



Project acronym: EU 1.5° LIFESTYLES
Title: Policies and tools for mainstreaming 1.5° Lifestyles
Grant Agreement number: 101003880

DELIVERABLE 5.2

1.5° Welfare and Business Models: Summary Report

Lead parties for deliverable: Green Liberty – GL

Document type: Report

Due date of deliverable: 31-10-2023

Actual submission date: 07-11-2023

Revision: Version 1.0

Dissemination level: Public

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This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101003880.

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EU 1.5° LIFESTYLE PROJECT SUMMARY

POLICIES AND TOOLS FOR MAINSTREAMING 1.5° LIFESTYLES

The four-year project (2021-2025) EU 1.5° Lifestyles is part of the European Union's Horizon 2020 research and innovation program. It involves researchers, practitioners as well as advisory board members from Finland, Hungary, Japan, Latvia, the Netherlands, Spain, Sweden, and Germany.

The project's main aim is to foster the mainstreaming of lifestyles in accordance with the aspirational 1.5° climate target and to facilitate transformations sought by the Paris Agreement and the EU Green Deal. For this purpose, the project develops guidance for policy makers, intermediary actors and individuals based on scientific evidence on how lifestyle choices affect individual carbon footprints, and how political, economic, and social contexts enable or constrain shifts to sustainable lifestyles options.

The uniqueness of the project approach is that it recognises the importance of political acceptance for change, demonstrates potential contributions of individuals and households, and clearly articulates where limited agency by households needs intervention from policy and requires structural changes. In doing so, the EU 1.5 Lifestyles connects analyses of lifestyle perspectives at the household level in the four realms of nutrition, mobility, housing, and leisure with inquiries into relevant political, technological, economic and social structures at various levels of governance.

To mainstream 1.5° lifestyles, the project develops practical recommendations, which can be integrated into everyday life as well as into EU and national policies. Along the way, the project provides stakeholders at national and EU levels with:

- a quantification of climate and health impacts on shifting lifestyles in the EU and within three G20 countries (Indonesia, South Africa, Mexico);
- an overview on potentials for and barriers to change at the household level, including options for transitioning to 1.5° lifestyles as well as associated potential risks and opportunities;
- an assessment of structural barriers and enablers for systemic transformations necessary for 1.5° lifestyles;
- assessments of scenarios for economic and welfare systems, and business models compatible with 1.5° lifestyles.

To co-produce outputs and involve target group members, several stakeholder workshops are held, and instructive communication materials are disseminated, including concrete guidance for both citizens and decision-makers on transitioning to 1.5° lifestyles.



INTRODUCTION

This report serves as an explanation and justification for the design of the Delphi process in WP5 (Task 5.2) for evaluating welfare and business models supporting 1.5° lifestyles. Our reasoning relies on the literature review of ecologically informed welfare systems and sustainable business models (Task 5.1), as well as prior results from the EU 1.5° Lifestyle project.

SUMMARY OF OBJECTIVES D5.2

The objectives of D5.2, a comprehensive report, are threefold.

Firstly, it serves as a consolidation of key findings derived from various research activities. This includes insights gathered from desk research on scenarios related to 1.5° welfare systems and business models (Deliverable 5.1.). It also encapsulates outcomes from the Delphi process carried out in five case countries (Sweden, Latvia, Hungary, Germany, and Spain). Additionally, the report touches upon the process of scenario development and its subsequent evaluation, while also acknowledging the associated limitations.

Secondly, D5.2 is designed to provide a fundamental resource for the upcoming second round of multi-stakeholder thinking labs within Work Package 3. It offers valuable insights that will inform the inner workings of Work Packages 1 and 2, which remain for the internal use of project partners.

Lastly, the report plays an integral role in shaping the communication strategy and policy recommendations that will be developed in Work Package 6. The design of the workshop is not created in isolation but is informed by Work Packages 1-4, as well as the insights gained from the literature review in task 5.1. In this way, D5.2 functions as a central piece of the project, contributing to various aspects of research, communication, and policy formulation.

SCENARIOS FOR 1.5° WELFARE SYSTEMS AND BUSINESS MODELS

This deliverable is a continuation of Deliverable 5.1, which described the possible scenarios for a 1.5° welfare society and business models and policy tools for transforming the existing welfare systems and business models to serve the 1.5° lifestyles.

In D.5.1 two scenarios were proposed to achieve a 1.5° welfare society: the **Green New Deal (GND) scenario** and the **Ecological Transformation scenario**. The former focuses on incremental improvements within the current economic system, while the latter envisions a fundamental reorganisation of economies and societies toward sustainability and equity.



These scenarios were based on the policy options taken from the literature review. In the scoping phase of the literature review to select policy options, 443 articles were reviewed, leading to the selection of 75 relevant papers for further analysis. These papers were divided into two categories, examining the impact of climate-friendly policies on welfare systems and business models. From the insights gleaned from these papers, six policy options for each of the topics (welfare systems and business models) were selected.

While we identified more than six options for welfare and business sectors, our time frame allowed to examine in-depth only six. The selection criteria included not only high prevalence in the literature but balance of addressed concerns. Therefore, welfare policy options included three labour policies and three public service policies, but business options included four state-led policies and two business-led policies. These policy options have both advantages and disadvantages, ranging from promoting sustainable consumption and public health to potentially reducing individual autonomy, fostering innovation and international competitiveness distorting the market and reducing state investment in other public services.

Here below we describe selected policy options that have been used in the policy Delphi process and arguments for and against their implementation that were noted in literature analysis and that participants also received to prompt their discussion. While in the literature the arguments for and against were not that balanced, we represented them in a balanced form to prompt more discussion.

Welfare policy options

Several **welfare policy options** were suggested, including working time reduction, job guarantees, sustainable resource management, and a shift towards needs-based approaches in welfare systems. Individual lifestyle changes, new business models, and reimagining the welfare system are crucial to ensure human well-being within the planetary limits.

1. Reduction of working hours

The initiative to reduce working hours is often analysed in the context of limiting climate change. It can be implemented **in different ways**: shorter working weeks, six-hour working days, longer vacations, or earlier retirement age, as well as on **different scales**: national, industry, or company level. This initiative has broad potential to increase or decrease emissions or inequality.

Arguments for	Arguments against
Can improve quality of life, reduce stress and burnout	Real income and ability to pay for goods or services may be reduced



D5.2 – 1.5^o Welfare and Business Models

Can reduce emissions by commuting less, by producing and consuming less, and by people spending more time with their family	Consumption can be increased by people pursuing more traveling and other emission-intensive leisure activities
Unemployment and inequality can be reduced by sharing work and hiring laid-off workers	Exercising it only in certain sectors can increase inequality at the expense of others

2. Job guarantee

A job guarantee is analysed as one way to prioritize sustainable industries and to reduce the negative impact of potential layoffs in high emission industries on low-income households, which suffer the most from the environmental and health costs of pollution and climate change. Job Guarantee is a national program that offers work to anyone who wants it. It can be provided both by the state and in cooperation with the private sector.

Arguments for	Arguments against
Jobs that support environmental and climate goals can be prioritized	Jobs that have no positive or even a negative environmental impact can be unwittingly created
Carbon reduction can be promoted across sectors where there is a workforce recruitment programme	There may be potentially little impact on other high-emitting industries and workplaces
Inequality can be reduced by supporting low-income and skill groups	Inequality cannot be solved without providing wages similar to the for-profit sector

3. Universal basic services

In many countries, there exists an unequal distribution of basic services such as food, housing, and healthcare, with certain segments of the population overspending resources while others receive insufficient access to them. Further, setting strict environmental requirements to limit certain economic activities or including environmental costs in the prices of goods and services can increase various forms of inequality. One of the discussed solutions is universal basic services, which include providing people's rights to a wider range of public services that address the basic needs of citizens. Interpretations of what constitutes a basic service and how much to subsidize it vary, but it most commonly includes food, housing, health care, education, sometimes also transportation, and information.

Arguments for	Arguments against
Establishes the right of individuals to meet their basic needs, reducing inequalities in access to basic services, especially for communities adversely affected by climate change and pollution	May not address inequality and divert attention away from high-emission luxury consumption
Services can be streamlined by maintaining high investment in research and development, thereby reducing resource consumption	Consumption can be increased by setting standards of living that require resource depletion



Basic services can be provided with compliance with high environmental standards	It may require a complex needs assessment system and infrastructure, segmenting services according to different needs
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4. Renovation program for the most energy-inefficient buildings

One of the biggest sources of emissions is residential heating and cooling. In many countries, reducing the amount of emissions is hindered by the low energy efficiency of buildings in the affordable housing sector. Many building renovation programs, on the other hand, are available to those who already have the finances and know-how to carry out the renovations. Other initiatives, including *Renovation Wave for Europe*, promote the renovation of buildings that generate the most emissions and are in the most problematic condition. This means financial and technical support specifically for these buildings and their residents, targeting support to low-income households.

Arguments for	Arguments against
Buildings inhabited by low-income households can be renovated and their emission levels reduced	Housing value can be increased in such a way that the most vulnerable residents are displaced
Buildings can be saved from destruction reducing the need to build new buildings, which contributes to new emissions and resource extraction	Buildings can be renovated, the renovation of which might not be more efficient than the construction of a new, more energy-efficient building
Energy poverty can be reduced by reducing utility and management bills after the renovation	Inequality and reducing emissions from buildings can be minimally addressed because the mechanisms of inequality and emissions in other areas remain the same

5. Free public transport

Private cars account for a large part of transport emissions, so promoting the popularity and affordability of public transport is one of the central strategies for reducing transport emissions. In many countries and cities, public transport is significantly subsidized, but there are examples where free public transport has been introduced at the national level (Luxembourg), city level (Tallinn) or route level.

Arguments for	Arguments against
Transport emissions can be reduced when citizens reduce their use of private cars	There may be high costs that the state can divert from other social and environmental investments
Can improve air quality and make cities more citizen-friendly, thereby reducing suburbanization	Overcrowded public transport can be created, unable to provide the demanded volume and quality of mobility
	It may be that public transport is not equally accessible and necessary for everyone, which creates

D5.2 – 1.5° Welfare and Business Models

Can improve street safety and reduce congestion, making streets more accessible to those with less access to public transport

a situation where a part of society pays taxes disproportionately for its use

6. Income ceilings

According to a recent report by Oxfam¹, it was found that a mere 10 % of most affluent individuals are responsible for generating 50 % of the total global emissions. This signals that policies that restrict incomes and increase taxes on wealth and property play a critical role in meeting the 1.5° limit. While some proposals advocate for absolute caps on income, others suggest implementing ratios.

Arguments for	Arguments against
The most emitting luxury consumption can be reduced	Investments in sustainability-oriented technologies and solutions can be reduced
Inequality can be reduced, and more fair distribution of resources can be promoted	A situation may arise where companies and individuals see compliance with environmental protection requirements as a risk to financial stability
The concentration of material wealth that contributes to financial instability can be reduced	Non-declaration of income and the grey economy, which also does not respect environmental requirements, can be encouraged

Policy options for businesses

Policy options for businesses in a 1.5° society include state-enforced and voluntary choice editing, cultivating a company culture based on non-financial goals, subsidies for low-carbon choices, higher taxes on resources and pollution, tax incentives for low-carbon research and development, and public procurement for low-carbon products and services.

1. State-regulated high-emission choice editing

To reduce the negative climate effects, the use of some products and services with very high emission intensity could be limited. State-enforced choice editing is a policy initiative that limits or prohibits the use or provision of certain products and services to reduce environmental harm and improve human health.

Arguments for	Arguments against
Sustainable consumption and public health can be promoted on a national scale	Individuals' autonomy can be reduced by banning choices that are essential to their lifestyles

¹Gore, T. (2020). Confronting carbon inequality: Putting climate justice at the heart of the COVID-19 recovery.



D5.2 – 1.5° Welfare and Business Models

Fair competition and innovation leadership can be promoted by adopting the same environmental requirements for all companies in the region	The administrative costs required by the regulation process may reduce SMEs' investment in innovation and their international competitiveness
Can mitigate the external social and environmental costs felt most by communities at the highest risk of climate change and increased pollution	Black and grey markets that circumvent restrictions may be encouraged

2. Voluntary choice editing of high-emission products

The transition to low-emission products and services can also be voluntary. Voluntary choice editing means that companies change their product and service offerings or marketing strategies to promote more sustainable or socially responsible consumption. For example, companies can eliminate the use of single-use plastics, restaurants can offer more plant-based food or deposit containers for takeaway, and electronics companies can offer more energy-efficient and repairable products.

Arguments for	Arguments against
The quality of companies' internal ethical and environmental standards can be improved	There may be potentially little impact if low carbon choices are not highly valued in the ethical and environmental standards of the industry and region
Availability of low-emission products and services can be promoted	May depend on demand, the lack of which may lead to a return to higher emission goods and services
A strong brand can be created that becomes an internationally recognized market leader with a reputation for low environmental impact	It may be that low-carbon choices remain in the more expensive segment of the market because they serve a specialist market with a high level of product expertise and income

3. Direct or indirect public subsidies for low-carbon choices

One way to make low-carbon choices more affordable is to directly or indirectly subsidize them. Direct subsidies include financial support to customers for low-carbon choices. Indirect subsidies include financial incentives for companies, incl. tax incentives for research and development to encourage companies to invest in innovation and the production of low-carbon goods and services.

Arguments for	Arguments against
Can encourage companies to switch to low-emission goods and services	May distort the market and promote inefficient use of resources by prioritizing certain goods and service
Availability of low emission goods and services can be promoted	State investment in other public services may be reduced



Innovation and international competitiveness can be fostered as companies strive to create low-emission solutions	It may be that companies exploit subsidies to increase their profits with low social returns
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4. Overseeing a company culture based on non-financial goals

Increasing profit in certain contexts can come with social and environmental costs, which in various ways can harm the company itself. Therefore, many companies are paying more attention to their non-financial goals. Also, the role of social enterprises is growing, which includes, e.g., enterprises renovating buildings whose renovation is not considered financially feasible by profit-oriented companies. The accounting of the company's non-financial goals includes environmental and social goals (triple bottom line), which may not have a direct relationship with the company's turnover and profit.

Arguments for	Arguments against
Resource consumption can be reduced, which also results in higher company efficiency	Environmental goals may be under-prioritized in preference to economic and social ones
Can contribute to the reduction of negative environmental impacts and emissions, as well as the well-being of employees and customers throughout the supply chain	Can be difficult to calculate and compare across business sectors
A company's sustainability, resilience and reputation can be increased by keeping a closer look at the environmental and social conditions that the company has an impact on and benefits from	Greenwashing can be promoted by the company emphasizing in its internal and public communications activities that have little impact on reducing emissions

5. Higher taxes on natural resources and pollution

Various taxes on natural resources operate in European countries, but there is extensive debate about how high they should be in order to significantly reduce emissions. There is a growing recognition that maintaining low taxes on natural resources and pollution comes with significant environmental costs that affect everyone. At the same time, their increase may have negative social consequences.

Arguments for	Arguments against
Resource depletion, emissions and pollution can be reduced	Financial, social and natural resource access burdens can increase for low-income households
Economic and infrastructural transformation can be facilitated by investing tax revenues in sustainable solutions	Relocation of companies to countries with lower resource and pollution taxes can be encouraged
Innovation can be encouraged as companies strive to create less polluting and more efficient solutions	Small and medium-sized businesses, which face increased costs, may be more negatively affected



6. Public procurement only for low-carbon products and services

Public procurement has a major impact on demand and opportunities to drive innovation and economic transformation. Price as the main criterion can contribute to low environmental standards and high demand for emission intensive products and services. At the same time, public institutions can set high environmental requirements or purchase energy-efficient appliances, sustainable building materials, low-carbon cars or low-carbon food products. Also, innovation and pre-commercial procurement can be applied and prioritized, during which it is possible to create solutions that do not yet exist on the market.

Arguments for	Arguments against
Emissions can be reduced by creating demand for low-carbon products and services	Failure to evaluate how some low-carbon products and services create other social and environmental impacts, such as biodiversity, can have unintended consequences
A country's purchasing power can be used to stimulate change in industries where it would otherwise not occur	State funds can be used inefficiently by investing in solutions whose returns have not been fully explored
Innovation and international competitiveness can be promoted by companies being competitive in procurement only by offering low-carbon products and services	The competitiveness of small and medium-sized enterprises with low opportunities to invest in research and development can be reduced

DELPHI PROCESS

WP5 aims to assess and elaborate on the scenarios for welfare systems and business models compatible with 1.5° lifestyles built around the selected welfare and business policies. Due to the complexity of contextual implementation, we organised a policy Delphi process to analyse what scenarios are seen as required by experts in the countries involved in the project. The pros and cons of the policies as well as the feasibility and desirability of these policy options have been adapted to the Delphi process methodology and further discussed during the Delphi process.

We followed Delphi methodology to understand the local acceptance and barriers to delivering these policies across country-specific welfare and business contexts and facilitate the mainstreaming of 1.5° lifestyles. The aim of our Delphi process was to **collect, analyse, and compare expert evaluations of the feasibility and desirability of welfare system policies and business model scenarios compatible with 1.5° lifestyles.**

The Delphi process is a methodology used for making complex decisions consisting of **multiple rounds of asking for expert feedback** on different aspects of the discussed issue. It helps



shed light on different aspects affecting support and possibility for an action as well as showing how discussions shape participants' willingness to change their opinion on particular issues. In our case, the goal was to understand not only people's willingness to support policies as part of climate change mitigation, but to understand the different barriers and possible enablers for the policies.

To capture different perspectives, including dissent, we employed a **hybrid policy Delphi** approach that included both (1) **quantitative** surveying of participating experts on policy choices and (2) **qualitative** focus group discussions on the reasoning behind evaluating the policy choices². If the original Delphi approach aims to reach consensus among the experts, then in **policy Delphi** the aim is to bring out and elaborate the different political positions people are holding. The **hybrid** process involved both online and in person engagement with the participants in three rounds of voting, offering them the opportunity to change their views and elaborate on their reasoning.

