INHERIT

AN INHERIT POLICY ROADMAP

Effective interventions towards healthier, more equitable and environmentally sustainable European societies

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REVOLVE

We would like to thank all experts who provided ideas and feedback to this roadmap for their valuable contributions.

D3.1 Validated policy roadmap

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INTRODUCTION

Throughout the years our societies have engaged in production and consumption patterns that have proven to be harmful for our society and the environment and ultimately human health and well-being. Widely recognised as a global challenge, resolving the issue of unsustainable development calls for significant and systemic changes in our day to day behaviours, overall lifestyles and the contextual infrastructure shaping these.

INHERIT, a project funded under the EU Horizon 2020 research programme, aims at identifying and promoting effective inter-sectoral policies, interventions and innovations that enable and encourage the uptake of sustainable, healthier and more equitable living practices. In doing so, the project explores the connections between day-to-day behaviours, environmental conditions, human health, equity and well-being in three lifestyle areas: **living, moving and consuming.** Shifting towards sustainable lifestyles in these areas would ideally lead to the project's defined 'triple-win': improving health while reducing negative environmental impacts and social and health inequities. Accordingly, INHERIT's work addresses the core question of: *what kinds of policies can influence lifestyles and lead to behaviour changes enabling healthier, more equitable, and more sustainable societies?*

With this policy roadmap and the work of the INHERIT project, we hope to stimulate the debate by providing a selection of practical suggestions, and consequently to further contribute to the development of policy actions that will, when implemented throughout the years to come, encourage people to change their lifestyles and behaviours leading to more environmentally sustainable, healthier and more equitable European societies by 2040. This policy roadmap, indeed, is not intended to be a prescriptive 'how to'; it has rather been developed as a supportive tool to bring the attention to some key areas and actions that should be promoted by policy-makers, organisations and citizens alike in Europe.

This report´s structure builds upon the INHERIT logical frame: in the first section, the project key objectives and analytical approaches are described; then the four future scenarios that underpin the forward-looking methodology adopted to identify the policy interventions are described, followed by the presentation of each policy intervention. The report concludes with challenges and opportunities, needed stakeholder behaviour and contribution of each area to the achievement of specific SDGs targets:

1. **The INHERIT project approach:** getting to know the project areas and the scenarios

2. **Developing the policy roadmap:** the policy interventions' selection and classification

3. **The 20 identified policy interventions**

4. **Bringing the policy interventions to implementation:** challenges, opportunities, key stakeholders and contribution to the achievement of the SDGs

Chapter 1

THE INHERIT PROJECT APPROACH

Our economies and lifestyles are largely based on 'take-make-consume-dispose' models that deplete our resources, degrade biodiversity, generate pollution, and lead to climate change. To detect the most efficient entry points for action and levers for change, the INHERIT project team conducted a thorough analysis of the links between lifestyles and behaviours, environmental sustainability, and health and equity. Various drivers such as economic, cultural and demographic factors influence our behaviours and lifestyles; people have different levels of capability, opportunity (e.g. access to healthcare or green space) and motivation. In addition, they are exposed to different environments and ecosystems, resulting in different impacts on their health and well-being[1]. Our transport, energy, and food production systems generate high levels of pollution. Our way of life – such as sedentary occupations, lack of physical activity, overconsumption of processed foods and meat, daily stress, including social isolation for some - have been linked to growing numbers of non-communicable diseases, including heart disease, cancer, mental health problems, and diabetes.

Furthermore, our societies are becoming more unequal. A correlation between socio-economic status and health is evident in all European countries.[2] The higher a person's socio-economic status (usually measured by their income or educational level) the healthier he/she is likely to be. High levels of social inequalities can also have severe social and political repercussions, and undermine the well-being of everyone in society by generating a perception of injustice, reducing trust and social cohesion, which in turn can lead to intolerance and discrimination.

Accordingly, the project identified the interrelations between our current ways of **living (green space and energy efficient housing)**, **moving (Active Mobility)** and **consuming (food and beverages)** and the impacts on environments and ecosystems as well as health and well-being. Our lifestyle choices in these areas do not only critically affect the physical environment we experience, they can also have effects far beyond the boundaries of the neighbourhood or country in which we live, because they put pressure upon and affect, directly or indirectly, our health and well-being.

1.1 The INHERIT areas

Green Space

While the share of green areas in cities varies greatly between European countries, their positive benefits are widely acknowledged.[3] Well-designed and accessible green spaces contribute to health and well-being by offering an environment to exercise, play, relax and meet people. Green spaces can also have a range of positive health impacts, notably in areas such as mental illness, obesity, cardiovascular diseases, type2 diabetes and cancer.[4] Furthermore, green spaces help to mitigate some of the negative impacts of climate change, such as the heat island effect, relative stress heat, and extreme water runoff as well as air pollution and noise levels.

Energy Efficient Housing

Today, with 85-90% of time spent indoors, the environment of houses profoundly affects health and well-being of people as well as sustainability related issues.[5] A good and secure indoor environment positively affects mental health and improves child development; insulation, and hence warmer environments can reduce winter mortality, and have been also associated with infant weight gain and development status.[6] Costs savings resulting from better and more sustainable indoor environments can contribute to an improved financial situation, thus reducing stress, and further contributing to well-being.[7] Thus, the aim of delivering a healthy indoor environment implies achieving a balance between insulation,

ventilation, and heating/cooling whilst reducing the overall need for heating/cooling energy and remaining alert to the sustainability performance of energy sources.

Active Mobility

Within INHERIT, Active Mobility is defined as walking or biking to and from work, school, shops/ services, leisure activities, or to public transport stops.[8] Cycling or walking helps citizens to stay fit and enables them to remain self-sufficient and socially active. Increased physical activity, in turn combats obesity, diabetes and cardiovascular disease.[9] Furthermore, where car trips are replaced by cycling or walking there is also a significant reduction in greenhouse gas emissions (GHG), air and noise pollution.[10]

Consumption

Changing food consumption and related behaviours can potentially lead to health and environmental improvements. Healthier diets (e.g. centred on tubers, whole grains, legumes, fruit and vegetables, with small amounts of animal products such as meat and dairy, and only small quantities of fish from certified resources)[11] have shown to have significant benefits on blood pressure, sugar levels, body weight and cardiovascular disease risk.[12] Furthermore, changing current food production and consumption behaviours will generate positive environmental impacts: current patterns contribute to 20-30% of the European Union's total greenhouse gas (GHG) emissions, with production and consumption of meat and dairy products having the largest environmental impact with food waste worsening the picture (about 20% of total food produced is wasted in the EU and households contribute the most, 53%, to this food wastage).[13] It has

been estimated that avoidable emissions from end-consumer food waste range from 0.8 to 4.4 kg CO2 equivalents (= the extent to which a gas contributes to global warming) per kg of prevented food waste.[14]

1.2

The INHERIT scenarios

Visualising what one wants for the future is a powerful tool to plan and progress towards that vision. Accordingly, to set into motion the transition towards healthier, more sustainable and equitable European societies, a foresight exercise took place within the INHERIT project to develop an understanding of what European societies could look like by 2040. This process began with an analysis of information on future trends, on which the development of four future scenarios was based, along two axes of critical uncertainties, namely the social dynamics and the driving sector. Each of the four future scenarios is positive, describing European societies which have successfully reached the triple win of reduced negative environmental impacts and improved health and health equity.

These developed four scenarios are named '**My life between realities**', '**Less is more to me**', '**One for all and all for one**' and '**Our circular community**' and focus on the INHERIT areas green space, energy efficient housing, Active Mobility and consuming. Each of these scenarios, therefore, sets out a vision of societies in which people can enjoy the benefits of green space, live in energy efficient homes, engage in more Active Mobility and consume food that is healthy and has been produced in ways that are environmentally sustainable. They are set at an EU level, with some references to national differences of the member states. Although similar in many aspects, the scenarios substantially differ in the way society is shaped (i.e. individualistic versus collective and business or governmental driven). Values underpinning the

scenarios, drivers of behaviour change, dominant scientific and technological developments as well as major risks and possible threats are highlighted in the summary description of each scenario provided below.[15]

▼ **Figure 1:** The 4 INHERIT Scenarios

My Life Between Realities

Digitalisation including virtual and augmented realities, (inter)-connectivity and personalisation are the main attributes underlining the **'My life between realities'** scenario, in which big data drive efficiency and performance as well as the offering of high-quality products and services for a better and healthier living. This scenario is business driven and complemented by light but effective levels of government intervention to ensure egalitarian, ethical and non-disruptive market operations. The deployment of real (big) data and technological (including artificial intelligence) innovations enables citizens to benefit from health promotion, prevention and health care services, based on individual characteristics and needs, living (green) spaces and highly resource efficient energy and mobility solutions.

Less is More to Me

In the **'Less is more to me'** scenario, government, while also collaborating with the private sector, takes the main role in ensuring the provision and management of products and services and ensuring access to and the affordability of health care services and education. Citizens of this scenario are highly conscious of how their lifestyles and consumption patterns impact on the environment, which brings societies closer to sufficiency. Prevention over treatment as well as high levels of health literacy are the norm with regards to personal health and well-being. Technology and digitalisation are limited to identification of individualised solutions (e.g. improve health and energy efficiency) due to data privacy concerns. Government policy and citizen led efforts have led to qualitative, transparent and sustainable food and beverage markets.

One for All, All for One

Driven by localism, participative governance and community involvement, local authorities are the driving forces in the **'One for all, all for one'** scenario. Within a decentralised system, local governments aim, in particular, to ensure sustainable, high quality and equitable living environments for their citizens. Together with governments, local communities also play a strong role, they are connected at national and regional level to exchange knowledge and collaborate towards common social targets. Health services are strongly prevention based, and promote nature-based treatments due to their low levels of intrusiveness and affordability. Production and resource usage is also very local and optimisation driven (e.g. re-use, recycle, local) led by small family owned enterprises and cooperatives. Technology is mainly used to facilitate and ease communication among members of community or between communities themselves.

Our Circular Community

'Our circular community' is a scenario in which companies, governments, citizens and the research community, come together to create a society in which production and consumption is conducted in closed loop business and social models. Following a hybrid public-private system, citizens are offered premium health services and products are backed up by governments and implemented by private companies. From innovations in medical treatments, tracking of personal health data to peer-to-peer communication, reviews and exchange of knowledge, technology plays a very important role in shaping people's lives in this scenario. Growing appreciation of common over private ownership and the efficient as well as circular use of resources are key attributes of this scenario, describing a collective society.

Chapter 2

DEVELOPING THE POLICY ROADMAP

2.1

The applied experiential process for deriving the policy interventions

Having described the analytical foundations underpinning the development of the INHERIT areas and scenarios, we turn now to the two-fold process applied to identify, classify and select the policy interventions. The first step consisted in the organisation and delivery of a **pan-European experts back-casting workshop** that took place in Brussels, in September 2017. During this workshop, participants (i.e. policy makers, researchers, representatives of civil society organisations from across the EU) were divided into four groups and were asked to reflect on one of the four INHERIT scenarios. The objective was to provide concrete suggestions of policy interventions that would be needed to change behaviours and lifestyles in order to achieve the futures exemplified in the scenarios.

Following this first consultation, the INHERIT team analysed the suggestions and developed an initial compilation of specific interventions. Out of this set of policy interventions, we chose those actions, which could: best contribute to lifestyle and behavioural changes and to the 'triple-win'; involved a fair degree of innovativeness; be applicable in local, national and/or European socio-economic and policy contexts. The selected policy interventions were then presented in **three expert meetings** held in Germany, Greece and Belgium throughout February 2018, during which key stakeholders (i.e. policy makers, academics and civil society representatives) discussed their applicability and feasibility. The feedback stemming from these consultative meetings was then used to revise and finalise the 20 policy interventions presented in this policy roadmap.

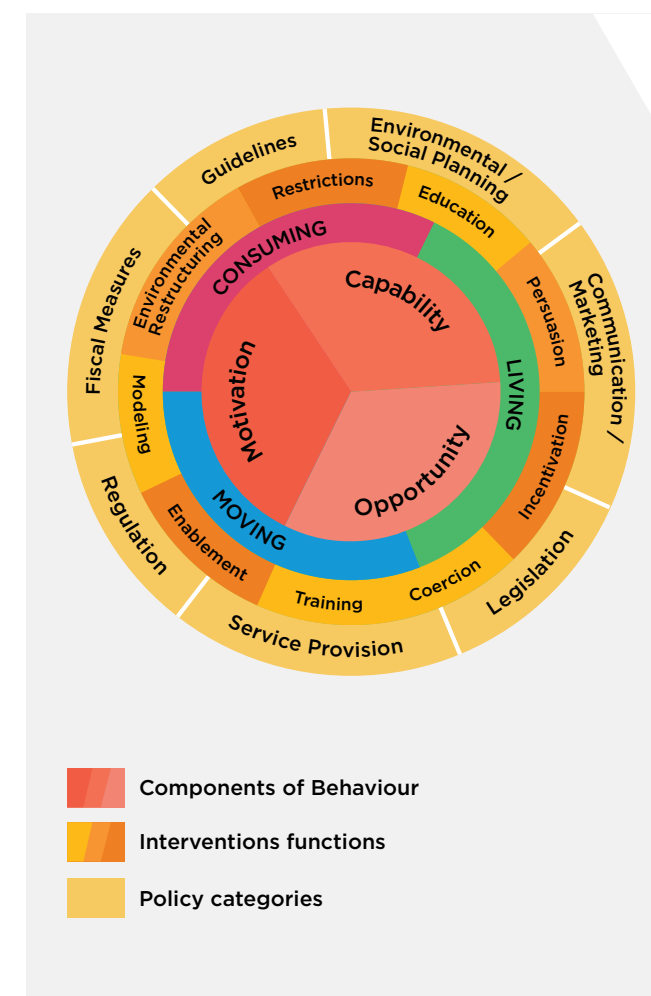## 2.2

Categorisation of the policy interventions

Although literature provides a vast array of policy definitions and classifications, in the context of this policy roadmap, policy interventions are broadly defined as actions adopted or proposed by legislative and executive bodies in an attempt to accomplish goals or solve problems.[16] Specifically, the policy categorisation is derived from the **INHERIT Common Analytical Framework (CAF)**[17] (Figure 2), more precisely from the governance model embedded within it - graphically represented by the Behavioural Change Wheel (Figure 3) derived from the work of Michie et al., 2011.

