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Forward-looking reflection on the future of EU environmental policy and the 2050 sustainability transition

A participatory exercise for DG Environment

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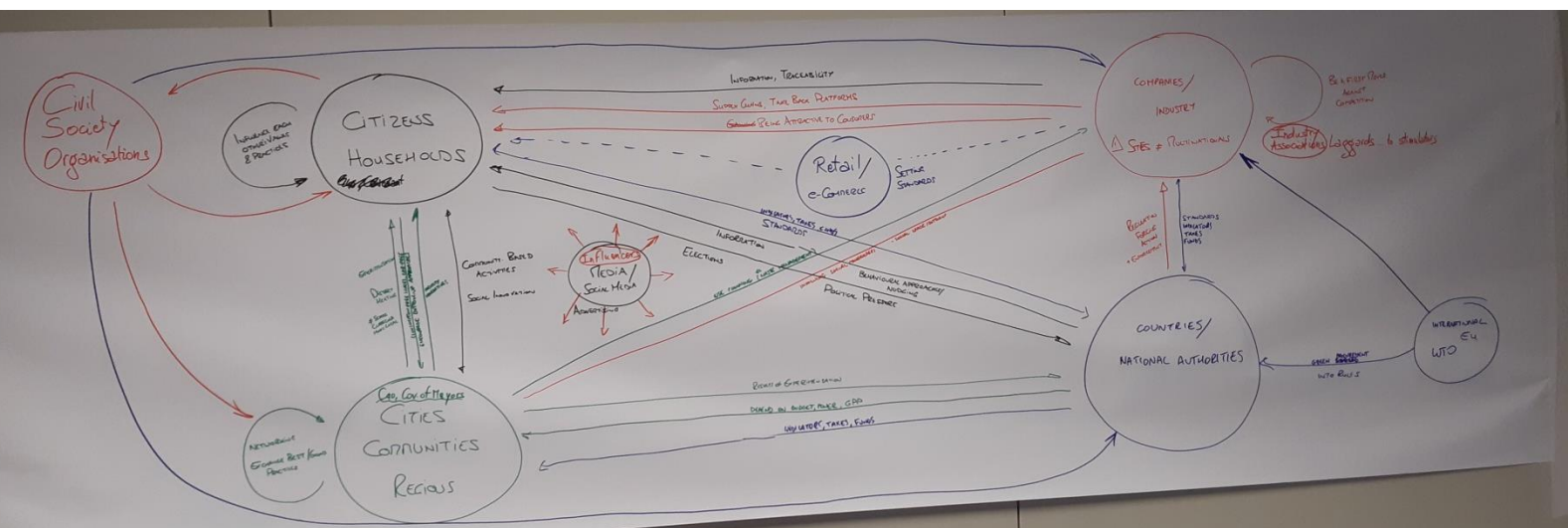
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Executive summary

The ultimate goal of EU environmental policies is spelled out in the title and vision of EU's 7th Environment Action Programme (EAP): **'Living well, within the limits of our planet'**. The Commission considers that this vision continues to be valid and fully in line with the UN Agenda 2030. However, in spite of the EU's ambitious policy action the achievement of the 7th EAP vision is greatly challenged. All indicators show that the Earth is facing an unprecedented ecological crisis and that many planetary boundaries have already been crossed: the economic and societal development witnessed over the past century has also caused unprecedented environmental degradation.

In this context, three services of the European Commission (The Directorate General for the Environment - DG ENV, the Directorate General Joint Research Centre – JRC and the Directorate General for Research and Innovation - DG RTD) and the European Environment Agency joined their efforts to run an inclusive and participatory forward-looking process to support the reflection on the future of EU environmental policies. This process focussed on three priority themes:

- 1. Consumption and lifestyles**
- 2. Sustainable food systems**
- 3. Future of industry**

These three themes were addressed in a foresight approach through three dedicated one-day workshops and generated a number of common conclusions:

- The need for a politically agreed 2050 vision.
- The need to adopt a systems approach to policy making
- The realisation of the important role of citizens
- The need to help businesses adopt truly sustainable business models
- The importance of ensuring transparency and traceability of products throughout their life cycle
- The need to take an integrated approach to the environmental challenges industry is facing
- The need for an integrated policy covering food safety, security and sustainability to ensure the sustainability of the EU food system.
- The realisation that EU sustainability and global sustainability go hand in hand

The insights gained through this foresight exercise are intended for use by DG ENV when refining the European Commission's vision for a future EU environment strategy and EU sustainability strategy. They will be shared with other Commission services and stakeholders in the preparation of the European Green Deal announced by the President-elect Ursula von der Leyen in her political guidelines for the next European Commission 2019-2024. These guidelines already mention several of the topics discussed during this foresight exercise.

1. Context and objectives

The ultimate goal of EU environmental policies is spelled out in the title and vision of EU's 7th Environment Action Programme (EAP): **'Living well, within the limits of our planet'**.



"In 2050, we live well, within the planet's ecological limits. Our prosperity and healthy environment stem from an innovative, circular economy where nothing is wasted and where natural resources are managed sustainably, and biodiversity is protected, valued and restored in ways that enhance our society's resilience. Our low-carbon growth has long been decoupled from resource use, setting the pace for a safe and sustainable global society."

The Commission's evaluation of the 7th EAP¹ concluded that this vision continues to be valid and is fully in line with the UN Agenda 2030. Despite the EU's ambitious legislation to protect its citizens and the environment and its action to promote these goals globally, **the achievement of the 7th EAP vision is greatly challenged**. All indicators show that the Earth is facing an unprecedented ecological crisis and that many planetary boundaries have already been crossed (EEA, 2015; Steffen et al., 2015, Sala et al., 2019). We now know that the economic and societal development witnessed over the past century - that has allowed a large part of the human population to reach high living standards and well-being - has also caused unprecedented environmental degradation.

Achieving the 7th EAP vision would mean restoring the environmental pillar of sustainability. This calls for **future EU environmental strategies that accelerate the transition towards environmental sustainability**, thereby also delivering on the full implementation of the UN 2030 Agenda for Sustainable Development. Due to the entangled nature of the three pillars of sustainability (social, economic and environmental), transitioning towards sustainability cannot be achieved without a strong policy coherence and integration across the three pillars. The profoundness of change that this transition requires means that this cannot be achieved within usual planning timeframes. **It requires policy making to take a long-term outlook**. While the future cannot be predicted, it can be explored by applying the methods of foresight and it can be shaped through the actions that we are taking today. Foresight² explores long-term alternative futures through qualitative, inclusive and participatory approaches, making an effort to engage all relevant stakeholders and all relevant sources of knowledge. The European Commission's Better Regulation Guidelines have synthesised the benefits of foresight for policy (see Annex 2).

In the context of the Environment Knowledge Community³, Director Generals have acknowledged that *'sustainability transitions will demand **participative and transdisciplinary processes to co-produce forward-looking information**, also by shifting knowledge development away from a focus on environmental problems towards how society can respond'*⁴. On that basis, they agreed that: *'The EKC will bring its expertise on foresight and forward looking thinking to **support the reflections on the post-7th EAP environmental policy framework**, in particular in view of the European Green Deal announced by the next Commission, with a view to strongly integrate the environment across policies. Therefore, the EKC will **initiate a participatory strategic foresight process**, which will involve different EU services and external experts when appropriate.'*

Therefore, **DG ENV** (A.3 and F.1), **the Joint Research Centre** (EU Policy Lab), the **European Environment Agency** (IAS.1), and **DG RTD** (A.1) joined their efforts to design and implement a participatory, forward-looking process that supports the internal reflection of DG Environment on the future of environmental

¹ COM (2019) 233 final.

² <http://www.foresight-platform.eu/community/forlearn/>

³ The Environment Knowledge Community (EKC) is an informal platform of six EU actors (DG ENV, DG CLIMA, DG RTD, the Joint Research Centre, Eurostat and the European Environment Agency) that was set up in 2015 with the objective of improving the generation and sharing of environmental knowledge for EU policies.

⁴ Minutes of EKC Directors-General Meeting on 20 April 2018

policies. The main objective was to facilitate participatory discussions in the Commission and with key stakeholders on the fundamental role of the environment for EU policies, the economy and society, to explore the boundaries of EU's environment policy tools and to identify new forms of environmental policies beyond traditional silos. The goal of this report is to share the process that was applied and summarize the outcomes of the rich discussions that have taken place throughout this process.

2. Methodology and process

2.1. Themes

A series of interactions within DG ENV led to the identification of three themes that should be addressed in priority to feed the reflection for the future of EU environmental policy:

- 1. Consumption and lifestyles**
- 2. Sustainable food systems**
- 3. Future of industry**

The main reasons for their selection was the need from DG ENV to benefit from external knowledge and perspectives on these issues and to connect more strongly with other Commission services and stakeholders, in view of strengthening the coherence of future environmental strategies with other EU policy interventions.

2.2. A forward looking approach

It was also agreed that these three themes would be addressed in a foresight approach through three dedicated one-day workshops. These requests from DG ENV led to the development of the following process organised around three coordinated but self-standing one-day foresight workshops (rather than a continuous and more ambitious foresight process).