The Delphi process was organized in five countries - Germany, Hungary, Latvia, Spain, and Sweden. Each case country partner was responsible for the organisation of **two Delphi processes** (welfare and business) consisting of **three surveys** (two of them online one week prior and one week after the meeting) and **one in-person meeting for focus group discussions** (if necessary, the discussions can be organised online). The two groups of experts (one for welfare systems and one for business models) took part in two different surveys but met at the same Delphi in-person workshop for focus group discussions.

DELPHI PARTICIPANT SELECTION AND RECRUITMENT

Participant selection process and limitations

For our Delphi process, we selected welfare and business experts, striving for **diversity in expert backgrounds**. The purpose was to recruit important stakeholders who are either holding positions important in welfare or business policy-development or holding expertise in some of the questions. The WP leader provided an approximate guideline of organisational backgrounds that was aimed to be represented in both Delphis. This guideline noted that this was an estimate and the numbers, in the end, could differ across countries due to various circumstances and unexpected turns during recruitment.

² Gahbauer, J., Wasserman, J. L., Matute, J., Rios Gutierrez, A., & Taylor, B. D. (2022). Employing a Modified Delphi Approach to Explore Scenarios for California's Transportation and Land Use Future.



Table 1: Proposed Delphi process expert quotas

Expert field	Welfare systems Delphi	Business models Delphi	Notes
Local (municipality level) and national (state level) policymakers	3	2	Ministries, agencies and municipal departments responsible for welfare policy/business policy.
Politicians (political party members)	2	2	Aim for different party members. If you cannot recruit politicians, aim for other policymakers.
Private and public companies, including social enterprises	2	3	For welfare, it would be beneficial to have a large employer and a social enterprise. For business, aim for different types (private, public, social) of businesses, preferably representing the consumption fields.
Business associations	2	3	For both welfare and business, aim to select a broader representative of employers and others might be related to our consumption fields.
Trade unions – labour representatives	2	2	Select more welfare-related trade unions (e.g., educational and health) for welfare and consumption fields (e.g., nutrition and construction) related unions for business Delphis.
Civil society organisations	2	2	Aim for different types of civil society organisations dealing with welfare or business (from welfare service providers to corporate responsibility advocates).
Academics	2	2	Academics working with welfare, business or sustainability issues.
Total	15	15	

The country partners recruited **between 10 and 17 participants** for each of the policy Delphi processes (welfare and business). The people invited for welfare Delphi were selected for a background related to welfare and jobs, but people invited for business Delphi were more likely to have a background related to business. At the same time, diversity of backgrounds was more important than expertise. Thus, there were representatives of businesses participating in the welfare discussions to provide their perspectives. For example, if we recruited a housing-related business association to the welfare Delphi, then we aimed for the food-related business association for business (or for different party members to both Delphis, etc.).

In Germany, there were 16 participants in the business model group. In the welfare state group, there were supposed to be 13 participants, but due to a dropout (childcare reasons) there were only 12. In Hungary from recruited 33 participants three were not able to attend the workshop due to work (2 could not make the business models workshop and 1 the welfare one), but they did fill in the first survey. Thus, there were 17 live participants for the Welfare and 13 for the business sections. In Latvia, 3 people informed us that they were not able to come in the morning of the workshop leaving 23 participants (12 in business, 11 in welfare). In Spain, there were 10 participants for each Delphi process not counting the two drop-outs. A limitation in recruitment was the summer break, as some invitees could not join due to vacation or a busy agenda before going on vacation. In Sweden, there were 14 participants in the welfare group and 12 participants in the business model group with only one participant dropping out after

completing the first survey.

In each of the countries, there were differences in how participants represented a different spectrum of fields and ideological leanings. In Sweden, the group composition was **slightly to the left of the political spectrum** as no representative of the very liberal and right side of the political spectrum was present; or at least did not show this position in the discussions, which overall did not showcase any major ideological clash. It also reflected a challenge that the subject matter of the project and workshop itself was **more appealing to certain political parties** than others, despite the fact organisers approached all political parties in their recruitment process. Similarly, in Germany although members of all political parties were invited, only **Green and Social Democrat local politicians attended**. In Hungary the very same situation happened. In Latvia, however, only parties representing centrist leanings attended.

In Germany, the WWU managed to recruit someone from the **fossil industry background**, who provided quite a strong counterbalance to the more sustainability focused majority, but no participants from the trade unions were recruited due to the congress taking place. While trade unions were represented in Latvia and Sweden, their absence was noted in Hungary. This was attributed to a lack – or in some instances blocking efforts – of government support for trade unions in Hungary. Nevertheless, the compilation of the participants in Hungary turned out to be **quite varied** as there were representatives of NGOs, academics, active politicians (city council members, a member of Parliament), policymakers (mayors and vice-mayors of larger and smaller municipalities, ministry heads of departments), small and large business leaders, business association executives.

In Spain, although we aimed at recruiting experts with diverse profiles from different organisations for the welfare state Delphi process, in the end, the majority of the experts were recruited **from academia** (60 % of the participants). While this ensured a good degree of expertise, it was less representative of different stakeholders. Due to the tight agenda of the experts from the public sector who work at town halls and ministries as well as experts working at NGOs, it was a challenging task to receive a response from the experts. Meanwhile, in Latvia only one academic for each Delphi process was recruited. While the team of Green Liberty targeted a significant number of potential participants from the 'green bubble', in the end, many of them couldn't come, and more than 50% of the participants were outside of the 'green bubble' as businesses and political parties sent representatives who deal with sustainability issues in the organisation.

Due to logistical and organisational concerns, organisers in Hungary decided to have the **two workshops on different, but consecutive days**, which proved to be beneficial, as participants had more time and space to express their views and discuss details during coffee and lunch breaks. For group building and networking purposes the participants of both topic areas were invited to a **preliminary dinner a week before the workshops**, which was much appreciated by the 20 participants that were able to attend the joint dinner. This way they got acquainted with the experts of the other topic area and also those that were invited to their own workshop. This social event also helped the dynamics of the actual workshops as most of the participants

had already met each other and the discussions could be conducted more smoothly. In other countries, a group dinner was not organised.

All the organisers in Latvia, Hungary, Germany, Spain and Sweden did the recruitment on their own through **personalised invitations** or general invitations to organisations. The organisers used both their established networks of contacts and partner organisations from various fields and researched the relevant stakeholders in the welfare and business fields. In most countries, telephone calls were used in combination with emails and followed by continued communication in case of a positive response. In Sweden and Germany, organisers also used LinkedIn.

The **invitation process proved to be highly challenging** with significantly more invitations sent than positive responses received. The most efficient recruitment results (around 50 %) were achieved in Hungary where a little more than 60 invitations secured the participation of 33 experts (18 for welfare and 15 for business). In other countries the success rate was significantly lower. Recruitment was most challenging in Germany, where around 500 personalised emails were sent to reach the optimal level of participation. Unfortunately, there were several other events taking place at the same time including multiple conferences and a large German Trade Union Confederation Congress. A similar situation was also in other countries, for example, in Latvia, there were two other events happening that day which many invited experts were attending.

At the beginning of the recruitment, representatives of Green Liberty wrote a general invitation and sent it to several main stakeholder organisations but **communicating with the selected representatives** of these organisations directly and on the phone turned out to be more effective and faster. While in Hungary several experts, for whom the workshop date wasn't suitable, **suggested a colleague** to replace them, in Sweden **re-sharing of the personal invitation was not encouraged** of the personal invitation, as they wanted to remain in control of who got invited and only one participant with a suitable background signed up based on the invitation being forwarded by the original recipient. In Latvia, re-sharing was encouraged, but was unsuccessful.

SURVEYS

Details of the Survey

The policy Delphi process consisted of 3 surveys for welfare systems and 3 surveys for business models. Both processes had the same survey design, but they differed on policy initiatives that were addressed either toward welfare or business. The survey included a question on how the participants evaluate the importance of welfare and business policies for climate change mitigation and evaluation of different policies.

Based on literature analysis on eco-social welfare and sustainable business models, we selected 6 policy initiatives for each Delphi process. **The welfare policy** options evaluated by



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experts were working hour reduction, job guarantee, Universal Basic Services, public renovation programme for lowest performing buildings, free public transport, income ceilings. **The business policy** options evaluated by the experts were: choice editing, state enforced; choice editing, voluntary; direct/indirect state subsidies for low-carbon choices; higher taxes on resources and pollution; tax incentives for low-carbon R&D; public procurement for low-carbon products/services.

Each policy was evaluated on a Likert scale on its desirability (very desirable, desirable, undesirable, very undesirable) in achieving the 1.5° limit and feasibility in implementing it in the near future (2030, 2040, 2050, never). To ensure that different positive and negative feedback is collected, the survey followed the policy Delphi guideline not to include neutral options. In the case of Spain neutral options were provided and, in some cases, selected by the participants. In each of the 3 surveys the experts had an opportunity to change their initial choice. In each of the 3 surveys they had to comment on their choice.

Together with the first survey, the participants received a **summary of the policies** and their potential contribution to limiting climate change to 1.5°. The starting presentation of the in-person meeting also included a short description of each policy initiative. Partners were encouraged to add their questions to the survey, e.g., a question where participants vote on enablers and barriers during the discussion about the feasibility of the policy initiatives.

Table 2: Number of survey participants

Country	Business models			Welfare state		
	Survey 1	Survey 2	Survey 3	Survey 1	Survey 2	Survey 3
Germany	17	16	17	13	12	12
Spain	10	10	10	10	10	10
Hungary	15	13	13	18	17	17
Latvia	13	12	12	10	11	7
Sweden	13	13	13	14	14	14
TOTAL	68	63	64	66	65	60

Due to different subscription and data security policies in each organisation, different survey platforms were used. In Latvia and Sweden, Google Forms was used to conduct the survey; Germany and Spain used Microsoft Forms but Hungary - SurveyMonkey. After the first Delphi was conducted, the lead partners in Latvia made a small adjustment to one survey question to be used by other partners. The other partners **translated the questions** from the master English version to the local language.

There were slight differences in how the partners introduced the policies. While in Latvia, participants received a complementary file where the policies and potential arguments for and against them were introduced, Hungary, Spain and Sweden included short descriptions of the policies in the online survey to increase the stakeholders' engagement with the survey. In Hungary, Latvia and Germany participants received additional files with descriptions. In Sweden they were given by the facilitators during the discussions, if needed, in Germany they



were handed out to each participant at the start of the in-person event. There were **slight differences in the survey used in Spain**: (1) a 5-point Likert Scale (instead of the 4-point scale used by other partners) including a choice as “Neither desirable nor undesirable” was used when assessing Desirability of the policy options; and (2) for the sustainable business model survey, they included the initiative: “Providing tax incentives to businesses for investing in low-carbon R&D and innovation” rather than “Overseeing a company culture based on non-financial goals” (in other surveys, the latter initiative was used).

Survey Limitations

In general, Delphi method process organizers in all five countries were not aware of any significant problems participants had understanding and answering the survey questions. Also, no major technical problems with completing surveys were identified. Yet several limitations were observed:

Not all the survey respondents participated in Delphi workshops. In Sweden – two participants did not show up for the workshop after having filled out the 1st survey. In Spain, one participant dropped out before the workshop although they did the survey.

Not all Delphi invitees who expressed their willingness at least to complete surveys shared their responses. In Hungary – three participants who were not able to come to the workshop didn't answer the second and third surveys, thus the team ended up with 17 and 13 full answers for the welfare state and the business models surveys.

Not all Delphi participants have completed surveys. The smoothest process was in Sweden where project partners encountered no problems with the Delphi process. One participant commented on the more homogenous result in Survey 2 compared to Survey 1 that it showed ‘group think’. In Hungary, all 30 participants who attended the focus group discussions filled in the 2nd and 3rd surveys and only two of them needed extra days. In Latvia – two participants didn't answer the first survey and two – the third survey. In Spain – one last-minute participant (a substitute person for the last-minute dropout person) didn't complete the first survey but participated in the workshop and did the two subsequent surveys. In Germany – one response has been missed from the third survey in the end for the welfare state. In Germany, Latvia and Spain, the additional reminders needed to be sent before the 1st and after the 3rd survey. In Spain, the first survey required more effort for follow-up.

Participants have switched from one group to another without a significant impact on survey answers. In Sweden, one participant switched groups after having filled out the first survey, and thus filled out the other survey instead. That required the project partners to combine his qualitative answers and delete his first round of quantitative answers. In three cases they had to delete answers from the survey again due to a no-show, and a group switch. Yet, the original answers were saved.

However, the limitations listed here were generally insignificant and did not affect the quality of the survey data.

DELPHI WORKSHOP SESSIONS

Focus Groups

During the expert Delphi workshop, participants of each Delphi process were divided into **two focus groups consisting of 5-8 people**. Since the survey covered 6 initiatives but the time allowed to meaningfully discuss only a maximum of 3 of them, the **two groups worked on different initiatives separately** during the desirability focus group **and then exchanged** the 3 other initiatives during the feasibility focus group. This way both groups in the end had discussed all 6 initiatives and heard other groups' short assessments of other initiatives in their presentation.

To avoid a high concentration of one type of actors in one group (e.g., all businesses and business associations in one group), the groups needed to be pre-selected in advance. We used our own judgment regarding the participants to **divide each Delphi process into two groups with significant diversity in group members**. To make the logistics easier, we planned to note the participants' group during registration using numbers or colours on name tags and tables for smoother logistics. The way you choose which initiatives are discussed by each group was not of utmost importance. However, we hoped to **use the Survey 1 results to mix up more supported and less supported initiatives**, e.g., initiatives could be sorted by those that achieved the highest average desirability and give options 1, 3, 6 to Group A and 2, 4, 5 to Group B.

Focus group participant selection: In Hungary, two small groups were formed for each day carefully preselected by GreenDependent, so both focus groups consisted of participants with similar diversity (in both groups there were NGOs, academics, politicians/policymakers, business leaders/business association executives). In Latvia, the Green Liberty team selected the groups in a way that created a diversity of opinion in each group and while in some questions there was a move towards consensus, in others – no. The project team from Sweden also followed the recruitment requirements in composing the groups. To split the welfare and business model groups into subgroups, they tried to create as much diversity as possible and to achieve a more diverse representation.

Location of the focus groups: In Latvia, all four focus groups took place in the same big room at the same time. In Germany the focus groups were organised in two big rooms separately, in parallel, with both teams having tables and chairs around them. In Hungary the focus groups took place in the same big room at the same time on both workshop days (June 20 – Welfare, June 21 – Business models). In Sweden, the focus groups took place in separate rooms. In Spain, focus groups of Delphi process for a welfare state and sustainable business models took place in the same room, divided into two different sessions for welfare state and sustainable business models.



Procedure of the focus groups: In all five countries the focus group discussions were conducted according to the guidelines.

In Germany, one rapporteur was asked to be responsible for each group (this was not the moderator of the group). All the participants were also given paper sheets to take notes, but they mostly did not. The team then used the plenaries to discuss the different outcomes.

In Hungary, in the afternoon sessions, the groups focused mainly on the barriers and enablers, but in some instances, the discussion also turned a bit toward solutions. GDI asked the participants to take notes on a flipchart for each topic. It helped the participants when they made their presentations to the other group. In parallel, a GDI staff member also took notes of each discussion to support the documentation.

In Spain, the project team arranged the group discussion by organising the welfare state Delphi process in the morning and the sustainable business models in the afternoon. Both sessions consisted of a focus group discussion followed by reporting back to the plenary from each group. During the group discussion and plenary reporting note takers recorded the session and took notes. In both sessions, the research team conducted the survey right after the second group discussion. This way they managed to analyse survey results while the stakeholders were reporting back to the plenary.

In Sweden, the project team chose to conduct their focus groups in three structured steps. Both in the morning and in the afternoon, participants worked in half-groups, followed by a reflection in which the participants were able to review (not edit) moderators' notes. Then the two half-groups were merged into one large group per discussion area (welfare, business models) and to discuss the same question again. The project team held both workshops (welfare and business models) in parallel. Participants were in the same plenary in the morning, after lunch, and for the final discussion and then divided into focus groups.

Additional issues discussed in focus groups: While UBI was not included in the six policies, in Latvia strong discussions about it came out in the focus groups. Also, in Spain, the UBI appeared in focus group discussions, specifically the experts discussing the UBS. Besides, during the UBS discussions access to decent housing has been considered as an important topic since in Spain housing and rents are significant issues.

Participant Engagement

In all countries the participants were **very engaged** in the focus group discussions and **felt free to disagree and discuss** the policy options. The facilitators made sure that each one of them had the chance to express their views, even if that contradicted the opinions of others. In Spain and elsewhere, some participants stated that they would like to have more time to think and reflect on such issues. Besides, some experts stated that it was good to be invited to such an event to discuss the transition processes more, which was seen as currently lacking. Overall, the participants hold a **good balance between discussing general ideas about policies and using specific examples from their experience**.



Limitations

Several limitations of the participant engagement and their solutions were observed:

Solutions to the partial absence of the focus group participants: Challenges emerged with focus group participants, e.g. in Latvia some missed parts of the sessions due to other meetings, impacting their engagement and presentations. However, they were actively involved in presenting their arguments.

Solutions to the unbalanced activity of the focus group participants: In Germany – there were issues with several participants taking up more space and talking more. The moderators tried to encourage everyone to share their views, however. In Sweden – one participant expressed a feeling of having ended up in the wrong group (welfare instead of business models) and was quieter during the discussion, though not in a major way.

Handling late arrivals and early departures of the focus group participants: In Latvia several participants arrived during the focus group discussions. The focus group conductors welcomed them and tried to integrate in the discussions. In Hungary – two participants arrived a bit late, but it was not disturbing for the groups and the late arrivals quickly caught up with the others. In Spain – one of the participants from the morning welfare session had to leave early due to family issues. In Germany – no one left early. In Sweden – only one participant had to leave early, and this was only during the last big group discussion in the afternoon. Having a planned mingle with snacks at the end of the event seemed to be a good way to retain participants compared to previous stakeholder events.

As with the surveys, the limitations listed here were generally minor and did not affect the quality of the focus group discussion data.

DATA ANALYSIS

The results of the Delphi process were documented in 4 different ways:

- **Online survey** (3 online rounds – before, during and after the Delphi workshop),
- **Voice recordings** of the focus group discussions (2x4 groups should be recorded separately),
- Focus group discussion **worksheets** (initiative cards, desirability sheets (for/against), feasibility sheets (barriers/enablers)),
- **Photos** (group working sheets, pictures of the participants during the workshop).

