Developments of European Union Energy Law and Policy: Towards Integration, Decarbonisation, and Security of Supply

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Abstract: The present study on the historical developments of European Union energy law and policy reviews the different legal and policy-making initiatives and instruments of the European Union and its predecessors, the European Communities, in an attempt to map and make sense of the fundamental shifts which occurred throughout these decades. It projects a picture of twists and turns, a not linear progression of the policy-making in the energy sector: from very humble beginnings, where States tapped variably on different natural resources but generally consistently reserved their right to determine their energy mix and established monopolies in the energy sector, towards the engagement in a pathway of variable forms of coordination of EU Member States' energy policies and overall Europeanisation of the sector, ultimately leading to the highly integrated, very complex EU energy system of today's.

Over 70 years after a first 'pre-historical' decision of some European states to pool their production of coal, at the time the most important source of energy, initiating the whole European construction, the European Union, still sometimes affected by external shocks, is growingly designing and implementing common public policies in the sector which are determined by principles and goals enshrined in different legal and policy instruments and which

are more immediately densified in targets that are periodically revised, incentivising reforms and progress. This complex system of laws and policies oriented towards market integration, decarbonisation, sustainability and security of supply, more fundamentally configures an overall project of societal transformation or transition – the energy transition, which entertains deep nexus with the parallel green, ecological and climate transitions. More recently, this fundamental project of societal transition appears to growingly be faced with challenges calling for technological advancement, resolute investments and the balancing of efficiency and security concerns with ones of social fairness and attention to and empowerment of all Europeans; that the energy transition also becomes a just transition.

Keywords: climate action; climate neutrality; decarbonization; energy efficiency; energy mix; energy transition; EU energy law; EU energy policy; Energy Union; Europeanisation; integration; governance; internal market; just transition; principles; security; shared competences; sustainability; renewable energy; targets.

Introduction: Foundations and Core Principles

European Union (EU) energy law and policy is a dynamic and multifaceted domain that underpins the EU's efforts to create a unified, sustainable, and secure energy system. Rooted in the Treaties, particularly since the Lisbon Treaty amendment, and, more specifically, in Article 194 of the Treaty on the Functioning of the European Union (TFEU),[1] this discreet body of law and public policy, which has historically had very humble beginnings, balances shared competences between the EU and its Member States, acknowledging each State's right to determine its energy mix and exploit its own resources while working towards common goals.

[1] Treaty on the Functioning of the European Union (TFEU), as amended by the Treaty of Lisbon, *OJ* C 202, 7.6.2016, p. 132.

The core objectives of EU energy law are to ensure the functioning of the internal energy market, guarantee security of supply, promote energy efficiency and renewable sources, and facilitate the interconnection of energy networks. The legal framework has evolved significantly over several decades, sometimes in apparently erratic moves, driven by the imperatives of market liberalisation and the hopes of enhanced efficiency, and, more recently, climate change mitigation and sustainability, as well as a heightened focus on energy independence and security following geopolitical shifts ensuing Russia's invasion of Ukraine.

The legal basis for EU energy policy lies primarily in Article 194 TFEU, which formalises shared competences in energy matters. The Union's policy actions are guided by five key principles:

- market integration: the principle promotes the creation of a fully integrated, competitive internal energy market without technical or regulatory barriers, which allows energy to flow freely across borders;

- security of supply: it calls for ensuring reliable and affordable energy supplies for citizens and businesses through diversification of sources and robust infrastructure resilience;

- sustainability and decarbonization: the normative message is one of promoting the transition to a low-carbon economy, and more recently and more ambitiously, a climate-neutral economy, in line with goals set out by the Paris Agreement and the European Green Deal;

- solidarity: it mandates cooperation between Member States to prevent and manage supply disruptions;

- energy efficiency first: the principle places an obligation on Member States to consider energy efficiency solutions in all relevant planning and investment decisions.

Apart from its constitutional foundation, EU energy law and policy, has equally been shaped by more specific secondary law and policy measures.

Their development may be analysed in different phases: a first one may still be classed as pre-historic or the one of humble prolegomena to EU energy law and policy – only eventually do these disparate moves translate into a distinct resolve to build a discreet body of EU law for the energy sector; the next ones can be seen as the proper historical development of a growingly cohesive although also more complex EU Energy law and policy field.

I. Prolegomena: Disparate Initiatives on Energy Matters throughout the Early Decades of the European Construction, but Lack of a Common European Energy Policy

1. Energy is at the heart of the early European construction although not giving rise to a European energy policy

European Union (EU) origins are directly related to energy. Energy was the starting point of European construction. Coming out of the Word War II, Europeans faced a dramatic two-fold necessity: finding a political way to escape a multi-secular trend which made each state fight against other ones, engulfing Europe, and sometimes the world, in warfare competition, and reconstruction of their societies and economies, severely decimated by the war.

For the latter challenge, large amounts of steel were necessary for reconstruction as well as great amounts of coal were needed for steel production and the generation of electricity. This realisation underpins the Schuman Declaration made by French Foreign Minister

Robert Schuman on the 9th of May of 1950, where he proposed to link these two industries, to address the two primary tasks of the time: reconstruct the war-torn economy and to prevent warfare, and instead ensure lasting peace on the continent, by establishing the basis of a common market for coal and steel.

This shall lead to the adoption of the Treaty of Paris in 1951 whereby six European states (France, West Germany, Italy, Belgium, the Netherlands and Luxembourg) decided to join forces in those two key sectors of the economy, coal and steel, and create a Community that would replace conflict with cooperation and destruction with prosperity. With the establishment of the European Coal and Steel Community (ECSC), a cross jurisdictional control on the energy resources is foreseen that shall pave the way for greater economic cooperation in general. The six states members of the ECSC handed over their powers in the area to the High Authority, an independent supervision body tasked with exercising that control and ensuring market functioning. The ECSC Treaty in its Article 3 also sets out the concept of 'security of supply' in Community law, and as a main objective, a forerunner of a similar goal of the deliberate common European energy policy that shall emerge much later. The ECSC was established for a period of 50 years, expiring in 2002.

Soon after the launch of the ECSC, however, it was recognized that coal, a common source of energy within the founding members of the European Community (EC) in the immediate aftermath of World War II, would not be the driver of economic growth. It would instead be replaced by nuclear energy as the centre of the economy to cover the need for abundant low-cost energy. While at beginning of the 1950s the share of coal in primary energy supply amounted to almost 90%, by the mid 1950s European coal production increasingly faced dwindling relevance owing to the imports of cheaper coal from overseas and the growing importance of oil. This accredited the idea of establishing an Atomic Energy Community, believed to enable the supply of cheap electricity in times of growing demand and lower

dependence on oil imports. The 1956 Suez Canal Crisis further enhanced a climate propitious to think about a more coordinated energy policy and establishing an Atomic Energy Community, given the fear of unreliable oil imports from the Middle East.

As a result, the European Atomic Energy Community Treaty (Euratom) was introduced in 1957, by the Treaty of Rome, aiming to guarantee the safety and control of radioactive materials and promote the development of nuclear energy for peaceful purposes. Euratom's goals were to establish a framework for research on efficient use of atomic energy for peaceful purposes, the creation and implementation of common technical safety standards, investment incentives and a common supply policy for nuclear material. Another motivation was Europe's energy independence and to guarantee the supply of raw materials in the wake of the Suez Crisis, which threatened to cut off oil supplies. In real practice, the Euratom Treaty established an internal market for these products along with a Supply Agency (operational from 1960) that led to community policy in the field of nuclear energy. This was meant to *"ensure that all users in the Community receive a regular and equitable supply"* (Art. 52 of the Euratom Treaty), and a 20 per cent maximum supply of uranium from a single non-EU state. The Supply Agency's competency extended to *"an exclusive right to conclude contracts"* relating to supplies (Art. 53); though member states retained the right to appeal to the Commission. Following on the steps of the ECSC Treaty, the Euratom Treaty thus again provided a few energy policy tools based on exclusive supranational powers vested in a central authority. Several regulations adopted under the treaty are still in force today. In common, both the ECSC and the Euratom treaties sought to foster economic interdependence and security of supply for specific energy sources.

The Treaty establishing the European Atomic Energy Community (Euratom) was signed in Rome in 1957 at the same time as the Treaty establishing the European Economic Community (EEC) – itself also known as Treaty of Rome. Both Treaties of Rome entered into force

in 1958. One of the key drivers of the Treaty of Rome which created the European Economic Community (EEC), was of a much wider scope: economic integration, to be pursued by the free movement of economic factors and especially, first, the free movement of goods. Theoretically, this might have included energy. The aspiration would be to transfer the advantageous effects of an internal market to the energy markets. States were however of another view in the area at the time, and consequentially national markets remained largely protected - and so they remained for decades. The reality of prevalent energy resources also helped maintain this situation: in the sixties, the share of coal in primary energy supply further decreased steeply, oil (mostly cheaply imported) replacing coal as the most important energy source of the decade.

2. The oil crises of the 1960s and 1970s

Negative developments in the Middle East and the ensuing climate of insecurity in Europe as to the main source of energy at the time, are going to somewhat affect the circumstances prevalent in the sector. As a result of the Six-Day War (1967) and the subsequent conflict between Egypt and Israel, the Suez Canal, constituting a front line in the dispute, shall not be reopened until June 1975 after the end of the Yom Kippur War. With this new Suez Canal crisis, European states became more aware of its fragile dependence on oil imports from the Middle East. As a direct reaction to the crisis, the EEC Member States adopted a Council Directive on December 20, 1968, requiring member states to maintain minimum stocks of crude oil and/or petroleum products for 65 days[2]. As the dependence on oil imports remained and even grew, this initial Directive was amended by a Council Directive from December 19, 1972, which increased the

[2] Council Directive of 20 December 1968 imposing an obligation on Member States of the EEC to maintain minimum stocks of crude oil and/or petroleum products (72/425/EEC).

minimum stock obligation to 90 days[3] with the deliberate purpose of preventing potential oil supply shortages and ensuring security of supply in the event of a crisis.

The Commission was also asked to come up with proposals on how to further develop European energy policy. The European Commission's 1968 *'Community Energy Policy'*[4], set out dependency concerns, and the goal of building a Community energy policy, a *"Community energy policy which fully integrates the energy sector into the common market"*, counterbalancing *"risks arising from the great dependence of the Member States on imports and from insufficient diversification of the sources of supply"*.[5] The proposals in 1968 were that the EU should have a general framework for action and measures in place in case of supply disruption, and that a common energy market should be implemented. The period up to 1970 was however characterised by a combination of relatively low prices and ample availability, which explains that the proposed Community action did not proceed and the period instead witnesses the creation of vertically integrated energy companies in the member states.

It was not until a restriction of oil supplies led to the European Commission's predicting that the era of easy supply *"has little chance of being maintained"*[6], that a slow movement towards the emergence

[3] Council Directive 72/425/EEC of 19 December 1972 amending the Council Directive of 20 December 1968 imposing an obligation on Member States of the EEC to maintain minimum stocks of crude oil and/or petroleum products.

[4] European Commission, *First Guidelines for a Community Energy Policy*, COM (68) 1040 final, 18 December 1968, published in *Bulletin of the European Communities*, Supplement 1/69.

[5] *Ibid*., p. 5.

[6] European Commission, *First Guidelines and Priorities for a*

of a true European energy policy is going to start to be observed. The event which is going to trigger this slow movement towards the "*Europeanisation*" of the energy sector intervenes in October 1973, when Egypt and Syria attacked Israel, leading to the Yom Kippur War. Western states supported Israel. In retaliation, the Arab countries of the Organization of Petroleum Exporting Countries (OPEC) imposed an oil embargo on those countries. The group also imposed sharp price increases on oil. The impact on Europe was fierce. The embargo and price hikes created severe economic problems and inflation across Europe. The crisis exposed how heavily Europe relied on imported oil and highlighted the lack of a unified European energy policy. In response, European governments and the public began reassessing their dependence on foreign oil. This led Member States of the European Communities to opt for individual solutions: measures focused on speed limits, car-free days, rationing, promoting public transportation, improving energy efficiency, and developing alternative energy sources (indigenous nuclear, (North Sea) oil and gas, and diversified supplies).[7]

The embargo was eventually lifted in March 1974, but the crisis this time proved to have a more lasting impact on energy policies and consumption patterns in Europe (and worldwide). It forced Western countries to confront their vulnerabilities and the new power *of* oil-producing nations. Special drivers for rethinking were the sense of vulnerability to interruptions of energy supply, and the inadequacy of securing supplies for the EC against a backdrop where policymaking

Community Energy Policy, COM (72) 1700 final, 13 November 1972, published in *Bulletin of the European Communities*, Supplement 11/72, pp. 2-3.

