

Technical Workshop – FOOD SECURITY  
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# Food environments and food security

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# Food environments and food security

To what extent do food environments in Europe secure **sustainable and healthy food consumption**?

SAPEA, Science Advice for Policy by European Academies. (2023).  
Towards sustainable food consumption. Berlin: SAPEA.  
doi:10.5281/zenodo.8031939



# Sustainable and healthy food consumption

**Food consumption** = all the practices consumers carry out which relate to food, including eating and purchasing of food, as well as planning, acquisition, transport, storage, preparation and disposal of food

**Sustainability** = refers to the long-term ability of food systems to provide food security and nutrition in ways that do not compromise the economic, social and environmental foundations that create food security and nutrition for future generations (FAO, 2022a)

**Environmentally sustainable diets** = consumption of foods with low adverse impacts on climate, biodiversity, water, soil, etc.

**Healthy diets** = national dietary guidelines across EU countries recommend a predominantly plant-based diet, rich in vegetables, fruits, whole grains, pulses and fish, with moderate amounts of low-fat dairy products, and small amounts of red and processed meat, salt, added sugar

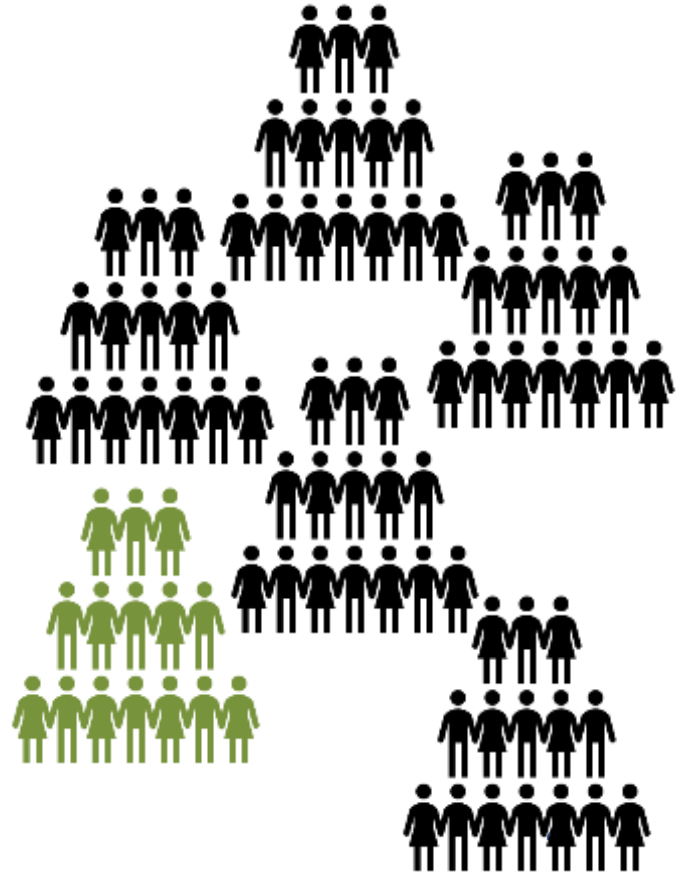


# Consumer behaviour and food consumption

Large variety of food consumption patterns across Europe and within countries.

The majority of consumers does not follow a sustainable and healthy diet.