The **INHERIT CAF** is a useful way to visualise the complex and dynamic relationships between the physical environment, human health and well-being, inequalities and environmental sustainability. It is comprised of three components: (1) an integrated conceptual framework, including an analytical model, a governance model and an action and evaluation model (2) a set of qualitative and quantitative indicators and (3) a set of health, environment and social impact assessment tools and cost-effectiveness methods. Each of these components facilitates an analysis of the central role that behaviour plays in these relationships and the factors that shape our lifestyles, and support the understanding that behaviours of individuals are not only affected by the physical environment, but they also critically affect the local physical environment. Accordingly, The INHERIT CAF can be used to evaluate existing knowledge, efficacy of our policies and the opportunities and impediments for beneficial change in the field of health and sustainable behaviours across the social gradient, in the areas of living, moving and consuming.

INHERIT
CONCEPTUAL
FRAMEWORK
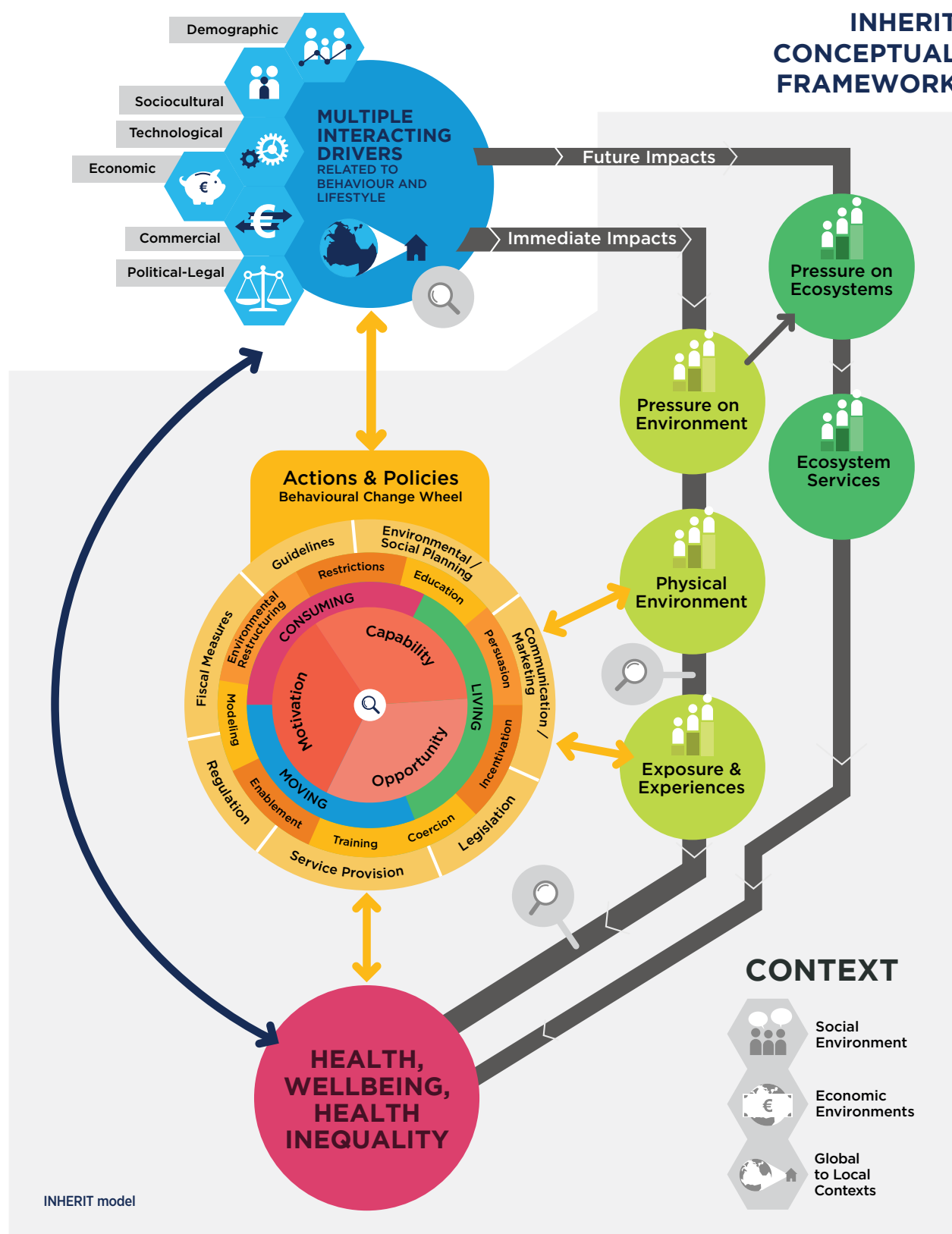
◄ **Figure 2:** The INHERIT Common Analytical Framework (CAF)

Within the CAF, the **"Behavioral Change Wheel"** (BCW) (Figure 3) specifically supports the understanding of how policies and related interventions can affect causal pathways between environmental stressors, behaviours and health equity (Michie et al., 2011). The BCW model incorporates both the reflective system (central route) and automatic system (peripheral route, including habitual behaviours). The reflective system is the one actively influencing our lifestyle choices and behaviours. It consists of three parts that can influence each other, and together influence behaviour - capability, motivation, and opportunity (Figure 4):[18]

▼ **Figure 3:** The Behavioural Change Wheel

▼ **Figure 4:** The Behavioural System
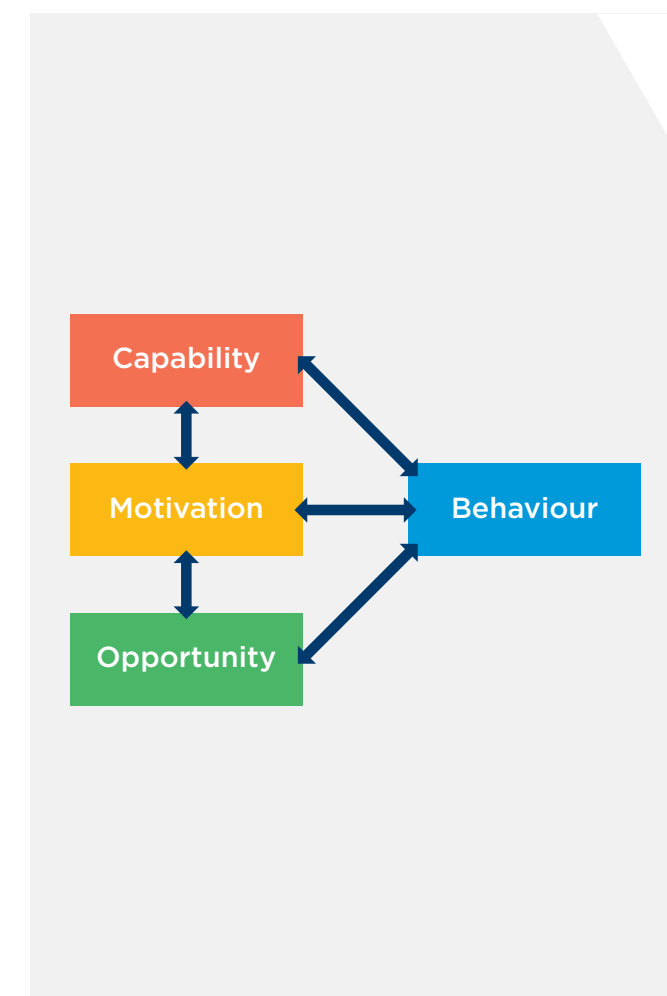
o **Capability** entails being psychologically or physically able to perform a certain behaviour. *Physical capability* can be achieved through physical skills development such as training, whereas *psychological capability* can be realised by increasing knowledge or training behavioural skills;

o **Motivation** can stem from the reflective or automatic system, defined as all brain processes that energise direct behaviour, including habitual processes and analytical decision making. Increasing knowledge or changing attitudes towards certain behaviour can realise a change in *reflective motivation. Automatic motivation* is best achieved using associative learning that elicits certain feelings and impulses related to certain behaviour, or using imitative learning and habit formation

o **Opportunity** can be social or physical (our cultural milieu may dictate what we define as normal travel or appropriate energy use behaviour, and the presence of a public park offers the opportunity to be in green space or not). An economic situation can also be a barrier or facilitator for opportunities. Physical and social opportunities can be both positive and negative (lack of opportunities such as lack of money, access to green space) and opportunities can be improved through environmental change.

According to the BCW, interventions can change one, two or all three components of the behavioural system.[19] Thus, using the BCW model as a basis, each identified policy intervention has been categorized according to a specific policy type (as defined in Table 1) and in relation to one of the identified INHERIT operational areas and pertaining scenarios.

▼ **Table 1:** Policy categories and definitions

POLICIES	DEFINITION
COMMUNICATION / MARKETING	Governments strive to influence behavioural choices by using printed and /or electronic or broadcast media to convey messages to the general public
LEGISLATION	Establishment of laws to remove introduce an (un)wanted behaviours
SERVICE PROVISION	Fostering healthier and more sustainable lifestyles through the provision of specific services e.g. e-bike sharing; space for urban community gardens
REGULATION	Influencing lifestyles/behaviours by establishing rules and/or principles of behaviour practice e.g. alter product designs to promote safety, or modify sales practices
FISCAL MEASURES	Use of financial instruments to incentive/disincentive specific individual and business-driven behaviours
GUIDELINES	Driving healthier and more sustainable practices through the development of informative documents recommending or mandating specific practices (e.g. treatment protocols)
ENVIRONMENTAL / SOCIAL PLANNING	Designing and/or controlling the physical and social environment through the alteration of the informational, physical, social, or economic environment, e.g. urban planning, mobility services

Source: Adapted from Michie et al., 2011.

Chapter 3

THE 20 IDENTIFIED POLICY INTERVENTIONS

The INHERIT project team selected and defined a set of 20 policy interventions, which constitute the core of this policy roadmap. It goes without saying that the list of these policies is non-exhaustive, and they serve mainly as a guidance tool. Therefore, they should not be understood as prescriptive 'how to' measures, but rather be regarded as a starting base for positive change towards more sustainable and healthier lifestyles in Europe, as well as an inspiration for further work.

The INHERIT Policy Roadmap includes actions that, if implemented along a defined timeframe at a specific point in time, will foster the shift towards a European society characterized by more sustainable, environmentally friendly, healthier and more equitable lifestyles. The roadmap starts in the year 2018 and ends with a future vision of the year 2040. In addition to the INHERIT operational areas, INHERIT pertaining scenarios and core components of the INHERIT CAF and BCW model, the 20 policy interventions were also selected on the basis of their innovation potential - in terms of the complementary or balancing effects on the desired futures – and naturally their triple-win effects/risks. It is important to note that in addition to the INHERIT areas **(living (green spaces, energy efficient houses), moving (Active Mobility), consuming (food and beverages)** a **general category/area** has been included here. This category is representative of those policy interventions, which do not fall into one of the specific INHERIT areas, but which in an overarching way can foster the transition towards healthier, more equitable and sustainable European societies.

3.1

Overview of the 20 policy interventions

The policies in the **general area** are representative of those interventions aiming to improve governance for sustainability and at advancing and improving the environmental and health literacy of citizens and enhancing awareness about the impacts that unsustainable behaviours might generate. Moreover, some of the potential challenges deriving from the rapidly changing nature of European societies (e.g. aging population; changing nature of work) and from the perpetual diffusion of ICT tools in various fields (e.g. privacy issues: misuse of data), have been addressed by the policies of this section.

The area on **green space** contains policies aiming at securing the future existence of green spaces as well as increasing the connectivity between them and their accessibility. The objective is to improve the opportunities of everyone to enjoy the benefits of green spaces. Furthermore, in times of spatial scarcity, the selected policies contribute to the optimisation and diversification of the current usability and functionality of urban spaces.

The policy interventions in the **energy efficient housing** area contribute towards increasing the energy efficiency of households and improving energy consumption patterns towards higher sustainability. The proposed solutions combine measures such as information provision, capacity building, use of ICT and socially based inducement actions to achieve the desired outcomes. In addition, in this section we have also included and looked at policy interventions through which blockchain technologies could coordinate and improve the operationalisation of the growing number of energy prosumerism initiatives.

Accommodating and promoting active travel to curb the current dominating conventionally fuelled modes of transport and improving the health level of citizens are the aims of the policies included in the **Active Mobility** area. The proposed measures call for the inclusive development of broadly endorsed, overarching mobility strategies as well as changes in the mobility infrastructure and health-related services through a combination of informative campaigns, financial incentives and regulations for the purpose of increasing the adoption rate of active mobility amongst the general public.

▼ **Figure 5:** Overview of the 20 Policy Interventions

	2018... 2020...	2025...	2030...	2035...	2040
	Work-Life Balance EU/National	**Educating for Sustainability** EU/National/Local	**Integrated Governance and Impact Assessments** EU/National/Local	**Securing Big Data** EU	
	Access to Green Space Local/National	**Inclusive Community Gardens** Local/National	**Green Corridors** EU	**Optimising Space in Urban Areas** Local/National	
	Smart Meters for All National/Local	**Energy Efficient Coaches for All** National/Local	**Nudging for Efficient Energy Consumption** Local	**Decentralised Energy Productions** Local	
	Sustainable Mobility Plans EU/National/Local	**Reducing Private Car Use** EU/National/Local	**Encouraging Cycling and Walking** EU/National	**Health Promoting Health Insurance** National	
	Reducing (food) Waste EU/National	**Enterprising Healthy and Sustainable Food** EU/National	**EU Food Guidance Council** EU/National	**A Common EU Food Policy** EU	

Healthier, more sustainable and equitable lifestyles by 2040

Finally, the policies in the **consuming** area take into account the major challenges related to the food industry, such as overconsumption, poor diets and related diseases, unsustainable food production practices as well as food waste throughout the whole food chain. With these challenges in mind, the proposed interventions focus on how to improve the current state of affairs in this sector through awareness raising campaigns to increase the knowledge about the importance of healthy and sustainable diets and to stimulate initiatives increasing the diversification of food sources, while decreasing food waste rate.

Furthermore, all the selected policies are multi-stakeholder oriented, not only in terms of their successful initiation and implementation throughout the years, but also when it comes to the intended beneficiaries. Additionally, in order to showcase that the practical realisation of these policies is possible, we have provided a set of inspiring practices for each policy. In the following parts of this section we provide an overview of the 20 policy interventions.

▼ **Figure 5.1:** The General Level Policy Interventions

2018...
Work-Life Balance
EU/National

2025...
Integrated Governance
and Impact Assessments
EU/National/Local

2020...
Educating for
Sustainability
EU/National/Local

2025...
Securing Big Data
EU

Healthier, more sustainable
and equitable lifestyles by 2040

2018...   2020...   2025...