[7] International Energy Agency (IEA), *Oil Crisis Report* (1974) and European Commission, *European Energy Policy* (1974), Bulletin of the European Communities, Supplement 4/74.

remained within an intergovernmental domain.[8] Outside of Europe, the 1973 oil crisis led the USA to propose the establishment of an OECD-based institution to confront OPEC. Thus, the International Energy Agency (IEA) was founded, in 1975, an entity which subsequently became a main focal point for the coordination of national energy policies. Specifically, in Europe, however, besides, the EEC Council's adoption, in 17 December 1974, of a Resolution concerning Community energy policy objectives for 1985[9], in which it is proclaimed the need for a common European energy policy and the statement that this could only be achieved by setting up quantitative goals and objectives until 1985, amongst which the ones of reduction of energy imports from third countries to below 50%, if possible to 40%; 15% reduction of energy consumption; and 9% reduction of oil consumption, practical common results or actions in the sector remained rather low.

This situation did not fundamentally change either when a second oil shock intervenes in 1979, in the aftermath of the Iranian Revolution where protesters severely disrupted the Iranian oil sector and production was significantly curtailed, nor when, one year after, in 1980, the first Iran-Iraq war started, bringing the production of oil in Iran and Iraq to a severe decline and to steep spikes in the price for imported oil. European states again reacted with the adoption of national strategies towards efficient energy use and security of supply,

[8] Emil J. Kirchner and Jan-Henrik Berk, "European Energy Security: Co-operative or Conflictual?", *Journal of Common Market Studies*, 2010, vol. 48, pp.859, *et sequitur, notius* p. 869.

[9] Council Resolution of 17 December 1974 concerning *Community energy policy objectives for 1985 OJ* C 153/1, 1975.

and the Commission again made recommendations[10] [11] with scarce follow-up: again, these recommendations were largely ignored by the Council and Member States - a situation which did not fundamentally change until the 1990s.

3. The humble beginnings of a common nuclear energy policy with the Chernobyl accident

The potential for Europeanisation of national energy policies or Community action in these decades thus remained largely exemplified by, but also limited to, the Union's nuclear energy policy. This again gained some momentum with the Chernobyl accident and the need to find response thereto.

The explosion at the Chernobyl nuclear plant in 1986 released large quantities of radioactive particles in the atmosphere spreading over much of Europe. Various information provision obligations formerly enacted did not function properly in times of this crisis. The European Community shall react to these by adopting Council Resolution of 4 July 1986 on the consequences of the Chernobyl accident [12] and enacting Council Decision of 14 December 1987 on

[10] European Commission, *Communication on energy policy in the Community* (COM (79) 385 final, 25 July 1979.

[11] For instance, in 1981, the Commission predicted a substantial increase in energy demand, but recognising the heterogeneity of preferences amongst Member States did not propose any '*substantial centralization of energy policy instruments' nor 'uniformity in the diversification of supply'* (*The Development of an Energy Strategy for the Community*, Communication from the Commission to the Council, 1981, 540 final, p. 10).

[12] Council Resolution of 4 July 1986 on the consequences of the Chernobyl accident, *OJ* C 204, 11.08.1986, pp. 1-2.

arrangements for the early exchange of information in the event of a radiological emergency[13] and creating the European Community Urgent Radiological Information Exchange (ECURIE) to guarantee constant monitoring of radioactive levels of air, water and soil. More legislation on maximum radioactive levels in food and health and safety measures for the population in the event of an emergency also followed.[14]

4. No fundamental change with the Single European Act (1986), the Maastricht Treaty (1992), the Amsterdam Treaty (1997) and the Nice Treaty (2001): indirect facilitation

The Single European Act (1986), the Maastricht Treaty (1992) and then the Amsterdam Treaty (1997) widened the focus of energy related matters, just lightly, with security of supply as a main issue. Although energy market deregulation, environmental protection and climate change problems became more prominent, they did not translate into an energy-specific European primary law, directly

[13] Council Decision 87/600/Euratom of 14 December 1987 on Community arrangements for the early exchange of information in the event of a radiological emergency, *OJ* L 371, 30.12.1987, pp. 76–78.

[14] Council Regulation (Euratom) No 3954/87 of 22 December 1987 laying down maximum permitted levels of radioactive contamination of foodstuffs and of feeding stuffs following a nuclear accident or any other case of radiological emergency *OJ* L 371, 30.12.1987, p. 11 and the amending Council Regulation (Euratom) No 2218/89 of 18 July 1989 amending Regulation (Euratom) No 3954/87 laying down maximum permitted levels of radioactive contamination of foodstuffs and of feeding stuffs following a nuclear accident or any other case of radiological emergency, *OJ* L 211, 22.7.1989, p. 1.

establishing a common European energy policy.[15] The developments of EU primary law shall however indirectly facilitate its emergence through the reinforcement of the internal market and the adoption of a European environmental policy.

More specifically, following up on the signature of the Single European Act (SEA) and its injunction to create a true single market by removing the barriers that hindered the free circulation of goods, services, capital and people, coupled with the impetus of Jacques Delors, President of the European Commission, measures to establish an internal market were effectively systematically pursued to ensure that it would come true by the end of 1992 (Art. 13, introducing supplementing art. 8a).[16] [17] Overall, the Single European Act pushed the European Community in a liberalising direction, generally forcing competition and a market-oriented approach. Although there was no explicit reference to energy policy, the general spirit towards an internal market, the prevalent principles of competition and

[15] This is what the leading EU studies scholar to whom this study is dedicated, Professor Manuel Lopes Porto, 'denounces', while opening the section devoted to 'Energy Policy', in his seminal textbook, M.C. Lopes Porto, *Teoria de Integração e Políticas Comunitárias Face aos Desafios da Globalização*, 4th. ed., Coimbra, 2009, Almedina and M.C. Lopes Porto, *Theory of Integration and EU Policies*, Macau, 2004, Institute of European Studies of Macau, at p. 355.

[16] *Single European Act* (*OJ* L 169, 29.06.1987).

[17] Art. 8a: "*The Community shall adopt measures with the aim of progressively establishing the internal market over a period expiring on 31 December 1992, in accordance with the provisions of this Article and of Articles 8b, 8c, 28, 57 (2), 59, 70 (1), 84, 99, 100a and 100b and without prejudice to the other provisions of this Treaty .*
The internal market shall comprise an area without internal frontiers in which the free movement of goods , persons, services and capital is ensured in accordance with the provisions of this Treaty."

market integration and the overall liberalising actions provided the groundwork for an emerging energy policy.

Besides, the SEA incorporated a pillar on environmental protection.[18] As a result, relevant energy legislative acts could then be adopted based on both the internal market references in different provisions and the environment pillar introduced by the Single European Act.

And indeed, legislation on the internal energy market shall be first enacted from the 1990s. The first internal energy market Directives shall be adopted in 1996 and 1998 already.[19] Thus starts the first steps, however, timid, of a movement of gradual liberalization of the energy sector: by establishing some competition among operators that became trans-European, by asserting the principle of separation of energy production, transportation and distribution activities,[20] and by the introduction of market prices. Each Member State however, remained decision-maker in determining its own energy mix.

[18] Articles 130R-130T, now TFEU Articles 191-193.

[19] See *infra* under II..

[20] The EU decided to distinguish clearly between competitive parts of the industry (*e.g.* supply to customers) and non-competitive parts (*e.g.* operation of the networks); oblige the operators of the non-competitive parts of the industry (*e.g.* the networks and other infrastructure) to allow third parties to have access to the infrastructure; free up the supply side of the market (*e.g.* remove barriers preventing alternative suppliers from importing or producing energy); remove gradually all barriers to supplier switching; introduce independent regulators to monitor the sector.

On the external side, an energy plan of action to 1995[21] was drawn, focused on putting the *"concept of Community solidarity into practice"* with the objective of *"geographical diversification of the Community's external sources of supply"* and *"greater integration, free from barriers to trade, of the internal energy market"*[22]. Energy external objectives lacked however substantive legislation to achieve them.

No Community action was set out either in the external dimension in either the Maastricht (1992), Amsterdam (1997) or Nice (2001) Treaties. The Council had competency, acting unanimously on Commission proposals (consulting with the European Parliament) (Art. 130s)[23]. Commission competency was limited to the internal

[21] Council Resolution of 16 September 1986 *concerning new Community energy policy objectives for 1995* (*OJ* C 241, 25.09.1986, pp. 1-2).

[22] *Ibid.*

[23] Article 130s
"1. (...)
2. *By way of derogation from the decision-making procedure provided for in paragraph 1 and without prejudice to Article 100a, the Council, acting unanimously on a proposal from the Commission and after consulting the European Parliament and the Economic and Social Committee, shall adopt*:
— (...);
— (...);
— *measures significantly affecting a Member State's choice between different energy sources and the general structure of its energy supply*.
The Council may, under the conditions laid down in the preceding subparagraph, define those matters referred to in this paragraph on which decisions are to be taken by a qualified majority.
3. (...).
4. (...).
5. (...)."

energy market, though the Maastricht Treaty's Article 3[24] sets out the objective of extending the activities of the Community to the sphere of energy[25]. This is the first ever explicit mention of energy in primary law of the European Community, although it stopped there and did not include a set of provisions or chapter dedicated to energy.

II. Phase 1 of EU Energy Law and Policy's History (late 1990s-mid-2000s): Market Liberalisation, the Development of the Internal Energy Market and Key Legislation

The process of market liberalisation in the European Union's energy sector during the late 1990s and mid-2000s involves a resolute shift from traditional, vertically integrated state monopolies which are to be dismantled and the determination to fostering competition to reach a competitive internal energy market. Motivated by economic efficiency, the desire for lower prices, and a belief in market forces, this transformation was implemented through a series of legislative measures and institutional changes. The primary objective was to create a single, integrated European electricity and natural gas market where any consumer could choose their supplier from a wide range of competitors, thereby fostering innovation and ensuring non-discriminatory access to essential network infrastructure.

[24] *Treaty on European Union* (Maastricht Treaty) (*OJ* C 191, 29.07.1992).

[25] Article 3: *For the purposes set out in Article 2, the activities of the Community shall include, as provided in this Treaty and in accordance with the timetable set out therein:* (...) *(t) measures in the spheres of energy, civil protection and tourism.*

1. The First Energy Package (1996/1998): Initial Directives for opening up the electricity and natural gas markets

The journey of EU energy market liberalisation began with the adoption of the First Energy Package. This legislative milestone comprised two key directives: the Electricity Directive 96/92/EC in December 1996[26] and the Natural Gas Directive 98/30/EC in June 1998.[27]

The core objectives of these directives were the ones of ending national monopolies in the generation, import, and export of electricity and gas and introducing a gradual process of market opening to competition, primarily for large industrial customers who were deemed "*eligible customers*" and could choose their supplier. This initial phase aimed to open approximately one-third of national electricity markets.

For this, this first legislative package introduced a requirement for non-discriminatory access for third parties to the network infrastructure (transmission and distribution). This was a crucial step to ensure that new market entrants could transport their energy to customers without being hindered by the incumbent, vertically integrated companies that also owned the grids. To ensure transparency and prevent cross-subsidisation between the competitive layer (generation/supply) and the monopolistic (transmission/

[26] Directive 96/92/EC of the European Parliament and of the Council of 19 December 1996 concerning common rules for the internal market in electricity, *OJ* L27, 30.01.1997, pp. 20-29.

