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Executive Summary

Building on a general approach aimed at societal change, the TellUs group presents a mission-oriented strategy, setting out practical ideas to **foster a paradigm shift** in the way in which the ecological transition is steered at the European level. Our plan is composed of **two main – and intertwined - dimensions**: a governmental one and a societal one. The former is epitomized by a smart and entrepreneurial public sector which considers public purpose as its main goal, for the latter **two broader proposals** are made: i) the **European “Green Broker”**, an institution directed at ensuring effective citizen participation and support, and ii) **a mandatory labelling system** to steer consumers’ preferences towards products with high environmental standards.

Six considerations (market-based solutions, citizens’ support and engagement, EU public finance, social dimension and innovation and technology, local initiatives, and subsidiarity) guide our work across four main chapters: cross-cutting (*cf* introduction), circular economy, urban development and land management.

We are convinced that the current state of environmental crisis and degradation requires immediate and bold action, which is why we, the young generation of Europe, propose this strategy.

As an important element of the Commission’s strategy, the **Circular Economy** needs to be more ambitious. We notably suggest:

- An enhanced eco-design scheme with the completion of the Enhanced Producer Responsibility with the **Enhanced Designer Responsibility**
- **A clear, informative and mandatory labelling** that ranks product on a scale of A to G by taking into account the recently tested Product Environmental Footprint and using digitalisation
- **A harmonised waste collection system** across the Members States that involve a minimum set of rules for municipalities to notably follow rules on colour coding for waste and types of materials to collect.
- An **Environmental taxation** inspired by the *Resource Taxation directive* for EU harmonization of minima to address circularity issues.

Managing our **urban development** in a sustainable manner is essential to reduce environmental impact. Therefore, we suggest:

- **To promote better land use in cities** with a development of urban agriculture, to develop green spaces in cities and to reduce spaces for cars within cities.
- **To better manage the use of bikes in cities** by cooperating with bike-sharing apps and by launching a public-private-partnerships plan between the Commission and local governments to deliver more funding in order to build solar power charging stations.
- **An EU-wide fare-free public transport** relying on a green tax for car-drivers, *cf.* ‘polluter pays principle’.
- **To include the Green Infrastructure into an EU infrastructure policy** to maximise ecosystem services.

Agriculture and food chains have massive impact on the environment and contribute in Europe’s emissions, loss of biodiversity, wastes or water pollution. To limit the impact of this industries, we propose:

- **A reorientation of the CAP’s first pillar** by ceasing subsidies for meat and dairy production. Additionally, moving away from payments based on land size to a more proportionate system of agricultural subsidies is key to provide incentives for small farms and to incentivize the production of a plant-based diet.
- **An internalization of externalities in the agricultural sector** with the implementation of a polluter-pays principle in the form of tax on the negative externalities of the agri-food sector.
- **To reduce food waste at the European level** by setting mandatory food waste reduction targets to go towards a long term target of a food waste neutral Europe.



CHAPTER 1

ACHIEVING SOCIETAL CHANGE

Francesco De Marzo & Nold Jaeger

A systemic, mission-oriented approach for a sustainable future

The state of environmental degradation requires immediate and bold actions. The aim of this paper is to provide ambitious and feasible solutions to the current crisis from the perspective of young Europeans engaged in a dialogue with the EU Institutions.

What we advocate for is a deep, *bottom-up* societal change in order to transform the way our economies and lifestyles are run, with the aim of making them compatible with the UN Sustainable Development Goals (SDGs). In order to achieve this, a paradigm shift in the way we think about ourselves and our relationship with the Earth is needed. This contribution aims to kick off this debate.

As described by the father of this theory, Thomas S. Kuhn, a paradigm shift occurs, in the history of science, when an extraordinary phase takes place, breaking the progressive accumulation of discoveries, also defined as growing stocks of puzzle-solutions, which characterize normal stages of the scientific development¹. The core nature of a paradigm, in Kuhn's view, is the consensus present in what he calls a "disciplinary matrix", meaning a constellation of shared commitments, a sort of epistemic community of well-established core beliefs. Applying this approach to European integration theories, Social Constructivist accounts could well describe how a scientific paradigm shift, if transplanted into the political discourse of EU Institutions, may effectively foster societal change on a continental scale². In fact, very much as for what concerns a "disciplinary matrix" in the scientific community, consensus among decision-makers is strictly intertwined with shared values on the philosophical assumptions of a specific policy domain, as extensively demonstrated in the field of monetary policy³.

As far as environmental policies are concerned, one of these shared values is, beyond any doubt, anthropocentrism, meaning the theoretical framework that places humankind at the centre of the Universe, with all other species and - more generally - the biosphere at its service⁴.

What we advocate for is, indeed, to overcome this rationalist, Cartesian, dualistic view of *res cogitans* and *res extensa*, of a subject (Humankind) and an object (Earth), of a conqueror and a land to be exploited, in order to embrace a systemic thinking that recognises the Planet as a self-regulating living system: an infinite web of relations⁵.

This shift finds its dimension in what Albert Schweitzer defined as "Reverence for Life", a truly eco-centric perspective through which looking at the world in a systemic, integrated fashion, where ecosystems matter, biodiversity is preserved, and economic models turn towards being circular and sustainable.

On the basis of these considerations, we argue that norms and ideas have a direct impact on the construction of identities and behaviours. In consequence, societal change can be achieved via a both ideational and very practical plan of action: a mission-oriented strategy, which we call the "Green Marshall Plan", entailing the aspect of government, but also broader society, on the basis of the idea of realising a paradigm shift.

¹ Thomas S. Kuhn, *"The Structure of Scientific Revolutions"* University of Chicago Press, 1962

² T. Christiansen, Jorgensen K.E., Wiener A. , *"The Social Construction of Europe"*, SAGE, London, 2001

³ T. Sadeh, Verdun A., "Explaining Europe's Monetary Union: A Survey of the Literature", *International Studies Review*, v. 11, n.2, 2009

⁴ It is noteworthy that even the highest authority of the Catholic Church has recently provided a complete paradigm shift with regard to this theological assumption, arguing, instead, for the profound compatibility of integral ecology with the Judaeo-Christian tradition, see Pope Francis, *"Laudato si: On the Care of Our Common Home"* , Encyclical Letter, 24 May 2015

⁵ H.R. Maturana, F.J. Varela, *"Autopoiesis and Cognition: the Realization of the Living"*, Paperback, 1991

There is a visible trend for radical actions in order to tackle environmental degradation (and climate change) such as the Green New Deal currently proposed in the political platform of the U.S. Democratic Party⁶. In comparison, our approach takes into account two differentiating factors: the quasi-federal polity of the EU and the need to highlight our mission-oriented strategy - whose characteristics will be explained in detail in the following clusters -. For these two reasons, the term ‘Green Marshall Plan’ best suits our purposes.

From the first side of the strategy, the governmental contribution, a deep commitment from a strong and entrepreneurial Public Sector is an absolute necessity. In fact, if a capitalist model is not *per se* an obstacle for the ecological transition, we nonetheless think that markets have to be co-shaped and co-created via an effective collective engagement, not only fixed via a *top-down* regulatory approach. The playing field has to be tilted, in order to achieve Public Purpose⁷.

This leads to the second side, the societal dimension, enhanced in this paper via two concrete and innovative proposals, which will be further detailed in the following clusters. The first one is the institutionalization of a European ‘Green Broker’: this figure will foster citizens support engagement via the mobilization of societal actors for a common goal, with strong, tangible impacts in their local communities. The second one refers to the need to enhance consumers’ awareness in order to achieve a paradigm shift. An example of a practical step towards this long-term goal is offered further on this paper through a clear, informative and mandatory labelling aimed at sustaining the demand of products with high environmental standards.

The content of the proposals put forward in the single thematic clusters is synthesized in the following cross-cutting dimensions: market-based solutions, citizens’ support engagement, EU budget public finance, social dimension, innovation and technology, local initiatives and subsidiarity.

Market-based solutions

The power of the market is clear. At the same time, the difficulty to steer the market into a direction that contributes to radical societal change is evident. Visible and energetic guidance of the market is therefore necessary, in such a way that it would contribute to the pursued societal change. We propose that this is done by quantifying the results achieved by the Union’s institutions (as discussed below), and thereby contributing to other initiatives such as environmental taxing to internalise externalities⁸.

With regards to the Union’s efforts we see two different approaches: a supply-side, or how the Union can make the environment a more attractive business-case, and a demand-side, or how the Union is able to encourage the consumer to make a more environmentally conscious choice.

With regards to the first approach, the supply-side, we propose to initiate efforts to more clearly calculate achieved results in terms which express an economic value. For example CO₂ reduction throughout the European Union as required by Union law could also be expressed in terms of ‘money saved’ according to current carbon prices in addition to goals set-out in that legislation. Similarly Union legislation should standardise green efforts from the private sector⁹. Non-financial reporting (in particular environmental impact) is something increasingly asked for by shareholders¹⁰. Standardising such reporting could provide an index of how, where and which European undertakings are achieving results in their contribution to assuring societal change, and also which ones are lagging behind and need an incentive

⁶ <https://www.dataforprogress.org/green-new-deal>

⁷ M. Mazzucato, “*The Value of Everything: Making and Taking in the Global Economy*”, Public Affairs, 2018

⁸ See sections on an environmental and agricultural taxes.

⁹ See amongst others: ‘Integrated Reporting’: <http://integratedreporting.org/what-the-tool-for-better-reporting/get-to-grips-with-the-six-capitals/>; ‘Reporting 3.0’: <https://reporting3.org/>; and Jane Gleeson-White (2015) “Six Capitals, or Can Accountants Save the Planet?” Ww Norton & Co: New York City.

¹⁰ *Ibid.*

to make a better effort. Of these two quantification efforts on the supply-side we specifically see that they allow for more targeted legislation focussing on internalising the externalities. One of such legislative proposals could be a more far reaching integrated European wide carbon-tax on amongst others consumer goods¹¹. Lastly, the Union should not forget that it – in terms of its procurement and legislative strategies – can shape the market by creating a demand for certain type of products itself. For example, at the national level firefighter equipment has largely been improved through financial incentives and national government policies of procuring innovative and safer equipment. In terms of choosing for the environmentally friendly (and innovative) alternative the Union has a similar ability, not least because of its significant spending and legislative power.

When approaching the market from a demand-side perspective we propose that labelling, possibly on the basis of what has been quantified in terms of non-financial reporting in the private sector, encourages consumers' demand for the environmentally friendly alternative. Clear and universal labels involve consumers in the efforts of the Union, an element we elaborate on under "Citizens' support and engagement", because the ambitions of the pursued societal change become more visible. This visibility and engagement in return increases the demand for the environmentally friendly product.

Citizens' support and engagement

Secondly, we advise the Commission to increase its efforts in terms of citizens' support and engagement. An element we see as essential for assuring (continued) citizens' engagement is fostering bottom-up initiatives. We acknowledge that it has great value if the European Union as the policy-maker is distanced from making the policy initiatives, and takes a more overarching goal setting and final executive approach. Citizens dialogues in France that were imitated by the French President¹², the citizens panel that resolved the challenges of the Antwerp ring road¹³, and 'climate tables' such as those organised in the Netherlands¹⁴ give citizens a sense that the 'politics' of policymaking is taken out of the equation. This diminishes the feeling that policymaking is a zero-sum game, therewith improving the engagement and support of all those affected by environmental measures.

