SUPPORTING SUSTAINABILITY TRANSITIONS UNDER THE EUROPEAN GREEN DEAL WITH COHESION POLICY

Toolkit for national and regional decision-makers

European Commission

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The European Green Deal[1] is the EU's strategy to make its economy and society fit for a healthy planet. It advocates a policy approach oriented towards the goals of climate neutrality and circular economy. This refers essentially to the concept of *sustainability transitions* – understood as long-term transformations of societal systems towards more sustainable modes of production and consumption – which has been promoted in EU discourse for a number of years.

This toolkit attempts to translate this approach into concrete tools, methodologies and steps that can be implemented in the context of the EU's cohesion policy. It focuses on how cohesion policy can support sustainability transitions in the planning and delivery of Partnership Agreements and Programmes, by prioritising available support for the 2021-2027 funding period to facilitate a transition to a climate neutral, green and circular economy. It consists of a set of instruments and questions to guide a strategic reflection and to help deliver the increased ambition of the European Green Deal with the future cohesion policy.

The toolkit is primarily aimed at programming and Managing Authorities at the national and regional level. While many other actors are involved in implementation, Managing Authorities can use cohesion policy to leverage change oriented towards transitions, and create an overall framework which is sufficiently flexible to accommodate local strategies, actions and conditions.

After showing how the EU's cohesion policy can help regions to manage sustainability transitions (section 2), this toolkit first addresses the formulation of a strategic vision (section 3). Next, we discuss the governance of sustainability transitions, with a focus on relevant actors, policies and institutions that form part of the broader context in which cohesion policy operates (section 4). The toolkit then elaborates on how cohesion policy can contribute to supporting transitions by investing in innovation (section 5), deploying sustainable solutions (section 6) and ensuring a just transition (section 7). We also pay attention to how territorial strategies, as typical tools of cohesion policy, can support sustainability transitions (section 8). Finally, we focus on project selection and measures which can mitigate negative environmental impacts of funding, as well as on the monitoring and evaluation of cohesion policy's contribution to sustainability transitions (section 9).

This document contains the main messages of a longer report prepared for the European Commission's Directorate-General for Regional and Urban Policy [2]. This longer version includes several case studies, inspiring examples, links to specific EU policy initiatives and more detailed information about the various tools that are mentioned here.

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[1] https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en
[2] https://ec.europa.eu/regional_policy/en/information/publications/reports/2020/
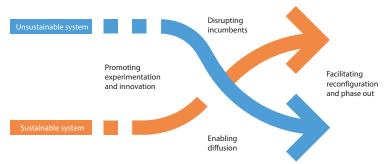
2. Sustainability transitions, regions and cohesion policy

While EU policies have contributed to a significant improvement of the state of the environment in Europe, challenges such as those related to climate change, biodiversity or resource use, cannot be tackled by environmental policies alone. They need systemic changes in unsustainable systems of production and consumption. This requires a fundamental transformation of large socio-technical systems, including changes in technologies, infrastructure, legislation, markets, behaviours, etc. Sustainability transitions can be understood as long-term transformations of such systems towards more sustainable modes of production and consumption.[3]

The EU has set ambitious objectives to guide this change, notably with regard to climate change and circular economy. In December 2019, the European Green Deal defined an ambitious new agenda for Europe, directed towards achieving a climate neutral Europe where growth is decoupled from resource use in 2050.

Economies and societies transform constantly. But to achieve a sustainable outcome, the transition needs to be steered and managed. Public policies can give support to new solutions which enable sustainability transitions, and cushion the resistance from actors who defend the status quo and their vested interests. Typically, scholars describe transitions as the destabilisation or systemic transformation of incumbent and unsustainable 'regimes', through the emergence of new and sustainable 'niches'.

In an idealised curve of sustainability transitions, three main processes can be distinguished: innovation (emergence), large-scale deployment of sustainable solutions (diffusion), and system reconfiguration (while ensuring a just transition).

The x-curve of transitions[4]

Regions have a significant role in this process. They serve as the locations from which new technological and social solutions emerge. Moreover, regions contribute to EU and national goals by adopting existing technological, economic, societal solutions, through which they deploy those solutions in ways suited to their local context. They also need to contribute to the phasing out of unsustainable solutions, by shifting away their support for those technologies and practices. Finally, regions need to ensure that this reconfiguration happens in a just and fair way, and avoid that the transition does not negatively impact on regional development and wellbeing.

