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Brief

Citizen-centred policy and behavioural change towards carbon neutrality: perspectives and recommendations

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Summary

FEEM Policy Brief

Over the years, individuals have tended to adopt increasingly carbon-intensive lifestyles, posing a significant barrier to the achievement of emission reduction targets and of the broader Sustainable Development Goals. While various regulatory and operational measures have been implemented in an attempt to tackle climate change, there is still a lack of focus on behavioural aspects related to carbon-neutral lifestyle adoption. Current policies are mainly targeted towards the supply side; and do not adequately incorporate citizen's perspective.

This policy brief advocates the importance of making a shift towards citizen-centric policies; including targeted behavioural advice aimed at the individual. It does so by exploring the relation between greenhouse gas emissions, carbon-neutral lifestyles and economic growth, while evaluating the links between human activities and emissions. It also discusses the operative feasibility regarding the inclusion of lifestyle advice in emissions reduction policies by assessing the underlying metrics to successful implementation.

Because deviating from the current policy-making paradigm requires a deeper understanding of the obstacles to implementation, this policy brief includes a detailed discussion on how to make this new policy framework actionable. Finally, the positive spillovers of implementing such a policy approach in relation to citizen engagement are highlighted, underlining the importance of providing guidance and education for citizens, enabling the achievement of tangible results on a broader scale.

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01

Introduction

Current situation and trends in embedding behavioural advice in emissions reduction policies

Given the urgency of preventing the worst damage caused by climate change, climate commitment has become the common denominator of all nations. To achieve this, various policies have been implemented over the years, including regulatory and operational measures aimed at tackling the climate crisis. These tools are indeed necessary to address one of the most significant challenges of our generation.

As over the years individuals tend to adopt increasingly carbon-intensive lifestyles (Hongwu Zhang, 2020), it is now essential to strengthen emission reduction policies by including behavioural aspects. This will allow to address citizens directly, empowering them with the knowledge and tools they need to reduce their emissions effectively. Individual action can in fact play a significant role in reducing emissions, and it is essential to motivate people to adopt eco-friendly lifestyles and offer the conditions to make the process smooth. With targeted measures and behavioural changes, it is possible to make a significant difference in the fight against climate change.

When analysing the current panorama of emissions reduction policies, there is however a significant focus on supply-side policies. These policies target the production realities by enforcing rules and limitations, aiming to reduce greenhouse gas (GHG) emissions. The European Union (EU) has

played a vital role in implementing such policies, as seen with the Kyoto Protocol, an international agreement that sets commitments for industrialized countries to reduce emissions.

Another significant policy implemented by the EU is the Emissions Trading Scheme (ETS) set up in 2005, a cornerstone of the EU Energy Policy that aims to limit GHG emissions each year, based on a cap-and-trade principle. Under this scheme, companies hold permits called European Union Allowances for each tonne of CO₂ equivalent emitted during a specified period. Given the limited availability of these permits, companies must eventually negotiate them. To comply with these policies, they are driven to innovate and find ways to reduce their own emissions.

Also, the Paris Agreement marked a significant milestone in environmental policy. This is a legally binding international treaty ratified by 195 Parties, representing a global commitment to reduce emissions and adapt to the consequences of climate change. One of the most important outcomes of the Paris Agreement is provided by the Nationally Determined Contributions (NDCs), which outline the reduction targets and actions that each Party intends to undertake to achieve the global goals.

However, even in these contributions - both for the structure of policy making and for

the quantitatively more significant impact of the policies that address the supply - the measures envisaged are basically dedicated to the production side, with few concerning the demand side, thus leading to a clear imbalance in the policies targeting the production side versus the demand side.

While supply-side policies have been successful in reducing emissions to some extent, there is a growing need to balance them with demand-side policies. Such policies aim to reduce emissions by changing consumer behaviour and promoting sustainable lifestyles: even with the presentation of the new NDCs, lifestyle-related pathways have not been adequately

included, and this is undoubtedly an issue to be addressed for the drafting of the next ones.

Likewise, the same pattern can be seen in the National Energy and Climate Plans and more widely in the long-term strategies: in this context, CAMPAIGNERS and the deliverable 7. *Multi-Level Policy Advice and EU Strategy Support* aim to give a concrete answer to these issues, going through the objective 7.2. to develop a policy guidebook that national governments can exploit for the preparation of the next NDCs and long-term strategies by embedding them with carbon neutral advice on lifestyle and behaviour.

02

The relation between GHG emissions, carbon neutral lifestyles and growth

The emissions of climate-altering gases appear to be strongly connected with social and demographic aspects. According to the definition of climate change provided by the UNFCCC's, it means *“a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods”*. (United Nations Framework Convention on Climate Change).