[27] Directive 98/30/EC of the European Parliament and of the Council of 22 June 1998 concerning common rules for the internal market in natural gas, *OJ* L204, 21.07.1998, pp. 1-12.

distribution) part of the energy business, the directives mandated accounting unbundling, that is the separation of these activities within integrated utilities.

These substantive options were organisationally supported by Member States being required to establish independent national regulatory authorities to oversee the newly opening markets and ensure fair application of the new rules.

The First Energy Package was a starting point, but its impact was limited. Member States had flexibility in implementation, [28] leading to varied levels of market opening across the EU. In many countries, the incumbent companies retained significant market power, and the accounting unbundling rule was often considered insufficient to guarantee truly fair competition. The recognition of these shortcomings laid the groundwork for the adoption of more robust legislation in the subsequent years.

2. The Second Energy Package (2003): Mandating supplier choice for industrial and domestic consumers

The limitations of the first package led to the adoption of the Second Energy Package in 2003, which included the Electricity Directive 2003/54/EC[29] and the Natural Gas Directive 2003/55/

[28] The first liberalisation package adopted in 1996 for electricity and 1998 for gas was to be transposed into member states' legal systems by respectively 1999 (electricity) and 2000 (gas).

[29] Directive 2003/54/EC of the European Parliament and of the Council of 26 June 2003 concerning common rules for the internal market in electricity and repealing Directive 96/92/EC - Statements made with regard to decommissioning and waste management activities, *OJ* L 176, 15.7.2003, pp. 37-56.

EC[30]. This second legislative package[31] significantly deepened the liberalisation process and accelerated the establishment of an energy market.

The most significant substantive change introduced by this second package of legislation was the establishment of a mandatory supplier choice for all consumers[32]. This was phased in, with industrial and commercial customers gaining full choice by July 1, 2004, and all domestic household consumers by July 1, 2007.

Parallelly, the key requirement of the substantive strategy to ensure fair competition, that of unbundling, was strengthened: from mere accounting separation to legal unbundling. The ensuing result was the separation of competitive activities (generation and supply) from natural monopolies (transmission and distribution networks). The overall goal pursued with this strategy and corresponding

[30] Directive 2003/55/EC of the European Parliament and of the Council of 26 June 2003 concerning common rules for the internal market in natural gas and repealing Directive 98/30/EC, *OJ* L 176, 15.07.2003, pp. 57-78.

[31] Besides the aforementioned second electricity Directive 2003/54/EC and the second gas Directive 2003/55/EC, the package also included Regulation (EC) No 1228/2003 on conditions for access to the network for cross border exchanges in electricity.

[32] Directive 2003/54/EC of the European Parliament and of the Council of 26 June 2003 concerning common rules for the internal market in electricity and repealing Directive 96/92/EC, *OJ* L 176, 15.7.2003, p. 37–56, Arts. 21–23; Directive 2003/55/EC of the European Parliament and of the Council of 26 June 2003 concerning common rules for the internal market in natural gas and repealing Directive 98/30/EC, *OJ* L 176, 15.7.2003, pp. 57-78, Arts. 23-25.

legislative instruments was to prevent incumbent companies from abusing their control over essential grid infrastructure to disadvantage competitors. Non-discriminatory third-party access (TPA) was the mechanism through which this was to be achieved. The transmission system operator (TSO) had to be a legally separate entity from the generation and supply businesses, even if both were still owned by the same parent company. The aim was to reinforce the independence of TSOs and ensure non-discriminatory network access.

Complementarily, the package introduced a set of enhanced consumer protection measures substantiating the aforementioned choice, including access to clear information regarding their consumption data, the possibility for switching suppliers within a specified timeframe (typically three weeks), and access to dispute settlement mechanisms.

The Second Package thus accelerated market integration and competition. It broke down many remaining national barriers and pushed the EU closer to a single energy market. However, the continued potential for influence by vertically integrated companies through common ownership structures is going to originate a debate over the effectiveness of legal unbundling versus full ownership unbundling which later shall lead to the adoption of complementary legislative measures. The first of these shall be a Third Energy Package, adopted in 2009, focusing on even stricter ownership unbundling. This Third Energy Package shall thence be accrued by the adoption a decade later (2019) of the "*Clean Energy for All Europeans*" Package.

3. Institutional development

The initial double legislative push for liberalisation was supported by the development of new institutions meant to grant that the substantive regulatory principles designed to facilitate and manage the complex transition as well as to ensure a level playing field would be effectively implemented.

The main vector of this normative, organisational development rested in the formation of the Council of European Energy Regulators (CEER), a process which occurred in the late 1990s[33]. The CEER was a voluntary association of independent national energy regulators from across the EU, whose regulatory powers and independence were enhanced, for allowing them to monitor market behaviour and ensuring compliance with the new rules. The CEER's primary role was to facilitate cooperation and coordination among the national regulators, share best practices, and work towards harmonised regulatory practices. For that, the CEER was endowed with an advisory role whereby it provided expert advice to the European Commission on matters related to the internal energy market, helping to shape future legislation, including what shall eventually become the Third Energy Package. The CEER served as the functional precursor to what later became the official European Union Agency for the Cooperation of Energy Regulators (ACER), a body formally established in 2009, already as part of the Third Energy Package. The focus of this institutional development was to create a neutral system operator responsible solely for managing the flow of energy across the grid efficiently and transparently, regardless of which company generated or supplied the power. This was seen as vital for the development of a truly competitive and integrated European energy market.

The late 1990s and mid-2000s were a transformative period for the European energy sector. The First and Second Energy Packages progressively dismantled state monopolies, introduced competition, and mandated supplier choice for all consumers. Simultaneously, institutional bodies like CEER were formed to foster regulatory

[33] The formal establishment of CEER intervenes in 2000. See Jorge Vasconcelos , "Towards the internal energy market; How to bridge a regulatory gap and build a regulatory framework", *European Review of Energy Markets*, 2005,Volume 1, issue 1, pp. 81-103, *notius* pp. 93-94

cooperation, and the principle of unbundling was consistently strengthened to ensure fair and non-discriminatory access to the grid. This era set the stage for a single, integrated, and competitive internal energy market in the EU.

III. Phase 2 (Mid-2000s-2010s): The EU Energy Law and Policy are Becoming more Linked to EU's Climate Policy and Goals

EU's energy law and EU energy policy are intrinsically linked to its climate policy. This nexus is going to become more visible and stronger as the EU climate policy is going to grow in ambition. The mid-2000s to the 2010s period is going to be seen as a transformative era in the European Union's approach to energy and climate policy, mainly by shifting from indicative goals to legally binding and comprehensive frameworks.

Four main landmark legal and policy developments, chronologically ordered by their date of issuance, are going to underscore this general evolution in the period:

- the establishment in 2005 of the emissions trading system (ETS);[34]

- the adoption, in 2009, of the 20-20-20 Package and the introduction of binding targets;[35]

[34] Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC, *OJ* L 275, 25.10.2003, pp. 32-46.

[35] Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy

- the issuance, also in 2009, of the Third Energy market legislative package;[36] and
  the constitutionalisation, again with entry into force in 2009, of the EU Energy Policy in the Treaties.[37]

1. The EU Emissions Trading System launch (2005)

The EU ETS, launched in January 2005, is the world's first major international emissions trading system and remains the cornerstone of EU climate policy that puts a price on carbon, incentivising to reduce emissions.

The Emission trading system was conceived in response to the commitments made under the 1997 Kyoto Protocol,[38] which

from renewable sources, *OJ* L 140, 5.6.2009, pp. 16–62; Decision No 406/2009/EC of the European Parliament and of the Council of 23 April 2009 on the effort of Member States to reduce their greenhouse gas emissions, *OJ* L 140, 5.6.2009, pp. 136-148.

[36] Directive 2009/72/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in electricity, *OJ* L 211, 14.8.2009, pp. 55-93; Directive 2009/73/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in natural gas, *OJ* L 211, 14.8.2009, pp. 94-136; Regulation (EC) No 714/2009, *OJ* L 211, 14.8.2009, pp. 15-35; Regulation (EC) No 715/2009, *OJ* L 211, 14.8.2009, pp. 36-54.

[37] Treaty of Lisbon amending the Treaty on European Union and the Treaty establishing the European Community, signed 13 December 2007, entered into force 1 December 2009, *OJ* C 306, 17.12.2007.

[38] Kyoto Protocol to the United Nations Framework Convention on Climate Change, Dec. 10, 1997, 2303 *UNTS*162.

set legally binding greenhouse gas (GHG) reduction targets for industrialized nations. Against this background of international governance negotiations, the development of the EU energy policy occurred by setting up a EU cost-effective, market-based mechanism to achieve its share of these reductions. A "cap-and-trade" system was identified as an efficient way to encourage emissions reductions where they were cheapest.

The core idea and rationale of the system is to put a price on carbon. A limit (cap) is set on the total amount of specific GHGs that can be emitted by covered installations (power generators and heavy industry, initially). This cap is divided into tradable allowances (EUAs), where one allowance equals one tonne of CO2 equivalent. Companies can buy or sell these allowances as needed, creating a market that incentivizes investment in low-carbon technologies and industries to reduce their emissions.

The implementation of the system was designed as a staged process, where the initial phases (Phase 1 and Phase 2) were crucial learning periods:

- Phase 1 (2005-2007) was a three-year pilot conceived as a learning exercise. The cap was set nationally through National Allocation Plans (NAPs), and most allowances were given out for free. A major issue was "*over-allocation*", where the caps were not tight enough to drive significant emission reductions, leading to a collapse in the carbon price;

- Coinciding with the Kyoto Protocol's first commitment period,[39] Phase 2 (2008-2012) introduced a tighter, albeit still

[39] Kyoto Protocol to the United Nations Framework Convention on Climate Change, adopted 11 December 1997, entered into force 16 February 2005. The first commitment period ran from 2008–2012.

largely allocated for free, cap. It also linked the EU ETS with international offset markets, allowing companies to use credits from reduction projects in developing countries to meet their obligations.

Despite the early challenges of over-allocation, the EU ETS successfully established a functional carbon market and created a value for carbon emissions. It covered a significant percentage of the EU's total GHG emissions in its early years. It proved the viability of a market-based approach and laid the essential legal and practical foundation for future revisions that would introduce an EU-wide cap and auctioning of allowances. This shall already occur in Phase 3 of the ETS, in another period of EU Energy law development (2013-2020).

2. The 20-20-20 Package (2009): Introduction of binding targets

The 20-20-20 Climate and Energy Package, adopted in April 2009, [40] represented the EU's integrated and legally binding response

See also Directive 2004/101/EC of the European Parliament and of the Council of 27 October 2004 amending Directive 2003/87/EC to link the EU greenhouse gas emission allowance trading scheme with the Kyoto Protocol's project mechanisms, *OJ* L 338, 13.11.2004, pp. 18-23.

[40] Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources, *OJ* L 140, 5.6.2009, pp. 16-62; Directive 2009/29/EC of the European Parliament and of the Council of 23 April 2009 amending Directive 2003/87/EC so as to improve and extend the greenhouse gas emission allowance trading scheme of the Community, *OJ* L 140, 5.6.2009, pp. 63-87; Directive 2009/30/EC of the European Parliament and of the Council of 23 April 2009 amending Directive

to the escalating climate crisis, building on earlier policy discussions and the 2007 European Council endorsement of an integrated climate and energy approach.[41] It set three headline targets to be achieved by 2020: a 20% reduction in EU greenhouse gas emissions from 1990 levels; raising the share of renewable energy sources in final energy consumption to 20%; a 20% improvement in energy efficiency.

The package consisted of several key legislative instruments to implement these targets across all sectors of the economy, namely:

- The Revised EU ETS Directive,[42] which established an EU-wide, single cap for covered sectors, setting a target of a 21% reduction below 2005 levels by 2020. This marked a shift from national-level allocation to a more centralized system;

98/70/EC as regards the specification of petrol, diesel and gas-oil and introducing a mechanism to monitor and reduce greenhouse gas emissions, *OJ* L 140, 5.6.2009, pp. 88-113; Directive 2009/31/EC of the European Parliament and of the Council of 23 April 2009 on the geological storage of carbon dioxide and amending Council Directive 85/337/EEC, European Parliament and Council Directives 2000/60/EC, 2001/80/EC, 2004/35/EC, 2006/12/EC, 2008/1/EC and Regulation (EC) No 1013/2006, *OJ* L 140, 5.6.2009, pp. 114-135; Decision 406/2009/EC of the European Parliament and of the Council of 23 April 2009 on the effort of Member States to reduce their greenhouse gas emissions to meet the Community's greenhouse gas emission reduction commitments up to 2020, *OJ* L 140, 5.6.2009, pp. 136-148.

