency session

# Objective

To analyze the potential contribution of lifestyle changes and to assess the system-wide impacts of upscaled sufficiency-based lifestyle changes on climate, economy, and society at the European level.

Specific goal

To quantify the effects of sufficiency on greenhouse gas emissions, macroeconomic indicators, energy use, and resource consumption through the use of an input/output model.

# Data from FULFILL

## Data
## for 6 sufficiency measures

- Diets
- Sharing spaces in housing
- Moderate car sizing
- Sharing products*
- Biking
- Flying less

## for 5 countries

- Italy
- France
- Germany
- Latvia
- Denmark

| Country | Year | Transition | % impact policies | Share of people willing to reduce animal products consumption | Share of willing people actually changing | Resulting share[7] |
|---|---|---|---|---|---|---|
| Denmark | 2025 | 2021->2025 | 0% | 26% | 48% | 12% |
| | 2030 | 2025->2030 | 5% | 27% | 50% | 14% |
| | 2035 | 2030->2035 | 25% | 32% | 58% | 19% |
| | 2040 | 2035->2040 | 45% | 37% | 67% | 25% |
| | 2045 | 2040->2045 | 73% | 43% | 78% | 34% |
| | 2050 | 2045->2050 | 100% | 50% | 90% | 45% |

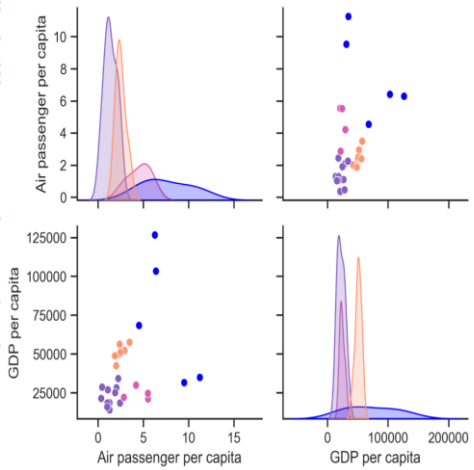
Modelled sub-indicators regarding diets for men in Denmark (D5.3)

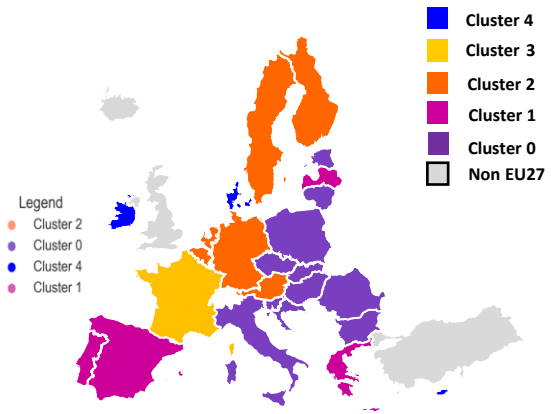
*only washing machines are considered

# Methods and materials

## Preprocessing of data for MARIO

- **Sufficiency data for 5 countries (Italy, France, Germany, Latvia, Denmark)**
- **Evaluation of business as usu future trends**
- **Clustering analysis to extend results to all EU countries**




## Input/output Macro-economic modelling

**INPUT**

- **Input-Output (IO) database**
- Description of sufficiency measure

**MARIO:**
**Open Python-based objective programming for easing IO analysis**

**PROCESSING**

**Automatizing** the application of each **sufficiency measure in multiple scenarios**

**OUTPUT**

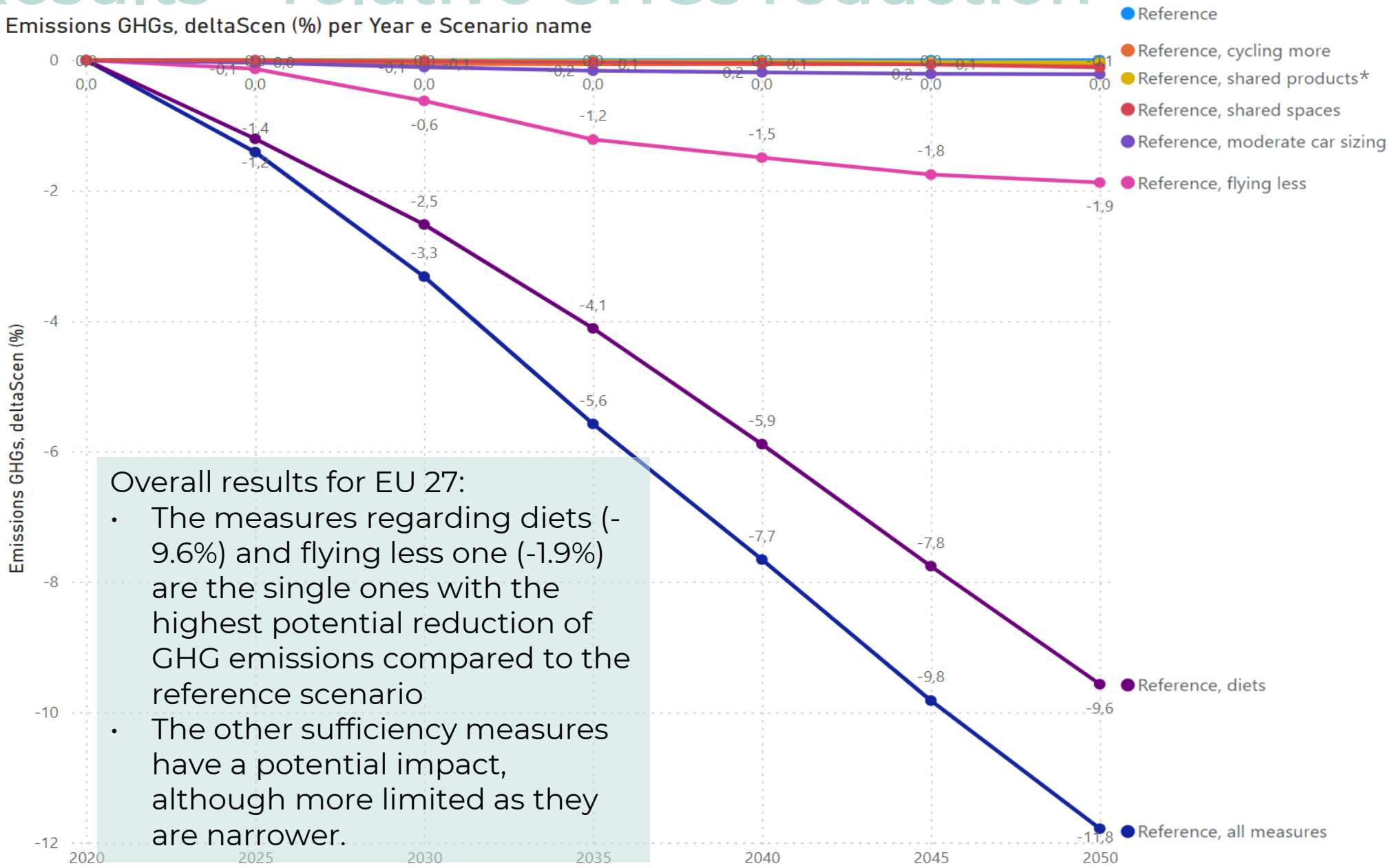
- Aggregated results (products, activities, regions, ...)
- Results visualization

