



UNIVERSITÀ
DEGLI STUDI
FIRENZE

Climate Change Legislation in European Union

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Today's Program

1. Introduction

2. Climate Change Policy in the EU

3. Climate Change Legislation in the EU

4. Conclusion





Today's Program

1. Introduction

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1. Introduction

Significance of the EU law

Example of "Building Legal Mechanisms for Climate Change and Carbon Neutrality"

- 2019: European Green Deal (EGD)
 - Setting a goal of Net-zero emissions in 2050
- 2020: Proposes of legislation to realize EGD

1. Introduction

Purpose and Contents of this Report

Purpose of this report

Introduction to the Climate change legislation in the EU

Contents of this report

2. Overview of climate change policy in the EU
3. Overview of climate change legislation in the EU
4. Conclusion



Today's Program

1. Introduction

2. Climate Change Policy in the EU

2.1 Treaty on the Functioning of the EU

2.2. Principles of Climate Change Policy

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2. Climate Change Policy in the EU

2. Climate Change Policy in the EU

2.1 Treaty on the Functioning of the EU

2.2. Principles of Climate Change Policy

2.2.1. European Green Deal

2.2.1.1. Deeply transformative policies

2.2.1.2. Mainstreaming sustainability

2.2.1.3. EU as a global Leader

2.2.2. Green Deal Industrial Plan

Climate change policy under the EU Treaty

Environmental policy

- Promotion of measures to combat climate change (Art. 191(1))
- Ordinary legislative procedure (Art. 192(1))

Energy policy

- Promotion of energy efficiency, renewable energy, etc. (Art. 194(1)(c))
- Ordinary legislative procedure (Art. 194(2))

2. Climate Change Policy in the EU

2. Climate Change Policy in the EU

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2.2.1. European Green Deal

2.2.1.1. Deeply transformative policies

2.2.1.2. Mainstreaming sustainability

2.2.1.3. EU as a global Leader etc.

2.2.2. Green Deal Industrial Plan

2.2.1. European Green Deal (COM/2019/640 final)

Main objectives

- Net-zero emissions of GHG in 2050
- Decoupling of economic growth and resource use
- Transformation of the EU into a fair and prosperous society, with a modern, resource-efficient and competitive economy

Means to realize objectives

- EU as a global leader and European Climate Pact (→ 2.2.1.3)
- Deeply transformative policies (→ 2.2.1.1)
- Mainstreaming sustainability (→ 2.2.1.2)

2.2.1. European Green Deal

2.2.1.1. Deeply transformative policies

- (1) Increasing the EU's climate ambition for 2030 and 2050
- (2) Supplying clean, affordable and secure energy
- (3) Mobilising industry for a clean and circular economy
- (4) Building and renovating in an energy and resource efficient way
- (5) Accelerating the shift to sustainable and smart mobility
- (6) From 'Farm to Fork': designing a fair, healthy and environmentally-friendly food system
- (7) Preserving and restoring ecosystems and biodiversity
- (8) A zero pollution ambition for a toxic-free environment

2.2.1. European Green Deal

2.2.1.2. Mainstreaming sustainability

- (1) Pursuing green finance and investment and ensuring a just transition
- (2) Greening national budgets and sending the right price signals
- (3) Mobilising research and fostering innovation
- (4) Activating education and training
- (5) A green oath: 'do no harm'

2.2.1. European Green Deal

2.2.1.3. EU as a global leader and European Climate Pact

- (1) The EU as a global leader on climate change
- (2) Time to act - together: a European Climate Pact (COM/2020/788 final)

European Climate Pact: Opportunity for people, communities and organisations to participate in climate action across Europe

2. Climate Change Policy in the EU

2. Climate Change Policy in the EU

2.1 Treaty on the Functioning of the EU

2.2. Principles of Climate Change Policy

2.2.1. European Green Deal

2.2.1.1. Deeply transformative policies

2.2.1.2. Mainstreaming sustainability

2.2.1.3. EU as a global Leader

2.2.2. Green Deal Industrial Plan

2.2.2. Green Deal Industrial Plan

Background

- Increased international competition in decarbonization technologies
- Need for a strategy to maintain and develop the competitiveness of the net-zero industry in the EU

