



Navigating New Green Pathways

Aligning Alternative Growth Paradigms with EU Guiding Principles and Values



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Introduction and summary

The Green Paper “Navigating New Green Pathways: Aligning Alternative Growth Paradigms with EU Guiding Principles and Values” is part of the Horizon Europe project MultiFutures.

The Paper provides an analysis of real-life policy cases from **five countries** (Norway, Finland, the Netherlands, Türkiye and the U.S.) and strategy documents at EU level, and compares these with four alternative economic paradigms (**Green Growth, Mission Economy, Post-Growth and Great Mindshift**) identified in the report “Mapping and analysis of alternative growth paradigms” of MultiFutures.

It concludes on six insights for further policymaking within the area of sustainability and environmental politics based on a cross-cutting analysis of all case studies compared with the alternative economic paradigms:

1. The government is important for setting the goals in sustainability policies.
2. There is a risk of conflicts between different levels of government.
3. There is a tension between national self-sufficiency and international solidarity in the distribution of renewable energy.
4. A critical approach to technology’s role in the green transition is needed.
5. There is a need for change in the norms and values in today’s policymaking in order to enforce alternative(s) (to) growth.
6. The relationship between sustainability and growth remains unclear, and there seems to be a conceptual gap between them.

The Green Paper is based on a critical discourse analysis of a total of six case studies of policy documents from five countries and strategic documents at EU level. Using the framework of alternative(s) (to) growth developed in Slingerland et al. (2024), this Green Paper identifies underlying assumptions on growth and sustainability. Assessing also the roads not taken, it provides insights and advice to policymakers for designing policies that are resilient to different visions of new sustainable pathways for our societies. The following gives a short summary of the Green Paper “Navigating New Green Pathways: Aligning Alternative Growth Paradigms with the EU Guiding Principles and Values”.



ALTERNATIVE ECONOMIC PARADIGMS



In the MultiFutures project, Slingerland et al. (2024) mapped out and analysed alternative growth paradigms with the main goal to develop a taxonomy of alternative growth paradigms for further use in the project.

Four main paradigms were identified: “**Green Growth**”, “**Mission Economy**”, “**Post-Growth**” and “**Great Mindshift**”. A deeper description of the paradigms can be found in Slingerland et al. (2024) and on MultiFutures homepage.

The four paradigms primarily differ in the role of government, economic priorities and societal transformations.

1. **Green Growth** relies on market-driven sustainability, using economic incentives and broad technological innovation to align with environmental goals while maintaining GDP growth as a key indicator.
2. **Mission Economy** takes a government-led approach, setting clear societal mission and actively steering technological choices and industrial policy to achieve sustainability targets.
3. **Post-Growth** deprioritizes economic growth altogether, focusing instead on well-being, environmental limits, and wealth redistribution, even if it leads to economic contraction in certain industries.
4. **Great Mindshift** envisions a decentralized and community-driven future, where local authorities and grassroots movements take the lead in shaping sustainable societies, prioritising self-sufficiency, rights for nature, and global equity. While all paradigms aim for sustainability, they differ in how they balance market forces, state intervention, and social change.



Fig.1 Main storylines for sustainable welfare following from the Beyond Growth debate

[Click here to discover the four storylines, each with a distinct perspective on economic growth, governmental steering, and societal change.](#)

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THE CASE STUDIES

The following provides a short summary of each case study. Together these lay the empirical groundwork for the cross-cutting analysis. The policymaking insights are based on this empirical material.



Guiding principles of the EU

There are many different documents that lay the groundwork for guiding the work of the EU institutions. One of the goals of MultiFutures is to find new pathways towards sustainable, climate-natural futures. In order to say something about what principles are guiding this work today, three central sustainability strategies in the EU was chosen to look closer at which principles are guiding this work:

1) The European Green Deal (European Commission, 2019)

The European Green Deal (European Commission, 2019), launched in 2019, is the EU's response to the urgent climate and environmental challenges facing the world today. It is presented as both a sustainability strategy and a new model for economic growth. Rather than seeing climate action as a cost, the Green Deal frames the green transition as a "unique opportunity" to make the EU economy more resilient, competitive and innovative. The goal is to reach net-zero greenhouse gas emissions by 2050 while ensuring that economic growth is no longer tied to the use of natural resources.