Legislation   Regulation

Guidelines   Service Provision

Healthier, more sustainable and equitable lifestyles by 2040

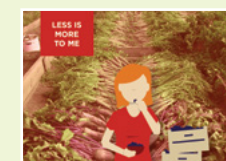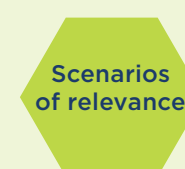# WORK-LIFE BALANCE: getting it right, for healthier and more sustainable societies

Type of policy intervention
Legislation

Area of intervention General Level

Level of the intervention EU/National

Year of intervention Today

Scenarios of relevance

Goals

Empirical evidence suggests that reduced working hours (6 working hours a day or 4/5 days a week) does not only increase productivity but also leads to healthier, less stressed and more ambitious/motivated employees. This policy intervention supports a legislative package in the area of social protection, that ensures – through collaborative efforts between EU legislative bodies, employers, employees and representative organisations – employees the right and freedom of choosing a more balanced work-life approach as well as more flexibility during working hours. A shorter "normal" working week (32 hours) is the socially and economically accepted norm. Employees can choose to work longer or shorter hours, but approximately 32 hours is the standard in all European countries. Thus, in addition to reducing stress levels, this policy also ensures a more stable and equal distribution of earnings and working opportunities. This, in turn, contributes to gender equity and decreased unemployment. Standardised hours also promote the setting of more flexible working arrangements e.g. job sharing, extended care leave and sabbaticals, and benefit governments and employers through a significant reduction in sick-days and relative health-care costs also associated with stress illnesses (e.g. depression, and burn-outs).

Potential challenges of the intervention for the triple win and suggestions to address them

ENVIRONMENT

Freeing one's time might lead to the practice of activities which are not environmentally friendly (e.g. travelling by car or plane). Supporting citizens in getting a better understanding on sustainable lifestyles can help avoid such rebound effects.

HEALTH

Where reduced working hours lead to income levels too low to maintain a decent level of living standards, this can lead to increased stress and/or dissatisfaction with one's life situation and consequently poorer health and well-being. (Increased) minimum wages can help to avoid this problem from occurring.

HEALTH EQUITY

People belonging to low socio-economic groups or those working in jobs that are not highly paid might not be able to reap the benefits of this policy due to the need of working more hours to achieve better financial situation for oneself. (Increased) minimum wages can also help overcome this challenge.

How this supports behaviour change

CAPABILITIES (having the psychological and physical skills to do something)

Reduced working time and better work-life balance enables people to develop new skills, knowledge and capabilities (in relation to physical activity, engaging with their communities and with nature etc.) that can contribute towards more sustainable and healthy lifestyles.

MOTIVATION

The increased availability of time can also increase people's motivation to get more engaged in activities beneficial for their health, social and environmental surrounding (e.g. volunteering).

OPPORTUNITY (having the social or physical possibility to do something)

The policy intervention directly increases individuals' time availability and hence opportunities on how to spend it.

Inspiration

Proposal for an EU Directive on Work-Life Balance is aiming at modernising and changing working arrangements for parents and carers. (http://ec.europa.eu/social/main.jsp?catId=1311&langId=en)

The EU's Working Time Directive (2003/88/EC) aims at regulating working hours by applying minimum standards throughout the EU for the purpose of ensuring and promoting workers' health and safety. (http://ec.europa.eu/social/main.jsp?catId=706&langId=en&intPageId=205)

The European Pillar of Social Rights is an EU wide endorsed proclamation (with 20 principles) looking at improving working and living conditions with a special principle focused on the work-life balance of parents and carers. (https://ec.europa.eu/commission/priorities/deeper-and-fairer-economic-and-monetary-union/european-pillar-social-rights_en)

New Economic Foundation (2010) is a report on the benefits a shorter working week would have on societies. (http://b.3cdn.net/nefoundation/f49406d81b9ed9c977_p1m6ibgje.pdf)

EDUCATING FOR SUSTAINABILITY: strengthening sustainability, health and consumer literacy in schools

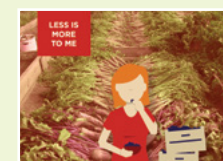## Type of policy intervention
Regulation / Service Provision

Area of intervention General Level

Level of the intervention EU/National/Local

Year of intervention 2020

Scenarios of relevance

Goals

There is an increasing consensus at the European level that tailored education can play an important role in promoting more sustainable and healthier lifestyles. New educational approaches are, therefore, developed by schools and universities to strengthen knowledge on sustainability, health and environmental issues. The aim is to ensure environmental consciousness from an early age onwards. Children and students (from elementary to high school) are made aware of the links between their natural and built physical, social environment, human health and well-being, as well as about how individuals impact their physical and social environments and vice-versa. This is practically implemented by introducing systems thinking approaches in school curricula, to teach subjects in ways that emphasise how all systems (the natural world, human organisms, the market economy) inter-relate and a effect each other. Children/students progressively learn about sustainability issues, while these tailored curricula also develop their health literacy, empathy and social understanding, helping them become more informed citizens and consumers.

Potential challenges of the intervention for the triple win and suggestions to address them

⚖ HEALTH EQUITY

Schools in wealthier districts are often better funded and therefore better equipped to adapt and improve their curricula. Children from lower socio-economic families are more likely to live in under-funded and over-extended school districts which do not have the internal resources to implement these kind of changes. Such schools could receive some additional public funding to 'pilot' or introduce and implement the new curricula.

How this supports behaviour change

CAPABILITIES (having the psychological and physical skills to do something)

This policy enhances children's and students' capabilities to perceive themselves as part of a complex system and to understand how their actions a effect their environment and vice-versa.

MOTIVATION

Strengthening awareness early on about how individual well-being depends on the broader physical and social environments can motivate people to become more conscious and mindful citizens and consumers.

OPPORTUNITY (having the social or physical possibility to do something)

This intervention broadens the opportunity spectre of educational institutions to positively shape people's mindset by encouraging them to think and adopt multidisciplinary and collaborative methods and solutions for challenges related to the environment, health and social inequities.

Inspiration

Consumer Classroom is a community platform containing best practices and other educational materials for primary and secondary level teachers and related professionals covering topics of sustainable consumption among a variety of others.
(www.consumerclassroom.eu)

Learn to be Healthy is an interactive website aiming at increasing the share of healthy living patterns among students by means of interactive games and activities, webquests, comprehensive lesson plans and others.
(www.learntobehealthy.org)

The Target4Green is a specialised, hands-on, community centred company supporting schools in their education for sustainable development, as well as companies in the creation of educational and CSR programmes.
(www.target4green.com)

Roots of Empathy is an evidence programme implemented in many countries across the world looking at developing children's social and emotional skills and increasing empathy.
(www.rootsofempathy.org)

INTEGRATED GOVERNANCE AND IMPACT ASSESSMENTS:
sustainability as the rejuvenated brand for Europe

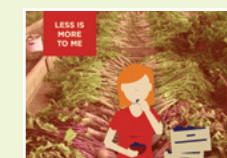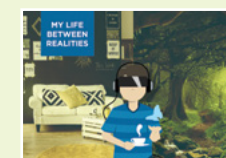## Type of policy intervention
Legislation / Regulation / Guidelines

Area of intervention General level

Level of the intervention EU/National/Local

Year of intervention 2025

Scenarios of relevance

Goals

The Sustainable Development Goals (SDGs) are a collection of 17 global goals set by the United Nations covering a broad range of social and economic development issues like poverty, hunger, health, education, climate change, gender equality, water, sanitation, energy, environment and social justice. As supporters of the UN 2030 Sustainable Development Agenda, the EU and its Member States must ensure that policy developments contribute to the achievement of these goals. In order to realise this, and to make sustainability the rejuvenated brand of Europe, Sustainability Units are established at all executive levels of governance (EU, national and local). The Units operate to ensure all relevant public bodies promote the principle of sustainable development – to meet the needs of present generations, while ensuring the ability of future generations to meet their needs. An important part of the Units' work is to review the outcomes of the Integrated Sustainability Impact Assessments (ISAs) that all new government legislative initiatives, strategies and programmes are required to undergo. These include environment, health, equality, economic and other impact indicators as appropriate. The Sustainability Units oversee that the results of the ISAs are applied in the development of new legislations. The work of the Sustainability Units operating at different levels of governance is well-coordinated, to ensure the coherence and effectiveness of the policies and initiatives implemented at all levels of governance. The Units place a big emphasis on listening to and involving citizens and understanding the lives they lead.

Potential challenges of the intervention for the triple win and suggestions to address them

ENVIRONMENT

A challenge involved in designing and implementing sustainable and coherent policies, is to assess the ecological, health and social consequences of actions in parallel and with equal weighting. This can create tensions calling for political choices and trade-offs. This can be overcome through full transparency and participation in decision-making process.

HEALTH EQUITY

It can be challenging to collect and provide information on health impacts across socio-economic groups, and to ensure that this information is taken into account in relevant impact assessment processes. This requires investments for identifying the best indicators, harmonising indicators and data collection processes across the EU at different administrative levels and ensuring that comparable data is collected. These investments can however pay off in terms of using outcomes to develop more effective policies to improve quality of life in the EU.

How this supports behaviour change

CAPABILITIES (having the psychological and physical skills to do something)

By ensuring that all key legislative initiatives and programmes contribute to the achievement of the SDGs, one of them being good education, capabilities of citizens to adopt more healthy and sustainable lifestyles are increased.

MOTIVATION

The mainstreaming of the SDGs and with this the bold commitment to the needs of current and future generations, instead of individuals' and companies' interests, can motivate citizens to live better aligned with their natural and social environments.

OPPORTUNITY (having the social or physical possibility to do something)

Ensuring the uptake of SDG 5 (Gender Equality), SDG 10 (Reduced Inequalities) and a number of others by building up the Sustainability Units will increase opportunities of all citizens to change their lifestyles.

Inspiration

'Well-being of Future Generations Act' Wales is one of the first countries to embed sustainability in its constitution, to link SDGs to national legislation and make them legally binding.
(http://gov.wales/topics/people-and-communities/ people/ future-generations-act/?lang=en)

The EU Better Regulation Unit was set up to ensure that the Union's interventions respect the overarching principles of subsidiarity and proportionality.
(https://ec.europa.eu/info/law/law-making-process/planning-and-proposing-law/better-regulation-why-and-how/better-regulation-guidelines-and-toolbox_en)

Methodological frameworks for integrated sustainability assessments work on an integrated sustainability assessment currently developed by the EU Joint Research Council (JRC).
(https://ec.europa.eu/jrc/en/research-topic/integrated-sustainability-assessments)

SECURING BIG DATA: preventing the misuse of personal data

Type of policy intervention
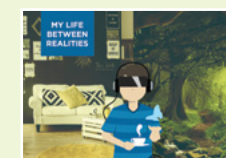Legislation / Guidelines

Area of intervention General Level

Level of the intervention EU

Year of intervention 2025

Scenarios
of relevance

Goals

Technology and digitalisation are developing with a fast pace and penetrating all fields of socio-economic and environmental a airs, among others. In this context, a very prominent development is the perpetual collection of large amount of data of different character and format for the purpose of analysing it and deducing knowledge about behavioural and decision making patterns, especially those of humans in their role as consumers. The secure use of (big) data across different sectors can be beneficial for citizens by improving the quality of products and services offered to them (e.g. personalised preventive health plans). However, they can suffer if their data is misused (by e.g. health insurance companies or potential employers who refuse to cover or hire someone with a specific condition not otherwise publically disclosed). Therefore, comprehensive legislation is developed and implemented around data protection and strong structures are put in place to prevent the misuse of data. This includes a third party platform where data can be transferred in ways and for purposes that the owner accepts. It also includes the employment of an adequate number of well-trained professionals able to enforce legislation. Complementary to this, educational initiatives are set up to increase digital literacy and to teach citizens how to protect themselves from the abusive use of personal data and how to interpret and interact with related public/private policies and schemes.

Potential challenges of the intervention for the triple win and suggestions to address them

HEALTH EQUITY

Data on personal illnesses or pre-existing conditions is highly sensitive and could be misused by health insurers or employers. To ensure that access to services and working positions remain open to everyone the described policy intervention needs to be adequately enforced and regular control measures put in place.

How this supports behaviour change

CAPABILITIES (having the psychological and physical skills to do something)

Data can be used to develop a good understanding of human behaviour in general or that of a particular person, which then can be used to develop and strengthen individual and collective capabilities for leading more healthy and sustainable lives.

MOTIVATION

If people are confident that their data is being securely and responsibly used, they will be more willing/motivated to share it in ways that can benefit them and society by improving their general living conditions.

OPPORTUNITY (having the social or physical possibility to do something)

Data, securely obtained and applied, increases the opportunities of implementing effective policies and more linked-up personalised solutions (e.g. health-related advices).

Inspiration

The Digital Health Society Declaration is the outcome of the Digital Society Movement and supporting tool for building the EU's Digital Single Market Strategy covering the impact and role of digitalisation in the healthcare systems.
(http://echalliance.com/page/DHSDeclaration)

Respect for private life and the protection of personal data in electronic communications is the Commission's regulatory proposal for replacing the current e-privacy Directivy (PE 698.661) for the purpose of increasing protection of data and privacy in electronic communications.
(www.europarl.europa.eu/RegData/etudes/BRIE/2017/608661/EPRS_BRI(2017)608661_EN.pdf)

EC-Digital Transition Draft Action Plan aims at providing improved public services to citizens. It supports European cities in exploiting the possibilities of digitalisation, and assisting European businesses in developing new innovations and create new business opportunities for global markets.
(https://ec.europa.eu/futurium/en/digital-transition/digital-transition-draft-action-plan-0)

Transformation of Health and Care in the Digital Single Market is an European Commission (still in-progress) initiative aiming at improving the EU citizen's health and well-being as well as health care systems through the use digitalisation and related innovations.
(https://ec.europa.eu/digital-single-market/en/european-policy-ehealth)

▼ **Figure 5.2:** The Green Spaces Policy Interventions

2018...
Access to Green Space
Local/National

2025...
Green Corridors
EU

2020...
Inclusive Community Gardens
Local/National

2025...
Optimising Space in Urban Areas
Local/National

Healthier, more sustainable and equitable lifestyles by 2040

2018...   2020...   2025...

🤲 Environmental / Social Planning   📢 Communication / Marketing

⚙️ Service Provision

ACCESS TO GREEN SPACE: ensuring minimum levels of quality green space for all
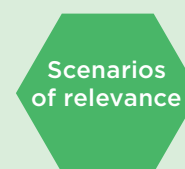
Type of policy intervention
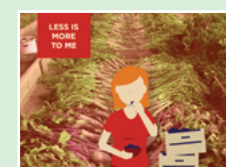Environmental and Social Planning / Service Provision

Area of intervention Green Space

Level of the intervention Local/National

Year of intervention Today

Scenarios of relevance

Goals

Accessible and well-planned green space can positively contribute to better living environments, health and well-being of citizens living nearby. Therefore, this policy ensures mandatory access to green spaces (e.g. at least 0.5-1 hectares within 300 meters linear distance, or a 5-minute walk) is incorporated into local and regional urban planning frameworks and master development plans of governmental bodies. To guarantee an equitable use and upkeep of those green spaces, local authorities adopt participatory strategic planning methods. Accordingly, for the planning, design and maintenance of green spaces, besides urban planners, representatives of other sectors (e.g. environment, transport, health, social a airs, police etc.) are included also. Moreover, local authorities also commit to invest (also in collaboration with private companies) in additional infrastructure e.g. adequate walking paths and lighting as well as equipment for outdoor fitness exercises, to ensure green spaces are used for recreational and physical activities.