2.3. An inclusive and participatory process

The process applied in the workshops was designed by the foresight experts from the JRC (Laurent Bontoux) and the EEA (Vincent Viaud). The three workshops followed a common three-step core process: (i) Vision building, (ii) Actors' roles and challenges and (iii) Governance and EU policy. For each workshop this core process was adapted to the specific characteristics of each theme and set of stakeholders to maximise the usefulness of the outcomes. The following sections report on the outcomes of each of the sessions. For each workshop, a carefully selected set of 30-35 experts (from civil society organisations, industry, academia and public organisations as well as from the European Commission) was invited. Some participants were involved in all the workshops to ensure continuity and coherence. The Chatham House rule applied⁵.

⁵ When a meeting, or part thereof, is held under the Chatham House Rule, participants are free to use the information received, but neither the identity nor the affiliation of the speaker(s), nor that of any other participant, may be revealed.



Figure 1. Process and timeline

The second workshop applied a similar methodological approach to that used in the first workshop, with a stronger focus on exploring the role of actors in the transition towards sustainable food systems and how the EU could support them.

In the third workshop, a series of presentations and interventions from DG ENV and DG GROW reminded to the participants the key dimensions of the EU sustainability vision (as expressed by the 7th EAP 2050 vision, the UN Sustainable Development Goals and the Paris agreement) as well as on-going developments around the Industry Vision 2030 (cf. [High-Level Industrial Roundtable Industry 2030](#)⁶). A strong focus of the workshop was therefore on checking the coherence and consistency between the two visions, and identifying key issues for policy concern to foster an industrial transition towards sustainability in the EU.

Where many suggestions were made and there was a need for prioritisation, voting sessions were organised as this provides a fast, efficient and transparent way to get group consensus.

Overall, the three workshops ran very smoothly with a high level of constructive engagement of the participants. For a large part of each workshop, the participants worked in sub-groups to be able to collect insights from the perspectives of the various stakeholders groups (citizens, industry, policy makers) and governance levels (citizens, cities, countries, EU).

⁶ https://ec.europa.eu/growth/industry/policy/industry-2030_en

3. Key overall insights

Despite the choice of three different themes, each discussed in detail in separate settings and with mostly different participants, it is striking that the three workshops reached many common conclusions, be it in relation to the 2050 vision, to the opportunities and challenges for the different actors involved, or to the EU policy measures which could support a broader sustainability transition. The following key insights provide precious guidance for future EU environment and sustainability strategies:

- **Politically agreed 2050 vision:** A shared understanding of what is sustainable, both in general and for specific sectors (e.g. food, industry, trade) would provide strategic guidance and long-term goals. It would help formulate policy options and address trade-offs in a transparent manner. The EU would benefit from starting a co-creation process involving stakeholders and citizens to further refine the 7th EAP 2050 vision and apply it to different sectors or policies.
- **Systems approach and policy coherence:** Increasing recognition of the need to live within the limits of the planet means that our consumption patterns, our food system and our industry need to be adapted profoundly in a timely manner to avoid major disruption. However, these three issues are closely connected to each other and to many other social, environmental and economic systems. As a consequence, any strategy to manage such an adaptation needs to take a systemic perspective and to ensure coherence across numerous policy domains to stand any chance of success. This transition will deeply change how society operates and will require approaches integrating all three dimensions of sustainability throughout the entire policy cycle.
- **The role of citizens:** citizens, in their roles as consumers, social actors and voters, are important drivers of sustainability transitions and provide important support to sustainability-oriented leaders. However, they face a number of challenges because considerable physical, behavioural, societal and cultural lock-ins stand in the way of systemic change. Also, informed purchase decisions are dependent on appropriate information regarding the life cycle of products, which industry is often incapable or reluctant to provide. To empower consumers, user-friendly solutions are key (cf. information overkill, label fatigue).
- **Help businesses adopt truly sustainable business models:** Businesses will have to adopt truly sustainable business models, going beyond minimal Corporate Social Responsibility and current business sustainability standards, to manage their supply chains upstream and downstream in ways that reduce the environmental impacts of their products, services and operation, including production processes. Strong economic incentives (e.g. carbon pricing, environmental taxation, subsidies, etc.) will help address the concrete challenges faced by operators in the transition.
- **Transparency and traceability of products throughout their life cycle, including imported products:** All three workshops underlined the need for coherent and user-friendly metrics on environmental performance to measure progress towards agreed sustainability goals, empower consumers to make informed choices, test and evaluate business models or set up economic incentives.
- **We need an integrated approach to the environmental challenges industry is facing:** The transition will be strongly driven by the decarbonisation agenda. Industry faces major challenges to handle this transition. It is likely to require or cause disruptive change and require deployment of new types of industrial processes and practices rather than incremental improvement of existing ones. The level of investment needed will be very high and it is essential that the EU steers the transition to the pathways maximising synergies whilst minimising trade-offs between environmental policies.
- **The sustainability of the EU food system requires an integrated policy** covering food safety, security and sustainability, also looking into trade. Financial and behavioural incentives, including

standardised tools to visualise and track the environmental and health impacts of diets, would empower consumers who still lack information and access to sustainable and healthy choices. Primary producers already face many risks and need more support to adopt regenerative agricultural production (capacity building, networks for innovation, alternative business models, digitalisation, and public procurement). Standardised tools to measure product sustainability would also help shift the business models of retailers and food companies, completed by rules on transparency and accounting (cf. standards which integrate natural capital). Cities and local authorities are best placed for experimenting with community-based solutions (e.g. food waste, new practices, capacity building, networking) and can also contribute to support vulnerable groups more effectively (e.g. knowledge of 'food deserts' in urban areas).

- **EU sustainability and global sustainability go hand in hand:** World economies are intertwined and the EU economy is particularly open, resulting in a large amount of EU's environmental impacts being located outside the EU and embedded into imported materials, products and services. Whilst the EU is in many areas a frontrunner in eco-innovation, the implementation of the most advanced approaches and standards in the EU is not always economically viable in such an open economy. To enable innovative sustainable solutions to be used in the EU and globally, the EU should work towards the adoption of global standards, e.g. in the area of products (eco-design) or industrial processes (pollution benchmarking based on Best Available Techniques - BAT, greenhouse gas benchmarking). Where such global standards cannot be established, border compensation systems would be needed to give a chance for sustainable solutions to be adopted within the EU (e.g. labelling, border carbon tax).

4. General perspectives on refining the 2050 vision of the 7th Environmental Action Programme

Future EU environmental programmes or strategies are likely to keep the broad 7th EAP 2050 vision presented above to provide overall directionality. However, translating this vision into actionable objectives would require developing and refining its content. This is for example what the German Ministry of Environment has done in its Integrated Environmental Programme 2030, where the vision of 'living well in 2050' has been developed through a three page text (see Annex 3).

To follow such an approach, a broad stakeholder engagement process would be recommended (e.g. EU-wide public consultation). However, to prepare the ground, participants of the present process were asked to identify areas where this vision should be developed in relation to the thematic perspectives of the three workshops, i.e. consumption and lifestyles, sustainable food systems, and industrial transitions. They were also asked to have in mind the United Nations' Sustainable Development Goals (SDGs), considered as a 2030 milestone towards the 2050 vision.



Overall, participants pointed out the need to take a broader sustainability perspective than the existing 7th EAP 2050 vision, i.e. including the non-environmental pillars of sustainability, and ensuring coherence with visions used in other EU policy domains (e.g. industry, agriculture) or recognised internationally (e.g. the SDGs). They identified the following dimensions to be developed under a refined 2050 vision for the EU:

- Remind that peace and security are preconditions for such sustainability vision (*'turbulent times ahead'*)
- Bring the well-being of citizens at the core of the vision, in particular with a stronger focus on the environment and health dimension
- Make fairness and justice key principles of the vision
- Integrate different time horizons, in particular a shorter time horizon to mobilise actors, and the 2030 time horizon to place the SDGs as milestones towards the 2050 vision
- Develop the political dimension (*'accept that there will be losers with sustainability transitions', 'how do we deal with trade-offs between regions/sectors?'*)
- Link to global megatrends, including controversial issues such as global population growth
- Make clear that we co-evolve with our environment, we do not just use it (*'we should live in balance with natural systems', 'recognising our interdependence with Nature'*)
- Make clear that lifestyles will need to change (*'living well with less, not just more from less'*) while their diversity should be preserved
- Make clear that social and environmental impacts of EU consumption outside EU borders should be minimised (*'our consumption in the EU should allow all other countries to the same'*)

As regards the transition pathways, participants also identified a few key principles and lines of interventions for the EU which should be reflected in a refined text of the 2050 vision:

- Be people-centred, transparent, inclusive, and responsible in the governance of transitions
- Think and act in a more systematic and systemic way (*'from economics to ecosystems science', 'complexity as the new normal'*)
- Invest in youth (*'they are the real leaders of transformations, not politicians!'*), in particular through high quality education

- Engage directly with citizens (e.g. knowledge co-production, experimentation)
- Identify, support and reward sustainability leaders and innovators (e.g. *'reward actors who make tough decisions to move towards sustainable lifestyles'*; *'Change will come from a small coalition of the willing'*)
- Discourage unsustainable practices (e.g. planned obsolescence) through regulation and provide the right signals to make the market support sustainability (e.g. ecological tax reform, environmental cost in pricing)
- Establish high standards and labels for sustainability promoted at global level
- Ensure traceability and transparency across all supply and value chains to allow all decision-makers to make real sustainable choices
- Do research to identify the drivers of change in consumption behaviour (e.g. behavioural change activation models)
- Change 'consumption infrastructure' (*'the sustainable option must be the most attractive one'*, *'the burden should not be on consumers'*, *'the sustainable choice should be the default choice'*)
- Support financially and logistically local and social innovation and foster networking and upscaling
- Push markets to lead by example, and not just as a support
- Get the best out of technology, always orienting it towards societal outcomes (*'socially-oriented technology'*, *'accessible technologies to all'*, *'zero-carbon technologies'*)
- Decouple well-being from Gross Domestic Product (GDP) (*'shift from a measurement of growth to a measurement of well-being'*)

5. Insights from the workshop on consumption and lifestyles

5.1 Presentation of the theme

There are several reasons for discussing the future of EU environmental policy around the transition towards sustainable consumption and lifestyles.