This includes a shift towards a circular economy, supported by regulation, innovation and significant investments. The EU sees sustainability as a driver for new industries and job creation, with the European Green Deal Investment Plan (European Commission, 2020) highlighting the need for large-scale financial efforts – such as EUR 260 billion annually – to support green initiatives and workforce transformations.

As of 2024, the von der Leyen Commission (2024) reaffirmed its commitment to the Green Deal, calling it a "growth strategy that protects the climate".

The urgency for a clean transition has been reinforced by global instability, such as the war in Ukraine, which has highlighted the need for energy independence. The Commission emphasises that the transition must be fair, putting people at the centre by supporting vulnerable groups and ensuring

access to financing for green investments. A clean, efficient and circular economy is seen as the key to both climate goals and global competitiveness.

2) The EU's Twin Transition Strategy (Joint Research Centre, 2022)

The **EU's Twin Transition Strategy** is a mirror of the belief that green and digital transitions are two main trends that will shape the future of the EU (Joint Research Centre, 2022). The fundamental claim is that digitalisation of societies is a precondition for meeting the sustainability problems of our time. The core argument of this strategy is a techno-optimistic argument that digital technologies provide functions that can catalyse the green transition, and that green and digital technologies mutually can reinforce each other.

3) The Draghi report on the future of European competitiveness (Draghi, 2024)

In **The future of European competitiveness** (Draghi, 2024) the former European Central Bank President Mario Draghi, argues that the EU is falling behind compared to the U.S. and China. This is shown in the wide gap in GDP between the EU and the U.S. which Draghi (2024:5) argues is a direct consequence of slowdown in productivity growth in Europe.

The report points at several reasons for why the EU is falling behind, e.g. a rise of a new global paradigm, a new geopolitical situation in Europe and that the EU has been missing out on the digital revolution.

All factors combined, Draghi (2024:5) argues that "Europe's need for growth is rising". To meet the challenges and changes of the future, growth and better productivity is the only way to preserve the EU's values of equity and social inclusion. The Draghi report is therefore an attempt to identify areas of action to "reignite sustainable growth".

3 THE REAL-LIFE POLICY CASES



CASE 1

The data centre industry in Norway

In 2018 and 2021, the Norwegian Government published data centre strategies (Ministry of Trade, Industry and Fisheries, 2018; Ministry of Local Government and Regional Development, 2021). Both strategies make the claim that there is an increasingly need for data centres as our societies are increasingly digitalised using more and more digital services and solutions than before.

This growing data driven economy therefore represents itself with major economic possibilities which can be utilized to create more jobs and economic growth. At the same time, the strategies frames data centres as a key in solving challenges and an important factor in Europe's green transition towards a new sustainable future. A data centre is framed as a representation of both a new resource that can be exploited for economic growth and the creation of jobs while at the same time being an important part of the transition towards a greener Europe. Together these two arguments form the foundation of the Norwegian government's argumentation and legitimation of why Norway must become an attractive data centres nation.



CASE 2

Solar power plants in Finland

The Finnish Government Program under Prime Minister Petteri Orpo (Finnish government, 2023) highlights a national commitment to clean energy, with a strong emphasis on increasing renewable electricity production to drive economic growth and global competitiveness. While nuclear and wind energy are prioritised, solar power is acknowledged as a flexible and increasingly cost-effective energy source, though it receives less strategic focus. Locally, projects that demonstrate how solar energy is gaining traction as a practical solution for renewable expansion, especially in regions where wind power is limited due to e.g. defence infrastructure. The repurposing of former peat production areas for solar power is envisioned as a sustainable land use which supports biodiversity and contributes to carbon neutrality targets. These projects are not only thought of providing clean electricity but also create the conditions for future green investments, such as hydrogen production, reinforcing solar power's role in supporting regional development, energy self-sufficiency and long term-economic growth.



CASE 3

Renewable energy regulations in Türkiye

Türkiye's renewable energy policy has evolved through distinct phases marked by state control, market liberalization, industrial expansion, and an increasing focus on energy sovereignty and green transitions. While the country has significantly expanded its renewable energy capacity – particularly in wind, solar and hydropower – policy instruments such as the Renewable Energy Resource Areas (YEKA) Regulation (Renewable Energy Law No. 5345, 2005) and the Local Component Regulation (LCR) emphasise domestic industrial growth and energy independence.