Means to Realize Objectives

- A predictable, coherent and simplified regulatory environment
- Speeding up access to finance
- Enhancing workers' skills
- Trade and resilient supply chains



Today's Program

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3.1. European Climate Law

3.2. Specific Institutions

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3. Climate Change Legislation in the EU

3.1. European Climate Law

3.2. Specific Institutions

3.2.1. Institutions on measures against climate change

3.2.1.1. Institutions on GHG emissions

3.2.1.2. Institutions on energy

3.2.2. Ancillary institutions

3.2.2.1. Development of the net-zero industry

3.2.2.2. Protection of vulnerable citizens

Enactment of European Climate Law

Measure on deeply transformative policies (→ 2.2.2.1.)

- Regulation (EU) 2021/1119
- In particular, the Law is mentioned (1) increasing the EU's climate ambition
- Enacted June 30, 2021, effective July 29 of the same year.

Contents of the European Climate Law

(1) GHG emission reduction targets

- Set the following numerical targets as *binding* targets (Art.1)
 - In 2050: Net-zero emissions (Art. 2(1))
 - In 2030: 55% reduction from 1990 level (Art. 4(1))

(2) Obligations and competences of the Commission

- Obligation to review and propose EU legislation to achieve the targets (Art. 4(2))
- Obligation to set 2040 targets (Art. 4(3))
- Obligation to consider adaptation measures to climate change (Art. 5(2))
- Obligation to assess measures by the EU and Member States (Art. 6 and 7)
 - Obligation to take measures against the EU (Art. 6(3))
 - Competence to issue recommendations to Member States (Art. 7(2))

(3) Other related regulations

- Promotion of public participation (Art. 9)
- European Scientific Advisory Board on Climate Change (Art. 12)

3. Climate Change Legislation in the EU

3.1. European Climate Law

3.2. Specific Institutions

3.2.1. Institutions on measures against climate change

3.2.1.1. Institutions on GHG emissions

3.2.1.2. Institutions on energy efficiency etc.

3.2.2. Ancillary institutions

3.2.2.1. Development of the net-zero industry

3.2.2.2. Protection of vulnerable citizens

3.2. Specific Institutions

3.2.1. Institutions on measures against climate change

3.2.1.1. Institutions on GHG emissions

(1) EU ETS and CBAM

(i) Overview

- Established by the ETS Directive (Directive 2003/87/EC)
- Cost-effective and economically efficient GHG emissions reduction (Art. 1)
- The EU's main instrument to combat climate change

(ii) Areas covered by EU ETS

- Initially: energy activities, production of ferrous metals, mineral industry, etc.
- Aviation added in 2012 and some chemical industry added in 2013
- Further expansion by the 2023 amendment
 - Maritime transport (e.g., Article 3ga)
 - Creation of new ETS II for buildings, road transport etc. (Chap. IVa)

3.2. Specific Institutions

3.2.1. Institutions on measures against climate change

3.2.1.1. Institutions on GHG emissions

(1) EU ETS and CBAM

(iii) Measures

- Cap-and-trade system
 - Set a limit on the emissions from eligible facilities.
 - Trades of emission allowances among parties (Art. 12)
- Total emission caps
 - Total emission caps are progressively lowered
 - Linear factor after 2021 is 2.2%/year (Art. 9)
 - The 2023 amendment increases the rate (Art. 9)
 - 4.3%/year from 2024 to 2027; 4.4%/year after 2028
- Allocation of allowances
 - Before 2013: Most of the allowances are allocated free of charge
 - Grandfathering method based on past emission performance
 - From 2013: Auction quotas become the principle (Art. 10(1))
 - Benchmarking method based on best technical standards (Art. 10a)

