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D.1.2.1 Mapping of existing regulatory frameworks within Pilot regions

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Preface

Challenges. In about ten years, energy efficiency has become a strategic priority for the European Union (EU) to reduce its greenhouse gas emissions and boost its economic competitiveness. This strategic priority has translated into increasingly ambitious targets aimed at innovating for energy-efficient materials, equipment, and processes. This is intended to reduce consumption in the building, industrial, and transport sectors. This European policy is implemented in Member States by sector, or at the regional or even local level.

However, the building sector is one of the most energy intensive. It is also among the largest emitters of greenhouse gases (GHG) [1]. In the service sector [2], for example, buildings are the largest energy consumer in France (44%) [3], ahead of industry. The situation is the same at the EU level: according to the European Commission [4], buildings account for 40% of the European Union's final energy consumption and 36% of its greenhouse gas emissions. This is why a series of measures have been taken [5]to encourage large-scale renovations. According to a European Commission communication, "*decarbonizing buildings will stimulate the EU's construction and clean technology sectors* ". [6]One of the European Union's environmental priorities is therefore to renovate all service sector buildings. The building sector therefore has a central role to play in achieving carbon neutrality by 2050, as set out in the European Green Deal [7]. This transformation of the building sector towards an environmental dimension relies on energy efficiency.

Energy Efficiency: Concept. Today, energy efficiency is the subject of numerous measures at the European level, as energy consumption is one of the main factors contributing to climate change, which the European Green Deal [8]aims to address. Energy efficiency is a major issue for many sectors such as industry, buildings, and transport.

strictly legal definition of the term "energy efficiency" at the international level, a term which can be mistakenly confused with related terms such as energy sobriety, energy transition, or ecological

[1] https://www.ademe.fr/les-defis-de-la-transition/batiments/

[2]The tertiary sector covers a vast range of activities, from commerce to administration, including financial and real estate activities, business and personal services, education, and the hotel and restaurant industry.
https://www.insee.fr/fr/metadonnees/definition/c1584

[3] Energy efficiency: definition, challenges and benefits in business | Big media | Get inspired, Get informed, Get involved

[4]The European strategy for buildings, European Commission. https://france.representation.ec.europa.eu/la-strategie-europeenne-en-faveur-des-batiments_fr

[5]See *below,* §8.

[6] *EU-wide assessment of updated final national energy and climate plans. Achieving the Union's energy and climate objectives by 2030,* COM/2025/274 final.

[7]The Green Deal for Europe, 11 Dec. 2019, COM (2019) 640 final.

[8] *Ibid.*

transition. Since the current report deals with energy efficiency in businesses, it was therefore essential to distinguish between these terms.

While " *implementing* ***energy efficiency strategies*** *reduces the environmental impact of energy consumption, it also allows us to anticipate future energy management regulations, which are bound to evolve in the context of the fight against climate change* [9]."These energy efficiency strategies primarily involve "*adopting a more responsible consumption pattern*". [10]More precisely, energy efficiency can be defined as *"the ratio or balance between the amount of energy consumed and the amount of energy supplied. It's about optimizing energy expenditure without reducing the quality of service provided* [11]*, "* while still meeting the same needs. Put simply, energy efficiency is understood as improved performance of the energy consumed, as the term "efficiency" is synonymous with performance, productivity, and even optimization. It's therefore about optimizing energy expenditure without reducing the quality of services provided and ultimately doing more with the same amount of energy. Gains in energy efficiency often involve replacing machines or equipment with more efficient tools.

It is thus distinguished from **energy sobriety**, which consists rather of *"reducing energy consumption through moderation of resource use and a change in behaviour*"[12], such as avoiding overconsumption of water or electricity by adopting simple actions (turning off the light, consuming less water), lowering the temperature of buildings, or depriving oneself, for example, of certain energy-intensive tools (air-drying clothes rather than using a tumble dryer).

Energy efficiency is distinct from **the energy transition,** which involves changing the type of energy used for a given activity to a more renewable source. This includes encouraging more sustainable, natural, and even local consumption and production. In France, in particular, the energy transition is considered a *"policy that aims, in the face of climate change, to transform energy production and supply by reducing the share of fossil fuels and increasing the share of low-carbon energy sources*". [13]In the building sector, an energy transition measure might involve replacing a gas boiler with a heat pump.

The energy transition is also the cornerstone of the **ecological transition,** which more broadly entails a profound societal shift towards a decarbonized economy. Indeed, the ecological transition is a major pillar in the fight against climate change. This concept was developed by Rob Hopkins, a British researcher and teacher, and it is based on the development of a long-term sustainable

[9]Energy efficiency: definition, challenges and benefits in business, Bpifrance.
Energy efficiency: definition, challenges and benefits in business | Big media | Get inspired, Get informed, Get involved
[10] *Ibid*
[11] *Ibid*
[12] *Ibid*
[13]Environmental vocabulary, *JORF* n°0123 of May 28, 2023.

model, which involves profound social and economic changes [14]. This ecological transition consists of striving towards a sustainable social and economic model and implementing the necessary tools and actions to achieve it [15]. Above all, it involves developing solutions to combat the environmental impact of human activities. This ecological transition focuses on three main areas: the energy transition, but also the industrial and agricultural transitions.

Regulatory obligations aimed at achieving climate neutrality are thus concentrated around these three pillars: energy efficiency, energy conservation, and the energy transition, which are three distinct levers for action. However, this report will only examine regulations relating to energy efficiency in businesses. Nevertheless, this topic can sometimes be closely linked to the others, which is why regulations relating to the other two concepts may be studied on a case-by-case basis.

Indeed, energy efficiency, which involves consuming better, can be combined with certain measures to achieve energy sobriety, which involves consuming less.

For example, energy efficiency could be achieved in two ways:

- This means better production with the same consumption (energy efficiency means "producing more while consuming the same amount").
- This means the same production but with a decrease in consumption (energy efficiency means "producing as much while consuming less").

In the second scenario, energy efficiency and energy conservation can converge to achieve a common goal: reducing consumption through energy-saving measures without compromising performance. It is in this second scenario that regulations concerning energy conservation will be addressed in this report, as they are closely linked to energy efficiency. The primary distinguishing factor in the practical implementation of these two concepts is whether **their application is active or passive.** For example, switching off unnecessary lights is an energy conservation measure (passive), while replacing light bulbs with more energy-efficient LEDs that have a longer lifespan is an energy efficiency measure (active). Perhaps the most obvious example of the convergence of these two concepts is found in building wall insulation: insulation reduces heating system consumption (energy conservation) and optimizes overall energy use (energy efficiency).

[14] *"In 'The Transition Companion' in 2011, I wrote: 'The starting point of Transition is that a less oil-dependent, less carbon-intensive future might be preferable to today's. Its purpose is to act as a catalyst, an impetus, an invitation; to galvanize the transition to a more local and resilient community.' It expresses itself in many ways: as an internal process, as people leading by example, as an approach rooted in place and circumstances, as a cultural shift, as an economic process, as a storyteller, as a tool for transforming problems into solutions. That is what Transition is. And the moral of this story is never let anyone tell you otherwise."* Rob Hopkins, October 12, 2022.
https://www.robhopkins.net/2022/10/12/when-transition-means-transition-and-when-it-doesnt/

[15] While the ecological transition also concerns agriculture or urban planning, the energy transition focuses on a better use of energy resources.

Thus, the levers of action of States will be concentrated on the energy efficiency of companies, and secondarily on energy sobriety when the latter is in synergy with energy efficiency.

Geographic Scope and Types of Companies Considered in the Interreg Ecoboost Study. The Ecoboost study focuses on the low energy efficiency of small and very small enterprises in North-Western Europe, which face financial, technical and regulatory obstacles hindering the adoption of energy-efficient technologies. The study aims to help these small businesses overcome these obstacles, notably by developing an energy-transition navigator. This tool offers tailored energy audits, technical assistance and training programmes.