In this context we acknowledge the importance of using large scale citizens panels organised by a 'green broker'; an independent expert that guides the citizens' ideas from common goals, to clear bite-size proposals. In this context there should be a (small) group of broker' independent professionals (including many from academia) at the disposal of the green broker to assist in the development of ideas and formulations of the goals and plans that are set-out by the citizens. We find that these citizens dialogues should be held at the closest level to the citizen. This means that it is not the private sector that is, for example, represented in such dialogues as 'the private sector' but rather a local entrepreneur representing him- or herself as a citizen. This assures an equal playing field for all those participating in the citizens dialogues. To facilitate the smooth running of more European wide environmental goals it might be useful to set local targets, without deciding how these targets are to be reached. This provides the citizens dialogues with one clear 'objective' to which they can link their own proposals for achieving this goal, through the most optimal solution according to themselves.

In terms of results, success stories such as finishing the Antwerp ring road, considered a political deadlock for decades, proves how a citizens consultation approach improves citizen's support and engagement. The broader goal, such as improving traffic flows through the city, set-out at the national and provincial

¹¹ See page 13 on a general environmental tax, and page 26 for a tax specifically applicable to the agricultural sector.

¹² Although it has not yet produced concrete results it was considered by those experts in the field of public consultation as a useful step towards better citizens engagement: <https://www.consultationinstitute.org/macron-in-france-explores-the-politics-of-consultation/>.

¹³ On the set-up of the 'ring road consultations': <https://ringland.be/about/the-project/>; and a brief summary of the achieved results: <http://www.flanderstoday.eu/one-quarter-antwerp-ring-road-be-covered>.

¹⁴ On the set-up of the 'climate tables': <https://www.lexology.com/library/detail.aspx?g=dcd9da6c-c405-4be6-ab0e-74ed564e6076>; and the recently published results of these tables: "Concept Dutch Climate Accord Announced": <https://www.deingenieur.nl/artikel/main-concepts-of-dutch-climate-agreement-announced>.

level, was resolved at the neighbourhood level in a way that least harmed local inhabitants' interests and actually furthered those interests by developing green and liveable areas on top of the so hotly debated new road. When it comes to incorporating a 'Green Broker' into the institutions, we suggest that this role could possibly be incorporated into the Court of Auditors – as this is, like the 'Green Broker' should be, an independent but closely linked body to the EU. In our opinion such an approach fits perfectly in the Commission's mandate; exercising its powers with attention to subsidiarity - setting European goals but realising these goals at the closest level to citizens - and proportionality - seriously taking into account local citizens' concerns by compensating traffic pollution with the development of new parks and green zones.

EU budget public finance.

Thirdly, the logical connection between plans being made at the European level, and having to be developed and realised at the local level, is the funding that needs to be freed to realise these projects. The EU budget and public finance at the national level can, and need to contribute more extensively to the efforts of preserving the environment for next generations by achieving large scale societal change. Recalling article 11 of the Treaty on the Functioning of the European Union we see multiple ways in which public finance is able to contribute better to the environmental efforts of the Union.

Firstly, the percentage within the MFF dedicated to environment and climate change needs to significantly increase. With the new MFF coming up, this is the perfect opportunity to consolidate a central role for the EU in the fight against environmental degradation¹⁵. In terms of spending we therefore propose the significant increase, increasing tax-revenues which disincentivises the use of environmentally harmful products (for example a carbon tax which was discussed under market based solutions) can additionally fuel such investments. Secondly, the EIB's attempts to 'green' its investments have not proved to be an unequivocal success¹⁶. Ideas such as a 'Green Investment Bank' might prove more successful and have already been floated (amongst others by President Macron of France) and show clear citizens' support for such initiatives¹⁷. Thirdly, central banks (including the ECB) need to be prevented from using their financial means (for example quantitative easing) to the benefit of harmful industries. We see that deploying quantitative easing means strategically could not only lead to the pursued financial objectives but could also greatly contribute to the environmental objectives set out by the Union¹⁸.

Social dimension.

Fourthly, with regards to the social dimension past events have clearly demonstrated the need to bridge the divide between generations, classes and geographical locations. In that light we would see the Union contributing to bridging the 'gilets jaunes' with the 'student climate marches'. Current Union policy in the field of cohesion funds can play a major role in this. Furthermore, taxation on consumer goods in terms of CO₂ emitted in the production process (as proposed hereafter), should not result in those goods

¹⁵ IUCN (2018) "The EU must prioritise nature in its next budget (MFF)"

<https://www.iucn.org/news/europe/201812/eu-must-prioritise-nature-its-next-budget-mff> ; Climate Action Network Europe (2019) "Ministers debate increase of EU budget for climate action"

<http://www.caneurope.org/publications/press-releases/1746-ministers-debate-increase-of-eu-budget-for-climate-action>.

¹⁶ Climate Action Network Europe (2018) "European development banks need to get out of fossil fuels":

<http://www.caneurope.org/publications/blogs/981-european-financial-institutions> ; and Bank Watch Network

(2018) "NGOs urge EU bank to quit fossil fuels investments, as it touts its climate commitment at COP24"

https://bankwatch.org/press_release/ngos-urge-eu-bank-to-quit-fossil-fuels-investments-as-it-touts-its-climate-commitment-at-cop24.

¹⁷ Ecologist (2019) "Macron puts climate bank on EU agenda" <https://theecologist.org/2019/mar/11/macron-puts-climate-bank-eu-agenda>.

¹⁸ Grantham Institute (2017) "Policy Brief: The Climate Impact of Quantitative Easing":

<http://www.lse.ac.uk/GranthamInstitute/wp-content/uploads/2017/05/Green-QE-policy-brief.pdf>

becoming more disproportionately unavailable to the less fortunate. Likewise, labelling and communication with regards to environmental initiatives should be accessible and comprehensible for each in terms of language, syntax and clarity.

Even such considerations as raised above could strongly contribute to ‘citizens support and engagement’ (discussed above) we wish to emphasise the difference in approach; a social dimension increases citizens support, but citizens support doesn’t improve social cohesion itself. The environmental transition must therefore be coupled with social justice. Consequently, the costs of a societal transition, such as the one we aim for, should not come at the cost of increasing social divisions. Instead of perceiving this as a challenge or a ‘deal-braker’ the coupling of social justice to a paradigm social shift should be seen as an opportunity for the European Union to engage itself (directly) with new groups of citizens which so far have not always felt the results of European integration.

Innovation and technology.

In the ecological transition, innovation must not be considered as an answer in itself, having indeed the task to lead towards the completion of the societal paradigm shift. Thus, although the role of the private sector in fighting environmental degradation is extremely relevant, this must not be decoupled from the need for a strong (and smart) regulatory environment, which plays a central role in achieving Public Purpose through the directionality of investments (as also discussed under EU budget and public finance). Indeed, there is the need to recast the so called Innovation Principle considering its societal benefits. We, therefore claim that a right balance must be struck between the need for the private sector to avoid red tapes in order to better develop new environmentally friendly technologies and the key role of an entrepreneurial public sector in fostering good and purposeful innovation. To this end, a mission-oriented approach will provide a clear direction and a coherent framework for cross-fertilization between high-tech and low-tech sectors, also enabling bottom-up experimentations through regulatory sandboxes.

Local initiatives and subsidiarity.

A comprehensive plan for societal change in Europe should also take into account its multi-level nature and the issue of subsidiarity. Cities and regions are key actors in the framework of the Green Marshall Plan. They are the levels of governance closest to the citizens’ needs, showing them the concrete achievements of a fair and just ecological transition. In this context it is useful to recall our proposition for more *bottom-up* citizen dialogue oriented policy initiatives. Furthermore, on the model of the Covenant of Mayors for Climate and Energy, a “Covenant of Mayors for Ecological Welfare” ought to be established in order to increase cooperation and learning between the different parts of this essential layer of governance. A “Permanent Platform for the Ecological Transition”, then, will provide a clear and stable platform for discussion at sub-national level between central governments and local authorities, aiming at placing the latter at the centre of the transformation. This will in return also increase the efforts in terms of citizens’ support and engagement.



CHAPTER 2

TOWARDS A MORE AMBITIOUS AND INCLUSIVE CIRCULAR ECONOMY

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Circular Economy is recognized by the Commission as an important element of its strategy for sustainable growth. It is a chance for many industry to be part of the environmental transition by improving their model of production with circularity. However, this policy could be more ambitious and inclusive. Indeed, circular economy can provide important opportunities for Europe. By implementing a more ambitious and effective policy, this model could be beneficial to create well-being, green growth and jobs and to decrease environmental impacts from industries and our way of consuming¹⁹.

We envisage complementary and implementable proposals that would bring a significant positive chance and could, other than the sectors below, be applicable in the textile, construction material, electronics, plastic packaging and cosmetics sectors. Our proposals cover eco design, waste management, labelling and finally environmental taxation.

The textile and clothing industry has been recognized as very polluting, it is important to change the way of doing of this industry. Moreover, this industry represents some challenges that requires innovative solutions.

1) Enhanced ecodesign

As 80%²⁰ of the environmental impacts of products are actually determined at design stage, the design phase is pivotal for the entire life cycle of any product since decisions are made about the amount and type of materials used in production, the product reparability and recyclability, the product lifespan and expected end-of-life, and in the end the product cost.

Willingly or not, some manufacturers may design products with a limited useful life and with key components that are impossible to replace, or which might be toxic, in order to generate more sales or simply as a standard practice.

For instance, synthetic fibres generally contain microplastics amounting to 35% of microplastics found in the marine environment²¹, and in general waste in this industry represents 20% of the global waste²². For the clothing and textile industry, the mix of fibres composing fabrics is crucial, since the decomposition process of synthetic fibres releases methane and chemicals or microplastics that can contaminate the soil and groundwater²³. Furthermore, the mix of fabrics raises important problem of recyclability. Even if some tools are on the way to separate the type of fibres to recycle textile and valorise this waste, yet, garments producers should face their responsibility in the very conception of garments. They should be encouraged to use “cradle to cradle” fibres made of biodegradable synthetic polymers which do not cause harm to the environment when decomposing.

Together with design techniques and innovations making waste more sustainable, better design means also improved resource efficiency, which in turn means enhanced quality of secondary materials and greater opportunities for their uptake. This is of utmost importance for raw materials, whose quality must be ensured at the end-of-waste status.

Despite the relevance of eco-design, the environmental impact of products has been so far calculated mainly on the basis of the product energy efficiency. As a matter of fact, the Ecodesign framework directive and its implementing regulations only deal with energy related products. The same energy-efficiency-driven logic applies of course to the Methodology of Ecodesign of Energy-related Products (MEErP) and to the Ecodesign EcoReport Tool. This approach started to change with the inclusion of durability requirements for certain products such as vacuum cleaner motors and light bulbs²⁴, but we need to further explore the potential of the Ecodesign directive that has been left untapped.

¹⁹ EEA, Report on Circular economy in Europe, EEA Report, 2/2016.

²⁰ Cf. <https://ec.europa.eu/jrc/en/research-topic/sustainable-product-policy>

²¹ Boucher, J. and Friot D. (2017). Primary Microplastics in the Oceans: A Global Evaluation of Sources. Gland, Switzerland: IUCN. 43p

²² Cf. [tps://www.close-the-loop.be/en/phase/3/end-of-life](https://www.close-the-loop.be/en/phase/3/end-of-life)

²³ Cf. <https://www.triplepundit.com/story/2012/why-textile-waste-should-be-banned-landfills/69886>

²⁴E. Maitre-Ekern and C. Dalhammar, ‘Regulating planned obsolescence: a review of legal approaches to increase product durability and reparability in Europe’ (2016) 25 RECIEL 3, 378–94.