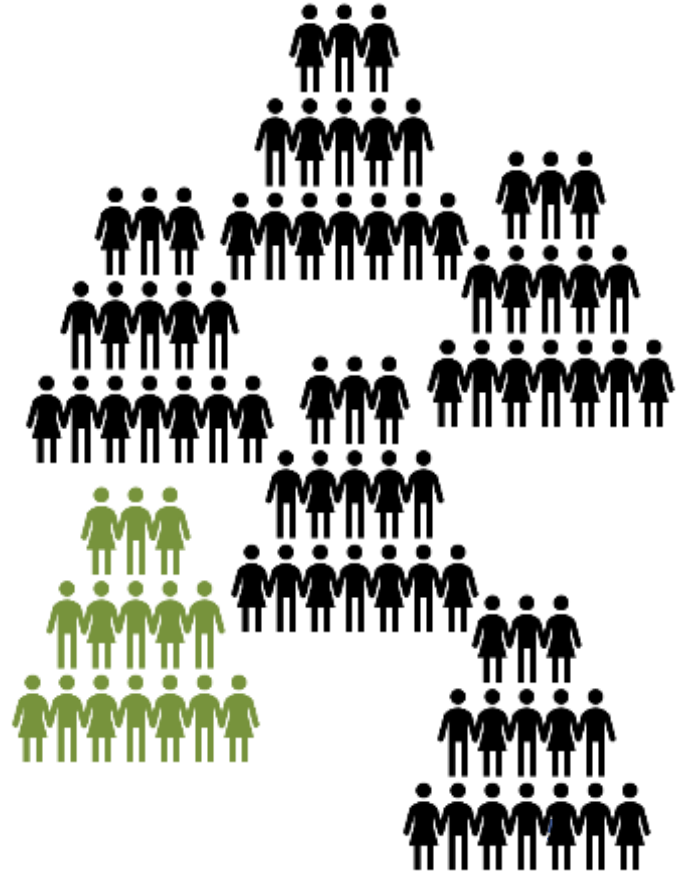
Small segment of sustainability- and health-oriented consumers = high food literacy, good cooking skills, social circles that are likeminded.



# Consumer behaviour and food consumption





Consumer-oriented policies have traditionally focused on **raising awareness and increasing knowledge of consumers**, with limited success.

*Why is it not enough to inform and educate consumers?*



# Consumer behaviour and food consumption

## Consumers' food-related behaviours

-  Largely driven by **habits** and semi-automatic processes
-  Largely driven by **impulsive decisions** and **emotions**
-  Underlying **biological drivers**  
(such as cravings for foods high in sugar and fat)
-  Little involvement of cognitive processes  
(little deliberate thinking and information processing)



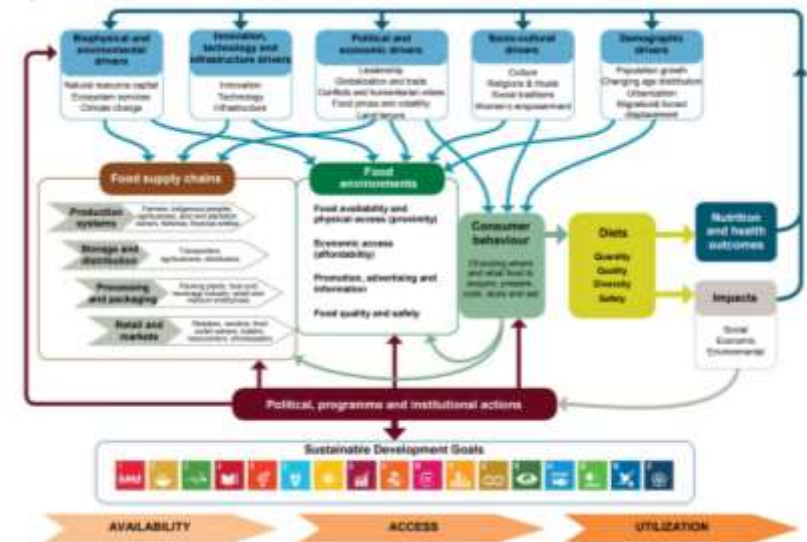
Often clash with sustainable and healthy choices

- Sustainable and healthy food consumption requires will power and self-control
- Most consumers are very susceptible to **stimuli from the environment**

# Food environments

- = the consumer's primary interface with the food system
- = the context in which consumers carry out any food-related practices

(Turner et al. 2018, Downs et al. 2020)



(HLPE 2017)

Includes a huge variety of settings:  
Supermarkets, hospitality services, homes, workplaces, public facilities, restaurants, transport, other public and private venues, food banks, social media platforms, etc.



# Food environments

## Dimensions of food environments



### Availability

Locations and types of vendors, types of foods offered by vendors, etc.



### Food properties

Food quality, safety, nutritional composition, attractiveness, etc.



### Prices

Prices, costs, economic (dis)incentives



### Promotion & information

Advertising, POS-promotion, public campaigns, labelling, social media, etc.

**Policy and Regulation**

**Social norms**



# Food environments

**External domain** = conditions in a certain geographical area

**Personal domain** = each consumer has their own unique food environment, which is shaped by individual daily routines and practices



Fig. 2. Conceptual framework. The conceptual framework depicts the food environment as the interface within the wider food system. Key dimensions are mapped to external and personal domains. Interactions between these domains and dimensions shape people's food acquisition and consumption.