These regulations promote localization by mandating domestic production of renewable energy technologies, positioning renewables as strategic national assets rather than solely environmental initiatives. Sustainability goals, such as carbon neutrality under the Net Zero 2053 Strategy, have gained prominence, but the overarching policy focus remains on economic nationalism, industrial self-sufficiency, and reducing dependence on foreign energy sources. This state-led approach prioritises large-scale investments, domestic manufacturing, and long-term price stability, while maintaining centralized control and limited inclusion of community-based or decentralised energy models.



CASE 4

Energy Communities in the Netherlands

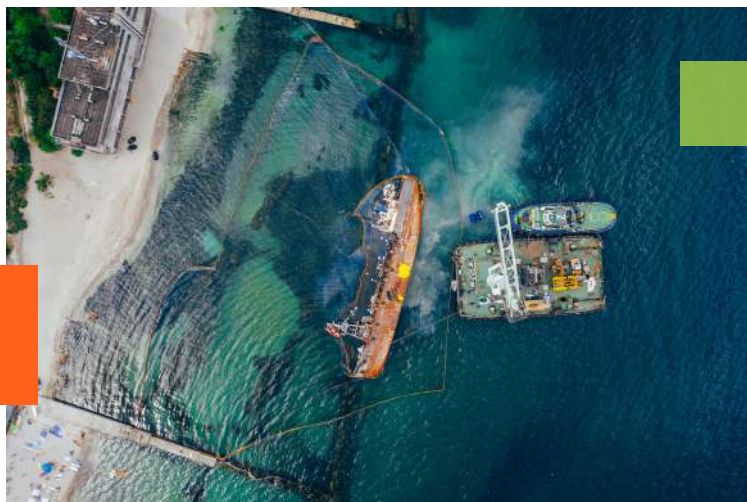
In the Netherlands, the shift from natural gas to electricity, alongside reducing dependence on Russian gas, has highlighted the need for innovative solutions due to an over-congested electricity grid. Energy Communities (ECs) are seen as possible solutions as they involve citizen action to contribute to the energy transition (e.g. Amsterdam Economic Board, 2024). ECs aim to promote “energy citizenship” and promote a more active role for the citizens in the energy market, allowing them to “collectively” produce, aggregate and sell energy. These communities emphasise social innovation as much as technological innovation in reaching climate targets. The debate around ECs is framed by policy documents that balance economic intensives, grid congestion relief and energy independence, with actors like the government, energy suppliers and support organisations all playing a crucial role in their development. Economic and social factors are given a priority, while less attention is given to environmental and technological aspects.



CASE 5

Deep sea mining in the U.S.

Seabed mining, which involves extracting minerals from the ocean floor, has become a growing topic of interest. This is due to the increasing demand for raw materials for green technologies and the desire to reduce reliance on foreign imports. The U.S. is one of the few countries that has not ratified the 1982 United Nations Convention on the Law of the sea, which sets the rules for deep sea mining. Although no commercial seabed mining has happened yet in international waters, many island nations, environmental groups, and ocean scientists are calling for a ban due to concerns about its environmental, cultural and spiritual impacts (e.g. Greenpeace, 2023). In the U.S., the debate is influenced by federal policies like Executive Order 13953, which aims to secure a domestic supply of critical minerals, and state laws like Hawaii's Seabed Mining Prevention Act (HSEMPA), which bans seabed mining in state waters to protect marine life, cultural heritage and ocean-based industries. The Executive Order focuses on boosting industrial growth and national security, while the Hawaiian ban prioritises environmental protection and Indigenous rights, emphasising the importance of the ocean as a vital ecosystem with cultural and economic significance. These two policies reflect different views and underscores different priorities in policy and industrial development.



4 CENTRAL INSIGHTS AND THEMES FOR FURTHER POLICYMAKING

Based on the analysis of the case studies summarized above, a cross-cutting analysis was done to identify important points for future policymaking. The themes explored in the following is a summary of both findings of the cross cutting analysis and the insights suggested for future policymaking.

The government is important for setting the goals in sustainability policies

All cases demonstrate a top-down approach in setting and achieving political goals. This is evident in the important role the state / government has in setting agendas, implementing regulations, making investments and fostering industrial growth.

At the EU level, the significance of the state is further underscored, as member states play a key role in shaping and executing the Commission's politics.

The importance of state involvement in the case studies aligns them with the "Mission Economy" paradigm.