Potential challenges of the intervention for the triple win and suggestions to address them

ENVIRONMENT

Promoting and increasing the usage of green spaces might lead to an overuse of the latter which in turn can degrade the quality of green areas. This challenge can be addressed through complementary informative campaigns on the proper use of common green spaces and on the negative consequences certain behaviours and actions can have.

HEALTH

Increasing the time spent in green areas could potentially lead to some adverse health issues such as increased risk of vector borne diseases, triggering allergies and other related risks due to an increased exposure to pesticides or herbicides. This could be offset by increasing citizens' awareness about these particular risks and potential physical symptoms.

HEALTH EQUITY

Qualitative green spaces could potentially lead to increased real estate prices and consequently gentrification. This could potentially be offset, through complementary top-down regulatory measures to control prices of real estates.

How this supports behaviour change

MOTIVATION

Greater access to green spaces and the possibility to be directly engaged in planning and designing processes motivate citizens to more frequently use those spaces.

OPPORTUNITY (having the social or physical possibility to do something)

This policy provides citizens (particularly those in low income areas) with the necessary physical environment to engage and adopt more sustainable and healthy living habits by improving their sense of connection to nature and health. Thus, increasing the level of physical outdoor activities and awakening awareness of the need to preserve and protect the environment.

Inspiration

European Green Capital Award europeangreencapital is an initiative promoting and rewarding local authorities' efforts to improve the environmental performance of the divisions under their administration.
(http://ec.europa.eu/environment/)

Singapore Fitness Zones as part of its urban planning and design, the city of Singapore has included several stationary fitness facilities to be used by its citizens free of charge.
(https://sportifycities.com/singapore-fitness-zones)

Green Gym is a bottom up initiative in which participants implement ecological activities (e.g. planting trees) with a health and fitness twist (warming up and cooling down before and after each activity).
(https://www.tcv.org.uk/greengym)

INCLUSIVE COMMUNITY GARDENS: a natural part of urban life

Type of policy intervention
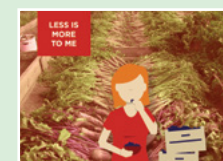Environmental and Social Planning / Service Provision

Area of intervention Green Space

Level of the intervention Local/National

Year of intervention 2020

Scenarios of relevance

Goals

This policy enhances the availability and access to green areas in urban centres as it mandates local/national authorities to set up urban and community gardens that residents can use to grow sustainably produced, organic food. Urban areas that can be potentially used for community gardens (e.g. derelict land, large green areas that do not qualify as parks, roofs of buildings deemed suitable etc.) are identified, checked (for e.g. safety and soil quality) and transformed into usable spaces for agricultural activities by local authorities with the support of local NGOs and/or citizen/ consumer networks. Individuals and groups can, for a fee, rent the land or space for one agriculture season and use it to grow vegetables and fruits. To ensure a widespread inclusion and active engagement of all members of the society, members with lower socio-economic status are entitled to a lower fee or exempt from paying altogether (after a validation of their status by local authorities) and tailored information campaigns are implemented to increase people's awareness about the origin of the food they consume. Moreover, more experienced community members act as 'trainers' for the less experienced members (those who do not have gardening/agricultural skills), thus, contributing to more socially inclusive societies.

Potential challenges of the intervention for the triple win and suggestions to address them

ENVIRONMENT

Urban community gardens require people's commitment throughout a whole season. A lack of commitment may lead to poor crops, a failure to gather the harvest and overall inefficient use of resources and materials. This challenge could be addressed through proactive control measures coupled with tailored informative campaigns to ensure the proper commitment and usage of the gardens.

How this supports behaviour change

CAPABILITIES (having the psychological and physical skills to do something)

This initiative increases citizens' opportunities to learn about and thereby improve their skills in sustainable production and consumption of food.

MOTIVATION

This initiative can motivate people to shift to more healthy nutrition (for example eating more fruits and vegetables) which is better for them and the environment. Moreover, it contributes to reduced stress levels by enhancing physical activity and reducing social isolation.

OPPORTUNITY (having the social or physical possibility to do something)

Urban (community) gardens provide the opportunity to benefit from increased awareness about negative environmental and health impacts, higher social cohesion, and availability of healthier food.

Inspiration

Rising investments for environmental and social planning In 2015, the Netherlands invested 1.5 million Euros for initiatives such as green rooftops, citizen maintenance of community gardens or landscapes. It is planned for this type of investments to reach 10 million by 2019.
(www.inherit.eu/baseline-report)

Kokoza is a Czech social enterprise that promotes and builds urban/community gardens striving to include local production and composting in food loops. Acting on their belief that urban community gardens can promote and increase the quality of life, they share these experiences and knowledge as well as encourage others to follow their example.
(www.kokoza.cz/en)

Stadsbruk a Swedish urban farming initiative that involves the preparation and transformation of previously not used lands into agriculture ones. The initiative is funded by the Swedish Innovation Agency Vinnova with 1 million Euros. After the projected timeline ends, the urban farming is foreseen to continue as a commercial activity.
(http://stadsbruk.se)

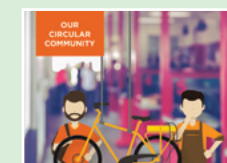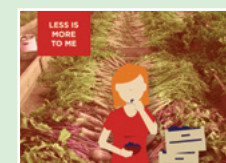# GREEN CORRIDORS: connecting green areas in and between communities

Type of policy intervention
Environmental and Social Planning / Communication and Marketing

Area of intervention Green Space

Level of the intervention EU

Year of intervention 2025

Scenarios of relevance

Goals

Easy access to green spaces has proved to be one of the major factors influencing their effective usage by citizens. This policy supports the setting up of so-called green corridors: these are routes that connect all green areas within a city. These corridors serve to connect urban centres with rural areas benefiting from the nature and wildlife in those areas. Local authorities and urban planning developers ensure the existence of these routes in a city. These corridors are 'green' in that they are surrounded by vegetation, rather than simply being designed as ordinary pathways, to the highest possible extent and without compromising users' safety. Green corridors offer a very good opportunity for walking and cycling either for leisure purposes or traveling (e.g. going to work). To ensure usage, this policy initiative is coupled with tailored campaigns to promote the use of these corridors and to inform citizens about the positive environmental and physical benefits (i.e. reduced air pollution and noise; decreased CO2 emissions; reduction of the risk of heart attack and obesity etc.).

Potential challenges of the intervention for the triple win and suggestions to address them

HEALTH

Green corridors might be potentially dangerous during winter months if not well maintained and at certain periods of the day (e.g. at night because of robbery attempts, assaults etc.). Tackling these risks could by done by increasing the safety of these routes by adequate lighting, maintenance and policing. Informing the citizens about these measures would contribute to increased overall confidence and usage of the infrastructures.

HEALTH EQUITY

Green corridors potentially might be dangerous to be used at certain periods of the day, especially for certain social groups (females, elderly people etc.). The measures described above would also help to tackle these specific challenges.

How this supports behaviour change

CAPABILITIES (having the psychological and physical skills to do something)

Green corridors incentivise physical activity and thereby encourage people maintain healthy and active lifestyles.

MOTIVATION

The awareness of reducing one's carbon footprint (i.e. acting upon environmental beliefs) and improving one's health can further motivate people to use green corridors, either for physical activities or for more active travels.

OPPORTUNITY (having the social or physical possibility to do something)

Green corridors provide citizens with the opportunity to exercise outside more and even to engage in daily active commuting, thereby experiencing the multiple benefits to their health and to the environment.

Inspiration

The Green Belt of Vitoria-Gasteiz is a large green area for recreational use around the city of Vitoria-Gasteiz, Spain, strategically linked by eco corridors. The initiative was implemented to restore and recover the peripherial areas of the city.
https://www.vitoria-gasteiz.org/we001/was/we001Action.do?aplicacion=wb021&tabla=contenido&idioma=en&uid=u_1e8934a8_12e47a4954c__7ffd

Stuttgart Green Corridors green ventilation corridors and construction bans at certain strategic city points have helped Stuttgart in not only protecting its green areas but also dealing with the city overheating issue and improving its air quality.
(http://wwf.panda.org/?204461/Stuttgart-green-corridors)

OPTIMISING SPACE IN URBAN AREAS: multi-purpose use of (public) buildings and areas

Type of policy intervention
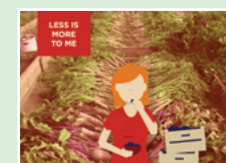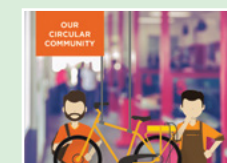Environmental and Social Planning / Service Provision

Area of intervention Green Space

Level of the intervention Local/National

Year of intervention 2025

Scenarios of relevance

Goals

Public buildings and connected spaces are used for single hand purposes and bound to their target groups and operational time. With this policy, local authorities make public buildings (and spaces) available for public use during those times they would otherwise lie empty (e.g. evenings, weekends) and actively encourage owners of private buildings/spaces to do the same. The aim is to increase their usability and diversify their functionality in those urban areas where space and public resources are scarce, but available spaces and resources are not being put to efficient use. This applies to e.g. school buildings and playgrounds, university campuses and museums and their surrounding (green) spaces. As a pre-condition for the diversified use, the buildings/spaces would have to be utilised for activities that contribute to health and social well-being and build social capital. Accordingly, control measures (offset by reductions in the cost of developing new spaces) are put in place not only to ensure that the pre-condition is respected but also to ensure that those places put into "multi-purpose use" are properly used. In cases of private ownership, the owners can charge fees to users and/or local authorities provide financial incentives (e.g. fiscal benefits, subsidies, innovation funds etc.) to these owners.

Potential challenges of the intervention for the triple win and suggestions to address them

⚖ **HEALTH EQUITY**

In cases when buildings/spaces are privately owned, prices for using the latter might apply. This might inhibit people belonging to low socio economic groups from using them and consequently benefiting from the whole initiative. This challenge is, however, offset through the monetary incentives offered to the property owners by local authorities to keep prices low and/or when possible removing them all together.

How this supports behaviour change

MOTIVATION

Improved access to these facilities and their offerings (e.g. school gyms/sport halls for physical exercise or the green areas of a university campus for increasing the share of time spent in nature) free of charge or through minimal prices, evades the costs of using these services when offered by more traditional channels.

OPPORTUNITY (having the social or physical possibility to do something)

The multi-purpose usage of spaces and buildings increases the availability and accessability of all social groups to physical environments that hold the potential to offer services that benefit their health and well-being.

Inspiration

Urban Agenda for the EU is an EU policy instrument aiming at maximising the utilisation of cities and their potential as a response to the fast tracking urbanisation trend.
(https://ec.europa.eu/futurium/en/urban-agenda)

California Civic Center Act and California Community Collect Act US state laws which open public school grounds to the general public for use after hours, on basis of reasons varying from scientific to recreational.
(www.changelabsolutions.org/publications/CA-JUA-toolkit)

▼ **Figure 5.3:** The Energy Efficient Housing Policy Interventions

2018...
Smart Meters for All
National/Local

2025...
Nudging for Efficient Energy Consumption
Local

2020...
Energy Efficient Coaches for All
National/Local

2025...
Decentralised Energy Productions
Local

Healthier, more sustainable and equitable lifestyles by 2040

2018...   2020...   2025...

Guidelines

Communication / Marketing

Service Provision

Regulation

Legislation
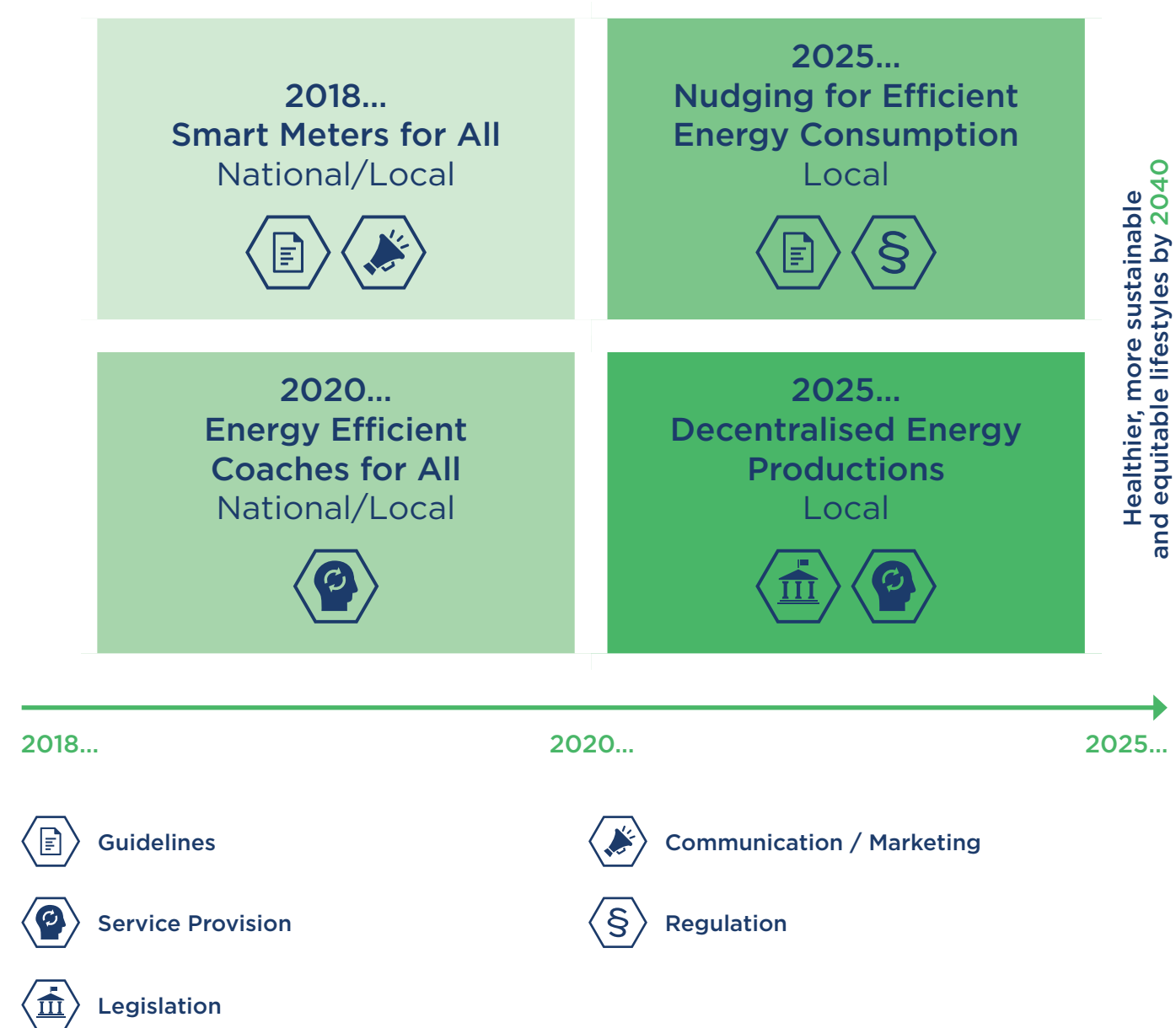
SMART METERS FOR ALL: making smart meters a common household tool

Type of policy intervention
Guidelines / Communication and Marketing

Area of intervention Energy Efficient Housing

Level of the intervention National/Local

Year of intervention Today

Scenarios of relevance

Goals

Smart meters are digital electronic devices that collect information about households' energy consumption and share this information with the energy supplier as well as users. This policy mandates governments to ensure tha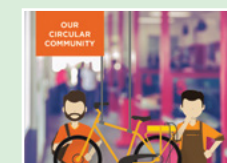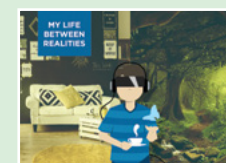t all power suppliers provide citizens with smart meters that are easy to use and to understand to ultimately reduce electricity consumption levels. These smart meters, besides measuring and informing consumers about their consumption rates, also project the costs associated with specific consumption rates. This enables consumers to adapt their consumption patterns according to the feedback they receive. Because of the extensive usage of personal data the interventions implies, the intervention is complemented by top-down regulatory guidelines on the proper use of private data from energy suppliers complying with EU standards. Furthermore, to ensure broader and proper usage, local consultants are trained to advise on the use of smart meters. This also serves as an opportunity to provide advise on how to ensure a good indoor air quality, and to inform low income households about fiscal incentives or subsidies they may qualify for retro ting their houses and/or purchase more energy efficient appliances.