First, final consumption is at the core of most sustainability challenges. Indeed, EU household consumption is responsible for more than 60 % of environmental impacts. As often communicated in the media, if everyone on the planet consumed as Europeans do, we would need almost three planets Earth. Some consumption areas (food, mobility, housing, consumer goods) have more environmental impacts across their life cycle than others, illustrating the importance of considering consumption patterns. The share of Europe's final demand footprint exerted outside Europe is also very important: 60% for land use and water consumption, 45% for material use, and 30-35% of global warming potential and energy use (EEA, 2015).

Second, the environmental impacts of consumption and the role of consumers in sustainability transitions are increasingly recognised. The 7th EAP set the objectives to reduce by 2020 *'the overall impact of production and consumption [through] structural changes in [...] consumption patterns and lifestyles'* and *'the impact of consumption in the Union on the environment beyond the Union's borders'* (EU, 2013). Regarding the 2030 Agenda for Sustainable Development, SDG 12 is dedicated to 'ensure sustainable consumption and production patterns' (UN, 2015). More recently, the EC communication 'A Clean Planet for All' stressed that *'consumers have a powerful role to play in driving the transformation forward'* and that *'personal lifestyle choices can make a real difference'* (EC, 2018). Similarly, the EC reflection paper 'Towards a sustainable Europe by 2030' recognised that *'our culture of consumption has resulted in excessive resource extraction and growing pressures on natural capital and climate'*, that *'we have to consider how to evolve our consumption and production patterns'*, which *'should not contribute indirectly to [...] environmental degradation elsewhere in the world'* (EC, 2019).

Third, it is increasingly recognised that current EU interventions based on 'traditional' environmental policy instruments such as ecolabels, green public procurement, EMAS, etc. remain *'limited in scope'* and that *'there is a need for a framework that gives appropriate signals to producers and consumers to promote resource efficiency and the circular economy'* (EU, 2013). New kinds of instruments, and even new forms of environmental policies beyond traditional siloes need to be used.

5.2 The process in a nutshell

As an icebreaker, participants were asked to identify the easiest thing *they* could do at individual level to decrease their material or energy consumption by 20 %. Most answers revolved around behavioural changes as regards mobility, food and energy consumption. Regarding mobility, the main points were about reducing plane travel and using more public transport. Regarding food, the main suggestions concerned reducing meat (especially red meat) consumption, moving towards more in season plant based diets, reducing food waste and eating less food products imported from afar. Regarding household energy consumption, the main efforts were around better insulation of buildings, using renewable energy sources and adopting energy saving behaviours (e.g. wearing one more clothing layer in winter, etc.).

Participants were then tasked with the refinement of the 7th EAP 2050 vision in relation to consumption aspects, having also in mind a broader sustainability perspective as expressed in the SDGs framework (see Section 4). Group discussions followed to explore the role of different groups of EU actors, and the challenges they face, when pursuing this collective vision. A World Café session allowed participants to focus on four groups of actors: 1. Citizens and households; 2. Companies and industry; 3. Cities, communities and regions, and 4. Countries. Participants were also asked to identify where groups of actors depend on others, which allowed visualising cross-interactions and illustrating the systemic nature of the challenges (see Figure 2). A

last breakout session focused on the role of the EU to facilitate the shift towards sustainable consumption for the different groups of actors. The key insights from the discussions are summed up below for each category of actors.

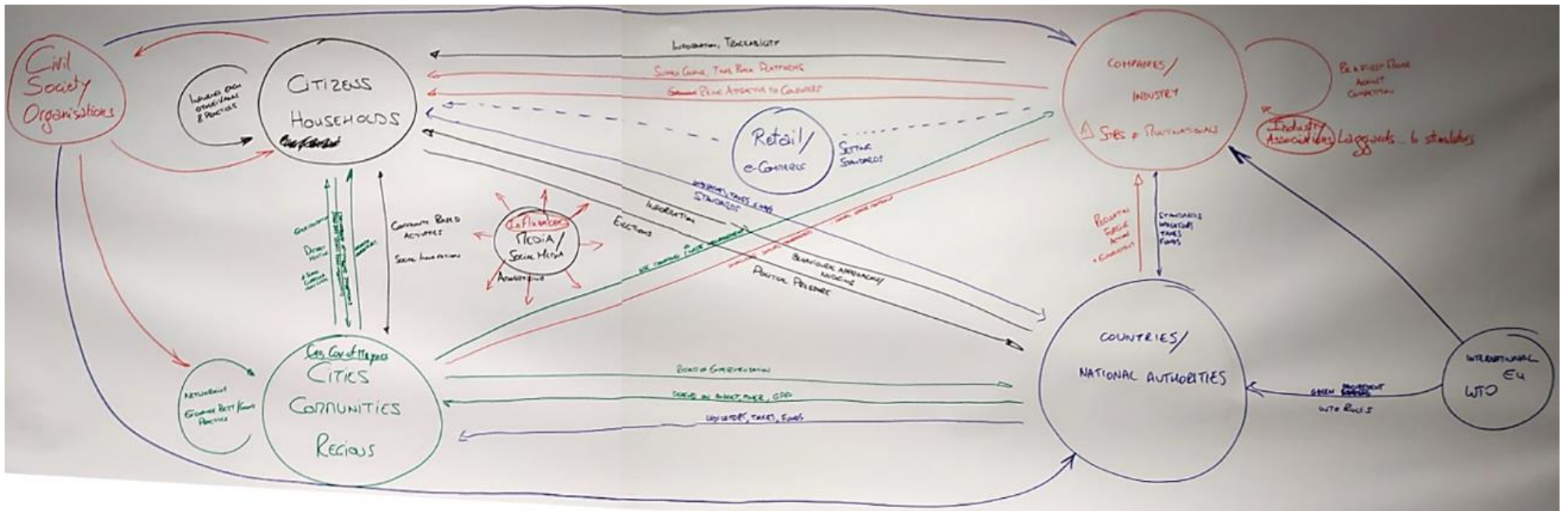


Figure 2: Interactions among groups of actors and illustration of the systemic nature of the challenges around consumption and lifestyles as identified by the participants

5.3 Insights from group discussions related to ‘citizens/households’

At individual level, Europeans can act on various levers to shift towards sustainable consumption.

- As consumers, they have opportunities to change both their consumption levels and patterns (consumption intensity). Current food waste and material/energy consumption levels suggest important margins to reduce consumption levels without impacting well-being. They can also buy more sustainable products and consume more locally, in particular to reduce indirect energy consumption.
- As citizens, they can support sustainability-oriented leaders through their votes, ask for more sustainable infrastructure and policies through demonstrations, and reward sustainable innovators through the allocation of their investments or savings. The latter can help developing niches into mainstream markets, leading to increased price attractiveness of green products and phasing out of unsustainable ones.
- They can also lead the change more directly by engaging in sharing/reuse/repair schemes and community-based initiatives that foster sustainable transport locally or stronger urban-rural linkages for quality food supply.
- They can question and change their own value systems towards sufficiency - ‘living better with less’, continuously educate themselves and share experiences through online platforms, and inspire or motivate others (families, friends, colleagues) to shift towards sustainable lifestyles.

However, citizens face a number of challenges to move towards sustainable consumption because considerable physical, behavioural, societal and cultural lock-ins prevent systemic change. Participants mentioned during their discussions:

- Difficulty for individuals to translate their preferences into purchase decisions (cf. *‘75 % of people are willing to buy more sustainable products but only 20-25 % do it’*) due to behavioural habits (e.g. routine purchases), cultural lock-ins (e.g. ownership preferred, cynicism on alternative approaches) or more simply the lack of attractiveness of green products (not only prices).
- Lack of appropriate information that actually impacts purchase decisions (cf. *‘ecolabels do not work that well, though green cosmetics do better: why?’*).
- Difficulty for consumers to share knowledge and experiences due to acceleration of daily lives
- Incapacity or reluctance of industry to provide clear information regarding the life cycle of products (e.g. energy use, resource consumption, social and environmental conditions of production).
- Inadequacy of the mainstream production model, e.g. programmed obsolescence, product design discouraging repair or reuse, issues of guarantees and liability, etc.
- Lack of knowledge and skills to engage in new sustainability initiatives, especially when empowered by digital technologies.