The documented data were analysed as a two-step process. First, we examined the quantitative outcomes of the policy Delphi surveys, combining the desirability results across countries as well as comparing the differences. Then, we scrutinized the experts' assessments of the feasibility of proposed policy options, focusing on the average time frame they believed these policies had to be implemented. The subsequent chapters present and visually represent the quantitative results for further analysis (Figure 1 – 16).



Second, each Delphi process organiser did preliminary analysis of the focus group discussion data. This preliminary analysis was coded for common themes in supporting or critiquing the discussed policy initiatives. This allowed to detect key foreseen risks, narratives and discourses prevalent across country discussions. Finally, differences across country discussions were identified. In the following sections, we report on these results. We have structured the report by policy initiatives, but the common themes across welfare and business domains are reported at the end of each section.

STAKEHOLDER VIEWS ON WELFARE POLICIES SUPPORTING 1.5° LIFESTYLES

In this section, we report the Delphi survey and focus group results where stakeholders evaluated the desirability and feasibility of welfare policies for supporting 1.5 lifestyles. First, we analyse the quantitative results of stakeholders' assessment of the **desirability and feasibility of different welfare policies** linking them to concerns expressed in the focus groups affecting their assessment. Second, we assess cross-cutting issues brought up by Delphi participants in terms of (1) how easy it is to link the policies to the 1.5° limit, (2) what feasibility concerns are familiar to several policies, and (3) what participants saw as solutions to these concerns. Finally, we conclude what welfare policies the stakeholders advised for reaching the 1.5° limit.

As described before, during the Delphi process involved stakeholders voted on the six proposed welfare policy initiatives three times. The results of the 3 rounds of voting are displayed in the figure below which indicates that all the policy options have been evaluated positively, but **the most support is for the Renovation program for the most energy-inefficient buildings, Universal Basic Services, and Working hour reduction**. The least supported policy options from the ones proposed for discussion were Job guarantees, Income ceilings, and Free public transport.

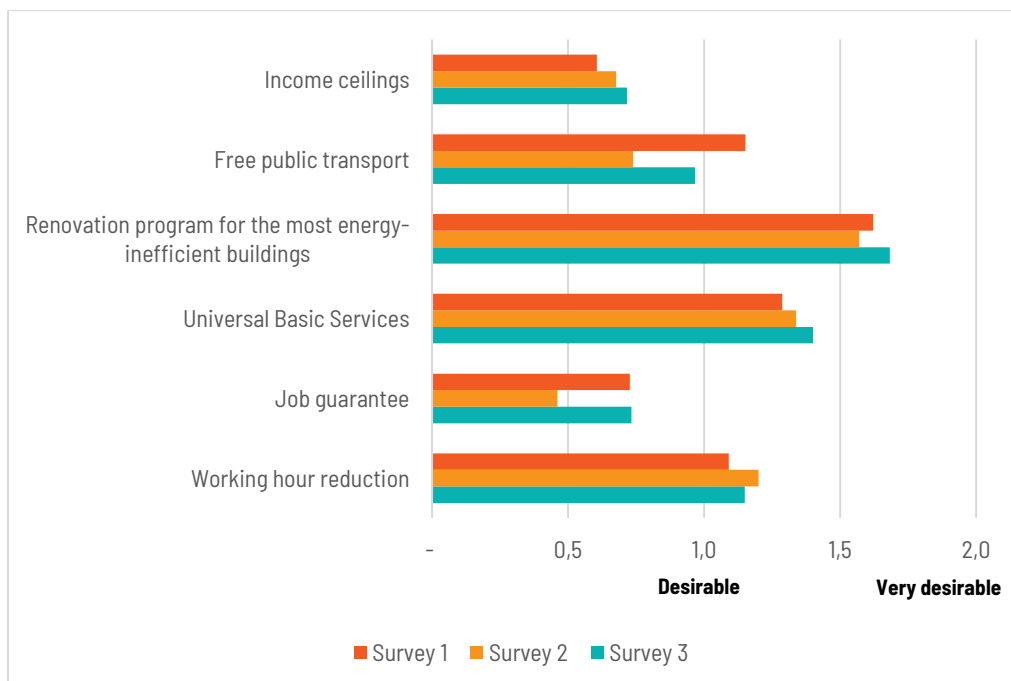


Figure 1: The desirability of Welfare policy initiatives (average aggregated policy Delphi survey results by policy options; from -2 (very undesirable) to +2 (very desirable))

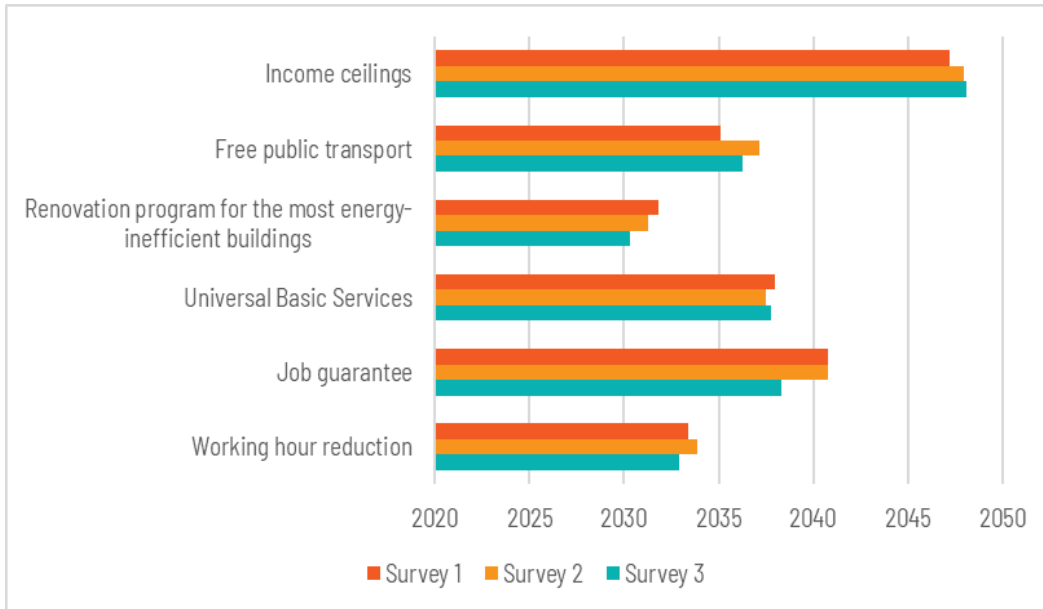


Figure 2: The Feasibility of Welfare Policy Initiatives (average aggregated policy Delphi survey results by policy options)

REDUCTION OF WORKING HOURS

Desirability

Overall, participants had mixed feelings about whether the reduction of working hours would help limit climate change to 1.5°. Most participants thought it was possible in combination with other policies. Most participants agreed that people need a better **work-life balance** than what is available at a systemic level currently. Some participants also noted how it could lead to better health outcomes and, therefore, reduce health expenditures. However, while some believed reduced working hours could lead to more **sustainable consumption** patterns and a smaller ecological footprint, others argued that reduced working hours might encourage **increased consumption**, especially in affluent societies (e.g., through additional leisure time). This was seen as depending on whether the freed-up time for leisure is less carbon intensive than the working time (such as through men doing more care work versus families flying on holidays).

Participants, who saw reduced working time as leading to less consumption, thought that personal, friend, and family leisure activities as well as volunteer and political activities do not require more material consumption. Rather activities like spending time with one's family go beyond that and working time reduction (WTR) could provide **one step in such a lifestyle change**. Meanwhile, participants who saw it as increasing consumption were worried that people might take up **more carbon-intensive hobbies**, drive or fly more, or spend more time playing video games and doing drugs, the latter being seen as activities not contributing to improvements in societal well-being.

From this discussion, since many held a deep **mistrust in individuals being able to make the most sustainable choices** in time freed from waged labour, in most countries there also emerged an agreement that the policy needs to be complemented with measures that reduce carbon-intensive consumption or reward fewer material goods and services that benefit individuals and society. Some of these measures were addressing inflation and social security, discouraging unsustainable travel (German participants), raising awareness, and promoting telecommuting (Spanish participants). This mistrust was also the reason why some opted for the 6-hour working day rather than a 4-day working week or prolonged vacation days.

The policy was viewed favourably because it offered a reward that people found attractive. This is significant, especially considering that climate-friendly living is often perceived by the general public as a sacrifice. There was a strong sense that reduced working hours are giving people **more freedom and agency** in deciding how they want to spend their time. If a person desires, one can still do more work, but as a means for additional income or as a hobby. It was, however, acknowledged that it is possible only **if it does not compromise the quality of life and fairer distribution of time and resources** as it might not be an option for people combining several low-income jobs. Nevertheless, work time reduction was often seen as a means to encourage internal reorganisation and flexible lifestyles, potentially leading to reduced energy usage.

A related debate was that work is important to self-realisation and many people work extended hours to get rewards in a highly competitive environment. For some participants, for example, in Latvia, this led to discussing UBI, where those who argued against it thought that some people might become depressed with no or little work. Another concern related to UBI is the idea that if only those who pursue a higher purpose or passion were engaged in labour market, it could result in a limited number of working individuals that potentially would lead to a **decline in the quality of services**. In general, **understanding what motivates work** and social expectations to work and produce value were frequently thought of as conflicting with reduced working hours.

Feasibility

Major concerns discussed in most countries, but especially in Hungary and Latvia, were related to the **financial consequences** of the policy. The most pessimistic views are related to assumptions that people need to be forced to work, else the public welfare would collapse. Such risks were thought to decrease support for the policy not only by employers who would need to reconstruct their work force and fear shrinking profits, but also from the employees, many of whom barely make ends meet and **desire higher wages rather than less work**, to feel more secure. Stakeholders viewed the shift in perception—towards valuing reduced work hours—as a **long-term process** that must be driven by individuals' and grassroots' demand.

Other concerns were about how working time reduction would affect and be affected by



productivity in terms of whether it would be fair towards more or less productive workers or whether the productivity in the country is sufficient for working time reduction to be possible. Nevertheless, it was seen as depending on one's and collective standards of living. Participants in Latvia also discussed labour shortage as a threat to feasibility since WTR would potentially increase the number of employees, although currently there is a labour shortage.

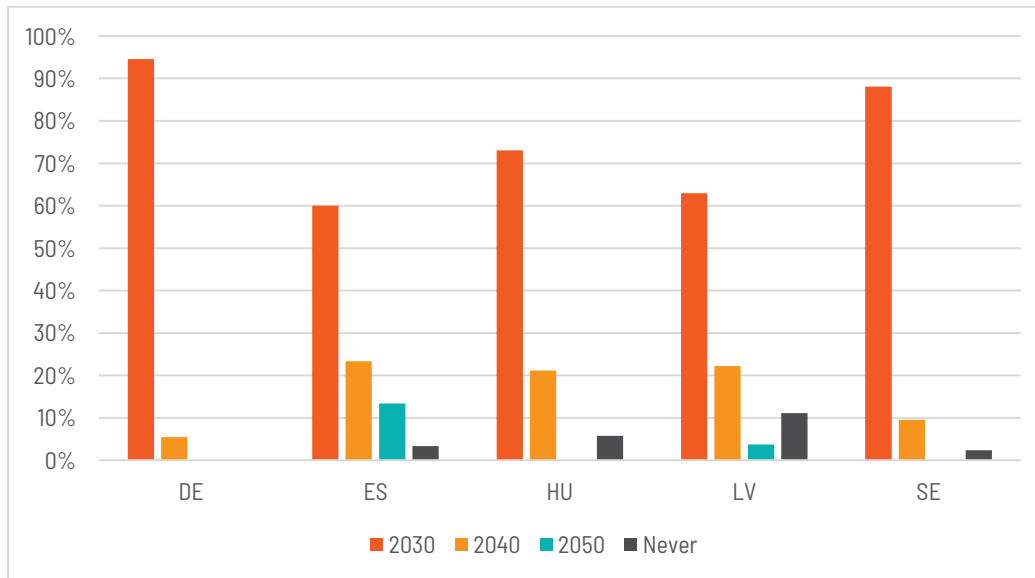


Figure 3: The Feasibility of the initiative REDUCTION OF WORKING HOURS

Another foreseen risk was that some people might be **forced to work multiple jobs** as their wages would decrease to support their family (for example, working 6+4 hours instead of 8). Responding to the **risks of decreasing wages**, German participants discussed the possibilities for **wage compensation** to support reduced working hours complementing other countries' experts' concerns about increasing the burden on the social and welfare sector. Additionally, measures to **counter inflation** in case of lower wages were discussed as well as different forms of adequate regulation and cooperation between different stakeholders to make it feasible.

JOB GUARANTEE

Desirability

Across countries, job guarantee was the **hardest of the proposed policies to connect with the 1.5° target**. The participants were concerned that while the policy could be designed to support the transition away from emission-intensive industries, it may not inherently address climate goals and could also exacerbate the climate crisis by reinforcing the work paradigm, economic growth and production. In several countries, the job guarantee was thought of as more desirable before discussions, with some participants changing their minds after the discussions.

First of all, the job guarantee raised discussions on what constitutes **meaningful and efficient work**. In Germany, supporters of the job guarantee believed that meaningful work and job

security are essential and can compensate for the loss of emissions-intensive industries. They saw a strong role for the state in providing desirable employment opportunities. In Spain and Germany, experts advocated policies that promote **high-quality, well-compensated jobs** over mandatory low-paying work which is currently a problem. There was an emphasis on preventing unemployment and addressing individual needs, implying a preference for policies that ensure meaningful and fulfilling work. In Latvia, participants referred to inefficient jobs widely used in Soviet Latvia as a bad example, while Swedish discussions revealed a leaning towards job guarantee strongly supporting market economy's decision-making. Some participants expressed doubts about the state's efficiency in allocating work and emphasised the importance of personal choice when it comes to employment. Overall, the discussions highlighted the tension between the positive view that people desire meaningful work and the strong state intervention in job guarantees.

The sustainability side was thought to be very dependent on the way it is implemented, for example, guaranteeing that the employment is in a **non-polluting industry and at a regional level**, so people are not required to move. Otherwise, the policy was thought to be counterproductive. Additionally, German participants argued that job guarantee might perpetuate the compulsion to work and maintain **traditional wage labour concepts**. Similarly, in Latvia, the strongest critic of job guarantee was the strongest supporter of UBI. The Hungarian discussions revealed, however, that job guarantee was seen as more acceptable than the concept of UBI, indicating that it might align better with culturally entrenched notions of the need to work. Hungarian participants also saw benefits that could improve the working situation of women and relieve psychological pressure related to job insecurity.

Overall, many participants held an assumption that implies that individuals seek jobs that provide a sense of purpose and contribute positively to society, and that workers do not need to be “coerced” if the work is fulfilling. This is a very **positive view of human nature** and willingness to work and in opposition to views of work and workers that emphasise coercion more often held by UBI supporters. The positive view of human nature is compatible with both the view on the need for a strong state (to provide jobs guarantee and meaningful jobs) as well as being wary of the state as the coercive apparatus which ensures that jobs and wage labour is the only way to basic services. Nevertheless, there were some participants that thought that a voluntary job guarantee should be a good supporting policy to UBI.

Feasibility

The two major feasibility concerns were about practical issues in implementation and the quality of jobs. On the one side, it relied on **funding, political support, and integration with existing labour structures**. While there was a recognition of the potential benefits, there were also concerns about reinforcing the social compulsion to work, potential stigmatisation, and the need for careful alignment with the existing labour ecosystem. In Sweden, it was, therefore, seen as a complementary measure to other policies, such as UBI, for example.



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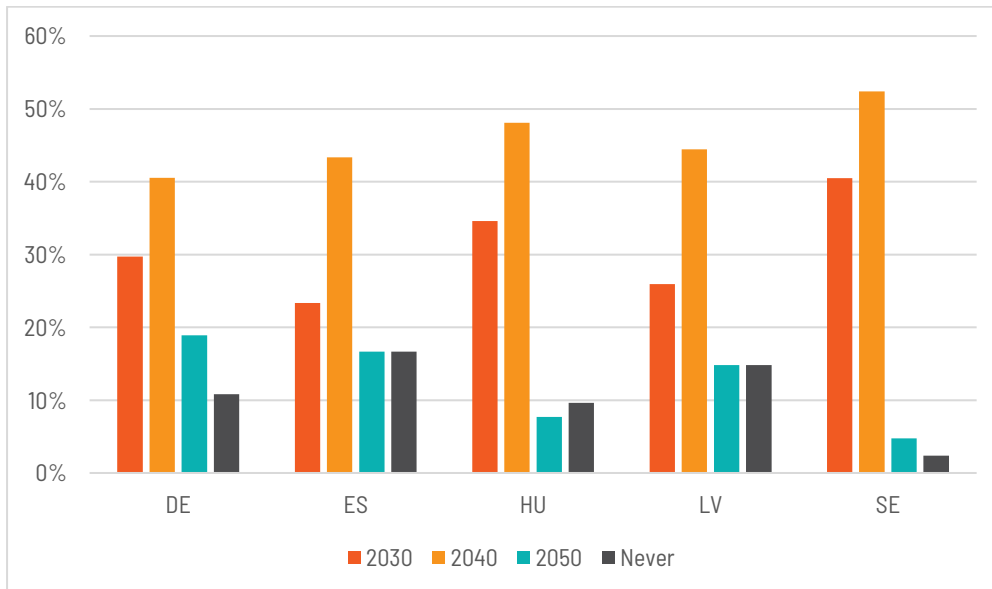


Figure 4: The Feasibility of the initiative JOB GUARANTEE

On the other hand, some discussions, for example, in Hungary were about how a job guarantee program should not only create more jobs but should prioritise the creation of value-added jobs. The focus was on the **quality of employment** rather than simply the quantity of jobs. Across most countries experts were pessimistic whether allocation of skills would allow such an endeavour. The focus, therefore, was on the need for **quality education and professional training guarantees as a prerequisite for the policy to be effective**. Additionally, concerns were raised about the program's ability to guarantee equal pay between different sectors. This perspective underscores the importance of not just providing jobs but ensuring that these jobs contribute to sustainability and are equitable in nature.