The Ecoboost study falls within the perspective of tertiary-building energy efficiency. It aims to support 90 small and very small enterprises in the accommodation and restaurant sector across six pilot regions in IE, BE, DE, FR and NL in overcoming barriers related to improving energy efficiency. However, although the EU sets out pathways for improving energy efficiency—and, more broadly, for achieving climate neutrality—Member States may be aligned with these trajectories. National approaches therefore may or may not converge.

Indeed, governing the energy efficiency of companies across several countries, even when they belong to a higher structure such as the European Union, is more complex than at national level and must be legally enabled.

In this context, EU regulation in favour of energy efficiency takes the form of European directives. The aim is to determine how the Member States selected in the study have transposed those directives into their domestic law. Although European governance is ambitious in promoting corporate energy efficiency, the nature of directives provides Member States with flexibility in choosing how to meet the required objectives. As the name suggests, directives indicate a “direction,” but Member States remain free in their choice of methods and implementation measures. This freedom may lead to parallel national initiatives, and not all small enterprises in the accommodation and restaurant sector may be treated uniformly in their respective States.

How has European regulation on the energy efficiency of small accommodation and restaurant businesses been transposed into national law? The transposition of EU regulation into domestic law (I) will be examined for France (II), the Netherlands (III), Belgium (IV), Ireland (V) and finally Germany (VI).

Contents

Figures

1. European Regulation

European law is characterised by a specific typology, with areas of competence (1.1), which confer on it the power to legislate in fields related to the energy efficiency of businesses (1.2). In addition, the European Union has defined the notion of small and very small enterprises, which constitute the scope of the EcoBoost study (1.3).

1.1 Typology of European Union Law

Typology of EU Law. The collaboration induced by the Treaty on European Union [16]between Member States and the EU is enabled by European law, the specificities of which are linked to the very nature of the EU, which is itself specific, even unique[17].

European Union law comprises a set of rules that do not all have the same legal value and are arranged in a precise hierarchical order. Indeed, European law derives from several sources. At the top of the hierarchy is **primary law** (treaties, protocols, and annexed conventions), which takes precedence over all other sources of law. These treaties define the distribution of powers between the Union and the Member States, and particularly the powers of the institutions. Two fundamental treaties, known as "founding «, treaties, occupy a central place: the Treaty on the Functioning of the European Union (TFEU) [18]and the Treaty on European Union (TEU)[19]. Below these are fundamental rights, followed by international agreements concluded by the EU with third countries or international organizations. These agreements must therefore comply with the European treaties.

Secondary legislation encompasses all acts adopted by the EU institutions, which must also comply with primary law and international agreements. It essentially consists of legislative acts adopted by the European institutions, whose legal scope varies. In accordance with Article 288 of the TFEU, secondary legislation allows the institutions to adopt regulations, directives, decisions, recommendations, and opinions, which are distinct from national legal instruments.

This body of secondary legislation must also be distinguished between binding and non-binding acts. **Binding acts** create a legal obligation for all addressees. They take various forms, such as regulations (provisions directly applicable in all Member States and which apply as soon as they are published in the Official Journal of the European Union (OJEU), without requiring national transposition); directives (provisions setting objectives to be achieved while delegating the choice of means to Member States, which must then adopt a transposition act into national law); and

[16]Treaty on European Union, OJ No. C 191, 29 July 1992 p. 0001 – 0110.
[17]For further reading: G. Soulier and O. Descamps, *History of European Construction,* JurisClasseur Europe Treatise - Encyclopedias - Fasc. 100: EUROPEAN UNION, Lexis Nexis.
[18]Treaty on the Functioning of the European Union of 13 December 2007, *OJ* C 202 of 7.6.2016, p. 47-360.
[19] *Previous*

decisions (provisions intended to regulate specific situations by targeting designated addressees, also requiring transposition into national law). **Non-binding acts,** on the other hand, do not create legal obligations. Resolutions, declarations, agreements, recommendations, deliberations, conclusions, and common positions are essentially political in nature; they *express the institutions' position on a particular subject.*[20]

Areas of competence of the European Union. Regarding the competences of the EU and the Member States, in accordance with Article 2 of the TFEU, certain areas of competence are conferred exclusively on the Union, while others are shared with the Member States, and finally, there are supporting competences. Any competence not conferred on the EU in the Treaties belongs to the Member States [21].

Exclusive competences conferred on the European Union by Article 3 of the TFEU are the areas in which the EU alone has the power to legislate and adopt binding acts:

- The customs union.
- The establishment of competition rules necessary for the functioning of the internal market.
- Monetary policy for the countries of the euro area.
- The conservation of marine biological resources within the framework of the common fisheries policy.
- The common trade policy.

Certain competences are also **shared** (Member States can only exercise their competence to the extent that the EU has not exercised or has decided not to exercise its own). Under Article 4 of the TFEU, shared competence between the EU and its Member States applies to the following areas:

- The internal market.
- Social policy (for the aspects precisely defined in the treaty exclusively);
- Economic, social and territorial cohesion (regional policy);
- Agriculture and fishing (excluding the conservation of marine biological resources);
- The environment.
- Consumer protection.
- Transportation.
- Trans-European networks.
- Energy.
- The space of freedom, security and justice.
- The common security challenges in public health.
- Research, technological development and space.
- Development cooperation and humanitarian aid.

[20] https://www.touteleurope.eu/fonctionnement-de-l-ue/la-hierarchie-des-normes-de-droit-de-l-union-europeenne/ .
[21] Distribution of competences within the European Union | EUR-Lex .

Finally, there are supporting competences, provided for in Article 6 of the TFEU. The EU can only intervene to support, coordinate, or supplement the actions of its Member States. In these areas, the EU cannot adopt legally binding acts that oblige Member States to harmonize their laws and regulations.

- The protection and improvement of human health.
- The industry.
- Culture.
- Tourism.
- Education, vocational training, youth and sport.
- Civil protection.
- Administrative cooperation.

Furthermore, the ruling issued by the Court of Justice of the European Communities (ECJ), now the Court of Justice of the European Union (CJEU), establishes the primacy of European Union law (at the time, Community law) over national legislation [22]. Thus, in the event of a conflict between national and European standards, the latter prevail.

1.2 European Regulation in Favour of companies Energy Efficiency

EU policy positions. Article 194 of the Treaty on the Functioning of the European Union (TFEU) [23]establishes certain areas of energy policy as a shared competence, in which each Member State retains its right " *to determine the conditions for the exploitation of its energy resources, its choice between different energy sources and the general structure of its energy supply.* " [24]The same article stipulates that the European Union aims, " *in a spirit of solidarity between Member States,*" " *to promote energy efficiency and energy savings.* "[25]

Thus, according to the 2015 *Energy Union* package, energy efficiency is among the main objectives of the European Union's energy policy. As such, " [26]*most of the work must be carried out at national, regional, and local levels, but the Commission has an important role to play in creating an enabling environment for progress. It will therefore encourage Member States to make energy efficiency a key focus of their policies."*[27] "Furthermore, the 2015 Paris Climate Agreement [28], an international treaty

[22]ECJ, 15 July 1964, No. 6/64; CELEX 61964J0006, known as the "Costa v. Enel Judgment".
[23]Treaty on the Functioning of the European Union of 13 December 2007, OJ C 202 of 7.6.2016, p. 47-360.
[24]TFEU, art. 194§2.
[25]TFEU, art. 194§1.
[26]Strategic framework for a resilient Energy Union with a forward-looking climate change policy, COM/2015/080 final.
[27] *Ibid,* 2.3.
[28]Paris Agreement, 2015.

signed that same year by the EU and all its member states, aims to keep the increase in the average global temperature below 2°C compared to pre-industrial levels.

