



Fast forwarding the green transition in just and socially responsible way – cases of industry, energy and transport sectors

TRAINING PROGRAMME



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PREFACE

This training program contains the training materials for the three European Level Workshops as part of the GREENET project co-financed by the European Union. The objective of the training course is to strengthen the capacities of cross-sectoral social partners in the industry, energy, and transport sectors and to impact European social dialogue to ensure that the transition to carbon neutrality in the European Union is socially fair and affordable for all European citizens and workers.

The three European Level Workshops, each lasting two days, address specific topics, such as:

- The first European Level Workshop in Krakow focuses on Green Deal legislation.
- The second European Level Workshop online focuses on workers' participation in Green Deal policies.
- The third European Level Workshop online focuses on information and consultation processes.

The instructional materials provide comprehensive information on the European Green Deal and the various policies that make up the strategy, and the policy documents are discussed.

But let's start from the beginning.

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1. Common Fears

The European Green Deal is an ambitious plan aimed at making the European Union's economy sustainable by turning climate and environmental challenges into opportunities. However, such transformative initiatives can evoke various fears and concerns among people. Here are some of the common fears and the corresponding questions that can help address and potentially overcome these fears:

Economic Impact

Job Loss: Fear that green policies will lead to job losses in traditional sectors of economy, like energy, transport and industry.

Economic Costs: Concerns about the high costs of transitioning to green technologies and renewable energy sources.

Energy Security

Reliability of Renewable Energy: Worries that renewable energy sources like wind and solar are not reliable enough to meet all energy demands.

Dependence on Technology: Fear that reliance on new technologies might make energy systems more vulnerable to disruptions.

Social Inequality

Affordability: Concerns that the costs of green policies will disproportionately affect low-income households, making energy and transportation more expensive.

Access to Benefits: Fear that the benefits of green initiatives, such as cleaner air and better public transport, will not be equitably distributed.

Implementation Challenges

Feasibility: Doubts about whether the goals of the Green Deal are realistic and achievable within the proposed timeframes.

Bureaucracy and Regulation: Concerns about increased regulation and bureaucracy stifling innovation and growth.

Personal Impact

Lifestyle Changes: Fear that people will have to make significant lifestyle changes, such as reducing car usage or altering diets, which might be inconvenient or undesirable.

Uncertainty: General fear of change and the unknown, particularly how the Green Deal might alter everyday life.

Questions: Do you think the above concerns are well defined? Can you see others? Which of these seem most important to you? What information do people need to answer the questions that arise? What is the role of workers' representatives (trade unions) in finding answers?

Please make a note of your reflections before the training - you will be able to share them during our work together.

1.1 Questions to Overcome Fears

It is worth trying to answer some of the more specific questions (although we are aware that we are still operating at a high level of generality), as follows:

Economic Impact:

- What specific job creation initiatives are included in the Green Deal to offset potential job losses in traditional industries?
- How will the Green Deal support businesses and industries in transitioning to greener practices without incurring prohibitive costs?

Energy Security:

- What measures are being taken to ensure that renewable energy sources are reliable and sufficient to meet energy demands?

- How does the Green Deal plan to safeguard energy systems against potential disruptions caused by new technologies?

Social Inequality:

- How will the Green Deal ensure that the transition to a green economy is fair and does not disproportionately burden low-income households?
- What programs are in place to guarantee that all communities benefit from improved environmental and living conditions?

Implementation Challenges:

- What steps are being taken to ensure that the goals of the Green Deal are realistic and achievable?
- How will the Green Deal balance the need for regulation with the need to encourage innovation and economic growth?

Personal Impact:

- What strategies are in place to help individuals and families adapt to the lifestyle changes required by the Green Deal?
- How will the Green Deal address the uncertainties and fears people have about the changes it will bring to their everyday lives?

Please analyze the above questions and try to relate them to the specific sector you represent? What reflections would you like to share during the meeting? What are the issues that dominate your environment?

By addressing these questions, policymakers and advocates can help alleviate fears, clarify misconceptions, and build public support for the Green Deal. Engaging with communities, providing clear and transparent information, and demonstrating the tangible benefits of green policies are essential steps in overcoming these fears.

2. Does only the EU take action to mitigate climate change?

In many discussions and debates it is raised up that only the EU (or Europe more broadly) is taking action on climate change. This is not to make you an expert on the subject, but it is worth quoting some basic information to show that this is an erroneous assumption.