Potential challenges of the intervention for the triple win and suggestions to address them

ENVIRONMENT

Performing better in terms of energy consumption might lead to rebound effects (greater use of energy consumption in other areas, e.g. electrical appliances) and incentivise negative consumption patterns.

HEALTH EQUITY

If energy suppliers do not fully cover the costs of the smart meter devices, the costs for their adoption will have to be borne by consumers. This consequently could result in higher financial and mental stress for low-income households.

How this supports behaviour change

CAPABILITIES (having the psychological and physical skills to do something)

Smart meters and accessible trainings on how to use them enhance capabilities to understand households' energy consumption patterns and consequently ways of turning to more efficient consumption behaviours.

MOTIVATION

A better understanding of energy consumption patterns and associated costs encourages individuals to switch to more efficient and consequently sustainable behaviours.

OPPORTUNITY (having the social or physical possibility to do something)

Smart meters provide an opportunity to reduce energy consumption and expenditures. Visits by local consultants can support low-income households in learning about the importance of and how to best benefit from any financial supportive opportunities with respect to energy and resource efficiency at the household level.

Inspiration

The 2030 Climate and Energy Framework within this framework the EU has set three ambitious targets to be achieved by 2030: a). Reduction of GHG emissions by 40%; b). Extending the share of renewable energies up to 27%; and more specifically for this intervention (not binding) c). Achieving 27% improvement in energy efficiency. (https://ec.europa.eu/clima/policies/strategies/2030_en)

The 2012 Energy Efficiency Directive preceding the previous policy, this directive outlines binding measures for the EU Member States in the quest to achieve 20% energy e ciency by 2020. In 2020 following a performance evaluation the target is expected to increase up to 30%, to be met by 2030. (https://ec.europa.eu/energy/en/topics/energy-efficiency/energy-efficiency-directive)

The EU Third Energy Package this EU legislative reform aims at regulating and improving the performance of the internal energy market. Also, this package requires from the EU member states the implementation of smart metering with a roll out market penetration target of 80% by 2020. (http://europa.eu/rapid/press-release_MEMO-11-125_en.htm?locale=en)

ENERGY EFFICIENT COACHES FOR ALL: providing advice to citizens

Type of policy intervention
Service Provision

Area of intervention Energy Efficient Housing

Level of the intervention National/Local

Year of intervention 2020

Scenarios of relevance

Goals

This policy intervention supports the creation of so-called "energy efficient coaches": trained individuals who consult and advise households on their energy consumption patterns and how to make them more efficient. The overall scheme is financed, developed and implemented by national and local governments in collaboration with energy and housing companies, who benefit by promoting customised saving products. All residents are entitled to the services of energy efficient coaches, who can provide them with free advices on energy saving measures for their homes. The energy efficient coaches receive specific trainings that enable them to provide advice on energy efficiency as well as public health measures. For example, residents receive advice on how to save energy and reduce costs by modifying their behaviours in relation to lighting and heating; simple applications for better insulation; and on how to achieve an optimal balance between insulation and ventilation. In addition, the coaches are trained to provide guidance and advice on how to ensure a good indoor air quality, on safety measures in relation to carbon monoxide and smoke (detectors), and on available financial measures to retrofit houses and/or purchase more energy efficient appliances. The coaches are also equipped with a saving package that includes e.g. radiator foil, draft tape, a water-saving shower head and LED lamps. For a small price (e.g. €15) residents can purchase a certain amount of these saving products relevant to the needs of their home. Beyond this, they can also purchase other products for 50% of the retail price.

Potential challenges of the intervention for the triple win and suggestions to address them

HEALTH EQUITY

Although the policy intervention already accounts for free/reduced energy saving products, it would be important to also make sure that residents not financially able to purchase saving products could make use of public financial incentives. This will ensure that an equal level of energy saving measures and products are also adopted by residents belonging to low socio-economic groups.

How this supports behaviour change

CAPABILITIES (having the psychological and physical skills to do something)

Citizens will acquire better knowledge and understanding of their energy consumption behaviours and what constitutes a sustainable and efficient energy consumption at the household level.

MOTIVATION

The primary motivation stemming from this policy is reduced living costs followed by the contribution towards reducing negative impacts on the environment (i.e. reducing CO_2 emissions).

OPPORTUNITY (having the social or physical possibility to do something)

The coaches enable residents to actively and easily switch to more sustainable and efficient energy consumption patterns through customised measures adequate to their homes, lifestyles and financial situation.

Inspiration

Energie Coaches in Amsterdam is a bottom up initiative that aims at increasing households' energy e ciency through the recommendation and implementation of small changes in the household conditions.
(www.energiecoach.amsterdam)

Energy Savings Check in Germany is an initaitive by the non governmental organisation Caritas to provide tailored advice on energy saving and environmental protection.
(www.caritas-germany.org/focus/currentissues/aspx)

NUDGING FOR EFFICIENT ENERGY CONSUMPTION:
influencing behaviours through comparison and advice

Type of policy intervention
Service Provision / Legislation

Area of intervention Energy Efficient Housing

Level of the intervention Local

Year of intervention 2025

Scenarios of relevance

Goals

It has been scientifically deduced that people's behaviour is strongly driven and influenced by how other people act (descriptive norms) and/or by others' expectations in relation to our behaviour (injuctive norms). Descriptive norms give insight and inform energy users about the energy consumption behaviour of people belonging to the same (social) group. Accordingly, this policy, makes it mandatory for all energy companies to include descriptive norms in their clients' energy bills and compare the client's energy consumption to average consumption rates of people living in similarly sized houses/households and/or in the same neighbourhood. Energy bills must also include general advice on how clients can optimise their energy use. Moreover, each energy supplier must offer free consultations to provide clients with personalised advices on their energy use, tailored to their specific needs. In cases where the household conditions and appliances do not allow for efficient energy consumption (e.g. old windows or bad insulation) clients are encouraged and informed on how to apply for financial support schemes provided by local/national authorities in cooperation with energy suppliers. Special funds are earmarked at the EU level to support Member States to finance and implement these schemes.

Potential challenges of the intervention for the triple win and suggestions to address them
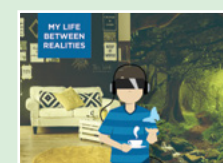
ENVIRONMENT

A better household performance in terms of energy consumption than the indicated average in the energy bill might lead to an increase of the net monthly energy consumption for certain consumers as they might perceive their lower consumption as an underperformance. This challenge could be offset by transforming the energy bills into performance appraisal to indicate right tracked behaviour and offering economic incentives for best performing energy consumption behaviours (i.e. lowest energy rate for a month).

HEALTH EQUITY

Low socio-economic groups usually live in houses where conserving energy or maintaining efficient energy consumption is practically very difficult due to the poor construction quality and old household appliances. Furthermore, people renting, and or living in public-owned buildings might not have the right/opportunity to improve household conditions, unless the intervention is complemented with tailored energy efficient housing policies. In these cases, including descriptive norms in the energy bills of consumers may not result in the full potential of the intervention.

How this supports behaviour change

CAPABILITIES (having the psychological and physical skills to do something)

This intervention enables people to better understand their own energy use vis-à- vis others and by including general and personal advice as part of energy provision services, it strengthens people's capabilities to consume energy in a more efficient manner.

MOTIVATION

Including descriptive norms in energy bills can motivate consumers to adapt their consumption patterns and to adopt more efficient ones. Moreover, the possibility of financial support to improve household conditions/appliances can serve as an additional motivation to switch to efficient energy consumption patterns.

OPPORTUNITY (having the social or physical possibility to do something)

This policy provides citizens with an adequate framework to change their energy consumption behaviours towards more sustainable patterns.

Inspiration

Home Energy Reports (Allcot, H. (2011). Social Norms and Energy Conservation. Journal of Public Economics 95: 1082-1095) in a large scale experiment (including 600.000 households) the US based company Opower used Home Energy Reports to give feedback to energy users about their energy consumption patterns while simultaneously benchmarking their performance versus their peers. Besides providing feedback, energy conservation tips were included in these letters.

The 2030 Climate and Energy Framework within this framework the EU has set three ambitious targets to be achieved by 2030: a). Reduction of GHG emissions by 40%; b). Extending the share of renewable energies up to 27%; and more specifically for this intervention (not binding) c). achieving 27% improvement in energy efficiency (https://ec.europa.eu/clima/policies/strategies/2030_en)

The 2012 Energy Efficiency Directive preceding the previous policy, this directive outlines binding measures for the EU Member States in the quest to achieve 20% energy efficiency by 2020. In 2020 following a performance evaluation the target is expected to increase up to 30%, to be met by 2030.
(https://ec.europa.eu/energy/en/topics/energy-efficiency/energy-efficiency-directive)

DECENTRALISED ENERGY PRODUCTION: peer to peer trading via blockchain

Type of policy intervention
Service Provision / Legislation

Area of intervention Energy Efficient Housing

Level of the intervention Local

Year of intervention 2025

Scenarios of relevance

Goals

Producing energy through renewable sources, such as solar panels or small wind turbines has become more and more common among citizens, companies or local authorities. In most cases, the energy generated by these "new players" is not fully used by them for their own needs and therefore is sold to established energy providers who own the electricity grid, leading to higher prices. Policy makers can support the establishment of a decentralised blockchain applications by supporting pilot projects and adjusting regulatory systems to the new market needs. Blockchain technology, which allows for a secure and direct transaction when energy is sold to another user can mediate, orchestrate and drive the process of peer-to-peer energy trading. This in turn, would circumvent the larger energy providers/companies and the associated higher costs, maintaining more balanced and affordable energy prices for all. Not only can sellers of energy decide to sell the energy for a lower price to certain suppliers or non for profit organisations in their direct surroundings, but also the income which is generated stays in the local community.

Potential challenges of the intervention for the triple win and suggestions to address them

ENVIRONMENT

Performing better in terms of energy consumption might lead to rebound effects and incentivise negative consumption patterns.

HEALTH EQUITY

The approach has a large potential to help levelling out inequalities related to energy needs, as energy could be offered at a lower price, particularly benefiting lower socio-economic groups. However, if used merely for profit maximisation, the opposite might occur. However, in free energy markets, customers could always choose other sources of energy.
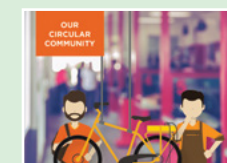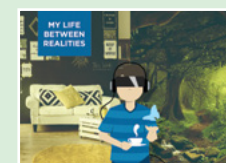
How this supports behaviour change

CAPABILITIES (having the psychological and physical skills to do something)

Thanks to the pilot projects, citizens and local authorities can acquire better knowledge and understanding of renewable energy blockchain solutions, directly contributing to the further implementation and uptake of these energy sources at the household level.

MOTIVATION

Decreased prices and the possibility to gain economic benefits from using energy which is self and sustainably produced, and selling it back to community members further incentivise the uptake of this method.

OPPORTUNITY (having the social or physical possibility to do something)

This policy provides the necessary framework to enable citizens' to effectively adopt the new technology and take advantage of decentralised energy production.

