



# CLEAN INDUSTRY, CLEAN ENERGY AND SAVING ENERGY

GUIDELINES FOR EMPLOYERS

## Introduction

These Guidelines were developed as part of the European Union co-funded project “GREENET Fast forwarding the green transition in a just and socially responsible way – cases of industry, energy, and transport sectors” to facilitate the green transition to zero-carbon economy. They are meant to help employers in those sectors in planning and implementing action to reduce the impact of their companies on the climate and environment and contribute to the goals and targets set under the European Green Deal.

The Guidelines explain the steps a company should take to develop a strategy to reduce its carbon and environmental footprints. It also presents ways to involve workers in the process to achieve better results, and address their needs to secure a just transition. An illustrative list of green transition measures that can be taken by companies as a guidance.

## Gaining benefits from taking action at company level

Besides **mitigating climate change and environmental benefits**, such as reduced GHG emissions, reduced of air and water pollution, conservation of natural resources, reduced impact on ecosystems and biodiversity, green transition measures bring tangible **economic benefits**: reduced company operating costs thanks to increased operational efficiency, reduced CO<sub>2</sub> and environmental charges), regulatory compliance and reduced financial risk related to non-compliance. Focusing on sustainability may help a company gain a **competitive advantage** as it stimulates innovation and may result in opening up new sources of revenue. Another benefit is heightened attractiveness for **investments** and financing institutions, and an access to **orders** under procurement procedures and tenders applying green clauses. Finally, thanks to efforts to reduce its carbon and environmental footprints a company can enhance its **brand image and reputation**.

## Developing and implementing a company sustainability strategy

While the choice of particular measures to reduce company carbon footprint may vary, the planning and implementation process can be universally divided into the steps described below.

When designing and implementing the process **make the involvement of workers its integral part at all stages**.

### Step 1. Assess the current environmental impact

- **Conduct an environmental audit.** Measure emissions, energy use, water consumption, waste production, and resource usage across operations and identify inefficiencies
- **Identify key areas for improvement.** Focus on high-impact areas such as energy-intensive processes, material waste, and transportation (fuel consumption, packaging or inefficient logistics).

### Step 2. Set clear and measurable goals

- **Define company sustainability objectives.** Establish specific, measurable, achievable, relevant, and time-bound (SMART) goals for reducing carbon emissions and environmental impact (such as reducing carbon emissions by 30% within five years).
- **Align with international standards.** Use frameworks like European EMAS (Eco-Management and Audit Scheme), ISO 14001, the Science-Based Targets initiative (SBTi) or the United Nations Sustainable Development Goals (SDGs) for guidance.

### Step 3. Develop a sustainability strategy

- **Prioritize actions.** Focus on high-impact measures. Identify short-term and long-term initiatives based on potential impact and feasibility.
- **Create a roadmap.** Outline milestones, including key performance indicators (KPIs) to monitor progress, allocate resources, ensuring the inclusion of all departments and functions.

#### Measures reducing carbon and environmental footprints (see Annex for details):

- Upgrade of technology, equipment and infrastructure for reduced emissions and increased efficiency
- Adoption of renewable energy
- Optimizing processes for energy efficiency
- Circular economy measures: water conservation, waste reduction and recycling, sustainable packaging practices
- Green procurement, material and energy sourcing

#### Step 4. Implement pilot projects

- Test initiatives and use pilot projects to assess feasibility, identify challenges, and refine implementation strategies.

#### Step 5. Monitor, measure and evaluate progress

- Track environmental metrics, such as fuel consumption and emissions. Use performance indicators such as energy intensity, emissions per unit produced, and waste recycling rates.

#### Step 6. Adapt and scale initiatives

- **Implement iterative improvements:** Use data from monitoring to refine and improve strategies.
- **Expand successful programs:** Scale up pilot programs and replicate successful initiatives across the organization.

#### Step 7. Plan for continuous improvement

- **Invest in R&D.** Explore innovative technologies (e.g. hydrogen-based processes, carbon capture, bio-based materials, autonomous and zero-emission transport), pilot innovative systems for waste management and fuel efficiency.
- **Stay updated.** Monitor advancements in technology, regulations, and market trends to adapt and improve strategies, and remain competitive and compliant.
- **Benchmark progress.** Regularly compare performance against industry leaders and global standards.