Individuals cannot tackle these challenges alone, and require not only support from public authorities at different scales of governance, but also stronger commitments from businesses and industry to propose sustainable alternatives. Participants mentioned:

- Stronger awareness raising on sustainability in primary schools to foster a cultural shift in young generations, including through concrete initiatives such as sustainable food provision schemes funded by local authorities
- Stronger regulation and standards related to the transparency and traceability of products throughout their life cycle, including imported products
- Public financial and capacity support to start-ups provisioning key social and environmental information on products through apps
- Public support to the creation of *‘consumption- and advertising-free spaces’* in urban grey areas
- Provision of accessible and attractive life-long educational opportunities on sustainability by both public and private actors

- Strengthening economic incentives (e.g. carbon pricing, environmental taxation, subsidies, etc.) to reward sustainable behaviours and fine unsustainable ones
- Public support to local spaces for community-based initiatives, repair infrastructures, and take-back platforms

At EU level, policy-makers can:

- Support the mainstreaming of eco-design approaches, extending them beyond energy products
- Support more strongly social innovation and sustainable business models developed in the EU
- Strengthen extended producer responsibility through regulation (e.g. textile, buildings, refurbishment)
- Propose an harmonised approach on environmental taxation across the EU
- Fund behavioural research on sustainability through Horizon Europe and other funds
- Engage more directly with stakeholders on sustainable consumption and production through multi-stakeholder platforms

5.4 Insights from group discussions related to ‘companies/industry’

Participants highlighted the following roles and responsibilities for the business/industry sector in view of contributing to a societal transition towards sustainable consumption:

- Be transparent to their customers, in particular by ensuring the full traceability of the materials/components they use and the products they sell
- Manage their supply chains downstream in ways that reduce the environmental impacts of the production processes they rely on (e.g. raw material extraction, intermediary products)
- Improve the energy and material efficiency of industrial and manufacturing processes in line with climate-neutrality and circularity objectives
- Adopt truly sustainable business models, going beyond minimal Corporate Social Responsibility and current business sustainability standards
- Adopt bold measures in design and production processes such as eliminating planned obsolescence, stopping the use of toxic chemicals, reducing plastics use and shifting to circularity-by-design
- Engage staff to improve the sustainability profile of the company/industry, for example by involving employees in inclusive governance processes to design sustainability strategies, giving them financial incentives (e.g. fostering climate-neutral mobility), providing them with sustainable food at the workplace (and using sustainable procurement more generally) and training them
- Develop literacy on sustainability in the company/industry and throughout the supply chains, with a focus on a more systemic understanding of environmental impacts throughout the lifecycle of products
- Orient marketing to promote sustainable consumption and use of their products
- Invest for sustainability through research and development and bringing innovations to the market.
- Develop and use SMART (Specific, Measurable, Achievable, Relevant and Time-bound) targets for sustainability in the strategic plans of the company/industry

Participants stressed some of the concrete challenges faced by companies and industry:

- Huge dependence on the demand from shareholders of high short-term returns, preventing long-term transformative approaches towards sustainable operations
- Insufficient orientation of financial markets towards green investments for the long-term
- Vested interests fostering inertia
- Cultural lock-ins throughout the company/industry
- Lack of capacity, especially in SMEs
- Lack of leadership, with senior management profiles unfit for 21st century sustainability challenges

- Being a first mover is expensive, especially due to up-front investments needed for R&D and market preparation
- Navigating uncharted regulatory and legal territories, and often unfavourable trade terms

The EU has a role to play in addressing these challenges faced by the private sector:

- Develop clear and actionable definitions of key concepts related to sustainability (such as 'circularity', 'bio-based' but also sustainability itself) as well as taxonomies (as currently being developed under the sustainable finance initiative).
- Develop strong environmental standards, promote them at international level, and provide resources for certification and accreditation
- Develop harmonised guidelines for company reporting on sustainability
- Mainstream eco-design approaches and embed a life-cycle approach
- Regulate further on extended producer responsibility
- Regulate and enforce take-back schemes of products at the end of their life
- Provide financial support to front-runner initiatives and their experimentation
- Use systematically green public procurement
- Implement a carbon tax with compensation at the border

5.5 Insights from group discussions related to 'cities/communities/regions'

At the local scale of governance, cities and regions have an important and specific role to play to foster the societal transition towards sustainable consumption, in coordination with local communities acting as front runners:

- Raise awareness and information of their residents on environmental and sustainability issues through tangible and participative projects
- Engage residents and other stakeholders in open, inclusive and participative governance processes to operationalize the transition
- Support capacity-building in co-creation, experimentation and learning through 'living labs' and 'transition towns' approaches
- Invest in education where they have administrative powers (e.g. schools for cities, high schools for regions) through the training of educational staff, the orientation of curricula towards local sustainability initiatives, sustainable food procurement in schools, the links to local assets in both urban and rural areas
- Analyse and assess the effects of unsustainable consumption where they materialise locally
- Support local citizen initiatives and empower consumers
- Create social space to '*enjoy life away from consumption*' (e.g. provide more urban spaces for natural recreation, sport, social interactions, etc.)
- Create or extend car-free urban areas
- Apply sustainability principles in local public procurement (e.g. meals at schools, green infrastructure, green public buildings, etc.)
- Develop and apply nature-based solutions using local knowledge
- Build an identity narrative for cities based on sustainability (e.g. 'Fair Trade Cities')
- Facilitate the setting up of sustainable businesses and discourage unsustainable practices

However, some challenges are recurrent for local authorities to implement this:

- Insufficient decentralisation in terms of legal, administrative and financial powers. For instance, share of tax revenues are often decided at another level of governance
- Short-termism due to electoral cycles and lack of long-term sustainability strategy with targets, indicators and standards (apart from some capitals and large cities)

- Influence of local lobbies to preserve unsustainable vested interests in the name of preserving local jobs
- Weakness of political leadership in many small and mid-size cities
- Lack of investment budget in most cities
- Lack of capacities in administrative staff
- Lack of network facilities to share lessons between cities and regions across Europe
- Disagreements on local pathways to sustainability
- Distortion of competition threatening economic viability.

The EU can support their efforts through different interventions:

- Establish new funds or increase the financial volume of existing funds to support innovation, and experimentation at the local level as well as the sharing of experiences across cities and regions in Europe
- Activate the European Committee of the Regions on multiple fronts for transitions
- Develop sustainable consumption awards to raise awareness
- Support city-level international initiatives (e.g. C40, Covenant of Mayors)
- Accompany cities and regions in transition (e.g. "Coal regions in transition", food transition), in particular to ensure socially fair transitions across Europe.

5.6 Insights from group discussions related to 'countries'

At the national level, countries can play on a number of instruments and policies to foster a societal transition towards sustainable consumption:

- Design and implement an overarching national sustainability strategy supported by targets, indicators and standards for sustainable consumption.
- Design and implement a transformative green tax shift by increasing taxation of resources and pollution, decreasing taxes on labour, differentiating VAT based on sustainability and ensuring a greater fairness of the tax system
- Reorient public finance for sustainability transitions
- Be transparent in the allocation of public budget as regards sustainability criteria
- Use green public procurement systematically
- Provide compensation measures and reskilling schemes for sectors negatively impacted by the transition
- Promote life-cycle approaches in all possible domains of consumption
- Invest in awareness raising on sustainable consumption through information campaigns on TV and social media but also hands-on participatory initiatives across the country
- Support free public transport where it can strongly foster behavioural change

Participants highlighted the following challenges faced by countries:

- Strong resistance from incumbents and potential losers from sustainable consumption measures
- Conservatism and inertia
- Short-termism
- Lack of a powerful narrative on alternative sustainable futures
- Lack of meaningful and accepted indicators (esp. a GDP equivalent) to measure sustainability
- Existing legal frameworks and international trade rules (e.g. WTO rules are a major hurdle for green public procurement)
- Fake news and lack of accurate information
- Lack of experimentation and sharing of lessons learnt

- Lack of competence among the relevant authorities
- Lack of harmonised indicators at EU level
- Unequal implementation of EU legislation

The EU can support countries through the following interventions:

- Integrate sustainability challenges in the EU Semester process on an equal foot to economic challenges
- Set EU-level binding targets on environmental areas not yet covered (e.g. biodiversity, soil, etc.)
- Advise Member States on green tax policies
- Lead by example and inspire countries through EU public procurement
- Orient Structural and Cohesion Funds towards financing sustainable infrastructure, in particular for mobility
- Promote sustainable food production and reorient radically the allocation of the CAP and CFP for that purpose
- Strengthen the coordination of national activities in sustainability-related fields
- Work towards greening and harmonising tax rates across the EU (VAT, carbon tax, raw materials tax) and 'attack' subsidies perpetuating unsustainable practices
- Push to strengthen all existing national strategies related to sustainable consumption.
- Push for higher standards for labelling (food, finance, investments, etc.).

