

Towards sustainable food consumption

SA  EA

Science Advice for Policy by European Academies

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement 737432.



European
Commission

**Group of Chief
Scientific Advisors**

Members of the working group

This report was written by an independent working group consisting of the following members:

- **Erik Mathijs**, KU Leuven, Belgium (Chair)
- **Janis Baird**, University of Southampton, United Kingdom
- **Rune Blomhoff**, University of Oslo, Norway
- **Andrea Büttner**, Fraunhofer Institute for Process Engineering and Packaging IVV, Germany
- **Carsten Daugbjerg**, University of Copenhagen, Denmark
- **Francesca Galli**, University of Pisa, Italy
- **Wencke Gwozdz**, Justus-Liebig-University, Giessen, Germany
- **Meike Janssen**, Copenhagen Business School, Denmark
- **Petr Jehlička**, Czech Academy of Sciences, Czech Republic
- **Linus Mattauch**, Technical University Berlin, Germany
- **Jutta Roosen**, Technical University of Munich, Germany
- **Elin Rööös**, Swedish University of Agricultural Sciences, Sweden
- **Tanja Schneider**, University of St Gallen, Switzerland
- **Antonia Trichopoulou**, Academy of Athens Bureau of Public Health Research and Education, Greece
- **Mónica Truninger**, University of Lisbon, Portugal
- **Jenny van Doorn**, University of Groningen, Netherlands
- **Stefanie Vandevijvere**, Sciensano, Belgium

The brief

“What concrete actions could be taken at EU level, in addition to those announced in the 2020 Farm to Fork Strategy, to overcome the barriers preventing consumers to adopt sustainable and healthy diets, fostering the necessary change towards sustainability in the food environment?”



The approach

1. **Zooming out – *taking a food systems approach***

Embed individual actions and food environment into wider food system

Acknowledge importance of complex interactions, structures and power imbalances

2. **Zooming in – *what works in food environments***

Healthy & sustainable food consumption (**HSFC**) → consumer behaviour → effective interventions in food environment