Strategies, such as the European Green Deal or the Twin Transition Strategy, serve as "moonshot missions" that set the goals of how Europe should develop itself towards sustainable living. A key example is the Commission's ambition for Europe to become the first climate-neutral continent in the world, which serves as a "mission" that the EU and its member states work together to achieve. The same tendency of a strong government in setting the agenda is evident in cases from both Norway, Finland and Türkiye. Norway's data centre strategy follows the "moonshot mission" of making Norway a data centre nation by taking global responsibility for sustainable data storage.

In Finland, the PM's Government Program envisions the country as a global leader in clean energy, fostering a "clean economy" to drive national prosperity and future growth. In Türkiye, the government has played a significant role in the renewable energy sector over the past decade, acting as a key stakeholder in introducing large-scale investments and localisation programs.



However, the establishment of Energy Communities (ECs) in the Netherlands challenges this top-down approach to energy transition. The making of ECs appears to be less dependent on the government's agenda, even though national governmental stakeholders are involved by determining the conditions for activities of ECs in the energy sector via energy legislations. This case illustrates how a bottom-up approach can be taken in initiating new energy policies by focusing on the promotion of energy citizenships.



INSIGHT 2

There are potential for conflicts between different levels of government

Political and ideological disagreements between different levels of government, e.g. national vs. local, federal vs. state, EU level vs. member states, presents a potential conflict that may hinder the development of new future green pathways. This is shown in the U.S. case where different levels of government prioritise different agendas. At federal level, the President prioritises U.S. industrial and geopolitical interests, including the extraction of sediment and mineral resources from the U.S. seafloor. One area of interest in that regard is the seabed floor in the state of Hawaii, but the Hawaiian state has chosen to oppose federal policy by implementing a ban on seabed mining arguing that the federal initiative poses a threat to marine and human life. This conflict underscores the potential for tensions and frictions between different levels of government, as political and ideological differences can lead to disagreements between governmental actors. Conflicting interest, political agendas, and strategic choices can create tensions that hinder the transition to a more sustainable society.



How should one navigate the tension between (national) self-sufficiency and international solidarity?

Both the European Green Deal (European Commission, 2019) and the Draghi report (2024), argue that sustainability is not only about environmental responsibility but also about growth and the making oneself a competitive actor on the world stage. Draghi further argues the importance to make the EU and Europe more competitive, economically secure, fair and strategically autonomous through increased growth. This call for growth and competitiveness illustrates the tension between self-sufficiency and international solidarity, which is a reoccurring tension in several cases – both at national and EU level.

At the global level, the competition between the EU, China and the U.S. is made important in both policy documents from both EU and the U.S. In both cases weight is put on the importance of strategically working to enhance one's own global market competitiveness by aiming to reduce dependencies and imports from third countries. While the EU competes with the U.S. and China it also has the power to influence and legislate its member states and influence other associated countries. The EU and its institutions are therefore important in setting the agenda of how member states and other European countries should work together in the green transition and what (energy) transitions are necessary to make societies more sustainable.

However, there sometimes seems to be a tension between the EU's visions and national governments with regards to goals and ambitions.

This is particularly made evident in the ongoing discussion about energy supply and sufficiency in Europe, especially after the Russian invasion of Ukraine. The Commission's strategy is to create an energy community with and between the EU and its



members and allies, but the cases from especially Finland and Türkiye illustrate that there are tensions and potential conflicts between national self-sufficiency versus solidarity where the former seems to be most important. Both cases show that the countries want to be self-sufficient in renewable energy by increasing national shares of renewable power as one of the primary goals of energy policies.

This protectionist and nationalistic tendency can make the work on finding joint pathways for sustainable futures more difficult as cooperation of the development of renewable power is an important part of the green transition. In this view, further growth is a means of ensuring competitiveness by fostering economic expansion and developing globally competitive and resilient domestic supply chains. However, a sustainability strategy rooted in protectionist growth policies may pose a challenge to achieving a green transition that remains within planetary boundaries. This is because protectionist policies can among others 1) limit global cooperation prioritizing national economic growth which can lead to resource overuse, fossil fuel dependency, and higher emissions; 2) slow technology transfer by limiting the access to innovations, and 3) reinforce resource inefficiencies by limiting global access to e.g. raw materials needed to produce “green” technology. Combined factors such as these can ultimately hinder sustainable development, stressing the importance of cooperating in the green transition. Building solidarity and moving away from market-driven growth are essential to ensure a fair transition.