3.2. Specific Institutions

3.2.1. Institutions on measures against climate change

3.2.1.1. Institutions on GHG emissions

(1) EU ETS and CBAM

(iv) Carbon Border Adjustment Mechanism

- Established by the CBAM Regulation (Regulation (EU) 2023/956)
- Prevention scheme of carbon leakage caused by the EU ETS
 - Carbon leakage: Transfer of target industries outside the EU, substitution of industries by imports from outside the EU
- Target Industries (Art. 2(1) and Annex 1)
 - Imports of cement, electricity, fertilizers, steel, aluminum, hydrogen
- Regulation method: Impose the following obligations on importers
 - Declaration of GHG embodied emissions of products (Art. 6-8)
 - Surrender of CBAM certificates corresponding to emissions (Art. 22(1))
 - The price of CBAM certificates is linked to the price of emission allowances in the EU ETS (Art. 21(1))

3.2. Specific Institutions

3.2.1. Institutions on measures against climate change

3.2.1.1. Institutions on GHG emissions

(2) Instruments other than ET ETS

(i) Effort Sharing Regulation (Regulation (EU) 2018/842)

- **Purpose** (Art. 1)
 - In 2030: 40% reduction in GHG emissions from 2005 levels
 - In 2050: Climate neutrality
- **Subject** (Art. 2)
 - Areas not covered by the EU ETS
 - = construction, road transport, agriculture, waste management, etc.
- **Measures**
 - Reduction targets for each member state (Art. 4 and 10)
 - Allocation for each year of emissions for each member state (Art. 3 p. 2)
 - Member states' shall respect their own allocation (Art. 4(2) and 8)
 - Allocation can be advanced, carried over, and traded (Art. 5)
 - Some states may use ETS allowances for non-ETS areas (Art. 6)

3.2. Specific Institutions

3.2.1. Institutions on measures against climate change

3.2.1.1. Institutions on GHG emissions

(2) Instruments other than ET ETS

(ii) LULUCF Regulation (Regulation (EU) 2018/841)

- **Purpose** (Art. 4(2))
 - EU-wide net GHG removals of 310 million CO₂ equivalent tons in 2030
- **Subject** (Art. 2)
 - Land use, land use change and forestry (LULUCF)
 - ← Serves as a carbon sink
- **Regulations**
 - 2021 - 2025
 - GHG emissions - GHG removals ≤ 0 (no debit obligation: Art. 4(1))
 - 2026 - 2030
 - Keep emissions within the GHG emission budget (Art. 4(4))

3.2. Specific Institutions

3.2.1. Institutions on measures against climate change

3.2.1.1. Institutions on GHG emissions

(2) Instruments other than ET ETS

(iii) Emission Performance Standards for Cars Regulation

(Regulation (EU) 2019/631)

- **Purpose** (Art. 1)
 - Achieve GHG reduction targets set by European climate law
- **Target** (Art. 2)
 - Manufacture of new passenger cars and light commercial vehicles
- **Measures**
 - Obligation of manufacturers to reduce average CO₂ emissions
 - In 2030: 55% reduction for passenger cars and 50% for light commercial vehicles compare with emissions in 2021 (Art. 1(5))
 - In 2035: 100% reduction for both (Art. 1(5a))

3.2. Specific Institutions

3.2.1. Institutions on measures against climate change

3.2.1.2. Institutions on energy efficiency etc.

(1) Energy Union

(i) Energy Union

- Established in February 2015 as part of the EU's long-term strategy
- **Purpose**
 - (1) Ensure a reliable and stable supply of energy
 - (2) Creation of an energy market that guarantees affordability
 - (3) Realization of a sustainable energy society
- **Methods**
 - (1) Diversification of energy sources, suppliers, and transportation routes
 - (2) Integration of the EU Energy Market
 - (3) Energy efficiency improvements
 - (4) Decarbonization of the economy
 - (5) Strengthening research, imbrication, and competitiveness