Economic indicators

Use of energy and resources

Emissions of greenhouse gases

# Results – relative GHGs reduction




Overall results for EU 27:

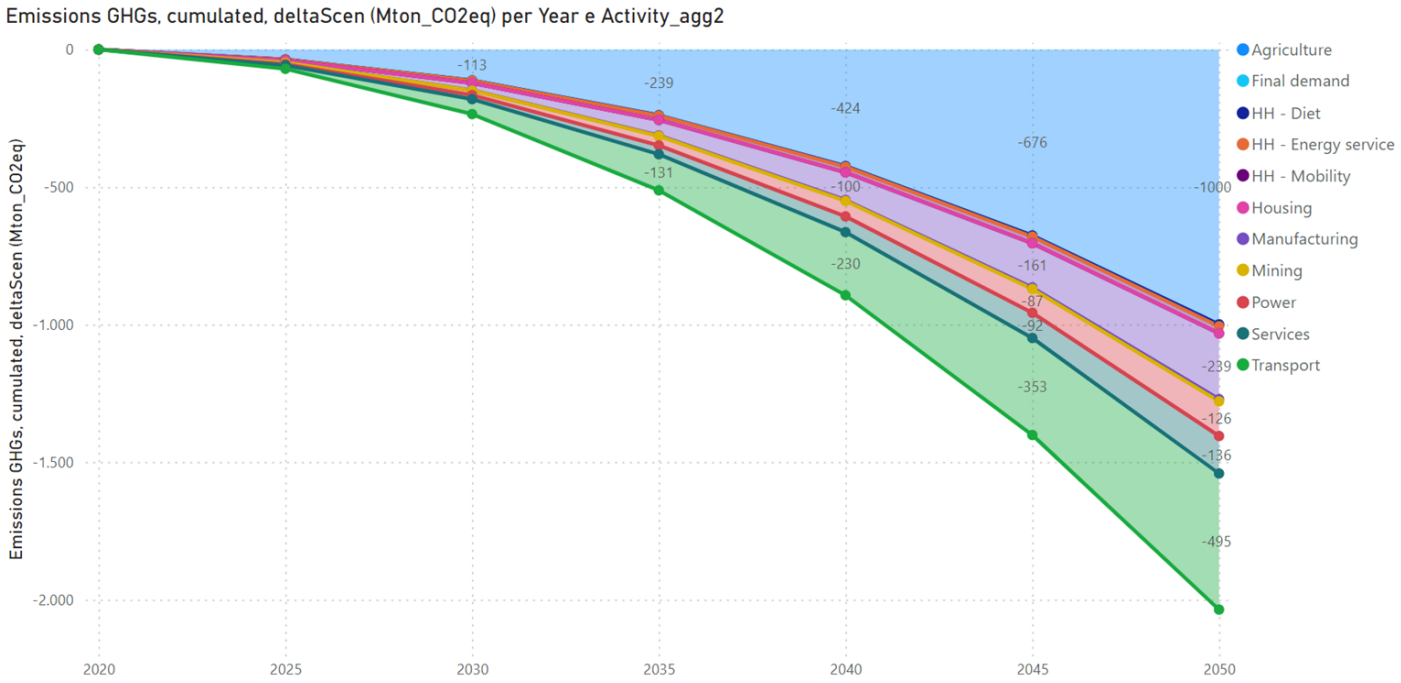
- The measures regarding diets (-9.6%) and flying less one (-1.9%) are the single ones with the highest potential reduction of GHG emissions compared to the reference scenario
- The other sufficiency measures have a potential impact, although more limited as they are narrower.

*only washing machines are considered

# Results – cumulative GHGs reduction

Overall results for EU 27:

- Overall, **from now to 2050 about 2 Gton** of $CO_2$ equivalent can be saved thanks to these measures
- >90% of this is due to **diets** (1.5 Gton) and **flying less** (0.4 Gton)
- Main impact is on the following sectors: Agricolture, manufacturing and transport.