Cohesion policy is an important instrument for sustainability transitions for a number of reasons. It contributes a significant amount of funding for regions and has a capacity-building component, thus enabling territories both financially and in terms of managing the implementation. It has a strong focus

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[3] https://www.eea.europa.eu/soer
[4] Adapted from: EEA, Sustainability transitions: policy and practice, Copenhagen, 2019.

on partnership with relevant stakeholders, and adopts a broad, integrated view on regional development. It is place-based, allowing for the implementation of transitions at the appropriate scale and adapted to the specific territory, while linking them to other levels of governance.

The coronavirus pandemic and the green recovery

The impacts of the coronavirus pandemic that struck in 2020 are being felt by all EU Member States and by other countries worldwide. Unemployment has skyrocketed, people's livelihoods have become endangered. After an immediate rescue response by governments, the focus has shifted to recovery, also at EU level. On top of the 2021-2027 MFF, an ambitious financial package has been agreed on by EU Member States to address the impacts of the pandemic, totalling EUR 750 billion in grants and loans. This brings the total financial support to Member States to more than EUR 1,800 billion for the coming years. Part of this support will be delivered through the new Recovery and Resilience Facility, that will operate alongside cohesion policy and other EU support instruments.

Restarting economies may not result in things going back to the way they were before. The Covid-19 crisis has underscored a need for a better understanding and incorporation of a systems approach into our policy and governance frameworks. Understanding the linkages between our production supply chains, biodiversity, climate, ecosystem degradation, pollution, health, agri-food systems, and the sustainability and resilience of our socio-economy model is an absolute prerequisite to elaborating a recovery plan that delivers both in the short and the long term.

There are also implications for overall governance of transitions. Despite possible pressure to take a short-term view to solve immediate problems, which may lead to support for technologies and assets that will later become stranded, decision-makers can provide funding to sectors and technologies that promote sustainability transitions. This can be done, for instance, by making support conditional on environmental performance, providing funding to unsustainable sectors and technologies only where sustainable alternatives are not available, or shifting support away from unsustainable technologies and sectors to ones which can deliver the same service sustainably (such as towards renewable energy or electric vehicles).

Some positive environmental changes have taken place as an immediate impact of the economic crisis e.g. those related to air pollution and greenhouse gas emissions. These changes can disappear without policy intervention as economies rebound. However, there is an opportunity for policy-makers to work on making some of these changes permanent.

The shift from an economic system focused on optimisation to a system which is adaptive and resilient is also timely. The crisis is a good time to institute changes in areas where resistance to change is low. For example, the temporary reduction in motorised urban transport demand presents an opportunity to reduce space for cars and increase space for non-motorised transport, e.g. by designating bicycle lanes. The pandemic has also forced countries to implement changes in behaviours and habits (e.g. teleworking, online learning and e-health) on a large scale. Lessons learned may be used as a basis to promote sustainable behavioural change in future.

Due to changed economic and social conditions and policy priorities, the crisis presents policy-makers with an opportunity to implement real reform. On the other hand, the uncertainty caused by the crisis could also make governments less willing to implement transitions, as the uncertain outcome of transitions further increases uncertainty.

This toolkit, although explicitly aimed at cohesion policy, could also be used to steer new recovery instruments towards supporting sustainability transitions.

3. Developing a vision of a sustainable future

Systemic sustainability issues cannot be addressed through incremental change, merely focused on making existing systems more efficient. Instead, they require the transformation of those socio-economic systems that drive environmental degradation (e.g. food systems, energy systems, mobility systems). Such a transformation needs to be driven by a strategy that is oriented towards a vision with ambitious long-term goals and targets.

As a first step in this process, we need a thorough understanding of the systems that need to be transformed. System mapping can help uncover how these systems drive environmental degradation, and how they may resist change. Recent EU policy demonstrated a shift towards systemic transformation, rather than adopting targets focused on environmental issues alone, for instance in the Energy Union, the Circular Economy Action Plan or the Farm to Fork Strategy.

After system mapping, visioning and strategy development can take place. This consists of formulating a vision, operationalising it as a set of goals, identifying pathways to achieve these goals, and translating these pathways into a consistent set of actions.