Our aim is therefore to improve the system of incentives and deterrents, by fostering the push and pull model already in place which will in turn change producers and consumers behaviour.

As far as Ecodesign is concerned, we were led by the following **research question**:

How could the European Commission better facilitate recycling and create an EU-wide market for waste?

In order to control the environmental impact of products circulating in the internal market, we ought to embrace the challenge of making design greener. Therefore, we propose to complement the Extended Producer Responsibility provided for waste with the **Enhanced Designer Responsibility**. We suggest that this concept can be operationalized via the introduction of improved design requirements in the **Ecodesign directive** and consequently in the Methodology employed for the development of the preparatory studies. Two requirements must be met:

1. Overall recyclability of the product. The Commission, in collaboration with stakeholders should develop a comprehensive indicator to assess the recyclability of the final product on the basis of its design. The indicator may take into account by way of example the ease of disassembling, the number of parts, the number of different materials used, the presence of toxic substances. Such an assessment will ensure the quality of the various parts composing the final product, which in turn will increase their attractiveness as secondary materials. It will allow recycling companies to compete on best process and allow existing practices to evolve. Waste management would acquire a virtuous image and innovation would increase in this sector.
2. Incorporation of a certain percentage of recycled content by weight. Including a content requirement means constraining a significant share of new products to be composed of recycled material. Thresholds ensure that environmentally worse performing products are eliminated from the market. This would guarantee constant demand, certainty, and investment in the recycling market. It would allow for an EU Single Market for waste to materialize, providing opportunities and circular economy jobs (and enhancing innovation culture). Enormous resource efficiency and material productivity gains could result from complementary measures guiding investment in financial and technical solutions.

Furthermore, the Enhanced Designer Responsibility could be complemented in the legislation with the mandatory provision of spare parts for repair, as it is already done for lighting, fridges, TV screens, dishwashers and washing machines. In order to avoid overproduction, prevent negative economic effects and to boost local economies, companies could set up digital stocks of their spare parts so that they could be printed locally, via 3D printing. Following the same idea, the textile industry, that is responsible for large amounts of waste each year²⁵, should ensure offer of repairing or personalization of garments to increase the life of the products.

This proposal tackles the supply-side of the circular economy and must be read in conjunction with the proposal on the adoption of a clear and mandatory EcoLabel.

Feasibility

The proposal to introduce additional requirements for producers in the Ecodesign directive as to meet their enhanced designer responsibility is economically attractive in the long-run, even if it may increase the cost for producers to improve their product design. According to Bauer et al., for example, “a minimum threshold set for the recycled content in all cotton products at 5%, is likely to lead to a 5% or higher replacement of virgin cotton used in textiles consumed on the European market”²⁶.

²⁵See *Infra*.

²⁶B. Bauer, D. Watson, A. Gylling, A. Remmen, M. H. Lysemose, C. Hohenthal, A. K. Jönbrink, (2018). Policy Brief - Ecodesign Requirements for Textiles and Furniture: Eco design requirements that can be drawn up for non-energy-related products are in focus. Nordic Council of Ministers. Copenhagen.

More generally extending lifetimes of products leads to higher environmental savings than recycling²⁷.

However, there might be some technical and legal difficulties. As far as technical issues are concerned it will be necessary to conduct the necessary studies to identify the product categories whose improved design might have the greatest economic benefit and which in fact are difficult to recycle or do not incorporate recycled content or secondary raw materials due to its poor quality.

Legally speaking there might be a legal barrier in the adoption of the recyclability and recycled content requirement due to the provision in Article 15(2)(c) of the Ecodesign Directive mandating all ecodesign requirements proposed under the Directive to have ‘significant potential improvement’ in terms of environmental impact²⁸. In other words, a proposed requirement can only be allowed if it can lead to significant environmental improvements. However, the provision seems better suited to energy efficiency requirements and appears to have been formulated with energy issues in mind. For example, establishing how the recyclability requirement may increase the recyclability of the product is complex²⁹.

2) Towards a clear, informative and mandatory labelling

Citizens should be aware of the environmental cost of products that they consume every day. The European Union created the EU Eco Label in 1992, however, from the consumers or even producers' point of view, it seems these labelling has not had the expected results. According to the a report on the evaluation of European Eco Label published by ADEME³⁰, the main issues for the implementation of the Eco-Label are: the cost, the difficulties to obtain the certification, the lack of communication and the fact that most of enterprises have not heard about it. 40% of the enterprises interviewed for this study said did not know about European Eco-Label. On the consumers side, the European Eco Label is positively perceived but there is still a lack of awareness on the EU Ecolabel and also inadequate recognition of the EU Eco Label³¹ and it has not resulted in a clear consumers behaviour yet.

The labelling was considered under the following research question:

Should the European Commission consider the introduction of a new type of labelling to influence the way citizens consume?

The proposed labelling system in practice

In order to address citizens' support and engagement and to ensure a sustained demand of green products, we believe that it is necessary to incentivize consumers' behaviour via clear, informative and mandatory labelling. Our idea relies on a system as with letters and colours code that was applied to household appliances with the energy-efficiency labelling which has shown positive results in shifting consumers' behaviour³². This is a very different type of way of labelling, therefore, it can be complementary to the EU Eco Label.

We suggest making it compulsory for companies to include on products labels the ranking of products on a scale from A to G taking into account the recently tested *Product Environmental Footprint*. Moreover, the EU labelling should always contain an indication to recycle the products. However, to reduce the cost for producers in the implementation of this labelling on packaging, we suggest to use

<https://doi.org/10.6027/ANP2018-739>

²⁷ Ibid.

²⁸ S. Svensson, & C. Dalhammar, (2018). Regulating Recyclability under the Ecodesign Directive. In E. Maitre-Ekern, C. Dalhammar, & H. Bugge (Eds.), Preventing Environmental Damage from Products: An Analysis of the Policy and Regulatory Framework in Europe (pp. 229-252). Cambridge: Cambridge University Press. doi:10.1017/9781108500128.009

²⁹ C. Dalhammar, (2015). “The application of “life cycle thinking” in European environmental law: theory and practice”. 12 Journal for European Environmental & Planning Law 97–127.

³⁰ ADEME, Evaluation de l'écolabel européen auprès d'entreprises en France, 2017, report available at: https://www.ademe.fr/sites/default/files/assets/documents/evaluation_ee_201701_synthese.pdf

³¹ Iraldo, F, Barberio, M, Drivers, Barriers and Benefits of the EU Ecolabel in European Companies' Perception, 2017, Sustainability, 9, 751

³² Euractiv, “EU official: Households will save €500 a year from existing EU energy-saving laws”, 1st March 2019, retrieved 17 March 2019

digitalisation and AI. By the presence of a Bar Code, supermarket should be able to display the letters and colours on the digital screen that usually show the price to the consumers. Therefore, having such an indication next to the price could create a very positive incentive for the consumer's that remind of the nudge principal.

To add information to the consumers, the barcode should include more information on the environmental impact of the products like how to recycle efficiently this product or the nutriscore for food-based products. For instance, in the textile industry, one of the important lack of information would be the traceability, we rarely know much about the textile supply chains. With the use of AI, it is possible to proceed to an important data collection and ensure the traceability of textile products. Some initiatives like TrustTrack or RefScale³³ already started this process. Moreover, thanks to digitalisation the consumers will also have the opportunity to look for more detailed information by simply scanning barcode of their products with their phone or digital born settle in shops.

Feasibility and benefits

This proposal might be welcomed by the producers since it will do not change the cost for the packaging or will not lead to long certification for a labelling. The classification of the products will be done according the Product Environmental Footprint already available. However, the digitalisation process might bring some costs. Further studies should be done on this last point.

This proposal will make citizens more engaged in the choice of their products as they will have more objective information to choose and citizens are asking for system clearer to guide them through the jungle of various labelling. As an example, the application Yuka encounter a large success in France with more than 6 million downloads in a year and it has changed the way some products were consumed. The food industry has been particularly sensitive to the apparition of the app³⁴. In the long run, such a system could therefore be an incentive for producers to change their design. The overall benefit of this proposal is, thus, to produce an incentive to foster a shift in the consumption thanks to a market-based tools so that producers will have to ultimately rethink their way of producing and become more responsible. A shift in the consumption and the production could contribute to the transition towards a paradigm shift with a predominance of ecological preoccupations. Implementing such system will also allow a better inclusion of the citizens into the circular economy by making them more aware and responsible of their choice.

3) Harmonising Waste Management at the EU Level

In 2016, the EU has registered the highest amount of waste recorded during the period 2004-2016, which amounted to 2.533 million tonnes³⁵. Despite a decrease in the average amount of municipal waste from 2005 to 2016, waste must be significantly decreased in order to avoid serious impact on our environment, causing pollution and greenhouse gas emissions. Waste management plays an important role in the EU's waste hierarchy in order to ensure that materials are clean and ready for re-use, not only for health and safety reasons, but also for building trust in consumers that recycled products are safe and at high standards. Therefore, the proposal is to create a **harmonised waste collection system across the member states**.

Harmonised waste collection system in practice

A harmonised waste collection system would involve a minimum set of rules that all municipalities would need to follow, such as:

- rules on colour coding of waste (e.g. blue for plastic, yellow for paper, black for glass, green for garden waste, brown for compost etc.)

³³ BCG, The pulse of fashion report, 2018, available at: <https://www.globalfashionagenda.com/initiatives/pulse/#>

³⁴ Novethic, "Alimentation: inquiets du succès de l'application Yuka, industriels et distributeurs contre attaquent", available at: <https://www.novethic.fr/actualite/social/consommation/isr-rse/face-a-l-influence-de-yuka-les-industriels-et-distributeur-contre-attaquent-146661.html>

³⁵ Eurostat, https://ec.europa.eu/eurostat/statistics-explained/index.php/Waste_statistics#Total_waste_generation

- clear rules of the types of material that is to be collected (e.g. type 1 and 2 of plastic must be recycled by all municipalities)

A minimum set of requirements shall not hinder municipalities to take further measures if they wish so. However, such minimum requirements applied across the EU will bring significant benefits.

Feasibility and benefits of a harmonised waste collection system in the EU?

Firstly, a harmonised waste collection system is necessary, if we want to ensure proper collection, separation and recycling at the EU level. The quality and energy efficiency of such harmonised system can deliver cost-efficient and energy-efficient recycling thanks to economies of scale. It can lead to regional recycling hubs operating at the right scale. It is also an opportunity to create recycling markets in the EU where member states can recycle their waste together without having to depend on exporting waste to developing countries, such as China. In 2017, intra-EU trade accounted for more than 60% showing the importance of harmonisation of waste collection in the member states^{36,37}.

Secondly, a harmonised waste collection system could impact consumers and their behaviour when it comes to sorting and recycling waste. Citizens enjoy free movement to travel and reside in any EU Member State, with more than 60% of EU residents having made at least one personal trip in 2017³⁸. However, recycling rules are different from country to country. Therefore, it is important to make waste collection rules as easy and clear as possible for citizens in order to facilitate and encourage a responsible behaviour towards waste and recycling. This can be achieved by decreasing the differences between member states when it comes to waste collection methods. By doing so, we facilitate residents in recycling their waste faster and easier, and improve tourism recycling, which highly affects countries like Malta and Cyprus³⁹.

Thirdly, a harmonised waste collection system would create products of high and safe standards, positively impacting the EU waste hierarchy in the re-use, recycling, recovery and disposal of products and materials. According to a study of the European Parliament, “80% of environmental pollution and 90% of manufacturing costs are the result of decisions taken at the product design stage”⁴⁰. We therefore need to ensure that products are reused, repaired and recycled as much as possible. A harmonised waste collection system would also impact the way in which the Circular Economy Package is implemented.