### Involving suppliers and stakeholders

**Encourage and share sustainable practices** across the supply chain. Collaborate with suppliers to **source clean energy, eco-friendly and renewable materials**. Establish **green** logistics standards for **procurement** and supplier operations. To reduce transport needs (and the resulting pressure on climate and environment) choose suppliers close to your production sites.

Share information on progress and challenges with stakeholders through **sustainability reports** and social media to enhance your company accountability and reputation.

**Communicate** the environmental benefits of your greener products and services to **customers** to build market demand.

Participate in **collaborative projects and industry coalitions** to share best practices, collaborate on sustainability innovations and scale impact.

## Involving workers

The involvement of workers is crucial for a successful green transition. Employees know the company in which they work well and, firstly, can point out where action needs to be taken and, secondly, can be a source of valuable ideas, including innovative solutions. They may need extra knowledge and information for motivated and meaningful involvement.

Provide employees with **training on sustainability principles** and the importance of reducing environmental impact, as well as on **the best practices**.

**Encourage employees** to suggest and implement ideas and participate in initiatives to make the company greener. **Recognize their contributions** through awards, public acknowledgement.

Ensure that benefits of savings from energy and resource efficiency are shared, i.e. reinvested into people, skills, retaining jobs and continued efficiency improvement. Introduce staff **motivation systems** promoting climate and environment friendly behaviours and practices. Provide for them in a collective agreement.

Workers should also have an influence on the selection or adaptation of planned solutions, as their future users. The target solutions will be more relevant and their implementation more efficient if the needs and concerns of employees are well identified at the planning stage.

Worker involvement and social dialogue with trade unions is also important because the green measures introduced may require changes in skill demand, involve job transformation, as well as the loss of jobs and creation of new ones, and changes in working conditions.

**Engage employees in planning and decision-making.** Maintain **regular communication** about company's green transition plans and how they affect workers and a room for **honest discussions** on challenges and opportunities. Establish a **joint worker-management committee** on green transition. Provide a **feedback mechanism** for workers to share suggestions and concerns.

**Negotiate collective agreements** with trade unions that include provisions **for a just green transition**, such as training programs, job protection measures, and financial support.

Partner with trade unions and **advocate for appropriate public policy measures and programmes to support workers** in the transition process.

## Assisting workers through the transition

As indicated above, the green transition is most likely to involve changes in **skill demands and job structure**, and may affect **working conditions**.

It is recommended that employers:

- Map workforce skills and roles to anticipate impacts and develop targeted support strategies
- Provide upskilling and reskilling of workers to handle new technologies, including digital tools
- Provide training for workers on sustainable practices
- Offer hands-on training opportunities for workers to adapt to new processes while continuing their current roles
- Allow workers to transition into different roles within the organization to maintain job security during process shifts
- Develop internal career pathways for workers to transition to greener roles within the company, ensuring job security
- Redesign roles to include sustainability responsibilities, such as integrating energy monitoring tasks into maintenance positions
- Introduce hybrid or remote work opportunities for roles impacted by automation or digitalisation
- Ensure workers in new green roles receive comparable or improved wages and benefits
- Offer bonuses or salary increments to workers who complete green training or take on new responsibilities related to sustainability
- Address physical and mental well-being during the transition to new technologies, especially for workers dealing with significant role changes
- Anticipate and take measures to address new occupational safety risks and secure ergonomic working environment
- Provide job guarantees
- Provide social protection measures: severance packages, early retirement options, temporary financial support
- Cover the costs of external certifications or training programs for workers moving into different industries or roles

Employers may **utilize available government programs** for worker training and green technology adoption and **partner with local governments and organisations** to offer resources like job placement services or additional training (e.g. under Just Transition Mechanism).

Employers may also **support broader community initiatives** that provide jobs in green sectors, creating alternative employment opportunities.