3.2. Specific Institutions

3.2.1. Institutions on measures against climate change

3.2.1.2. Institutions on energy efficiency etc.

(1) Energy Union

(ii) Governance Regulation (Regulation (EU) 2018/1999)

- **Purpose**
 - Establishment of governance structure of the Energy Union (Art. 1(1))
- **Specifics**
 - Obligation of Member States and the Commission to develop a long-term strategy for GHG reduction (Art. 15)
 - Obligation of Member States to develop medium-term (2021-2030) energy and climate plans (Art. 3)

3.2. Specific Institutions

3.2.1. Institutions on measures against climate change

3.2.1.2. Institutions on energy efficiency etc.

(1) Energy Union

(ii) Governance Regulation (Regulation (EU) 2018/1999)

- **Specifics (continued)**
 - Commission's competence to supervise member states
 - Recommendations on Member States' plans (Art. 9(2))
 - Member States' obligation to submit the status of implementation of energy and climate plan every two years (Art. 17(1))
 - Commission evaluates the progress (Art. 29(1))
 - If the progress is insufficient → the Commission shall make recommendations to the Member State (Art. 32(1))
 - Commission's competence to supervise EU-wide implementation
 - When the EU-wide 2030 target may not be met → the Commission shall make recommendation to all Member States (Art. 32(2))
 - Member State receiving the recommendation should explain its response in its next report (Art. 34(2))

3.2. Specific Institutions

3.2.1. Institutions on measures against climate change

3.2.1.2. Institutions on energy efficiency etc.

(2) Individual energy-related legislation

(i) Energy Taxation Directive (Directive 2003/96/EC)

- **Purpose** (Recital 2-7)
 - Avoid significant differences in energy taxation among member states
 - Smooth operation of electricity and energy markets
 - Transition to a competitive low-carbon and energy-efficient society
- **Specifics**
 - Minimum taxation levels for certain energy products, etc. (Art. 2)
 - Proposals in COM/2021/563 final: Aligning tax policy with climate policy
 - Transition from taxing energy products by volume to taxing them according to their components
 - Eliminate incentives for fossil fuels
 - Promote the introduction of tax rates based on the environmental performance of energy products

3.2. Specific Institutions

3.2.1. Institutions on measures against climate change

3.2.1.2. Institutions on energy

(2) Individual energy-related legislation

(ii) Renewable Energy Directive (Directive (EU) 2018/2001)

- **Purpose** (Art. 3(1))
 - Share of renewable energy at least 32% in 2030 (*ex-Art. 3(1)*)
 - Amendment in 2023: 42.5% minimum, up to 45% target
- **Specifics**
 - Introduction of renewable energy into the transportation and heating and cooling sectors (Artt. 23 and below)
 - Amendment in 2023 covers the industrial sector (Art. 22a)
 - Biomass sustainability criteria (Artt. 29 and below)
 - Amendment in 2023: Enhanced standards (Art. 29 and Art. 29a)
 - Background: Degradation of carbon sinks due to current practices and damage to biodiversity

3.2. Specific Institutions

3.2.1. Institutions on measures against climate change

3.2.1.2. Institutions on energy efficiency etc.

(2) Individual energy-related legislation

(iii) Energy Efficiency Directive (Directive 2012/27/EU)

- **Specifics**
 - Energy efficiency obligation
 - 32.5% more efficient than projected 2030 consumption as of 2007
- **Contents of the Proposed 2023 Amendment**
 - 9% more efficient than projected 2030 consumption as of 2020
 - cf. Consumption cap will be about 90% of the current rule's target

3.2. Specific Institutions

3.2.1. Institutions on measures against climate change

3.2.1.2. Institutions on energy efficiency etc.

(2) Individual energy-related legislation

(iv) Alternative Fuel Infrastructure Directive (Directive 2014/94/EU)

- **Current Directive**
 - Policy framework and technical specifications for the development of markets for alternative fuels and refueling infrastructure
- **Problems with the current directive**
 - Target level is low and inconsistent
 - There are problems with interchangeability of communication standards and transparency of information provision
- **Proposal in Fit for 55**
 - The directive will be repealed by a new regulation.
 - Require member states to develop infrastructure with specific standards.