41 European Council, Presidency Conclusions, Brussels, 8-9 March 2007, endorsing an integrated climate and energy policy and agreeing on the 20-20-20 targets, Council Doc. 7224/1/07 REV 1.

42 Directive 2009/29/EC of the European Parliament and of the Council of 23 April 2009 amending Directive 2003/87/EC so as to improve and extend the greenhouse gas emission allowance trading scheme of the Community, *OJ* L140/63, 2009.

- The Effort Sharing Decision (ESD),[43] which set binding national targets for emissions from sectors not covered by the EU ETS (*e.g.*, transport, buildings, agriculture, waste management). This ensured that all parts of the economy contributed to the overall 20% GHG reduction goal;

- The Renewable Energy Directive (RED-I),[44] which established binding national targets for each Member State to achieve the overall 20% renewable energy share goal;

- The Directive on Carbon Capture and Storage (CCS)[45] which created a legal framework for the safe use of CCS technologies.

The 20-20-20 package's overall significance cannot be underrated: it amounted to a major policy milestone, transforming the EU's climate ambition into a comprehensive and enforceable legal reality. The legally binding nature of the targets, particularly for renewable energy and non-ETS emissions, but also for energy efficiency, provided regulatory certainty and spurred significant investment and

[43] Decision No 406/2009/EC of the European Parliament and of the Council of 23 April 2009 on the effort of Member States to reduce their greenhouse gas emissions to meet the Community's greenhouse gas emission reduction commitments up to 2020, *OJ* L 140, 5.6.2009, pp. 136-148.

[44] Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC *OJ* L140/16, 2009.

[45] Directive 2009/31/EC of the European Parliament and of the Council of 23 April 2009 on the geological storage of carbon dioxide and amending Council Directive 85/337/EEC, European Parliament and Council Directives 2000/60/EC, 2001/80/EC, 2004/35/EC, 2006/12/EC and Regulation (EC) No 1013/2006, *OJ* L140/114, 2009.

innovation in the clean energy transition. It demonstrated that climate action was not just an environmental imperative but also an integral part of strengthening energy security and economic competitiveness.

Ultimately, the EU successfully achieved all three 20-20-20 targets by the deadline,[46] proving that a concerted, legally backed strategy could deliver tangible results. Together with the other previous landmark legislative achievement, the EU Emissions Trading System, the 20-20-20 Climate and Energy Package established the EU as an important actor and even a global leader in climate action. They also set the stage and laid the groundwork for future, even more ambitious climate frameworks, such as the European Green Deal, and corresponding targets for subsequent phases,[47] namely 2030 and 2050.

3. The Third Energy Package (2009): Deepening energy market integration by further unbundling rules and establishing the Agency for the Cooperation of Energy Regulators (ACER) to oversee the integrated market

[46] European Environment Agency (EEA), *Trends and projections in Europe 2021: Tracking progress towards Europe's climate and energy targets*, EEA Report No 13/2021; see also European Commission, *Stepping up Europe's 2030 climate ambition – Investing in a climate-neutral future for the benefit of our people*, COM(2020) 562 final.

[47] European Commission, *The European Green Deal*, COM(2019) 640 final; Regulation (EU) 2021/1119 of the European Parliament and of the Council of 30 June 2021 establishing the framework for achieving climate neutrality (European Climate Law), *OJ* L 243, 9.7.2021, p. 1 (setting the binding 2050 climate-neutrality objective and the 2030 net greenhouse gas emissions reduction target of at least 55% compared to 1990 levels).

Building on the incremental steps of the First and Second Energy Packages, the primary objective of the Third Energy Package was to address persistent shortcomings in the EU gas and electricity markets, such as an enduring lack of effective competition, insufficient investment in infrastructure, and inadequate cross-border cooperation. To remedy these shortcomings and deepening the integration of the EU energy market by fostering a genuinely competitive, secure, and sustainable EU energy market, the Third Package, which comprised two directives (2009/72/EC for electricity and 2009/73/EC for gas)[48] and three regulations ((EC) No 713/2009,[49] 714/2009,[50] and 715/2009[51]), introduced far-reaching measures. Generally, they were aimed at ensuring that all consumers could benefit from a wider choice of suppliers, fair prices, and enhanced security of supply through

[48] Directive 2009/72/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in electricity, *OJ* L 211, 14.8.2009; Directive 2009/73/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in natural gas, *OJ* L 211, 14.8.2009.

[49] Regulation (EC) No 713/2009 of the European Parliament and of the Council of 13 July 2009 establishing an Agency for the Cooperation of Energy Regulators (Text with EEA relevance), *OJ* L 211, 14.8.2009, pp. 1-14.

[50] Regulation (EC) No 714/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the network for cross-border exchanges in electricity and repealing Regulation (EC) No 1228/2003 (Text with EEA relevance), *OJ* L 211, 14.8.2009, pp. 15-35.

[51] Regulation (EC) No 715/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the natural gas transmission networks and repealing Regulation (EC) No 1775/2005 (Text with EEA relevance) *OJ* L 211, 14.8.2009, pp. 36-54.

market mechanisms. More particularly, the Third Energy Package reinforced the unbundling rules and provided for the establishment of the Agency for the Cooperation of Energy Regulators (ACER).

3.1 Further unbundling rules

A main cornerstone of the Third Energy Package was the significant strengthening of unbundling rules requiring the separation of energy supply and generation activities from the operation of the transmission networks (grids and pipelines), which are natural monopolies. The aim of unbundling is to prevent vertically integrated energy companies from discriminating against competing suppliers in terms of network access or investment, thus promoting fair competition. The Package established three main models for unbundling, with a clear preference for the most stringent form:

- Ownership Unbundling (OU): This is the most stringent model and the Package's preferred option. It requires that the generation/supply part of a company and the transmission system operator (TSO) are entirely separate, with different ownership structures. A company cannot own both the network assets and the energy content within those networks. The intention was to fully remove any incentive or ability for the TSO to favour its affiliated supply business; on the contrary the TSO should prove to be neutral;[52]

[52] Directive 2009/72/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in electricity, *OJ* L 211, 14.8.2009, p. 55, Articles 9-10; Directive 2009/73/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in natural gas, *OJ* L 211, 14.8.2009, p. 94, Articles 9-10 (establishing ownership unbundling and requiring transmission system operators to act independently and without discrimination).

- Independent System Operator (ISO): In this model, the vertically integrated company remains the owner of the transmission network assets, but an independent entity is appointed to operate, maintain, and invest in the network. The ISO is functionally and legally separate from the supply interests of the parent company;

- Independent Transmission Operator (ITO): This model was introduced as a compromise for Member States and companies that were reluctant to adopt full ownership unbundling. Under the ITO model, the TSO remains part of the vertically integrated company, but it must be subject to rigorous independent governance and compliance oversight, with strict legal and functional separation from the commercial (generation/supply) parts of the business. Detailed measures for independent decision-making, information flows, and staff independence are mandated.

3.2 Creation of the Agency for the Cooperation of Energy Regulators (ACER)

The Package required all Member States to implement one of those models and establish a robust National Regulatory Authority (NRA) to enforce the rules and certify TSOs' compliance, especially concerning cross-border pipelines.

With the aim of ensuring the consistent application of these new rules and to oversee the emerging integrated internal market across the EU, the Third Package, via Regulation (EC) No 713/2009 also has foreseen the creation of the Agency for the Cooperation of Energy Regulators (ACER). Based in Ljubljana, Slovenia, ACER was designed to complement and coordinate the work of the national regulatory authorities, which often had varying levels of independence and powers. ACER's key roles include powers of:

- coordination and assistance, which are the basis for ACER to

coordinate the work of NRAs and assist them in performing their regulatory functions at a European level to ensure consistency in the application of EU energy law;

- participation in the development of EU-wide network rules (Network Codes and Guidelines) covering grid connections, market operations, and system security, as well as developing framework guidelines which the European Networks of Transmission System Operators (ENTSO-E for electricity and ENTSO-G for gas) use to draft detailed codes;

- adopting binding decisions (under certain conditions): while NRAs are the primary decision-makers at the national level, ACER has the authority to take individual, binding decisions on issues concerning cross-border infrastructure, exemptions for new projects, and cross-border cost allocation, particularly where national authorities fail to reach an agreement or the issues have significant cross-border impact;

- market monitoring and reporting, whereby ACER monitors developments in the electricity and gas markets, including retail prices, competition, and security of supply, and reports its findings to the European institutions;

- ensuring the market integrity (REMIT): Under the Regulation on Wholesale Energy Market Integrity and Transparency (REMIT),[53] ACER plays a crucial role in monitoring wholesale energy markets to detect and deter market abuse and insider trading in collaboration with NRAs.

[53] Regulation (EU) No 1227/2011 of the European Parliament and of the Council of 25 October 2011 on wholesale energy market integrity and transparency, *OJ* L 326, 8.12.2011, pp. 1.

ACER's creation was a significant step toward "supranational" governance of the EU energy market, addressing the challenge of uncoordinated national decisions that could hinder the internal market's functioning.

4. Treaty formalisation: Inclusion of Article 194 TFEU via the Lisbon Treaty, a formal legal basis for EU energy policy

Concurrently, the entry into force of the Lisbon Treaty in December 2009 introduced Article 194 into the Treaty on the Functioning of the European Union (TFEU), providing, for the first time, a formal and explicit legal basis for EU energy policy, a true constitutional foundation for the EU's evolving energy policy.

Prior to this, EU energy law was largely developed using the internal market legal basis (Article 114 TFEU, formerly Article 95 Treaty on establishing the European Economic Community), which limited the scope of action and often faced legal challenges.[54] Article

[54] See, *inter alia*, Case C-379/98, *PreussenElektra AG v Schleswag AG*, EU:C:2001:160, where the Court confirmed the wide discretion retained by Member States in shaping national energy policy and renewable energy support schemes, thereby illustrating the structural limits of internal market harmonisation in the energy sector prior to the Lisbon Treaty; see also Joined Cases C-204/12 to C-208/12, *Essent Belgium NV and Others*, EU:C:2014:2192, in which the Court upheld national rules on the ownership and operation of electricity and gas transmission systems, emphasising the constitutional sensitivity of energy infrastructure regulation within the internal market framework; and Case C-573/12, *Ålands Vindkraft AB v Energimyndigheten*, EU:C:2014:2037, demonstrating that energy policy objectives, including renewable energy promotion, may justify restrictions on internal market freedoms, thus highlighting the legal constraints of

194 TFEU embeds the previous market integration efforts within the Union's primary law of the EU as well as the ones of articulating the EU energy policy with the climate one and ensuring that this EU energy policy delivers on the aspirations for a secure supply within the Union's primary law or EU's constitutional law framework.

Article 194 TFEU explicitly establishes that energy is an area of shared competence between the EU and its Member States. This provision outlines the core objectives of the Union's energy policy, which are clarified to be the following ones:

- To ensure the functioning of the energy market;

- To ensure security of energy supply in the Union;

- To promote energy efficiency and energy saving and the development of new and renewable forms of energy;

- To promote the interconnection of energy networks.

Crucially, Article 194(2) TFEU explicitly reserves certain sovereign rights for Member States, ensuring that EU measures shall not affect a Member State's right to determine the conditions for exploiting its own energy resources, its choice between different energy sources (its "energy mix"), and the general structure of its energy supply. This delicate balance between shared EU competence and national sovereignty defines the boundaries of EU action in the energy field.

relying solely on internal market competences for energy policy prior to the introduction of Article 194 TFEU.