# Food environments

Food environments are dominated\* by

- energy-dense, nutrient-poor, ultra-processed foods
- meat and animal products
- food from 'conventional' agricultural production

\* Mismatch with dietary guidelines and environmental targets



## *Tragic inequalities*

Consumers with lower socio-economic status tend to face less sustainable and unhealthier food environments

**# food deserts**

**# obesogenic neighbourhoods**

## Availability

Vendors offer high shares of above-mentioned foods

## Prices

Sustainable and healthy foods relatively expensive

## Food properties

Many products with poor nutritional composition

## Promotion & information

High exposure to above-mentioned foods

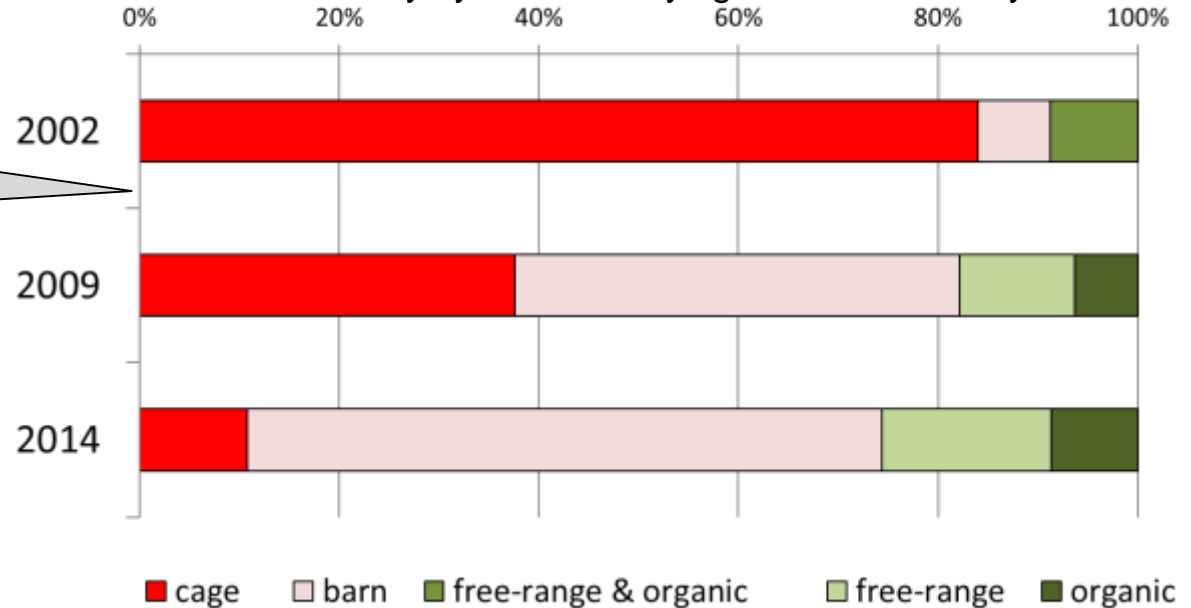
# Creating more sustainable food environments

## Mandatory front-of-pack labels

Mandatory labelling scheme of husbandry systems for class A eggs was introduced



Husbandry systems for laying hens in Germany



(Data: AMI 2015, Böttcher 2004)

# Creating more sustainable food environments

## Mandatory front-of-pack labels

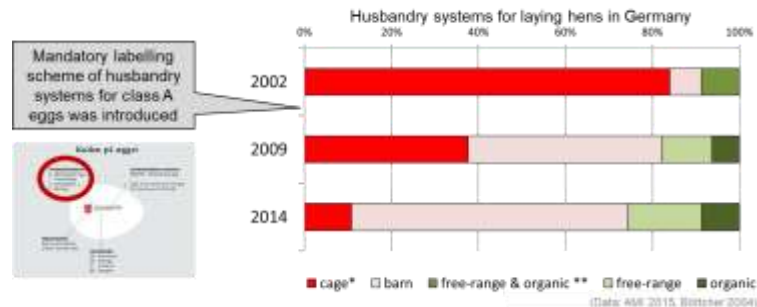
Help consumers judge the healthiness of products

(Hercberg et al. 2022)

Improve the nutritional value of food baskets

(Crosetto et al. 2020, Dubois et al. 2021)

- ✓ Easy to access and understand, esp. scoring systems and colour codes
- ✓ Increase transparency
- ✓ Enable consumers to make informed choices
- ✓ Positive side effects on production side (recipe reformulation, change of methods)



# Creating more sustainable food environments

## Choice architecture – placement and availability in supermarkets

Greater availability and more prominent placement of healthy food products in supermarkets is associated with healthier patterns of purchasing and diet.