Not all Member States and regions will have the same starting point in this process. Some regions can rely on already developed visions (sometimes at national level) setting out desirable medium or long-term futures and corresponding goals and targets. Others do not have such comprehensive visions. In those cases, the national and regional development plans that are made for the purpose of accessing cohesion policy funds can be used in the strategic visioning exercise of sustainability transitions. Managing Authorities can also consider using cohesion policy funding to develop those strategies and planning frameworks that are not yet in place, such as for climate change adaptation or circular economy.

Good practice principles

1. **Map provisioning systems** (e.g. food system, energy system, mobility system):

   a. Delineate the system boundaries in terms of space, time and themes (e.g. CO_2 emissions from mobility in a city over the past few decades);

   b. Draw up the elements and drivers of the need that the system is satisfying (e.g. mobility required to visit shops, travel to work, leisure, etc.) and the context which influences this need (e.g. urban sprawl);

   c. Draw up the technologies and modes available to satisfy the needs, including regime solutions (e.g. private car with an internal combustion engine, electric vehicles, public bus transport, bicycle, etc.) and niche solutions (e.g. car sharing);

   d. Draw up the regime elements that influence available choices related to satisfying needs, especially cultural norms, behavioural practices, infrastructures, legislation and policy, market rules, etc. (e.g. cars as status symbols, fuel taxation, low emission zones, road infrastructure, parking infrastructure, etc.), including existing structures and potential changes in these structures;

   e. Map impacts of regime and niche technologies and modes on the economy, society and environment (e.g. jobs, emissions to air and water, resource use);

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f. Map actors with a stake in the regime or niche solutions, including their interests, types and levels of resources for advancing these interests, links with other actors, and capabilities to influence the legislative and policy context, public discourse, technological development, and other conditions which frame transition processes;

g. Map the wider landscape and megatrends which serves as the backdrop (e.g. world fuel prices, geopolitics, global environmental agreements, artificial intelligence) to the regime and may impact the regime;

h. Identify external forces and pressures which impact provisioning systems (e.g. megatrends and disruptive forces).

2. Develop a **vision** by implementing a participatory process to formulate aspirations (e.g. fair, accessible, sustainable, innovative, safe, healthy, just, equitable, resilient, prosperous) for relevant provisioning systems.

3. Translate visions into **goals and targets** and identify possible **pathways** using a combination of participatory processes, analytical methods (e.g. modelling) and political processes. Take into account:

a. available technological, behavioural and other solutions;

b. regional potential;

c. potential resistance to change;

d. megatrends

4. Formulate a **strategy and action plan** through a participative and political process, taking into account analytical inputs. Include details on the following elements:
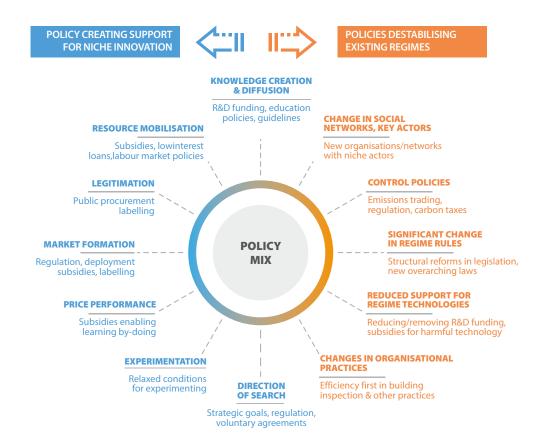
a. coordination and organisational structures;

b. overall budget and human resources needed for implementation and sources of funding;

c. main policy instruments to be used;

d. specific actions to be implemented including financial resources required, responsible department, person or organisation and timing;

e. implement a monitoring and review process.

4. Governing transitions

For sustainability transitions to lead to the desired long-term goals in a complex and uncertain landscape, they should be supported by proactive governance. This requires a broad set of institutions, stakeholders and policies.

The relevant policy context consists of innovation policy instruments, environmental and sectoral policy instruments to support deployment of new solutions and to avoid lock-in, policy instruments for a just transition, including labour market, social and educational interventions, business development and redistributional policies, and communication instruments to increase support for the transition. The figure below illustrates the complexity of such policy mixes.