How can this be achieved?

Since waste collection methods varies between local, regional and national levels, municipalities and member states will play a crucial role in this proposal, in both the prevention and collection of waste, but also in encouraging and informing citizens about the importance of reducing and recycling waste. With around 98 regions (according to Eurostat) and even a higher number of municipalities, standardisation of waste collection schemes across them will be challenging but necessary in the long term. The transition to a harmonised waste collection system will happen over years and only with appropriate legal framework, incentives and financial support from both the EU and the member states. A start in this direction can be the creation of an EU-wide platform where municipalities can exchange best practices and learning experiences, which will then lead into a EU-wide standardisation. Municipalities will need to be heavily involved in this process in order to find a suitable method that benefits not only the cities but also the citizens.

³⁶Eurostat, Intra- EU Trade in goods – recent trends, available at : https://ec.europa.eu/eurostat/statistics-explained/index.php/Intra-EU_trade_in_goods_-_recent_trends

³⁷ European Commission, Trade in goods and services, available at : http://ec.europa.eu/internal_market/scoreboard/integration_market_openness/trade_goods_services/index_en.htm

³⁸Eurostat, https://ec.europa.eu/eurostat/statistics-explained/index.php/Tourism_statistics#Bed_places_in_the_EU-28:_France_and_Spain_predominate

³⁹ European Parliament, <http://www.europarl.europa.eu/news/en/headlines/society/20180328STO00751/eu-waste-management-infographic-with-facts-and-figures>

⁴⁰ European Parliament, <http://www.europarl.europa.eu/news/en/headlines/society/20180522STO04021/ecodesign-directive-from-energy-efficiency-to-recycling>

- **EU Recycling Application ('iRecycle with EU')**: related to the abovementioned proposal, the Commission shall introduce an **EU-wide mobile and web application** that allows citizens to scan (or introduce the barcode for the web application) products that they use in their daily lives and identify if a particular product (or material) is recyclable in the respective city and country. For example, through the application, one can select the city and country, scan the barcode (introduce the barcode for the web application), through which in turn they will be informed if their local authority is recycling that type of material. This application can be beneficial for both people that travel and reside in an EU Member State as it facilitates the recycling process and provides necessary information of recycling rules.
- **Consumer Guarantee**: a first step before recycling is increasing the lifetime of a product. The current EU law provides consumers with a minimum two-year legal guarantee for faulty products. The proposal is to extend this guarantee from two to **five years**. This could push producers to create durable products and increase the lifetime of a product, thus impacting on the consumers behaviours, as well as increasing the competitiveness between businesses on providing high quality products and repairing services. This proposal can be applied firstly to electrical products (such as washing machines, laptops, etc.) since they have higher lifetime, and then extended to other products, such as mobile phones. Depending on the lifespan of the product, the legal guarantee can be adapted, as well as products could be exempt.

Market Aspect: Quality standards for secondary raw materials

Depending of the specific material, an important share of the waste is currently not recycled within the EU. The EU recycled around 55% of all waste excluding major mineral waste in 2016, municipal waste stood at 46%.^{41,42} The Waste Framework Directive aim at raising the latter number to 55% by 2025 and 65% by 2035. Taking the example of plastics, even when collected and accounted for as recycled, a significant share is sent overseas where lower social and environmental standards apply. When the recycling happens on EU soil, recycled content ends up glutting already saturated markets due to low demand for secondary raw material.⁴³

Indeed, demand is low, partly because of a perceived lack of quality. For this reason, “only 6% of new plastic materials come from recycling, 95% of the potential economic value in plastic packaging currently goes to waste and failure to recycle costs the European economy €105 billion each year.”⁴⁴ Complementarily to the adopted increasing recyclability target the Commission considers creating quality standards for secondary plastics. It goes hand in hand with the proposal to introduce mandatory rules on minimum recycled content in certain products.⁴⁵ We propose that the Commission takes similar measures for a variety of material including textile and non-ferrous metals, wood products, wherever it is possible, and make sense.

This will ensure constant demand, certainty, and investment in the recycling market. Only then will any real EU Single Market for waste materialize, providing opportunities and circular economy jobs. The comprehensive mapping of material flows and stocks, inspired from Horizon 2020 Urban Mining

⁴¹EEAS, “Circular economy in the EU: Record recycling rates and use of recycled materials in the EU”, 4 March 2019, retrieved 17 March 2019, https://eeas.europa.eu/delegations/china/59123/circular-economy-eu-record-recycling-rates-and-use-recycled-materials-eu_en.

⁴²Eurostat, “Recycling rate of municipal waste”, 26 February 2019, https://ec.europa.eu/eurostat/web/products-datasets/product?code=T2020_RT120.

⁴³Euractiv, “Chinese waste ban ‘wake-up call’ for European recycling”, 18 December 2017, retrieved 17 March 2019, <https://www.euractiv.com/section/circular-economy/news/httpwww-euractiv-comsectioncircular-economynewschinese-ban-on-plastic-waste-imports-could-see-uk-pollution-rise/>.

⁴⁴European Commission, “A European Strategy for Plastics in a Circular Economy”, “2018, retrieved 17 March 2019, https://ec.europa.eu/commission/sites/beta-political/files/plastics-factsheet-industry_en.pdf.

⁴⁵European Parliament, “Plastic waste and recycling in the EU: facts and figures”, 19 December 2018, retrieved 17 March 2019, <http://www.europarl.europa.eu/news/en/headlines/society/20181212STO21610/plastic-waste-and-recycling-in-the-eu-facts-and-figures>.

platform⁴⁶, would be useful for spatial planning and investment planning by regions, and would better inform business choices creating economies of scale and fostering cost-efficient industrial symbiosis (e.g. as currently done in Dunkerque region).⁴⁷

4) Environmental taxation: The Energy Taxation Directive must inspire a Resource Taxation Directive for EU harmonization of minima.

The Commission has been able to influence consumer behaviour and energy consumption of electro domestic appliances through labelling energy efficiency. Indeed, in addition to informing consumers, decreased spending has been successfully marketed and felt.⁴⁸ Circularity targets are, however, less concrete and their achievement does not automatically send the appropriate price signal to consumers as they tend to buy more of cheaper products rather than one product of quality. Prohibitive repair costs also incentivise regular replacements. Because of the international focus on climate change, resource efficiency has sometimes occupied a rank of lesser importance. Characterised by the footprint (concrete earth surface needed to produce a good), this target has not benefited from the same visibility and didn't impulse the same profusion of initiatives, investments, consciousness and business models.⁴⁹

Incentivising through price signal, the environmental tax

To integrate the negative externalities of a good's production into its price, an environmental tax can be a solution.⁵⁰ Suggested under many forms, the best option should be informed by contextual elements. In the case of resource efficiency, a problem identified is that social protection costs by employers and energy-intensity/complexity of recycling processes encourage producers to prefer linear to circular economy practices. Meanwhile, unemployment and growth are amongst the most salient issues for politicians and buying power is key for social acceptance. To address the circularity issue, a pragmatic alternative is thus the creation of an environmental tax, whose revenue could also contribute to support schemes for the most vulnerable segments of population and supports green investments.

Feasibility

The Commission should encourage the creation of a carbon tax (and fund feasibility studies towards it) on most goods to allow products and processes to compete on a fair basis (i.e. internalizing environmental costs). Rather than a new specific tax on resource efficiency, a carbon tax could reflect the related CO₂ emissions of goods during their life-cycle. In concrete terms, it would consider the carbon implications of material extraction, refining, transformation, goods production, transport, recycling and disposal. Despite incredible complexity, blockchain technology⁵¹ could facilitate systematic accounting⁵² and a certain range of products could be targeted first. If border carbon adjustments are envisaged for the ETS, circularity-related carbon taxation could also be levied upon entry into the internal market.⁵³ If taxation cannot be assigned to the product itself. It can still be imposed to the producer upon entry into the market. For instance, France progresses towards making

⁴⁶Urban Mine Platform, 2019, retrieved 17 March 2019, <http://www.urbanmineplatform.eu/homepage>.

⁴⁷ A. Diemer, "Industrial symbiosis and european policy" in Diemer A., *et al.* (eds), European Union and sustainable development, Oeconomia, 2017.

⁴⁸ Euractiv, "EU official: Households will save €500 a year from existing EU energy-saving laws", 1st March 2019, retrieved 17 March 2019, <https://bit.ly/2UoV5Jd>.

⁴⁹ OECD, "RE-CIRCLE: resource efficiency and circular economy", retrieved 17 April 2019, <http://www.oecd.org/environment/waste/recircle.htm>

⁵⁰ Rosenstock, M., "Environmental Taxation within the European Union", 2014, Cyprus Economic Policy Review, Vol. 8, No. 2, pp. 113-123.

⁵¹ Kouhizadeh, Mahtab & Joseph Sarkis "Blockchain Practices, Potentials, and Perspectives in Greening Supply Chains", Sustainability 2018, 10(10), 3652

⁵² Kouhizadeh, Mahtab *et al.* "Blockchain technology and its relationships to sustainable supply chain management", Journal International Journal of Production Research Volume 57, 2019, Issue 7

⁵³ Krenek, Alexander, Mark Sommer & Margit Schratzenstaller, "Sustainability-oriented Future EU Funding: A European border carbon adjustment", Austrian Institute of Economic Research, FairTax WP-Series No. 15, January 2018.

it compulsory for producers to pay for the waste management services through incentive-based pricing programs.⁵⁴

This would favour cleaner processes, local solutions and low-intensity upcycling processes. It would allow new business models and value chains to flourish. This parameter, CO₂-equivalent, would also permit actors to work on an objective basis and to inform progress achieved, in line with their international commitment and EU green taxonomy. The European (or global) carbon price can inform tax levels to obtain the most cost-efficient mitigation investments. The introduction of this carbon tax at EU level will be accompanied by the harmonization of taxation at EU level (to prevent fiscal dumping). Temporary derogations (during an adaptation period) for intensive industries would be a complementary solution.

Until that becomes a reality, a reduction of VAT (whose revenue loss is compensated by the decreasing waste volume collection cost) on repair activities should be implemented. The Commission should, in the short-term, advocate for the Swedish model⁵⁵, likely to increase demand for such services and thus employment in that sector.⁵⁶

Three important considerations need to be tackled. First, taxation must be politically feasible, engaging stakeholder and citizen support. Second, given unanimity requirement, no legal proposal is likely to pass but the Commission can have country specific recommendation under the European semester to encourage individual Member States exchange of good practices, explain functioning and observed benefits. Finally, some national taxation administrations are small and have limited human resources capacity. If something is to happen, Commission would have to provide a help for doing it.

To address related unfair fiscal pressure, this tax reform could be coupled with a progressive increase taxation on capital.⁵⁷ Indeed, to be socially fair, must be progressive⁵⁸ rather than regressive (as they are currently⁵⁹). It can only work if current relative inequalities and distributional aspects are addressed.⁶⁰ Reducing income tax for the poor (by increasing income tax threshold) would reduce their contribution to social security. It can be complemented with other measures, such as support schemes for the most vulnerable segments of society to consume higher-quality products.

The carbon tax will ultimately, decoupling growth from consumption, keeping material in use at highest state of value, reducing overall resource use and repurpose material properly.

⁵⁴ Ademe, "La Tarification Incitative", September 2015, retrieved 17 April 2019,

https://www.ademe.fr/sites/default/files/assets/documents/fiche-technique-tarification-incitative_vd.pdf.