Decarbonization measures are being implemented globally as countries strive to reduce greenhouse gas emissions and transition to more sustainable energy systems. Here's an overview of significant decarbonization efforts outside the European Union:

2.1 United States

Clean Energy Initiatives:

Investment in Renewable Energy: Significant investments in solar, wind, and other renewable energy sources.

Grid Modernization: Upgrading the power grid to support renewable energy integration and improve energy efficiency.

Clean Energy Standard (CES): Proposals for a national CES to mandate a certain percentage of electricity come from renewable sources.

Regulatory Measures:

Emission Regulations: Tightening emissions standards for power plants and vehicles.

Methane Emissions: Regulations to reduce methane emissions from oil and gas operations.

Innovation and Research:

Advanced Research Projects Agency-Energy (ARPA-E): Funding for innovative energy technologies.

Carbon Capture and Storage (CCS): Research and development in CCS technologies to capture and store carbon emissions from industrial sources.

2.2 China

Renewable Energy Expansion:

Solar and Wind Power: Massive investment in solar and wind farms, making China a world leader in renewable energy capacity.

Hydropower: Continued development of large hydropower projects.

Coal Reduction:

Coal Cap: Policies to cap coal consumption and increase the share of non-fossil fuels in the energy mix.

Coal Plant Retirement: Phasing out older, less efficient coal-fired power plants.

Electric Vehicles (EVs):

EV Incentives: Subsidies and incentives to promote the adoption of electric vehicles.

Battery Technology: Investment in battery production and recycling technologies.

2.3 India

Renewable Energy Targets:

National Solar Mission: Ambitious targets to increase solar power capacity, aiming for 100 GW by 2022.

Wind Energy: Significant investment in wind power projects.

Energy Efficiency:

Energy Conservation Building Code (ECBC): Standards for energy efficiency in buildings.

LED Lighting: Large-scale deployment of energy-efficient LED lighting.

Sustainable Transportation:

EV Promotion: Policies and incentives to encourage the use of electric vehicles.

Public Transport: Investment in modernizing and expanding public transportation systems.

2.4 Japan

Renewable Energy Development:

Offshore Wind: Investment in offshore wind projects.

Solar Power: Continued support for solar energy installations.

Nuclear Energy:

Nuclear Restarts: Gradual restart of nuclear reactors with enhanced safety measures post-Fukushima.

Hydrogen Economy:

Hydrogen Strategy: Development of hydrogen production, storage, and utilization technologies as part of a broader hydrogen economy strategy.

2.5 Canada

Carbon Pricing:

Carbon Tax: Implementation of a national carbon tax to incentivize emission reductions.

Cap-and-Trade: Regional cap-and-trade systems, such as in Quebec.

Clean Energy Investment:

Renewable Energy: Investments in wind, solar, and hydroelectric projects.

Smart Grid Technology: Development of smart grid technologies to enhance energy efficiency and integration of renewables.

Carbon Capture and Utilization:

CCS Projects: Deployment of carbon capture and storage projects, particularly in the oil and gas sector.

2.6 Australia

Renewable Energy Targets:

Large-scale Renewable Projects: Investment in large-scale solar and wind projects.

Battery Storage: Development of large battery storage facilities to support renewable energy.

Energy Efficiency:

Building Standards: Implementation of energy efficiency standards for buildings.

Appliance Efficiency: Regulations to improve the energy efficiency of household appliances.

Carbon Farming:

Emissions Reduction Fund: Initiatives to reduce emissions through improved agricultural practices and land management.

2.7 Brazil

Renewable Energy Expansion:

Hydropower: Significant reliance on hydropower, accounting for a large portion of the electricity mix.

Wind and Solar: Rapid growth in wind and solar energy capacity.

Bioenergy:

Biofuels: Extensive use of biofuels, particularly ethanol from sugarcane, for transportation.

Forest Conservation:

Deforestation Policies: Efforts to reduce deforestation in the Amazon and other critical areas.

2.8 South Korea

Green New Deal:

Renewable Energy Investment: Significant investment in renewable energy projects as part of a broader Green New Deal.

Energy Transition: Phasing out coal and increasing the share of renewables and nuclear energy.

Smart Cities:

Urban Sustainability: Development of smart cities with integrated energy, transport, and waste management systems.

Electric Vehicles:

EV Infrastructure: Expansion of EV charging infrastructure and incentives for EV adoption.