Along the same lines, within the framework of the Green Deal[29], adopted in 2019 and implementing the Paris Agreement, the European Union is taking the measure of the challenges by setting itself the goal of achieving carbon neutrality by 2050. A key instrument of this Green Deal, reflecting its ambitions, is *the "European Climate Law,"* adopted in June 2021 [30]as a regulation, which therefore has a more binding scope than a communication and applies in Member States without transposition. Shared competence with Member States under Article 4 of the Treaty on the Functioning of the European Union (TFEU) [31], the environment is central to this regulation. The objective of this text is to enshrine climate neutrality in European legislation [32]and to establish an interim target of reducing emissions by at least 55% by 2030 compared to 1990 levels [33].The second major step of the Green Deal, the " *Climate Package* ," also known as " *Fit for 55* ," comprises a set of proposals to align European legislation and policies with the intermediate target of reducing emissions by at least 55% by 2030 compared to 1990 levels. This package includes numerous measures, outlined in the Commission Communication of 14 July 2021, entitled " *Fit for 55.* " [34]The text also reiterates that " *these targets are no longer aspirations or ambitions, but obligations, enshrined in the first European climate law.*" As such, a " *set of proposals* " is being implemented across the EU to achieve the necessary radical transformation in all sectors. This communication provides an overview of this " *Climate Package,*" which includes a set of measures that will amend existing legislation, as well as new measures introduced through new legislation. In total, the package strengthens eight existing legislative acts and introduces five new initiatives across a range of policy areas and economic sectors: promotion of renewable energy, energy performance of buildings, land use and forestry, etc.

https://unfccc.int/sites/default/files/english_paris_agreement.pdf .

[29]The Green Deal for Europe, 11 Dec. 2019, COM (2019) 640 final.

[30]Regulation (EU) 2021/1119 of the European Parliament and of the Council of 30 June 2021 laying down the framework required to achieve climate neutrality and amending Regulations (EC) No 401/2009 and (EU) 2018/1999 ('European Climate Law'), *OJ* L 243, 9.7.2021, p. 1–17.

[31]See *above,* § 7.

[32] *Precedent,* art. 2.

[33] *Precedent,* art. 4.

[34] "Adjustment *to target 55"*: achieving the EU's 2030 climate target on the path to climate neutrality, 14 July 2021, COM (2021) 550 final.

Figure 1 Measures included in the "Climate Package"

Thus, the current European regulatory framework in the energy sector is based on the EU's[35] extensive *"Adjustment to Target 55* " package , which aims to align all climate and energy objectives. This included the proposal to revise the Energy Efficiency Directive, adopted in 2012 and amended in 2018. On September 20, 2023, the ambitious revision of this directive was published in the Official Journal of the European Union (OJEU) [36].

Energy Efficiency Directive – Expression of the EU's climate ambition. In 2012, the first European directive on energy efficiency [37]came into force in the European Union. It initially aimed for a 20% reduction in energy consumption by 2020. [38]Since then, the directive has been revised. In 2018, a new version of the text [39]raised the target for reducing energy consumption to 32.5% by 2030. [40]Finally, in March 2023, the EU reached a new agreement to reform the Energy Efficiency

35

36 Directive 2023/1791 of 13 September 2023 on energy efficiency and amending Regulation (EU) 2023/955 (recast), *OJ* L 231, 20 September 2023, p. 1-111.

37Directive 2012/27/EU 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

38 *Ibid,* art. 1.

39Directive 2018/2002 of 11 December 2018 amending Directive 2012/27/EU on energy efficiency, OJ L 328, 21.12.2018, p. 210–230.

40 *Ibid,* art. 1.

Directive to achieve the objectives of the Fit for 55 packages [41]. Thus, the new Energy Efficiency Directive [42], which entered into force in October 2023, sets a target of 11.7% [43]for reducing the Union's primary [44]and final energy consumption [45]by 2030, compared to 2020 projections. The objective is for the Union's final energy consumption not to exceed 763 Mtoe. Furthermore, Member States must strive to " *contribute collectively to achieving the indicative target for the Union's primary energy consumption of not exceeding 992.5 Mtoe in 2030." [46]While* the final energy consumption target is collectively binding for EU countries, the primary energy consumption target is only indicative. To achieve these objectives, the directive requires EU countries to set indicative national energy efficiency targets based on the contribution of final energy consumption to the Union's target. Crucially, the directive introduces new, phased annual energy savings targets for Member States: 1.3% for the period 2024-2025; 1.5% for the period 2026-2027; and 1.9% for the period 2028-2030, all calculated based on the average of the three years preceding 1 January 2019 [47].

As such, the directive is based on the principle of energy efficiency primacy, which requires EU countries to ensure that energy efficiency solutions are considered in planning, policymaking, and investment decisions. The directive defines energy efficiency as " *the ratio of output, service, good, or energy obtained to the energy used to achieve it,* " [48]and its improvement as " *an increase in energy efficiency resulting from technological, behavioural, or economic changes*."[49]

This ambition is reflected by the modification of the scope of energy audits [50]. While the previous 2012 Energy Efficiency Directive stipulated that *"companies that are not SMEs"*[51] are required to carry

[41]See *above,* § 6.
[42]Directive 2023/1791 of 13 September 2023 on energy efficiency and amending Regulation 2023/955 (recast), OJ L 231 of 20 September 2023, p. 1-111.
[43] *Ibid.*, art. 4.
[44]Available gross energy, excluding international marine bunkers, final consumption for non-energy purposes and ambient energy.
[45]The sum of energy consumption from industry, transport (including international aviation), the residential sector, the public and private service sector, agriculture, forestry, fishing and other end-use sectors, excluding energy consumption in international marine bunkers, ambient energy and deliveries to the processing and power sectors, as well as losses due to transmission and distribution
[46] *Precedent* , art. 4.
[47] *Precedent* , art. 8.
[48] *Precedent,* art. 2.
[49] *Ibid.*
[50]This is essentially a procedure aimed at establishing a precise energy consumption profile for a building or group of buildings, an industrial or commercial activity or facility, or a public or private service. It makes it possible to identify and quantify opportunities for cost-effective energy savings, as well as the potential for the profitable use or production of renewable energy.
[51] *Precedent,* art. 4.

out an energy audit every four years, the new directive subjects companies to energy audits based on their consumption [52]and not their size.

Energy Performance of Buildings Directive. The first Energy Performance of Buildings Directive [53]aimed to reduce greenhouse gas (GHG) emissions and energy consumption in the EU building sector. It was also impacted by the European Green Deal, [54]which led to a revision of the text. The new 2024 Energy Performance of Buildings Directive [55]reiterates that buildings account for 40% of the Union's final energy consumption and 36% of energy-related greenhouse gas emissions, while 75% of EU buildings remain energy inefficient [56]. Consequently, reducing energy consumption and increasing the use of renewable energy sources have a crucial role to play.

This is why the new directive sets new emission reduction targets for buildings, both at EU and national levels: all new private sector buildings in the EU must be net-zero emissions from 2030 onwards [57], and for existing non-residential buildings, EU countries must define minimum energy performance standards to **renovate 16% of the least energy-efficient building stock by 2030 and 26% by 2033.** [58]To this end, the directive requires Member States to implement national building renovation plans [59], the first of which must be submitted to the European Commission by December 31, 2025, at the latest. The implementation of these plans should ensure *"the renovation of the national stock of residential and non-residential buildings, both public and private, with a view to creating a highly energy-efficient and decarbonized building stock by 2050 and transforming existing buildings into zero-emission buildings.*" These plans should, for example, establish national policies and measures aimed at phasing out the use of fossil fuels for heating and cooling, and more broadly, provide an overview of the national building stock for different types of buildings. Member States will submit the final version of this plan by December 31, 2026, bearing in mind that the deadline for transposing this directive falls between these two plans (May 29, 2026).