⁵⁵ European Commission, "The EU Environmental Implementation Review 2019 Country Report - SWEDEN", SWD(2019) 117 final, Brussels, 4 April 2019.

⁵⁶ RREUSE, "Reduced taxation to support re-use and repair", 9 March 2017, retrieved 17 March 2019, http://www.rreuse.org/wp-content/uploads/RREUSE-position-on-VAT-2017-Final-website_1.pdf.

⁵⁷ Krenek, Alexander & Margit Schratzenstaller, "Sustainability-oriented future EU funding: a European net wealth tax", Austrian Institute of Economic Research, FairTax WP-Series No. 10, June 2010.

⁵⁸ European Environmental Agency, "Distributional Impacts of Environment-related Taxes and Environmental Tax Reform Facebook", Copenhagen, EEA Technical report No 16/2011, 2011.

⁵⁹ Zachmann, Georg, Gustav Fredriksson & Grégory Claeys, "The distributional effects of climate policies", Bruegel, Blueprint Series 28, 14 November 2018.

⁶⁰ Gunnarsson, Åsa, "Taxing for equality: a re-emerging tax policy trend in Europe, Umeå University, FairTax policy brief No 1. June 2017.

CHAPTER 3

URBAN MANAGEMENT

Marlene Kionka and Clémence Brodier (Sustainable and liveable cities), Victor Garcia Lopez & Yedong Wang (Transport), Chrysanthi Tramountana (Urban transport), Bartolomé Torrico Carvajal (Green infrastructure)

SUSTAINABLE AND LIVABLE CITIES

Urban areas are growing, and represent $\frac{2}{3}$ of the European population⁶¹. The urban areas are in front row in terms of pollution, but also in terms of progresses that can be made through climate change policy and innovation. Cities are expected to grow even more in the next decades, and will face many challenges in the future: this is why it is vital to rethink the urban planning and the use of spaces, in order to make it sustainable and liveable for every citizen. We therefore consider the following question:

Should the Commission promote urban and spatial planning for sustainability, in order to reduce their CO2 emissions and make them more liveable for their inhabitants?

We use for this the concept of urban metabolism, developed by Wolman in 1965⁶². Urban metabolism is defined as “*the sum total of the technical and socio-economic processes that occur in cities, resulting in growth, production of energy, and elimination of waste*”. It quantifies all “the inputs, outputs, storage of energy, water, nutrients, materials and wastes”⁶³ of an urban region. Indeed, like human metabolism, cities consume resources and produce wastes.

This concept can thus be applied to rethink urban planning, and to redesign urban infrastructures in a sustainable way. The idea is thus to create close loops of consumption of resources and waste, reused as consumption again⁶⁴. In this context, we would like to present our ideas for a better urban planning in order to reduce wastes, make the cities more liveable and sustainable and reduce CO2 emissions.

1. Urban agriculture development

Urban agriculture refers to “*the production of food and non-food plants, as well as husbandry, in urban and peri-urban areas*”.⁶⁵ By using some spaces in cities which would otherwise not be used, like rooftops or portions of parks, it takes advantages of proximity to a city or town to offer local or regional agricultural services⁶⁶. Replacing regular trees in cities by fruit trees can also be an idea of producing and distributing food resources locally.

This would have some positive consequences: it would help reconnect citizens of big cities with nature by going back to the basic process of growing food naturally, and reconnect producers and consumers while making the distance from farm to plate way smaller. This could also increase the quality of food produced. It has economic benefits for the development of small-scale entrepreneurs in the cities; etc. Urban and vertical urban farming are essential for a self-resilient system. The initiatives need to be big enough to concern a significant part of the population of cities, and be spread in different places and types of neighbourhood (from center to periphery).

CASE STUDY: Rotterdam, Netherlands: Rotterdam Climate initiative⁶⁷ promoting the use of rooftops by covering it with soils and plants.⁶⁸ With a subsidy from the municipality fixed at 15euros/m² covered, plants have been covering rooftops of industrial buildings for example. This can help the growing of food, but also has the advantage to absorb rain water and reduce CO2 emissions by absorbing them directly in the city. Indeed, by reusing the rainwater, the growing of food doesn't necessitate input, and reduce the resources consumption of the city.

⁶¹ European Commission, “Urban development”, European Commission, 2019, retrieved 19. March 2019 https://ec.europa.eu/regional_policy/en/policy/themes/urban-development/

⁶² Kennedy, C., et al., *The study of urban metabolism and its applications to urban planning and design*, Environmental Pollution, 2010, p2, retrieved 19 March 2019, http://www.igbp.net/download/18.5831d9ad13275d51c098000258/1376382967821/Kennedy_et_al_2010_U_M_urbanplanning_design.pdf, p2

⁶³ Ibid.

⁶⁴ Ibid. p6

⁶⁵ Santo, Palmer and Kim, “Vacant lots to Vibrant Plots: a review of the benefits and limitations of urban agriculture”, Johns Hopkins Center for a Liveable Future, May 2016

⁶⁶ Student Energy group of the College of Europe 2016/2017, “White paper on good practices of environment and energy in the EU member states”, College of Europe, 2017

⁶⁷ Sabina van der Spek, “Bewoners Bergsingel vergroenen hun schuurtjes”, Gemeente Rotterdam, retrieved 19 March 2019; <https://www.010duurzamestad.nl/voorbeelden/groene-schuurtjes/>

⁶⁸ Student Energy group of the College of Europe 2016/2017, “White paper on good practices of environment and energy in the EU member states”, College of Europe, 2017

There is, for now, no real promotion measures targeted to urban agriculture, even though the funds of the rural development program of 2014-2020 could be used for urban agriculture⁶⁹. It is up to the Member States to decide on the types of operations they wish to fund. The Common agricultural policy being made for rural areas mostly, it is difficult to find the right framework to promote and offer funding for urban agriculture.

We would thus recommend to introduce urban agriculture into the Urban agenda of the EU⁷⁰, in order for it to get funding from the Cohesion policy, as we believe the CAP is mainly shaped for traditional agriculture. Funding could for example be allocated for every new building using urban agriculture on its rooftop, or as a support to municipality for subsidies for square meter covered by plants, as seen in the case study. Urban agriculture use needs to be promoted and enhanced, as there is a growing recognition of its benefit on economy, society and environment⁷¹.

Another idea would be to create the position of a European Green Broker, mentioned in the first chapter of this draft to foster citizens support and engagement.

This representative, one for each country, which would act on a national level to convince municipalities, building owners, as well as manufacturing companies to cooperate together in order to develop the use of their spare spaces into urban agriculture. Using the European framework and the network of good practices already in place, this urban planner as a contact person could promote the benefits of urban agriculture, guide the building owners and industries in getting funding from the European Union under the Cohesion Policy, as well as create a link between cities and owners using already urban agriculture to enhance good practices. The European Green Broker would ensure the respect of the competences of cities and act as an intermediary with the EU.

The European mediator could be a specialized European civil servant linked with the Representations of the European Commission placed in each country, in order as well to have a good knowledge of the specificity of the countries and the different challenges they can encounter in applying our propositions. This relies thus in the competence field of the European Union. This would mean to make sure one person of each Representation of the Commission is dedicated to this work: the cost may entail to open new positions, but it should stay reasonable then.

2. Green spaces in city

In urban environments, the daily contact of inhabitants with nature is reduced. However, research shows a clear links between nature exposure and people's health and well-being⁷². Exposure to nature has benefit for air quality, reducing people's stress, encouraging in sportive activities, and can also lead to more social interactions. The continuous growth of cities and the need for more green spaces are unfortunately concurrent to one another.

The lack of green spaces in cities can also lead to the phenomenon of "*Urban heat islands*", meaning that urban areas can be significantly warmer than rural areas.⁷³ This is due to the high concentration of population and buildings in urban areas, leading the heat to be captured in the ground. This phenomenon has been shown to be responsible for global warming, as well as lower air and water quality. One of the solutions to those urban heat islands is then to create more green spaces and parks within cities, to help cooling the air and let the heat escape, as well as capture CO2 emissions.

CASE STUDY: Parque Tejo-Trancão - Expo 98, Lisbon, Portugal⁷⁴: *before being a parc, the area was composed by several industrial firms, a sewage treatment plants and a lot of unused industrial buildings. Given the contamination and degradation of this landscape and the proximity to a natural*

⁶⁹ James McEldowney, "Urban agriculture in Europe: Patterns, challenges and policies", European Parliamentary Research Service (EPRS), 2017, [http://www.europarl.europa.eu/RegData/etudes/IDAN/2017/614641/EPRS_IDA\(2017\)614641_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/IDAN/2017/614641/EPRS_IDA(2017)614641_EN.pdf)

⁷⁰ European Commission, "Urban agenda of the EU", European Commission, retrieved 19 March 2019 <https://ec.europa.eu/futurium/en/node/1829>

⁷¹ McEldowney, loc. cit.

⁷² Grimm, Nancy & Schindler, Seth. "Nature of Cities and Nature in Cities: Prospects for Conservation and Design of Urban Nature in Human Habitat.", ResearchGate, 2018

⁷³ National Geographic, "Urban heat islands", National Geographic, retrieved 19 March 2019, <https://www.nationalgeographic.org/encyclopedia/urban-heat-island/>

⁷⁴ Loures, Luis & Panagopoulos, Thomas "Recovering Derelict Industrial Landscapes in Portugal: Past Interventions and Future Perspectives.", Research Gate, 2019

reserve, an intervention has been made on this area in the context of the World exposition 1998. It led to a new relationship of citizens with the river next to the area, decontamination of the place and more attractiveness of the neighbourhood. The place is also used today for recreation purposes, cultural activities and sport competitions.

The European Commission currently has a Research and Innovation agenda on Nature-based solutions and renaturing cities, implemented through Horizon 2020, the EU Framework Program for Research and Innovation.⁷⁵

However, again, we believe a part of the Urban Strategy of the EU should be dedicated to the enhancing of nature and green spaces within cities, for it to be clearer where the funding can be reached.

Through more targeted funding, the EU could help cities in their transition of unused industrial and polluted land like seen in the case study, to attractive parks where leisure activities are developed. In urban planning, the creation of green spaces should be the priority, in order to avoid urban heat islands and to reduce the average temperature in cities. The EU could furthermore set a binding target for cities to make available a green area in at least 500 meters around every citizen, for 2030: *this could be introduced through an “Urban space and Spatial planning directive” for example.* We also recommend to create a network of interconnected parks and green facades, to further foster the efficient use of wind and shade to cool down temperatures.

Linked to the proposal made on urban infrastructure and in the first chapter, the European Green Broker could also help mediating the negotiations between buildings owners and municipalities to target old and high energy consumers’ buildings which could be taken down in order to create a green space. The contact person would also help to get funding to enhance the presence of green spaces, and create a link between sustainable and green cities using existing networks.

3. Less (no) space for cars in cities

The reduction of CO2 emission within cities is crucial, as air pollution is one of the most important environmental problems with cross-cutting effect on areas such as health. The implementation gap between existing key initiatives to improve air quality within cities (e.g. Ambient Air Quality Directive and National Emission Ceiling Directive) and the remaining high concentration of air pollutants necessitates to tackle the underlying problems for this situation. The lack of effective communication with citizens to raise awareness for the issue and incoherent governance across various administrative levels within the EU demands the creation of an citizens-centric environment with social inclusion as well as “better regulation” leading to more collaboration at different level⁷⁶.