5. Impact

All the previously mentioned secondary law initiatives adopted in this phase and the primary EU law one expressed in Article 194 TFEU proved mutually reinforcing. The ETS and the 20-20-20 package linked the EU energy policy to more ambitious goals and other policies of the EU such as the environmental one and the climate one, the Third Package provided the concrete legislative tools for market liberalisation and integration, while the Treaty article provided the legitimate, explicit legal basis required for these and future EU energy initiatives within an energy policy and law ever more ambitious, robust and complex.

The framework established by these diverse legal and policy developments set the stage for subsequent legislative efforts, such as, for instance, the Clean Energy for All Europeans Package (2019), [55] which further built upon and refined the rules, granting ACER additional competences to manage an increasingly complex and decarbonised energy system. Together, they represent a watershed moment, solidifying EU energy law as a distinct and critical area of Union competence aimed at creating a cohesive, competitive, and resilient energy market for all of Europe. Together these EU energy law instruments also established climate action as an additional driving force of EU energy policy and laid the groundwork for future, more ambitious targets in the sector, ones which shall be defined by subsequent initiatives in new phases of EU energy law and policy development.

IV. Phase 3 (2010s-2020s): Deepening and Accelerating the Energy Transition

[55] Communication from the Commission, *Clean Energy for All Europeans*, Brussels, 30.11.2016, COM(2016) 860 final.

In this phase, the overall EU energy law and policy framework is becoming more complex, creating a comprehensive, multi-layered system. In the period, EU energy legal developments more prominently extend this law and policy to focus on improving energy efficiency and achieving ambitious decarbonization targets.

The initial legal initiatives in the sector had established foundational legal requirements for Member States. Subsequent instruments in this new phase shall significantly raise the ambition for the post-2020 era.

1. Energy efficiency push: The 2012 Energy Efficiency Directive and the 2010 Energy Performance of Buildings Directive

Salient amongst the initiatives that initially shall make up for this new phase of EU energy law development are first, the 2012 Energy Efficiency Directive (EED),[56] which mandated energy savings obligations and efficiency measures across the EU, focusing on supply, transmission, distribution, and end-user consumption and secondly, the initial 2010 Energy Performance of Buildings Directive (EPBD)[57] setting out the required minimum energy performance standards for new and renovated buildings and the mandatory implementation of energy performance certificates (EPCs)[58].

[56] Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC, *OJ* L 315, 14.11.2012, pp. 1-56.

[57] Directive 2010/31/EU of the European Parliament and of the Council of 19 May 2010 on the energy performance of buildings (recast), *OJ* L 153, 18.6.2010, pp. 13-35.

[58] See, in particular, Articles 4-11 (minimum energy performance requirements and energy performance certificates).

2. The 2030 Climate and Energy Framework (2014): Setting the stage for the post-2020 era with new, more ambitious targets

The 2030 Climate and Energy Framework adopted in 2014[59] in the follow-up of the European Commission's Green paper *A 2030 Framework for Climate and Energy Policies* issued the year before,[60] lends more ambition to the EU energy law and policy by setting the European Union's objectives for the period between 2020 and 2030 with a view to creating a more competitive, secure, and sustainable energy system. The framework was agreed upon by the European Council in October 2014 and formed the basis of the EU's contribution to the Paris Agreement[61].

[59] See the Conclusions of the European Council of Brussels, 24 October 2014, EUCO 169/14, CO EUR 13
CONCL 5.

[60] The Commission adopted the Green paper "*A 2030 framework for climate and energy policies*" in March 2013.

[61] European Council, *Conclusions on the 2030 Climate and Energy Policy Framework*, 23–24 October 2014, EUCO 169/14, endorsing the 2030 targets of at least 40% domestic reduction in greenhouse gas emissions compared to 1990 levels, a binding EU-level target of at least 27% renewable energy, and an indicative target of at least 27% improvement in energy efficiency; subsequently implemented through secondary legislation, including Directive (EU) 2018/2001 on renewable energy and Directive (EU) 2018/2002 amending Directive 2012/27/EU on energy efficiency.

Most conspicuously, it defines new, more ambitious binding targets for 2030,[62] including a GHG emissions reduction, renewable energy share, and a specific energy efficiency target, moving beyond the previous 2020 goals. Originally agreed in 2014 and having some elements updated in 2018 in the context of the *Clean Energy for All Europeans* package, its main targets include:

- a binding domestic reduction in greenhouse gas emissions of at least 40% by 2030 compared to 1990 levels;[63]

- a binding EU-level target of at least 27% share of renewable energy in overall consumption, with flexibility for member states;[64]

- initial targets for energy efficiency were less defined; with this Framework it is established that an indicative target at the EU level of at least 27% is set for improving energy efficiency in 2030 compared to projections of future energy consumption based on the current criteria;[65]

[62] These binding targets the EU to be collectively met by 2030 allow for the states' freedom to establish their own national targets.

[63] This target has since been updated to a 55% net reduction target under the European Green Deal.

[64] This target was later revised upwards to at least 32% share for renewable energy by 2030, as a result of the adoption in December of 2018 of the RED II Directive

[65] See the Conclusions of the European Council of Brussels, 24 October 2014, EUCO 169/14, CO EUR 13, CONCL 5., p. 5; Subsequent revisions (in 2018, Directive 2018/2002 of 12.2018, as part of the "*Clean Energy for All Europeans*" package which updated targets for 2030; and the 2023 recast, Directive 2023/1791, 25.07.2023, shall establish that Member States must achieve new annual energy savings

- an objective to achieve a 15% electricity interconnection target between member states by 2030 within the internal energy market.[66]

3. The Energy Union Strategy (2015), the Governance of the Energy Union (2018/2019), and the Clean Energy for All Europeans (2019)

The *Energy Union* Strategy is a Project of the European Commission to coordinate the transformation of European energy supply. It was launched in February 2015, with the aim of providing secure, sustainable, competitive, affordable energy.[67] EU's reliance on Russia for its energy, and the annexation of Crimea by Russia have been cited as drivers this policy. The European Council concluded on 19 March 2015 that the EU should commit to building an Energy Union with a forward-looking climate policy on the basis of the Commission's framework strategy, with five priority dimensions: energy security, solidarity and trust; a fully integrated European energy market: energy efficiency contributing to moderation of demand; decarbonising the economy; research, innovation and competitiveness.

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of at least 1.49% of final energy consumption on average between 2024 and 2030 through specific policy measures. Member States are legally required to collectively ensure an overall primary and final energy consumption reduction of at least 11.7% by 2030 compared to reference scenarios.

66 See the Conclusions of the European Council of Brussels, 24 October 2014, EUCO 169/14, CO EUR 13
CONCL 5, p. 7.

67 European Commission's Communication *A Framework Strategy for a Resilient Energy Union with a Forward-Looking Climate Change Policy*" (COM(2015) 80 final).

The strategy includes a minimum 10% electricity interconnection target for all member states by 2020, which the Commission hoped to put downward pressure onto energy prices, reduce the need to build new power plants, reduce the risk of black-outs or other forms of electrical grid instability, improve the reliability of renewable energy supply, and encourage market integration.

Although not directly redounding on legislation itself, the Energy Union strategy held governance implications since it induced the legislative packages that followed, especially the Governance Regulation adopted in 2018 and more remotely the Clean Energy for All Europeans package. It also re-centered the European Commission as the strategic programmer.

The most noticeable consequence of the Governance of the Energy Union Regulation (EU) 2018/1999 was the establishment of the first synchronized 10-year planning/reporting cycle for energy and climate, integrating reporting under the Paris Agreement and EU targets. It may thus be seen as the "meta-framework" that binds the delivery of targets from the ETS, renewables, and efficiency directives into national plans and ensures EU-level accountability.

The *Clean Energy for All Europeans* started as a Commission proposal[68] which evolved into a legislative package with the same designation adopted in 2019. Mainly it amounted to the legislative "completion" of the Energy Union's internal market and the governance pillars. It is the fourth major overhaul of EU energy legislation on the internal energy market after the three liberalization packages that had intervened between 1996 and 2009. It involves a shift in focus to consumers, flexibility and integration of renewables affordability by setting rules for generation, transmission, distribution, supply, and

[68] Brussels, 30.11.2016 COM(2016) 860 final, Communication from the Commission.

market participation, putting consumers at the centre of the energy transition. Key acts in this regard are the Electricity Market Directive 2019/944[69] and Regulation 2019/943.[70] While the Directive sets common rules for the market's structure and consumer protection, the Regulation establishes the fundamental principles for the internal market's functioning, including market design, integration, and renewable energy rules.

4. The European Green Deal (2019): A comprehensive strategy aiming for climate neutrality by 2050

This phase is further marked by the adoption of EU's strategy for achieving climate neutrality by 2050, as outlined in the European Green Deal (EGD).[71] It shall subsequently be made legally binding by the European Climate Law. It still relies heavily on the preexisting comprehensive energy law framework which it contributes to renew. This EU energy legal framework shall henceforth further focus on secure, affordable, and sustainable energy supplies. For it to be

[69] Directive (EU) 2019/944 of the European Parliament and of the Council of 5 June 2019 on common rules for the internal market for electricity and amending Directive 2012/27/EU (recast) (Text with EEA relevance) PE/10/2019/REV/1, *OJ* L 158, 14.6.2019, pp. 125-199.

[70] Regulation (EU) 2019/943 of the European Parliament and of the Council of 5 June 2019 on the internal market for electricity (recast) (Text with EEA relevance. PE/9/2019/REV/1*OJ* L 158, 14.6.2019, pp. 54-124.

[71] See Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions, The European Green Deal, COM/2019/640 final.

implemented further key policy-developments shall have to intervene like the later adopted "*Fit for 55*" package.

The EGD's core goal is climate neutrality or net-zero greenhouse gas emissions by 2050. This target shall subsequently be formalized and rendered legally binding in the EU Climate Law. An intermediate target of reducing emissions by at least 55% by 2030 (compared to 1990 levels) has also been set to ensure progress.

The EGD represents a paradigm shift, moving environmental protection from a sectoral concern to a transversal guiding objective of EU law. It embeds the principle of environmental integration (Article 11 TFEU), requiring all EU actions and policies — including internal market, and the energy and climate policies — to support the transition to a sustainable future.[72]

Furthermore, the EGD leverages significant financial resources and revised state aid rules, to direct public and private investment towards green projects, infrastructure, and innovation, ensuring the economic viability of the transition.

It also innovates in adding a just and inclusive layer to the transitions advocated by setting out the "Just Transition" mechanism[73] and later

[72] The nexus energy-climate action is crucial, since the energy sector accounts for over 75% of EU's emissions.

[73] It comprehends the Just Transition Fund, established by Regulation (EU) 2021/1056 of the European Parliament and of the Council of 24 June 2021 establishing the Just Transition Fund, PE/5/2021/REV/1 *OJ* L 231, 30.6.2021, pp. 1-20 and also regulated by the common provisions established to govern 8 EU funds whose delivery is shared with Member States and regions laid down by Regulation (EU) 2021/1060 of the European Parliament and of the Council of 24 June 2021.

on[74] the proposed Social Climate Fund, which aims to mitigate the social and economic impacts of the transition on vulnerable groups and ensure public backing, adhering to the principle of solidarity.

All in all, this strategy caps one phase of EU energy Law and Policy development by including some of the concepts matured over the period in a comprehensive coherent vision and opens up to further mature developments which shall start by attempting to implement the transition extensively in all the relevant remits. It shall also open up to the revision of most of the key instruments of EU energy law and governing EU energy policy, since these are now impacted by this new paradigmatic-shift new vision and have to reflect the new ambitions set therein, namely:

- the EU Emissions Trading System (EU ETS) instruments, which had established and over time reinforced the EU's cornerstone "cap-and-trade" carbon market, requiring large emitters in sectors like power generation, industry, and aviation[75] to pay for their greenhouse gas emissions;

[74] Regulation (EU) 2023/955 of the European Parliament and of the Council of 10 May 2023 establishing a Social Climate Fund and amending Regulation (EU) 2021/1060, PE/11/2023/REV/1 *OJ* L 130, 16.5.2023, pp. 1-51.