Policy mixes for sustainability transitions[5]

POLICY CREATING SUPPORT FOR NICHE INNOVATION

POLICIES DESTABILISING EXISTING REGIMES

KNOWLEDGE CREATION & DIFFUSION
R&D funding, education policies, guidelines

CHANGE IN SOCIAL NETWORKS, KEY ACTORS
New organisations/networks with niche actors

RESOURCE MOBILISATION
Subsidies, lowinterest loans,labour market policies

CONTROL POLICIES
Emissions trading, regulation, carbon taxes

LEGITIMATION
Public procurement labelling

SIGNIFICANT CHANGE IN REGIME RULES
Structural reforms in legislation, new overarching laws

MARKET FORMATION
Regulation, deployment subsidies, labelling

POLICY MIX

REDUCED SUPPORT FOR REGIME TECHNOLOGIES
Reducing/removing R&D funding, subsidies for harmful technology

PRICE PERFORMANCE
Subsidies enabling learning by-doing

CHANGES IN ORGANISATIONAL PRACTICES
Efficiency first in building inspection & other practices

EXPERIMENTATION
Relaxed conditions for experimenting

DIRECTION OF SEARCH
Strategic goals, regulation, voluntary agreements

Managing Authorities will, at best, have a limited control over these policies, but cohesion policy can still be a catalyst of change by addressing some of the challenges of sustainability transitions:

» Since the impacts of systemic change cannot be fully predicted, the governance of transitions needs to **recognise uncertainty and build reflection into the governance process**. Cohesion policy provides review through new programming every seven years and the mid-term review. Even after the adoption of Partnership Agreement and Programmes, changes can be addressed throughout implementation of cohesion policy.

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[5] Kivimaa, P. (2019). Building sustainability transitions. In OECD seminar series: Managing Environmental and Energy Transitions for Regions and Cities. Seminar 1: Managing the Transition to a Climate-Neutral Economy. 17 May 2019, Paris.

» Due to the complexity of transitions and the **need for innovative approaches**, a number of initiatives are bound to fail. Therefore, it is important to provide scope for experimentation (such as proposed, for instance, through the European Urban Initiative).

» It is important to **avoid lock-in**, i.e. a development of technologies, behaviours, infrastructures, etc. which will prevent sustainability transitions, or significantly increase the cost of such a transition. Phasing-out unsustainable technologies, products, practices and norms is as important as investing in sustainable ones. Focusing cohesion policy spending on transformative technologies and solutions and avoiding spending in unsustainable ones can support the processes of phasing out and phasing in.

» Governments cannot implement a transition without the **broad involvement of stakeholders**. There is also a need to work across levels of government, territorial scales, policy domains and sectoral boundaries. Cohesion policy needs to support actors who can support transitions, both through capacity-building and by supporting relevant projects and initiatives. Instead of involving a representative set of stakeholders, the emphasis should be on the potential of actors to contribute positively to transitions.

» It may be necessary to **address resistance to change** as transitions will by definition be disruptive for certain actors, such as groups invested in unsustainable technologies and practices. Cohesion policy funding can cushion the impact of those affected, contribute to capacity-building of transformative actors and support innovation and deployment of sustainable solutions.

» A **just transition** is needed to ensure that the transition does not pose a disproportionate burden to certain groups or territories. The Just Transition Mechanism and Just Transition Fund can support this objective.

Good practice principles

1. The **existing policy mix** that supports or hinders sustainability transitions needs to be mapped. The assessment should cover all three main processes involved in a sustainability transitions (innovation, phase-in, and phase-out and just transition) and their associated policy instruments (policy instruments supporting innovation, environmental and sectoral policy instruments to support deployment of new technologies and solutions and avoid lock-in, and policy instruments for a just transition, see also sections 5-7).

The following questions need to be addressed:

    a. What broad changes in social-economic-technological systems are needed to support sustainability transitions?

    b. Which of these changes need to take place within the programming period?

    c. Which actors are responsible for making these changes and how does their behaviour need to change?

    d. What policies can be used to affect the behaviour of these actors?

    e. How can resistance to change be addressed?

2. The existing policy mix needs to be assessed for possible barriers to sustainability transitions.

    a. What solutions need to be implemented according to strategies and action plans for sustainability transitions?

b. Are new solutions available to replace existing unsustainable solutions, or is support for innovation needed?

c. Are sustainable solutions present at adequate scale or are policies required to deploy these solutions?

d. Are current technologies and solutions supported by harmful subsidies? Are social, economic, cultural, network and infrastructure dependencies creating lock-in by conferring advantages to existing solutions? What measures are needed to level the playing field between new sustainable solutions and existing unsustainable ones?

e. Are policies in place to address potential negative social impacts and ensure a just transition?