A critical approach to technology's role in the green transition is needed

Technology and technological innovations play different roles in the alternative economic paradigms and the case studies. The guiding principles of the EU clearly echoes techno-optimism by arguing that technology and technological innovations are important preconditions and factors for a successful green transition in Europe. The Green Deal states that new “green” technologies and disruptive innovation are necessary for achieving the main objectives of the Deal, that is making Europe the first climate-neutral continent in the world. In addition, the advancement in both clean and digital technologies are argued important in the making of the EU as a competitive global actor. This is why the EU calls for a large-scale deployment and demonstration of new technologies across all sectors where the single market is necessary for building new innovative value chains that foster the green transition. The EU’s Twin Transition (Join Research Centre, 2022) strategy together with the Green Deal (European Commission, 2019) are important policies in setting technology at heart of the transition towards more sustainable societies.

The other case studies align well with this optimistic view on technology by showing how technological innovation is a driver for a green future. This dominating approach to and view of technology and digitalisation mirrors the paradigm Green Growth where technological progress is seen as one of the main areas of policymaking. What is missing from this view are discussions of how technological innovation and digitalisation will be directed to help society stay within planetary boundaries as growth and increased consumption is a precondition for this technological development.

The question remains how we can ensure that technological development does not come at the expense of nature and the environment. The belief that technology itself has the power to transform our societies into greener ones, assumes that we can continue the current growth trajectory without introducing sufficiency policies. It thus rejects the stances from Post-Growth and the Great Mindshift that focus on reducing consumption to minimise society's reliance on uncertain technological development.

Such paradoxes do not seem to be addressed in the policy documents analysed in the case studies. Untouched nature still gets exploited and built over to extract e.g. raw materials for building climate friendly technology, and healthy forests and land areas are put aside for the development of new green, sustainable industries. The politics of the future should address such paradoxes by formulating policies that do not put nature and ecologies up against the work towards becoming sustainable where green technological developments are seen as worth building down nature for.



INSIGHT 5

Stronger enforcement of alternative(s) (to) growth is needed

The case studies shows that alternative economic paradigms have a weaker degree of enforcement in today's policymaking. The policy documents included in the analysis are on a visionary and strategic level limiting the extent to which they must be followed or enforced. The cases from Norway, Finland and the EU strategic documents illustrate how sustainability policies are formulated as visionary "moonshot missions" where the government or the Commission sets goals and agendas for future policymaking within the green transition. The guiding principles of the EU shape the work of its institutions and member states, but they do not impose direct legal obligations. Similarly, Norway's data centre strategy outlines vision of the economic opportunities associated with data centres rather than enforceable policy measures. Finland's Government Program represents the Prime Minister's and government's political agenda, articulating a vision for a "strong and committed Finland" rather than imposing strict regulatory action. In the Netherlands, Energy Communities emerge from aspirations to enhance energy independence and cost savings for citizens, reflecting voluntary collective action rather than state-enforced policy.

What is missing from these cases and their policy documents is the power to enforce alternative economic paradigms. While they may promote new economic directions, they lack the legal authority and mechanisms to mandate change through alternative economic paradigms.



To put Europe on a more sustainable path, sustainability and alternatives (to) growth policies must be made with some degree of enforcement before put into play. Although it is important to formulate alternatives in political agendas and so forth, alternatives to growth would be much more impactful if they were formulated in documents and policies that have a stronger degree of enforcement. Whereas, by formulating alternative economic paradigms as mere visions for the future, they risk being overrun by existing economic paradigms such as neoliberal growth.

To make and implement policies based on alternative(s) (to) growth there may be a need for change in societies norms and values, in the meaning of moving away from neoliberal growth. The “Green Growth” and “Mission Economy” paradigms may therefore not be best suited to make the changes needed to enforce alternative ways of thinking, making “Post-Growth” and the “Great Mindshift” representatives of paradigms who are drivers for norm and value change in societies.

INSIGHT 6

The relationship between sustainability and growth remains unclear, and there seems to be a conceptual gap between them

During the last decade there has been a push towards sustainability with the term playing a central role in public policy and business strategy. However, despite this focus, the world is becoming increasingly unsustainable, exceeding multiple planetary boundaries. There is a lot of money to earn and strategic advantages to achieve by producing sustainability (Røyrvik & Johansen, 2024). The term “sustainability” evokes different associations depending on the context in which it is used, making it challenging to define precisely.