These measures reflect a global commitment to reducing carbon emissions and transitioning to sustainable energy systems, despite differing national contexts and strategies.

3. Key Principles of Just Transition

"Just Transition" is a framework for ensuring that the shift to a sustainable, low-carbon economy is fair and inclusive, addressing the social and economic impacts of decarbonization. This concept emphasizes the need to consider the well-being of workers, communities, and other stakeholders affected by the transition from fossil fuels to renewable energy and other green technologies.

A concept that will run throughout the training is Just Transition. We need to look at it:

Inclusive Decision-Making:

- Ensuring that all stakeholders, including workers, communities, businesses, and governments, have a voice in planning and implementing transition strategies.

Job Creation and Economic Diversification:

- Promoting the creation of quality green jobs and diversifying economies to reduce dependence on industries that contribute to greenhouse gas emissions.

Social Protection and Support:

- Providing social protection measures, such as unemployment benefits, retraining programs, and pension schemes, to support workers and communities during the transition period.

Education and Skills Development:

- Investing in education and training programs to equip workers with the skills needed for new green jobs and industries.

Equity and Justice:

- Addressing inequalities by ensuring that the benefits and costs of the transition are distributed fairly, with particular attention to vulnerable and marginalized groups.

Environmental Sustainability:

- Aligning economic activities with environmental sustainability goals to protect ecosystems and biodiversity.

3.1 The ILO's Definition and Framework for Just Transition

The International Labour Organization (ILO) defines Just Transition as a framework for a fair and inclusive shift to a sustainable economy. The ILO emphasizes that this transition should create decent work opportunities, ensure social inclusion, and reduce poverty.

The ILO's approach to Just Transition is based on the following principles, as outlined in the "Guidelines for a Just Transition towards Environmentally Sustainable Economies and Societies for All":

1. Social Dialogue:

- Fostering dialogue among governments, employers, and workers to develop policies and strategies that facilitate a smooth and fair transition.

2. Macroeconomic Policies:

- Implementing macroeconomic policies that support sustainable development and job creation in green sectors.

3. Enterprise Policies:

- Encouraging businesses to adopt sustainable practices and technologies while ensuring decent work conditions.

4. Skills Development:

- Providing education and training to prepare the workforce for new opportunities in the green economy.

5. Occupational Safety and Health:

- Ensuring that new green jobs are safe and healthy, with appropriate regulations and standards.

6. Social Protection:

- Establishing robust social protection systems to mitigate the social and economic impacts of the transition on workers and communities.

7. Rights and Standards:

- Upholding labor rights and standards, including freedom of association and collective bargaining, throughout the transition process.

8. Local and Regional Development:

- Supporting local and regional development initiatives to diversify economies and create sustainable livelihoods.

Implementation Examples:

- **Coal Transition:** Supporting coal-dependent regions with retraining programs for workers, economic diversification initiatives, and investments in renewable energy projects.

- **Automotive Industry:** Assisting automotive workers with skills development programs to transition to jobs in electric vehicle manufacturing and maintenance.

- **Agriculture:** Promoting sustainable agricultural practices that enhance productivity while reducing environmental impact, along with providing support to farmers to adapt to new methods.

By focusing on these principles, the ILO aims to ensure that the transition to a green economy does not disproportionately burden workers and communities, but rather provides opportunities for inclusive growth and development.

Remember that the Green Deal is not just about closing mines. It is a process of transforming the whole economy. Nor can we escape the statement that it is a process that will transform our societies.

3.2 Key stakeholders and social dialogue in Just Transition

The concept of Just Transition assumes that the transition will be based on social dialogue and an inclusive decision-making, ensuring that all stakeholders participate in planning and implementing transition strategies. Key stakeholders in Just Transitions include:

1. Employees and trade unions

Employees' organizations advocate for decent work, social protection, and fair transitions for workers affected by the shift to a green economy. They engage in collective bargaining and social dialogue to ensure workers' rights and interests are protected during the transition.

2. Governments and regulatory bodies, including national and local governments

They set policies, provide regulatory frameworks, and ensure the implementation of international agreements. They also create foster conditions for social dialogue by involving various stakeholders in policy discussions and decision-making processes.

3. Civil society organizations and communities

Environmental and social justice groups, local communities groups, and other local stakeholders provide valuable insights and advocacy to ensure that environmental and social justice are integral to the transition. Their participation helps to address the concerns of communities most affected by climate change and environmental policies.