3. The **role of cohesion policy funding in the policy mix** to implement sustainability transitions needs to be determined. A series of questions needs to be asked to determine what role cohesion policy can play:

a. Is public funding required to achieve the desired outcome?

b. If public funding is required, is support from cohesion policy required or are other funding instruments available and sufficient?

c. What form should support cohesion policy support take?

d. What environmental criteria should be satisfied?

e. What should be done at the national level and what should be done at regional or local level? Could certain actions be better done in cooperation at transnational or cross-border level?

4. There is a need to implement procedures and institutions to promote **adaptive governance and policy learning**, to build reflection into a process for which the outcome is inherently difficult to predict. This involves implementing feedback loops to ensure learning, and making adjustments as necessary once lessons from implementation are drawn.

5. Supporting innovation

Transitions become feasible when alternative solutions for a sustainable future are made available. This is why supporting innovation is central in the transition to a climate neutral and circular economy.

As explained before, in order to address systemic environmental challenges, solutions must depart significantly from current technologies and practices. Therefore, radical innovation should be seriously considered. This can involve technological innovation, social innovation, business model innovation and policy innovation, as illustrated in the table below.

Examples of innovation for sustainability transitions[6]

Domain	Focus	Examples
Technological innovation	Aimed at developing new products and processes and significant technological changes of products and processes.	» Mobility: battery electric vehicles, electric bikes, alternative fuels, autonomous vehicles » Food: permaculture, no-tillage farming, plant-based meat and dairy products, genetic modification » Energy: renewable electricity, heat pumps, passive houses, whole-house retrofitting, smart meters. » Cross-cutting technological innovation includes e.g. digital technologies (artificial intelligence, big data and internet of things).
Social innovation	Aimed at identifying new social practices that aim to meet social needs in a different way than the existing solutions.	» Mobility: car sharing, modal shift, teleconferencing, teleworking, internet retail » Food: alternative food networks, organic food, dietary change, urban farming, food councils » Energy: decentralised energy production ('prosumers'), community energy, energy cafes » Cross-cutting society-wide social innovations include energy democracy, the sharing economy, the repair economy, localism and crowdsourcing.
Business model innovation	Aimed at making changes to an organization's value proposition and to its underlying operating model through changing the rationale of how an organisation creates, delivers and captures value in economic, social, cultural or other contexts	» Mobility: mobility services, car sharing, remanufacturing vehicles, bike sharing » Food: alternative food networks, organic food » Energy: energy service companies, back-up capacity, vehicle-to-grid electricity provision » Cross-cutting digital innovation leading to new business models, innovation in finance (fintech) that include various forms of crowdfunding such as peer to peer loans, donation based crowdfunding and community shares.
Policy innovation	Novel processes, tools and practices used for policy design, development and implementation that result in better problem solving of complex issues	» Systems thinking, strategic foresight, focus on behavioural insights, experimental design, digitally enabled approach, embracing complexity, focus on citizens and shaping new alliances, emphasis on impacts.

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[6] See https://ec.europa.eu/regional_policy/en/information/publications/reports/2020/report-on-a-toolkit-for-national-and-regional-decision-makers-supporting-sustainability-transitions-under-the-european-green-deal-with-cohesion-policy

The perspective of sustainability transitions frames innovation as a contributor to transformative change. However, as regions serve as the locations from which new solutions emerge (see section 2), innovation should also build on regional potential and development needs. In the context of cohesion policy, Research and Innovation Strategies for Smart Specialisation (RIS3) continue to serve as the framework for funding innovation activities, within the framework of Policy Objective 1 and will play a major part in finding innovative solutions to societal challenges linked to the green transition.

In new areas of activity, policy-makers need to ensure that protected niches are available not only to incumbents, but also to new entrants, entrepreneurs and peripheral actors. Protecting niches from mainstream economic, infrastructural, consumer preference related and other selection pressures, can involve shielding, nurturing and empowering.

» Shielding innovation involves protecting it from mainstream economic, infrastructural, consumer preference related and other selection pressures. Regions and cities could provide protected 'spaces' in which experiments may take place», with examples of such as transition towns and green cluster initiatives.

» Nurturing involves assisting learning processes, articulating expectations, and helping networking processes, to support the development of the path-breaking innovation.

» Empowering is about changing mainstream selection environments, making them more amenable for niche innovations. This involves policy-makers who have sufficient power to open up the space for new entrants at the possible detriment of existing regime actors.

Experimentation is key to innovation, as the success of the innovation process is uncertain, and all outcomes of radical innovations cannot be foreseen.