[52]"Member States shall ensure that companies whose average annual energy consumption has exceeded 10 TJ over the previous three years, taking into account all energy vectors, and which do not implement an energy management system, are subject to an energy audit," ibid., art. 11.
[53] Directive 2010/31/EU of 19 May 2010 on the energy performance of buildings, *OJ* L 153 of 18 June 2010, p. 13-35.
[54]See *above,* §6.

[55] Directive 2024/1275 of 24 April 2024 on the energy performance of buildings, *OJ* L 2024/1275, 8 May 2024.
[56] *Ibid,* §6.
[57] *Ibid,* art. 7.
[58] *Ibid,* art. 9.
[59] *Ibid,* art. 3.

Furthermore, a delegated regulation of 30 June 2025 [60]supplementing the directive regarding the establishment of a methodological framework for certain calculations was published in the Official Journal of the European Union on 31 October but was cancelled a few days later [61].

1.3 Definition of Enterprises by the European Union

The concept of small and medium-sized enterprises (SMEs). While the European Union's positions on energy efficiency and energy performance are broad in scope and aim to affect numerous businesses and buildings, the European ECOboost project focuses on small and very small enterprises (SMEs) in the restaurant and hospitality sector. The European regulations examined previously apply, with few exceptions, to many businesses and buildings, but the concept of small and very small enterprises, the scope of this study, may not be interpreted in the same way across the Member States included in the study.

This is why the European Union has addressed the issue by issuing recommendations on the size of the companies considered. Indeed, a 2003 European recommendation [62]suggests that:

- The category of medium-sized enterprises consists of companies that employ between 50 and 250 people and whose annual turnover does not exceed 50 million euros or whose total annual balance sheet does not exceed 43 million euros.
- The category of small businesses is defined as a business that employs fewer than 50 people and whose annual turnover or annual balance sheet total does not exceed 10 million euros.
- The micro-enterprise category is defined as a company that employs fewer than 10 people and whose annual turnover or annual balance sheet total does not exceed 2 million euros.

However, as the recommendations are not binding, Member States may agree on another definition; therefore, it will be necessary to determine, for each Member State selected by the study, whether their definition is well aligned with that of the stated recommendation [63].

[60]Delegated Regulation 2025/1511 of 30 June 2025 supplementing Directive (EU) 2024/1275 of the European Parliament and of the Council as regards the establishment of a comparative methodological framework for calculating cost-optimal levels of minimum energy performance requirements for buildings and building elements, OJ L, 2025/1511, 31 Oct. 2025.

[61]Corrigendum to Commission Delegated Regulation (EU) 2025/1511 of 30 June 2025 supplementing Directive (EU) 2024/1275 of the European Parliament and of the Council as regards the establishment of a comparative methodological framework for calculating cost-optimal levels of minimum energy performance requirements for buildings and building elements, *OJ* L 2025/90879, 4 November 2025. https://eur-lex.europa.eu/legal-content/FR/TXT/?uri=OJ:L_202590879

[62]Commission Recommendation of 6 May 2003 concerning the definition of micro, small and medium-sized enterprises [notified under number C (2003) 1422] (OJ L 124, 20.5.2003, p. 36-41).

[63]In September 2021, the European Commission published a report analysing the relevance and effectiveness of the definition of SMEs.

The European regulations outlined, which have resulted in the development of European directives, are intended to apply within national territories. However, this transposition may be parallel.

https://ec.europa.eu/transparency/documents-register/detail?ref=SWD(2021)279&lang=en .

2. French Regulation

While France has its own definition of enterprises (2.1), it has also implemented specific measures in favor of the energy efficiency of buildings (2.3), with local-level programmes (2.4). Nevertheless, the transposition of various European directives will lead to an adjustment of the regulation (2.2).

2.1 Definition of small and very small enterprises under French law

The concept of small and very small enterprises. In France, Article 51 of the Law of August 4, 2008, on the modernization of the economy [64], establishes, for the purposes of statistical analysis, a classification of businesses into four categories: micro-enterprises, small and medium-sized enterprises (SMEs), intermediate-sized enterprises, and large enterprises. More specifically, Article 3 of Implementing Decree No. 2008-1354 of December 18, 2008, [65]defines:

- The category of micro-enterprises includes companies that employ fewer than 10 people and have an annual turnover or balance sheet total not exceeding 2 million euros.
- The category of small and medium-sized enterprises (SMEs) includes companies that employ fewer than 250 people and have an annual turnover not exceeding 50 million euros or a balance sheet total not exceeding 43 million euros.

This is therefore not a completely compliant interpretation of the European recommendation. The text does not distinguish between small and medium-sized enterprises and thus includes the latter within the category of medium-sized enterprises. This leads to extending the study, in the case of France, to include medium-sized enterprises.

2.2 Transposition into French law of European directives

Transposition of the Energy Efficiency Directive [66]into French law. The transposition of the text into French law was partially completed recently, within the framework of Article 25 of the Law of

[64]Law No. 2008-776 of August 4, 2008, on the modernization of the economy, *JORF* No. 0181 of August 5, 2008.
[65]Decree No. 2008-1354 of 18 Dec. 2008 relating to the criteria for determining the category to which a company belongs for the purposes of statistical and economic analysis, *JORF* No. 0296 of 20 Dec. 2008.
[66] Directive 2023/1791 of 13 September 2023 on energy efficiency and amending Regulation (EU) 2023/955 (recast), *OJ* L 231, 20 September 2023, p. 1-111.

April 30, 2025 (known as the " *DDADUE* ") [67]. This text aims to adapt French law to recent developments in the European legislative framework, particularly in the areas of ecological transition and energy, specifically through Articles 17 to 25. Article 25 of the Law notably modifies the criteria for companies to be subject to their obligations regarding energy audits or the implementation of an energy management system.

Transposition of the Energy Performance of Buildings Directive [68]into French regulations. Member States must transpose this directive by May 2026, adapting their national regulations accordingly. This is particularly the case for France, which must adapt regulations such as RE 2020 [69]and the Tertiary Decree [70].

Furthermore, to date, a decree of December 30, 2024, [71]has also transposed Article 4 of the directive which deals with the calculation of the energy performance of buildings.

Beyond that, many French texts transpose the directive, but which do not directly concern the scope of EcoBoost's study [72].

2.3 Regulation on energy efficiency of buildings in national law

Implementation in France of European measures in favour of energy efficiency In France, measures have been established to guide businesses across sectors in achieving energy-efficiency objectives. These regulations also cover the hotel and restaurant sector, which together account for 4.1% of energy consumption of tertiary buildings. [73]

[67]Law No. 2025-391 of 30 April 2025 containing various provisions adapting to European Union law in economic, financial, environmental, energy, transport, health and movement of persons matter, *JORF* No. 0103 of 2 May 2025.
[68]Directive 2024/1275 of 24 April 2024 on the energy performance of buildings, *OJ* L 2024/1275, 8 May 2024.
[69]RE 2020 is the new energy and environmental regulation for all new construction. It is the first French regulation, and one of the first worldwide, to introduce environmental performance into new construction through life cycle analysis. It has been phased in since January 1, 2022, starting with residential buildings.
https://rt-re-batiment.developpement-durable.gouv.fr/IMG/pdf/guide_re_2020_16mai2025.pdf
[70]See *below,* § 24.
[71]Decree No. 2024-1258 of 30 December 2024 amending the energy and environmental performance requirements for building construction in metropolitan France, *Official Journal* No. 0309 of 31 December 2024
[72] https://eur-lex.europa.eu/legal-content/FR/NIM/?uri=CELEX:32024L1275 .
[73]https://opera-energie.com/decret-tertiaire-obligations-renovation-energetique/#:~:text=Le%20d%C3%A9cret%20tertiaire%20%3A%20retour%20sur,d'%C3%A9nergie%20aux%20b%C3%A2timents%20existants