Human activities, such as farming livestock and deforestation, have a significant and ever-increasing impact on the climate. The process of livestock digestion results in the production of large quantities of methane, a potent greenhouse gas that contributes to global warming. Deforestation, on the other hand, removes trees that would otherwise store carbon dioxide, a process known as carbon sequestration (European Commission, s.d.).

Human behaviour and lifestyles come into play in this vicious cycle because of eating habits, such as the extensive use of meat and animal proteins, that trigger ever-increasing levels of emissions deriving from livestock farming: the importance of individual actions in reducing the impact of these activities on the climate is thus evident, and by making conscious choices in our daily lives, such as reducing meat consumption and supporting sustainable

agriculture, we can contribute to sustainable development.

Urban infrastructures, such as road expansion lead by the growing use for private transportation, is another factor that contributes to deforestation: in Europe, this has become the leading cause of deforestation, and it is the third leading cause globally (European Parliament, 2022). Therefore, it also constitutes a key factor of emissions' growth.

To address this issue, it is essential to prioritize sustainable transportation options and reduce the demand for private vehicles. This can be achieved through the development of public transportation systems, the promotion of active transportation, such as walking and cycling, and the implementation of policies that discourage the use of private vehicles.

The third factor that comes into play in this trilemma between GHG emissions and carbon neutral behaviours is economic growth, which is often measured by the real GDP of the country under consideration: in this regard there is a broad debate about the relationship between environment and economic growth, modelled by the Environmental Kuznets Curve (EKC), which postulates an inverse relationship between environmental conditions and economic growth in the short term (as income increases, carbon emissions worsen).

According to the EKC model, only in the long run an increase in income may be compatible with the reduction of emissions, and this raises concern for the environmental sustainability of developing countries. More in detail, as economies grow, energy demand and consumption increase accordingly negatively affecting emission levels.

It must be specified that the postulate of the EKC does not find empirical evidence equally in all countries. Therefore, with respect to those national partners adhering to the CAMPAIGNers Project it is necessary to make due distinctions: for instance, in Europe the per-capita GDP (expressed in current US\$)

is higher than to Project Countries outside the European Union (The World Bank, s.d.), while the gap between the per capita GDP of European and non-European countries is decreasing over time, suggesting a convergence in the long run. Hence, following the logical structure of the EKC it can be said that while in Europe, which has already an advanced economy, it is still possible to reduce emissions in the current state of economic growth, in countries where the economy is growing faster it is necessary to focus on avoiding the negative repercussions on the environment.

03

An assessment of the feasibility of including carbon neutral lifestyles in policies

Starting from the fact that, to date, the inclusion of behavioural aspects in emission reduction policies is inadequate, we have carried out an analysis of the reasons behind this phenomenon occurring and how to overcome the current logic to switch to one that favours more inclusion of behavioural aspects.

The by default metric used for the advice included in the Nationally Determined Contributions is the Global Warming Potential (GWPs), which is based on the physical impact of a certain gas in terms of emissions. However, some scholars contest this metric as it gives equal weight to emissions regardless of target and proximity to it (Shine, Berntsen, Fuglestvedt, Skeie, & Stuber., 2007).

Beyond the debate on the topic, the defining aspects underlying the adopted metrics have an impact on the choice of advice included: indeed, those metrics adopted for climate policies are not set in stone, but are determined by the goals of the policy itself.

For instance, if a policy aims to promote carbon-neutral lifestyles, the metrics used to measure its success will be different from those used for a policy that aims to reduce industrial emissions. Therefore, if policymakers decide to include advice on carbon-neutral lifestyles in their policies, it will be essential to select the most appropriate metrics to evaluate the

effectiveness of these measures. One metric that could be used is the carbon footprint of individuals, that considers the emissions associated with everything a person consumes, from food to transportation to housing.

The selection of appropriate metrics is crucial for the success of climate policies. By selecting metrics that align with their goals, policymakers can ensure that their efforts to reduce emissions are effective and impactful.

Another aspect to consider lies in the fact that, while adopting policies that target the production side, it is easier to monitor the reduction of emissions pursued: by acting on the behaviour of citizens it would be more difficult to understand the effective reduction of emissions pursued. It is therefore necessary that the change of point of view in policymaking goes hand in hand with the technological one.

In this regard, an example of a technological switch is made up of “*smart meters*”, which today allow to record energy usage data (Zhou & Brown, 2017) paving the way for an improvement in energy efficiency as well as in monitoring consumption patterns by individuals. These devices could be used to understand for each country what the policy priorities are at the domestic level, as well as to advance cost relief programs for citizens who make sustainable use of energy at the domestic level.