5.7 Insights on the role of the EU overall

The EU can also support all these actors through broader principles and lines of intervention:

- Create enabling conditions (e.g. legal, regulatory, administrative and financial) to support initiatives for sustainability at all levels of governance (individual, local, national, EU, global)
- Create a 'Green European Ombudsman' or enlarge the remits and powers of the existing one to sustainability matters
- Create and maintain publicly available and user friendly databases on sustainable consumption (e.g. on products, sectors)
- Truly integrate sustainability into all EU policies, in particular through an overarching SDGs strategy supported by monitoring and assessments
- Increase predictability of regulation through greater directionality and coherence over time
- Strengthen the weight of the EU on the global scene (e.g. one voice, maintain unity).
- Implement a "Sustainability REFIT"⁷ across EU policy areas and strengthen the sustainability component in impacts assessments, e.g. through life-cycle approaches and systems thinking.
- Extract more lessons from EU funded research and disseminate them across Europe
- Invest in education, training, information and innovation for sustainability
- Create smarter market incentives for sustainability
- Strengthen the links between science, policy and society, e.g. through Horizon Europe
- Implement open, transparent, inclusive governance processes to design EU policies

⁷ REFIT is part of the Commission's better regulation agenda. It makes sure that EU laws deliver their intended benefits for citizens, businesses and society while removing red tape and lowering costs. It also aims to make EU laws simpler and easier to understand. https://ec.europa.eu/info/law/law-making-process/evaluating-and-improving-existing-laws/refit-making-eu-law-simpler-and-less-costly_en

6. Insights from the workshop on sustainable food systems

6.1 Presentation of the theme and process in a nutshell

The workshop started with an ice-breaking exercise where participants were asked to identify the easiest thing they (individually) could do to reduce the environmental impact of their food consumption by 30% (Figure 3). Most participants identified actions they can take as consumers while a few stressed their role as citizens:

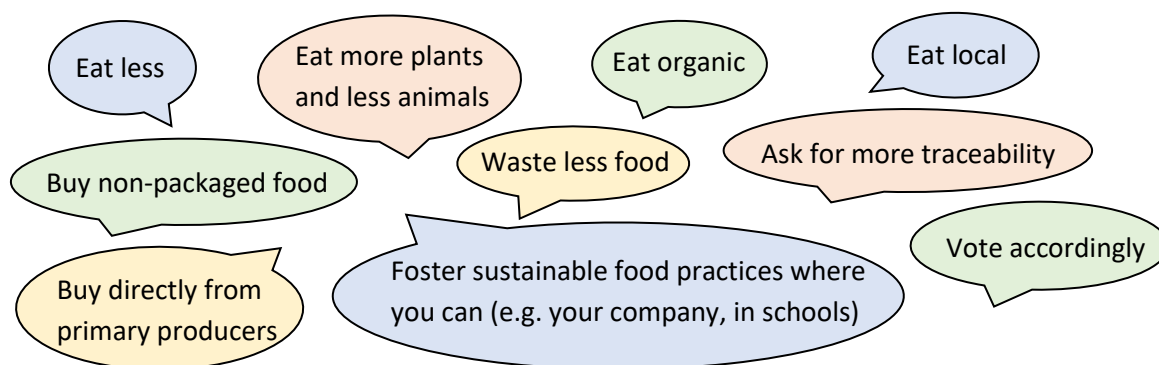


Figure 3: Ideas generated by the participants on how to reduce the environmental impact of their own food consumption by 30%

After an introductory presentation on food systems from Cathy Maguire based on the EEA report '[Food in a Green Light](#)' (EEA, 2017), participants were invited to provide feedback on the draft 7th EAP 2050 vision refined during the first workshop on the basis of a 'consumption and lifestyles' perspective (see Section 4).

The core of the workshop was then organised around a series of World Café rounds and breakout sessions to explore the role of different categories of actors – citizens/households; primary producers; food processing industry; distributors/retailers; and cities/communities/regions – to transition towards sustainable food systems, as well as the challenges they face and where they rely on others to move forward.

6.2 Insights from the group discussion on 'citizens/households'

The people who participated to this workshop highlighted similar roles for citizens/consumers than during the first workshop on sustainable consumption. They added however more specific considerations related to food. They highlighted the need for more day-to-day consumer activism to put the food industry and governments 'under pressure'. This includes for example using tap water and no longer buying bottled water, buying in bulk, asking for doggy bags in restaurants to reduce food waste, etc. Many consumers also have the possibility to connect more strongly with local food producers to buy their food and eventually help structure alternative food supply chains. They should organise themselves in communities or associations to do the above. People also have a role to play in influencing the organisations and companies where they work to obtain sustainable food and eliminate junk food. A part of the population living in rural areas or benefiting from a garden also has the possibility to grow their own food. Individuals should also actively increase their own awareness to make more conscious food choices and develop sustainable shopping habits.

Participants emphasised that consumers are still faced with problems of accessibility to sustainable and healthy food, either from a financial perspective (higher cost - real or perceived - of organic food) or in terms

of physical accessibility (e.g. in some urban areas, only junk or poor diet food can be available through hard discount supermarkets). They are also confronted to unclear or doubtful information as regards what is really sustainable. There are also strong cultural barriers and social norms that go against diets based on more sustainable kinds of food. This is reflected in particular through 'adverse' marketing promoting junk food and the overall food environment (brands, retailers, producers, restaurants, etc.).

The EU can and should intervene and help consumers to shift towards sustainable food consumption through the following means:

- Engage with Member States to define tax policies and use financial and behavioural incentives that make the healthy and sustainable choices the most accessible option for EU consumers
- Fund research in all relevant domains to sustainable food consumption: consumer behaviour, measurement of sustainability, communication on sustainability performance, environmental footprints, etc.
- Stimulate citizens-government dialogues to develop a revised social contract for sustainable food systems
- Develop EU standards for food sustainability (which do not exist yet) and integrate them in EU trade policy to ensure fair trade
- Develop EU labelling frameworks that are rigorous, trustworthy and transparent
- Develop or support initiatives (e.g. start-ups) that make it easy to visualise and track the environmental and health impact of dietary choices.

6.3 Insights from the group discussion on 'primary producers'

What can the primary producers do to transition towards sustainable food systems?

- Producers can adopt more sustainable production methods. A sustainable food system could aim for regenerative agriculture that contributes to ecosystem and societal resilience.
- Wider application of digital technologies to increase efficiency and enable more precision use of inputs.
- Participate in networks and capacity building initiatives to share information on best practices.

What are the main challenges they face? Where do they depend on other stakeholders?

- Producers face many competing priorities, including ensuring a viable income. Producers have a relatively low share of the profit from the value chain so they are dependent on others in the food chain and consumers to support change through their procurement and purchasing decisions.
- Changing production practices involves risk so there is the need to share and manage that risk so it does not all fall solely on the producers.
- The number of farms and farmers in the EU is in decline so there is a need to maintain agricultural production and develop capacity and skills.

What should the EU do to facilitate the transition towards sustainable food systems at the level of the primary producers?

- Ensure that the EU policy framework is aligned with and orients its support towards sustainable food system outcomes. This goes beyond the Common Agricultural Policy (CAP) and Common Fisheries Policy (CFP) as many other policy areas can influence production and producers.
- Ensure producers are supported by farm advisory services that are oriented towards the objectives of a sustainable food system. The EU can set some common standards.
- Provide support for a range of networks. These include networks for knowledge sharing and capacity building; networks for innovation that link producers with research and industry in partnerships; and development of alternative supply chains and business models.

- The EU should use its own public procurement to support the transition.

6.4 Insights from the group discussion on ‘food processing industry’

The EU should pursue the following actions:

- Adopt a common definition of sustainability with a set of criteria to facilitate the development of sustainability reports over the whole supply chain.
- Develop an integrated EU food policy that fosters coherence between food safety, food security and sustainability of the food chain. This should apply in particular to EU food law (tasked to protect public health but not integrating sustainability) and the Codex Alimentarius (with Member States and the EU speaking with one single voice). Particular attention should also be paid to EU trade policy.
- Set up a EU helpdesk for industry to provide access to rigorous and clear information on sustainable food systems and related EU policies
- Support the mainstreaming of healthy and sustainable diets education and provision in schools across the EU.

6.5 Insights from the group discussion on ‘distributors/retailers’

What can distributors/retailers do to transition towards sustainable food systems?

- Change radically their business models to make them more sustainable (healthy food, phasing out highly processed food, fair prices to producers, reducing plastic packaging, traceability, etc.).
- Influence which and how products are sold, with a focus on reducing packaging, eliminating plastics, phasing out food components produced through unsustainable practices (cf. palm oil), etc.
- Influence consumers through nudging, social marketing, more responsible marketing, choice editing, educating consumers (e.g. on expiry dates), phasing out unsustainable promotion schemes
- Shift to sustainable operation, especially regarding the transport of food products, the management of food waste, energy savings, etc.

What are the main challenges they face? Where do they depend on other stakeholders?

- Market power concentration by Big Food can create inertia. However, important changes are ongoing with digitisation. New players are appearing and could start challenging market positions of Big Food companies through their focus on organic food, fair trade and online delivery. There will be other newcomers (aggressive low cost).
- Stranded assets.
- Lack of trust.
- Confusion brought by the multitude of labels. Need for regulation on coherent standards. Highly related to consumer behaviours.
- Myths among consumers (esp. on bio), focus on price, lack of consumer education.

What should the EU do to facilitate the transition towards sustainable food systems at the level of distributors/retailers?