The EU can play a crucial role in this regard to offer an incentive to citizens to shift the focus on alternative ways of mobility than the use of a car. Thereby, the main focus should lay on the reuse of space reserved for cars within cities. The tool used by the EU can be regulatory measures. Firstly, it is recommended to set targets in terms of the ratio of kilometres of roads for public transport and cycle lanes over the kilometres of roads for private cars. Consequently, roads should be transformed into bike lanes. A 1:1 ratio can be envisioned with respect to a medium-term deadline with the possibility to revise it as soon as successful steps have been taken which smoothens the transition. Secondly, a certain area (threshold in percentage of square kilometres) should be reserved for reduced speed only, as this makes cities more hospitable for cyclists and hence, reduces air pollution. Thirdly, the use of bikes can be further increased by reducing road-parking facilities and further increase the number of bike lanes and/or green spaces. Moreover, the set-up of spaces outside the city for cars triggers a concept of “park and pedal”, where bikes replace cars within cities. Here, the ratio of bikes over cars in a city is a measurement for the EU to use when regulating on this issue. To control it, bicycle sensors electronically count bikes. The EU can ask each Member State to install these sensors in a distance of a certain amount of kilometres. Lastly, car free days as well as certain times of the day (such as rush hours) should be transformed into car-free times. Therefore, the bicycle sensors are

⁷⁵ European Commission, “*Nature-Based Solutions*”, European Commission, retrieved 19 March 2019 <https://ec.europa.eu/research/environment/index.cfm?pg=nbs>

⁷⁶ European Environment Agency, *Europe’s urban air quality — re-assessing implementation challenges in cities*, Luxembourg, 2019.

helpful.

The total ban of cars within cities and the mere use of bikes is not advisable, as alternative transport mechanisms need to exist for people not being able to use bikes. In this way, social inclusion can be ensured within the realms in cities. The EU is able to ensure that these alternative transport methods are environmentally friendly, meaning that only electric cars/buses should be used. The listed measures offer an incentive for citizens to switch to alternative transport modes, mainly bikes.

CASE STUDY: Copenhagen: number of bikes outnumbers number of cars

Copenhagen aims for a green transport system which is fossil free and brings about an alleviation of congestion and air pollution. One major step has been achieved in 2016, when the number of bikes increased the number of cars (265.700 to 252.600).. The city counts the number of bikes since 1970. Since 2009, electric bike counters are installed over the city to keep track of it. Over the past 20 years, bicycle traffic has increased by 68%. One reason is the strong political leadership behind this constantly evolving goal. The next vision is the establishment of a car-free city within in a decade.⁷⁷

To tackle the lack of coherent governance, the installed EU funding opportunities such as LIFE, Urbact, as an instrument of cohesion policy needs to be further extended as they serve as a promising approach to foster cities' collaboration in the framework of EU action. The interplay between cities' initiatives and EU action can be further enhanced by closer cooperation of Eurocities and Urbact. In this respect, multilevel working groups need to be set up. Therefore, the mentioned European Green Broker can be attributed a role.

The reorganization of the funding scheme for greening of cities and urban agriculture can be made through the proposition for the next Multi Financial Framework for 2021-2027. This proposition implies a bigger reflection to make the funding possibilities clearer for potential beneficiaries, as well as increasing the amounts allocated for each. By integrating them into the Urban agenda, the potential support of the Commission for transition of cities and better use of urban space might be better understood as well as more efficient. These actions are otherwise already in the framework of the commission, but need to be developed on a larger scale.

These propositions recall that citizens of the cities are thus included in the transition. Through collaborative urban agriculture and more green spaces in cities, inhabitants can reconnect to nature, and then feel more concerned about climate change mitigation. The well-being of citizens is also but on first place through green areas and less cars policy, and a special attention should be put to communicate on the benefits these measures entail for citizens health. Innovative technologies are needed to develop urban agriculture in an efficient way. Through reorganization and rationalization of the funding schemes, budget can be more effectively oriented toward the financing of green initiatives. Finally, these propositions are a clear example of subsidiarity and local actions, to reach the citizens to the closest.

LAND TRANSPORT

It is proven that half of all car trips in cities are of less than five kilometres. Therefore, it is more than necessary to substitute those cars for bikes. It is actually healthier, cleaner and cheaper.⁷⁸ Moreover, a UK study shows that commuting by bicycle could “reduce the risk of developing cancer by 45%, heart disease by 46% and risk of death from any cause by 41%”.⁷⁹ Cycling around 10km each way to work would save a huge amount of greenhouse gas emissions.

Several technological innovations demonstrate the importance of the general objective of providing

⁷⁷ Athlyn Cathcart- Keays, ‘Two-wheel takeover: bikes outnumber cars for the first time in Copenhagen’, *The Guardian*, 30 November 2016.

⁷⁸ European Commission, Mobility and Transport, Clean Transport, Urban Transport, Cycling, 2019, https://ec.europa.eu/transport/themes/clean-transport-urban-transport/cycling_en retrieved on 15 March 2019.

⁷⁹ Euractiv, Study : Biking to work lowers risks of cancer and heart disease, <https://www.euractiv.com/section/health-consumers/news/study-biking-to-work-lowers-risks-of-cancer-and-heart-disease/> retrieved on 15 March 2019.

a clean environment but allow for cycling to be a viable alternative even in less ideal circumstances. For all those reasons, we consider that it is time for the European Commission to launch an initiative on an EU-wide bike-sharing app:

Should the Commission create an EU-wide bike-sharing app that allows people to move and travel around the cities and providing tailored bicycles suitable for the local road conditions in order to reduce carbon emission from vehicles?

It is widely acknowledged that cycling in the cities cut a substantial amount of carbon emissions in urban areas. We acknowledge that many bike-sharing systems have already existed across different cities of Europe. However, aggregating and harmonising the European bike-sharing systems under one app is needed to make inter-city biking more user-friendly. Our main goal is to use this hustle-free EU-wide bike-sharing app to attract locals and tourists to cycle more than driving. Moreover, cycling should not only be considered a method to cut potential carbon emissions, but it should also be designed to ameliorate the urban air quality.

Firstly, we propose an EU-wide bike-sharing mobile or tablet app that should first be introduced to the capital cities and then to all the cities of the EU member states. This app would give you an easy access to existing bike-sharing systems situated in your current location. The users can use this app to pin down the nearest or the cheapest bike-sharing spots. This harmonised bike-sharing app would require cooperation between existing bike-sharing systems across the EU member states to allow this EU-wide biking app to unlock all the bikes that have been enlisted on the app.

The Commission should co-operate with existing bike-sharing companies to construct solar-powered electric-bike charging stations. In return, these bike-sharing companies can get tax exemptions to compensate for their spending on the construction of solar-powered charging stations. Finally, we propose that the Commission should allow the app to be complemented by a rewarding system that means the more you cycle, the more discount offers you could get for meals and drinks at the local restaurants in the cities. This would generate extra sales for these restaurants that intend to participate, in return, these restaurants can help the European Commission to advertise this app. Moreover, the affordable and competitive price offered to the public through this pan-European app would incentivise cycling since it would be cheaper and more convenient than other means of transport; such as public transport.

Launching a Public Private Partnership plan

To introduce this initiative, we encourage the Commission and the local governments to work together to launch a public private partnership (i.e. PPP) plan. In this PPP plan, the Commission and the local governments sign the long-term agreements with private partners who can deliver and fund the design and the issue of the EU-wide bike-sharing app, the construction and maintenance of the solar-powered charging stations⁸⁰. Such financing programme is aimed to, first, ease the budgetary burden of the Commission and local governments to implement this initiative. Secondly, this financing programme is supposed to minimise the financial and political risks of launching this initiative⁸¹. Such PPP project for bike-sharing systems have already existed in the United states. The examples are a new bike sharing initiative with electric pedal assist bikes in the city of Birmingham in Alabama⁸², and Capital Bikeshare in Arlington County, Virginia⁸³. We understand that the disadvantages of PPP could increase the risk of inefficient competition. Therefore, we suggest that a thorough inspection plan is required to supervise every stage of the private partners' work progress. As the local the (electric)

⁸⁰OECD. 2019. OECD Principles for Public Governance of Public-Private Partnerships. [Online] Available at: <http://www.oecd.org/gov/budgeting/oecd-principles-for-public-governance-of-public-private-partnerships.htm> Retrieved on 17th March 2019.

⁸¹Fara, G., Hai, D., Obermayr, T., Grassi, E., Herics, O., Latopoulou, C., Hristov, S and Puricella, P. 2018. Special Report on Public Private Partnerships in the EU: Widespread shortcomings and limited benefits. [pdf]. Pp.12. Available at: https://www.eca.europa.eu/Lists/ECADocuments/SR18_09/SR_PPP_EN.pdf Retrieved on 17th March 2019.

⁸²FindRFP.com. 2019. The Rise of Bike Sharing: A Public-Private Partnership. [Online] Available at: <https://www.findrfp.com/Government-bids-Blogs/bid-notice-news/Bike-Sharing.aspx> Retrieved on 17th March 2019.

⁸³Klien, G. 2015. How public and private came together to make Capital Bikeshare a success. [online] Available at: <https://ggwash.org/view/39464/how-public-and-private-came-together-to-make-capital-bikeshare-a-success> Retrieved on 17th March 2019.

bicycles are constructed and supplied by different private partners, during the implementation stage, cyclists can simply review their ride, the best point-based (out of 10) weighted score will get to be published by the Commission on a webpage to improve their reputation across the EU. This reviewing system creates an ongoing competition for the bicycle providers to upgrade their bikes.

To avoid the abuse of dominant position, the app would select the most competent biking companies as the providers in each EU city through a public tender process. The competition will be made based on their technological capability, productivity and above all, the aim to stay eco-friendly. Moreover, it would not just be a green initiative but also a social one because it will include the peripheries and it will offer the people a new affordable way of transport. From an economic point of view, from the difference should be made in terms of costs of the technological side (app) and the merchandise (bikes). The app would not be costly. Regarding the provision of bikes, there might be funding from the EU institutions as well as agreements of the local and national governments with the industry (local initiatives and subsidiarity).

URBAN TRANSPORT

If people have the means to travel around by public transport and the latter is better equipped and modernized in order to serve the citizens' needs, then travelling by private vehicles will be significantly reduced. On the other hand, if the Member States decide to tax private cars with "green taxes" in order to remedy the investment in public transport, then the profit is twofold: a) further disincentive to car use and practical application of the well-established "polluter pays" principle of environmental law,⁸⁴ and b) the financial sustainability of the proposed policy.

Should the Commission implement an EU-wide fare-free transport system that allows people to move in the cities free of charge, as well as a step-by-step scheme for cheaper intra-EU mobility so as to reduce the carbon emissions of private vehicles?

Transport "represents more than 30% of final energy consumption in Europe"⁸⁵ and constitutes one of the most carbonised sectors in the EU. The Commission's Energy Union Package communication outlines that "realising its energy efficiency potential requires a continued focus on tightening CO2 emission standards for passenger cars and vans"⁸⁶. It also states that "better traffic management should be promoted as a modern, forward-looking tool to cut carbon emissions."⁸⁷ We acknowledge that there are already Member States implementing a system of fare-free public transport media in the urban areas.⁸⁸ However, we propose to move forward to a fare-free public transport system in all capital cities in the short term, and to the spreading of the system to all cities and also to intra-EU mobility, in the long term.

Firstly, we propose an EU-wide fare-free public transport system, where all people can use buses, trams, metros and trains for free not only when using them to move around their cities but also when travelling from city to city within the same Member State or within the internal borders of the EU. This policy recommendation can be achieved by a step-by-step scheme comprehensively designed to allow the upgrade of the already existent public transport system in the cities, the investment to new facilities which will provide for better EU-wide interconnection, as well as the investment to more public transport vehicles so as to better serve people's needs in their everyday lives. By that, EU citizens will have the incentive to use public transport services for all uses, i.e. to go to work or go for a journey, and gradually replace their cars with public transport.