(Shaw et al. 2020, Cadario and Chandon 202, Lindstrom et al. 2023)

Removing unhealthy products from prominent locations has also been shown to have positive effects on purchasing patterns and diet.

(Vogel et al., 2021)

UK introduced legislation to restrict the placement of foods high in fat, salt and sugar in prominent locations (end of aisles, store entrances and checkouts) in supermarkets and grocery stores of a certain size.

(<https://www.gov.uk/government/publications/restricting-promotions-of-products-high-in-fat-sugar-or-salt-by-location-and-by-volume-price/restricting-promotions-of-products-high-in-fat-sugar-or-salt-by-location-and-by-volume-price-implementation-guidance>)

First evidence suggests that product placement of plant-based alternatives side-by-side meat increases sales of plant-based alternatives.

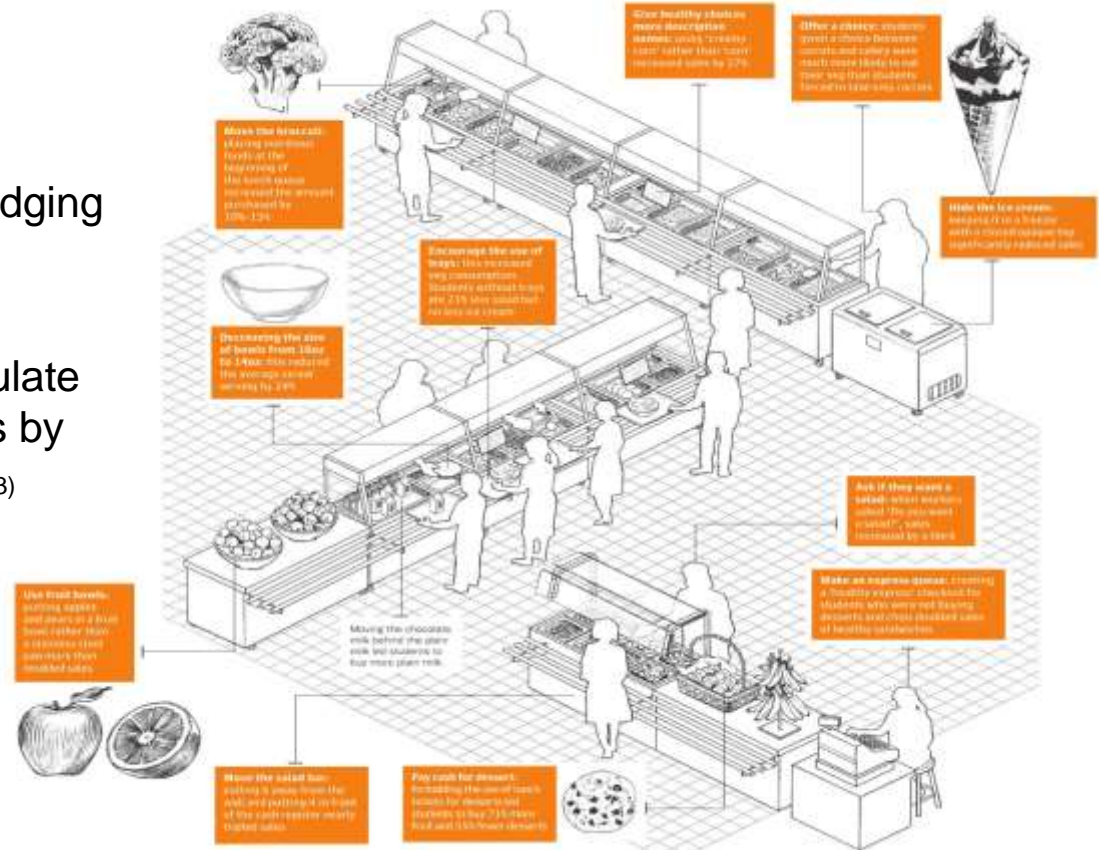
(Coucke et al., 2022; Vandenbroele et al., 2021)

# Creating more sustainable food environments

## Canteens

Placement and availability nudging very effective. (Wansink et al. 2010a)

Public procurement can stimulate demand for sustainable foods by setting requirements. (SAPEA 2023)



# Creating more sustainable food environments

## Prices and costs

People are most likely to respond to direct incentives that make less healthy or sustainable diets more expensive.