- Facilitate the emergence and mainstreaming of new business models through research and development and green public procurement
- Design a smarter and more coherent food labelling system in the EU
- Act on sustainable food supply chain management
- Replicate the plastics strategy
- Support the development of clear and harmonised standards and methodologies to measure sustainability of food products (cf. environmental footprints)

- Extend CSR / transparency / accountability to retailers.

6.6 Insights from the group discussion on ‘cities, communities and regions’

Participants highlighted the key role played by cities – and local authorities more generally – to translate visions into action and to deliver concretely on transitions. First, cities are at the core of key production-consumption systems, such as the food system, since they represent most of the demand and concentrate much of the power. Second, local authorities know well the needs and expectations of their inhabitants and have the legitimacy to convene them in inclusive governance processes, which are increasingly required for transitions. As regards communities, they are increasingly driving social innovation initiatives oriented towards sustainability. Regions are a critical scale of governance in the EU context, especially as regards the allocation of EU Structural and Cohesion Funds.

Regarding the transition towards sustainable food systems, participants emphasised that:

- Cities constitute the ideal scale for the co-creation and experimentation of solutions with the active engagement of citizens and the involvement of community-based initiatives and alternative networks (e.g. Community-Supported Agriculture contributing to the food policy definition in Milan, ‘food council’ approaches).
- Local authorities can identify most vulnerable groups and areas (e.g. food deserts) and support them accordingly
- City initiatives like shared gardens and transition towns are very important to create a sense of collective food identity. Cities can make space through land use planning, roof gardens, etc.
- Mayors can shape many aspects of the food environment in their cities (e.g. use of public advertisement spaces, education and awareness raising)
- Cities can contribute greatly to the learning from experimentation, the sharing of best practices, as well as peer-to-peer mobilisation through translocal alliances such as Milano Urban Food Policy Pact⁸, Eurocities⁹, C40¹⁰, etc.
- Regions can help structure urban-rural linkages to foster shorter and more local food chains that reduce CO₂ emissions from transport and stimulate local economic development
- Regions can map more accurately than the national level capacity-building needs of cities and communities
- Regions have a key role to play in food waste processing

They pointed out at several challenges faced by local authorities and communities:

- Innovation from front-runner cities should not overshadow the more constrained situation of many small and mid-size cities across Europe.
- Cities across Europe can have very different administrative capacities, political powers and financial resources. Even large cities like London and Milan have very different kind of powers.
- The short electoral cycle can be a strong barrier to engage in transformative action towards sustainable food systems and to maintain momentum with often the need to rebuild social capital after every municipal/regional election
- Citizens do not always have the time to spend on building social capital and engaging in local initiatives
- The lack of an EU agreed vision on sustainable food systems prevents a coherent and effective upscaling of local food initiatives

Several EU actions were identified by participants to support initiatives at local scale of governance:

⁸ <http://www.milanurbanfoodpolicypact.org/>

⁹ <http://www.eurocities.eu/>

¹⁰ <https://www.c40.org/>

- Support to cities and regions, through funding and capacity-building, in their convening function to mobilise citizens in the transitions toward sustainable food systems
- Co-development of an EU vision for sustainable food systems with citizens and stakeholders in Europe and globally
- Support to local networks to foster knowledge exchange, capacity-building, sharing of experiences and mainstream good practices
- Embed food system transformation in the EU Urban Agenda
- Make better use of the FAO Framework for the Urban Food Agenda to motivate actions
- Establish an EU multi-stakeholder platform for food systems
- Establish an EC contact point for cities and local authorities on urban food policy
- Orient Horizon Europe funding to support urban-rural ecosystems of innovation

6.7 Insights on the five prioritised EU actions

Participants voted for the most important and concrete EU actions to shift towards sustainable food systems in Europe, which led to the identification of the following top five EU actions:



Figure 4: Participants share their findings about EU action on the sustainability of food systems

1. Integrate EU food-related policy (20 votes)

Strong political leadership is required to shift towards some kind of EU common food policy, or at least better integration of all food-related policies, as it faces important economic, cultural and administrative lock-ins, knowledge gaps and vested interests. A dedicated Vice-President could be nominated to lead this action. A first concrete step is to identify and acknowledge collectively all contradictions within EU policies related to agriculture, fisheries, environmental protection, climate change mitigation and adaptation, health, taxation, rural development, employment, etc. Environmental policies can play several role in that context, mainly developing and mainstreaming the narrative on sustainability transitions but also tackling more sensitive issues related to lifestyles, highlighting key areas of tensions between sectoral policies and environmental

objectives, and providing knowledge on sustainable food systems. A systemic approach all along from production to consumption is required. This includes engaging stakeholders across the food chain but more broadly citizens, especially younger generations, rural communities and most vulnerable groups, to ensure transitions that are socially fair.

2. Set up an EU multi-stakeholder platform on food systems (17 votes)

One approach to support the shift towards sustainable food systems in the EU in the short-term is the creation of an EU multi-stakeholder platform on food systems. The Secretariat General, a Vice-President of the European Commission or the Directorate General for Regional Development (DG REGIO) should be in the lead to prevent lock-ins and biases. The platform should ensure a good balance between stakeholders and a transparent governance where representative members co-design related processes. DG ENV and the EEA should be member among others. Global representatives (e.g. the UN Food and Agriculture Organisation, IPES Food¹¹) should also be involved.

3. Mainstream the measurement of food product sustainability (17 votes)

Food product sustainability is a broad concept and there is currently no commonly accepted definition. Measurement initiatives often focus primarily on environmental sustainability. The EU has invested in the development of methodological standards such as the Product Environmental Footprint (PEF). However the multiplication of measurement approaches and labels makes it confusing for consumers and challenging to make informed purchasing decisions. There is a need for fewer, more robust labels based on sound methodological standards and verification schemes. The EU should support the further development, rationalisation and uptake of standards and labels. However, to increase uptake and use throughout the food system a broader range of policy actions than information instruments will be needed. This would involve aligning actions on labelling through regulations, information instruments, adoption in EU public procurement practices and integration into trade policy. The development and implementation of such an approach could be supported through a multi-stakeholder platform building on the experiences to date.

4. Economic signals for sustainable food products and services (14 votes)

The EU should promote more strongly the agenda of green taxation and strengthening public financial incentives to foster the transition towards sustainable food production and consumption. This could materialise through a set of instruments: differentiated VAT based on sustainability criteria, lower taxes for economic actors producing according to sustainability criteria, vouchers given to the poorest to stimulate sustainable consumption, negative environmental impact taxes, etc. This requires the definition of sustainability criteria, list of eligible products, taxonomy of economic activities, etc. which has already started at EU level. DG Environment could lead some of these lines of work, as well as strengthening the supporting narrative and long-term vision on sustainable food consumption and production. It should build on the experience and knowledge of regional/local 'food councils'.

5. Healthy and sustainable food in all European schools (10 votes)

While some front-runner cities are already using sustainable food procurement in their schools, the mainstreaming of such good practice could benefit from EU support. Concretely, several DGs could play a role through 'soft interventions': support to sharing experiences and identifying best practices through educational networks (DG EAC), support to experimentation and demonstration (DG RTD / Horizon Europe), raising awareness on gastronomy and sustainable diets through science museums and botanical gardens (DG RTD),

¹¹ <http://www.ipes-food.org/>

connection with the Urban Agenda (DG REGIO), support from Structural and Cohesion Funds (DG REGIO), use of CAP to strengthen urban-rural linkages for food public procurement (DG AGRI), health aspects (DG SANTE), funding from EIT Food, etc. As regards environmental policies, DG ENV should frame and mainstream the narrative around this action, while the EEA should monitor progress. The LIFE programme could be used to support social innovation initiatives. DG ENV could foster sustainable school certification, more environmentally-accurate food labels, raise awareness and motivate through 'European Food City Awards'. Overall, much interaction is required between DGs as well as new ways to engage with cities and school representatives throughout Europe.

7. Insights from the workshop on the future of industry

7.1 Presentation of the theme

The third workshop followed a similar three-step approach than the previous workshops. Presentations from DG ENV and DG GROW reminded the participants of the key dimensions of the EU sustainability vision (as expressed by the 7th EAP 2050 vision, the UN Sustainable Development Goals and the Paris agreement) as well as on-going developments around the Industry Vision 2030¹². Therefore, a key aspect of the workshop was to check the coherence and consistency between the two visions, and identifying key issues for policy concern to foster an industrial transition towards sustainability in the EU (Figure 5).



Figure 5: Presentation of one of the visions

The workshop started with an ice-breaking exercise where participants were asked to identify the most effective thing industry in the EU could do to move towards sustainable operation. Answers focused mainly

¹² https://ec.europa.eu/growth/industry/policy/industry-2030_en

on actions to move towards circularity and climate-neutrality but were quite varied in nature, including: industrial symbiosis and supporting infrastructure; change business models; rethink more systematically products as

services; phase out unsustainable industrial processes; electrify processes redesigned with a life-cycle perspective; use eco-design more broadly; use more secondary raw materials and define an industrial roadmap for climate-neutrality by 2050. Participants also mentioned the crucial importance of funding innovation, the need to develop synergies with digitisation and smart specialisation, and the need to strengthen awareness of industry on sustainability challenges (risks related to climate change, ecosystem degradation and resource scarcity), systems thinking (cf. ecosystems science to optimise processes), economic benefits of circularity, etc. Developing existing approaches on BATs, standards, Corporate Social Responsibility and getting the prices right were also mentioned. Coherent and stable regulatory frameworks and financial incentives are required as industry is '*very good to react to threats and opportunities*'. A public declaration from EU industry representatives supporting sustainability transitions would also provide directionality.