Inspiration

LO3 Energy a New York based start-up, is attempting to revolutionise the energy market by changing energy consumption and production patterns through the use of ICT developments. (https://lo3energy.com)

Elblox a renewable energy trading platform, developed by Axpo group and the Wuppertaler Stadtwerke (WSW) in Germany, making use of blockchain technology to facilitate the market interaction between energy providers and interested consumers. (https://www.axpo.com/axpo/ch/en/news/news/medienmitteilungen/int/2017/electricity-from-the-neighbourhood--axpo-launches-a-blockchain-m.html)
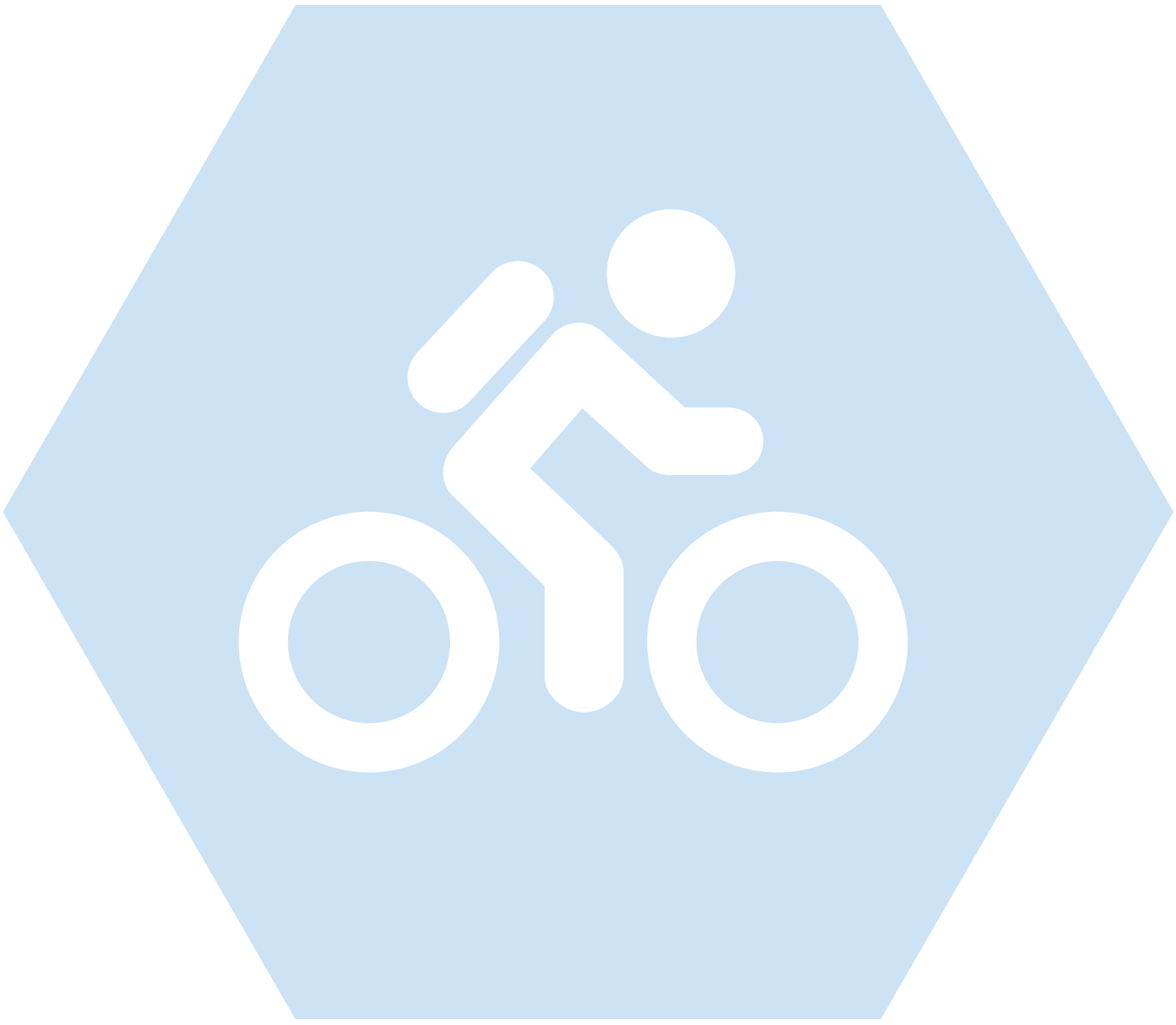
▼ **Figure 5.4:** The Active Mobility Policy Interventions

2020... **Sustainable Mobility Plans** EU/National/Local	**2030...** **Reducing Private Car Use** EU/National/Local
2030... **Encouraging Cycling and Walking** EU/National	**2030...** **Health Promoting Health Insurance** National

Healthier, more sustainable and equitable lifestyles by 2040

2020...   2025...   2030...

Fiscal Measures   Environmental / Social Planning

Regulation   Communication / Marketing

Guidelines

SUSTAINABLE MOBILITY PLANS: developing and implementing visions of change

Type of policy intervention
Environmental and social planning / Regulation

Area of intervention Active Mobility

Level of the intervention EU/National

Year of intervention 2020

Scenarios of relevance

Goals

Transport infrastructure, related planning and investments influence the availability of different modes of transport (e.g. cars, public transport, walking and cycling) and subsequently travel behaviour, as well as citizens' exposure to air and noise pollution, traffic accidents, and physical (in)activity. Such exposure may influence health outcomes including but not limited to cardiovascular and respiratory conditions, injuries, obesity and mental illness, as well as quality of life and increases health care needs and related costs. In many urban areas, transport infrastructure is developed by super-imposing new developments upon existing structures, rather than fostering new urban mobility paradigms and patterns. Too often, for example, cycling and walking paths are only partially considered in the development of new transport infrastructure. To address these challenges in a comprehensive way, national, regional and local authorities work together to develop and implement Sustainable Mobility Plans (SMPs). The objective of the SMPs is to develop coherent urban mobility infrastructure by directly engaging various key stakeholders in the planning and designing phases including representatives from the health-sector and environmental sectors, as well as business and community actors. The SMPs ensure that all infrastructure projects comply with stringent environmental and health standards and before being implemented they undergo rigorous integrated impact assessments to ensure that this is the case. The relevant authorities are provided with the suitable technical, legal and financial tools to ensure such compliance. In addition, a Sustainable Mobility Platform is fully operational at EU level to enable relevant EU member states and authorities to learn from each other and optimise the development and implementation of national/regional Sustainable Urban Mobility Plans.

Potential challenges of the intervention for the triple win and suggestions to address them

HEALTH EQUITY

Generalising health impacts and missing particular (related) attributes of different urban areas and neighbourhoods could lead to health equity challenges, in the assessment process of new urban mobility projects. Criteria to assess differences between neighbourhoods as well as to account for similarities need to be explicitly included in the assessment procedures
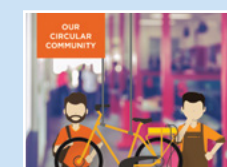
How this supports behaviour change

CAPABILITIES (having the psychological and physical skills to do something)

This intervention increases urban planners' and citizens' knowledge and awareness about the impact transport systems have on health, well-being and the environment.

MOTIVATION

Greater understanding of the impact distribution of planned infrastructure projects can motivate governmental authorities and ciziten to support investments for transport systems which promote health and preserve the environment.

OPPORTUNITY (having the social or physical possibility to do something)

Overall this intervention leads to developing multi-modal and connected transport systems with better environmental performance. This simultaneously provides citizens with opportunities to increase and improve their overall health and wellbeing (by e.g. combining different modes of transport for one route: walking or cycling and public transport).

Inspiration

SMP fact-based mobility planning tool supports cities in efforts to develop sustainable urban mobility plans and assess their mobility performance against predefined sustainable mobilityindicators. (www.eltis.org/resources/tools/smp-fact-based-mobility-planning-tool)

EC Urban Mobility Draft Action Plan (2018) the aim of the Partnership is to develop a multi-level governance approach in an open and transparent way in order to achieve the wider objectives of the Urban Agenda for the EU. (ec.europa.eu/futurium/en/urban-mobility/urban-mobility-draft-action-plan)

Urban and Transport Planning Health Impact Assessment (UTOPHIA) is a tool developed and implemented by the research team of CREAL, to study the connection between (preventable) premature deaths and exposure to physical activity, air pollution, noise, heat and access to green space. According to this research, premature deaths could be avoided through changes to urban and transport planning. (www.isglobal.org/en/news/-/ journal_content/56/10179/5597768?refererPlid=147101&controlPanelCategory=current_site.content)

REDUCING PRIVATE CAR USE: a mixed method approach

Type of policy intervention
Fiscal / Regulation

Area of intervention Active Mobility

Level of the intervention EU/National/Local

Year of intervention 2030

Scenarios of relevance

Goals

Throughout the years the number of cars on the European roads and people's dependence on private cars and motorised transport has continuously increased. This has an adverse impact on the environment and human health through greenhouse gas emissions (air pollution), noise or traffic accidents and requires a large amount of space to accommodate the required infrastructure. Accordingly, this policy intervention recommends national, regional and local authorities to implement those measures that are most effective in their areas to restrict the circulation of (fossil fueled) private vehicles e.g. abolish financial incentives that encourage the use of private vehicles (e.g. company cars) and where feasible, levy taxes on conventionally fueled car in cities; and to strengthen the public urban mobility system through the introduction of innovative sustainable mobility services (e.g. car- and bikesharing; "electric taxi sharing services" developed and made available throughout the city and related areas) that are also able to accomodate the mobility needs of the elderly or people with physical disabilities. An example is the development of an urban single mobility app that integrates all services available, so citizens can easily identify the sustainable transport options available from their location and point of time, and purchase tickets.

Potential challenges of the intervention for the triple win and suggestions to address them

ENVIRONMENT

The use of electric cars within this intervention can pose an environmental risk, especially in terms of car battery production and disposal and with respect to the energy sources used for charging these cars. Respective research and policy frameworks need to be set up to ensure circular use of batteries.

HEALTH EQUITY

In the short-term the limited market competition for e-bikes/electric cars sharing services could result in price increases, limiting the possibility of low socioeconomic groups from accessing newly implemented mobility services which in turn could result in increased stress levels due to difficulties in managing daily activities (e.g. bringing the kids to school; commuting to work etc.).
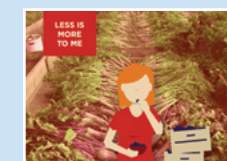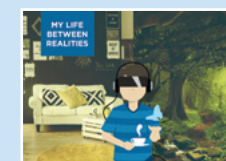
How this supports behaviour change

CAPABILITIES (having the psychological and physical skills to do something)

Changes in the mobility/transport infrastructure enable a faster and more sustainable movement of people in and throughout urban centers.

MOTIVATION

Financial and regulatory disincentives will discourage people from using private (fossil fuel powered) vehicles, while the improved and increased mobility infrastructure will motivate citizens to switch to more sustainable modes of transport.

OPPORTUNITY (having the social or physical possibility to do something)

The reduction of cars in urban centres will lead to an increased availability of spaces which could be converted to more sustainable use, for example, parking lots can be converted to green areas for recreational and physical activities. This in turn can result in a higher number of citizens switching to healthier and more active lifestyles.

Inspiration

MaaS – Mobility as a Service is an ICT based service which helps citizens to plan their daily journeys without counting on cars.
(maas.global/maas-as-a-concept)

CIVITAS – City VITAlity and Sustainability is a network of cities dedicated to cleaner, better transport in Europe and beyond. It has showcased over 800 innovative urban transport measures and solutions in over 80 Living Lab cities across Europe since 2002.
(civitas.eu)

ENCOURAGING CYCLING AND WALKING:
soft measures to inspire behaviour change

Type of policy intervention
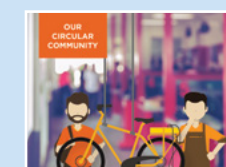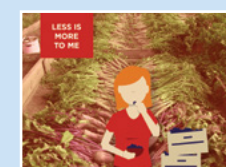Communication and Marketing / Fiscal

Area of intervention Active Mobility

Level of the intervention National/Local

Year of intervention 2030

Scenarios of relevance

Goals

European countries are continuously improving and advancing their national walking and cycling infrastructure (e.g. expanding cycling network to cover large distances, building cycling highways etc.) as part of their strategies to advance active travel and sustainable modes of transport. Complementing these efforts, government authorities, NGOs, citizen groups and private organisations develop and apply a range of soft measures to make walking and cycling the default modes of transport (i.e. biking to work, university, school etc.), rather than seeing them as merely recreational activities. Governmental authorities ensure that active mobility is mainstreamed into national strategies for health, environment, education and climate change impacts. Media campaigns are implemented to raise awareness about the health benefits of walking and cycling and how to conduct these activities safely. Tailored apps are developed and marketed to make these activities more convenient and psychologically rewarding. Financial incentives are also provided to schools and businesses that develop 'active mobility' plans engaging e.g. pupils, teachers, students, professors, employees and their families which makes these measures easily usable (i.e. shower facilities in office buildings, more and more secure bicycle parking lots etc.). Economic incentives are also applied at the individual level e.g. tax reductions or economic rewards on the basis of the km travelled by foot or bike in one year, monitored through e.g. the installation of tracking devices on bikes and/or the data registered by personal fitness trackers/apps.

Potential challenges of the intervention for the triple win and suggestions to address them

♥ HEALTH

Higher rates of biking/walking can result in higher exposure to air pollution, and consequently increase the risk of developing respiratory diseases. Making this policy part of a broader scheme of interventions aiming at decreasing air pollution level in urban centres is therefore fundamental.

⚖ HEALTH EQUITY

Some citizen groups will not – due to physical impairments linked to advanced age and/or other causes – be able to benefit from this intervention. The increased availability of e-bikes can support at least parts of these groups.

How this supports behaviour change

CAPABILITIES (having the psychological and physical skills to do something)

This intervention improves people's capabilities to adopt cycling/walking as common modes of transport not only by providing information and knowledge about existing possibilities but also by improving and establishing the necessary physical environment.

MOTIVATION

Health benefits related to cycling/walking, better access to active mobility infrastructure and services as well as financial benefits motivate citizens to increase the rate of cycling/walking.

OPPORTUNITY (having the social or physical possibility to do something)

This intervention improves peoples' opportunities to engage in active mobility and make themselves more independent from motorised modes of transport.

Inspiration

A sustainable future for transport: towards an integrated, technology-led and user friendly system EU communication which postulates the EU's goal of reducing transport sourced GHG emissions by 60% by 2050.
(www.inherit.eu/baseline-report)

UK's Cycling and Walking investment strategy is a national strategy working towards the promotion of cycling and walking as a mode of transport for both short and long journeys.
(www.inherit.eu/baseline-report)

The European Cycling Federation's EU Funds Observatory for Cycling helps to identify opportunities for using EU funds to invest in cycling-related projects across the EU.
(https://ecf.com/what-we-do/european-funding/eu-funds-observatory-cycling)

Agenda Bike is the Norway national strategy that aims at increasing cycling's share as a mode of transport up to 20% by 2027.
(www.inherit.eu/baseline-report)

HEALTH PROMOTING HEALTH INSURANCE: offering discounts and services to encourage active mobility

Type of policy intervention
Guidelines

Area of intervention Active Mobility

Level of the intervention National

Year of intervention 2030

Scenarios of relevance

Goals

Recognising that preventing disease is more cost-effective than cure, national governments and health insurance companies collaborate on measures that enable citizens, who can demonstrate that they are investing personal time and energy, to achieve healthier lifestyles. Health insurance providers offer discounted insurance rates to customers who choose active mobility options to stay mobile and simultaneously increase the share of physical activity in their lives. They also cover the costs of personalised health/well-being consultants. Clients can hire the consultants directly, through the health insurance companies, or be referred to them by their primary care professionals. The primary care professionals and the consultants work together to understand the clients' health related needs and abilities and to e.g. identify practical solutions to incorporate more exercise in their life (e.g. walk and reach a certain number of steps per day, cycle etc.). The consultants encourage clients to set short, medium and long-term health-related goals. Demonstrating commitment could be done through the help of personal (health) activity tracking devices. Thus, depending on the clients' abilities and preferences, part of the consulting/coaching process will take place on a virtual basis with the help of personal (health) tracking devices. Clients with limited income are offered a tracking device through their health insurance company for free and/or at a subsidised price. The coaching process naturally also entails information on how to use the device. In addition, primary care professionals and personalised wellbeing/health consultants are also trained to encourage clients to take part in a range

of evidence-based 'nature-based' solutions, to prevent, treat or help manage specific conditions (e.g. prescribed participation in walking groups). Health insurance companies reimburse clients for the costs of such solutions.