Good practice principles

1. Consider innovation needs for **transformative change** when developing RIS3:

    a. Analysing regional context and innovation potential: identify solutions critical for unlocking or accelerating the transition of each key system which are in line with regional innovation potentials;

    b. Developing a shared vision for the future of the region by setting of collective priorities for transformative change, in line with visions and strategies;

    c. Setting out the RIS3 process and governance, ensuring participation and ownership by ensuring protected niches are available:

       i. shielding innovation from mainstream economic, infrastructural, consumer preferences by creating protected spaces in cities and regions;

       ii. nurturing innovation by assisting learning processes, articulating expectations, and helping networking processes;

       iii. empowering innovation by reframing the rules of the game, and reform institutions that influence prevailing performance criteria

    d. Identifying innovation priorities in line with system level transition agenda across all targets, by assessing the best options, mapping their impacts and ranking them accordingly;

    e. Defining a coherent policy mix, roadmap and action plan.

2. During implementation of RIS3, **experimentation** (testing of technical performance, markets, consumer preference and societal acceptance, probing and learning) needs to be ensured, together with 'open innovation' which targets not only businesses, academia industry but also involves users, civil society, communities and other actors as active participants.

6. Supporting deployment and phasing out

Scaling up is required to deploy innovative solutions into the mainstream and to replace existing unsustainable solutions on a large scale.

Deploying new technologies and practices requires the use of a mix of policy instruments that can confer advantages to sustainable solutions and remove systemic advantages enjoyed by current technologies. Many of these policy instruments are, however, not in the hand of Managing Authorities. Cohesion policy needs to complement other policy instruments and should be used when other policy instruments are not available or sufficient to ensure desirable outcomes. Because of the importance of this broader policy mix, close cooperation between government institutions is required to ensure that the use of EU funding is efficient and effective.

Among the systemic advantages enjoyed by incumbent technologies are environmentally harmful subsidies. This phase-out involves the exclusion from EU funding of operations that favour the status quo and risk lock-in. In addition, the phase-out process requires an assessment of broader social, economic, cultural, network, infrastructure and regulatory elements that hinder the deployment of new technologies.

Apart from coordinating with other EU and national sources, there should also be a significant contribution from private finance. Government subsidies should only be made available to the extent of social return. Financial instruments should be used to the extent possible. For new technologies, the role of risk mitigation instruments is vital.

However, public funding for deployment has become even more relevant in light of the economic crisis triggered by the coronavirus pandemic, as it is likely that private finance will be less accessible. The Recovery Plan for Europe is aimed at ensuring that green investments drive the economic recovery, providing jobs and stimulating economic growth. Additional national funding can be made available as a result of the suspension of EU budgetary rules. In the energy sector the competitiveness of renewable energy and the profitability of energy efficiency measures is hindered by low fossil fuel prices resulting from the crisis, further highlighting the important role of public funding in incentivising these technologies.

Good practice principles

1. Develop appropriate policy frameworks to address non-financial barriers to investment in sustainable solutions (e.g. information barriers, infrastructure barriers, harmful subsidies to incumbents, market access rules, etc.) for each provisioning system (e.g. food, transport, energy);

2. Develop appropriate national instruments to address financial barriers to deployment of sustainable solutions (e.g. high investment costs, high risk, etc.) for relevant provisioning systems;

3. Identify gaps in funding required to reach low carbon, circular economy and biodiversity targets for each provisioning system;

4. Identify and develop appropriate modes of financing to fill gaps using cohesion policy funding, taking into consideration technological maturity and potential for revenue generation or cost reduction.

7. Supporting a just transition

A just transition is the notion that the transition process to a greener economy has to be inclusive of all stakeholders, and that the unavoidable employment and social costs of the transition have to be shared by all. In the context of the European Green Deal, the transition to a climate neutral and circular economy can only be successful when all regions can benefit from the transformation and no one is left behind. The crisis caused by the coronavirus pandemic will only exacerbate the challenges posed by a just transition and cohesion policy can therefore play a key role.

The Commission proposed a Just Transition Mechanism, including a Just Transition Fund, to provide targeted help to those regions most affected by the transition, aimed at economic diversification and reskilling. But the broader concept of a just and fair transition also needs to be integrated in the programming of the other cohesion policy funds, including into innovation and deployment of new solutions. Policy instruments for a just transition can include industrial policy instruments (e.g. support for the development of new business models and support for diversification of activities), wide-reaching and creative labour adjustment programmes (e.g. reskilling) and robust social protection or 'safety nets'.