[75] Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC, OJ L 275, 25.10.2003, pp. 32–46; as amended *inter alia* by Directive 2008/101/EC which extended the EU ETS to aviation activities.

- the revised Renewable Energy Directive (now RED II),[76] which entered into force on December 24, 2018, alongside other key Clean Energy Package laws henceforth establish a binding 32% EU-wide target for renewable energy by 2030, moving from binding national targets to indicative ones, and introduces rules for self-consumption and stronger sector-specific commitments. This concurs with the Member States being required to submit National Energy and Climate Plans (NECPs) to detail their contributions by late 2018/early 2019 as a result of the Governance of the European Union Regulation.[77] Sector-Specific Rules were also established for renewables in electricity, heating/cooling, and new rules introduced to promote and regulate self-consumption of renewable electricity;

- In 2018/2019, the EU Energy Efficiency Directive (EED), originally adopted in 2012, was also significantly updated (Directive 2018/2002), again as part of the *"Clean Energy for All Europeans"* package, designed still under the Juncker Commission,[78] setting a binding EU-wide target for at least 32.5% energy efficiency improvement by 2030 compared to 2007 projections, reinforcing energy savings obligations for Member States,[79] introducing the *"energy efficiency first"* principle, and

[76] Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources (recast), *OJ* L 328, 21.12.2018, pp. 82-209.

[77] The Energy Union Governance Regulation (EU) 2018/1999 requires Member States to submit their NECPs detailing how they meet goals. It created the first synchronized 10-year planning/reporting cycle for energy and climate.

[78] Brussels, 30.11.2016 COM(2016) 860 final, Communication from the Commission, *Clean Energy for All Europeans*.

[79] Article 7.

requiring National Energy and Climate Plans (NECPs) for implementation, with transposition deadlines around mid-2020;

- In 2018 there is also the revision of the Energy Performance of Buildings Directive (EPBD) revision, Directive (EU) 2018/844,[80] requiring EU countries to strengthen building renovation strategies. It amended older directives to boost renovation rates, improve new builds, support electro-mobility, and enhance user information, becoming a key part of the *Clean Energy for All Europeans* package.

5. The European Climate Law (2021): Making the 2050 climate neutrality objective legally binding and, subsequently, increasing the 2030 GHG reduction target to at least 55%

The European Climate Law (Regulation (EU) 2021/1119) [81], which entered into force in July 2021, represents a landmark piece of legislation that fundamentally shifts the European Union's climate ambitions from political commitment to a legally enforceable obligation. It translates the political objectives of the European Green

[80] Directive (EU) 2018/844 of the European Parliament and of the Council of 30 May 2018 amending Directive 2010/31/EU on the energy performance of buildings and Directive 2012/27/EU on energy efficiency (Text with EEA relevance), PE/4/2018/REV/1, *OJ* L 156, 19.6.2018, pp. 75-91.

[81] Regulation (EU) 2021/1119 of the European Parliament and of the Council of 30 June 2021 establishing the framework for achieving climate neutrality and amending Regulations (EC) No 401/2009 and (EU) 2018/1999 ("European Climate Law"), *OJ* L 243, 9.7.2021, pp. 1-17.

Deal package into concrete legal requirements, making the EU the first major economy to enshrine its climate neutrality goal into law.

Prior to the European Climate Law (ECL), the EU's long-term climate goals were largely framed within political agreements and policy documents. The Paris Agreement, while a treaty, allows parties to nationally determine their contributions (NDCs), which some authors consider to be not strictly legally binding in their outcomes.[82] The ECL changes this dynamic within the EU's internal legal order for it provides a robust legal framework that compels EU institutions and Member States to adopt the necessary measures to meet specific, binding climate targets.

[82] See, *notius*, B. Mayer, *The International Law on Climate Change*. 2018, Cambridge University Press, who, especially in Chapter 3 ("The UNFCCC Regime, from Rio to Paris") and Chapter 7 ("International Action on Climate Change Mitigation"), while analysing the Paris Agreement's hybrid legal design, he argues explains the treaty obligation is to "*prepare, communicate and maintain successive NDCs*" (a procedural duty under Article 4.2), not to achieve the specific emission outcomes stated in an NDC. Thus, failing to meet a declared target does not, in itself, constitute a breach of the Agreement. Also, his *International Law Obligations on Climate Change Mitigation*. 2022, Oxford University Press, where Mayer, although not contesting the common description of NDCs as "non-binding", denounces the implication that the Paris agreement does not create binding procedural and conduct obligations. In a similar vein, already in 2016, D. Bodansky, "The Legal Character of the Paris Agreement." *Review of European, Comparative & International Environmental Law*, 2016, 25 (2), pp. 142-150, had concluded that the Paris Agreement is a treaty within the meaning of the Vienna Convention on the Law of Treaties, and therefore binding as an instrument, but also that this does not mean that every provision creates a legal obligation; the Agreement rather contains a mix of mandatory and non-mandatory provisions. In p. 148, he pointed out: "*The NDCs themselves are not legally binding. That is, a country's failure to achieve its NDC would not, in itself, be a violation of the Paris Agreement*." A similar reasoning is expended by L. Rajamani, "The 2015 Paris Agreement: Interplay Between Hard, Soft and Non-Obligations." *Journal of Environmental Law*, 2016, 28 (2), pp. 337-358.

The primary goal of the ECL is thus to ensure that the transition to climate neutrality by 2050 is irreversible and is guided by the best available science. It does this by establishing a clear long-term direction, setting an ambitious intermediate target for 2030, and creating a robust system for monitoring, reporting, and scientific advice.

5.1 More ambitious goals and targets

The most significant provision of the ECL is the establishment of a legally binding objective,[83] the core commitment of climate neutrality in the Union by 2050. "Climate neutrality" means achieving a balance between anthropogenic greenhouse gas (GHG) emissions and removals by sinks within the Union, effectively reaching "net zero" emissions. This target's scope is wide: it covers all GHG emissions and removals across all economic sectors within the EU (energy, transport, industry, buildings, agriculture, and waste).

This is supported by a clear legal obligation set out in Article 2 of the ECL which explicitly states that "*EU institutions and Member States are bound to take the necessary measures at EU and national level to meet the [abovementioned] target*". This shifts the burden from a voluntary policy choice to a mandatory legal duty, with potential for legal challenge if sufficient action is not taken.

The ECL also outlines a post-2050 ambition since it includes a commitment for the EU to aim for negative emissions after 2050,

[83] Regulation (EU) 2021/1119 of the European Parliament and of the Council of 30 June 2021 establishing the framework for achieving climate neutrality ("European Climate Law"), Article 2(1) (climate neutrality objective by 2050) and Article 2(2) (definition of climate neutrality and scope covering all greenhouse gas emissions and removals across the economy).

which means that removals thence exceed remaining emissions.

Crucially, while the collective EU target is binding, the ECL does not specify how individual Member States are expected to contribute to this collective 2050 goal. This leaves flexibility for national governments to design their own pathways, provided the aggregate EU goal is met. Its achievement thus depends on the successful implementation of national-level plans and measures. Member States are required to submit and update their National Energy and Climate Plans (NECPs), which are then reviewed by the European Commission to ensure collective ambition is sufficient.

To ensure a credible path to the 2050 goal, the ECL substantially increased the EU's 2030 intermediate climate target. The previous 2030 target was a 40% reduction in GHG emissions compared to 1990 levels. Based on a comprehensive impact assessment, the EU has subsequently set the 2030 climate target of reducing net GHG emissions by at least 55% compared to levels in 1990. This new 2030 climate target is now included in the Climate Law. The target is for "*net*" emissions, meaning it accounts for both emission reductions and removals by natural sinks (such as forests and soil), primarily governed by the LULUCF (Land Use, Land Use Change, and Forestry) Regulation.[84]

5.2 Governance, accountability, and scientific advice

Beyond setting targets, the ECL establishes a new governance framework, based on scientific advice and that purports to ensure transparency and accountability.

[84] The LULUCF regulation was introduced through the Regulation (EU) 2018/1999.

In this new organisatory setting, the European Commission is tasked with regularly monitoring progress towards the targets and conducting a formal assessment every five years, in line with the Paris Agreement's global stocktake cycle. If progress is insufficient, the Commission is authorized to take further action or propose additional measures.

With the intent that EU energy policy-making is consistently guided by robust, unbiased scientific evidence, the ECL also formally established an independent European Scientific Advisory Board on Climate Change (ESABCC), composed of 15 independent scientists, tasked with providing expert advice and scrutinizing EU measures and targets for consistency with the ECL and the Paris Agreement goals.

Moreover, the law includes a process for setting an intermediate climate target for 2040. The Commission must present a proposal for this target, alongside an indicative EU carbon budget for the 2030-2050 period, following advice from the ESABCC. It is expected that this new binding target may be established in 2025, in preparation for COP-30 in Belém do Pará.[85]

5.3 Legal and political significance

The European Climate Law represents a significant shift in

[85] Regulation (EU) 2021/1119 of the European Parliament and of the Council of 30 June 2021 establishing the framework for achieving climate neutrality ("European Climate Law"), *OJ* L 243, 9.7.2021, pp. 1-17, Article 4(3)-(5) (process for setting an intermediate 2040 climate target; obligation for the Commission to submit a legislative proposal and an indicative EU greenhouse gas budget for 2030–2050, taking into account advice from the European Scientific Advisory Board on Climate Change).

environmental governance. It moves EU climate policy beyond ad-hoc political agreements by creating a permanent, overarching legal framework.

By making the 2050 target legally binding, the ECL also provides long-term regulatory certainty and predictability for investors and businesses, encouraging investment in clean technologies and sustainable infrastructure.

Moreover, the legal nature of the targets offers a basis for potential legal challenges by citizens, NGOs, or other Member States if the EU or national governments fail to implement the necessary policies to stay on track. This potentially strengthens access to justice in the climate sphere within the EU.

6. The "*Fit for 55*" Package: Extensive legislative overhaul to align all sectors with the new 2030 targets

The extensive legislative "*Fit for 55*" package[86] aims to reduce net greenhouse gas emissions by at least 55% by 2030 (from 1990 levels). It is a comprehensive overhaul of EU Energy Law with the revision of existing energy and climate rules, including the EU Emissions

[86] European Commission, *"Fit for 55": Delivering the EU's 2030 Climate Target on the way to Climate Neutrality*, Communication COM(2021) 550 final, 14 July 2021; see also the accompanying legislative proposals for amending or revising, *inter alia*, Directive 2003/87/EC (EU ETS), Regulation (EU) 2018/842 (Effort Sharing), Regulation (EU) 2018/841 (LULUCF), Directive (EU) 2018/2001 (Renewable Energy Directive) (amended by Directive (EU) 2023/2413), and Directive 2012/27/EU (Energy Efficiency Directive) (as recast by Directive (EU) 2023/1791), and Regulation (EU) 2018/1999 on the Governance of the Energy Union.

Trading System (EU ETS), the Renewable Energy Directive (RED III), and the Energy Efficiency Directive (EED).

Presented by the European Commission in July 2021 as a set of interconnected legislative proposals designed to meet the legally binding EU target of reducing net greenhouse gas (GHG) emissions by at least 55% by 2030, as mandated by the European Climate Law, the resulting legislative package did operate the revision and updating of a dozen existing directives and regulations, fundamentally reshaping the EU energy policy, also in conjunction with the climate and transport policies.

The package is determined by three main vectors:

- expansion and reinforcement of carbon pricing (for which it revisits EU ETS, creates ETS II, and "extends" it with CBAM);

- increase of the ambition of renewable energy and energy efficiency targets (RED, EED, EPBD);

- expansion of regulatory standards to specific sectors (transport, LULUCF).

6.1 Reforming and expanding the EU Emissions Trading System

The EU ETS, the bloc's primary market-based tool for reducing emissions from energy-intensive industries and power generation, was significantly strengthened and expanded[87].