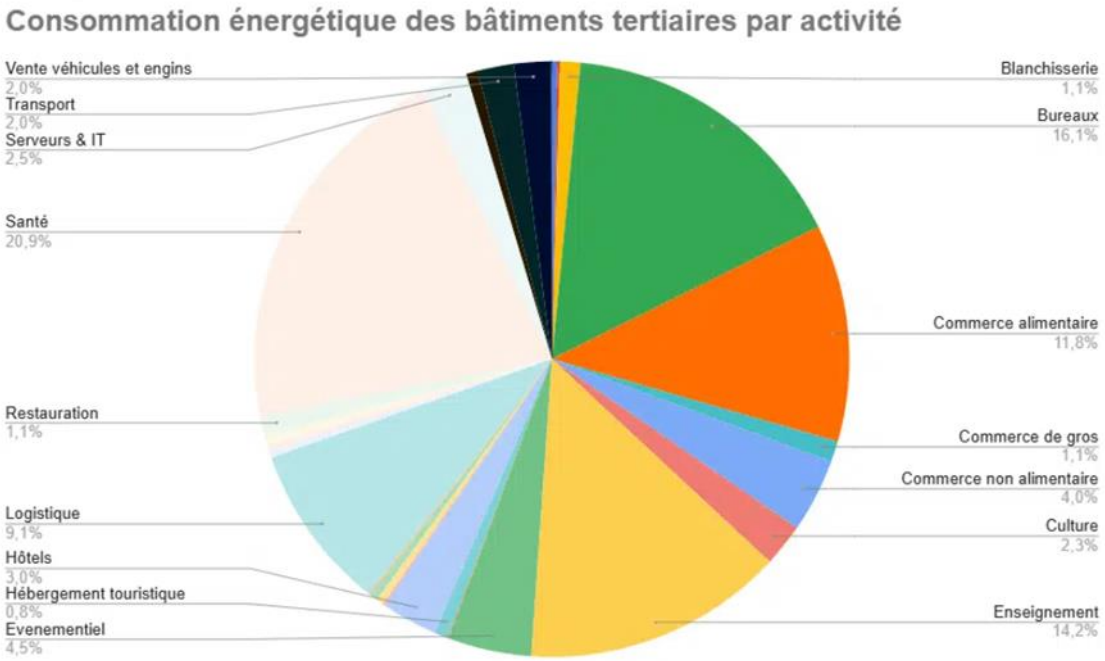

Figure 2 Energy consumption of commercial buildings by activity

The 2015 Energy Transition for Green Growth law. A decade ago, the 2015 Energy Transition for Green Growth[74] law marked a turning point in France's approach to climate change. It sets out ambitious, quantified national climate policy goals, thereby aligning with the 2015 Paris Agreement[75]. The law rests on four main axes:

- Reduce fossil energy consumption by 30% by 2030 compared with 2012[76]
- Reduce final energy consumption by 20% by 2030 and by 50% by 2050 relative to 2012[77][78]
- Promote use of renewable energies and sustainable building materials[79]
- Reduce greenhouse gas emissions by 40% by 2030 (versus 1990) and divide them by four

[74] Law No. 2015-992 of 17 August 2015 relating to the energy transition for green growth, *JORF* No. 0189 of 18 August 2015
[75] Paris Agreement, 2015 https://unfccc.int/sites/default/files/english_paris_agreement.pdf
[76] Art. 1 – III, *above.*
[77] *Ibid.*
[78] Obligation codified in article L. 100-4 of the Energy Code.
[79] *Ibid.*

by 2050 (the "Factor 4" objective)[80]. [81]

Figure 3 Measures under the Energy Transition Act

Key measures concerning essential areas of energy transition and energy efficiency include the following in the building sector:

- Reduction of greenhouse gas emissions and energy consumption of the building [82];
- Renovation of the existing building stock, by taking advantage of the carrying out of major works (roof repairs, facade renovation, loft conversions) to significantly improve energy performance [83];
- Improving the energy and environmental performance of new buildings [84];
- **Energy consumption reduction in the service sector.** The law sets the service sector on a trajectory to reduce its energy consumption by 60% by 2050 [85], with targets set every ten years. The implementing decree for this measure, published in May 2017 [86], initially stipulated a requirement to carry out energy efficiency improvements for offices, hotels, and shops with premises totalling 2,000 m² or more of usable floor space.
- Integration of energy efficiency improvements. During major renovation work (facade renovation, roof repairs, conversions to make a space habitable), owners must incorporate energy efficiency requirements. These improvements will not be mandatory in cases of technical impossibility, significant additional costs, or obvious architectural disproportion.

[80] *Ibid.*

[81] https://www.ecologie.gouv.fr/sites/default/files/documents/La%20loi%20de%20transition%20%C3%A9nerg%C3%A9tique%20pour%20la%20croissance%20verte%20en%20actions%20%28%2032%20pages%20-%20juillet%202016%20-%20Versions%20fran%C3%A7aise%29.pdf

[82] Art. 1 – III, *above.*

[83] Art. 14, *above.*

[84] Art 8.V, *above.*

[85] Art. 17, *above.*

[86] Decree No. 2017-918 of 9 May 2017 relating to obligations to improve energy performance in existing buildings used for tertiary activities, Official Journal No. 0109 of 10 May 2017

https://www.ecologie.gouv.fr/sites/default/files/publications/L16240_collectionTE_Mesures-Batiments_BATweb.pdf

In this regard, the decree of May 30, 2016, concerning the nature of the work triggering this obligation, [87]was issued pursuant to Article 14 of the law.

Furthermore, the law provides for the development of a national low-carbon strategy [88](SNBC) [89]and a multi-year energy program (PPE) [90].

The Energy and Climate Law of November 8, 2019, [91]aims to address the ecological and climate emergency. It enshrines this emergency in the Energy Code, along with the objective of carbon neutrality by 2050, by reducing greenhouse gas emissions by at least six times by that date. Among the law's objectives and measures are a 40% reduction in fossil fuel consumption—compared to 2012 levels—by 2030 (compared to 30% in the 2015 law [92]).

The 2021 Climate and Resilience Law [93], adopted in line with the 2015 Paris Agreement [94]and within the framework of the European Green Deal [95], significantly impacts the way companies manage their energy consumption and requires rapid adaptation.

For business premises, this law mandates the integration of either a renewable energy production system (such as solar panels) or a green roof system [96]. This requirement applies specifically to the construction of buildings or parts of buildings used for commercial, industrial, or artisanal purposes when they create a footprint exceeding 500 square meters [97]. This obligation has been incorporated into a new article, L. 171-4, of the French Building and Housing Code. Therefore, this requirement also applies to the restaurant and hotel sector when the threshold is exceeded.

National Low Carbon Strategy (SNBC). To meet its commitments, such as the Paris Agreement, France has adopted a National Low Carbon Strategy (SNBC), stemming from the 2015 Energy Transition Law [98]. The strategy constitutes a roadmap for implementing the transition to a low-carbon economy in all sectors of activity.