UNIVERSAL BASIC SERVICES

Desirability

While universal basic services (UBS) were well supported by participants, they did not link it strongly with the 1.5° target. The policy was seen as focused on social aspects of welfare rather than directly targeting carbon emissions. In most workshops, participants generally believed that **everyone should have access to basic services**, but there were different views on **which services should it encompass**. Among German participants, there was a consensus that meeting one's needs is not solely an individual responsibility. In contrast, Hungarian participants commonly expressed more individualistic views, suggesting that not everyone deserves benefits, particularly if they do not work. This, however, could be related to participant groups rather than country specific discourses even if there is broader welfare coverage in Germany. In terms of coverage, the Spanish participants were more eager to discuss the inclusion of housing in UBS as Spain has relatively low share of social housing and public housing is lacking.



As desirable outcomes of the policy, participants named protection from precarity and social exclusion, countering isolation, promoting solidarity, creating a sense of community beyond the family, and decommodifying critical aspects of life. There was less agreement on how it would reduce consumption since some of the aforementioned outcomes were concerned with an increase in consumption for disadvantaged groups. Thus, criticism of the policy was mostly around the fear that UBS could increase consumption in some groups, with negative environmental impacts (i.e., too much social housing being built, without a sufficiency mindset, taking away space from biodiversity). Therefore, it was seen only as **possible if implemented with a policy package** that prioritises sufficiency, optimises products and services getting rid of useless and carbon-intensive or luxury products and inefficient low-quality and luxury services. Similarly, some participants argued that there is a broader need for reforms in the welfare system, which is not necessarily UBS, and a more urgent need for reducing luxury consumption for climate reasons:

"Universal basic coverage is not to be confused with luxury consumption. There is always a lot of talk about the masses, but actually, we need to start much more at the top in the discussion; where the luxury consumption takes place."

With such regulation some participants argued that UBS could risk **dictating how individuals should live in a paternalistic way**, also questioning whether existing supply systems are already paternalistic. Here the underlying "beliefs" were divided along the lines of pro-state as the provider of basic services in order to meet human needs vs the state as a paternalistic provider of needs, in a way that reduces agency. It would be argued that community provisioning and different high-quality services provided outside of the state framework sometimes would still be needed. Nevertheless, assumptions about paternalism suggested that the participants were wary of policies that dictate how others should live their lives. These assumptions highlight concerns about **individual autonomy and self-determination**, both from a self-interested or individualistic frame of mind for some participants, but from a choice and participation sense for others. German participants also suggested "UBS vouchers" as a way to reduce the paternalism of UBS while giving citizens agency. Some participants in Spain argued that UBS needs to be **combined with UBI** to make it more efficient, while in Latvia there was some support for UBI instead of UBS leaving the provisioning of certain services for the market while aiming to reduce production through less work.

Feasibility

The key concern in most discussions was about **funding and sustaining universal basic services**. It was often argued that it might not be feasible to fund all services. For example, in Sweden, there were discussions about whether services like housing and food, which are consumption-related, should be provided similarly to education, health, and social services. Some participants argued that in some cases the private sector might be more efficient in delivering the services sustainably.



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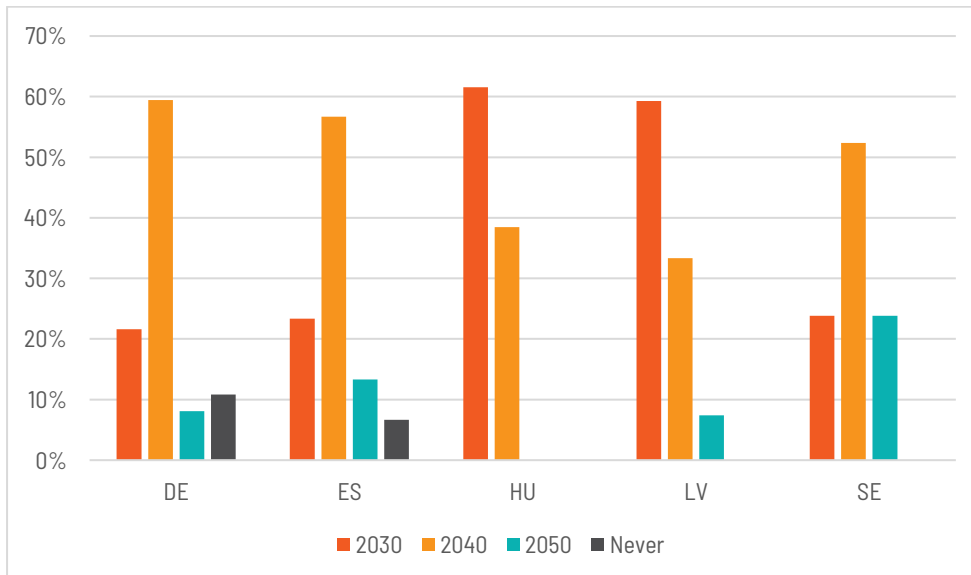


Figure 5: The Feasibility of the Initiative UNIVERSAL BASIC SERVICES

In Hungary, this was of more concern since **capacity problems** were discussed – with UBS being seen as having the risk of long waiting lists for services. In Spain, capacity was also problematised since participants expected climate-induced immigration to rise. If the services provided were of low quality and certain groups were underserved, alternatives would still emerge – raising questions on fairness, security and sustainability of the gap-filling solutions. Despite these concerns, Hungarian and Latvian participants were more optimistic about providing universal basic services than the other countries. This might be affected by people's living experience of state socialist provision of services which was not of high quality but was still available.

Additionally, UBS raised discussions on the kind of administration it would require to understand, monitor and serve the needs of citizens. In Spain, the debate revolved around the potential for extreme **bureaucratisation**. Ensuring that services are provided without excessive bureaucracy was seen as a significant challenge to feasibility. Overall, the debate on efficiency, justice, and alignment with society's needs is essential for determining the feasibility of Universal Basic Services.

RENOVATION PROGRAM FOR THE MOST ENERGY-INEFFICIENT BUILDINGS

Desirability

In all countries the renovation program was the **easiest discussed welfare policy to link to the 1.5° target**. The renovation program clearly aims to improve energy efficiency in buildings, directly contributing to reducing carbon emissions leading to climate change. At the same time, participants observed that for most individuals, reasons other than climate concerns tend to dominate the decision to renovate. Regarding desirability, there was consensus among



stakeholders from various countries on the need for **widespread support for renovations**.

Supporters assumed that people desire more energy-efficient homes and believed that such renovations are necessary for a sustainable lifestyle. The major critiques were about the extent and financing of government support and policies mitigating negative consequences of increased rental and apartment prices and resident **choice not to renovate**.

Critics assumed that modernised apartments could lead to **increased rents and apartment prices**. Thus, in some contexts **subsidies to ensure affordability** were also discussed, for example, addressing low-income households. Additional discussions, for example, in Latvia, where renovation rates are low, were about whether this programme should be mandatory as many residents decline renovation. While most participants believed that residents should have a choice not to renovate, some participants disputed it arguing for policies that make not renovating clearly disadvantageous or **incentivise building and apartment owners** to participate.

An additional concern was about the rebound effects of efficiency improvements. It was thought that if the renovation is not matched with lifestyle changes and living habits, renovation can have **counterproductive effects** (e.g., increased use of materials, overheating, etc.). Some participants suggested supplementary measures that **regulate consumption patterns and infrastructure use** to be integrated in the program, such as limiting room temperatures and life-cycle approach to building materials. As the Hungarian participants emphasised, the process should not end when people move into buildings ("hardware"), but the "software" needs to be improved too.

Feasibility

The major concern that was raised in all discussions was regarding **social inclusion**. The programmes were thought of as **not reaching households in most need** and having the risk of benefitting landlords and speculators more than the tenants in some cases as higher rent prices out the most vulnerable. Thus, some residents tended to resist renovation challenging its feasibility. While social concerns dominated, some participants also were not convinced if it was worth renovating all buildings from an environmental point of view.

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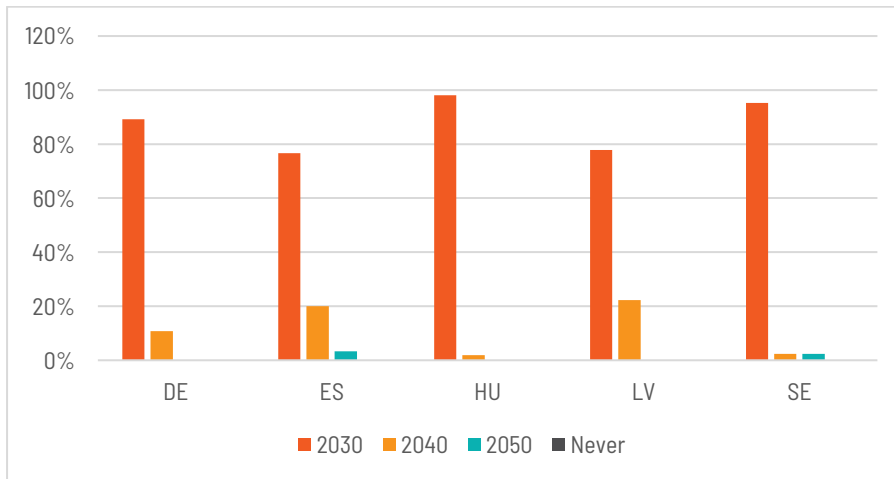


Figure 6: The Feasibility of the Initiative RENOVATION PROGRAM FOR THE MOST ENERGY-INEFFICIENT BUILDINGS

Given the significant investment needed and the raising construction costs, **funding** was another key feasibility concern. In Hungary, participants also expressed concern that there is a risk of **big business interference** and corruption in the construction contracts. Additionally, a need to ensure integration with existing housing regulations and renovation standards was seen as a challenge in a massive programme that overburdens the construction industry. Thus, **speed of renovation and technological change** came out as another feasibility concern, noting the example of heat pumps, which have existed for a long time, but have not gained higher popularity.

FREE PUBLIC TRANSPORT

Desirability

Free public transport for participants was **easy to link with the 1.5° target**. The general logic was that by making public transportation more accessible, cheap and attractive, the policy encourages a shift away from individual car usage, which aligns with the goal of reducing carbon emissions from transportation. While support for free public transport was rather high, it was also not seen as the main policy in the agenda of reducing private car use. Nevertheless, participants in favour of the policy argued that it would improve the quality of life and sustainability of mobility while reducing car use and traffic congestion in settlements. These participants assumed that in a city with good and accessible public transport, **people would use private cars less**. Some, however, believed it would primarily reduce biking and walking. At the same time, some participants were concerned that free public transport would lead to **overcrowding** which would be difficult to solve due to the need for more funds to expand the necessary infrastructure. This revealed other concerns about public funding of transport potentially leading to **lower quality services and rather short-term effects**.

It was also thought that motorists would be unwilling to give up the comfort of the private car.



German participants reflected that **car culture** is deeply ingrained in the country which has presented itself historically as a "car country". The private car is also a status symbol and a whole lifestyle and assumptions about relaxed driving are built around it. Making public transport free could make cars seem even more aspiring. Similarly, Hungarian participants reflected that what is free is not appreciated. Nevertheless, the **concerns about efficiency and convenience** revealed that it is where participants saw where most needs for improving public transport lie. Such improvements in public transport were also seen as potentially popular and supported policies. On the other hand, participants noted double standards in people's expectations as traffic jams seem more acceptable to people than rail delays.

Feasibility

Overall, there were more feasibility than desirability concerns for free public transport and both were strongly connected. It was a common concern that prices are not what keeps people from using public transport. Participants in Latvia, for example, thought that the prices were already low and that it is rather the quality and convenience that keep private cars popular. Other kinds of availability of public transport were thought to be more problematic. Thus, it was thought that it would be more important and feasible to introduce **measures that make driving and parking a private car harder and more expensive**. This was seen as both national and municipal responsibility as it was seen as hard for municipalities alone, therefore, raising concerns of full political support. Additionally, participants mentioned concepts like the 15-minute city, where all key services are reachable in 15 minutes, to make it easier to access services and integrate public transport into the concept.

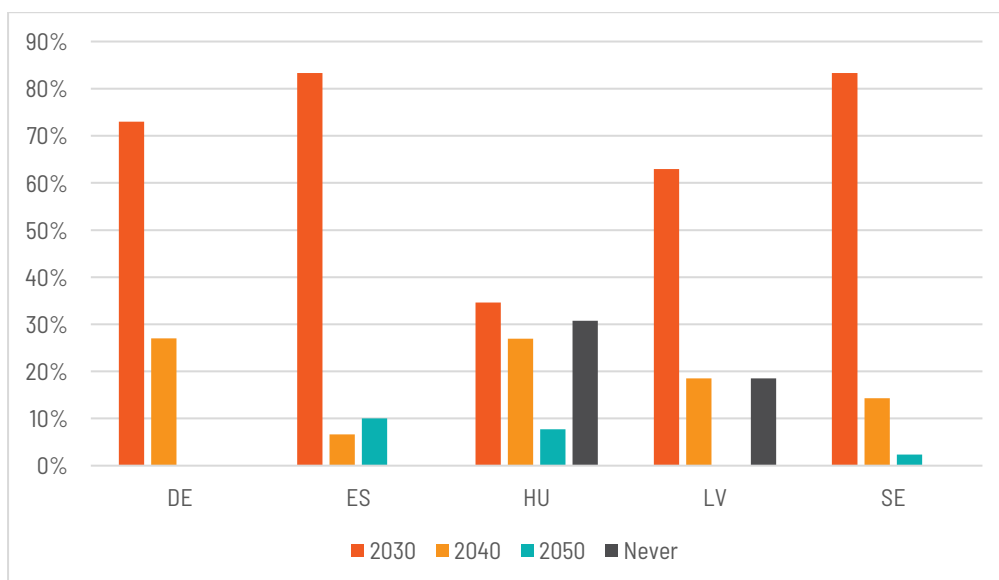


Figure 7: The Feasibility of the Initiative FREE PUBLIC TRANSPORT

Participants also worried that dependence on state and municipal funding would lead to a **worsening of public transportation quality**. It was seen as a rather challenging initiative to be funded. Especially since participants saw the need for significant **investment in public transport infrastructure** to make it **more convenient** and to be seamlessly integrated with

existing transport networks. For citizens, public transport was thought to require more time for route and schedule planning, meaning that savings need to be significant enough to compensate for potentially lost time. If using **public transport could be faster**, then this concern would lose its importance.

INCOME CEILINGS

Desirability

In the first vote, income ceilings were the most unpopular policy, but discussions made it clear that it was relatively **easy to link the policy with the 1.5° target**. Nevertheless, from the policies discussed in the Delphi process, income ceilings invoked the **most divisive** desirability discussions. While some participants rejected it outright, considering it unfair and limiting, in most countries the discussion that rapidly touched upon other **moral grounds**, such as the unfairness of income and wealth, brought out points that eased the initial rejection. The ideological underpinnings of desirability discussions mostly emerged from assumptions about the value of labour, drivers of innovation, and best forms of reducing inequality.

For participants who rejected income ceilings, it firstly seemed unfair as people were perceived as not allowed to receive the money they have rightfully earned. Thus, from one side, it was based on the **idea that some labour is more valuable than others** – a mechanism that allows ensuring that inefficient services are replaced by those that produce more value. On the other side, as one labour union representative in Latvia put it, the whole idea of **representing workers' rights and increasing standards of living**, has been based on fighting for higher salaries making it a counterintuitive measure to leave behind. Critics also assumed that imposing income limits could discourage individuals from pursuing higher incomes through business which would lead to lower quality services and financial losses for the state welfare system. Nevertheless, some participants, for example, in Sweden also argued that humans can find motivation, be active and provide good services and care **beyond financial rewards**.

While income ceiling criteria that could affect larger populations caused many concerns and broad resistance, caps on extreme wealth, capital and assets emerged as more supported and desirable policies. In these discussions, **some work was seen as holding unfairly higher value** than important but low-paid work:

"I also believe in transparency. Intuitively, probably a lot of people would say that it's not fair that some person at Volkswagen earns 145 times more than a caregiver, and I think that's an idea that's very accessible to a lot of people in society."

Supporters assumed that **limiting the income of the wealthy** is important and necessary to reduce resource consumption. They believed that income ceilings, along with consideration of capping **capital incomes**, can effectively redistribute wealth. This reveals a broader tension between the idea that some work is more valuable and degrees where this value doesn't hold



true anymore as it only serves opportunities to buy luxury and potentially high-carbon goods and services. Thus, some participants argued for limiting the surplus profits that go into luxury consumption. In general, **progressive taxes and net wealth tax was more favoured** than limits on earnings. The arguments for this were well received to serve the aim of limiting climate change

Feasibility

The major feasibility concern for income ceilings was that people are crafty in finding **loopholes** in such policies, such as keeping and transferring their wealth to less regulated states. This emerged as a concern not only in countries with significant grey markets like Hungary and Latvia, but elsewhere where the wealthy have kept their wealth outside the country. This was assumed to be based on human selfishness and something that can be changed only through radical transformation of values. Due to this concern, it was also thought to work **only as an international measure**, at least on an EU level, but preferably – globally. It was seen as having potentially economically detrimental consequences if only embraced by small countries where incomes are already lower than elsewhere – draining employees and capital away. Additionally, participants thought that income ceilings **would be resisted by people**, not only if they touched wages, but if they produced shifts in income structures or wealth distribution. Participants in Hungary and Germany pointed out that elites and wealthy individuals holding political power would not "legislate against themselves".