There are numerous obstacles to incorporating behavioural aspects into emission reduction policies, ranging from bureaucratic hurdles to operational and technical complexities. Nevertheless, the starting point lies in recognizing a need - namely that of addressing policies to those who are at the base of the emissions pyramid - and embark on a collective path.

As the updating of the Nationally Determined Contributions (NDCs) takes place every five

years, policymakers must take advantage of this opportunity to address the need for behavioural change and tackle the issue at its roots.

Addressing the need for behavioural change in emission reduction policies is indeed a complex but necessary endeavour. By recognizing the challenges and taking collective action, policymakers can pave the way for a carbon-neutral future.

04

Citizen engagement as a paradigm of policy making

A topic increasingly at the centre of the debate today is that of “*citizens engagement*” as a fundamental requirement for the transition towards sustainability, but what does the phenomenon consist of and how to pursue it? What define this trend is empowering citizens in the policy making process, giving rise to an effective dialogue between citizens and governments.

To date, both in developed and developing countries, participatory scenarios that make citizens “*initiators*” and not “*followers*” of local government decisions are increasingly frequent, and this allows the acquisition of civic skills that enhance responsibility and commitment (Michels & Graaf, 2010).

This co-production process is at the core of CAMPAIGNers¹ (European Commission, 2021) project, which aims to create a Goal Setting Network right from citizens, who try out tailored adaptations to their daily routines via an engaging app, Climate Campaigners. Using an app as a compass to inform change allows the collection of data that can be useful in policymaking, leading to the definition of empirically validated carbon neutral lifestyles, to be promoted in emission reduction strategies at local and supranational level.

To attain the Sustainable Development Goals (SDGs), a citizen-oriented approach is crucial. A move to consumer-driven

initiatives benefits climate and sustainability, underlining the importance of individual roles in SDG achievement. Therefore, it is imperative to recognize the significant role of individuals in achieving the SDGs and encourage them to contribute towards creating a sustainable future.

CAMPAIGNers, and in particular its Deliverable 7.2 - *develop a policy guidebook that national governments can exploit in their preparation of their next (and future) NDCs* - is in fact in line with the Sustainable Development Goal 17- Partnership for the Goals, which aims to strengthen the means and renew the global partnership for sustainable development.

This “*collective approach*” first of all stems from the citizen who, engaged to sustainability issues through the use of CAMPAIGNer’s app, and by feeling part of a social community, adopts more eco-friendly lifestyles, and acts for climate change. Policymakers also play a role in fuelling this collective approach: as through a system of strategic governance shared on a supranational scale, they are able to better frame their national policies in the larger international framework.

Another relevant aspect of including behavioural aspects in national policies aimed at reducing emissions consists in spreading the idea that the actors involved in the fight against climate change are not only

¹ Grant Agreement ID: 101003815

companies and manufacturing realities, but also the individual citizen who has a tangible responsibility towards the planet.

As evidence of the impact of households as carbon emission's source, since 1990 the household's energy consumption of some developed countries has exceeded that consumed by the industrial sector (Chen, Lin, & Wang, 2022). Moreover, household's carbon emissions are not only generated directly, for example through the transport of people, but also indirectly, for example in the products or foods purchased: therefore, it is essential to raise awareness also of these indirect emissions, so that individual citizens can make informed choices on their everyday lives.

Indeed, here lies the urgency of making citizens aware of the urgency of tackling

climate change. Above all, according to a survey (Sheila Bonini, 2018) more than a third of consumers would like to take action to reduce their environmental impact, but they generally do not know how to make a meaningful difference.

Providing proper and shared tools allows for a positive "*network effect*" that might trigger and motivate other individuals to adopt sustainable practices². The structural setting of the CAMPAIGNERS Project allows to pursue broader tasks that go beyond the simultaneous actions of independently operating actors (Hall, 2009).

Therefore, pursuing active engagement hand in hand with education is essential for spreading good consumer practices and making people aware of how these can contribute to sustainability.

² This is in fact the aim of Work Package 7.2. of the Campaigners Project, that provides the basis to spread the "good practice" both among the "Lighthouse Cities", i.e. the first mover cities, and also to the "Follower Cities", generating collaboration and participation among all citizens and stakeholders thanks to echo effects.

05

The challenge: to educate to responsible consumption

In 2014, the “UN Decade of Education for Sustainable Development” - a United Nations initiative with the aim of promoting education for sustainable development through formal and informal channels - came to an end (UNESCO, 2014). Nowadays, almost a decade later, there are still many challenges, for member states, the private sector and the civil society, to make sustainable development a cornerstone of everyday life. But how can we successfully address those challenges?