In accordance with Article 4 of the 2015 law on energy transition, this strategy, which must be

[87]Decree No. 2016-711 of 30 May 2016 relating to insulation work in the event of facade renovation, roof repair or conversion of premises to make them habitable, *JORF* No. 0125 of 31 May 2016.
[88] *Precedent,* art. 4.
[89]See *below,* § 21.
[90]See *below,* § 22.
[91]Law No. 2019-1147 of 8 November 2019 relating to energy and climate, *JORF* No. 0261 of 9 November 2019.
[92]See *above,* §18.
[93]Law No. 2021-1104 of 22 August 2021 on combating climate change and strengthening resilience to its effects, JORF No. 0196 of 24 August 2021.
[94]Paris Agreement, 2015.
https://unfccc.int/sites/default/files/english_paris_agreement.pdf
[95]See *above,* §8
[96]See above, Art. 101-II
[97] *Ibid*
[98]See *above,* §18

reviewed every 5 years, includes:

- A detailed analysis of the national building stock, particularly about their energy performance
- A presentation of economically relevant renovation strategies, depending on building types and climate zones
- An assessment of policies implemented, and an action plan aimed at stimulating economically viable major building renovations
- An action plan aimed at guiding individuals, the construction industry and financial institutions in their investment decisions
- An estimate of the expected energy savings

The Multiannual Energy Programme (PPE). In accordance with the Paris Agreement [99]and the European Green Deal, France has committed to achieving carbon neutrality by 2050, through mitigation policies such as the SNBC [100], which aims to describe the roadmap for reducing GHG emissions, and the multiannual energy programme (PPE), which sets the priorities of public authorities in the field of energy.
The Multiannual Energy Programme (PPE) [101]sets out these priorities to achieve the objectives of the law on energy transition for green growth [102]. In this document, all pillars of energy policy and all energy sources are addressed within a single strategy, to develop a more efficient, cross-cutting vision of energy. It must be compatible with the objectives of the National Low-Carbon Strategy (SNBC) and covers two five-year periods, 2019-2023 and 2023-2028, with intermediate targets. It sets the course for all French energy sectors to build a more sustainable and environmentally friendly future energy mix.

Specific regulations for the tertiary sector in France: "*Responsible for 17% of final energy consumption, the tertiary sector must decarbonize and reduce its energy consumption to achieve carbon neutrality [103]*." This is why two decrees strengthening energy efficiency in the tertiary building sector were developed: the *"tertiary decree* " [104]and the *"BACS decree* " [105].

"Tertiary *Decree.*" In France, there is no regulation explicitly referring to "energy *efficiency.*" However, the 2019 " [106]*Tertiary Decree,*" which requires businesses to reduce their energy consumption (energy sobriety), is closely linked to energy efficiency. This is because the required

[99] *Previous*
[100]See *above,* §21.
[101]You can find it here:
https://www.ecologie.gouv.fr/sites/default/files/documents/20200422%20Programmation%20pluriannuelle%20de%20l%27e%CC%81nergie.pdf
[102]Law No. 2015-992 of 17 August 2015 relating to the energy transition for green growth, *JORF* No. 0189 of 18 August 2015, art. 176.
[103] https://solutions.acciona-energia.fr/blog/top-5-des-operations-cee-dans-le-secteur-tertiaire/
[104]See *below 24.*
[105]See *below 27.*
[106]Decree No. 2019-771 of 23 July 2019 relating to obligations for actions to reduce final energy consumption in buildings used for tertiary activities, *Official Journal* No. 0171 of 25 July 2019

reduction in consumption necessarily necessitates energy efficiency improvements to ensure that lower consumption does not lead to a decrease in productivity [107]. Energy renovation is therefore one of the main levers for action.

Thus, the " *tertiary sector decree* " is the flagship measure in France regarding the mandatory energy renovation of tertiary buildings. It was enacted pursuant to Article 175 of the 2018 " [108]*ELAN Law.*" It aims to reduce the energy consumption of the tertiary sector as well as its greenhouse gas emissions. This objective is to be achieved through the implementation of energy efficiency measures. Furthermore, the decree aligns with the objectives of the 2015 Energy Transition Law [109], which introduced a target of reducing energy consumption by 60% of the tertiary building stock by 2050. It also strengthens the provisions of the 2010 Grenelle II Law [110]to enable France to achieve its energy efficiency targets. Indeed, an initial implementing decree from 2017 [111]of the 2010 Grenelle II law (which could be called *the "first tertiary decree* ") applied to tertiary buildings with a surface area of 2,000 m² or more, but it only specified the objectives to be achieved, without imposing any particular methods for achieving them. This 2017 decree was subsequently annulled by the Council of State [112], which criticized the excessively short timeframe given to those obligated to comply [113].

This is why the legislator took note by incorporating a more extended timeframe into Article 175 of the *ELAN Law.* The objective of reducing final energy consumption remains, the initial deadline simply being postponed to 2030. In return for this additional time, the legislator has increased the energy-saving targets. Thus, the new " *tertiary sector decree* " of July 23, 2019, issued pursuant to the *ELAN Law,* mandates energy consumption reductions for tertiary sector premises larger than 1,000 m². The decree offers companies a choice of two actions:

- A reduction in consumption with staggered targets (-40% in 2030, -50% in 2040 and -60% in 2050). This reduction must be achieved compared to the most favourable year after 2010 (the reference year). The surface area can be cumulative if the farm consists of several buildings. This is then referred to as the " *relative value* " [114];

[107]See *above,* §2.
[108]Law No. 2018-1021 of 23 November 2018 on the evolution of housing, planning and digital technology, *JORF* No. 0272 of 24 November 2018.
[109]See *above,* §12.
[110]Law No. 2010-788 of July 12, 2010, concerning national commitment to the environment, *JORF* No. 0160 of July 13, 2010.
[111]Decree No. 2017-918 of 9 May 2017 relating to the obligations to improve energy performance in existing buildings for tertiary use, *JORF* No. 0109 of 10 May 2017.
[112]CE, 5th and 6th Chambers sitting together, June 18, 2018, No. 411583.
[113]The decree included deadlines for 2020 (obligation to reduce consumption by 25% for 2020).
[114]The relative value method requires choosing a reference consumption year between 2010 and 2019, adjusted for climatic variations, which will serve as the basis for calculation.

- Energy consumption targets in absolute value, for each type of activity, adapted according to the climate zone, by 2030. This is referred to as the " *absolute value* " [115]. The absolute value targets are defined by various decrees.

These measures have been codified in Articles L. 174-1 and R.174-22 et seq. of the French Building and Housing Code. Those subject to the Tertiary Decree are the owners or operators of buildings housing tertiary activities such as offices, public services, educational institutions, hotels, restaurants, etc. However, the decree does not clearly define the roles and responsibilities of owners and operators. They must therefore engage in a collaborative approach.

Thus, all buildings, parts of buildings or groups of buildings housing tertiary activities in the public and private sectors are concerned, regardless of their year of commissioning, in the following configurations:

- Building with a surface area greater than or equal to 1,000 m² exclusively allocated to tertiary use.
- All parts of a mixed-use building that house tertiary activities and whose cumulative surface area is greater than or equal to 1000 m²;
- Any group of buildings located on the same land unit or on the same site, provided that these buildings house tertiary activities over a cumulative area greater than or equal to 1,000 m².

Furthermore, the companies concerned must declare their consumption annually on the OPERAT platform [116]and implement an action plan to achieve the set targets. This data must demonstrate a year-on-year decrease in energy consumption. Establishments that fail to meet their obligations will have their names published on a government website: this is the " *Name & Share* " practice. This annual declaration of energy consumption on the digital platform must be " *made by the owner or the lessee, according to their respective responsibilities as defined by the contractual provisions governing their relationship* [117]." They may delegate the transmission of their energy consumption data to a service provider or, subject to their technical capacity, to the energy distribution network operators. Moreover, the consumption reduction targets are automatically calculated by the OPERAT platform, on which the energy consumption declarations must be submitted.

Numerous decrees were subsequently issued, the full text of which can be found on the OPERAT website [118]:

[115]The absolute value method involves using a target final energy consumption threshold. Set as absolute values, these thresholds are determined by decrees, the first of which was published on January 17, 2021, for office buildings – public services, education and logistics.
[116] https://operat.ademe.fr/public/home .
[117]Decree No. 2017-918 of 9 May 2017 relating to the obligations to improve energy performance in existing buildings for tertiary use, *JORF* No. 0109 of 10 May 2017, art. 1.
[118] https://operat.ademe.fr/public/faq#question_64 .