[87] Directive (EU) 2023/959 of the European Parliament and of the Council of 10 May 2023 amending Directive 2003/87/EC establishing a system for greenhouse gas emission allowance trading within the Union and Decision (EU) 2015/1814 concerning the establishment

The cap on emissions in the main ETS sector will be reduced at a faster rate, resulting in a 62% reduction by 2030 compared to 2005 levels. Free allowances for some sectors are being gradually phased out to increase the carbon price signal and encourage decarbonization accompanied by the phase-in of the CBAM. Emissions from ships calling at EU ports are progressively being included in the EU ETS from January 2024.[88] The EU ETS rules for aviation were also revised to align with global efforts and phase down free allowances.[89] The Market Stability Reserve (MSR), which manages the supply of allowances in the market, was strengthened to ensure the system's effectiveness and price stability. [90]

and operation of a market stability reserve for the Union greenhouse gas emission trading system (Text with EEA relevance), PE/9/2023/REV/1, *OJ* L 130, 16.5.2023, pp. 134-202.

[88] Regulation (EU) 2023/957 of the European Parliament and of the Council of 10 May 2023 amending Regulation (EU) 2015/757 in order to provide for the inclusion of maritime transport activities in the EU Emissions Trading System and for the monitoring, reporting and verification of emissions of additional greenhouse gases and emissions from additional ship types (Text with EEA relevance), PE/10/2023/REV/1, *OJ* L 130, pp. 105-114.

[89] Directive (EU) 2023/958 of the European Parliament and of the Council of 10 May 2023 amending Directive 2003/87/EC as regards aviation's contribution to the Union's economy-wide emission reduction target and the appropriate implementation of a global market-based measure (Text with EEA relevance), PE/8/2023/REV/1, *OJ* L 130, 16.5.2023, pp. 115-133.

[90] Decision (EU) 2015/1814 of the European Parliament and of the Council of 6 October 2015 concerning the establishment and operation of a market stability reserve for the Union greenhouse gas emission trading scheme, *OJ* L 264, 9.10.2015, as amended by Directive (EU) 2018/410 and, following up on the *Fit for 55* strategy, Directive (EU) 2023/959.

Additionally, a new, separate emissions trading system (ETS 2)[91] is established to cover fuel combustion in the previously unregulated sectors of buildings and road transport, and additional sectors (mainly small industry not covered by the existing EU ETS). The ETS 2 will complement other policies of the European Green Deal in the covered sectors, helping Member States achieve their emission reduction targets under the *"Effort Sharing Regulation"* (Regulation (EU) 2018/842). It is to become operational from 2027. This system will put a price on the carbon emissions from the fuels used in these sectors.

A key element of this development to the EU ETS system is the new Carbon Border Adjustment Mechanism (CBAM). [92] Designed to address higher risks of carbon leakage in light of increased climate ambition within the EU, the Council and Parliament agreed on a phase-in plan for a Carbon Border Adjustment Mechanism (CBAM) to price imported goods based on their embedded emissions. Starting in 2026, importers in sectors covered by CBAM (cement, aluminium, fertilizers, electricity, hydrogen, iron and steel, along with some precursors and downstream products) will be required to surrender newly created CBAM certificates equivalent to the embedded emissions of their products. In contrast to the original Commission proposal, indirect emissions from electricity and heat will also be covered for cement and fertilizers. The CBAM phase-in plan gradually ceases the free allocation of EU ETS allowances over a nine-year period (from 2026 to 2034) for sectors covered by CBAM. The phase-out of free

[91] Directive (EU) 2023/959 of the European Parliament and of the Council of 10 May 2023 amending Directive 2003/87/EC as regards the establishment of a separate emissions trading system for buildings, road transport and additional sectors, *OJ* L 130, 16.5.2023.

[92] Regulation (EU) 2023/956 of the European Parliament and of the Council of 10 May 2023 establishing a carbon border adjustment mechanism, *OJ* L 130, 16.5.2023.

allocation will begin at a slow rate before accelerating towards the end of the period. It will also correspond directly to the CBAM phase-in, so that during the transition period CBAM will only apply to the proportion of emissions that are not subject to free allocation under the EU ETS.

Finally, to address the potential social impact and energy poverty caused by the new carbon costs in these sectors, the Social Climate Fund (SCF) was created.[93] This fund uses revenues generated from ETS II allowances to support vulnerable households and micro-enterprises with income support and investments in building renovation and clean mobility.

6.2 Enhancing renewables and energy efficiency energy laws

The package significantly revised core energy legislation to increase the uptake of clean energy and reduce overall consumption[94].

A key element in the *"Fit for 55"* package is the revision of the Renewable Energy Directive (RED), to help the EU deliver the new 55 % GHG target. Under RED II, the EU was obliged to ensure at least 32 % of its energy consumption comes from renewable energy

[93] Regulation (EU) 2023/955 of the European Parliament and of the Council establishing a Social Climate Fund and amending Regulation (EU) 2021/1060.

[94] See, *e.g.*, the Proposal for a Directive of the European Parliament and of the Council amending Directive (EU) 2018/2001 of the European Parliament and of the Council, Regulation (EU) 2018/1999 of the European Parliament and of the Council and Directive 98/70/EC of the European Parliament and of the Council as regards the promotion of energy from renewable sources, and repealing Council Directive (EU) 2015/652, COM/2021/557 final.

sources (RES) by 2030. The *"Fit for 55"* revision increased this target to 40%.[95] [96] It also established specific sub-targets for sectors like transport, heating and cooling, and industry.

Another core part of the EU's *"Fit for 55"* package, was the 2023 revision of the Energy Efficiency Directive (EED) , which is fully in force since October 2023.[97] Focusing on the principle of *"energy efficiency first"* in policy and investment decisions, it sets binding targets for reducing primary and final energy consumption by 11.7% and 36% respectively by 2030 (from 2020 levels) to meet the EU's climate goals[98]. It strengthens requirements for public sector efficiency, mandates energy management systems for large companies, and increases annual energy savings obligations for Member States to nearly double (from 0.8% to 1.5%),[99] gradually increasing from 2024 to 2030.

[95] It shall subsequently be raised to a minimum of 42.5%, with an aspiration to reach 45% by the Repower EU act.

[96] Directive (EU) 2023/2413 of the European Parliament and of the Council of 18 October 2023 amending Directive (EU) 2018/2001, Regulation (EU) 2018/1999 and Directive 98/70/EC as regards the promotion of energy from renewable sources, *OJ* L 2023/2413, 31.10.2023.

[97] Directive (EU) 2023/1791 of the European Parliament and of the Council of 13 September 2023 on energy efficiency and amending Regulation (EU) 2023/955 (recast) (Text with EEA relevance), PE/15/2023/INIT, *OJ* L 231, 20.9.2023, pp. 1-111.

[98] Adopted in 2012, it was first recast in 2018, within the *Clean Energy for All Europeans* Package.

[99] Articles 8-10 of Directive (EU) 2023/1791, establishing binding national energy efficiency contribution trajectories and annual energy savings obligations for Member States.

The Energy Performance of Buildings Directive (EPBD) was equally subject to revision.[100] This directive works alongside the EED to boost renovation rates. It set ambitious goals, including all new buildings being zero-emission buildings by 2030, and sought to transform existing buildings into a zero-emission stock by 2050.

The package also included the revision of the existing Energy Taxation Directive (ETD), which aims to align the taxation of energy products with the EU's climate objectives and remove outdated exemptions, such as those for the intra-EU maritime transport sector.

6.3 Extension of standards to new sectors

To ensure a holistic approach, the *Fit for 55* package also included standards for specific sectors. In particular,

- Regulation 2023/851[101] set more ambitious emission reduction targets for new vehicles, including a 100% reduction target by 2035. [102] This effectively phases out the sale of new internal combustion engine (ICE) vehicles in the EU after that date;

[100] Directive (EU) 2024/1275 of the European Parliament and of the Council of 24 April 2024 on the energy performance of buildings (recast) (Text with EEA relevance), PE/102/2023/REV/1, *OJ* L, 2024/1275, 8.5.2024.

[101] Regulation (EU) 2018/842 as amended by Regulation (EU) 2023/857 on binding annual greenhouse gas emission reductions by Member States (Effort Sharing Regulation *OJ* L 107, 21.4.2023.

[102] Regulation (EU) 2023/851 of the European Parliament and of the Council of 19 April 2023 amending Regulation (EU) 2019/631 as regards strengthening the CO_2 emission performance standards for new passenger cars and new light commercial vehicles in line with the Union's increased climate ambition, *OJ* L 110, 25.4.2023.

- The revised LULUCF (Land Use, Land Use Change, and Forestry) regulation[103] enhanced the EU's capacity to remove CO2 from the atmosphere through natural sinks. It sets a higher collective EU target for net carbon removals of 310 million tonnes of CO2 equivalent by 2030, with binding national targets for Member States;

- The *FuelEU* Maritime[104]and *ReFuelEU* Aviation[105] regulations[106]

[103] Regulation (EU) 2023/839 of the European Parliament and of the Council of 19 April 2023 amending Regulation (EU) 2018/841 as regards the scope, simplifying the compliance rules, setting out the targets of Member States for 2030 and committing to achieve climate neutrality in the land sector by 2035, *OJ* L 107, 21.4.2023.

[104] As part of the European Commission's fit for 55 legislative package, the *FuelEU* maritime regulation promotes the use of renewable, low-carbon fuels and clean energy technologies for ships, essential to support decarbonisation in the sector. The regulation shall be fully applied from 1 January 2025 except for articles 8 and 9 on monitoring plans that are applied from August 2024.

[105] *ReFuelEU* aviation promotes the increased use of sustainable aviation fuels (SAF) as the single most powerful tool to decrease aviation CO2 emissions. The measure is part of the fit for 55 package to meet the emissions reduction target of 55% by 2030. It sets requirements for aviation fuel suppliers to gradually increase the share of SAF blended into the conventional aviation fuel supplied at EU airports.

[106] Respectively, Regulation (EU) 2023/1805 of the European Parliament and of the Council of 13 September 2023 on the use of renewable and low-carbon fuels in maritime transport, and amending Directive 2009/16/EC (Text with EEA relevance), PE/26/2023/INIT, *OJ* L 234, 22.9.2023, pp. 48-100 and Regulation (EU) 2023/2405 of the European Parliament and of the Council of 18 October 2023 on ensuring a level playing field for sustainable air transport (*ReFuelEU* Aviation) (Text with EEA relevance), PE/29/2023/REV/1, *OJ* L, 2023/2405, 31.10.2023.

introduced mandatory greenhouse gas intensity reduction targets for marine fuels and renewable fuel blending obligations for aviation fuel suppliers at EU airports, respectively.

The *"Fit for 55"* package thus provides a fully aligned and interconnected legal toolkit that touches upon every sector of the EU economy, transforming high-level climate targets into a comprehensive body of operational law.

7. Geopolitical Shifts and the *REPowerEU* Plan (2022 onwards): The response to the Russian invasion of Ukraine, focusing on energy security, ending dependence on Russian fossil fuels and accelerating the clean energy transition

Introduced in response to the energy crisis set by the invasion of Ukraine and the perceived weaponisation by Russia of its energy supplies, the *REPowerEU Plan*,[107] launched in May 2022, is the European Union's strategy to rapidly reduce dependence on Russian fossil fuels by diversifying supplies and massively scaling up renewables and energy efficiency measures. It set more ambitious targets beyond the initial *"Fit for 55"* package, for example, a binding target of 42.5% aiming at 45% for renewable energy use by 2030.

[107] European Commission, *REPowerEU Plan*, Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions, COM(2022) 230 final, 18 May 2022; see also European Council Conclusions of 24-25 March 2022 on energy security and the reduction of dependence on Russian fossil fuels.

7.1 Immediate response to the security and supply crisis

More immediately, in 2022 it also enacted emergency short-term emergency regulations to stabilize markets and protect consumers. Voluntary gas demand reduction measures were agreed upon and minimum mandatory gas storage levels (90% by winter) were established.[108] Revenues of low-cost energy producers were capped, and a "solidarity contribution" was introduced on fossil fuel companies to redistribute funds to consumers.[109] Permitting procedures for renewable projects were fast-tracked through an emergency regulation.[110]

7.2 Turning a crisis into an opportunity for long-term reform and acceleration of the energy transition

More structurally, the *REPowerEU* plan resulted in the acceleration of reforms aimed at enhancing EU's security of supply, especially by achieving significant reductions in Russian energy imports, and by diversifying supplies, boosting renewables, and improving energy efficiency.