3.2. Specific Institutions

3.2.1. Institutions on measures against climate change

3.2.1.2. Institutions on energy efficiency etc.

(2) Individual energy-related legislation

(v) **Fuel EU** (COM(2021) 562 final amending Directive 2009/16/EC)

- **Purpose**
 - Policy framework and technical specifications for the development of markets for alternative fuels and refueling infrastructure
- **Specifics**
 - Limit on GHG intensity from mining to combustion of energy
- **Subject to discipline**
 - Energy used by vessels of 5,000 tons or more in ports in member states
 - Overall energy use for navigation between ports in member states
 - Half of the energy use for navigation between ports in member states and ports outside of member states

3.2. Specific Institutions

3.2.1. Institutions on measures against climate change

3.2.1.2. Institutions on energy efficiency etc.

(2) Individual energy-related legislation

(vi) ReFuel EU (COM(2021) 561 final)

- **Purpose**
 - Achieving a more sustainable aviation fuel supply
- **Specifics**
 - Increase in the blend ratio of sustainable fuels in aviation fuels
 - Obligor is aviation fuel suppliers

3. Climate Change Legislation in the EU

3.1. European Climate Law

3.2. Specific Institutions

3.2.1. Institutions on measures against climate change

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3.2.2. Ancillary institutions

3.2.2.1. Development of the net-zero industry

3.2.2.2. Protection of vulnerable citizens

3.2.2. Ancillary institutions

3.2.2.1. Development of the net-zero industry

Legislation for Green Deal Industrial Plan

- (1) Important Raw Materials Act
- (2) Net-Zero Industry Act

3.2.2. Ancillary institutions

3.2.2.1. Development of the net-zero industry

(1) Important Raw Materials Act

Purpose

- Ensuring a reliable and stable supply of critical raw materials (Art. 1(1))
- Background: Supply risk based on dependence on imports of CRM

Policy for achieving objectives (Art. 1(2))

- (i) Intra-EU mining, processing, and recycling enhancement of strategic raw materials (Art. 3, Annex 1)
- (ii) Diversification of import sources of SRM
- (iii) Improvement of the EU's monitoring and mitigation capacity regarding supply risks of CMR (Art. 4(1), Annex 2)
- (iv) Ensure free movement of CRM and other goods in the regional market

3.2.2. Ancillary institutions

3.2.2.1. Development of the net-zero industry

(1) Important Raw Materials Act

Concrete Measures

- (i) **Simplification of administrative procedures related to CRM**
 - One-stop shop for CRM-related permits in member states (Art. 8)
 - Expedite licensing procedures related to Strategic Projects (Art. 5 and 9)
 - Inducement of private investment (Artt. 14 and below)
 - CRM mining program (Art. 18)
- (ii) **Risk monitoring and risk mitigation for critical raw materials**
 - Monitoring of CRM supply risks by the Commission (Art. 19)
 - Obligation of Member States to report risks (Artt. 20 and 21)
 - Coordination of national SRM stockpiles by the Commission (Art. 22(3))
 - Obligation of large companies to audit supply chains (Art. 23(2))
 - Joint purchasing of strategic resource (Art. 24)

3.2.2. Ancillary institutions

3.2.2.1. Development of the net-zero industry

(1) Important Raw Materials Act

Concrete Measures (continued)

- (iii) **Sustainability**
 - Collection and recycling of waste containing RM, etc. (Art. 25)
 - Distribution of products containing IRM, etc. (Art. 31)

3.2.2. Ancillary institutions

3.2.2.1. Development of the net-zero industry

(2) Net-Zero Industry Act

Purpose (Art. 1(1))

- Develop a framework for innovation and scaling of net-zero technology
 - Achieve emission reduction targets for 2030 and 2050
 - Ensuring a safe and sustainable supply of net zero technology
 - Net zero technology (Art. 3(1)a): renewable energy technology, energy storage and thermal storage technology, etc.