⁸⁴ Article 191, para.2 TFEU.

⁸⁵ Commission Communication, Energy Union Package: A Framework Strategy for a Resilient Energy Union with a Forward-Looking Climate Change Policy, COM (2015) 80 final (25.2.2015).

⁸⁶ Ibid.

⁸⁷ Ibid.

⁸⁸ See Luxembourg and Tallinn.

Secondly, since conducted studies and researches indicate that such systems attract more pedestrians and cyclists than car-drivers, we propose the provision of disincentives for private-vehicle users. Along with the congestion pricing and the further pricing of parking slots, Member States can consider the implementation of “green taxes” to car-drivers, in line with the principle “the polluter should pay”. Environment and Transport constitute areas in which the EU and EU Member States enjoy shared competences, whereas the Member States retain their sovereignty with regards to their tax policies. Therefore, in order for the measure to be implemented, the legal act that the Commission will choose should give the Member States different options to be applied.

Thirdly, in order to enhance the attractiveness of public transport media, we propose that the Member States should upgrade the vehicles and facilities used in their transport sector either by investing in renewing their vehicle fleet and offering better services or by attracting investments from the private sector. The costs for such an investment in public transport media can be outweighed by the remedies each Member State will decide to implement with respect to car drivers. On the other hand, such investments could also have a side effect on the market, where car industries will be forced to invest in more efficient green technologies for cars satisfying requirements for the avoidance of potential “green taxes”, and thus for retaining their position in the market.

CASE STUDY: the City of Tallinn and its Fare – Free Public Transport (FFPT) scheme

In 2013, the capital city of Estonia decided to introduce a FFPT program for all residents and for all means of public transportation. With 425,000 residents, Tallinn is now the biggest city in the world providing a fully-fledged FFPT scheme to all its inhabitants. The basic aims of the policy are the following:

- Promoting modal shift from private vehicles to public transport services;
- Providing further mobility and social inclusion for unemployed and low income groups; and
- Supporting the registration of inhabitants as residents, thus increase municipal income tax;⁸⁹

The FFPT scheme of Tallinn constitutes a full-scale real-world case study providing a unique experiment to investigate the impacts of such policies. A before-after comparison of the total number of passengers indicates an increase of 3% in boarding passengers within only one year of the FFPT scheme implementation.⁹⁰ At the same time, through the registration of all inhabitants as residents of Tallinn, the municipality increased its revenues and managed to economically support the shift from private cars to the use of public transport services.

By providing accessibility and mobility for all citizens in a reduced price or totally for free, such policies aim to improve social inclusion, while presenting a paradigm shift towards a greener way of life. Considering the impact of such an initiative on the everyday life of citizens who live in big cities, commute to work and travel around Europe the policy recommendation will certainly attract public acceptance and encouragement.

GREEN INFRASTRUCTURE

Green Infrastructure (GI) is defined by the Commission as “a strategically planned network of high quality natural and semi-natural areas with other environmental features, which is designed and managed to deliver a wide range of ecosystem services and protect biodiversity in both rural and urban settings; more specifically GI, being a spatial structure providing benefits from nature to people,

⁸⁹ T. Aas, Free Public Transport in Tallinn – Financial, Environmental and Social Aspects, Presentation on Union of the Baltic Cities Joint Seminar on Sustainable Transport Solutions, Tallinn, Estonia, 2013, Available at: <https://www.tallinn.ee/eng/freepublictransport/ubc-joint-seminar-on-sustainable-transport-solutions>.

⁹⁰ O. Cats, T. Reimal, Y. Susilo, Public Transport Pricing Policy – Empirical Evidence from a Fare-Free Scheme in Tallinn, Estonia, Centre for Transport Studies, Department of Transport Science, Royal Institute of Technology, Stockholm, 2014.

aims to enhance nature's ability to deliver multiple valuable ecosystem goods and services, such as clean air or water"⁹¹. It therefore offers unique opportunities, which is why we consider:

Should the Commission support blending Green Infrastructure as a concept to be included into any EU infrastructure policy in order to maximise ecosystem services?

The relatively new concept of Green Infrastructure constitutes a vital component of the Commission's approach to fighting climate change, mitigating its consequences, and adapting to it. The novelty of this policy proposal lies on the fact that GI should not be conceived solely as an isolated concept. Individual projects to build Green Infrastructure are of course a cornerstone of DG ENV strategy. However, blending GI to other EU policies or conceiving it as a way of implementing them would multiply its benefits in a highly cost-effective manner. Thus, including ecosystem services in the planning and implementation of transport or energy projects, for instance, would maximise the effects of GI.

Under this optic, all of this new infrastructure would in fact be turned into genuine Green Infrastructure, as ecosystem services would be blended or added to the services the infrastructure itself is providing (rail transport, electric grid, etc.). This would turn traditional grey infrastructures (single-use) into green infrastructure (multi-purpose) at a very low cost, as ecosystem services would be just another feature to take into account when, for instance, building a highway. In addition, it would fulfil another fundamental requirement for Green Infrastructure, which is to provide for urban and interurban connection of ecosystems and ecological continuity.

In fact, the 2013 GI Strategy advocates "the full integration of Green Infrastructure into EU policies so that it becomes a standard component of territorial development across the EU"⁹². The 2020 headline targets for biodiversity also point in this direction (target 2 provides for restoring ecosystems and establishing Green Infrastructure).

This policy proposal would find its legal basis in Article 11 of the TFEU, which states that "Environmental protection requirements must be integrated into the definition and implementation of the Union's policies and activities, in particular with a view to promoting sustainable development". Article 10 of the Habitats Directive⁹³ also provides for legal foundation as it sets that "Member States shall endeavour, where they consider it necessary, in their land-use planning and development policies and, in particular, with a view to improving the ecological coherence of the Natura 2000 network, to encourage the management of features of the landscape which are of major importance for wild fauna and flora". For this purpose, Member States shall use landscape features with linear and continuous structures; horizontal infrastructure such as energy or especially transport would perfectly fit into this category.

The ecosystem services and nature-based solutions that could be achieved through this cost-effective policy blending would include the following:

- Clean air and water, carbon storage
- Pollination enhancement
- Improved habitats and ecological continuity
- Water retention and drainage
- Protection against erosion, floods, wildfires, and landslides
- Increased pest control
- Improvement of land quality
- Protection against acoustic pollution from transport infrastructures

CASE STUDY: *Let's take the example of a railway line. Several ecosystem services could be added to the infrastructure at a very low cost, starting with the most basic of them all: planting one or more rows of native trees along its way. In a standard 400km railway, this would provide for a huge number*

⁹¹European Commission – DG Environment, *Building a Green Infrastructure for Europe*, 2013 (available at http://ec.europa.eu/environment/nature/ecosystems/docs/green_infrastructure_broc.pdf, last visit 05/03/2019).

⁹² Ibid.

⁹³Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (OJ L 206/7, 22 July 1992).

of trees providing a wide range of valuable ecosystem services. Pollination enhancement, for instance, could be added to this list if natural pollinator-friendly species are also planted. Finally, if a green side-swale was to be installed along the sides of the railway, the list of ecosystem services would also include pollution control, water drainage and quality, and increased carbon sequestration.

Policy recommendations in this sense should be accompanied by co-funding opportunities subject to conditionality, mainly through financial instruments such as LIFE, which is expected to expand its capacity considerably in the next MFF. Cohesion and Regional Development Funds should also be considered, as it was set out by the Commission's 2017 *Action Plan for nature, people and the economy*⁹⁴. Action 10 foresees to "increase awareness of Cohesion Policy Funding opportunities and improve synergies", while Action 12 pledges to "provide guidance to support the deployment of green infrastructure for better connectivity of Natura 2000 areas", and to "support Nature-Based Solutions projects through EU research and innovation policy and Horizon 2020 funds".

The most suitable way to implement this policy proposal would be by the means of policy recommendations and public incentives, as spatial planning is a national competence. EU legislation would be needed to implement any compulsory elements; this path may be studied at a later stage.

⁹⁴European Commission, DG Environment – *Action Plan for nature, people and the economy*, 2017(available at http://ec.europa.eu/environment/nature/info/pubs/docs/brochures/Action_plan_brochure_en.pdf, last visit 05/03/2019).



CHAPTER 4

LAND AND NATURAL RESOURCE

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The objectives agreed upon in the Paris agreement – namely article 2(1) a) and b) – will not be reached anytime soon. In particular, agriculture and the food-chain have massive environmental impacts, and are heavy contributors to Europe’s emissions, while having a tremendous impact on the loss of biodiversity, wastes and water pollution. A study published in *Science underlines that*, globally, food production accounts for 26% of manmade GHGs emissions, the production of meat, aquaculture, eggs and dairy alone, uses ‘83% of the world’s farmland and contribute 56 to 58% of food’s emissions, despite providing only 37% of our protein and 18% of our calories’⁹⁵. Livestock is a key driver of land use change and deforestation⁹⁶, and 67% of deforestation for agriculture purposes results from animal feed production⁹⁷. This is unsustainable. Simultaneously, according to the FAO ‘one billion poor people, mostly pastoralists in South Asia and sub-Saharan Africa, depend on livestock for food and livelihoods’⁹⁸. There would be, according to the WFP ‘enough cropland to feed 9 billion in 20150 if the 40 percent of all crops produced today for feeding animals were used directly for human consumption’⁹⁹. For now, soft-law and current market mechanisms are not sufficient to tackle these agricultural environmental impacts. While going in the right direction, the greening of the Common Agricultural Policy (CAP) is still not enough to reach a truly sustainable agricultural sector in Europe¹⁰⁰.

Should the Commission reorient the first pillar/direct payment of the CAP to shift finance towards production of a plant-based diet?

As a mean not to exceed the 1.5° global warming objective, and to preserve the Earth’s ability to feed a growing population, people in Europe and other developed countries need to massively reduce meat and dairy production and consumption (for an idea of the scope of the environmental benefits of such a chance, the following figures should be adjusted to Europe: ending animal products production and consumption could reduce land use worldwide by 76%, food GHG emissions by 49%, and halving it would have over proportionate environmental benefits¹⁰¹). Furthermore, this could contribute preserving the sustainability of livestock extensive production in developing countries, which is threatened by meat and dairy exports from Europe; while intensive livestock production in Europe based on feed leads to land change and conflict about land among the most vulnerable. Simultaneously, EU increasing exports of intensively produced animal products restrict the possibility of having a reduction of EU internal consumption lead to a reduction of animal products production. In addition, these exports perturbate foreign developing economies. In this context, market-based solutions should be used to steer the market towards a societal change. In this context, the CAP through its direct payments and income support to producers, can be used a market-based instrument to modify their incentives on the market, and thereby guide the market and bring about a societal change in production towards an environmentally sustainable food production.

1) Reorienting the CAP

Therefore, it is necessary to reorient the CAP’s first pillar/direct payments to (a) cease any kind of subsidizing of meat and dairy production, (b) move away from payments based on land size to a more proportionate system of agricultural subsidies providing incentives for smaller farmers and increasing the attractiveness of the sector for the youth, and (c) reorient the CAP’s direct payments conditional to or incentivizing the production of a plant-based diet. In addition, strict regulatory limits need to be

⁹⁵ Joseph Poore and Thomas Nemecek, ‘Reducing food’s environmental impacts through producers and consumers’. *Science*. vol. 360, 2018, pp. 987-992, pp. 1, 4 of 6. doi: 10.1126/science.aag0216

⁹⁶ Food and Agricultural Organization, *Livestock and Landscapes*, Food and Agricultural Organization, Rome, 2012, retrieved April 2, 2019 from <http://www.fao.org/3/ar591e/ar591e.pdf>, p. 1.