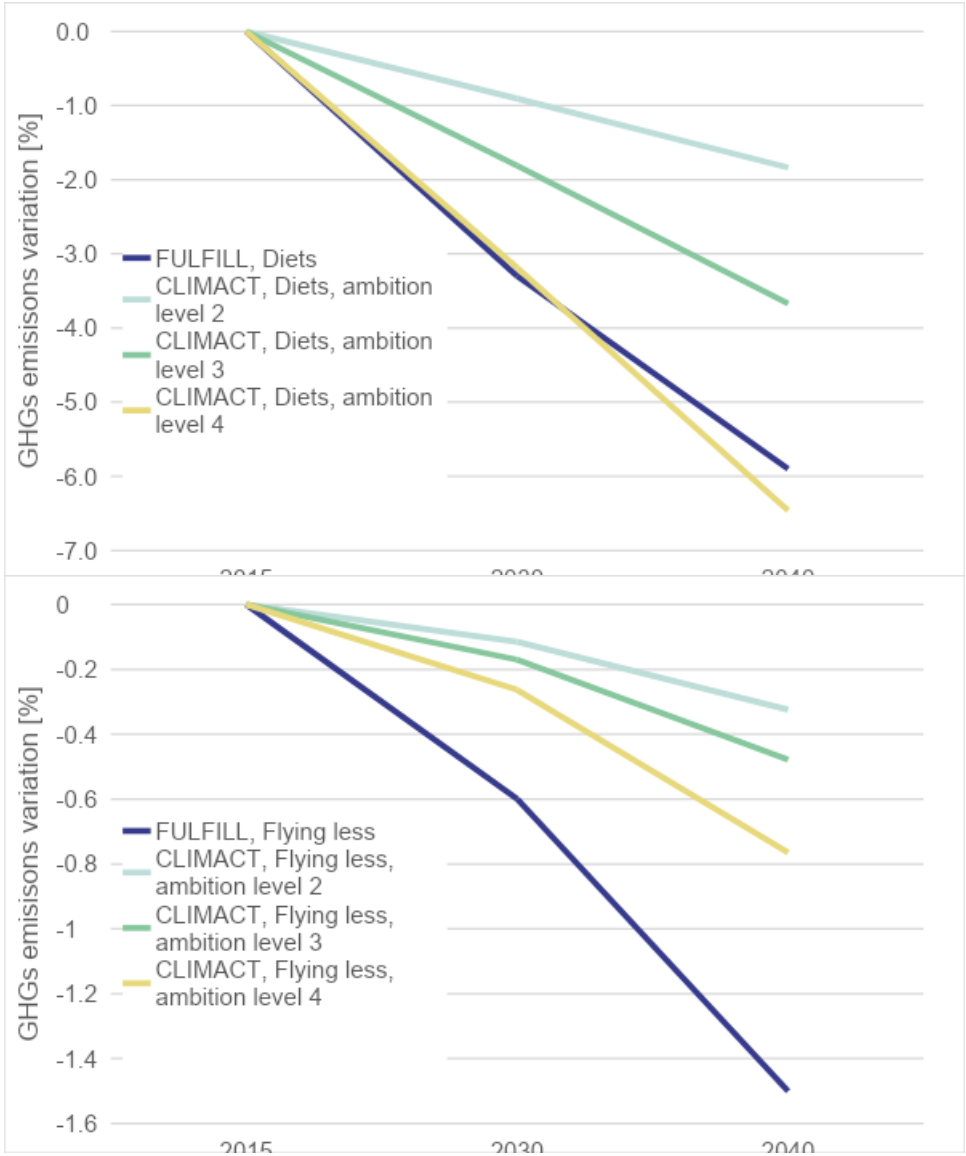


# Discussion of the results

In order to understand the robustness of our results we made a comparison with the results provided by CLIMACT 2050 Pathways Explorer [1].

This has been performed for the following sufficiency measures: Diets and Flying less

The results show results in line with the CLIMACT scenario ambition level 4.




[1] CLIMACT, 2050 Pathways Explorer (climact.com)

# Conclusions

Goal was quantifying the effects of sufficiency on greenhouse gas emissions, macroeconomic indicators, energy use, and resource consumption through the use of an input/output model.

- **Sufficiency measures** have been selected to be relevant for this evaluation: Diets, Sharing spaces in housing, Moderate car sizing, Sharing products, Biking, and Flying less. For each of them a a **business as usual scenario** and a **sufficiency scenario** have been found (for **5 countries**). A **clustering analysis** has been used to **extend** what have been found for these 5 countries to all EU27

- These data have been used as input of **MARIO** (input/output **macro-economic model**) applied at global level with a particular focus on EU27

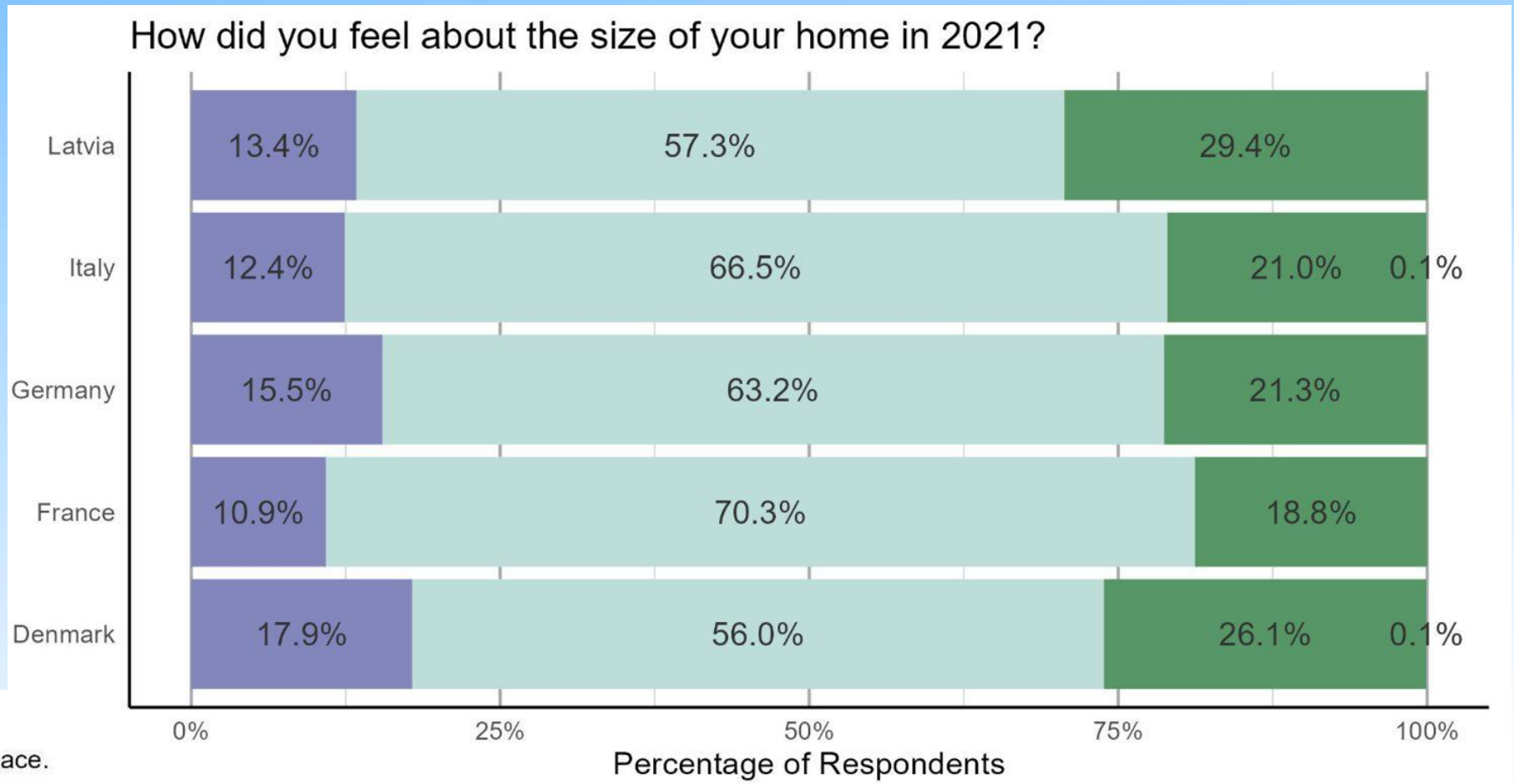
- Results show that, **from now to 2050 about 2 Gton** of $CO_2$ equivalent can be saved thanks to these sufficiency measures.