4. Businesses employers' organizations

They represent business interests, facilitating the adoption of green technologies and practices within industries. They participate in social dialogue to balance economic growth with environmental sustainability and ensure that businesses are supported during the transition.

5. Social dialogue institutions (SDI)

SDIs, which include various forms of negotiation and consultation, ensure that the voices of all relevant parties, including vulnerable groups, are heard and considered in the decision-making process.

Social partners include employers' organizations, trade unions, and other representative groups involved in labor relations and social dialogue. Their involvement is vital to ensure that the transition to a green economy is just, inclusive, and beneficial for all segments of society. Here are the key aspects and challenges related to their involvement:

Key roles and contributions:

Inclusive policymaking: Social partners contribute to the design, implementation, and monitoring of policies. Their involvement ensures that the perspectives of all stakeholders are considered, leading to more balanced and equitable outcomes.

Social dialogue: Effective social dialogue involves negotiation, consultation, and information sharing among governments, employers, and workers on issues related to economic and social policy. It helps in addressing potential conflicts and building consensus on key initiatives.

Tripartism: The tripartite cooperation between government, employers, and workers ensures that policies are not only environmentally sustainable but also socially inclusive and economically viable.

Challenges:

Capacity and resources: Effective participation of social partners requires adequate resources and capacity. This includes staffing, funding, and expertise in climate-related issues. Without these, the ability of social partners to contribute meaningfully is limited.

Balancing interests: There is a need to balance the diverse interests of different stakeholders. This includes addressing the concerns of industries that might be adversely affected by the transition.

Ensuring effective implementation: While policy design is crucial, the implementation phase presents significant challenges. Ensuring that the agreed policies are effectively put into practice requires continuous dialogue and monitoring.

Questions: How to talk about and negotiate the transition? What do we need to ensure truly inclusive policymaking and effective social dialogue? What competencies do we need as employees, social partners, citizens to take action? What resources do we need? What are the

biggest challenges for social dialogue? What should you pay special attention to in information, consultation, negotiation process?

4. Transforming industries

The European Green Deal aims to make the European Union's economy sustainable by transforming various industries and promoting a greener, more resilient future. Here are the industries that will be most transformed by the European Green Deal:

1. Energy Industry

Renewable Energy: Massive investments in renewable energy sources like wind, solar, and hydropower to replace fossil fuels.

Energy Efficiency: Implementation of energy efficiency measures across all sectors, including building retrofits and advanced energy management systems.

Grid Modernization: Upgrading energy grids to integrate renewable energy and improve resilience and flexibility.

2. Transportation

Electrification of Vehicles: Promoting electric vehicles (EVs) through incentives, building extensive EV charging infrastructure, and setting stricter emission standards for cars and trucks.

Public Transport: Enhancing public transportation networks and encouraging the use of sustainable transport modes like cycling and walking.

Aviation and Shipping: Implementing measures to reduce emissions in aviation and maritime transport, including the development of sustainable fuels and more efficient technologies.

3. Manufacturing

Circular Economy: Transitioning from a linear to a circular economy by promoting recycling, reuse, and sustainable product design.

Low-Carbon Technologies: Investing in and adopting low-carbon and energy-efficient technologies in manufacturing processes.

Industrial Emissions: Setting stricter regulations and standards to reduce industrial emissions, including the deployment of carbon capture and storage (CCS) technologies.

4. Agriculture

Sustainable Farming Practices: Promoting practices that reduce greenhouse gas emissions, enhance biodiversity, and improve soil health.

Organic Farming: Encouraging the adoption of organic farming methods and reducing the use of synthetic fertilizers and pesticides.

Agroforestry and Reforestation: Supporting agroforestry practices and reforestation projects to sequester carbon and enhance ecosystem services.

5. Construction and Buildings

Energy-Efficient Buildings: Implementing strict energy efficiency standards for new buildings and retrofitting existing buildings to improve insulation and energy use.

Sustainable Materials: Promoting the use of sustainable construction materials and practices to reduce the environmental impact of building projects.

Green Infrastructure: Developing green infrastructure, such as green roofs and urban green spaces, to enhance urban resilience and biodiversity.

6. Financial Services

Green Finance: Mobilizing private and public finance for sustainable investments through green bonds, sustainable investment funds, and other financial instruments.

Climate Risk Disclosure: Implementing mandatory climate risk disclosures for financial institutions to ensure transparency and encourage investment in sustainable projects.