Sugar taxes in Mexico and the UK have shown their effectiveness in reducing purchases of sugary drinks and stimulating reformulation.

Making animal products reflect the true costs of their associated impacts is economically efficient.

Consumption taxes on animal products are also effective in reducing the environmental impacts from animal products.

Sidenote: the equity effects of fiscal policies can be neutralised by returning the tax proceeds to citizens appropriately. |

(SAPEA 2023)

# Creating more sustainable food environments

## Concluding remarks

Large changes in current food environments are necessary to secure sustainable and healthy food consumption.

Sustainable and healthy foods should be **accessible, affordable, and attractive**, while unsustainable and unhealthy foods should be the opposite.

Food environments are mostly in the hands of private players (large companies and small businesses).

These market actors have different interests than securing that consumers eat sustainably and healthily.

→ Disruptive policy measures are necessary to move towards this end.



# Creating more sustainable food environments

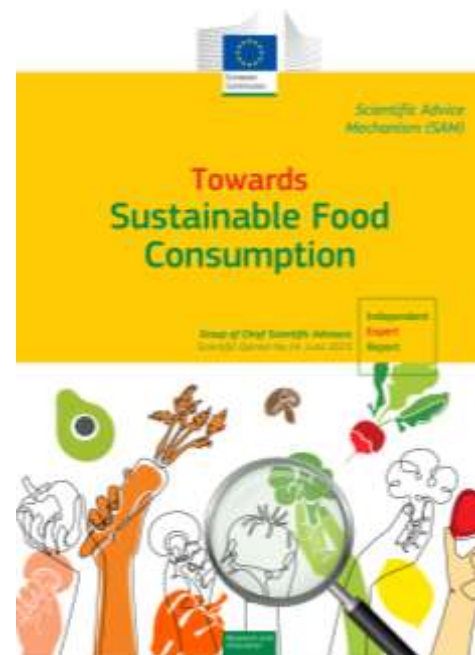
RECOMMENDATION 1 – Make healthy and sustainable diets the easy and affordable choice.

- Introduce sufficiently high tax rates on unsustainable and unhealthy foods.\*
- Make healthy and sustainable diets more affordable.
- (...)

RECOMMENDATION 2 – Secure the provision of adequate and trusted information about the environmental and health impacts of different foods in order to encourage healthy and sustainable decision-making by all actors in the food system.

- Generalise the inclusion of sustainability criteria in national dietary guidelines.
- (...)

\*The revenues from this taxation should be used to reduce inequalities in food access by redistributing them to low-income households based on focused food subsidies

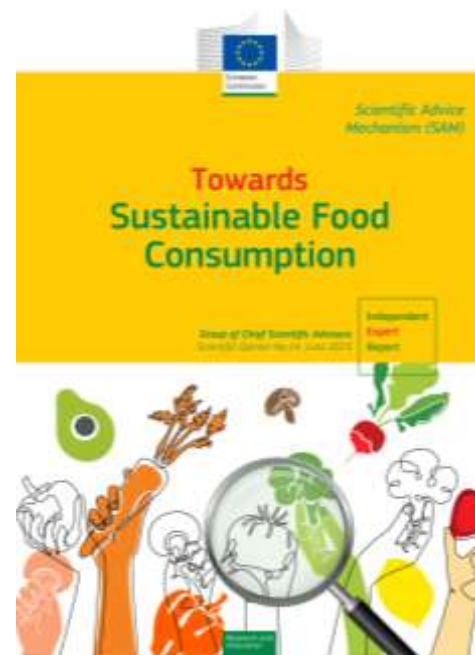


Group of Chief Scientific Advisors Scientific Opinion No.14, June 2023 (Supported by SAPEA Evidence Review Report No. 12)

# Creating more sustainable food environments

RECOMMENDATION 3 – Mandate new interventions to promote the availability and accessibility of products for healthy and sustainable diets.

- Encourage Member States to regulate the placement in retail outlets of products whose frequent consumption is unhealthy and unsustainable.
- Require food product reformulation in order to increase availability of healthy and sustainable food.
- (...)