## Actions companies can take to green their operations

A non-exhaustive list of possible actions is provided to illustrate what measures companies can take to transit to low-carbon economy and reduce their carbon footprint and environmental impact supporting the goals and targets of the European Green Deal.

### Clean energy

- Investing in large-scale renewable energy sources for power generation
- Gradual decommissioning of coal-fired power plants and reducing reliance on oil-based generation
- Installing on-site RES to power manufacturing and supply energy to other facilities (e.g. solar panels on warehouses)
- Using electric furnaces, biofuels or green hydrogen as substitutes for fossil fuels in high-temperature industrial processes.
- Sourcing electricity from renewable energy providers to reduce reliance on fossil fuels.
- Transition to electric vehicles, hydrogen powered vehicles and biodiesel.
- Using battery powered trains on non-electrified networks in short distance passenger rail transport, battery or hydrogen engines in freight for shunting and the last mile (non-electrified terminals and ports, conversion of existing diesel trains to low-emission fuels.
- Electrification of rail network for lines with regular traffic
- Increased use of intermodal transport, combining rail, road, and maritime logistics to lower overall emissions, integrating them into the logistics chain

### Energy and fuel efficiency

- Combining renewable energy sources with battery storage systems to ensure grid reliability and reduce energy waste
- Power grid modernization including investments in grid resilience, automation and decentralised energy systems
- Applying smart grid technology to improve efficiency and reduce energy losses during transmission and increase the reliability of energy distribution through real-time monitoring and management
- Demand response programs which incentivize consumers to adjust their electricity usage by shifting consumption from peak periods in energy sector
- Utilizing IoT and AI tools to optimize energy distribution based on real-time demand.

- Distributed generation which involves generating electricity from smaller-scale RES located closer to the point of consumption, complementing centralized power generation to reduce transmission losses.
- Upgrading natural gas and oil pipelines to reduce methane leaks and energy losses.
- Appropriate insulation of buildings
- Deploy energy management systems to monitor and reduce consumption.
- Automation to optimise energy use for lighting, heating and cooling (e.g. in warehouses)
- Using digital models of manufacturing systems to processes and monitor energy use in manufacturing
- Replacing outdated machinery with energy-efficient alternatives and implementing automation where feasible.
- Designing energy-efficient products
- Route optimization to minimize travel distances and avoid congested traffic areas, vehicle idle times, and reduce fuel consumption and emissions
- Optimised last mile delivery (from a fulfilment centre to the final destination): using electronic proofs of delivery, delivery notifications and alerts, flexible choice of delivery time slots by customers to reduce repeated delivery attempts; using cargo bikes and electric vehicles for easier navigation in crowded urban areas.
- Efficient load management and collaborative logistics networks (sharing transport resources and coordinating shipments to ensure full loads) to use vehicles at full capacity and reduce trips.
- Energy optimised rail engine driving with driver advisory systems or Automatic Train Operation (ATO)

## Circular economy, resource and material efficiency and waste reduction

- Lean manufacturing practices:
  - Eliminating inefficiencies and minimizing waste and resource use through process optimization and streamlining operations
  - Incorporating reuse, repair and recycling of materials to close resource loops.
- Adopting additive manufacturing (e.g., 3D printing) to minimize material use and waste.
- Circular product design for durability, repairability, and recyclability to extend product lifecycle.
- Waste management within warehouses: recycling programs, composting for organic waste, reusing and repurposing packaging materials; regular waste audits.



- Deployment of smart logistics technologies, such as Internet of Things (IoT) sensors, for better asset tracking and reduced waste.
- Smart inventory management including just in time (JIT) inventory practices to minimize overstocking and reduce waste associated with expired or unsold products.
- Reverse logistics: return, refurbishment, recycling, and responsible disposal of products (reduced waste, recovered value from returned goods).
- Minimization of packaging waste through efficient design and material selection.
- Using lighter packaging to reduce weight of shipments. [Transport]
- Minimizing the use of single-use packaging and switching to reusable or recyclable alternatives
- Using innovative biodegradable or compostable packaging materials for shipping and storage.
- Water conservation: treating and reusing water within manufacturing processes; using air-cooled systems or closed-loop water systems instead of open-loop cooling







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