Sustainable Investment Frameworks: Establishing frameworks and standards for sustainable investments to guide financial markets toward greener portfolios.

7. Waste Management

Waste Reduction: Implementing policies to reduce waste generation and promote recycling and reuse.

Circular Economy: Encouraging a circular economy approach where waste is minimized, and products and materials are kept in use for as long as possible.

Hazardous Waste Management: Improving the management and disposal of hazardous waste to protect human health and the environment.

8. Technology and Innovation

Clean Technology Development: Investing in research and development of clean technologies, including renewable energy, energy storage, and carbon capture.

Digital Transformation: Leveraging digital technologies to optimize energy use, reduce emissions, and enhance sustainability across industries.

9. Food and Beverage

Sustainable Food Systems: Promoting sustainable food production and consumption practices, reducing food waste, and encouraging plant-based diets.

Traceability and Transparency: Implementing measures to ensure the traceability and transparency of food supply chains to promote sustainability and reduce environmental impact.

10. Textiles and Fashion

Sustainable Production: Encouraging sustainable production practices and the use of eco-friendly materials.

Circular Fashion: Promoting circular fashion models, including recycling, upcycling, and extended producer responsibility.

By focusing on these industries, the European Green Deal aims to achieve climate neutrality by 2050, reduce environmental impact, and create a sustainable and resilient economy.

5. But is this all even possible???

Climate neutrality refers to achieving a balance between emitting carbon and absorbing carbon from the atmosphere in carbon sinks. Essentially, it means that any greenhouse gas emissions are offset by absorbing an equivalent amount from the atmosphere, resulting in a net-zero carbon footprint. **This concept includes:**

Reducing Emissions: Minimizing emissions from various sources such as energy production, transportation, industry, and agriculture.

Carbon Removal: Enhancing natural processes (like reforestation) or technological solutions (like carbon capture and storage) to remove carbon dioxide from the atmosphere.

Offsetting: Investing in projects that reduce emissions elsewhere if direct reductions are not possible.

5.1 Chances of Achieving Global Climate Neutrality by 2050

Achieving global climate neutrality by 2050 is an ambitious goal and presents significant challenges, but it remains a possibility if certain conditions are met. **Here are the key factors:**

Technological Advancements:

Renewable Energy: Continued and accelerated deployment of renewable energy sources such as solar, wind, and hydropower.

Energy Storage and Grid Modernization: Improvements in energy storage technologies and modernizing energy grids to handle increased renewable energy capacity.

Carbon Capture and Storage (CCS): Scaling up CCS technologies to capture and store emissions from industrial processes and power generation.

Innovative Technologies: Development and adoption of new technologies such as hydrogen energy, advanced nuclear power, and negative emissions technologies.

Policy and Regulation:

International Agreements: Strengthening and expanding international agreements like the Paris Agreement to ensure global cooperation and commitment.

National Policies: Implementing robust national policies that mandate emission reductions, such as carbon pricing, renewable energy standards, and emission regulations.

Incentives and Subsidies: Providing incentives and subsidies for clean energy technologies, energy efficiency measures, and sustainable practices.

Economic Transition:

Green Investment: Mobilizing significant investments into green infrastructure, clean energy, and sustainable industries.

Economic Diversification: Supporting regions and communities dependent on fossil fuels to diversify their economies and create green jobs.

Behavioral and Cultural Changes:

Public Awareness: Increasing public awareness and education on climate change and the importance of sustainable practices.

Lifestyle Changes: Encouraging lifestyle changes that reduce carbon footprints, such as using public transportation, reducing meat consumption, and adopting energy-efficient habits.

Equity and Social Inclusion:

Just Transition: Ensuring that the transition to a low-carbon economy is fair and inclusive, providing support to workers and communities affected by the shift away from fossil fuels.

Global Cooperation: Ensuring that developed countries support developing countries through technology transfer, financial assistance, and capacity building.

5.2 Challenges to Achieving Climate Neutrality

➤ Economic and Political Barriers:

Fossil Fuel Dependence: Many economies are still heavily dependent on fossil fuels for energy and industrial processes.

Political Resistance: Political resistance and lobbying by vested interests in the fossil fuel industry can slow down or block climate policies.

➤ Technological and Infrastructure Constraints:

Technology Development: Some necessary technologies, like advanced CCS or negative emissions technologies, are still in early stages of development.

Infrastructure Changes: Significant changes in infrastructure are needed, including new energy grids, transportation systems, and industrial processes.