[108] Regulation (EU) 2022/1032 of the European Parliament and of the Council of 29 June 2022 amending Regulations (EU) 2017/1938 and (EC) No 715/2009 as regards gas storage, *OJ* L 173, 30.6.2022.

[109] Council Regulation (EU) 2022/1854 of 6 October 2022 on an emergency intervention to address high energy prices, *OJ* L 261 I, 7.10.2022.

[110] Council Regulation (EU) 2022/2577 of 22 December 2022 laying down a framework to accelerate the deployment of renewable energy, *OJ* L 335, 29.12.2022.

Amongst the key actions undertaken for diversifying supplies, the EU has drastically reduced its reliance on Russian imports by securing new sources of natural gas (LNG from the US, Norway, Qatar, amongst other sources) and signing new energy partnerships. Russian gas imports dropped from 45% of total EU gas imports in 2021 to 19% in 2024[111]; oil imports fell from 27% to 3%;[112] and coal imports have been banned entirely.[113]

The plan has also turned the green transition into a "sprint" race for the use of clean energy. The revised Renewable Energy Directive (now RED III) [114] mandates a binding EU-wide target of at least

[111] European Commission, *REPowerEU Progress Report 2024* (or most recent Commission/Eurostat statistical release on EU energy dependence), documenting the decline of Russian gas imports from 45 % in 2021 to 19 % by 2024.

[112] European Commission, *REPowerEU Progress Report 2024* (or equivalent Eurostat/IEA data), showing the reduction in Russian crude oil imports as a share of total EU crude oil imports from approximately 27 % in 2021 to 3 % by 2024.

[113] European Commission, *Implementing Regulation on the ban of Russian coal imports* under the EU's restrictive measures regime; see also Council Decision (CFSP) 2022/576) imposing import bans on coal derived from Russia (*OJ* L 111, 8.04. 2022).

[114] Directive (EU) 2023/2413 of the European Parliament and of the Council of 18 October 2023 amending Directive (EU) 2018/2001, Regulation (EU) 2018/1999 and Directive 98/70/EC as regards the promotion of energy from renewable sources and repealing Council Directive (EU) 2015/652, PE/36/2023/REV/2 *OJ* L, 2023/2413, 31.10.2023.

42.5% renewable energy in gross final consumption by 2030, with an aspirational goal of 45%.[115] [116]

Sector-specific targets[117] were also revised, like the ones for transport, where Member States can choose between a binding target of a 14.5% greenhouse gas intensity reduction or a 29% share of renewables in final energy consumption by 2030[118]; moreover, a combined sub-target of 5.5% is set for advanced biofuels and renewable fuels of non-biological origin (RFNBOs), with a minimum of 1% from RFNBOs (primarily renewable hydrogen).[119]

[115] Directive (EU) 2023/2413 of the European Parliament and of the Council of 18 October 2023 amending Directive (EU) 2018/2001 on the promotion of the use of energy from renewable sources (RED II), which establishes a legally binding EU-wide target of at least 42.5% renewable energy in gross final energy consumption by 2030.

[116] Directive (EU) 2023/2413 (RED III), recital and Article 3, which set an additional non-binding aspirational objective for the Union to reach a 45% share of renewable energy in gross final energy consumption by 2030.

[117] Directive (EU) 2023/2413 of the European Parliament and of the Council of 18 October 2023 amending Directive (EU) 2018/2001 (RED III), which introduces binding and indicative sector-specific renewable energy targets for transport, industry, and buildings as part of the "Fit for 55" legislative framework.

[118] Directive (EU) 2023/2413 (RED III), Article 25, which allows Member States to choose between a binding 14.5% reduction in greenhouse gas intensity of transport fuels or a 29% share of renewable energy in final energy consumption in the transport sector by 2030.

[119] Directive (EU) 2023/2413 (RED III), Article 25(1) and Annex IX, establishing a combined sub-target of 5.5% for advanced biofuels and renewable fuels of non-biological origin (RFNBOs), including a minimum share of 1% RFNBOs in transport by 2030.

Similarly, the same trend is present for industry, where an average annual increase of renewable energy usage by 1.6% is required and at least 42% of the hydrogen used in industry must be from RFNBOs by 2030, rising to 60% by 2035[120]; and for buildings, for which an indicative target of at least a 49% share of renewable energy in buildings by 2030 is set out, with binding gradual increases for heating and cooling systems.[121]

Furthermore, since there is the notion that the lengthy and complex permit-granting processes for new renewable energy projects, grid connections, and associated infrastructure reinforcement may become a hindrance, delay target achievement and increase project costs, permitting is streamlined and fast-track procedures for new renewable energy projects are mandated, including the designation of "Renewables Acceleration Areas" and a presumption of "overriding public interest" to limit legal objections. [122]

[120] Directive (EU) 2023/2413 (RED III), Article 22a, which requires an average annual increase of 1.6% in renewable energy use in industry and mandates that at least 42% of hydrogen consumed in industry originate from RFNBOs by 2030, increasing to 60% by 2035.

[121] Directive (EU) 2023/2413 (RED III), Article 23, which sets an indicative target of at least a 49% share of renewable energy in buildings by 2030 and introduces binding annual increases for renewable energy use in heating and cooling.

[122] Directive (EU) 2023/2413 of the European Parliament and of the Council of 18 October 2023 amending Directive (EU) 2018/2001 (RED III), in particular Articles 15c–15f, which introduce accelerated permitting procedures for renewable energy projects, establish "Renewables Acceleration Areas," and provide for a presumption that renewable energy projects are in the overriding public interest, including for the purposes of environmental and nature protection law.

8. Reforms to market design and the hydrogen and decarbonised gas market package (2023/2024)

Complementarily, reforms to the market design were introduced. The Commission proposed a reform of the existing electricity market rules in March 2023, as part of the Green Deal Industrial Plan which have led to the adoption of the amending Directive EU/2024/1711[123] and the amending Regulation EU/2024/1747[124]. The new electricity market design rules entered into force on 16 July 2024.

Adaptation of the markets was felt to be needed to better integrate renewable energies and attract investment in fossil-free flexible technologies that can complement variable energy production, such as demand side response and energy storage. They must also provide the right incentives for consumers to become more active and contribute to keeping the electricity system stable. The EU electricity market needs moreover to be transparent and efficiently monitored to ensure open and fair competition and protect against market abuse and manipulation. 2022 saw high and volatile energy prices and serious concerns about security of supply and led EU heads of government to call on the Commission to work swiftly on the structural reform of the electricity market to help Europe secure its energy sovereignty and achieve climate neutrality.

[123] Directive (EU) 2024/1711 of the European Parliament and of the Council of 13 June 2024 amending Directives (EU) 2018/2001 and (EU) 2019/944 as regards improving the Union's electricity market design (Text with EEA relevance), PE/2/2024/REV/1 *OJ* L, 2024/1711, 26.6.2024.

[124] Regulation (EU) 2024/1747 of the European Parliament and of the Council of 13 June 2024 amending Regulations (EU) 2019/942 and (EU) 2019/943 as regards improving the Union's electricity market design (Text with EEA relevance), PE/1/2024/REV/1, *OJ* L, 2024/1747, 26.6.2024.

The reforms adopted to the EU electricity market are a long-term response to price volatility caused by fossil fuel prices, aiming to better integrate renewables and protect consumers. New rules make electricity prices less dependent on volatile fossil fuel costs, providing more stable prices for consumers through long-term contracts. Long-Term Contracts like Power Purchase Agreements (PPAs) and two-way Contracts for Difference (CfDs) are also promoted incentivizing investment in low-carbon, renewable, and nuclear energy sources and securing stable revenues for producers. Parallelly, there is also provision for some consumer empowerment and enhanced consumer protection, with the offer of more options for fixed-price contracts, rules on supplier choice, and provisions for citizens to actively participate as self-generators or through energy communities. The impact of these measures is already significant: since 2022, the EU has generated more electricity from wind and solar than from gas, reaching nearly 47% renewables in its electricity mix and installing record new capacities.

Improved energy efficiency was also sought by measures such as voluntary gas demand reduction (which exceeded a 15% target) [125] and updating energy efficiency directives for obtaining significant energy savings across the EU, to stabilize energy prices and mitigate the risk of shortages.

In 2024, the European Union also introduced major gas/hydrogen regulations, the "*Hydrogen and Decarbonised Gas Market*" package, comprising Regulation (EU) 2024/1789[126] and Directive

[125] Council Regulation (EU) 2022/1369 of 5 August 2022 on coordinated demand-reduction measures for gas, *OJ* L 206, 8.8.2022.

[126] Regulation (EU) 2024/1789 of the European Parliament and of the Council of 13 June 2024 on the internal markets for renewable gas, natural gas and hydrogen, amending Regulations (EU) No 1227/2011, (EU) 2017/1938, (EU) 2019/942 and (EU) 2022/869 and Decision

(EU) 2024/1788,[127] aiming to decarbonize energy by integrating hydrogen and renewable gases, creating rules for dedicated hydrogen infrastructure, mandating methane emission reductions, and allowing blended hydrogen (up to 2%) in natural gas, with member states needing to implement the directive by mid-2026.

The EU has also sought to strengthen the infrastructure by investing in new LNG terminals and cross-border interconnectors, to ensure that all member states can access gas from at least two sources, thereby increasing the resilience of the energy system. Modernizing the grid to handle variable renewable energy flows requires massive investment. The plan requires an estimated additional €210 billion in investment by 2027, but the funding relies heavily on member state-control and voluntary grants.

Conclusion: EU Energy Law as a Complex, Integrated, and rapidly Evolving System driven by Climate Necessity and Security Concerns which Needs to further Ensure Efficiency and a Just Transition

EU energy law is a highly integrated, complex system, heavily

(EU) 2017/684 and repealing Regulation (EC) No 715/2009 (recast) (Text with EEA relevance) PE/105/2023/REV/1*OJ* L, 2024/1789, 15.7.2024.

[127] Directive (EU) 2024/1788 of the European Parliament and of the Council of 13 June 2024 on common rules for the internal markets for renewable gas, natural gas and hydrogen, amending Directive (EU) 2023/1791 and repealing Directive 2009/73/EC (recast) (Text with EEA relevance) PE/104/2023/REV/1, *OJ* L, 2024/1788, 15.7.2024.

driven by the EU Green Deal's climate goals (and the implementing Fit for 55 package) and the urgent need for energy security following Russia's invasion of Ukraine (more clearly represented in the *RePowerEU* plan).

Key areas include renewable energy deployment, energy efficiency targets, further integrating national markets into a single EU market, and diversifying gas supplies - the latter one having been boosted by the *REPowerEU* plan.

This legal and policy-making framework relating to energy issues in Europe emphasizes solidarity between member states and preparedness for supply crises, making it at present one of the most dynamic legal fields within the EU.

These advancements in EU energy law and policy should not imply turning a blind eye to the outstanding challenges perceptible in the more or less immediate future. These challenges generally seem to involve the need to maintain the renovation of regulatory frameworks to manage dynamic, data-rich systems and ensure equitable transition outcomes. More specifically, key challenges seem to include:

- A technical, technological vector, whereby variable, decentralized renewable energy sources be integrated into the existing energy grid simultaneously ensuring the grid's stability, the interoperability of the different components of the systems and their capacity to respond to demand;

- A legal, regulatory vector, whereby existing evolve to accommodate new actors (e.g., "prosumers," energy communities) and business models, ensuring fair competition while contributing to an effective grid management. This vector seems to also need to comprehend appropriate responses to data and cybersecurity concerns: as the connectivity and reliance on data from smart meters and other digital tools increase also rises concerns with

data privacy and vulnerability to cyber-attacks;

- A financial, investment vector: significant infrastructure investment is needed (e.g., in smart grids and interoperable infrastructure);

- A social, justice vector: as the system transforms and the energy transition progresses, attention is required to ensure that the costs and benefits are distributed fairly, protecting vulnerable consumers, and avoiding "energy poverty" where households cannot afford essential energy services.

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