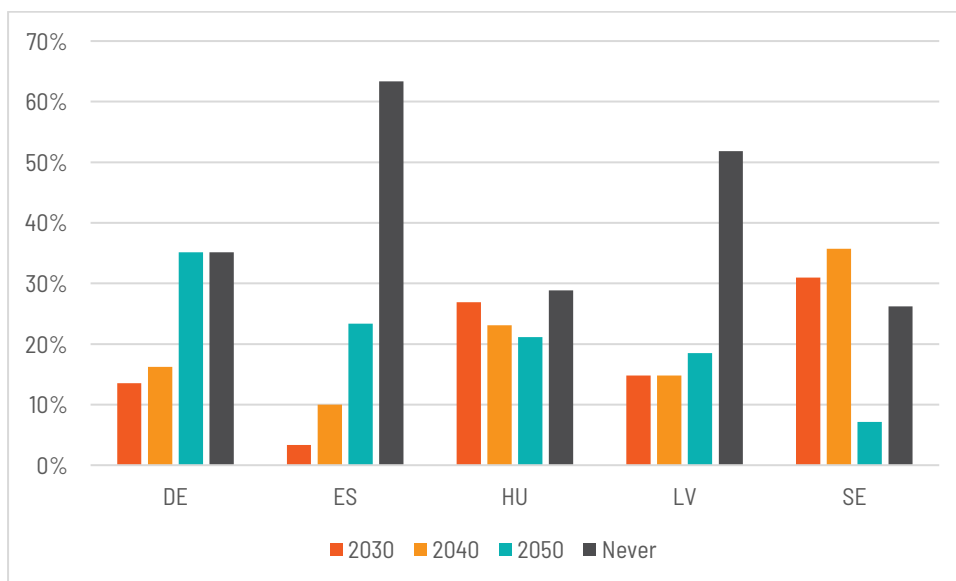


Figure 8: The Feasibility of the Initiative INCOME CEILINGS

In terms of financial concerns, income ceilings raised concerns about **potential financial losses** to the state if, for example, people would end up consuming less, or would declare lower incomes and wealth. Nevertheless, some participants also saw that increased wealth and progressive taxes as well as redistributed income, would be financially beneficial to the state. While they expressed many concerns about the policy being unfeasible, Spanish participants thought that income ceilings collected by the state could provide **means to finance universal**

basic services. In Latvia, participants came up with a solution that the "surplus income" is moved to a personal deposit that people can use only after significant low-carbon transitions are made in society or if it is ensured that the money is used for low-carbon activities.

For other participants, the policy was thought to bring difficulties in **defining and implementing** income ceilings, designing the administrative approach and fairness principles and balancing caps on income and assets. It was also thought of as challenging the **cooperation** of different policymakers. Despite many contexts, such as government positions, having limits on what people can earn, most participants thought it was a new policy with which administrative bodies have little experience in dealing with.

ADDITIONAL WELFARE SYSTEM TRANSFORMATION INITIATIVES

Here are additional legal, financial, and cultural welfare system transformation initiatives suggested by the Survey participants (they have not been discussed in more detail during the workshops):

- **Reduction of Fossil Subsidies:** Eliminating subsidies that promote lifestyles contrary to climate protection, such as commuter allowances and company car privileges.
- **Taxes on Capital, Assets, and Land:** Implementing taxation policies that encourage sustainability and discourage resource-intensive economic activities.
- **Training Programs and Just Transition Measures:** Developing educational and transitional programs to support workforce shifts toward sustainable sectors.
- **Eco-Bonus and Climate Financing:** Introducing financial incentives to promote eco-friendly behaviours and climate-related initiatives.
- **Pension Security Transition:** Transitioning from private to state pensions to mitigate risks associated with private insurance.
- **Promoting Community Initiatives:** Supporting local development and community projects that align with sustainability goals.
- **Stricter Trade Policies:** Enforcing trade policies, especially for large global corporations, that prioritise environmental considerations.
- **Access to Housing and Energy Efficiency:** Ensuring measures to provide housing and investment in energy efficiency reach vulnerable households and neighbourhoods with simplified bureaucratic processes.
- **Wealth Redistribution Policies:** Implementing policies, such as higher taxes on wealthy individuals, to reduce inequality and finance public services.

- Digitalization and Incentives for Longer Working Life: Leveraging digitalization to reduce commuting and promote longer working lives.

TOWARDS 1.5° WELFARE SYSTEMS

Linking welfare systems to the 1.5° limit

Overall, participants found it challenging to link welfare policies with the 1.5° target as welfare is most often seen as meant to increase consumption. The easiest policy to link as supportive to the 1.5° target was a renovation program for energy-inefficient buildings that was also most widely supported but critiqued only on feasibility grounds. While participants found free public transport easy to link with the 1.5° target, it received less support than the work time reduction and the discussions decreased its support due to concerns about quality and convenience being more important. While UBS was the second most popular policy whose support increased after discussions, it was hard for participants to link it with the 1.5° target. As with other policies, like WTR and job guarantee, its **desirability was thought to be dependent on the policy mix mitigating potential consumption increases and rebound effects**.

In the initial survey, income ceilings emerged as the most unpopular policy, later overtaken by job guarantees after subsequent discussions. While job guarantees proved difficult for participants to associate with the 1.5° climate target—mainly due to scepticism about the effective distribution of skills and labour—income ceilings were comparatively easier to link to the climate goal. However, people still opposed income ceilings based on their perceived impracticality and concerns that they would stifle innovation and limit opportunities for an improved standard of living, which many associate with increasing incomes. Notably, the Delphi process revealed that these discussions enabled participants to forge connections and contemplate the range of policies that could effectively complement the 1.5° target. In some countries, like Germany, such dialogues are already occurring, but in others, like Latvia, they are relatively uncommon.

Cross-cutting concerns and their solutions

The discussions raised several cross-cutting concerns for adapting welfare systems to support the 1.5° limit. While the participants recognised the need for significant government intervention and investment to address environmental and social issues, the discussions highlighted that the role of welfare in the transition to 1.5° societies needs to be treated holistically and through addressing cross-cutting challenges. Here we note some of the key challenges and the solutions that Delphi participants proposed to them.

A key concern was the **political willingness to increase the role of welfare** in society as it is thought to affect people's motivation to work, innovate, and provide high-quality services. For some policies (UBS, UBI, income ceilings), there were clear ideological differences in how



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participants saw their desirability and multi partisan support was seen as unlikely in the near future. These discussions were most pronounced in Hungary and Sweden where participants thought current governments are not supportive enough either to climate or welfare policies. In response, the participants suggested to:

- Strive for the right balance between state and private solutions (e.g., integrate job guarantee in market-based solutions) avoiding paternalistic policies.
- Join and ensure robust supranational legislation (e.g., EU directives and regulations) that forces governments to make more sustainable policy choices.
- Support and educate consumers and disadvantaged groups to advocate and put pressure on the economic and political power to raise welfare and climate concerns.

A connected concern was about the need for broader **societal and cultural changes** to support the policies since some of them are supported only in small circles. If reduction of working time and free public transport would require lifestyle changes to be effective, support for income ceilings and job guarantees would require a shift in how people see the role of the state and the distribution of jobs and wealth. UBS and the renovation program were seen as relatively well supported, but their implementation would require the state to take a higher degree of responsibility over need-satisfaction that many are not willing to support due to perceived high costs. The participants proposed to:

- Mainstream changes in social norms shape individuals' actions and choices in practices of meaningful work, perception of welfare as not ever-expanding, and support for services received without a precondition to work.
- Educate consumers in reaching higher wellbeing through low-carbon consumption and more quality time spent with friends and family.
- Involve communities in addressing societal challenges in addition to state policies using their capacity to serve material and immaterial needs.

Making the shift in values more complex, participants were concerned about **unintended negative consequences** resulting from implementing the policies, if not carefully designed. Examples included fears of increased consumption resulting from reduced working time and job guarantee, loss of service quality when UBS and free public transport are provided, and potential rent hikes due to building renovations. Participants questioned how these policies would be rolled out, who would oversee the execution, and whether the necessary infrastructure and resources would be available. The participants suggested to:

- Combine several policies holistically to strengthen their "pros", navigate between their "cons" and achieve overarching goals (for example, combine a reduction of working hours with a job guarantee and universal basic income).
- Integrate the 1.5° target in all welfare policies and ensure that implemented policies



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integrate consumption-reducing mechanisms. This can be done through integrating concepts like minimum-maximum consumption corridors into welfare and wealth distribution policies.

- Improve the quality, efficiency and accessibility of public services ensuring effective flows of funding and allocation of well-paid work (e.g., regarding education, healthcare, public transport, public housing).

This context also brought out questions about **equity and fairness**. Participants questioned whether the policies would distribute benefits and burdens fairly across different income groups and regions ensuring that the most vulnerable populations were not disproportionately affected. Most such concerns were raised for renovation program (risks of utility, rent and apartment price increase), reduction of work time (risks of unequal distribution of incomes and workloads), and job guarantee (ensuring meaningful and well-paid jobs), but they were prevalent also for income ceilings (depending on the threshold) and free public transport (paid also by those who do not use it; not equally available to all due to lack of infrastructure). The participants suggested to:

- Ensure that equity and fairness concerns are integrated into all policies and reach groups most in need (ensuring that limited income and resource households are the primary benefactors, and the policy does not harm and overburden particular groups).
- Integrate clear redistributive mechanisms in how policies are funded, for example, linking higher tax collection to limit wealth to funding UBS.
- Ensure that increased progressiveness in wealth distribution feels morally righteous to those who are limiting their wealth – so they see it as a positive investment.

Finally, it was seen as challenging to **integrate some policies with current welfare and labour systems** making sure they do not disrupt critical services and benefits and many participants thought that there might be **trade-offs between achieving climate goals and maintaining economic stability and job security** – and even the social and environmental outcomes of some of the policies (i.e., social housing expansion vs biodiversity loss). To ensure there are less trade-offs and the changes are systematic, participants suggested to:

- Emphasise long-term thinking and planning in policymaking.
- Ensure a common space for the flow of information and effective communication between different stakeholders and decision-makers to align welfare, business, and climate policies.
- Ensure data and research are available to policymakers and politicians to make solutions data-driven as currently there is little understanding of the links between work, motivation, welfare, and climate.



STAKEHOLDER VIEWS ON BUSINESS POLICIES SUPPORTING 1.5° LIFESTYLES

In this section, we report the Delphi survey and focus group results where stakeholders evaluated the desirability and feasibility of business model transformation initiatives for supporting 1.5° lifestyles. First, we analyse the quantitative results of their assessment of the desirability and feasibility of different policies. Second, we assess cross-cutting issues brought up by Delphi participants in terms of (1) how easy it is to link the policies to the 1.5 limits, (2) what feasibility concerns are familiar to several policies, and (3) what participants saw as solutions to these concerns. Finally, we conclude what business model initiatives the stakeholders advised for reaching the 1.5 limit.

During the Delphi process involved stakeholders have voted on the six proposed sustainable business model transformation initiatives. The results of the 3 rounds of voting are displayed in the figure below which indicates that all the policy options have been evaluated positively and have received rather similar support, but the most supported is for Overseeing a company culture based on non-financial goals, Choice editing (state enforced), and Public procurement for low carbon products/services. The least supported policy options are Choice editing (voluntary), Higher taxes on resources and pollution, and Direct/ indirect state subsidies for low-carbon choices.

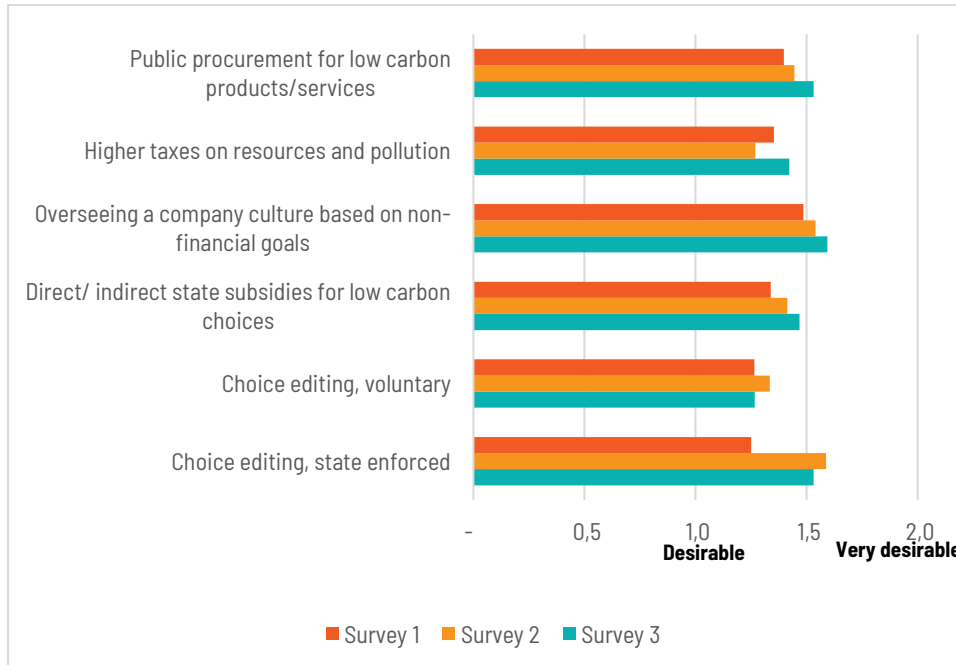


Figure 9: The desirability of Business model transformation initiatives (average aggregated policy Delphi survey results by policy options; from -2 (very undesirable) to +2 (very desirable))

When it comes to feasibility, stakeholder responses exhibit a broader range of viewpoints. The most viable option, according to the third survey, is providing direct or indirect state subsidies for low-carbon alternatives. In contrast, the least attainable approach, as indicated in the survey, pertains to the supervision of a corporate culture rooted in non-financial objectives.

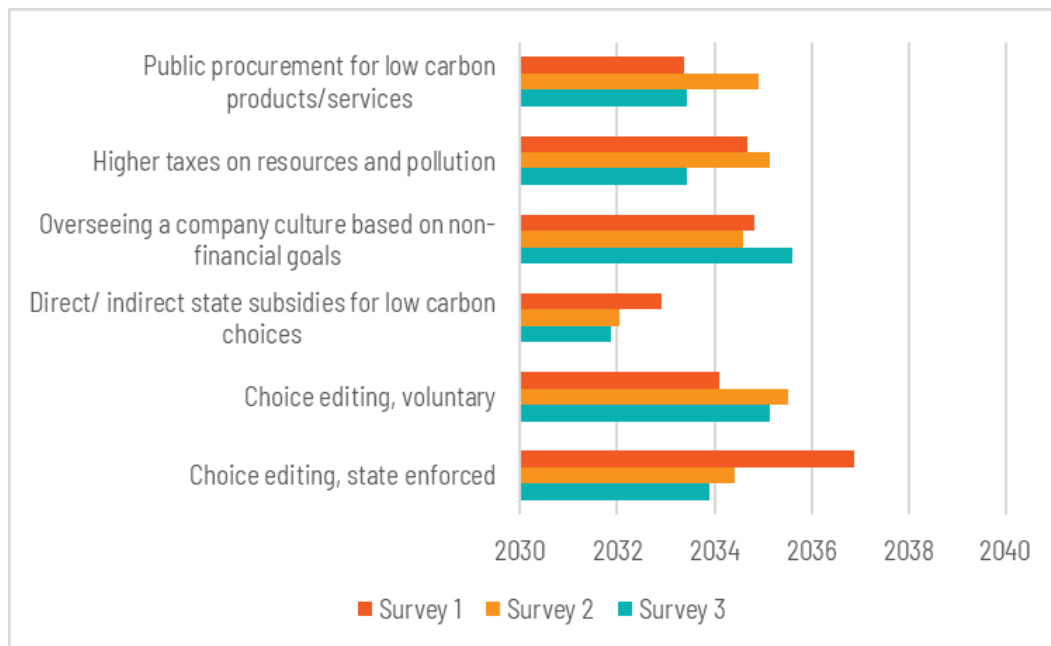


Figure 10: The Feasibility of Welfare Policy Initiatives (average aggregated policy Delphi survey results by policy options)

STATE-REGULATED HIGH-EMISSION CHOICE EDITING

Desirability

The desirability of state-regulated high-emission choice editing differed significantly depending on the focus of each country's Delphi process. German and Swedish participants were generally positive towards it, while Hungary emphasized a comprehensive approach. Spain leaned towards practical considerations, and Latvia prioritized public awareness and participation as key catalysts for change. These divergent views underscore the complexity of this policy tool and how its implications can vary across different cultural and economic landscapes. Across the board, however, there was a widespread acknowledgment that **businesses are often shaped by state policies** and require a level playing field to operate effectively.

Some believe that government-enforced changes are enforceable in the short term and can have a significant impact on reducing emissions. However, challenges such as government changes and political divisions may hinder quick implementation. There was an acknowledgment that **state-imposed change is necessary** for achieving the 1.5° target but



might face resistance and difficulty in the absence of a political will. The potential for a state-regulated shift in choices was seen as a powerful tool to signal a transition and incentivize the reprioritization of available market choices.

Across countries, many participants believed that voluntary choice editing is essential but may not be efficient or fast enough, thus favouring state-driven choice editing as a more powerful tool. This perspective also emphasises framing initiatives in a desirable manner and **rewarding low-carbon choices rather than merely restricting options**. Participants mostly thought that state regulations can effectively reduce emissions through **incentives, bans, and rewards**. They saw value in government intervention if it aligns business activities and profitability with ecological limits and sustainability.

In Latvia, participants emphasised the role of public awareness and public demand, as businesses were seen as profit-driven and likely to find **loopholes** when subjected to restrictions. Similarly, Hungarian participants discussed the importance of **impact assessment, holistic approaches, and systemic thinking** when considering state-regulated high-emission choice editing. This suggests a cautious and analytical approach to ensure effective policy implementation. Additionally, participants, especially in Spain, raised concerns about **technical reliability, economic viability, and potential impacts on costs and competitiveness**. This implies a focus on the practical feasibility and potential challenges of such regulation.

Feasibility

The feasibility of state-regulated high-emission choice editing varied among countries, but stakeholders from all countries expressed the urgency for this measure to **take place as soon as possible**. Only a few participants thought this policy option should not be implemented. Participants emphasised the importance of implementing this option by 2030 to drive system transformation effectively. Nonetheless, barriers such as global competitiveness, public acceptance, and market adaptations need to be considered.

The key concern about the policy was the **rising costs** associated with state-regulated high-emission choice editing, including monitoring and procurement expenses, and the need for substantial human resources. Participants worried that state regulations could put companies at a competitive disadvantage, increase costs for consumers, and face resistance from industry lobbies. Spanish participants expressed concerns about the **absence of advanced technologies and financial resources for R&D activities** within business organisations, which could limit their ability to comply with state-regulated high-emission choice editing and, thus, the general pace of business model transformation. On the other hand, concerns about the risks of hyper-regulation indicated a need for a balanced approach.