➤ Social and Behavioral Resistance:

Public Acceptance: Resistance from the public due to perceived economic costs, lifestyle changes, or misinformation about climate policies.

Equity Issues: Ensuring that climate policies do not disproportionately affect low-income or vulnerable populations.

Conclusion on climate neutrality

While achieving global climate neutrality by 2050 is extremely challenging, it remains a possibility with a coordinated and sustained effort across technological, economic, policy, and social dimensions. Global cooperation, significant investments in clean technologies, and robust policies are crucial for making this vision a reality. The urgency of the climate crisis necessitates bold and immediate actions to pave the way for a sustainable and climate-neutral future.

Questions: Do you agree with this conclusion? Do you think it is too optimistic? Let us consider the role of the various factors.

First of all, we mentioned technological progress above, but this is obviously open to debate.

5.3 A circular economy

Creating a circular economy, which aims to eliminate waste and continuously use resources, faces several significant challenges. Here are the biggest challenges:

1. Design and Innovation

Product Design: Many products are not designed with reuse, repair, or recycling in mind. Designing for a circular economy requires innovation to create products that can be easily disassembled and repurposed.

Material Complexity: The use of complex materials and composites makes recycling and reusing products more difficult. Simplifying materials without compromising product quality is a major design challenge.

2. Infrastructure and Technology

Recycling Infrastructure: Existing recycling infrastructure is often inadequate to handle the volume and complexity of materials in a circular economy. Upgrading and expanding these facilities is essential.

Advanced Technologies: Developing and deploying advanced technologies for sorting, recycling, and reprocessing materials is critical. This includes innovations like chemical recycling and automated disassembly.

3. Economic and Market Barriers

Cost Competitiveness: Recycled or remanufactured products often struggle to compete with cheaper, virgin materials. Economies of scale and subsidies for virgin material production exacerbate this issue.

Investment: Significant investment is required to develop circular economy infrastructure, technologies, and business models. Securing this investment can be challenging, especially in markets driven by short-term financial returns.

4. Consumer Behavior and Awareness

Consumer Acceptance: Shifting consumer preferences towards circular products requires significant changes in behavior and attitudes. Many consumers are still accustomed to a linear 'take-make-dispose' model.

Education and Awareness: Increasing awareness about the benefits of a circular economy and educating consumers on sustainable practices are essential for driving demand for circular products.

5. Policy and Regulatory Environment

Regulatory Barriers: Inconsistent or inadequate regulations can hinder the development of a circular economy. Harmonizing regulations across regions and sectors is necessary to create a supportive environment.

Incentives and Standards: Implementing policies that incentivize circular practices, such as extended producer responsibility (EPR), tax incentives for circular products, and standardized labeling for recyclability, is crucial.

6. Supply Chain Coordination

Complex Supply Chains: Coordinating circular practices across complex global supply chains is challenging. Transparency and traceability are essential but difficult to achieve.

Collaboration: Effective collaboration between manufacturers, suppliers, recyclers, and other stakeholders is necessary to create closed-loop systems. Building such networks requires overcoming competitive barriers and fostering trust.

7. Technological Integration

Data and Digital Tools: Leveraging digital tools like the Internet of Things (IoT), blockchain, and data analytics to track materials and optimize circular processes is still in its infancy. Integrating these technologies across industries is complex.

Interoperability: Ensuring that different systems and technologies used in the circular economy are compatible and can communicate effectively is a significant technical challenge.

8. Material and Product Standards

Quality of Recycled Materials: Ensuring that recycled materials meet the same quality standards as virgin materials is crucial for their acceptance in manufacturing.

Standardization: Developing and enforcing standards for recyclable and reusable materials to ensure they can be effectively processed and reintegrated into the economy.

9. Cultural and Institutional Resistance

Organizational Change: Businesses need to change their traditional linear models, which can be met with resistance from within due to entrenched interests and habits.

Cultural Shifts: Shifting towards a circular economy requires a cultural change at both the organizational and societal levels, which can be slow and challenging to implement.

Conclusion on a circular economy

While the transition to a circular economy presents numerous challenges, it also offers substantial environmental, economic, and social benefits. Addressing these challenges requires a coordinated effort across multiple sectors, including innovation in product design, investment in infrastructure and technology, supportive policies and regulations, and shifts in consumer behavior and business practices. Through collaboration and sustained effort, it is possible to overcome these barriers and create a more sustainable, circular economy.