7.2 What are the gaps and inconsistencies between the visions?

- There is increasing convergence between the sustainability and industrial visions, especially when considering climate-neutrality and (to a lesser extent) circularity
- These visions are shared among an increasing and increasingly diverse number of stakeholders
- Visions should be bolder and take even more centre stage in policy making
- However, there remain important gaps related to environmental protection, especially for areas such as water, biodiversity, land use, etc.
- The 'sustainability first' principle is missing in EU policies, in particular in trade policies
- There are also gaps in setting key milestones to achieve long-term objectives
- There are gaps in setting responsibilities among actors and scales of governance. Even within the Commission, who is in the lead for sustainability transitions?
- An adequate governance approach – open, inclusive, transparent – for the EU is still missing to reach societal consensus on trade-offs and harness the transformative power of society itself
- A level playing field needs to be ensured between European industries and global competitors
- Metrics and robust methodologies are missing in many domains. Standards and metrics for environmental performance of industrial activities and products are particularly needed
- There is no proper reporting on emissions – some industry does not want to disclose information
- There are also inconsistencies when considering pathways for implementation, overall coordination between policies, conflicting or missing targets, the very economics of transition, etc.
- There are inconsistencies between global geopolitical tensions and EU ambition
- In a globalised economy, the EU will hardly set up a circular economy within itself
- Some kind of 'global eco-design convention' is missing to truly move forward towards circularity
- Ecolabel standards are not aligned with the real environmental footprint
- There are still huge investments and research funding in "lock-in" technologies
- Taxation has not shifted from labour to resources and the right market incentives are not in place
- Coherent thinking in the design of sustainability-related policies would lead to coherent implementation
- Is setting a target for EU industry's contribution to GDP at 20% consistent with sustainability objectives? Would it make more sense to have set a target related to employment?

7.3 Identifying key issues

Four groups of participants engaged in open discussions to map policy issues in the industrial transition towards sustainability. Broad issues such as the scale and pace of change needed to achieve climate-neutrality by 2050, the (re)definition and new ways of monitoring economic growth (cf. beyond GDP and SDGs), the integration of planetary boundaries into economic theories and models, the changing role of the state in innovation policy, the technology neutrality principle, the responsibility of industry in environmental degradation across their supply chains, etc. were raised. Eventually, following the reporting back in a plenary discussion, participants agreed to focus on four key policy issues for the industrial transition towards sustainability:

1. Coherence across visions
2. EU vs. the world
3. Economic signals
4. Metrics and standards

7.4 Coherence across visions – Challenges, role of actors, and role of the EU

Participants highlighted the following:

- Ensure coherence between and within visions on the what? by addressing gaps and inconsistencies
- Integrate in the visions all dimensions related to competitiveness, jobs, pollution, climate action, resource use and efficiency, land use / territorial planning etc. – so far, DGs use very different framings in their analysis. Need to use a systems perspective
- Create ‘nested visions’ with an overarching vision for sustainability, then the contribution from industry, then.... This is essential to ensure coherence across policies.
- Ensure coherence in visions on the how? and the time horizon – what is feasible? What are the trade-offs?
- Ensure that the industrial vision for Europe is co-designed with stakeholders – more engagement of traditional and emerging industries is needed, clear and transparent process on how results are used
- Ensure visions are understood, correctly interpreted and accepted widely by stakeholders across Europe – open public consultation is required, as well as better communication with more integrated messages to project a coherent discourse
- More clarity is needed on long-term objectives and targets - what climate-neutrality implies for who across society? What are conflicting and missing targets (e.g. resource use)?
- Leadership at EU level is needed to ensure a coherent implementation across policy areas – Vice-President in charge of the industrial transition? Task force (cf. Brexit Task Force, Energy Union Task Force)? New President Plan for sustainability transitions, with an industrial pillar?
- Address inconsistencies between EU sustainability goals and EU trade agreements
- Have a comprehensive view of investments needed overall for the industrial transition
- Need for a breaking down of climate-neutral scenarios by countries and sectors
- Use the European Semester to monitor progress towards sustainability

7.5 EU vs. the world - Challenges, role of actors, and role of the EU

- Lead by example and be a role model for the world (the size of EU's market is still enough for this)
- Integrate environmental standards into trade agreements
- Develop and promote international environmental standards and information systems that foster transparency and traceability
- Address more strongly the global dimension of the circular economy
- Promote an international tax shift favourable to the environment
- Promote multilateral agreements for sustainability product accounting

- Step up enforcement of EU's environmental standards

7.6 Economic signals - Challenges, role of actors, and role of the EU

- Market-based instruments, such as environmental taxation or targeted subsidies, are still relevant but should be smarter in their design
- One of the most effective signals for the market would be a clear political picture and stable overarching goals. Industry does want more smart regulation
- Economic signals should go beyond pricing, as consumers make their choice based on multiple criteria. Attractiveness of products and services is what matters and this is not limited to cost. Behavioural research is needed.
- A proliferation of ecolabels should be avoided. EU labels should be few but strong and visible
- A majority vote on tax matters at EU level will be needed to step up environmental taxation and shift from taxing labour to taxing resources
- Much higher carbon price required
- Carbon taxes should apply to imports to protect EU competitiveness
- Carbon taxes should be inherently linked to social measures or universal basic income
- Remove subsidies on unsustainable practices
- Subsidies and funds for eco-innovation and green SMEs facing lack of initial demand and difficult access to finance
- Tax deduction or subsidies for insulation of buildings to be mainstreamed in Europe
- Circular public procurement
- EU programme to train financial analysts
- EU programme to train SMEs and train-the-trainer of SME associations
- EU programme to train local/regional authorities in green public procurement
- Need for forward-looking assessment of the sustainability of the tax system
- 'Circular hubs' (Public-Private Partnerships subsidised to help companies be more circular)
- Support to market design
- Climate bonds and derivatives

7.7 Metrics and standards - Challenges, role of actors, and role of the EU

- Metrics for environmental performance of EU industry that are transparent, user-friendly, consistently used are missing
- Metrics and methodology for resource use are missing
- Missing integration of environmental footprint within and beyond EU borders
- Missing targets on resource use and efficiency
- Issue of setting targets without quantitative monitoring possible or ready
- EU support needed to accelerate the mainstreaming of sustainability reporting
- Key Performance Indicators needed
- Standards should be co-created not only with industrial incumbents, but also with green SMEs and innovators
- Needs for EU standards on material passport for products and constructions (throughout their entire life cycle)
- Need for a strategic reflection on labels and certificates: how many? Green washing, EU vs global, private vs public
- Audits can be used to control environmental performance without necessarily putting all the data online
- Update requirements from the Industrial Emissions Directive (pollutants + activity data) while respecting business confidentiality

- Partnerships are needed with the financial sector (insurers and reinsurers), technical auditors and standardisation organisations
- Quality check on data (Pollutant Release and Transfer Registers, auditing link to financial reporting)
- Foster the systematic use of life cycle assessments by industry

8. Next Steps

The insights gained through this foresight exercise will be used to refine the European Commission's vision for a future EU environment strategy and EU sustainability strategy. DG ENV will share the results with other Commission services and stakeholders in the context of the preparatory work for the European Green Deal announced by the President-elect Ursula von der Leyen in her political guidelines for the next European Commission 2019-2024. The insights generated through this exercise are largely in line with these political guidelines, in particular regarding the desire to make Europe the first climate neutral continent, to have a new industrial strategy, to promote the circular economy and to have a Farm to Fork strategy for sustainable food. The new Commission is also putting emphasis on the importance of foresight to have a future-ready economy and intends to put foresight at the heart of better policy-making. In this respect, this foresight exercise can be seen as a front-runner for the new way of making policy at EU level.

Foresight approaches, such as those applied in this series of workshops, are also currently used in the context of the Commission's preparations for the Horizon Europe programme and by various Commission services for the development of their specific policies. In particular, the JRC will be at the heart of the new process to produce a yearly foresight report to help the Commission adapt and improve political priority-setting.