- >90% of the assessed potential is due to **diets** (1.5 Gton) and **flying less** (0.4 Gton). Further potential would need to be assessed by broadening the scope of other sufficiency measures

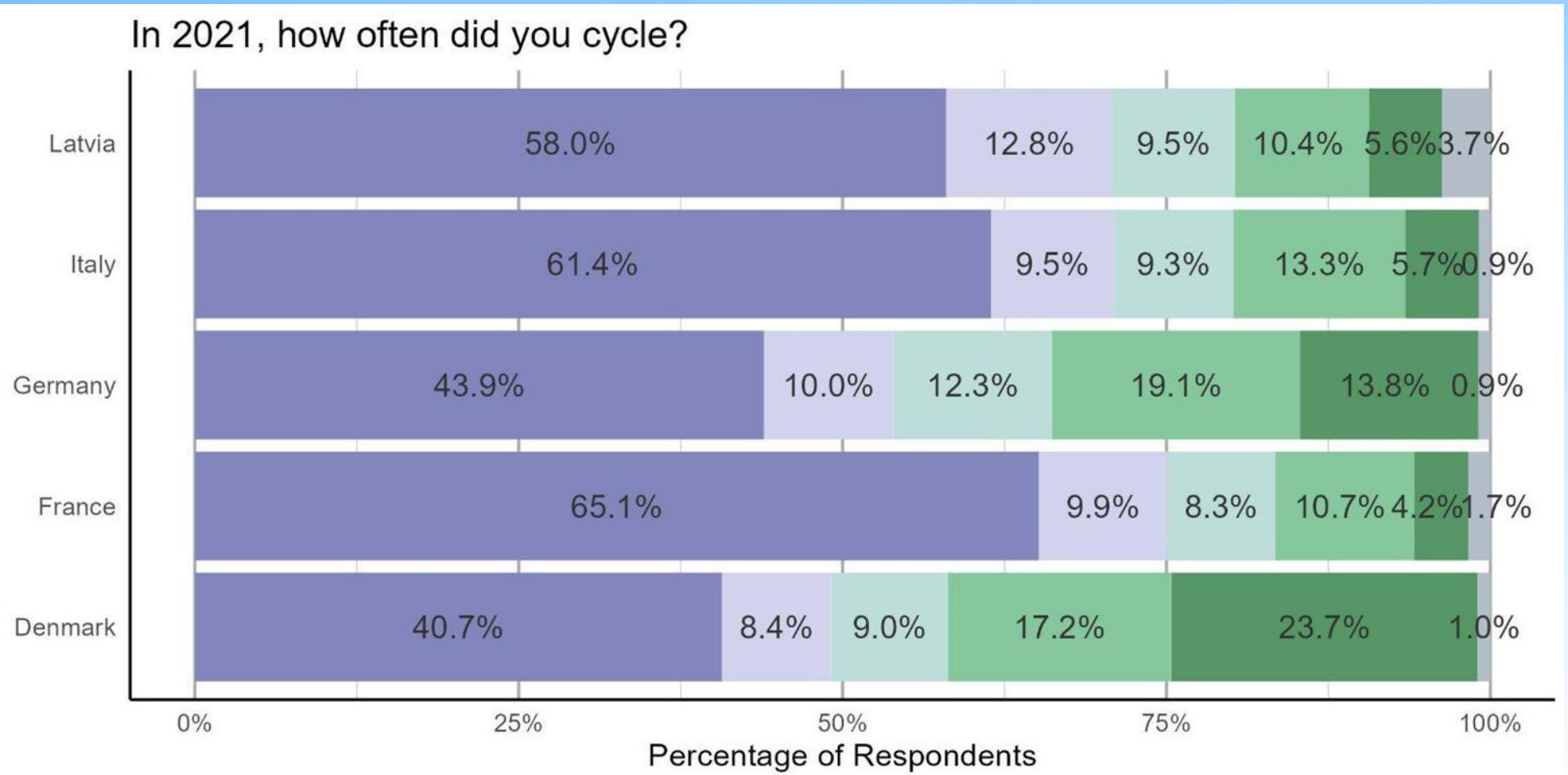
- Most affected sectors are Agricolture, manufacturing and transport.

# *SLIDO*


Active poll
Less is more? An ove...
47
Join at
slido.com
#EUSEW2024
How many Europeans in our survey indicate that they have too much space in their place of living?
between 11% and 18%
51%
between 3% and 10%
49%


How did you feel about the size of your home in 2021?
Latvia
Italy
Germany
France
Denmark
13.4%
57.3%
29.4%
12.4%
66.5%
21.0%
0.1%
15.5%
63.2%
21.3%
10.9%
70.3%
18.8%
17.9%
56.0%
26.1%
0.1%
0%
25%
50%
75%
100%
Percentage of Respondents
I could have done with less space.
Overall, it was fine the way it was.
I could have done with more space.
No answer / other
LV: n=1369, IT: n=1901, DE: n=1803, FR: n=1836, and DK: n=1851


Active poll
Less is more? An ove...
74
How many Europeans in our survey cycle every day?
between 5% (Italy) and 40% (Denmark)
64%
between 4% (France) and 24% (Denmark)
36%
Join at
slido.com
#EUSEW2024




LV: n=1369, IT: n=1901, DE: n=1803, FR: n=1836, and DK: n=1851

# Yves Marignac

Energy expert and spokesperson

**Association négaWatt**

EC.EUROPA.EU/EUSEW
EUENERGYWEEK
@EUENERGYWEEK
#EUSEW2024


## The Sufficiency Manifesto

- A growing awareness of the role of sufficiency
- An informal "sufficiency coalition" of European organisations
- The publication of a "sufficiency manifesto", now supported by more than 90 organisations

## Initiators

EEB European Environmental Bureau
ASSOCIATION négaWatt
ENERGYCITIES
ACR+
ClientEarth
energy sufficiency
RESCOOP.EU
JDEC — JACQUES DELORS ENERGY CENTRE


# 1 Why managing demand through sufficiency policies is needed now

- Covid 19, Ukrainian crisis, geopolitical tensions and economic pressure: a **challenge** to *"maintain stability in an evolving era of **polycrisis**"*
- Puts questions of **security of supply**, strategic **autonomy**, and industrialisation back to the top of the EU agenda
- Meanwhile, strong **ecological concerns** remain and **climate urgency** is growing

***"By putting sufficiency at the heart of its policies, the EU can set itself on the path of a resource-wise and resilient global leadership, providing a more secure, fair, and less costly transition to net zero emissions."***

ipcc INTERGOVERNMENTAL PANEL ON climate change
WMO UNEP
(AR6 – WGIII, 2022)

"**Sufficiency** policies are a set of measures and daily practices that **avoid demand for energy**, materials, land and water while **delivering human well-being** for all **within planetary boundaries**."


**Sufficiency is the common denominator in the response to all aspects of the crisis, and should therefore be the common factor to political agendas**

# 2 Five reasons to make sufficiency a priority for the EU

*"Sufficiency means…*

- a more **resilient** Europe"

  Reducing demand and using resources wisely domestically: being less dependent on critical imports, less vulnerable to shortages, and more resilient to shocks

- less costs and more **competitiveness"**

  Sufficiency can help achieve a successful, prioritised reindustrialisation, by focusing on sectors that are strategic, reducing costs and minimising risks

- facilitated achievement of our **climate** and energy targets"

  Sufficiency enables to deliver on EU objectives cost-effectively, making the most of the potential to implement energy efficiency and deploy renewables

- a better **quality of life** for all"

  Targeting the most unsustainable consumption patterns and ensuring redistributive access to resources to meet everyone's fundamental needs

- a more **sustainable** Europe"

  Sufficiency has the potential to rebalance EU policy in the next mandate towards strong sustainability


"Sufficiency can promote **well-being** and improve **security** and **resilience** across all energy-, material- and resource-intensive sectors"