- The decree of April 10, 2020, [119]known as the " *Method Decree* ", specifies a methodological framework for the provisions provided for by the " *tertiary decree* " and defines, before the start of each decade, the objectives expressed in absolute values for each of the categories of activities for the coming decade (considering the best available techniques).
- The decree of November 24, 2020, [120]amending the decree of April 10, 2020, known as " *Decree on absolute values I* ", which set absolute values for the main categories of activity concerned by Eco Energy Tertiary and the framework of the data tables collected on the OPERAT platform.
- The decree of April 13, 2022 [121], amending the decree of April 10, 2020, known as the *"Absolute Values II Decree* ", which notably incorporated modifications relating to the provisions for adjusting consumption according to climatic variations (article 5) and those relating to the modulation of the objective in relative value in the case of modulation for technical, architectural or heritage constraints, or for economic disproportion (article 7);
- The decree of November 28, 2023, [122], amending the decree of April 10, 2020, known as " *Decree on absolute values III* ", corrects the formula of article 7 of the decree of April 13, 2022, and specifies the objectives expressed in absolute values for the **activities of hotels and tourist residences, restaurants** as well as servers and data centers.
- The decree of August 1, 2025, [123]amending the decree of April 10, 2020, known as the " *Absolute Values Decree VI,*" supplements the remaining absolute values not yet published: shops, cinemas, offices, and overseas departments. It incorporates all the absolute values already published, to facilitate overall understanding considering the various successive amending decrees on the subject.

The decree of November 28, 2023, therefore, specifically concerns the hotel and restaurant sectors. It notably defines the objectives, expressed in absolute values, for the first decade (horizon 2030) of the hotel and restaurant sectors, which can be found in the [124]decree's annex, when these establishments decide to apply an energy consumption target in absolute terms.

[119]Order of 10 April 2020 relating to the obligations of actions to reduce final energy consumption in buildings for tertiary use, *JORF* n°0108 of 3 May 2020.
[120]Order of 24 November 2020 amending the Order of 10 April 2020 relating to the obligations of actions to reduce final energy consumption in buildings for tertiary use, *JORF* n°0015 of 17 January 2021.
[121]Order of 13 April 2022 amending the order of 10 April 2020 relating to the obligations of actions to reduce final energy consumption in buildings for tertiary use, *JORF* n°0096 of 24 April 2022.
[122]Order of 28 November 2023 amending the order of 10 April 2020 relating to the obligations of actions to reduce final energy consumption in buildings for tertiary use, *JORF* n°0286 of 10 December 2023.
[123]Order of 1 August 2025 amending the order of 10 April 2020 relating to the obligations of actions to reduce final energy consumption in buildings for tertiary use, JORF n°0207 of 6 September 2025.
[124]See annex to the decree: https://www.bulletin-officiel.developpement-durable.gouv.fr/notice?id=Bulletinofficiel-0033250&reqId=31f32104-2aff-4708-a040-79ccf4adfe89&pos=2 .

Application of the "Tertiary Decree" to the hotel and restaurant sector. SMEs in the hotel and restaurant sector are subject to the measures stemming from this regulation, provided that the floor area of their premises is 1,000 m² or more. Specifically, SMEs in the hotel and restaurant sector had until September 30, 2022, to determine a reference year for their consumption reduction targets and to submit the first two annual declarations (2020 and 2021) on the OPERAT platform. Subsequently, they must declare their energy consumption for the previous year each year. The objective is to demonstrate a reduction in consumption, using either an absolute or relative value. Failure to declare or to meet the target, and after formal notices, may result in sanctions such as " *Name & Share* " or fines.

Future amendment of the "Tertiary Decree". The future transposition of the directive on the energy performance of buildings [125]will lead to an amendment of French regulations. France will notably have to adapt regulations such as RE 2020 [126]and the Tertiary Decree [127].

As a reminder, the text of the new directive mandates that 16% of the commercial building stock in Member States be renovated by 2030, with a target of 26% by 2033. [128]These renovations will target buildings identified as the least energy efficient as of January 1, 2020. These thresholds represent a break with current French regulations [129], which require a reduction in energy consumption for commercial buildings larger than 1,000 m². Indeed, the directive makes no distinction regarding building size and applies to all non-residential buildings. Furthermore, French regulations do not establish specific targets for the number and performance level of energy renovations nationwide but rather refer to objectives for reducing building energy consumption, with these objectives being phased in over time.

The RE 2020 regulations (in force since 2022 for new buildings) and the Tertiary Decree (imposing energy reductions in the tertiary sector) provide a solid foundation for France to achieve its consumption reduction target. However, adjustments will be necessary to meet the new requirements of the European directive on the energy performance of buildings.

- The directive targets all commercial buildings, requiring them to implement performance and energy-saving measures, including those smaller than 1000 m², which the current decree excludes. An extension of the scope of the " *commercial building decree* " or a new

[125]Directive 2024/1275 of 24 April 2024 on the energy performance of buildings, *OJ* L 2024/1275, 8 May 2024.
[126]RE 2020 is the new energy and environmental regulation for all new construction. It is the first French regulation, and one of the first worldwide, to introduce environmental performance into new construction through life cycle analysis. It has been phased in since January 1, 2022, starting with residential buildings.
https://rt-re-batiment.developpement-durable.gouv.fr/IMG/pdf/guide_re_2020_16mai2025.pdf
[127]See *above,* § 24.
[128]Precedent, art. 10.
[129]See *above,* § 18.

mechanism will therefore need to be considered to comply with the directive, which is not currently the case.

- The directive also mandates that all new buildings constructed after 2030 be zero-emission buildings [130]. This criterion will also need to be integrated into the RE 2020 regulation, which currently does not explicitly include it.

France will therefore have to adapt its regulations to meet the objectives of the directive. Micro, small and medium-sized enterprises, which are not currently subject to the tertiary sector decree if their operating area is less than 1000 m², may therefore be subject to it in the future.

"BACS Decree". The BACS decree of July 20, 2020, [131]for *"Building Automation & Control Systems* [132]*",* establishes the means to achieve the energy consumption reduction targets set by the Tertiary Sector Decree [133]. This decree mandates the implementation of a building automation and control system by January 1, [2025.] Initially, this requirement applied to all non-residential tertiary buildings where the heating or air conditioning system, whether combined with a ventilation system, has a nominal power output exceeding 290 kW. This is to monitor and analyse a building's energy consumption data and identify potential problems or overconsumption. The BACS decree therefore represents one of the solutions that contributes to achieving the objectives of the Tertiary Sector Decree [134].

The amending decree [135]to the BACS decree, dated April 2023, broadened the scope of commercial buildings covered by the scheme. Indeed, since this amendment, any building with air conditioning or heating equipment with a **nominal power exceeding 70 kW (buildings of approximately 1,000 m² and larger),** compared to 290 kW in the initial [version] of the decree, is now subject to the requirement. Thus, the objective is now to equip the buildings concerned with a control system by January 1, 2025, for buildings with a power output exceeding 290 kW, and by January 1, 2027, [136]for

[130]Directive 2024/1275 of 24 April 2024 on the energy performance of buildings, *OJ* L 2024/1275, 8 May 2024, art. 7.
[131]Decree No. 2020-887 of 20 July 2020 relating to the automation and control system of non-residential buildings and to the automatic regulation of heat, *JORF* No. 0177 of 21 July 2020.
[132]This is also referred to as " *Building Technical Management* " (BTM).
[133]See *above,* §24.
[134]The decree also transposes articles 8, 14 and 15 of the former directive 2010/31/EU of 19 May 2010 on the energy performance of buildings, which remains in force until May 2026.
[135]Decree No. 2023-259 of 7 April 2023 relating to automation and control systems for tertiary buildings, *JORF* No. 0084 of 8 April 2023.
[136]A draft decree proposes postponing this date to January 1, 2030, to comply with the new 2024 Energy Performance of Buildings Directive. This draft decree is currently open for public consultation. This three-year postponement of the BACS (Building Energy Consumption Assessment) requirements would not apply to new buildings, but only to existing buildings with a floor area between approximately 1,000 and 4,000 m². Those equipped with a ventilation system with a nominal useful output exceeding 290 kW were already required to be equipped by January 1, 2025.

those with a power output exceeding 70 kW. In practical terms, since 2025, a first step has been taken: since January 1, all owners of heating or air conditioning equipment exceeding 290 kW must install BACS systems, unless exempt.