Cohesion policy funding needs to be oriented by territorial just transition plans (TJTPs), which are required to access support from the Just Transition Fund. Funding needs to focus on regions negatively impacted by the transition, and needs to focus on the integrated development of these regions, including through funding of reskilling and labour market interventions, local investments in low-carbon growth sectors and technologies, research and innovation strategies, local economic diversification plans, targeted infrastructure investments, and recultivation of local environments.

More broadly, the concept of a just transition needs to be integrated across all transition activities, including into innovation and deployment of new solutions. For instance, upscaling of renewable energy investments can include small-scale community-owned projects, which affects the distribution of benefits to those communities.

Good practice principles

Preparation of a TJTP: is a suitable tool for bringing together different elements of the overall policy framework into a consistent approach. The steps of developing a TJTP for a climate neutral economy are the following:

1. Identify the territories most negatively affected by the transition process based on the National Energy and Climate Plan, long term strategy or other relevant strategic documents related to e.g. biodiversity or the circular economy. These territories may be cities, regions, but also whole Member States for impacts which are not territorially differentiated. The focus of cohesion policy in this case is on regions;

2. Assess transition challenges based on the social, economic, and environmental impact of the transition to a climate neutral, green and circular economy. Identify the number of affected jobs and job losses as well as other social impacts, the development needs and objectives linked to the transformation which are driven by e.g. closure of greenhouse gas-intensive activities in those territories;

3. Develop a transition strategy, ensuring consistency with other national, regional or territorial visions and strategies and plans, and taking into account regional potential and megatrends;

4. Identify the necessary policy tools to implement a just transition, including integration of just transition aspects into all relevant policies;

5. Identify funding needs, including support from the Just Transition Fund and Mechanism, ERDF, Cohesion Fund and national funding instruments as well as private sector funding, to address the social, economic and environmental impacts which cannot be addressed with other instruments;

6. Develop an action plan to implement the strategy, define tasks and deadlines;

7. Identify governance needs including monitoring and evaluation and responsible bodies.

8. Territorial approaches

Regions and territories within regions differ in terms of their economic, social and environmental starting points. Regions also differ in terms of their challenges and local development potentials and will therefore be affected differently by transitions and will themselves need to implement support in different ways.

Managing Authorities need to guide regional and local transitions, but at the same time ensure sufficient flexibility for taking into account local and regional circumstances. Integrated territorial strategies are particularly relevant to delivering sustainability transitions at the local level, as they have a strategic and participatory approach, deliver interventions in an integrated way and rely on local knowledge and capacities.

Cities, functional urban-rural areas as well as rural areas and coal regions in particular require specific approaches, which cohesion policy can cater for.

Urban areas concentrate people and economic activity. They are also disproportionately the sites of the positive impacts of globalisation such as immigration of highly skilled workers, although they may lose out if they are not able to take advantage of global trends. The winners of the increasingly multipolar world are generally cities, but not all cities benefit. At the same time, a concentration of negative environmental impacts is found in cities (including congestion, pollution and high pressure on natural resources), which provides strong rationale for sustainability transitions. This is why cities have often been the object of study in this field, and why a number of manuals and guidance documents are available for implementing urban sustainability transitions. In particular, the novel instrument of cohesion policy – the European Urban Initiative will be an important tool for providing support for implementing sustainability transitions due to its focus on urban innovation and experimentation as well as on capacity and knowledge building and sharing for improved urban policies.

Rural areas often face the multiple challenges of an ageing (and sometimes shrinking) population, lower economic performance, lower levels of human resources, lower access to certain markets or services and higher poverty rates. The coronavirus pandemic affect farmers, business and communities in rural areas in a particular way. Nevertheless, rural areas can identify their own place-specific transition pathways that build on local strengths, such as a high share of bio-based sectors and ecosystem services. In addition, certain participatory and community-based approaches have a significant potential in rural areas, due to a higher share of personal connections. This can help ensure that transitions are not seen as forced on rural areas from the outside, but are built on local initiatives and place-based development concepts and potentials.

The interaction of rural and urban areas needs therefore to be taken into account in transitions with a focus on functional areas, as rural and urban areas are economically, socially, and environmentally interlinked spaces. On the one hand, rural areas often experience the negative externalities of urban demand which is outside their control. On the other hand, rural areas are necessary for urban areas to function. Urban areas rely on rural areas to meet their demands for ecosystem services such as food, water, energy, raw materials, etc.