⁹⁷ Olivier de Schutter, *Toward a Common Food Policy For the European Union, The Policy Reform and Realignment That is Required to Build Sustainable Food Systems in Europe*, IPES Food, , February 2019, Executive Summary

⁹⁸ Food and Agricultural Organization, *op. cit.*, p. 1

⁹⁹ Food and Agricultural Organization, *op. cit.*, p. 1.

¹⁰⁰ Alan Matthews, “Greening CAP payments, a missed opportunity?”, Dublin, Institute of International and European Affairs, 2013. A more recent article on the question: Bernard Bourget “La politique agricole commune à l’épreuve de la subsidiarité», Brussels, Fondation Robert Schuman, p. 7.

¹⁰¹ Joseph Poore and Thomas. Nemecek, *op. cit.*, 4 of 6. .

set to intensive livestock farming practices in the EU (e.g. through animal welfare, animal densities etc.), and correspondingly applied on imports from third countries (excepted developing countries). The proposal would allow:

- to reduce GHGs emissions and land use and pressure (allowing to restore natural habitat, biodiversity and protect ecosystem services);
- by reducing the land required for agricultural purposes, to launch a reforestation and natural habitat restoration program, which combined with the promotion of interconnected agro-forestry systems, would allow to build a European-wide biological corridor (restoration of natural habitat, biodiversity and carbon sequestration);
- to increase agricultural productivity (calories and proteins per unit of land) and assure the availabilities of food supply in the long term,
- to protect the interests of extensive livestock keepers operating in an environmentally sustainable way in areas where no other land use systems are viable.

The reduction of meat and dairy production will increase their price and contribute to internalizing their environmental costs. The increase in the production and offer of diverse, healthy and environmentally sustainable vegetarian products will decrease their price and make them more available and attractive. This could bring about a radical societal change in food consumption patterns towards environmentally sustainable agricultural and food systems. To accompany this change, citizens' support and engagement will be necessary. Fostering public support while incentivizing a change of practices in consumers could be done by quantifying and communicating the benefits of such diet change both for the consumers (e.g. increase in life expectancy and years of life in good health) and on the state of the environment, as well as by quantifying, reporting and labelling on the detrimental impact on health and environment of animal products. The change needs to be made together with the farmers, by underlining the high value of food production and their critical role for society. From a legal perspective, the proposal is fully consistent with the CAP's objectives 'to increase agricultural productivity by promoting technical progress and by ensuring the rational development of agricultural production and the optimum utilization of the factors of production' and 'to assure the availability of supplies' (Art. 39 TFEU). From a political perspective, on one hand powerful interests have exerted an important influence on agricultural policies in the EU. The dominant position of actors from the agro-industry and getting the support of the European Commission's DG Agriculture and the European Parliament's Committee on Agriculture could represent challenges to adopt the proposal. On the other hand, the integration of the requirements of environmental protection is a binding obligation on all EU institutions (Art. 11 TFEU) and the proposal could enhance policy coherence. The launch by the Commission of the report on the development of plant proteins in the EU, which was welcomed by the Agriculture and Fisheries Council of 29 January 2019, might open a window of opportunity, even if the report focuses on plant protein as animal feed and recommends the support through voluntary coupled support.

2) Internalize externalities in the agricultural sector

Additionally, it is necessary to implement a polluter pays principle in the form of a tax on the negative externalities of the agri-food sector (agriculture and the food chain) whereby highly-concentrated and highly-emitting economic agents are made responsible for their global impact on environment and climate change.

- This proposal is an adaptation of the "Economist's statement on carbon dividends" published in the Wall Street Journal in January 17, 2019 and signed by 3333 U.S economists. They consider a carbon tax to "correct a well-known market failure" and therefore to be an essential market redirection tool. The European Environmental Bureau also recommends in its position paper published in September 2017 that "the CAP of tomorrow [should] be based on a set of solid principles starting with the polluter pays principle and address the inclusion of consumption within its scope"¹⁰².
- Moreover, on the technical and legal aspect of the question an externalities tax builds on the regulation 2018/0180(COD) amending the regulation (EU) 2016/1011 that aims a

¹⁰² EEB, "The Future of the CAP. An urgent need for a truly sustainable agriculture, land and food policy", Brussels, EEB, September 2017, p. 11.

establishing low-carbon benchmarks and positive carbon-benchmarks to reach the goals of the Paris Agreement and the climate transition. The evaluation method used in the amending proposal could be a basis to calculate externalities in the agri-food sector. Combined with benchmarks, it could even serve the creation of a “environment and climate responsible” labelling for investors aiming at investing in responsible businesses. It also builds on our first proposal of fostering a plant-based regime because of the low emissions of crops production when compared with livestock. Moreover, while evaluating the other externalities of the agricultural production, it goes in line with the existing sustainable food labelling i.e. biological.

Another essential point of the externalities tax will be that the money collected have to be fully reemployed. It could help reach different objectives, redistributive and/or of general ecological interest:

- In order to foster public support while incentivizing a change of practices in consumers, the money will be redistributed for the consumption of sustainable food products, especially for the most fragile citizens that do not have access to good-quality food. The money will be granted at the member states level to protect subsidiarity but they will have to use it solely for the purpose mentioned above. Member states’ initiatives should take into account past failures such as the “*écochèques*” in Belgium¹⁰³, which shows that to foster eco-consumption means granting information on available sustainable food products to consumers, and not delegating it to private companies imposing shops high commissions.
- In line with the idea of a plant-based regime and the re-creation of a biological corridor, the taxed money could also serve the purpose of creating a special fund in the second pillar (or adding to the existing funds) of the CAP on the restoration of biodiversity in Europe. It is essential given that 65% of European natural habitat are in an unfavourable conservation status while 18% of European land is protected under the Natura 2000 network. In order to create synergies with the agricultural sector, the money may also be used for the purpose of helping farmers that implements biodiversity practices in their field such as agroforestry, the impact of a mixed cultivated, forest and range landscape being essential to sustainability as exemplified in C. Kremen and A.M. Merenlender’s study from 2018¹⁰⁴. Such incentive will complement market-based lending initiatives like the Natural Capital Financing Facility developed by the European Investment Bank that is not yet of a sufficient size to address the urgency of biodiversity preservation.

Finally, downstream, one crucial problem with an important impact is food waste. It accounts for 8% of Global Greenhouse Gas Emissions, is generated at 88 million tonnes annually within the EU, with an estimated cost of 143 billion euros to the EU economy.¹⁰⁵

3) Reducing food waste at the European Level

The Special Report by the European Court of Auditors “*Combating Food Waste: an opportunity for the EU to improve the resource-efficiency of the food supply chain*” concluded that the EU is not tackling this issue efficiently. The Special report highlighted the need for better alignment of existing policies, better coordination within the EU institutions and its Member States. One of the main recommendations, however, was the need for the Commission to develop a methodology to clearly identify the reduction of food waste, to focus on the prevention of food waste in the first place and to include food waste as criteria in the impact assessment of other policies areas to guarantee cross-

¹⁰³ “La fin des éco-chèques pour 2018“, La Libre, 31 janvier 2017, retrieved 6 March 2019 at <https://www.lalibre.be/economie/emploi/la-fin-des-eco-cheques-pour-2018-5890286dcd70e747fb6de6d7>

¹⁰⁴ Claire Kremen and Adina Merenlender, “Landscapes that work for bioversity and people”, Science, vol. 362, issue 6412, 19 october 2018.

¹⁰⁵ ‘Food Waste’, European Commission, 2019, retrieved 6 March 2019, https://ec.europa.eu/food/safety/food_waste_en.

cutting coherence.¹⁰⁶

Therefore, the question to be asked is if the Commission should do more to tackle this issue in a more measurable and effective manner?

We suggest the Commission the following action: **To set mandatory national food waste reduction targets, to be met at specific dates, as intermediate steps within a roadmap towards the long-term scenario of a food waste neutral Europe.**¹⁰⁷

The idea would be to use the newly developed common EU methodology to measure food waste to establish a baseline from which to track further progress. Similar to how greenhouse gas emissions reductions are measured in comparison to 1990 levels, future binding national targets on food waste reduction could be measured compared to ex. 2020 or 2023. This would enable the Commission to both effectively monitor the fulfilment of current targets and to track progress throughout time, adjusting future targets ex. 2040 according to empirically based feasibility projections.

This proposal is in line with the Commissions own strategic approach but goes beyond it in scope and reach. The Commission is currently called, under the Circular Economy Action Plan, to “establish a common EU methodology to measure food waste”¹⁰⁸, to “adopt legislation on food waste measurement by March 2019”¹⁰⁹ and “to, if appropriate, make a proposal by end-2023 to set up an EU-wide food-waste reduction target to be met in 2030”¹¹⁰. Furthermore, the revised Waste Framework Directive of May 2018 calls on Member States to monitor, reduce and report back on progress made on food waste. This proposal’s feasibility stands, therefore, on solid legal and political ground.¹¹¹

Mandatory national food waste reduction targets should be gradually introduced while the Commission works on a long-term strategic vision towards food waste neutrality.

The long-term strategy should go beyond mere food waste reduction targets, which will not be able to completely eradicate food waste, and include provisions on date marking, food donation, good practices etc. Most importantly, communication and awareness campaigns to promote behavioural change on a sufficiently large scale to trigger lifestyle and behavioural shifts¹¹² in the long-run should also be included. Citizen’s support and engagement is absolutely necessary to promote sustainable collective behavioural change. The main objective on this regard would be to ignite a mentality shift regarding food waste. Active communication, by the Commission itself, at the local level or bottom-up citizen initiatives, should be pursued in order to inform on both the costs and negative impact of food waste and the necessary good practices to avoid it. The ultimate goal, on the societal side of things, would be to achieve a collective awareness that would destigmatise and even socially reward, through general positive recognition, the individual that asks for a doggy bag after a meal at a restaurant. Through citizen’s support and engagement these kind of small individual actions could, quite quickly, get valued as civilised, desirable and exemplary things to do and therefore develop towards a mainstreamed positive behaviour.

¹⁰⁶ European Court of Auditors, Special Report: *Combating Food Waste: an opportunity for the EU to improve the resource-efficiency of the food supply chain*, n.34, 2016.

¹⁰⁷This proposal is inspired by the same logic applied by the Commission in its newly published strategy for a climate neutral Europe by 2050, in which it envisions a net-zero greenhouse gas emissions Europe. In that case, the previously set binding national targets of greenhouse gas emissions reduction for 2020 and 2030 are regarded as enabling steps towards the long-term goal of net-zero emissions.

¹⁰⁸ Directive (EU) 2018/851 of the European Parliament and of the Council of 30 May 2018 amending Directive 2008/98/EC on waste

¹⁰⁹ Ibid.

¹¹⁰ Ibid.

¹¹¹ ‘Food waste measurement’, European Commission, 2019, retrieved 6 March 2019, https://ec.europa.eu/food/safety/food_waste/eu_actions/food-waste-measurement_en.

¹¹² Changing perceptions on food portion sizes at the domestic but also at the retail level, as well as encouraging behavioural shifts like re-using food waste at home or asking for “doggy bags” at restaurants should be the aim. It is paramount to eliminate the current stigma attached to said practices in some EU countries and substitute it with positive social recognition.