# 3 Recommendations: putting sufficiency at the heart of the EU strategic agenda

## Transport / mobility

- Shifting **infrastructure investments** to support modal shift
- Promoting short-distance travel and a **more localised provision** of services & supplies
- Tackling the issue of **vehicles' size** by standards, incentives etc.
- Targeting **unnecessary air traffic** through specific measures

## Energy, buildings and spatial planning

- Optimising use of **existing buildings and spaces** rather than new builds
- Working toward a 2050 **net zero land-take** target
- Measuring and reducing the **whole-life carbon footprint** of buildings
- Implementing **circularity principles** to reduce material use
- Introducing **progressive tarif** frameworks re. energy consumption

## Materials, products, food

- Assessing the introduction of **binding material footprint reduction** targets
- Promoting resource and material sufficiency through **product design rules**
- Increasing **food waste prevention** and shifting to **less meat intensive diets**

## Cross-sectoral: information, taxation and finance

- Developing **public campaigns** to promote sufficiency and better regulating **advertisement**
- Introducing **taxation practices** (bonus-malus…) to favour **sufficiency and redistribution**
- Leveraging **funding schemes** for **local, citizen-driven, bottom-up** sufficiency projects

European Commission

# Gunnar Boye Olesen

Coordinator

**INFORSE-Europe**

EC.EUROPA.EU/EUSEW
EUENERGYWEEK
@EUENERGYWEEK
#EUSEW2024

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101003656

FULFILL

Fundamental decarbonisation through sufficiency by lifestyle changes

# How EU's climate plans can include sufficiency, EU NDC and national NECPs

Gunnar Boye Olesen, International Network for Sustainable Energy (INFORSE) - Europe

12th Jun 2024, EUSEW

## EU is developing one NDC (National Determined Contribution) for the Paris Agreement.

- The NDC for 2035 with update for 2030 is to be submitted 9-12 month before COP30 in 2025 (i.e.around end of 2024).

## Each of the 27 EU countries (+Ukraine) are developing their own NECP (National Energy & Climate Plan).

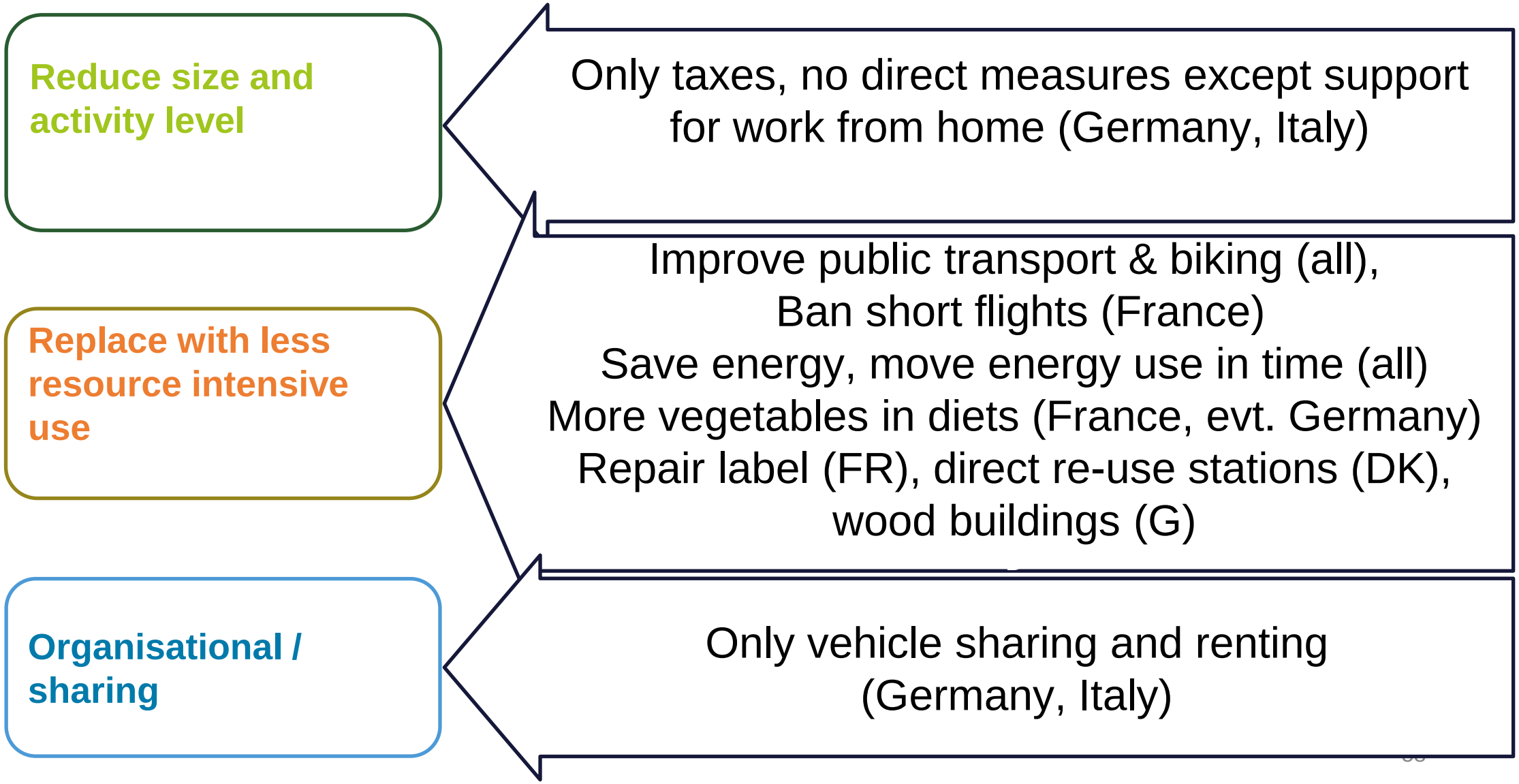
- The NECPs shall add up to the EU NDC.
- Drafts NECPs were ready in 2023, final versions to be submitted June 30, 2024.