3. **Zooming out – *policy implications***

From policy elements to system-proof policy mixes



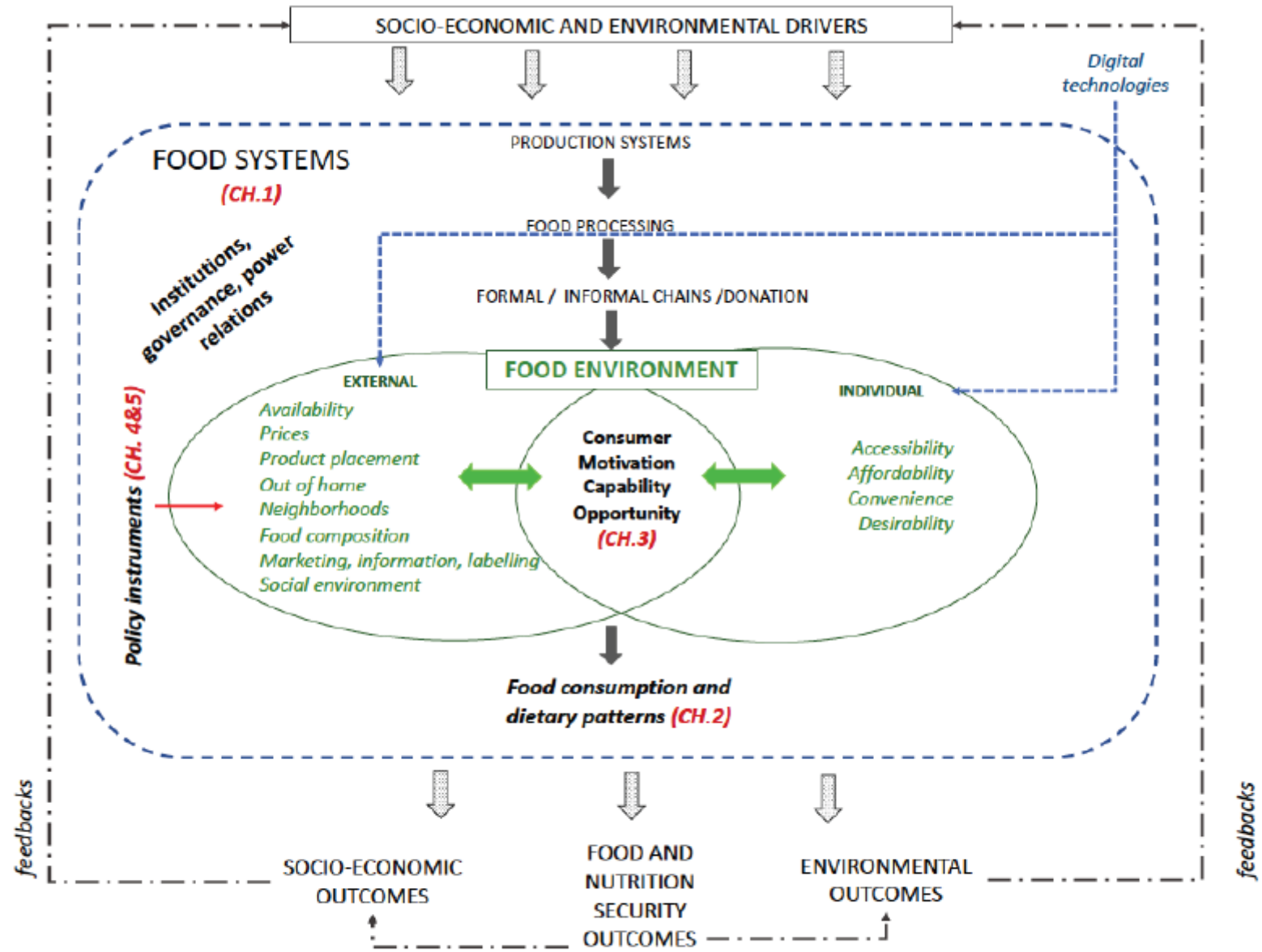


Figure 1. A food system perspective on food environment and food consumption: overview of report's chapters (1-5)



HSFC

- ▶ **Dietary pattern** = quantities, proportions, variety, or combination of different foods, and the frequency with which they are habitually consumed → vary considerably across Europe, and over time.
- ▶ **Health: recommended dietary pattern:** eat a plant-based diet, rich in vegetables, fruits, whole grains, pulses and fish, with moderate amounts of low-fat dairy products, and limited amounts of red and processed meat, salt, added sugar and high-fat animal products.
- ▶ **Environment:**
 - ▶ **Animal-sourced foods** generally higher impact than plant-sourced foods
 - ▶ Mixed effects resulting from **organic** and **local** food production
 - ▶ Enormous potential from **food waste reducing strategies**



Barriers to HSFC

- ▶ **Transition to HSFC** = trade-off: health and sustainability ↔ taste, price, social norms, symbolic meaning, convenience
- ▶ **Barriers:** individual level: lack of motivation and personal capabilities - contextual level: lack of physical and social opportunities
- ▶ Consumers from **disadvantaged backgrounds:** lack of individual agency and resources → food environment more influential
- ▶ **Psychological processes:** (a) habits, routines, and semi-automatic processes; (b) cognitive processes, and (c) affective processes → policy mainly focuses on (b)
- ▶ **Disruptive measures** that alter the context of food-related behaviour, in particular the physical and social environment needed to alter routines and semi-autonomous processes.



Food environment interventions

▮ **Place** matters:

- ▮ **Prominent placing** of healthy and sustainable food options and removal of unhealthy ones → improve the consumers' food choices.
- ▮ Positive effects of **healthy food stores** and negative of fast-food restaurants, but only for some subgroups of the populations.

▮ **Product** formulation matters:

- ▮ Silent food **reformulation** positive but limited when voluntary → comprehensive or mandatory approach more effective

▮ **Information** matters:

- ▮ Moderate effect of **health labels** (better effect of warning labels)
- ▮ Mixed evidence for **sustainability labels**: importance of interest/motivation and trust in labels
- ▮ Restricting **advertising** to children

! People are most likely to respond to **incentives**, monetary or otherwise



Food environment interventions

► **Pricing** matters

- Unhealthy and unsustainable diets need to be **more expensive**, especially animal products and products high in sugar, salt and fat
- Making the price of animal products reflect the **social cost** of the associated environmental damages is economically efficient.
- Importantly, increasing prices on **red and processed meat** correctly is a key lever for delivering on both healthy and sustainable diets.
- **Equity effects** are mild and can be made progressive by returning the tax proceeds to citizens appropriately

► **Social** and **digital** environments matter

- **Digital food environment**: new possibilities for personalised and dynamic feedback
- **Social environment**: powerful influence on consumer choices

! Interventions can have **dynamic effects** → reactions by other actors → development of any intervention package must consider possible reactions



Policy implications

- Consumer barriers exist at **all** domains and policy levels (EU, national, regional, local)
- **Integrated and coherent approaches both across domains and across policy levels (policy mixes)** → necessary to achieve synergetic effects, deal with trade-offs in outcomes, and address possible reactions that counteract intended effects ('system-proof')
- Policies need to go **beyond information** provision as food consumption behaviour often dominated by routines and affective processes
- Acknowledge and take advantage of the food system as a whole, including **non-market, informal** and increasingly **digital** elements of the food system



Policy elements

- ▶ **The economic environment and fiscal food policies:** make less healthy or sustainable diets more expensive (true costs of animal products, carbon taxes, consumption taxes, VAT) - consider equity effects
- ▶ **Physical availability:** prominent placing of healthy/sustainable foods + removing unhealthy/unsustainable foods from prominent places
- ▶ **Food composition:** mandatory reformulation
- ▶ **The information environment:** coherent, trustworthy labelling + mandatory restrictions on advertisement to children + food apps (personalized feedback)
- ▶ **The social environment:** shift social norms



SA  EA

Science Advice for Policy by European Academies