Questions: Do you agree with this conclusion? Do you think it is too optimistic?

6. The EU policy documents for climate neutrality

At the heart of the Commission's European Green Deal is the goal of climate neutrality by 2050, which has been unanimously endorsed by Member States and the European Parliament. This means that by 2050 the EU will have significantly reduced its greenhouse gas emissions, with the remaining emissions being sequestered by technology or in natural carbon sinks such as forests.

6.1 The European Climate Change Act

One of the first key elements of the Green Deal was **the EU Climate Change Act**, which came into force in July 2021 and made the commitment to climate neutrality binding. It also set a target to reduce net emissions by at least 55% below 1990 levels by 2030. The law also requires a target to be set for 2040, for which the Commission made a recommendation in February 2024. Setting clear targets gives businesses and investors certainty about the direction of travel and ensures that Europe has a clear path towards its long-term goals.

The European Climate Change Act enshrines in law the goal set out in the European Green Deal for Europe's economy and society to become climate neutral by 2050. The law also sets an interim target of reducing net greenhouse gas emissions by at least 55% by 2030 compared to 1990 levels.

Climate neutrality by 2050 means achieving net zero greenhouse gas emissions for the EU countries as a whole, mainly by reducing emissions, investing in green technologies and protecting the natural environment.

It aims to ensure that all EU policies contribute to this goal and that all sectors of the economy and society play their part.

Objectives of the European Climate Change Act:

- Set the long-term direction for achieving the 2050 climate neutrality objective across all policies in a socially equitable and cost-effective way.
- Set a more ambitious EU 2030 target to put Europe on a responsible path to climate neutrality by 2050.
- Establish a system to monitor progress and take further action if necessary

- Provide predictability for investors and other economic actors
- Ensure that the transition to climate neutrality is irreversible.

Key elements

The *European Climate Law* sets a legally binding target of net-zero greenhouse gas emissions by 2050. The EU institutions and Member States are required to take the necessary measures at EU and national level to achieve the target, taking into account the importance of promoting fairness and solidarity between Member States.

The *European Climate Law* includes measures to monitor progress and adjust our actions accordingly, building on existing systems such as the governance process for Member States' national energy and climate plans, regular reports from the European Environment Agency and the latest scientific evidence on climate change and its impacts.

Progress will be reviewed every five years, in line with the global stocktake under the Paris Agreement.

The Climate Law also addresses the necessary steps to get to the 2050 target:

Based on a comprehensive impact assessment, the EU has set a new target for 2030 of reducing net greenhouse gas emissions by at least 55% compared to levels in 1990. The new EU 2030 target is included in the Law.

In July 2021, the Commission adopted a series of proposals to revise all relevant policy instruments to deliver the additional emissions reductions for 2030.

The Law also includes a process for setting a 2040 climate target.

The European Climate Law includes:

- a legal objective for the Union to reach climate neutrality by 2050
- an ambitious 2030 climate target of at least 55% reduction of net emissions of greenhouse gases as compared to 1990, with clarity on the contribution of emission reductions and removals

- recognition of the need to enhance the EU's carbon sink through a more ambitious LULUCF regulation, for which the Commission made a proposal in July 2021 and which entered into force in May 2023
- a process for setting a 2040 climate target, taking into account an indicative greenhouse gas budget for 2030-2050 to be published by the Commission
- a commitment to negative emissions after 2050
- the establishment of European Scientific Advisory Board on Climate Change, that will provide independent scientific advice
- stronger provisions on adaptation to climate change
- strong coherence across Union policies with the climate neutrality objective
- a commitment to engage with sectors to prepare sector-specific roadmaps charting the path to climate neutrality in different areas of the economy

The European Climate Law was published in the Official Journal on 9 July 2021 and entered into force on 29 July 2021.

In 2023, for the first time, the Commission assessed progress towards the climate neutrality and adaptation objectives, as required under the European Climate Law. The findings were published as part of the 2023 Climate Action Progress Report and in a separate Staff Working Document on national progress with implementing adaptation.

Although greenhouse gas emissions continue to fall and there are encouraging signs of action on the ground, the Commission's assessment is that current progress towards the EU's climate neutrality objective appears to be insufficient. Action is most needed in areas which still require significant reductions in emissions (e.g. buildings, transport), where progress is too slow (e.g. agriculture), or where, in recent years, there has been a deteriorating trend, as is the case for the carbon sink (e.g. land use, land-use change, and forestry).