# Sufficiency in National Energy & Climate Policies (NECPs), 4 countries

| NECPs of |
| --- |
| Denmark |
| France |
| Germany |
| Italy |

| Activities |
| --- |
| Buildings  |
| Mobility  |
| Products  |
| Diets  |

# Sufficiency policies in NECPs, overview



# Sufficiency in NECP vs. Proposals. Example: German Buildings

| | German NECP, draft 2023 | Proposals for more sufficiency |
|---|---|---|
| **Reduce size and activity** | (no measures to reduce building or dwelling sizes) | • Promote co-housing<br>• Promote sharing dwelling, renting rooms<br>• Assist moving to smaller dwellings<br>• Promote well planned tiny house developments |
| **Replace with less resource intensive use** | • Energy Advice services<br>• Low-income energy advice, electricity<br>• Dynamic electricity tariffs to move electricity use in time | • Label for energy efficient behaviour<br>• Moderate temperature in public buildings<br>• Progressive tariffs for energy |
| **Organisational** | (no measures) | • Sharing as above<br>• Reduce parking |

# Sufficiency in NECP vs. Proposals. Example: German Mobility

| | German NECP, draft 2023 | Proposals for more sufficiency |
|---|---|---|
| **Reduce size and activity** | • Gigabit internet strategy improve work from home<br>• Aviation tax | • Allow two days// week work from home<br>• Support to move closer to work<br>• Urban planning to reduce travel needs |
| **Replace with less resource intensive use** | • Investments in rail network<br>• VAT in train reduced to 7% from 19%<br>• 49€ ticket for local public transport<br>• Tax exempt job ticket and bicycle<br>• Promote rail freight, lower track charges<br>• Invest in bicycle infrastructure<br>• Special depreciation cargo bikes | • Public transport VAT 0%<br>• Ban short-haul flights |
| **Organisational** | • Tax relief for renting electric bicycles | • Promote carpooling, bicycle+car sharing |

# Sufficiency in EU NDC to Paris Climate Agreement

| EU NDC 2023 Update from 2020 | Proposals for more sufficiency |
|---|---|
| • **Target of 30% reduction of GHG from EU budget funded activities** | • Include sufficiency guidelines and requirements in EU funded activities |
| • **Carbon pricing with ETS, in aviation and coming in transport + heating** | • Aviation tax (fuel tax, passenger tax)<br>• Support transborder railways |
| | • Sufficiency in product regulation (ecodesign, labelling) |
| | • Support national sufficiency policies and measures |

# NECP's are not Adding up to the EU 2030 Target

EU 2030 target is 55% GHG reductions 1990-2030

NECPs (2023 drafts) are adding up to 51% reduction 1990-2030 (Analysis by European Commission

## Sufficiency policies can help EU meeting the emission gap

## Frank Siebern-Thomas

Head of Unit

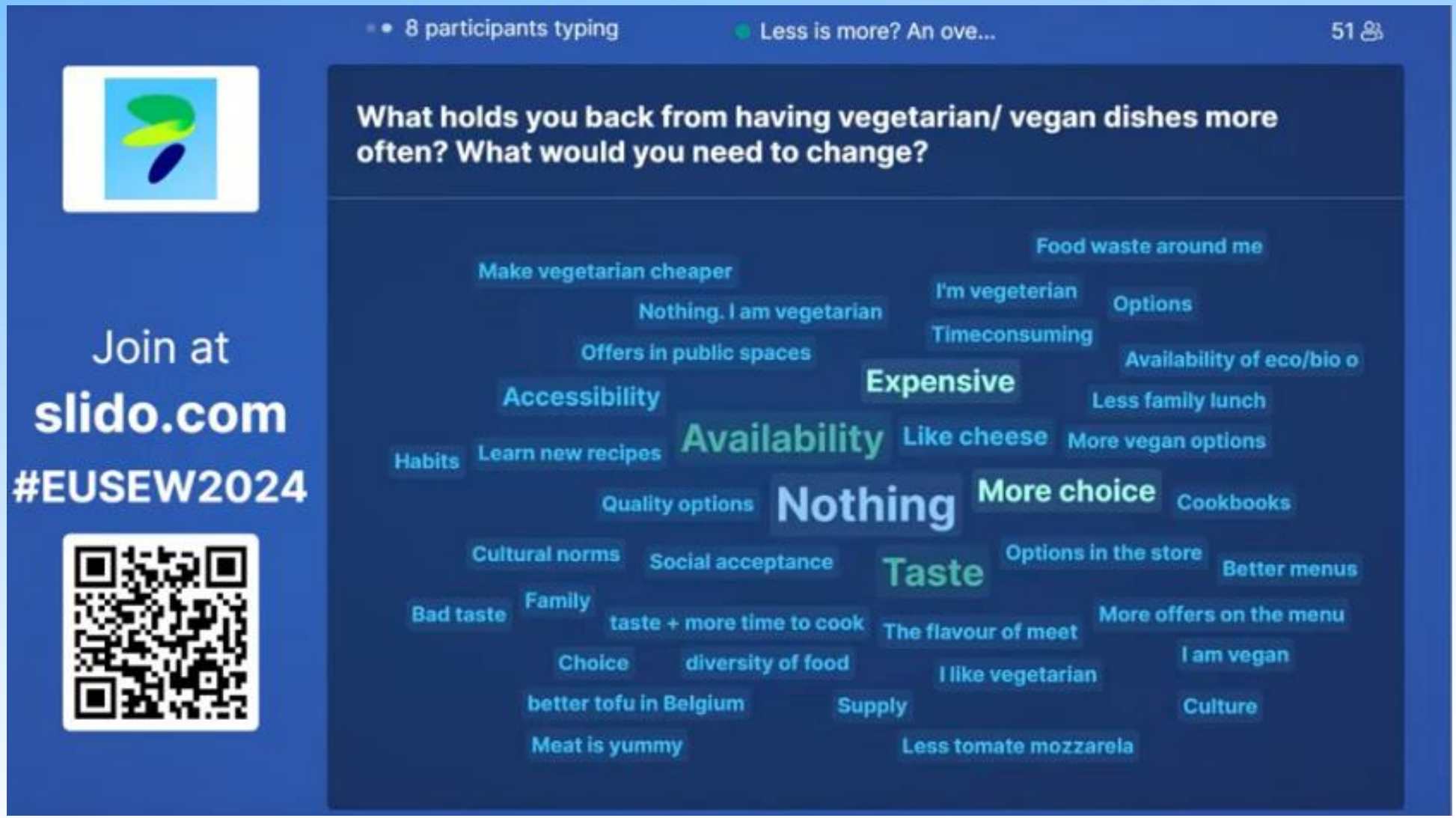
**Fair Green and Digital Transitions, Research Unit of the European Commission's Directorate-General for Employment, Social Affairs and Inclusion (DG EMPL)**