A common association when talking about sustainability is that the term has something to do with climate change and efforts to live within planetary boundaries. This way of conceiving sustainability is mirrored in all cases in this Green Paper, but sustainability is also presented as something more than just a green path to a better society; it is a representation of a possibility for new ways of growing – economically, technologically and industrially. Sustainability is therefore seen as both a way to make a better future while at the same time ensuring economic growth and prosperity. This view is fundamental in the EU guiding principles which frames the European Green Deal as a “growth strategy that protects climate”. Growth is still an important part of today’s policymaking and is a major factor in how countries and societies can become sustainable.

The cases demonstrate different approaches to sustainability and growth. The Norwegian government’s data centre strategies exemplify how



sustainable new green industries are perceived as new possibilities for exploitation and growth.

The government argues for the need for green data storage capacities to ensure a green transition in Europe and this capacity is something that Norway can offer. At the same time as a data centre is a new green technology, it represents a new resource that the government wants to exploit to its fullest to make Norway grow in terms of number of jobs, infrastructure and GDP. The same logic is seen in the Finnish case where e.g. solar power plants are conceived as clean technology which enables Finland to use its competitive advantages to achieve “clean growth”.

The U.S. case presents itself with a paradox, namely that the extraction of raw materials on seabed floors is a prerequisite to produce new green technologies. The Hawaiian State’s ban on such an extraction is grounded on the critiques of seabed mining, arguing that there is too much risk and uncertainty of damage and disruption to the marine and human environment. This paradox is just one local manifestation of a general challenge when discussing what sustainable development is: Is damage, ruination and exploitation of (untouched) nature a part of building new greener futures?

It would seem like most of the cases in this paper would assume so. Building data centres in Norway requires a lot of land area; to ensure “clean growth” in Finland one builds solar plants on old peat production areas; to make green technologies in the U.S. it needs materials from the seabed floor.

When technology and industrial development are an important part of the green transition a conflict seems to arise between the preservation of nature and growth.



Slingerland et al. (2024) propose four alternative economic paradigms: “Green Growth”, “Mission Economy”, “Post-Growth” and the “Great Mindshift”.

The fundamental tension between sustainability and growth is particularly evident in both Green Growth and Mission Economy. Both base themselves on a growth-friendly logic where sustainable living is to be achieved by further growth in society. One explanation of the importance of growth in these two paradigms is that they are classified as being based on current norms and values.

This means that politics, economy and society are based on the principles of the current dominant way of thinking i.e. neoliberalism. In contrast, Great Mindshift and Post-Growth offer potential strategies to minimise these tensions by decoupling the notion of sustainability away from growth and focusing on social well-being and living within our economical limits.

Concluding remarks

The Green Paper analyses the relationship between five case studies of real-life policies from different countries, the guiding principles of the EU and four alternative economic paradigms. The key question remains:

Is there room to challenge today's dominant economic and political logics within existing politics?

The answer is not straightforward. However, the Green Paper demonstrates a prevailing tendency for current politics to remain rooted in dominant ways of thinking about growth and sustainability, where economic considerations are main priority over societal and environmental concerns. If the goal is to place societies on truly sustainable pathways, fundamental shifts in the underlying logic of policymaking seems to be necessary. It is not enough to introduce sector-specific policy changes in areas such as industry, transportation or digitalisation – though these are important.

A deeper change in norms and values is required to enable the systemic change needed for societies to stay within planetary boundaries.

The MultiFutures project should contribute to this transformation by exploring novel policy proposals that propose change in norms and values as a means of building sustainable, resilient and fair societies in Europe and beyond.

MultiFutures is structured around four main activities:

1. First, using advanced artificial intelligence tools and a range of qualitative research methods, the project is mapping a variety of alternative paradigms – essentially different ways of thinking about the economy and society – and creating a comprehensive taxonomy.
2. Next, these ideas will be translated into specific, quantified transition scenarios that include new ways of measuring progress, such as well-being and equality, rather than just financial metrics.
3. Then, through extensive stakeholder engagement, including social simulations and anticipatory system mapping, we will co-create these potential futures with citizens, experts and policymakers, understanding their trade-offs and mitigating their potential downsides.
4. Finally, a large-scale survey of over 18,000 European citizens will help gauge public attitudes towards these alternative scenarios and understand how willing people are to adopt new ways of thinking and living.

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