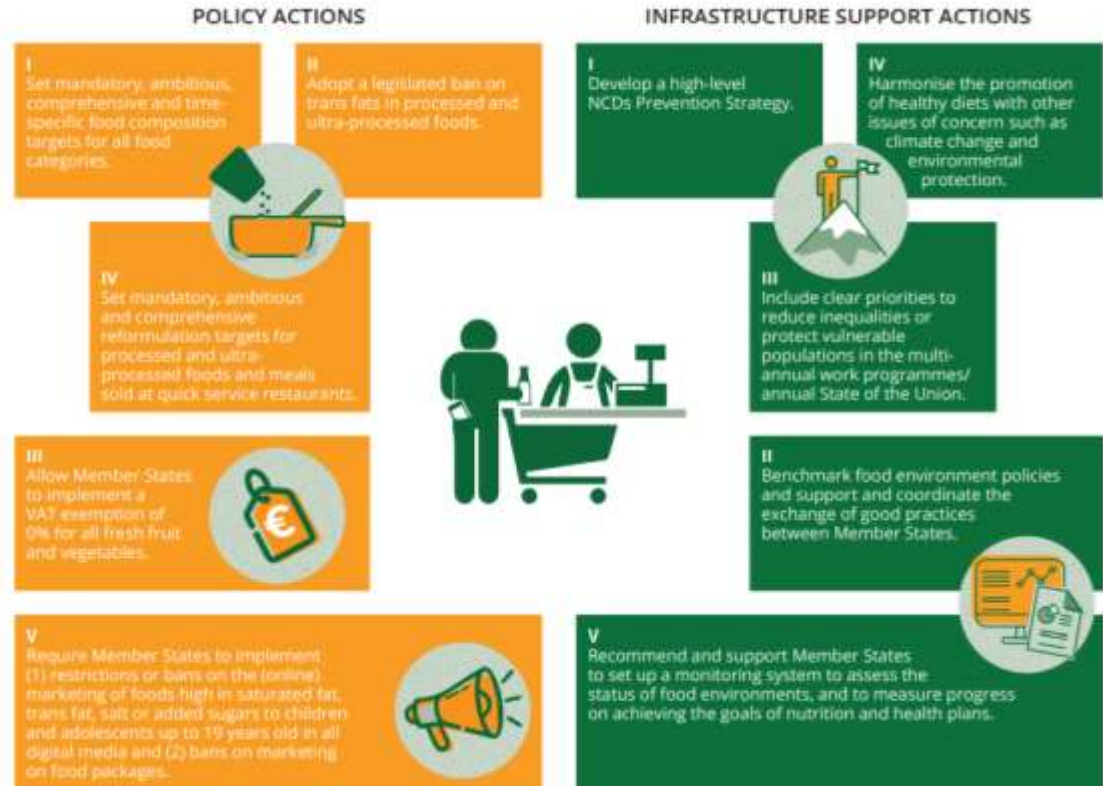
Group of Chief Scientific Advisors Scientific Opinion No.14, June 2023 (Supported by SAPEA Evidence Review Report No. 12)

# Creating more sustainable food environments

- Food composition and reformulation targets
- Allow Member States VAT exemption of 0% for F&V
- Ban of trans fats
- Ban / restrictions of marketing to children

Djojoseparto SK, Kamphuis CBM, Vandevijvere S, Harrington JM and Poelman MP on behalf of the JPI-HDHL Policy Evaluation Network. The Healthy Food Environment Policy Index (Food-EPI): European Union. An assessment of EU-level policies influencing food environments and priority actions to create healthy food environments in the EU. Utrecht, Utrecht University, The Netherlands, 2021.

**Figure 2** Priority policy and infrastructure support actions to create healthy food environments in the EU



# Creating more sustainable food environments

## Concluding remarks

“To create shifts in behaviour, disruptive measures such as taxes, bans and product reformulations should be considered, as well as softer measures that can influence and reshape social norms.”

(SAPEA 2023, p.10)

**Policy action at EU level and Member States level is required** to create food environments that secure sustainable and healthy food consumption – for a healthy planet and healthy people.



Photo by Matheus Bertelli from Pexels  
<https://www.pexels.com/photo/person-holding-light-bulb-with-string-lights-inside-1830252/>

# Thank you for your attention

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