One answer lies in promoting active citizenship, i.e., uniting citizens’ rights (such as the right to clean air) with their responsibilities, including the ones towards the planet.

Declining this concept in the context of sustainability and individual lifestyle we ended up with the circular economy, whose principles should permeate both the production and consumption sides. A meaningful indicator to track the level of a circularity of a country’s economy is the “Circular Material Use Rate”, a metric that expresses the share of recycled material sent back into production and manufacturing activities, thus saving extraction of primary raw materials. This indicator should be used by governments and policymakers as a yardstick for understanding where a given country is and in which direction to go.

By comparing the “Circular Material Use Rate” of the European countries adhering to the CAMPAIGNers Project with the European average (EU28) (Eurostat, 2023), it emerges that the European countries adhering to the CAMPAIGNers Project use on average more raw materials for the production of the goods placed on the market. Therefore, it is even more fundamental to raise awareness among citizens and then consumers of how choices in everyday life can have an impact. A study conducted on consumers’ willingness to pay a higher price for products obtained from the Circular Economy (Robert H.W. Boyer, 2021) shows how a Circular Economy Label can increase willingness to pay and preference for the product, even though this attitude disappears as the percentage increases of recycled product (over 50%).

The potential shift to circular economy’s practices within the textile industry, for instance, would actually make the difference, given that 10% of global emissions are caused by clothing and footwear production, and the 73% of clothes end up in landfills at the end of their lifecycles (Moorhouse, 2020). First, to prevent this scenario from happening it is essential to adjust production regulations, but also to steer consumers toward responsible consumption, as proposed in the SDG 12 of the 2030 Agenda for Sustainable Development.

To do so, it is necessary to promote a “pro-environmental” mindset for the purpose of resource conservation (Stuart Capstick, 2014): indeed, waste recycling is a fundamental pillar of the circular economy. Moreover, by taking into consideration that in many of the countries adhering to the CAMPAIGNers Project the culture towards the circular economy and recycling is not particularly rooted, it is even more important to spread this attitude.

In this regard, the current rate of resources’ consumption is worrying, and it has exhibited a proportional growth compared to a relative decline in population. According to a recent study conducted by the United Nations (United Nations Economic Commission for Europe, 2021), 70% more resources³ were consumed in 2017 than in 2000 globally, despite that over that time the population has grown by only 20%.

The transition towards the circular economy should therefore be at the centre of policy goals pursued at national and local level, but to date the regulatory frameworks do not yet seem to have incorporated this aspect. An example is provided by the Nationally Determined Contributions of the countries adhering to the CAMPAIGNers Project, where the advice on the adoption of circular economy practices is focused on the production side, pointing out the importance of recycling in production processes in order to reduce the use of primary raw materials, and exploit them as energy sources.

³ Resources: amount of raw materials extracted to meet the final consumption demands

Integrating behavioural aspects that should be pursued by individual citizens may constitute a turning point in implementing these policies. The same objective should be pursued in the long-term climate strategies at national and supra-national level (such as the National Climate and Energy Plans, which represent a synthesis of climate objectives and targets for each country). But even in those strategies, there are several gaps to fill.

Overall, the educational aspect discussed here does not only concern citizens, but also policy makers, who can spur a change in current political paradigm by adopting new metrics that can lead to a positive evaluation of behavioural aspects, aiming for a more holistic and inclusive one. Responsible consumption and education should involve policy making, where there is an ever-increasing need to disseminate correct and realistic information to main stakeholders, i.e., citizens, who are affected by all the negative effects of climate change.

To achieve this, it is crucial to educate and empower individuals to make informed choices. This can be pursued through awareness campaigns, incentives for eco-friendly behaviour, educational programmes that promote sustainable lifestyles.

06

Conclusions

Our analysis emphasizes the importance of incorporating behavioural advice into emissions reductions policies, underscoring the pivotal role of individual actions in reducing greenhouse gas emissions. It is in fact essential to complement supply oriented policies with demand-side policies to address the climate crisis in a holistic way. For succeeding in this ambitious objective multiple aspects need to be taken into account, ranging from selecting the most appropriate metrics, to understanding the priorities of individual countries and economies.

Providing a clear framework for incorporating carbon neutral lifestyle advice into national strategies, as pursued by the CAMPAIGNers Project, constitutes an important starting point to define a new paradigm in policy making. Despite the challenges to overcome for pursuing an effective transition towards citizen-centred policies, there are several positive outcomes that can benefit society as a whole. These include increased citizen engagement resulting from the new policy making approach; as well as a deeper sense of individual and collective responsibility towards the planet, fostered through education and awareness.

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