Potential challenges of the intervention for the triple win and suggestions to address them
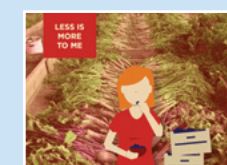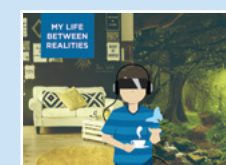
♥ HEALTH

The sensitivity of private (health) data upon which this policy is based entails a potential implementation risk. Thus, it is important to set up and implement clear regulations about the usage of data collected from the tracking devices (in regards to this, in this policy map, we have included a recommendation about dealing with this issue: 'Secure big data' policy).

⚖ HEALTH EQUITY

Since low-socio economic group members tend to have less healthier lifestyles due to lack of opportunity and knowledge, it is important to ensure equity in terms of accessibility of health insurance services through top-down governmental regulations. For example, by prioritising and investing largely in training coaches that can reach and work with people that are particularly hard to reach when it comes to improving health and well-being.

How this supports behaviour change

CAPABILITIES (having the psychological and physical skills to do something)

Coaching services and health tracking devices inform clients about their health-status and provide recommendations for improving it. This directly affects citizens' capabilities to reach the latter.

MOTIVATION

Personalised coaching, direct feedback provided by tracking devices and price reductions for taking part in activities beneficial for health provide the motivation to invest time and energy in health-enhancing activities.

OPPORTUNITY (having the social or physical possibility to do something)

The measures outlined provide people with opportunities to learn more about and improve their well-being. Moreover, this intervention also provides and creates employment opportunities (i.e. coaching jobs).

Inspiration

The Preventative Health Care Act, Germany health insurance companies and long-term insurance funds will invest over 500 million euros for health promotion and prevention in the coming years, in life settings such as child daycare facilities, schools, local authorities, workplaces and long-term care facilities.
(www.bundesgesundheitsministerium.de/topics/prevention/the-preventive-health-care-act.html)

Aetna and Apple Watch in an attempt to improve their customers' ability to manage and improve their health, Aetna, an American based health care company, entered in a partnership with Apple Watch for subsidising their health tracking device. In a trial run the devices were subsidised to a selected customer base and in a currently running programme devices are given for free to its 50,000 employees as part of their 'corporate wellness programme'.
(http://investor.aetna.com/phoenix.zhtml?c=110617&p=irol-newsArticle&ID=2206242)

Buurtzorg' or neighbourhood care model in the Netherlands teams of nurses, responsible for 40-60 people in a given area, act as 'health coaches' for individuals and their families, emphasising preventive measures.
(www.theguardian.com/social-care-network/2017/may/09/buurtzorg-dutch-model-neighbourhood-care)

Health Promotion Offices in Hungary offer health promotion and disease prevention services, providing a direct and effective link between health development activities and curative medicine.
(www.alapellatasimodell.hu/index.php/en/about-the-model-programme)
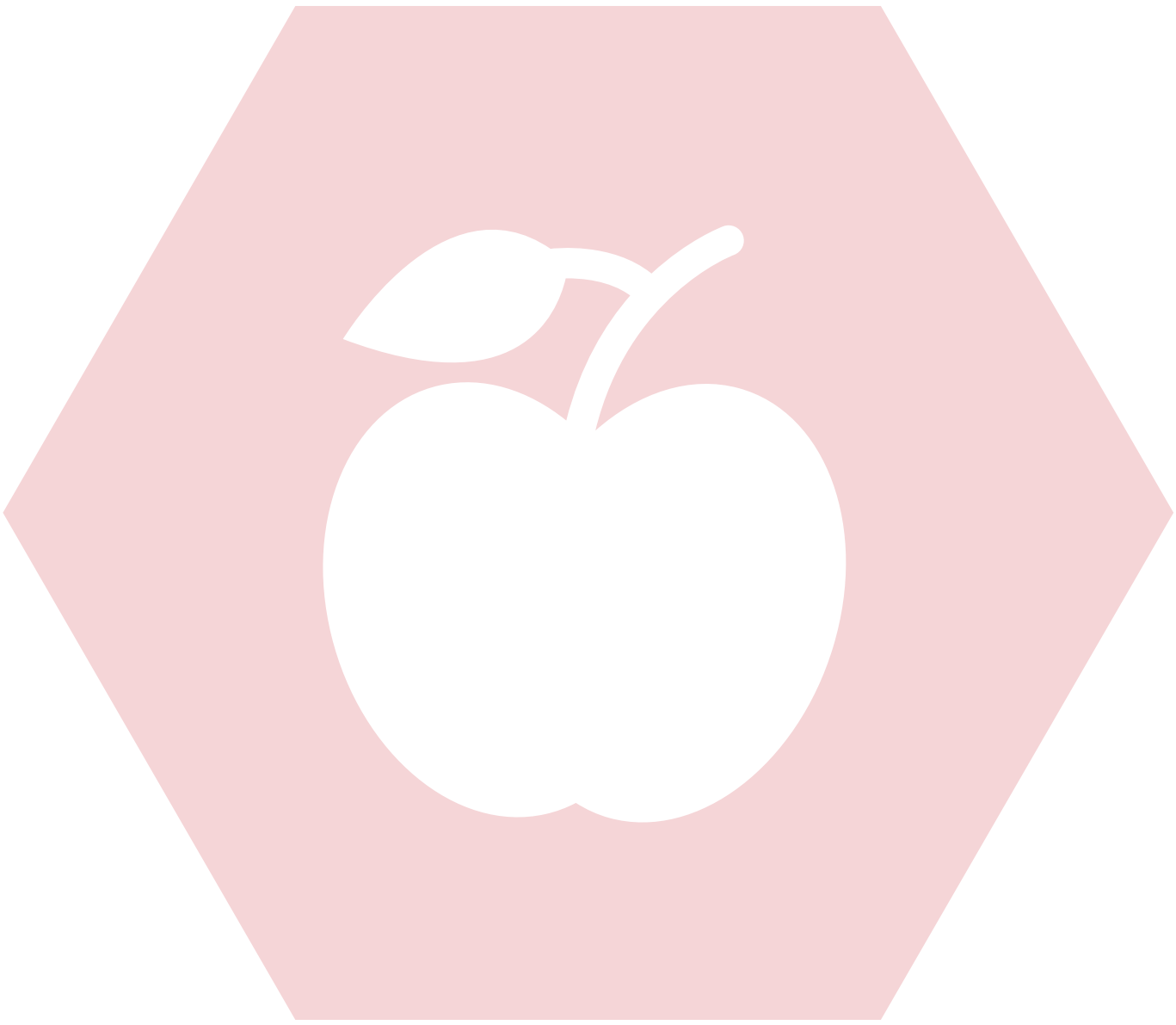
▼ **Figure 5.5:** The Consumption Policy Interventions

2020...
Reducing (food) Waste
EU/National

2035...
EU Food Guidance Council
EU/National

2025...
Enterprising Healthy and Sustainable Food
EU/National

2040...
A Common EU Food Policy
EU

Healthier, more sustainable and equitable lifestyles by 2040

2020...   2025...   2030...   2035...   2040...

Fiscal Measures   Communication / Marketing

Legislation   Guidelines

REDUCING (FOOD) WASTE: EU-level support for coordinated action

Type of policy intervention
Communication and Marketing / Legislation / Fiscal

Area of intervention Consumption

Level of the intervention National/Local

Year of intervention 2020

Scenarios of relevance

Goals

At the EU level, approximately 88 million tonnes of food is wasted at different levels of the food chain. Breaking down this number, the largest share of waste takes place at the household level with 53%, followed by the processing sector with 19%, the food service sector with 12% and the wholesale/retail sector with 5%. Public and private information campaigns are implemented to increase citizens awareness about the rate of food waste and related negative impacts. In doing so, these campaigns are tailored to increase people's valuation and perception of food as well as increase their knowledge about existing opportunities for reducing food waste (e.g. better understanding of 'best before' and 'use by' labels, food banks or sharing initiatives where edible food can be donated, cooking recipes with food that is not fresh anymore etc.). In addition, European and national authorities also provide fiscal and other incentives to encourage public and private companies to develop and apply innovations to the wholesale, retail and (food) service sectors, making it easier for them and for consumers to reduce waste, and recycle and donate unused food and products.
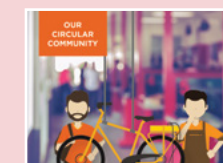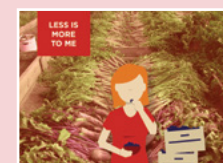
How this supports behaviour change

CAPABILITIES (having the psychological and physical skills to do something)

The measures included in this intervention (information, knowledge and awareness raising campaigns) increase people's understanding and capabilities for reducing their share of food waste.

MOTIVATION

Contributing to reducing environmental impact, improving the prosperity of other members of society (close by or further away) and investing efforts in creating a culture where excess (food) waste is socially unacceptable are some of the motivations that could lead to people wasting less of it.

OPPORTUNITY (having the social or physical possibility to do something)

This intervention, foremost, increases people's opportunities to reduce food waste. Besides, engaging in food donating or sharing initiatives also enhances social and community cohesion. Moreover, financial incentives increase opportunities for developing long term food waste and loss prevention/reduction measures.

Inspiration

EU Platform on Food Losses and Food Waste is a platform bringing together Member States and food chain stakeholders for the purpose of building strategies to achieve reduction of food waste rates.
(https://ec.europa.eu/food/safety/food_waste/eu_actions/eu-platform_en)

Date marking and food waste a European Commission initiative aimed at simplifying date labelling on food products by extending the list of food products not required to have a 'best before' label and changing the semantics of the latter.
(https://ec.europa.eu/food/safety/food_waste/eu_actions/date_marking_en)

Good practices for tackling food waste is an European Commission compilation of good practices that (have) contribute(d) towards reducing levels of food waste.
(https://ec.europa.eu/food/safety/food_waste/good_practices_en)

ENTERPRISING HEALTHY & MORE SUSTAINABLE (VEGETARIAN) FOOD: supportive government action
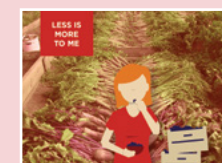
Type of policy intervention
Fiscal

Area of intervention Consumption

Level of the intervention EU/National

Year of intervention 2025

Scenarios of relevance

Goals

Over the last years, the variety of food options in the European food market has continuously increased due to global interconnectedness and intensification of production also driven by increased market competitiveness. However, these food choices do not always perform the best in terms of environmental and health assessments. Given this context, governments develop and apply a package of actions to encourage public/private actors to produce and/or sell healthy foods that are sustainably produced, including alternatives to meat (i.e. new plant based proteins, insects, meat grown in a lab and/or 3D printed meat etc.). The package includes a set of divers actions e.g: fiscal incentives (tax reduction, tailored loans) and other support measures (financial advise, strategic planning advice etc.) for start-ups and other companies promoting local and sustainable products or regulations to mandate retailers to sell a minimum percentage of healthy products that are sustainably and locally produced.

Potential challenges of the intervention for the triple win and suggestions to address them

HEALTH

A potential risk related in the implementation of this policy is the dichotomous perception of locally/regionally sourced food products and their health attributes. Besides, introducing stricter measures to ensure local products meet public health standards, defining what is considered healthy (recommended in another policy of this roadmap) supports in reducing the effects of this risk.

HEALTH EQUITY

As in most cases, price can be a decisive factor against the adoption of healthier and more sustainable products (especially for members of low socio-economic groups) leading to food industry actors being against the adoption and implementation of this policy. However, the fiscal benefits and incentives should contribute towards reducing the effects of this challenge and other measures recommended within this policy roadmap to support the availability, accessibility and citizens adoption of these food products.

How this supports behaviour change

CAPABILITIES (having the psychological and physical skills to do something)

The various measures included in this policy intervention contribute towards the improvement of businesses' capabilities to innovate and introduce more sustainable and healthy products on the market while maintaining their competitiveness and shares in it.

MOTIVATION

Fiscal and other supportive actions within this intervention can motivate food industry actors to adopt, engage and further improve the implementation of this policy.

OPPORTUNITY (having the social or physical possibility to do something)

Besides improving the overall state of a airs in the food sector, this policy opens up opportunities for new actors to enter the market with their innovative ideas and concepts and simultaneously increase employment opportunities in Europe.

Inspiration

Green Action Plan (GAP) for SMEs introduced and adopted in 2014, it aims at supporting small and medium-sized enterprises (SMEs) in turning environmental leverage points into opportunities within the transition to a green economy. (http://ec.europa.eu/growth/smes/business-friendly-environment/green-action-plan_en)

Supermarket campaigns for reduced meat consumption two of the leading Swedish supermarkets, COOP and ICA, in 2016 have issued campaigns in which meat alternatives such as plant based proteins and other vegetarian options are promoted as the more environmentally and human health friendly dietary options. (https://www.fcrn.org.uk/research-library/sweden's-supermarkets-campaign-reduce-meat-consumption)

Healthy Food Financing Initiative – HFFI is a programme aiming at supporting various food market actors with necessary financial funds for the implementation of projects that focus on health and food. (http://healthyfoodaccess.org/take-action-now/policy-efforts-impacts)

EU FOOD GUIDANCE COUNCIL: assessing and certifying healthy and sustainable food
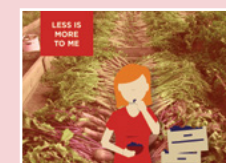
Type of policy intervention
Guidelines

Area of intervention Consumption

Level of the intervention EU/National

Year of intervention 2035

Scenarios of relevance

Goals

Currently, there is no internationally accepted definition of what constitutes 'sustainable and healthy eating patterns'. Existing research tends to define this as dietary products that limit GHG emissions, energy and water use, without accounting for socio-economic considerations and animal welfare aspects. In addition, there are conflicts in relation to what is considered 'healthy' and what is considered 'sustainable'. Consensus must be achieved how to address such contradictions in the development of advices and policies addressing healthy and sustainable eating. An independent Council for Healthy and Sustainable Food is thus established at the EU level to provide guidance on dietary guidelines that integrate health and environmental sustainability considerations on the basis of the best evidence available. The Council advises on which foods are considered 'healthy' or 'unhealthy' (those high in (unhealthy) fats, sugars and salt) and on how to determine if foods are sustainably and/or organically produced. Guidelines enable EU Member States to apply the guidance provided to e.g. tax 'unhealthy foods at a higher rate than 'healthy' foods or tax meat products at higher rates to discourage (over)consumption. In addition, countries are also encouraged to place restrictions on the advertisement of foods considered 'unhealthy'; to streamline the number of labels to facilitate consumer understanding; to mandate all organisations receiving public money (e.g. schools, hospitals, government bodies and services) to favour 'healthy' and 'sustainably produced' food in their procurement processes. In addition, the Council stimulates EU Member States to partner with consumer and civil society organisations to develop information campaigns for raising awareness on healthy and sustainable nutrition. The guidelines are reviewed and revised on a continuous basis to integrate the latest research outcomes on what constitutes sustainable and healthy diets.