Policy for achieving objectives (Art. 1(2))

- (i) Strengthen manufacturing capacity for strategic net-zero technology
 - 40% of the demand of the technology necessary to meet the 2030 target will be manufactured within the EU
- (ii) Free movement of net-zero technologies in the internal market

3.2.2. Ancillary institutions

3.2.2.1. Development of the net-zero industry

(2) Net-Zero Industry Act

Concrete Measures

- (i) **Ensure predictability of regulations and simplify permit procedures**
 - One-stop shop for permits in member states (Art. 4)
 - Information on administrative procedures available online (Art. 5)
 - Time limit for processing permit procedures (Art. 6(1))
- (ii) **Special Provisions for Net Zero Strategic Projects** (Artt. 10 and 11)
 - Expedite processing of permit procedures (Artt. 12(1) and 13(1))
 - Net Zero Strategic Projects: Projects that fulfill certain requirements, such as improving the resilience of the EU energy system by improving the manufacturing capacity of net zero technologies that are heavily dependent on imports from a single third country
 - Inducement of private investment (Artt. 14 and 15)
- (iii) **Capacity expansion of CO₂ storage facilities** (Art. 16)
 - Obligation of oil and gas producers to inject CO₂ in proportion to their production (Art. 18(1))

3.2.2. Ancillary institutions

3.2.2.1. Development of the net-zero industry

(2) Net-Zero Industry Act

Concrete Measures (continued)

- (iv) **Facilitate market access of net-zero technology**
 - Institutional design considering contribution to sustainability, resilience.
 - Public procurement (Art. 19), auctions (Art. 20), subsidies (Art. 21)
- (v) **Human resource development and job creation**
 - European Academy of Net-Zero Industries (Art. 23)
 - Learning programs and worker matching on Net Zero technology
 - Net Zero European Platform (Artt. 24, 28 and 29)
 - Supervision and assistance in the Academy's activities, etc.
- (vi) **Regulatory sandbox**
 - Established by Member States for the development, testing and demonstration of innovative technologies (Art. 27)
 - Guaranteed priority access for SMEs (Art. 28)

3.2.2. Ancillary institutions

3.2.2.2. Protection of vulnerable citizens

Background

- 2027: Establishment of EU ETS II (3.2.1.1.(1)②)
 - Prices are expected to rise in the construction and road transportation areas.
- Support is needed for parties that are vulnerable.

3.2.2. Ancillary institutions

3.2.2.2. Protection of vulnerable citizens

Social Climate Fund (Regulation (EU) 2023/955)

Purpose

- Support to parties particularly affected by the ETS II (Art. 1)
 - e.g., households, small businesses, road transport users
- Socially equitable transition to climate neutrality (Article 3.1)

Financial Resources

- Mainly funded by contributions from the ETS II revenues (Art. 10(1))

3.2.2. Ancillary institutions

3.2.2.2. Protection of vulnerable citizens

Social Climate Fund (continued)

Specifics

- Social Climate Plans by member states (Recital 17, Art. 4)
 - Long-term measure: Investment financing to promote reduced dependence on fossil fuels
 - Short-term measures: direct income support to mitigate adverse income impacts
- Commission's review of the plan's conformity with the regulation (Artt. 16-20)
 - If compliant, the fund assist the plan (Artt. 1, 3(2), and 7(1))

Conclusion

Ambitious target-setting of the Commission

- Part of directives and regulations below is under negotiation
- Fit for 55 is very ambitious
 - “The most difficult policy-making process in the last decade”

Significance of the challenge of the EU

- Part of directives and regulations below have already enacted
- EU has achieved a decoupling economic growth from GHG emissions
- EU legislation may provide us suggestions for institutional design in East Asia



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