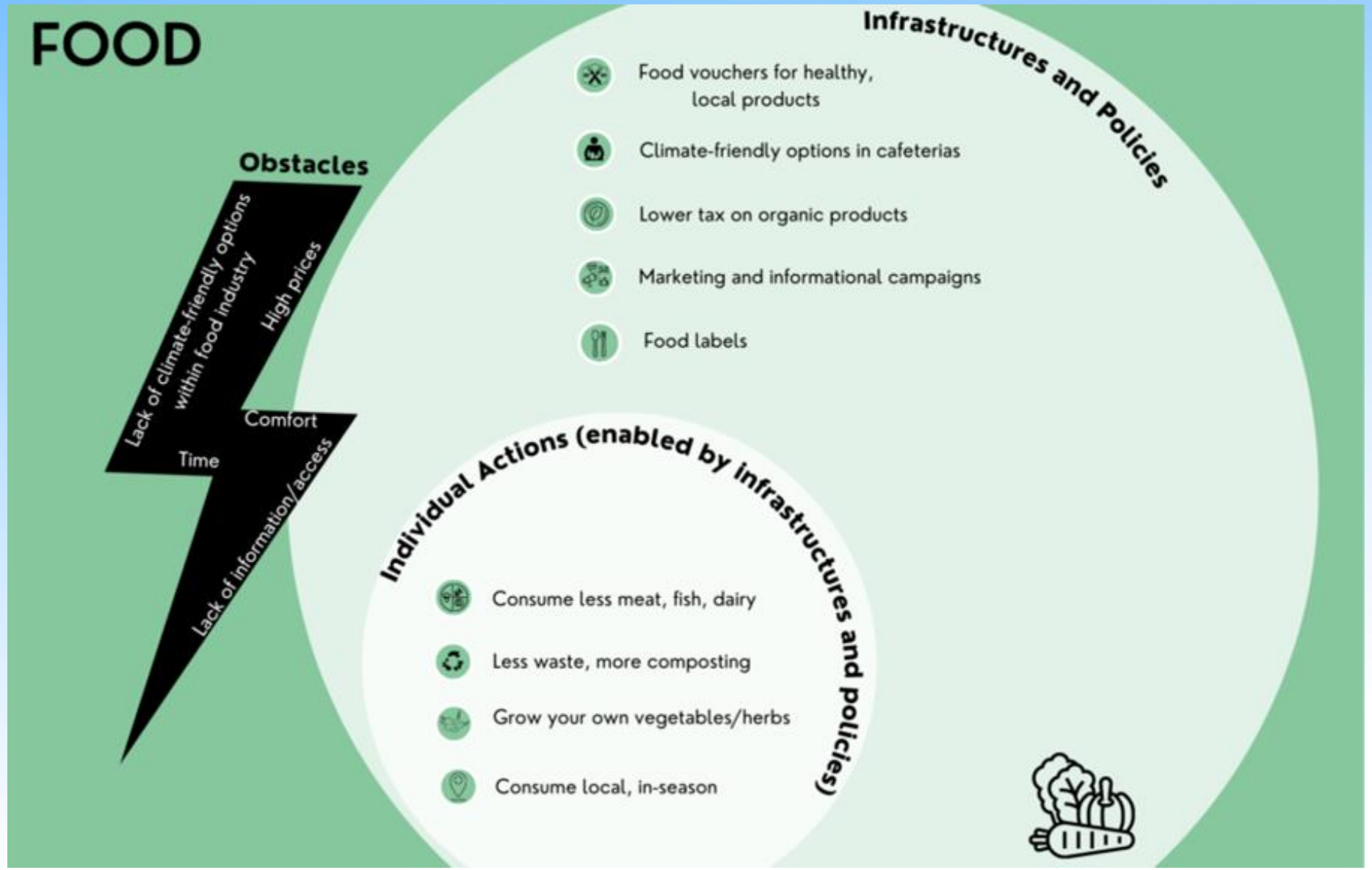
European Commission

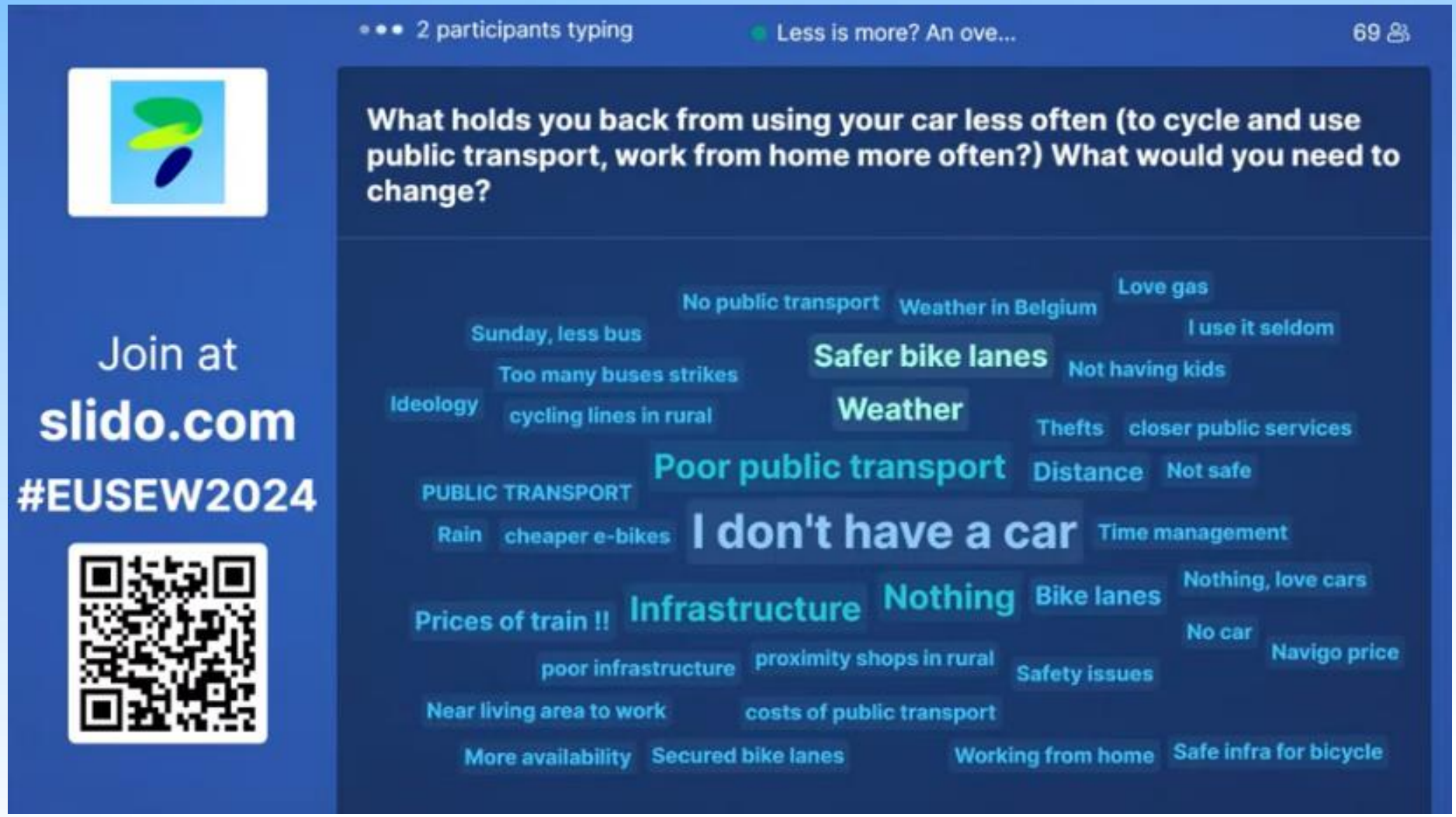
**Thomas Pellerin-Carlin**
Member of the European Parliament