Potential challenges of the intervention for the triple win and suggestions to address them

HEALTH EQUITY

Implementing healthy and sustainable diets can sometimes be difficult for members of low socio-economic groups (due to their inability to afford these products). This risk could be diminished by providing financial support to members of the group (e.g. food vouchers or tax reductions on food categories considered to be healthy/sustainable).

How this supports behaviour change

CAPABILITIES (having the psychological and physical skills to do something)

Evidence-based dietary guidelines support people in their ability to identify and consume food which is healthy and sustainable.

MOTIVATION

By improving awareness and by enlarging the knowledge-base on what constitutes healthy and sustainable nutrition this intervention provides people with the motivation to adopt different eating habits.

OPPORTUNITY (having the social or physical possibility to do something)

This intervention increases people's physical opportunities to adopt healthier and more sustainable eating patterns. Besides, these guidelines also support private and public actors in shaping their procurement policies based on what is considered to be healthy/sustainable and demonstrate sound corporate and social responsibility.

Inspiration

Find your way to eat greener, not too much and be active the newest Swedish National Food Agency guidelines recommend consumers to adopt healthier and more environmentally friendly eating patterns by, among others, increasing the consumption of seasonal, local and when possible organic fruit and vegetables as well as reducing meat consumption while accounting for the product packaging. (www.livsmedelsverket.se/en/food-habits-health-and-environment/dietary-guidelines/adults)

Policy for sustainable development and food - City of Malmö by 2020 all food that is served or ordered by the City of Malmö shall be organic. (https://malmo.se/Nice-to-know-about-Malmo/Sustainable-Malmo-/Sustainable-Lifestyle/Sustainable-food-in-Malmo.html)

Hungarian food tax in 2011 the national government introduced a food tax that was primarily levied on sugary drinks and foods, some alcoholic drinks, and energy drinks. (http://www.epc.eu/prog_details.php?cat_id=6&pub_id=5117&prog_id=2)

Dutch Food Agenda released in 2015 by the Dutch Parliament aiming at more sustainable food policy within which public health, ecological sustainability and safety are the main focus points. (http://inherit.eu/voedselagenda-dutch-food-agenda)

A COMMON EU FOOD POLICY: a coherent, integrated approach to producing sustainable healthy food
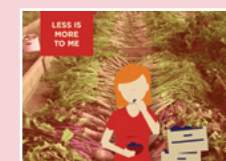
Type of policy intervention
Fiscal

Area of intervention Consumption

Level of the intervention EU

Year of intervention 2040

Scenarios of relevance

Goals

The EU Common Agricultural Policy (CAP), which accounts for 40% of the EU budget, has guaranteed food security for the EU's citizens since the 1950s. There is however widespread consensus that despite extensive reforms, it does not fully and successfully address the EU's food-related challenges. EU Common Agricultural Policy has generated an industrial approach to food production that has promoted efficiency, economies of scale, low cost and low quality food. Many smaller-scale producers have been unable to survive in the sector, while the low-cost and low-quality food produced has contributed to growing levels of diet-related chronic diseases, overweight and obesity. In addition, current agricultural production processes contribute significantly to climate change and environmental degradation. The CAP is considered dispersed, with many poorly aligned objectives. To better address these challenges the original CAP has been transformed into a holistic European 'food policy'. This is the result of a broad, systematic process of change, involving a wide range of sectors (e.g. agriculture, health, environment, education, social a airs, trade) at all levels of governance in Europe (EU, national, local). The EU Food Policy sets a common, long-term holistic vision and strategy to ensure that the food produced across the EU is in line with broadly endorsed EU guidelines on healthy diets and sustainable production processes, while remaining affordable. It therefore contributes to health and environmental sustainability, rather than undermining

it. It is designed to maintain the EU countryside, enable rural economies to thrive and small-scale agricultural producers to make a decent living by e.g. supporting efforts to reconnect local producers and urban consumers.

Potential challenges of the intervention for the triple win and suggestions to address them

ENVIRONMENT

There can be conflicts between what constitutes 'healthy' and 'sustainably produced' products. It may also cost more for farmers/agricultural industries to produce healthy food in sustainable ways, and these costs may be passed on to consumers. Such conflicts require compromises to be made and consensus sought across different sectors.

HEALTH EQUITY

Moving away from a food economy that prioritises low cost to one prioritising the quality of food produced and sustainable production processes may initially impact low socio-economic groups. It is therefore important to ensure the transition occurs through carefully sequenced steps that take into account such impacts.

How this supports behaviour change

CAPABILITIES (having the psychological and physical skills to do something)

This policy improves knowledge and availability of information on what are healthy and sustainable food products. In doing so, it enhances consumers' capabilities for identifying the better performing products.

MOTIVATION

The increased availability of healthier and environmentally friendly products coupled with reduced prices (i.e. financial benefits) serves as a strong motivation for public and private actors, and for citizens to engage with this intervention.

OPPORTUNITY (having the social or physical possibility to do something)

A comprehensive policy to change both how and what kind of food is produced across the EU and will provide citizens with more opportunities to eat healthy and sustainably produced food.

Inspiration

A CAP for Healthy Living Mainstreaming Health into the EU Common Agricultural Policy (2016) paper by the European Public Health Alliance (EPHA) on recommendations for ways to enhance coherence between the CAP and public health. (https://ec.europa.eu/agriculture/sites/agriculture/files/future-of-cap/foc-fb-ha_en.pdf)

EC Communication: The Future of Food and Farming (2017) a communication by the European Commission outlining the ways to ensure that the CAP remains future-proof. (https://ec.europa.eu/agriculture/sites/agriculture/files/future-of-cap/future_of_food_and_farming_communication_en.pdf)

A Food Policy for Europe is an article lining up arguments for a 'Common Food Policy' for Europe. (www.greeneuropeanjournal.eu/a-food-policy-for-europe)

Chapter 4

BRINGING THE IDENTIFIED POLICY INTERVENTIONS TO IMPLEMENTATION

European societies will most probably need to fundamentally transform their systems of production, transport and consumption if the European Union is to achieve its 2050 vision of 'living well, within the limits of our planet'.[20] The need for tailored top-down and bottom-up policy interventions to transition towards more sustainable, equitable and healthier societies is as urgent as the need to understand how the proposed changes could fit in today's societies and the impact they may have on social norms.

The initiation, selection and implementation of policy interventions - as exemplified by practice - are often driven by an array of interconnected socio-economic, political and cultural factors, processes and interests expressed and driven by related operating actors (e.g. ideologies may shape the selection of policy instruments; institutions may have preferences for instruments over which they have control and are familiar with; powerful interest groups may try to exert influence on the way a certain policy instrument is used; or a policy instrument may be chosen because it is *"en vogue"* etc.). Accordingly, for the practical implementation of the interventions included in this report, we have deliberated on issues of this nature that could potentially influence the implementation process. More specifically, we have looked at challenges, and key stakeholders significant for bringing the identified 20 policy interventions to implementation at local, national and European level. Furthermore, when looking at the implementation phase we also consider how the policy interventions´ goals contribute towards the 17 Sustainable Development Goals (SDGs) and relative targets. While the SDGs represent a global framework, their achievement will depend on our ability to implement them in our countries and cities. Thus, the achievement of the SDGs depends, more than ever, on the ability of national and local governments to promote integrated, inclusive and sustainable territorial development.[21]

Challenges, opportunities, key stakeholders and contribution to the achievement of the SDGs

General Level Policies

The policy interventions included in this area are representative of high-level overarching actions and strategies that aim to effectively spread information and knowledge to the general public as well as to modify existing frameworks acting on the proximal pathway (local environments) as well as the distal pathway (involving changes to global ecosystems)[22] to reduce unsustainable and unhealthy behaviours. Therefore, the key challenge is represented by people´s behaviours and attitudes: for example, short car journeys are often defended on the grounds of time and convenience.[23] It is deceptive that changing this collective and individualist shaped system is hard and calls for tailored top-down policies to influence the drivers of behaviours and lifestyles, that affect health and well-being and equity and further drive bottom-up initiatives. Integrated and systemic perspective, and a multi-stakeholder approach consequently need to be embedded in the design and implementation of these policy interventions. In terms of sustainable development, these policy interventions specifically contribute to the realisation of the SDG4 (targets: 4.3; 4.4; 4.7; 4.a); SDG8 (targets 8.3; 8.5); SDG12 (targets: 12.7; 12.8; 12.c); SDG16 (targets: 16.6; 16.7; 16.10); and SDG17 (targets: 17.14, 17.16; 17.17):[24]

Green Spaces Policies

Identified among possible concrete policy instruments in this area are environmental/spatial planning, provision of service, financial incentives, and communication campaigns. When looking at the implementation phase, the key challenges are represented by the pressing urban problem of decreasing spaces, increasing economic value of land (i.e. a landowner profits more from built land) and costs related to maintenance of green spaces (i.e. financial resources are often limited in times of economic crisis at the level of local municipalities) in European cities. These issues require a mix of policy instruments to revise current framework conditions; overcome existing logistic and socio-economic barriers; and strengthen public-private partnerships in order to foster the effective inclusion and engagement of local stakeholders (e.g. private companies, land owners, citizens associations). Policies in this area have to promote broad-based ownership, commitment and accountability in the planning, designing and implementation phases resulting in concrete benefits for citizens. Furthermore, this array of policy interventions actively contributes to the achievement of some of the targets included in SDG3 (targets:3.4; 3.6; 3.9); SDG11 (targets: 11.3; 11.4; 11.6; 11.7; and 11.a); and SDG10 (targets: 10.3) at the local, regional and national level:

Energy Efficient Housing Policies

There are two main drivers of household energy consumption: 1) increasing number of dwellings;[25] and 2) greater comfort and convenience, meaning homes are getting larger and contain more household appliances.[26] The identified policy interventions in this area address both challenges as they do not only advocate for the uptake of energy efficient solutions, like smart meters, decentralised renewable energy productions, but they also directly address performance by fostering the scaling up of knowledge and awareness about adequate sustainable energy consumption behaviours. The main implementation challenge here is represented by consumption behaviours. Energy consumption behaviours are habitual and often performed automatically (autonomous motivation), as turning the light off when leaving a room or switching off appliances when not in use.[27] Thus, though many people report concerns about climate change and understand the importance of saving energy, this does not seem to translate, reliably, into practical steps to reduce household energy consumption.[28] Indeed, very few people seem willing to drastically change their energy consumption behaviour in line with their ecological values.[29] Furthermore, motivation to change can often be low because people do not clearly experience themselves and understand the environmental consequences of their energy consumption. Therefore, these policies in order to be effective will have to be supported by grounded knowledge on behaviours and lifestyles of residents and what influences them, produced through the direct involvement and collaboration with universities, research institutes, service providers and consumers associations. This holds true whether the intervention focuses energy efficiency retrofitting, promoting energy saving like or both of them. When looking at the contribution to the SGDs, these policies are of particular relevance for some of the targets included in the SDG7 (targets: 7.1; 7.2; 7.a); SDG11 (targets 11.1; 11.6); and SDG12 (targets: 12.2; and 12.8):

Active Mobility Policies

The pattern of urban development over the past century has created a physical and social environment where dependence on car use has become the norm for accessing essential goods and services, as well as recreational opportunities.[30] Urban sprawl and urban planning have often favoured shopping facilities in the urban periphery which in turn have stimulated people to use their cars instead of other more sustainable modes of transport. In urban centres, this naturally translates into higher density of car traffic. This exacerbates the health and environmental concerns particularly, reducing active mobility while increasing the risk of respiratory diseases, obesity, and deaths due to car accidents among others as well as greenhouse gas emissions.[31] The policy interventions identified for this area are thus characterized by a mixed method which enable to address health and environmental concerns. For example, they advocate for the reduction of private car use through financial disincentives, while encourage active mobility (cycling/walking) through economic incentives and personalised services/products. Although, they already address key health and environmental challenges in order to be effectively implemented, these policies will have to directly act on the behavioural change challenges. Travel behaviour is not simply determined by price and convenience, but it is also a result of attitudes, social status and individual preferences conditioned by specific lifestyles.[32] National and local policies on Active Mobility will have to be complemented by mobility data analysis of neighbourhoods and/or city districts to assess ex-ante the effectiveness of tailored Active Mobility modes as well as to optimise their usage ex-post once in place. This calls for multi-stakeholder partnerships as well as for a combination of down-stream strategies (e.g. teaching self-regulation skills) with up-stream measures (e.g. changing urban transport infrastructure).[33] Contribution to the achievement of the SDGs in this area focuses in particular on the SDG3 (targets: 3.4; 3.6; and 3.9); SDG9 (targets: 9.1; 9.b); and SDG11 (targets: 11.2; 11.3; 11.6):

Consumption Policies

Agricultural intensification, globalisation of our food systems, population growth and urbanisation have altered food production and consumption in ways that negatively affect our health and our planet.[34] In addition, current consumption patterns are accompanied by high rates of food waste.[35] The policy interventions suggested in this area also account for health and environmental challenges and promote the adoption of healthier diets, the production of more sustainable food, and the significant reduction of food waste at household level. However, given the power and dominance of the European industry, national and local governments currently tend to restrict themselves to play only a marginal role and to use non-interventionist measures. They typically stay away from implementing strict national food policies that incorporate health and sustainability aspects. This translates into implementation challenges that could only be addressed through active cooperation between European countries, national governments, businesses and the whole society pleading for integrated food policies including safety, health and sustainability angles and facilitating the uptake of bottom-up initiatives from citizens and individual private actors. To conclude, the implementation of the suggested policy interventions will contribute to the achievement of SDG2 (targets: 2.1; 2.4) and SGD12 (targets:12.2; 12.3; 12.5; 12.8; and 12.a):

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Throughout the years our societies have engaged in production and consumption patterns that have proven to be harmful for our society and the environment and ultimately human health and well-being. Widely recognised as a global challenge, resolving the issue of unsustainable development calls for significant and systemic changes in our day to day behaviours, overall lifestyles and the contextual infrastructure shaping these.

INHERIT, a project funded under the EU Horizon 2020 research programme, aims at identifying and promoting effective inter-sectoral policies, interventions and innovations that enable and encourage the uptake of sustainable, healthier and more equitable living practices.