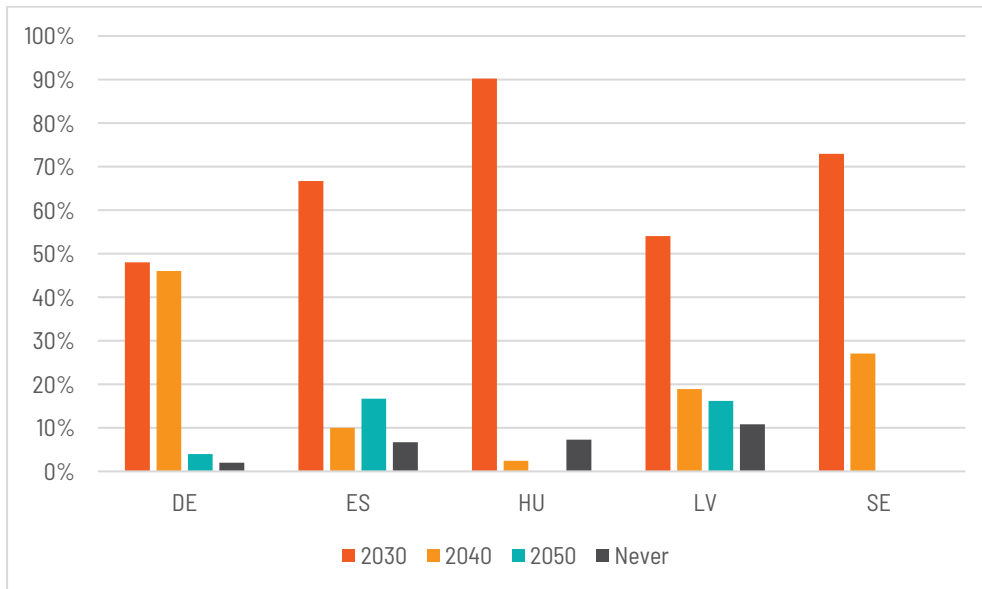


Figure 11: The Feasibility of the Initiative STATE-REGULATED HIGH-EMISSION CHOICE EDITING

Effective communication and public support were identified as crucial elements for the success of such sustainability regulations. These elements were viewed in tandem with the need to confront the inherent challenges of promoting long-term sustainability within a capitalist framework and the imperative to shape public narratives and perceptions. The delayed visibility of the effects of these regulations poses a challenge to short-term thinking. In Latvia, specific concerns were raised about the limitations that state regulations might place on individual freedoms. Fears were also expressed that such regulations could give rise to artificial demand, contributing to regulatory complexity and driving up costs. Moreover, there were worries that some products and services could increasingly shift to an **unregulated black market** as a result.

VOLUNTARY CHOICE EDITING OF HIGH-EMISSION PRODUCTS

Desirability

The perspectives on the desirability of voluntary choice editing for high-emission products varied across countries. In Germany, the participants emphasised the importance of creating a supportive framework and potentially involving the state. In Hungary, they highlighted the personal and competitive benefits of voluntary actions, while in Spain, they saw it as a way for companies to gain a competitive edge. In Sweden, the participants acknowledged its importance, but believed that state-driven actions may be more powerful.

The desirability of voluntary choice editing of high-emissions products was seen as a means to **increase emotional attachment, responsibility, well-being, and preparedness**. In Hungary, participants thought that this should be especially encouraged at the university level. The

prevalence of climate change sceptics and the belief that freedom equates with power in certain contexts were highlighted as potential obstacles to voluntary change. However, voluntary actions by pioneer companies were seen as important drivers of entrepreneurial change.

Many participants, especially in Spain and Hungary, noted that voluntary choice editing can provide a **competitive advantage** to companies due to the focus on responsible consumption on both the labour market and the customer side. However, participants expressed concerns about **competition hindering voluntary actions**, particularly when sustainable products struggle to compete due to higher costs. At the same time, in Germany there was a recognition that knowledge on climate neutrality is available, and a generational shift in business could promote sustainability.

The discussion was also affected by views on the links between business and consumer choices. Latvian and Swedish participants shared the belief that businesses often respond to consumer demand, potentially limiting the effectiveness of voluntary actions by businesses alone. This view suggests a more passive role for companies in initiating voluntary changes related to high-emission products. Thus, while voluntary choice editing was seen as important and encouraged, participants noted that it **might not be efficient or fast enough**. State-driven choice editing was often considered a more powerful tool in contrast to completely voluntary actions. Consequently, German participants discussed the need for creating a regulatory framework that supports sustainable businesses, possibly through state support and rewards, as voluntary choices alone may not be sufficient.

Feasibility

The feasibility of voluntary choice editing of high-emission products was assessed as high by all the countries and only a few participants thought it was a feasible instrument. The implementation of voluntary choice editing is perceived as feasible before 2030, provided that there is a growing awareness among consumers and a sense of responsibility among companies. Overall, participants suggested that voluntary measures can be useful but may **need to be complemented by government instruments or indirect control to achieve the desired results**. The importance of individual decisions translating into political action and the role of **awareness and education** were also emphasised. However, arguments and concerns differ among different participants. These concerns include competitive disadvantages, higher consumer prices, resistance from industry lobbies, greenwashing, and challenges related to consumer habits and expectations.

The participants often noted challenges that both **established consumer and business habits** pose. For consumers, choice editing by companies was noted to potentially cause consumer confusion and disrupt their expectations. For businesses, the Spanish participants noted that **current linear business models and performance metrics** could hinder voluntary choice editing which requires a more long-term and socio-ecological responsibility thinking. Thus, across countries it was only seen as feasible if accompanied by effective communication and



positive narratives that encourage voluntary low-emission choices. In the meantime, the participants were also concerned about the **risk of greenwashing**, where companies might engage in misleading communication about their products' environmental and social impacts.

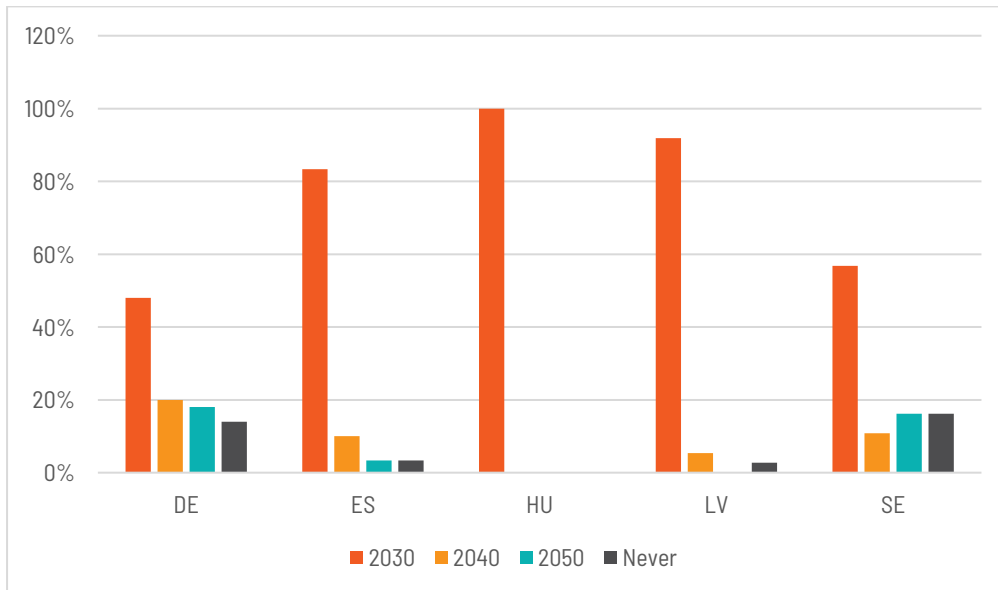


Figure 12: **The Feasibility of the Initiative VOLUNTARY CHOICE EDITING OF HIGH-EMISSION PRODUCTS**

As with state-regulated choice editing, a key concern was about the costs. There was also a worry about the **cost burden** that voluntary choice-editing might place on small businesses. Participants expressed concerns that it might disadvantage sustainable companies and lead to higher prices for consumers. It could create difficulties for companies if society and customers are not yet ready for such changes, potentially requiring new infrastructure.

Overall, participants were relatively sceptical about the effectiveness of market-driven approaches and worried about the influence of **industry lobbies in resisting voluntary measures**. Questions were raised about the speed of voluntary transformation and the vision for developing sustainable options. While state support was seen as necessary to some extent, in Sweden, the perspective was seen differently from other countries, as businesses were seen as finding themselves pushing for more radical changes in the current political climate.

This suggests that voluntary choice editing might at the time of writing be more feasible in Sweden because policymakers may not prioritise environmental policies or be brave enough to implement state-driven choice editing. This shift in the role of businesses in advocating for environmental change is notable.

DIRECT OR INDIRECT PUBLIC SUBSIDIES FOR LOW-CARBON CHOICES

Desirability

The perception of desirability of direct or indirect public subsidies for low-carbon choices and major points of discussion varied among the counties. While some expressed concerns about the **hesitancy of governments**, others saw the option as already on track at a **supra-national level**. In Latvia, there was some scepticism due to concerns about potential drawbacks, while German participants saw the value in targeted subsidies for pioneers. Hungarian experts emphasised the need for strategic assessment, and Spanish experts acknowledged the potential benefits and risks of subsidies, but Swedish experts highlighted the broad relevance of this initiative within its society.

Overall, most participants believed that government subsidies can effectively generate incentives for companies to shift towards low-emission choices, stimulate innovation and drive supply changes. They saw it as a way to **empower pioneers** and promote sustainability. At the same time, some were sceptical about the effectiveness of subsidies. In Latvia, concerns were raised that subsidies might inadvertently **drive up the prices of subsidised products** and mainly benefit private companies rather than the public good. Such scepticism contributes to a general hesitancy towards increasing state regulation of business practices, indicating a wariness of relying solely on subsidies to promote low-carbon options.

Responding to these risks, Hungarian and German discussed how subsidies can be targeted effectively to **avoid rent-seeking behaviour**. In Spain, there was a concern about the potential creation of **dependence on public aid** that might challenge long-term viability. This viewpoint indicates a cautious approach to subsidies, recognizing both their potential benefits and risks. Hungarian participants emphasised the need for a systematic assessment to determine the direction of support. They advocated for a holistic and flexible approach to choosing which areas to support through subsidies. Thus, across countries participants saw a need to ensure distribution **based on individual needs**, that, nevertheless, recognizes the importance of global coordination.

Feasibility

Direct or indirect public subsidies for low-carbon choices were mostly perceived as a quick mechanism that **could be in place by 2030**. The rising political priority of climate change, public support, and financial means of the state, for example, in Germany contribute to the feasibility of such subsidies. However, there are opposing voices, and political polarisation was observed. Subsidies were seen as viewed positively by society and politicians, making their feasibility high, especially by reducing subsidies for fossil energy sources. They are **more accepted than bans or taxes** and can drive market changes. At the same time, some participants thought that they should not be temporary. Additionally, subsidies were seen as an effective tool to change business practices and internalise external costs.



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In terms of focal points, German participants emphasised the importance of uniformity, transparency, and addressing potential bottlenecks in the business ecosystem. Latvian experts focused on financial and technological challenges, while Hungarian experts pointed out systemic rigidity and unpredictability as key concerns. Spanish participants highlighted the need for standardised evaluation metrics, and Swedish participants stressed the importance of ensuring subsidies align with long-term goals.

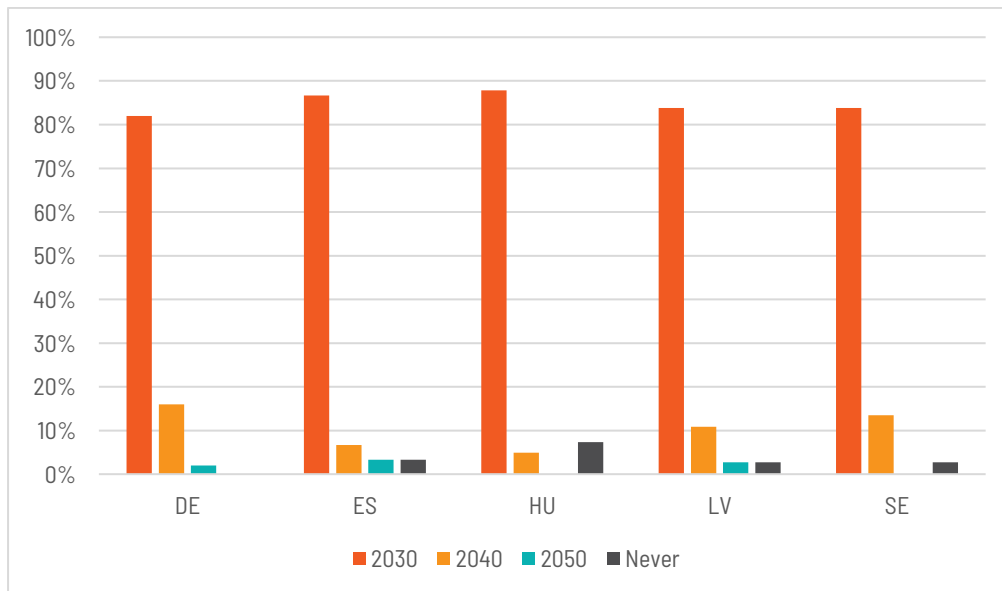


Figure 13: The Feasibility of the Initiative DIRECT OR INDIRECT PUBLIC SUBSIDIES FOR LOW-CARBON CHOICES

Across countries there was a significant concern about the **long-term viability of subsidies**. The importance of ensuring that state-proposed subsidies align with long-term sustainability rather than short-term gains was often raised. While subsidies were viewed as essential for stimulating change, there was scepticism about their long-term use, with an emphasis on actors transitioning away from subsidies over time. As a solution, focus on clear long-term goals was often proposed. In Spain, participants noted the lack of **standardised uniform metrics for evaluating the results** of direct or indirect public subsidies for low-carbon choices, emphasising the need for a standardised and transparent evaluation framework.

Some other feasibility concerns dealt with financial challenges, such as subsidies bringing a strain on public finances whose resources were seen as limited, thus, also limiting commitments to long-term subsidy guarantees. Hungarian participants pointed out that the **financial environment's unpredictability** and lack of accurate data make resource distribution difficult. This perspective, thus, linked systemic and bureaucratic challenges in implementing such subsidies. Potential lobbying and resistance issues were also highlighted. As a response, participants placed an emphasis on the importance of communication strategies and addressing social inequality through subsidies. Additionally, German experts expressed concerns about **competitive disadvantages for companies if subsidies are not uniformly available**. Questions revolved around the effectiveness of subsidies in driving changes within

existing market structures, potential inflation, and favouring companies with large networks and capital.

OVERSEEING A COMPANY CULTURE BASED ON NON-FINANCIAL GOALS

Desirability

The emphasis on the importance of a company culture centred on non-financial goals as a tool for a 1.5° lifestyle varied by country. Latvian participants leaned towards regulatory intervention, German participants presented a mixed view with an emphasis on changing corporate culture and consumer demand, and Hungarian participants focused on credibility, branding, and the role of businesses in shaping societal needs.

Overall, many participants believed that a **change in corporate culture** could attract specialised workers and enhance sustainability efforts. Participants in Germany also emphasised the pivotal role of businesses in shaping consumer demand and called for a shift in consumer preferences towards sustainability through marketing and communication strategies. In Hungary, the desirability of overseeing a company culture based on non-financial goals was associated with the concepts of **credibility and employer branding**. Participants considered it essential to maintain a positive image as an employer by prioritising non-financial goals. There is also an acknowledgment that businesses can play a role in shaping societal demand, needs and values through their adherence to non-financial goals. This perspective aligns with the idea that companies can be instrumental in driving positive social and environmental changes.

However, there were also concerns that corporate culture might have limited influence and that the real issue lies in **growth-oriented business structures**. This view highlighted the need to enforce changes in corporate culture effectively. In Latvia, the prevailing assumption was that most businesses take sustainability seriously only when they are compelled to do so, typically through regulatory measures or sustainability strategies. This assumption drove the policy perspective toward advocating for state or **EU-level standardisation of certain business practices to promote sustainability**. In other words, while they were seen as important there was scepticism about businesses willingly adopting non-financial goals without external pressure.

Feasibility

Similarly to other business model transformation policies, overseeing a company culture based on non-financial goals is widely supported by the Delphi process participants. However, many participants also expressed scepticism about the short-term feasibility of comprehensive changes in corporate cultures focused on non-financial goals. They highlighted that **existing corporate structures prioritise financial goals** and that cultural changes are difficult to implement within these structures. Some also pointed out that most companies and the broader population are still profit-driven and may not easily embrace this change. Nonetheless, there was an understanding that promoting a corporate culture centred on non-financial goals



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is essential for the long-term but is a process that may take time. Some participants viewed this as an important step toward breaking free from profit maximisation, but it may require substantial economic and cultural reforms. The overall sentiment was that while it is a desirable approach, it may not be enforceable or have immediate effects on the required 1.5° lifestyle and business model changes.