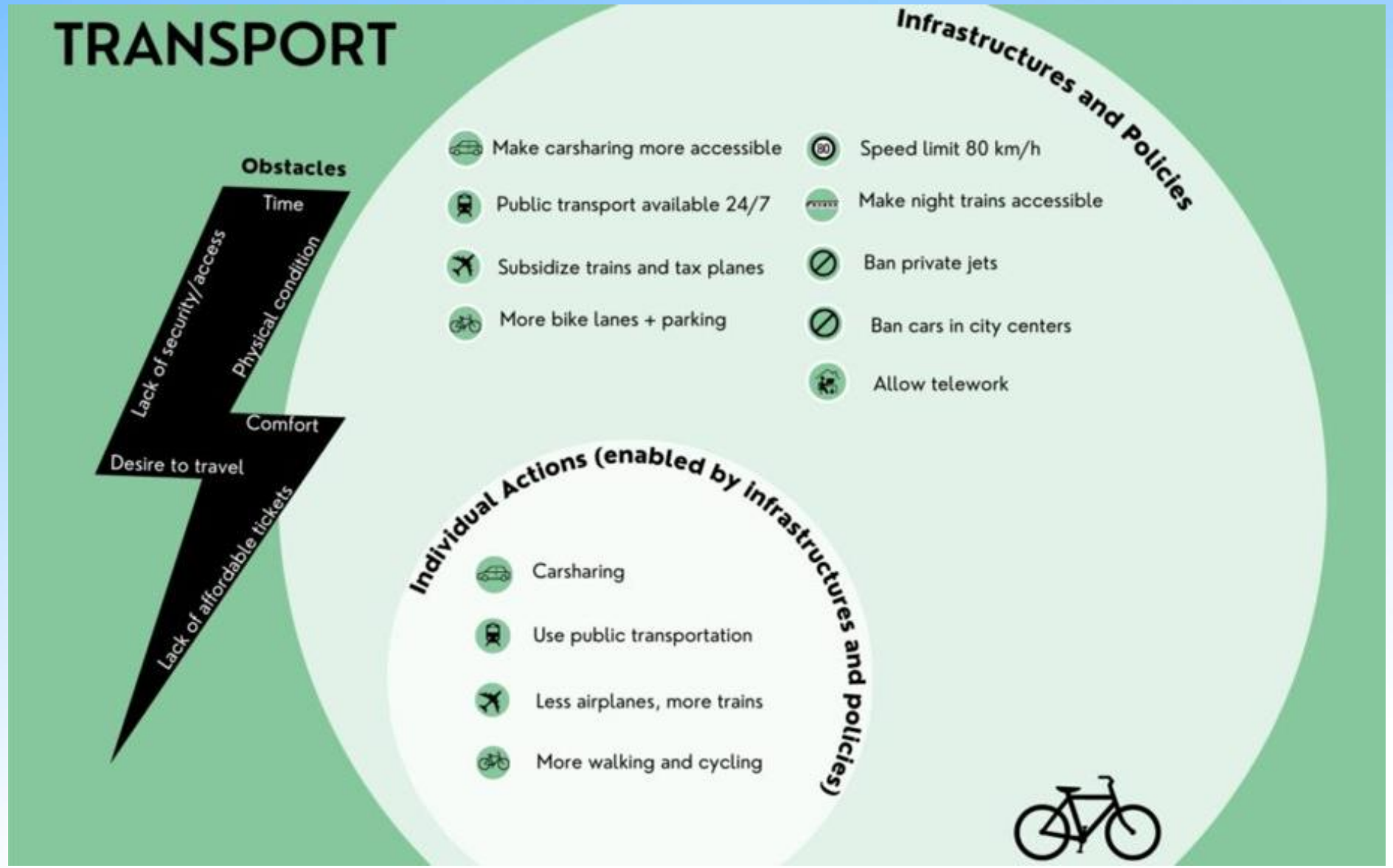
EC.EUROPA.EU/EUSEW
EUENERGYWEEK
@EUENERGYWEEK
#EUSEW2024

# *SLIDO*


8 participants typing
Less is more? An ove...
51
Join at
slido.com
#EUSEW2024
What holds you back from having vegetarian/ vegan dishes more often? What would you need to change?
Food waste around me
Make vegetarian cheaper
I'm vegeterian
Options
Nothing. I am vegetarian
Timeconsuming
Offers in public spaces
Availability of eco/bio o
Expensive
Accessibility
Less family lunch
Availability
Like cheese
More vegan options
Habits
Learn new recipes
Nothing
More choice
Quality options
Cookbooks
Cultural norms
Social acceptance
Taste
Options in the store
Better menus
Family
Bad taste
taste + more time to cook
The flavour of meet
More offers on the menu
Choice
diversity of food
I am vegan
I like vegetarian
better tofu in Belgium
Supply
Culture
Meat is yummy
Less tomate mozzarela


FOOD
Infrastructures and Policies
Food vouchers for healthy, local products
Climate-friendly options in cafeterias
Lower tax on organic products
Marketing and informational campaigns
Food labels
Obstacles
Lack of climate-friendly options within food industry
High prices
Comfort
Time
Lack of information/access
Individual Actions (enabled by infrastructures and policies)
Consume less meat, fish, dairy
Less waste, more composting
Grow your own vegetables/herbs
Consume local, in-season


2 participants typing
Less is more? An ove...
69
Join at
slido.com
#EUSEW2024
What holds you back from using your car less often (to cycle and use public transport, work from home more often?) What would you need to change?
No public transport
Weather in Belgium
Love gas
Sunday, less bus
I use it seldom
Safer bike lanes
Too many buses strikes
Not having kids
Ideology
cycling lines in rural
Weather
Thefts
closer public services
Poor public transport
Distance
Not safe
PUBLIC TRANSPORT
Rain
cheaper e-bikes
I don't have a car
Time management
Nothing, love cars
Prices of train !!
Infrastructure
Nothing
Bike lanes
No car
Navigo price
poor infrastructure
proximity shops in rural
Safety issues
Near living area to work
costs of public transport
More availability
Secured bike lanes
Working from home
Safe infra for bicycle


TRANSPORT
Obstacles
Time
Physical condition
Comfort
Lack of affordable tickets
Desire to travel
Lack of security/access
Infrastructures and Policies
Make carsharing more accessible
Public transport available 24/7
Subsidize trains and tax planes
More bike lanes + parking
Speed limit 80 km/h
Make night trains accessible
Ban private jets
Ban cars in city centers
Allow telework
Individual Actions (enabled by infrastructures and policies)
Carsharing
Use public transportation
Less airplanes, more trains
More walking and cycling

# *Time for Discussion:*

# *Any Questions?*

# Final Event

## September, 18th 2024

15:00-17:00h

**presentation of findings + networking apéro**

**Representation of the German Federal State Nordrhein-Westfalen**
Rue Montoyer 47, 1000 Bruxelles,
and online

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101003656

# Let’s keep in touch!

@FULFILLeu
www.fulfill-sufficiency.eu

This project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No 101003656