Specific territories such as **coal regions** are on the frontline of the transition to a climate neutral economy in the EU as they are the regions where the potentially negative social and economic impacts of the transition will first be felt, including potential job losses in coal-related activities and downstream sectors. The end to coal, whether in a planned way or as a result of rising carbon prices, is becoming the first large-scale test in the phase-out dimension of sustainability transitions in Europe. The challenge of navigating different interests within the context of transitions in coal regions and bringing stakeholders on board to support change, or as a minimum not to oppose it, will serve as a

reference point for future phase-outs as part of sustainability transitions. Phasing-out coal is both a national challenge related to decarbonisation, energy security and energy prices, and a regional challenge related to employment, livelihoods and economic restructuring. The EU has recognised the significance of this challenge and is supporting transitions through the Platform on Coal and Carbon-Intensive Regions and more broadly through the JTF.

Cooperation can play a crucial role in supporting sustainability transitions, allowing to jointly address many of the challenges and to jointly benefit from the opportunities. As an integral part of cohesion policy, Interreg and the EU macro-regional strategies provide a framework for the implementation of joint actions and policy exchanges between national, regional and local actors from different Member States as well as neighbouring countries.

9. Mainstreaming sustainability into programme and projects

The final dimension of this toolkit focuses on the horizontal integration of environmental considerations across cohesion policy investments, including those that have not been specifically referred to in previous chapters. To reinforce the support for sustainability transitions, climate change, resource use and biodiversity related considerations should be taken into account at all stages and levels of cohesion policy implementation, in programmes and in projects.

Such a 'mainstreaming' is in line with the principle of sustainable development, a core aim of the EU Treaties already prominent in the 2014-2020 cohesion policy, and with the more recent 'do no harm' principle of the European Green Deal.

Important instruments to enhance the environmental performance of cohesion policy include earmarking of funds and tracking of climate spending, climate proofing of infrastructure, project selection and exclusion criteria, monitoring of environmental outputs and results, and partnership and technical assistance.

Managing Authorities can go beyond the regulatory requirements and aim for more ambition with regard to sustainability mainstreaming. This can contribute to the avoidance of negative impacts, also for those investments that are not primarily aimed at innovation, phase-in of sustainable alternatives, or reconfiguration, which were central in the previous parts of this toolkit.

Good practice principles

Increasing funding for environment and climate:

—   meeting and exceeding thematic concentration targets;
—   meeting and exceeding earmarking targets for PO2;
—   use of green public procurement.

Limiting negative environmental impacts of funding:

—   strategic environmental assessment of programmes;
—   environmental impact assessment of all projects with potentially negative impacts;
—   respecting environmental hierarchies in programming and calls for projects;
—   applying climate and biodiversity proofing measures to projects through selection criteria;
—   limiting or avoiding spending on environmentally harmful options when alternative are available, applying negative lists for investments which are excluded from funding;
—   applying tools to assess net impact of programmes (e.g. NECATER or CO2MPARE) and compensating for negative impacts;
—   integrating environmental considerations in project selection criteria.

Partnerships and institutions:

—   involving environmental partners as well as change agents, supporters of change and connectors in programme preparation and implementation;
—   providing technical assistance to environmental and social partners;
—   creating dedicated institutions to assist environmentally sound programme implementation and project development (e.g. for implementing EIA, SEA, developing project selection criteria, etc.).

Monitoring of environmental impacts and programme contribution to sustainability transitions:

— assessing positive environmental impacts of interventions in the field of environment and climate (PO2);
— assessing negative environmental impacts of interventions;
— assessing programme contribution to sustainability transitions through relevant indicators;
— applying flexible and iterative evaluation plans, ensuring feedback into decision making and applying adaptive governance.

10. In summary: a transformative agenda adapted to different starting points

Key principles to translate the European Green Deal into the future cohesion policy programmes:

> Develop a vision of a sustainable future, and formulate pathways
> Put in place a system of proactive governance to manage the transition
> Support innovation to develop sustainable solutions
> Support deployment of innovation, and phase-out of unsustainable practices
> Ensure a just transition so that the transformation benefits everyone
> Apply specific territorial approaches (e.g. cities, rural areas, coal regions)
> Mainstream sustainability into programmes and projects

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