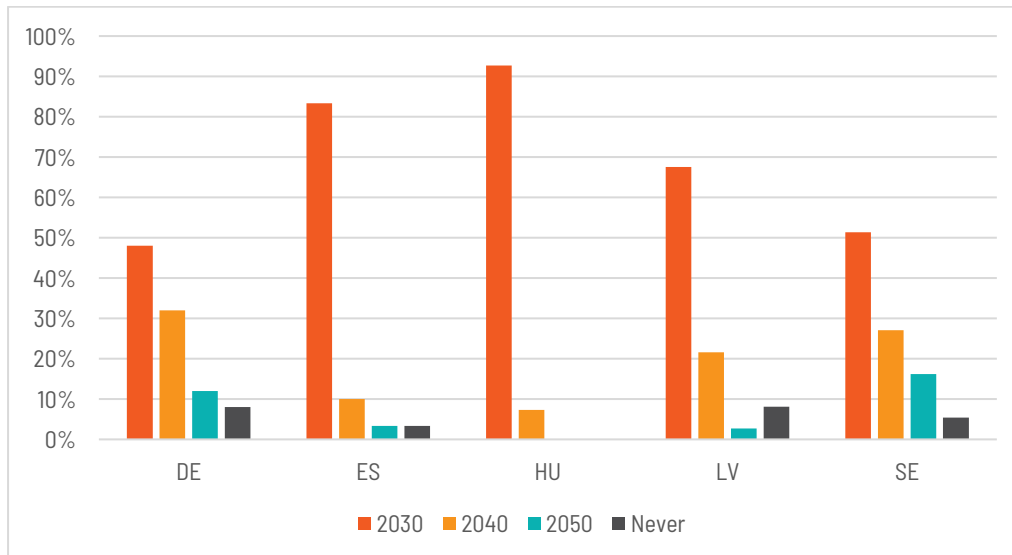


Figure 14: The Feasibility of the Initiative OVERSEEING A COMPANY CULTURE BASED ON NON-FINANCIAL GOALS

The reluctance of for-profit companies to adopt non-financial goals was seen as particularly acute when they perceive a **competitive disadvantage**. This often fuels resistance from investors and traditional corporate interests, which often prioritise growth. German participants discussed the need to enforce **non-growth-oriented metrics** and effectively communicate their significance. There was a general acknowledgment across countries that a growth-oriented mindset is dominant in the world and the economy. Hence, there was scepticism about the possibility of altering the fundamental logic of how businesses operate, especially when economic growth remains the primary focus. The idea that the economy will not readily embrace non-growth or degrowth models suggests a considerable barrier to overseeing a company culture based on non-financial goals.

In Latvia, participants emphasised that sustainable activity is not always directly related to production, which implies that overseeing a company culture based on non-financial goals may face challenges in ensuring sustainability **across various sectors**. The feasibility of this approach is contingent on the ability to adapt non-financial goals to different business models and activities. Similarly, participants questioned the shift in corporate culture to address systemic issues within the market, such as **greenwashing** that might also be tied to companies over-marketing their non-financial achievements than their impact actually suggests.

HIGHER TAXES ON NATURAL RESOURCES AND POLLUTION

Desirability

The desirability of higher taxes on natural resources and pollution as a tool for a 1.5-degree lifestyle varied among country experts. German participants emphasised **responsible implementation and communication**, Hungary emphasized the **need for a holistic approach**, and Spain highlighted concerns about potential **burdens on businesses** and the importance of ensuring inclusivity in the transition.

Choosing higher taxes on natural resources and pollution as a control option offers several compelling reasons. First and foremost, these taxes can help reflect the true, externalised costs of products and practices, ultimately leading to a fairer pricing model that accounts for environmental externalities. Moreover, their short-term implementability provides a mechanism for prompt action. By raising the costs associated with environmentally harmful production and consumption, higher taxes on resources and pollution can serve as powerful incentives for both businesses and consumers to opt for more sustainable and resource-efficient alternatives.

Delphi workshop participants believed that such taxes could incentivize sustainable behaviour and fund a just transition. However, participants expressed concern that higher taxes on natural resources and pollution, if not accompanied by changes in social structures and social support, can **lead to greater social injustice and energy inequality**. This perspective underscores the **need for a holistic approach** and social support mechanisms to ensure the fairness of such taxation policies.

The main concerns raised in Spain revolve around potential **burdens on businesses**, especially small-medium sized enterprises (SMEs), and end consumers. There was a concern that such taxes could disadvantage certain businesses and hinder their transition to more sustainable models.

The primary emphasis was on designing taxes that promote **inclusivity and a smooth transition**, ensuring that no one is left behind. The central point of discussion revolved around the responsible implementation and effective communication of taxation policies as instruments for steering consumer preferences towards eco-friendly and sustainable products.

Feasibility

The feasibility of higher taxes on natural resources and pollution as a tool for a 1.5° lifestyle was highly appreciated but also met with various concerns and considerations. Despite potential political challenges, participants generally believed this approach is relatively **easy to implement**, especially when **complemented with compensatory measures** to ensure social



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equity. Recognizing the necessity of systemic change, they saw higher taxes as a key tool for steering consumption patterns in the right direction, particularly when paired with the development of new sustainable business areas. As some suggested ramping up carbon taxes, its effectiveness in driving a market-wide shift towards carbon neutrality was underscored, with many advocating for immediate implementation, provided that **social compensation** measures accompany these taxes to ensure high acceptance. While participants viewed this as a desirable control option, they also acknowledged the importance of carefully considering tax rates, addressing potential exacerbation of social inequalities, and ensuring the allocation of tax revenues to support sustainability-related initiatives.

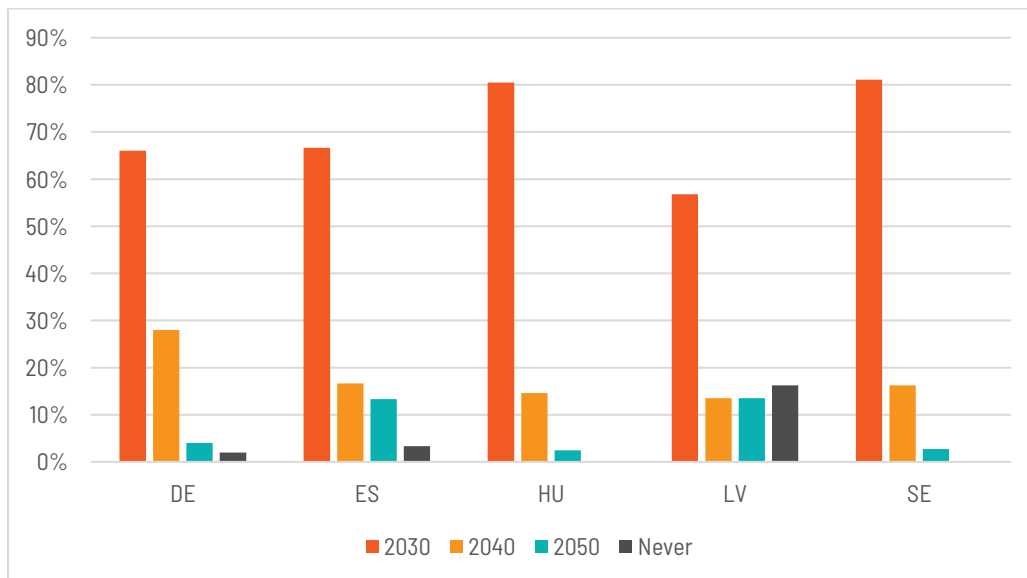


Figure 15: The Feasibility of the Initiative HIGHER TAXES ON NATURAL RESOURCES AND POLLUTION

One of the concerns is that companies will **pass these taxes onto consumers**, potentially affecting the affordability of products and services. The feasibility of using taxes to drive changes in market dynamics and consumption patterns was questioned. Communication strategies were emphasised to clarify the purpose and impact of taxes to avoid backlash. Questions about the speed of change induced by tax policies and their long-term effects were also raised.

Participants also questioned which natural resources should be taxed and how high the taxes should be. The discussions highlighted the need to tax resources proportionally to avoid unintended consequences, such as the overuse of renewable resources in response to high taxes on non-renewable ones.

There were concerns that higher taxes on natural resources and pollution could place companies at a competitive disadvantage. This could increase the risk of **tax avoidance** by companies, which may hinder the effectiveness of this policy. Experts in Hungary were concerned that lobbying and corporate interests may influence government decisions. Taxes in this context were seen as being built into the price and not necessarily serving as motivators

for consumers. Higher taxes on natural resources and pollution may also place tax burdens on SMEs and hinder their progress toward adopting more sustainable business models.

PUBLIC PROCUREMENT ONLY FOR LOW-CARBON PRODUCTS AND SERVICES

Desirability

The desirability accents for public procurement for low-carbon products and services varied among these countries. German experts valued it as a tool for sustainability but stressed the need for a broader perspective. Hungarian experts saw it as a way to intervene and indirectly influence practices. In Spain, it was seen as a means to stimulate the market but is concerned about smaller companies. Stakeholders in Sweden saw challenges due to risk aversion in public procurement decisions.

This policy option offers several compelling reasons. Firstly, it's seen as an effective way to reduce emissions by creating a shortage of resources essential for high-emission industries. Additionally, public procurement provides **long-term demand**, offering stability and driving the development of more sustainable products and manufacturing processes. Moreover, the state's role as a pioneer and role model can stimulate new markets even when they're non-existent. This approach is considered a quick and direct measure, crucial for achieving the 1.5° target. By setting a standard for low-carbon public procurement, the state serves as a role model, fostering a shift towards more sustainable practices.

In general, public procurement was viewed as a **valuable driver for sustainable products and the creation of a predictable market for such items**. Participants emphasised the importance of a broader sustainability perspective beyond just CO₂ reduction. State regulations and subsidies were seen as mechanisms to provide businesses with the freedom to innovate while staying within ecological limits. For example, Hungarian participants noted how public catering can influence the greening of farming practices and consumers' understanding of the supply chain. The emphasis here was on indirect impacts and the role of public procurement in shaping practices across the supply chain.

Concerns were about the **burden the policy places on smaller companies** demanding a need for support mechanisms. Additionally, Swedish participants' perspective highlighted the challenge related to public sector employees and politicians being risk-averse and often **guided solely by the lowest price**. This risk aversion makes it difficult to implement public procurement initiatives that prioritise low-carbon products and services but might be seen as undesirable when competing with other state expenses.

Feasibility

Public procurement only for low-carbon products and services as a tool for moving to 1.5°



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lifestyles is assessed to be highly feasible. Overall, this option is deemed important, and many believe it should become the standard in the near future, with the potential for implementation by 2030. Although there are concerns about competition distortions and the need for proper regulation and external control, it's seen as an efficient and essential measure for reducing emissions effectively and quickly.

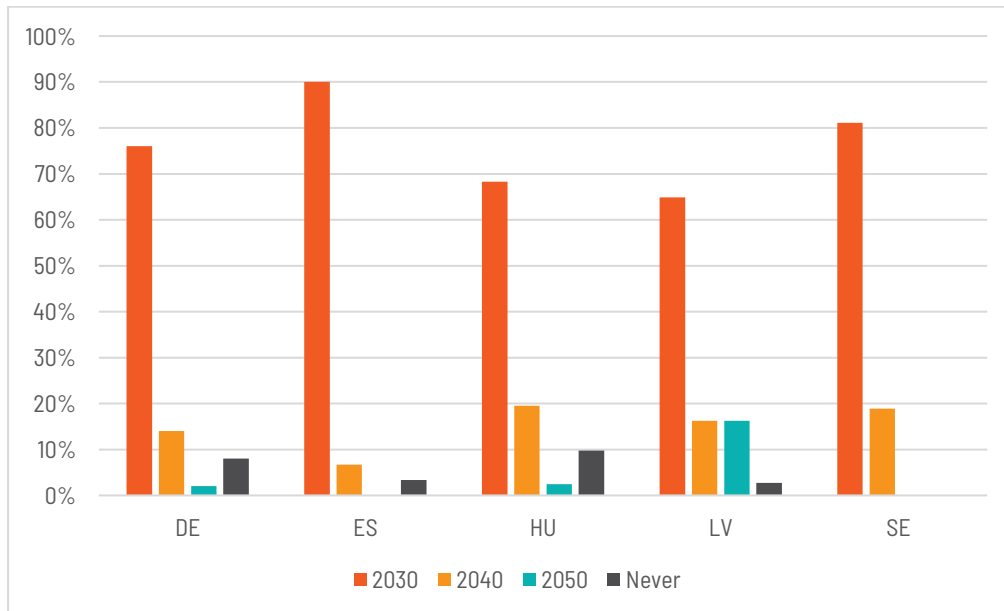


Figure 16: The Feasibility of the Initiative PUBLIC PROCUREMENT ONLY FOR LOW-CARBON PRODUCTS AND SERVICES

A major concern across countries was the **limited availability of low-carbon products and services** in the market. In Spain and Sweden **challenges in calculating and assessing** what products are genuinely low carbon were emphasised. Transparency in how calculations are made, what decisions and assumptions underlie them, and who is responsible for these calculations were seen as crucial. Participants also emphasised the lack of established standards and benchmarks to evaluate sustainability performance. The policy is viewed as at risk of promoting too inclusive sustainability criteria.

Participants also noted the difficulty of achieving and implementing public procurement only for low-carbon products and services, particularly when the term "only" is used. This exclusivity is seen as narrowing thinking, discourse, and regulation. Concerns include a **lack of information, transparency, expertise**, and a shortage of applicants or tendering companies. In Germany participants also noted potential exploitation of labour in global supply chains of "green" products. They were worried that such a policy might reduce the competitiveness of certain businesses and that over-restrictive procurement requirements could sometimes be counterproductive.

Finally, the **lack of public debate on sustainability definitions** was seen as an issue, along with the potential resistance from industry lobbies. Challenges for businesses in changing award processes quickly were acknowledged, and there were worries about the potential impact on

consumers in terms of product availability and pricing. Participants questioned whether public procurement can effectively drive change within existing market structures. The feasibility of public procurement was discussed in combination with state-regulated choice editing, with the suggestion that it might be easier to encourage initiatives that frame and reformulate choices toward desirability or reward low-carbon choices rather than imposing restrictions.

ADDITIONAL BUSINESS MODEL TRANSFORMATION INITIATIVES

Here are additional legal, financial, and cultural business model transformation initiatives suggested by the Survey participants (they have not been discussed in more detail during the workshops):

- Bans on profit-driven business models.
- Introduce new entrepreneurial legal forms focused on social and ecological responsibility.
- Encourage companies to align key performance indicators with social and ecological sustainability.
- Promote social entrepreneurship with state guarantees.
- Develop a legal framework for responsible ownership.
- Regulate what banks can finance, prioritising social and ecological compatibility.
- Eliminate company car allowances and subsidies increasing CO2 emissions.
- Require training of transformation managers in sustainable practices.
- Promote a culture of non-financial values through increased public procurement.
- Implement clear labelling of high/low climate impact goods and services.

CROSS-CUTTING CONCERNS

Linking business policies to the 1.5° limit

Delphi process participants generally found it quite easy to establish connections between the 1.5° target and various proposed business transformation policies. However, some points were highlighted.



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In Latvia, there was a lesser connection with the policy "Overseeing a company culture based on non-financial goals," likely because it was perceived as less effective and more tied to social responsibility.

German participants demonstrated a strong ability to link business policies to the 1.5° target. They emphasised the necessity of state-regulated measures, subsidies, and high taxes on natural resources and pollution as direct ways to achieve emissions reductions and align businesses with sustainability goals. However, they faced challenges in linking the policy of voluntary choice editing of high-emission products to the 1.5° target due to scepticism about the effectiveness of voluntary actions.

In Hungary, participants recognized that direct or indirect public subsidies for low-carbon choices could have the greatest impact, serving as both positive and negative incentives to promote change. This policy was seen as a powerful tool in the context of the 1.5° target.

Spanish experts found it relatively easy to establish connections between policy initiatives and sustainable business models in line with the 1.5° target. However, they identified some general barriers to sustainability policies, including the difficulties in implementing regulations and dealing with excessive bureaucracy. Another barrier highlighted was the presence of multiple certification systems with varying criteria, indicating the need for more unified standards in the sustainability domain.

Swedish participants found it quite easy to connect the 1.5° target with most proposed business policies. Public procurement for low-carbon products and services was seen as important, albeit challenging as it involved norm-changing and norm-setting. Overseeing a job culture based on non-financial goals was the policy that appeared to be the most challenging to link to the 1.5° target, particularly in terms of feasibility and impact on climate change.

Learning across countries

The discussions in various countries revealed key learnings and solutions for transitioning towards a 1.5° lifestyle. These include increasing public awareness and demand for sustainability, implementing effective regulations, promoting transparency, fostering global cooperation, and utilising smart tax policies and public procurement.

Latvia highlighted the importance of increasing public awareness and demand for sustainable practices and products. Effective regulations, transparency in non-financial goals reporting, global cooperation, smart tax policies, public procurement, and resource consumption restrictions were also considered vital.

Germany advocated for a multifaceted approach, combining state regulations, incentives, subsidies, and cultural shifts. Long-term stability through consistent regulations and subsidies



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was crucial, along with changing societal values towards sustainability. Raising awareness and effective communication, particularly framing taxes as investments in sustainability, were seen as essential. Climate action was also viewed as an opportunity to address social inequalities.

In Hungary, innovation was promoted as a means to encourage sustainability. A well-being economy, verified product claims, efficient use of EU resources, and improved communication were suggested as important factors.

Spain emphasised investing in research and development (R&D) activities, supporting R&D initiatives, and fostering knowledge transfer between universities and businesses. Addressing "Greenwashing" through examination and penalties was considered important, along with promoting education and training for both industry and consumers. Standardising metrics and rewarding positive behaviour were also key aspects.

Sweden highlighted the importance of aligning policy boldness with societal acceptance and stakeholder desirability. Creating new narratives about "the good life" to change norms among consumers and companies was seen as crucial. Implementing a green tax shift and exploring the potential of public subsidies for low-carbon choices were noted as effective strategies.



1.5° SCENARIOS

WELFARE MODELS

Based on the literature review and policy Delphi discussions on the desirability and feasibility of welfare initiatives to support the 1.5° limit, we have formulated a new 1.5° lifestyle welfare scenario. This scenario acknowledges the multifaceted challenges and suggests comprehensive solutions, drawing on the insights provided by Delphi participants.

Drawing from the perspectives of scholars like Gough and Koch³, this scenario embraces the **concept of "sustainable welfare"**. It envisions a welfare system that places paramount importance on human welfare, social fairness, and ecological sustainability while advocating for a systemic shift. The scenario recognizes the critical importance of balancing environmental sustainability with social welfare. It is founded based on the discussed policy options and on the understanding that to achieve a 1.5° lifestyle, welfare systems must evolve holistically and address cross-cutting challenges.

Reducing Working Hours

Desirability: Participants had mixed feelings about reducing working hours as a means to limit climate change to 1.5°. While many saw its potential when combined with other policies, concerns arose. People desired better work-life balance and potential health benefits but worried about increased consumption during leisure time, especially in affluent societies. There was a general mistrust in individuals' ability to make sustainable choices when freed from work, so additional measures to reduce carbon-intensive consumption were suggested.