The European Union has made broad progress on adaptation to climate change, in particular through the ongoing implementation of the EU Adaptation Strategy. However, progress has been uneven across areas.

The assessment of progress on adaptation at the national level shows that Member States need to take significantly more action to adapt to climate change – for instance, on governance, funding, risk assessments, nature-based solutions, as well as monitoring, reporting and evaluation in order to reduce their social and economic vulnerabilities to the intensifying climate-related risks.

6.2 National Energy and Climate Plans (NECPs)

Based on the assessment, the Commission issued recommendations to Member States under the European Climate Law in December 2023. Member States that submitted draft updated **National Energy and Climate Plans (NECPs)** in time for the Commission’s EU-wide assessment of the draft NECPs receive recommendations on:

- the draft updated NECPs
- the consistency of their measures with the EU’s climate -neutrality objective
- the consistency of their measures with ensuring progress on adaptation under the European Climate Law.

Member States which did not submit a draft updated NECP or submitted one several months after the deadline only receive recommendations under the European Climate Law.

Nobody should be left behind in the clean transition. To support regions that are most affected by the socio-economic impact caused by the clean transition, the Commission came forward with **the Just Transition Fund** with a total allocation of €19.7 billion. The *Just Transition Fund* directs investments into these regions to diversify economic activities towards cleaner industries and reskill workers for new sources of employment.

6.3 The EU Emissions Trading System

The EU Emissions Trading System, a world-leading carbon pricing mechanism, has also played a key role in generating public revenue to be reinvested in climate action and social support.

Since its launch in 2005, the Emissions Trading System has produced over €180 billion in revenue for Member States and the EU budget, part of which has been used to finance the Innovation Fund, the Modernisation Fund, and the *Social Climate Fund*.

With the European Green Deal, EU added more sectors to be covered by the Emissions Trading System, from industries and power plants to fuels for transport and buildings, thereby putting a price on more emissions. This will continue to shrink emissions and boost alternative energy sources.

6.4 The Green Deal Industrial Plan

The Commission has made sure that the European Green Deal contributes to Europe's economic growth, because what is good for the climate can also be good for our economy. In February 2023, we adopted **the Green Deal Industrial Plan**. The Plan creates conditions for the scaling up of manufacturing capacity for the net-zero technologies and products required to meet Europe's climate targets.

Two key pieces of the Plan are the *Critical Raw Materials Act* and the *Net-Zero Industry Act*, presented in March 2023. Both will create a predictable and simplified regulatory environment in their respective fields of action, encouraging investments and the development of projects that are key to the European economy.

The *Critical Raw Materials Act* has been adopted by the Parliament and the Council. When it enters into force it will help ensure the EU's access to a secure, diversified, affordable and sustainable supply of critical raw materials. It will help increase domestic capacities for critical raw materials along the supply chain. The ultimate goal is that the EU should have the capacity to extract 10%, process 40%, and recycle 25% of its annual consumption of strategic raw materials by 2030.

As for the *Net-Zero Industry Act*, on which co-legislators have reached a political agreement, it will boost the manufacturing of net-zero technologies in the EU and strengthen their resilience and competitiveness, while creating a regulatory environment with better conditions to set up net-zero projects in Europe and attract investments.

6.5 Carbon Border Adjustment Mechanism (CBAM)

The Commission put in place the world's first *Carbon Border Adjustment Mechanism (CBAM)*. It encourages industries worldwide to embrace greener production methods and discourages firms

from relocating outside the EU to countries with less stringent environmental standards. CBAM is a WTO-compliant tool, and it will ensure that the EU's climate objectives are not undermined.

In practice, EU importers of goods covered by CBAM will have to register with national authorities and buy CBAM certificates. They will then declare the emissions embedded in their imports and surrender the corresponding number of certificates. If they can prove that a carbon price has already been paid during the production of the goods, the corresponding amount will be deducted.

CBAM is a landmark tool to put a fair price on carbon-intensive goods that enter the EU. The gradual introduction of the CBAM is aligned with the phase-out of the allocation of free allowances under the EU Emissions Trading System to support the decarbonisation of EU industry.

On 1 October 2023, CBAM entered into application in its transitional phase. This phase will serve as a learning period for importers, producers, and authorities. It will allow the Commission to collect useful information on embedded emissions in order to refine the methodology for the definitive entry into application, which is set to 2026.



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