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Annex 1: List of participating organisations

Cambridge Institute for Sustainability Leadership (CISL)	Ipoint
Centre for Food Policy (CFP)	Laboratoire Interdisciplinaire Sciences Innovations Sociétés (LISIS)
Centre for Sustainable Design (CSD)	Natural Capital Coalition
Circle Foundation	Netherlands Environmental Assessment Agency (PBL)
Collaborating Centre on Sustainable Consumption and Production (CSCP)	Ökopol
Danone	Orgalim
DRIFT for transition	Product Life Institute
Ecopreneur	Royal DSM
EIT Food	SONAE
Energy Technologies Europe (ESWET)	Sustainable Europe Research Institute (SERI)
Environment Agency Austria (UBA Austria)	Syngenta Sustainability
Environment Agency Germany (UBA Germany)	University of Cardiff
Environmental Policy Research Centre, FU Berlin	Universidade da Coruña
European Association of Craft, Small and Medium-sized Enterprises (SMEunited)	University of Reading
European Chemical Industry Council (CEFIC)	European Commission – DG AGRI
European Climate Foundation (ECF)	European Commission – DG CLIMA
European Consumer Organisation (BEUC)	European Commission – DG ENV
European Environmental Bureau (EEB)	European Commission – DG GROW
European Sustainable Phosphorus Platform (ESPP)	European Commission – DG JRC
Flanders Environment Agency (VMM)	European Commission – DG JUST
FoodDrinkEurope	European Commission – DG MARE
Food Policy Milano	European Commission – DG REGIO
Institute for Integrated Economic Research (IIER)	European Commission – DG RTD
Institute for European Environment Policy (IEEP)	European Commission – DG SANTE
International Federation of Organic Agriculture Movements (IFOAM)	European Commission – DG TAXUD
International Panel of Experts on Sustainable Food Systems (IPES Food)	European Economic and Social Committee (EESC)
	European Environment Agency (EEA)

Annex 2: Foresight in a nutshell

The **Better Regulation Guidelines** point out that:

*“Foresight and other forward-looking tools complement quantitative modelling with **a system thinking and long-term approach that is developed through qualitative and participatory methods involving all relevant stakeholders**. They facilitate thinking out-of-the-box. The objective is to engage with different possible futures (e.g. providing alternative futures) and challenge present assumptions thereby broadening the policy horizon. It creates an experimental and safe space to discuss, explore and assess the consequences of disruptive events and potential sources of radical change. **Such forward-looking processes will help identify targets and new ways for policy interventions in a more systemic manner.***

*Developing and using system thinking and anticipatory intelligence may take place at a stage prior to impact assessment to identify topics or different options and relate them to their dynamic and changing context. These forward-looking tools **bring a multidisciplinary dimension to policymaking allowing linkages across policy silos.***

Foresight can play different functions in support to the policymaking cycle. Foresight tools and methods will enable problem analysis with a systems approach, facilitate interservice collaboration, and allow consideration of emerging challenges and trends in technology and society, which could be otherwise overlooked. These approaches are well established in strategic planning practice, and are already in use within the Commission and the European Parliament.”

The Better Regulation identifies **four main functions and benefits of foresight to policy**:

Function	Outcome	Benefit for policy
Informing policy	Understanding of change Visions of change	Long term orientation Additional source for information (based on a broad variety of views) Awareness of future challenges
Facilitating policy implementation	Networks, shared visions	Better receptivity of actors for policy objectives due to ownership of results therefore easier implementation
Embedding participation in policy-making	Transparency of policy making process	Better identification of citizens with policy (legitimacy)
Supporting policy definition	Generation of strategic options together with policy makers	Direct support in strategy development and implementation

Annex 3: Example of a detailed vision

Example of a vision similar to that of the 7th EAP 2050 but further developed in the German context.

Living well in 2050: the vision

The United Nations' 2030 Agenda for Sustainable Development generated strong pressure for transformation towards a more equitable world and sustainable economic activity, and succeeded in delivering on its aspirations. People all over the world, societies at different stages of development, and economic, social, political and cultural institutions on all levels are in alignment with the guiding principle of sustainable development: they are realising gains in prosperity both locally and globally, within operating spaces that are socially and environmentally secure. They are conserving and developing the resources of the natural basis of life as a material and non-material foundation for a rising quality of life.

A modern, fair and up-to-date Climate Agreement, encompassing all of the countries in the world, has induced a global change of course towards a carbon-neutral and climate-resilient developmental pathway. On the basis of a legally binding regime the Climate Agreement acts as an effective steering instrument and transparency framework for all countries in their efforts to keep the global temperature rise below 2°C relative to pre-industrial level while pursuing efforts to limit the temperature increase to 1.5°C. In other areas, too, international and European regulations have substantially improved the conservation and sustainable use of nature and the environment. The decline in biodiversity has successfully been halted by conserving and restoring valuable habitats, the global nitrogen cycle is no longer being overloaded. Ocean acidification has stopped rising because greenhouse gas emissions are falling drastically, thanks in part to the exit from fossil fuel use.

The citizens of Germany and the rest of Europe live well, within the limits of our Planet. Their prosperity and the good condition of the environment are the result of an innovative circular economy in which nothing is wasted, natural resources are managed sustainably, and biodiversity is protected, respected and restored. Europe with its low-CO₂ and low-resource economic growth is setting the pace for a sustainable global society, and is continually creating future-proof jobs. Europe's societies, citizens and institutions are helping to safeguard and enhance political and legal stability, lasting prosperity and quality of life, not just within Europe but also everywhere else. Peace and social cohesion in Europe provide the framework for an innovative and sustainable development of the individual countries and their bilateral and multilateral partnerships.

The institutions of school-based, non-school-based and vocational education teach knowledge and skills for actively shaping social transformation. They enable learners through appropriate methods to contribute ideas for sustainable development and to develop implementation strategies within their own life worlds.

In Germany, environmentally sound economic practices have been universally and permanently realised in all private and state sectors, across all stages of value creation and all markets for labour, commodities, products, services and finance. Sustainable management of basic natural resources and of Germany's economic, human and social capital; the precautionary principle; openness to innovations; and a market economy based on social-ecological principles provide the binding economic policy framework. All parties involved consider processes of ecological structural transformation as a chance.

Prices and information give a clear idea of the societal costs of using energy, resources and ecosystems and make these transparent for all economic actors in the value chain. Sustainable, environmentally sound and nature-friendly production and consumption is firmly embedded in the education and awareness of all Germany's citizens and is understood as a contribution to raising individual and societal prosperity.

Waste is raw material; 100% of waste are collected and almost completely recycled – without any accumulation of harmful substances in the resulting materials. New services, particularly in the areas of mobility, housing, education and food, make the ownership of many things superfluous. The energy market is more decentralised; the fact that it is not dependent on fossil fuels generates powerful impulses for a sustainable regional economy. Urban and close-to-town agriculture provide a local supply of foods and a

renewable energy supply. The financial sector no longer gears its lending and investment policy to maximising short-term returns, but to criteria like sound business models, long-term capital preservation and innovations yielding social-ecological benefits.

Germany exhibits its own typical diversity of natural and anthropogenically influenced landscapes and ecosystems, habitats and biotic communities of wild species. The use of ecosystems – such as soils, forests, agro-ecosystems, inland waters, oceans – is in harmony with their protection and conservation. As a result the ecosystems have also become more resilient to the impacts of climate change. Land take is tending towards zero. Even in our densely populated country, people have many opportunities to encounter large areas of wild nature. All groundwater bodies, rivers, lakes and seas are in good condition and – wherever possible – there are near-natural and intact floodplains again; these can reduce the risk of flooding, retain nutrients, and are centres of biological diversity. Marine litter has been substantially reduced. The oceans as a whole have been declared part of human heritage and thereby precluded from sole appropriation by individual countries. The fishery that takes place is environmentally sound without exception.

Chemicals are produced and used without harming the environment or human health. Substances of high concern are substituted with sustainable alternatives; new risks are identified and eliminated at an early stage. Air quality is so high that significant negative impacts on human health and the environment no longer occur. Negative effects on health and the environment from noise, the consequences of climate change, ionising radiation and radioactive waste are minimised. People from all age-groups and social situations are thus effectively protected in line with the precautionary principle.

The goal of equivalent living conditions in all regions of Germany has been achieved. Germany's cities and municipalities are attractive places to live, work and do business: attractive for the people in the region, for migrants from within Germany and abroad, for tourists and for companies and workers.

Rural regions boast high environmental quality and quality of life, making them attractive as home regions for families and skilled workers and as business locations. Agriculture is practised throughout Germany in a way that protects biodiversity, human health and the climate. Livestock farming is practiced environmentally sound and respects animal welfare. Jobs in an ecologically-oriented agricultural, energy and health sector, in low-impact tourism and regional value creation are complemented by opportunities associated with nationwide broadband provision for teleworking and IT-based communication in companies and municipalities.

Green spaces of high environmental quality exist in cities. They serve purposes such as supporting adaptation to climate change and providing diverse spaces for enjoying nature and recreation for people from all social classes. Cities are largely free of traffic noise thanks to the high proportion of journeys made on foot, by bicycle and on electrified urban public transport. Motorised individual transport has been dramatically reduced and likewise converted to electric vehicles for the most part. Ever fewer people own their own cars. Car-sharing and the flexible combination of means of transport are widespread. Local commercial transport has been made environmentally friendly thanks to intelligent urban logistics and alternative vehicle concepts.

Buildings, city-districts, cities and municipalities and the entire infrastructure are adapted to the challenges of climate change and the demographic trend, making use of the latest technologies. They are designed to be energy and resource efficient, contribute to biological diversity, and are in harmony with the conservation of architectural heritage. Many buildings are interconnected; energy surpluses are passed on from new buildings to old buildings, and likewise from buildings to electric cars; thermal energy is recovered from wastewater.

Germany's citizens live well, within a safe operating space that is being jointly shaped along environmentally, socially and economically sustainable lines by a modern, globally responsible environmental policy.

Source: [Shaping Ecological Transformation - Integrated Environmental Programme 2030](#) (Germany's Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety, 2016)

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