Feasibility: Concerns centred on the financial consequences of reduced working hours, potential risks of collapsing the welfare system, and questions about productivity. Discussions revealed concerns about labour shortage, decreased wages, and the need for wage compensation. Some thought it might be more feasible if complemented with various regulations and cooperation among stakeholders.

Job Guarantee

Desirability: The job guarantee's connection to the 1.5° target received mixed feedback. Some participants felt it could support transitioning from emission-intensive industries but might not

³ Gough, I. (2022). Two scenarios for sustainable welfare: A framework for an eco-social contract. *Social Policy and Society*, 21(3), 460-472 & Koch, M. (2018). Sustainable welfare, degrowth and eco-social policies in Europe. *Social policy in the European Union: state of play*, 35-50.



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directly address climate goals. Views on meaningful work and job security varied, emphasising a preference for high-quality, well-compensated jobs over mandatory low-paying work. Sustainability concerns related to job guarantee's implementation and its effect on traditional wage labour concepts.

Feasibility: Feasibility concerns included practical implementation, integration with existing labour structures, and the quality of employment. Ensuring equal pay, quality education, and professional guarantees were seen as prerequisites. Concerns about practicality and alignment with the existing labour ecosystem were also raised.

Universal Basic Services (UBS)

Desirability: UBS received general support, though its link to the 1.5° target was not as strong. Participants believed that everyone should have access to basic services but differed in opinions about the scope of these services. Desired outcomes included protection from precarity and promoting solidarity. However, concerns arose about potential increased consumption for disadvantaged groups.

Feasibility: Funding was the primary concern for UBS, with doubts about its feasibility and whether services like housing and food should be provided similarly to education, health, and social services. Capacity issues, administrative challenges, and the potential for bureaucracy were discussed, along with concerns about efficiency, justice, and integration with society's needs.

Renovation Program for Energy-Inefficient Buildings

Desirability: A renovation program for energy-inefficient buildings was seen as the easiest policy to link with the 1.5° target. It aims to improve energy efficiency directly. Participants believed there was a need for mass renovation support, emphasising improved housing and counteracting climate change. Critics were concerned about rent and apartment price increases but still saw the importance of such a program.

Feasibility: Major concerns included social inclusion, financial losses to the state, and the potential for benefiting landlords. Loopholes, funding challenges, and the need for infrastructure improvements were also discussed, highlighting the need for careful implementation.

Free Public Transport

Desirability: Free public transport was seen as easily linked to the 1.5° target. The policy aimed to make public transportation more accessible and attractive, potentially reducing individual car usage. Participants supported the idea but expressed concerns about overcrowding, the



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potential for lower-quality services, and cultural attachments to car ownership.

Feasibility: Feasibility concerns revolved around people's resistance to policy changes that disrupt established norms and practices. Challenges included potential financial losses, public transportation quality, and integration with existing transport networks. Participants believed it was more important to make driving and parking private cars harder and more expensive.

Income Ceilings

Desirability: Income ceilings were relatively easy to link with the 1.5° target. However, they generated divisive discussions. Critics saw them as unfair and limiting, emphasising the importance of rewarding different levels of labour. Supporters focused on targeting extreme wealth and capital to reduce resource consumption and promote wealth redistribution.

Feasibility: Concerns included people finding loopholes, moving wealth outside regulated contexts, and policy resistance. Income ceilings might work best as an international measure, as they could have detrimental economic consequences if embraced only by small countries. Financial challenges, such as potential decreased consumption, were discussed, as well as the need for cooperation among policymakers and the difficulty of defining and implementing income ceilings.

Delphi process participants also suggested a range of additional initiatives to transform the welfare system and advance climate protection, including ending fossil subsidies, implementing sustainable tax policies, promoting just transition measures, offering eco-friendly incentives, and addressing inequality through wealth redistribution policies. Together these measures entail a profound restructuring of economies and welfare systems to establish a more sustainable and just society. The scenario encompasses the above-mentioned policy initiatives and places a strong emphasis on community engagement and collaboration, all while transitioning towards a low-carbon framework. It offers a forward-looking strategy for shaping welfare systems in harmony with a 1.5° lifestyle, addressing the multifaceted challenges revealed in the policy Delphi discussions.

BUSINESS MODELS

The primary objective of the “1.5° Prosperity” scenario is to transform business practices to limit global warming to 1.5° above pre-industrial levels. This policy scenario envisions high ambition and collaboration among governments and businesses. Emissions peaked by 2030 and declined rapidly thereafter. Global temperature increase is limited to 1.5° in 2050, limiting some of the worst climate impacts. Different business transformation initiatives discussed by the policy



Delphi participants above highlight key considerations for making this transition both desirable and feasible.

1. State-Regulated High-Emission Choice Editing

Desirability: Participants showcased a relatively positive attitude towards state-regulated choice editing, emphasising its effectiveness and necessity for reducing emissions. While some obstacles like political divisions and resistance may arise, there's an acknowledgment that state-enforced changes are essential for reaching a 1.5° lifestyle.

Feasibility: The urgency for implementation is widely recognized, with a focus on achieving this by 2030. Although challenges such as global competitiveness and public acceptance exist, the overall feasibility is high.

2. Voluntary Choice Editing of High-Emission Products

Desirability: Desirability varies, with different countries emphasising either the importance of creating a supportive framework or the role of voluntary actions in gaining a competitive edge. While voluntary changes might be seen as slow, they can bring about innovation and encourage pioneering companies.

Feasibility: The feasibility of voluntary choice editing is assessed as high, with potential implementation before 2030. A growing awareness among consumers and corporate responsibility are seen as driving factors, although the need for government support is acknowledged.

3. Direct or Indirect Public Subsidies for Low-Carbon Choices

Desirability: Government subsidies are generally seen as effective incentives for low-emission choices and aligning with the 1.5° target.

Feasibility: Subsidies for Low-Carbon Choices should be implemented by 2030. The political priority of climate change and public support contribute to their feasibility, although some political polarisation is observed.

4. Overseeing a Company Culture Based on Non-Financial Goals

Desirability: Overseeing a culture focused on non-financial goals is recognized as important for the long term, the short-term feasibility and immediate effects on the 1.5° lifestyle are questioned.

Feasibility: There's widespread support for this initiative, even though participants express scepticism about the short-term feasibility of comprehensive changes in corporate cultures. It's acknowledged as a desirable but challenging transformation that may require substantial



reforms.

5. Higher Taxes on Natural Resources and Pollution

Desirability: It's seen as an approach that reflects true environmental costs and incentivizes sustainable choices.

Feasibility: The feasibility is appreciated, especially when complemented with compensatory measures. Participants believe this approach is relatively easy to implement and view it as a key tool for steering consumption patterns in the right direction.

6. Public Procurement Only for Low-Carbon Products and Services

Desirability: The desirability of public procurement for low-carbon products and services is considered an effective tool for reducing emissions and stimulating sustainable markets.

Feasibility: Public procurement is widely seen as feasible, with many suggesting that it should become the standard by 2030. Concerns exist, but it's viewed as an efficient and essential measure for reducing emissions quickly.

Survey participants also suggested a range of additional legal, financial, and cultural business model transformation initiatives, including bans on profit-driven business models, new legal forms emphasizing social and ecological responsibility, alignment of business performance indicators with sustainability, and increased support for social entrepreneurship and responsible ownership.

To address the challenges of a 1.5° lifestyle, businesses should embrace the concept of sufficiency and innovate in various dimensions. Emission reduction should be a priority. Businesses should invest in cleaner production methods, sustainable materials, and technologies that minimise emissions. This would require changes in all aspects of business:

- **Products and Services:** Businesses should redesign products and services to be more resource-efficient, eco-friendly, and aligned with the principles of sufficiency. The transition to frugal products is a key element of responsible business responses to the challenges of a crowded planet. These products should meet essential needs with minimal resource consumption and environmental impact.
- **Business Activities and Markets:** Companies can explore new market opportunities by offering climate friendly, sustainable alternatives to traditional products and services. Educating consumers about the impact of their choices and promoting responsible



consumption can be part of a business's sustainability efforts.

- **Operations, Workplaces, and Supply Chains:** Streamlining operations, reducing waste, and optimising supply chains for sustainability are critical.
- **Form, Ownership Structure, Financing:** Companies should explore alternative business models, cooperative ownership structures, and sustainable financing options that align with the goals of 1.5° lifestyles. Structuring and financing businesses to deliver real profit is integral to 1.5° lifestyle creation. More space should be provided for non-profit businesses.

ALLOCATION OF RESPONSIBILITY

To implement the above-mentioned welfare and business model scenario, the Delphi process experts saw that stakeholders should take a particular kind of responsibility that, nevertheless, also comes with certain risks (see Table 3).

Table 3. Stakeholder responsibilities

Actor group	Mode of responsibility	Risks of responsabilization
Government (EU, national, local) & Politicians	Significant intervention Regulation/bureaucracy Resource allocation Long-term thinking Social justice Public-private cooperation Monitoring	Bureaucratization Authoritarianism Hyper-regulation Paternalism Inefficiency
	Recognize climate change Take risks	Authoritarianism
Businesses	Take costs Be transparent Optimise productivity Choice edit voluntarily Innovate green	Short-termism Greenwashing Lobbying Vested interests
Universities & Civil Society	Educate stakeholders Drive innovation	
	Provide alternative narratives of the good life Increase community support	Project-dependence
Households	Change norms and values Reduce working hours, consume less Take financial burdens	Individualization Social inequality

Government: interventions and regulations

While the Delphi process participants held varying perspectives on actors bearing responsibility, the discussions predominantly revolved around the government, which also happened to be the most debated and divisive stakeholder. Government responsabilization took several forms, with radical interventions, increased regulation, and social justice being the most prevalent. Other aspects included long-term planning, infrastructure development, and the balance between state and private sector solutions.

The most significant concerns about government responsibility related to major interventions requiring drastic changes in fiscal, economic, or welfare governance. While some participants saw this as a prerequisite for achieving the 1.5° target, others were apprehensive that it might lead to authoritarianism, paternalism, or inefficient central planning. In particular, critiques of historical communist regimes were raised in the context of concerns about the government assuming too prominent a role. This was most prominent in Hungary and Latvia, where participants had firsthand experience with such systems. Nonetheless, these concerns formed a clear ideological basis for rejecting significant state interventions for some participants.

Similarly, when discussing welfare and business policies, the most contentious initiatives were those entailing a strong government role, such as universal basic services, universal basic income, state-driven choice editing, or public subsidies for low-carbon products. However, while there was more extensive support for voluntary choice editing, many regarded state-driven choice editing as more effective than voluntary measures. The assumption was that such policies could have unintended consequences and pose a high risk of societal resistance.

The second aspect of government responsibility involved calls for more state regulation of high-carbon consumption. However, this brought concerns about potential bureaucratization due to the need for extensive monitoring activities to calculate emissions and their mitigation. This was also seen as altering the landscape of public procurement, potentially favouring certain actors over others. This led to the third concern, which revolved around the state assuming greater social responsibility by designing alternatives for low-income households that might be disadvantaged by policies including environmental costs in prices.

In various contexts, the prevailing political climate resulted in different shifts in the allocation of responsibility among actors. For example, Swedish participants believed that fewer climate-related initiatives meant that businesses were expected to shoulder a higher burden of responsibility, while Hungarian participants were pessimistic about the feasibility of various



environmental policy initiatives. In most contexts, there was an emphasis on politicians taking responsibility to acknowledge climate change and make policy choices that carried greater risk but were not necessarily popular among the public.

Businesses: towards corporate responsibility

In the policy Delphis, three primary forms of responsabilization emerged concerning businesses: finding a balance between climate responsibility and corporate interests, enhancing productivity, and fostering green innovation.

One significant concern related to businesses pertained to the challenge of reconciling climate responsibility with their corporate interests, particularly in the context of profitable activities. While some participants expressed apprehension that businesses might lobby against achieving the 1.5° target, they emphasised the need to responsabilize businesses to prioritise sustainability over lobbying efforts. However, other participants, e.g. in Sweden, believed that businesses could take the lead and advocate for more sustainable policies, even when the government might be hesitant to introduce such measures.

Certain policies, such as working time reduction, were deemed necessary for businesses to boost productivity. This viewpoint was considered important regardless of the country's current productivity levels, highlighting the association with the idea of perpetual economic growth and an increase in living standards.

In discussions regarding specific policies like providing tax incentives to businesses for investing in low-carbon research and development (R&D) or public procurement exclusively for low-carbon products and services, concerns were raised about potential short-term thinking in business decision-making. This critique questioned the extent to which businesses relied on state decisions to guide their choices in terms of values, and it also expressed reservations about businesses' capacity to transform their business models. Overall, businesses were held responsible for linking efficiency improvements with green innovation, which, in turn, raised concerns about smaller businesses potentially losing their competitiveness.

Civil Society Organizations and Universities: Shaping Responsibility

Within the policy Delphi discussions, a multitude of perspectives emerged regarding the responsibilities of civil society organisations and universities. These entities were recognized as pivotal stakeholders and held accountable for several key tasks, such as educating stakeholders, fostering innovation, providing alternative narratives of the good life, and



increasing community support.

Civil society organisations and universities were acknowledged to play a crucial role in terms of educating other stakeholders. These entities were expected to take on the responsibility of disseminating knowledge and information, raising awareness, and promoting an understanding of the challenges and implications of transitioning to a low-carbon society. Participants emphasised the significance of informed decision-making and the role of civil society organisations and universities in equipping stakeholders with the requisite knowledge to make sustainable choices.

Another dimension of responsibility revolved around fostering innovation. Civil society organisations and universities were seen as instrumental in driving research and innovation to develop sustainable solutions and practices. The role of universities included encouraging the creation of novel, environmentally friendly technologies and products, as well as supporting social innovations. The role of civil society organisations in many cases is to experiment with different innovative solutions and pathways. This innovation-centric responsibility aimed to facilitate the transition to a low-carbon society by promoting new, sustainable pathways.

Participants recognized the need for alternative narratives of the good life that deviate from the prevailing consumerist and resource-intensive ideals. Civil society organisations and universities were called upon to contribute to reshaping societal values and aspirations. This responsibility encompassed crafting and promoting narratives that prioritise sustainable living, community well-being, and ecological harmony. By offering alternative visions of the good life, these entities were tasked with challenging and transforming deeply ingrained societal norms and aspirations.

The responsibility of increasing community support was integral to the roles of civil society organisations and universities. Participants highlighted the importance of building stronger, more interconnected communities that could collectively pursue sustainable objectives. These entities were seen as catalysts in fostering community engagement, mobilisation, and collaboration to address environmental and social challenges. Their role was not limited to knowledge dissemination but extended to community-building efforts that encouraged collective action and support.

Households: the forms of individualised responsibility

While households were not typically regarded as the primary bearers of responsibility, they were



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generally acknowledged to exert influence on all other actors. This influence was manifest in various ways, including electoral choices, the demand for products and services, and standards of living. Consequently, the primary methods of responsabilization for households revolved around altering social norms and values, as well as reducing both work and consumption. Individual responsibility, seen as a crucial component of a low-carbon society, was emphasised by certain stakeholders. However, the approaches to instilling this responsibility varied, contingent on assumptions about people's intrinsic motivations in relation to deeply ingrained prevailing values and lifestyles.

There was a prevailing understanding that transitioning to a low-carbon society demanded more than just technological solutions; it necessitated changes in lifestyles and the narratives surrounding a desirable way of life. Nevertheless, this transformation was recognized as a significant challenge due to the allure of personal transportation and air travel, and the limited popularity of communal housing solutions and plant-based diets. While policy measures could promote these changes through both restrictive and supportive means, their adoption and execution were perceived as contingent on household norms and behaviours. Likewise, without shifts in values, it was feared that increased regulations might inadvertently expand the informal economy, particularly in countries with significant informal markets.



SUMMARY AND CONCLUSION

The main conclusions reveal the intricate nature of the transition to 1.5° lifestyles, as evidenced by discussions in the policy Delphi process by participants from Latvia, Germany, Hungary, Spain, and Sweden. These dialogues unveiled a web of challenges, historical associations, and ideological factors that shape the perceived desirability and feasibility of diverse policy measures regarding necessary transformations in the welfare system and business models.

Fundamental issues revolved around reshaping perceptions of human motivations for work and consumption, the imprint of historical legacies on policy reception, and the bifurcation of conversations concerning welfare and value creation. Moreover, the deliberations spotlighted reservations regarding the job guarantee, wealth taxation, and income ceiling, while accentuating the significance of regular interdisciplinary policy exchanges and the adoption of comprehensive policy approaches. However, there was not much difference regarding the desirability of the business model transformation initiatives. Elements such as enduring stability, cultural transformations favouring sustainability, educational endeavours, and heightened awareness were recognized as integral aspects of this multifaceted transition.

Participants articulated widespread concerns regarding feasibility spanning across cultural, social, and economic domains. Concurrently, the impact of historical associations on policy support and the sway of political leadership on feasibility came to the fore as substantial influences. These discussions prompted contemplation of a potential paradigm shift towards degrowth, and participants advocated for the removal of exclusivity from certain policies to bolster their feasibility. Holistic policy formulation, education in sustainable production and consumption, and grappling with bureaucratic obstacles in implementation were pivotal areas of focus, alongside the urgent necessity for housing action, equitable allocation of economic incentives, and support for research and technological innovation rooted in eco-design and circular economy principles.

Involved experts have identified significant differences among countries. In the German context, emphasis was placed on a multifaceted approach encompassing state regulations, incentives, subsidies, and cultural shifts, with a concentration on long-term stability and the transformation of societal values toward sustainability. Hungary emphasized the importance of fostering innovation and a well-being economy, while Spain underscored investments in research and development, addressing Greenwashing, and the promotion of educational initiatives. The Swedish workshop participants highlighted the need to harmonise policy ambition with societal acceptance, formulate fresh narratives for a sustainable lifestyle, and explore strategies like a green tax shift and public subsidies.

These collective insights underscore the imperative of an all-encompassing approach, integrating diverse policy measures, public awareness campaigns, cultural metamorphosis, innovation, and civic engagement to effectively confront the intricate challenge of realising a



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1.5° lifestyle. All the stakeholders are urged to consider a diverse array of strategies for collaboration, working towards enduring the transition to 1.5° lifestyles.