Energy audit. While previously only large companies were subject to the obligation to carry out an energy audit, a French law of 2025 modifies the scope of obligation, in accordance with the new directive on energy efficiency [137].

Indeed, the transposition of the text into French law was partially carried out recently, within the framework of Article 25 of the Law of April 30, 2025 (known as the " *DDADUE* ") [138]. This text aims to adapt French law to recent developments in the European legislative framework, particularly in the areas of ecological transition and energy, specifically through Articles 17 to 25.

Article 25 of the law modifies the criteria for subjecting companies to the law. Regarding their obligations concerning **energy audits** or the implementation of an energy management system, while previously only large companies were subject to energy audits, the implementation of the new 2023 Energy Efficiency Directive requires France to modify its criteria for compliance. From now on, **it is no longer the size or legal structure of companies that determines their compliance, but rather their level of final energy consumption** on an annual basis. Thus, in accordance with Article L. 233-1 of the Energy Code, as recently amended by Article 25 of the law, companies are required to:

- Implement an energy management system (EMS) when their average annual final energy consumption is greater than or equal to 23.6 gigawatt-hours.
- Carry out, every four years, an energy audit of the activities they carry out in France when their average annual final energy consumption is greater than or equal to 2.75 gigawatt-hours and they have not implemented an energy management system.

Companies previously subject to this requirement must either:

- Establish a certified EMS before October 11, **2027.**
- Complete their first energy audit before October 11, **2026.**

The aim is therefore to include more businesses in these measures, to strengthen energy consumption reduction targets and optimize energy efficiency. Consequently, even small and

Public consultation on the decree amending the decrees relating to automation and control systems for tertiary buildings, temperature regulation systems for heating and cooling systems and insulation of heat and cold distribution networks | Public consultations .

[137] Directive 2023/1791 of 13 September 2023 on energy efficiency and amending Regulation (EU) 2023/955 (recast), *OJ* L 231, 20 September 2023, p. 1-111.

[138] Law No. 2025-391 of 30 April 2025 containing various provisions adapting to European Union law in economic, financial, environmental, energy, transport, health and movement of persons matters, *JORF* No. 0103 of 2 May 2025.

medium-sized micro, small, and medium-sized enterprises (SMEs) in the hospitality and catering sector may be subject to these obligations if their consumption exceeds the limits.

These measures aim to have a direct impact on the energy consumption of the service sector, while also promoting the construction of buildings already designed with energy efficiency in mind. Nevertheless, the two new directives relating to energy efficiency [139]and the energy performance of buildings [140]will undoubtedly transform the landscape of French energy efficiency regulations.

2.4 Territorial strategies

Territorial Climate-Air-Energy Plan (PCAET). The PCAET is a strategic and operational planning tool that enables local authorities to address air-energy-climate issues within their territory. It is mandatory for inter-municipal authorities with more than 20,000 inhabitants. It is a key planning document for the territorial strategy regarding climate, air, and energy. It includes, in particular [141]:

- The strategic and operational objectives of the community or establishment carrying the PCAET with a view to mitigating climate change, combating it effectively and adapting to it.
- The action plan to be implemented to improve energy efficiency.

While " *the major guidelines for climate, air and energy are defined at the national level in various plans and strategies, the regional and inter-municipal level is the scale for integrating these policies at the territorial level to ensure the coherence of the measures deployed and their implementation across all sectors"*[142] The PCAET is therefore the reference document for Climate-Air-Energy for all stakeholders in the territory. It includes assessments and strategies with quantified objectives.

The regulatory framework stems primarily from this plan, specifically the 2015 Energy Transition for Green Growth Act [143](particularly Article 188), and the content and procedures for developing and adopting the Local Climate and Energy Plan (PCAET) are defined by the Environmental Code, notably Articles L229-26 and R229-51 to R229-56. The law entrusts the coordination of the energy transition to inter-municipal public cooperation establishments (EPCIs) once they have developed their first PCAET [144]. Local authorities therefore play a key role in the fight against climate change.

[139]See above, §9.
[140]See above, §10.
[141]VC envir., art. L.229-26.
[142]Action by territories for the energy transition, Ministries of Ecological Transition, Territorial Planning, Transport, City and Housing, Dec. 7, 2016.
Territorial action for the energy transition | Ministries of Territorial Planning and Ecological Transition
[143]See *above,* § 18.
[144]Environmental Code, art. L.229-26.

Furthermore, other territorial documents address environmental issues. Climate-Air-Energy planning is defined at the territorial level according to three scenarios:

- In metropolitan France, excluding Ile-de-France and Corsica, the **SRADDET** (Regional Scheme for Planning, Sustainable Development and Territorial Equality) [145]defines all sustainable development policies, including those concerning climate, air and energy.
- In Ile-de-France (Paris region) and Corsica, the **SRCAE** remains the regional planning document for Climate-Air-Energy.
- In the French Overseas Territories, the SAR (Regional Development Scheme) explicitly serves as the SRCAE.

The PCAET[146] must be compatible with the rules of the SRADDET or, where applicable, with the SRCAE or the SAR, the latter having to be compatible with the SNBC [147].

A different strategy regarding energy efficiency in companies was observed in the Netherlands.

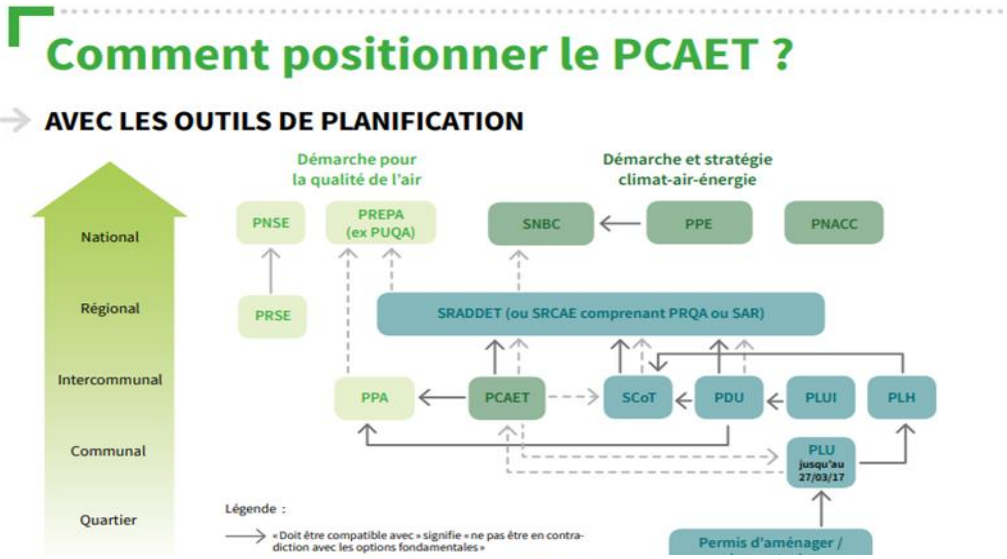

Figure 4 Elected officials, the essentials to know about PCAETs, Ademe

[145]The SRADDET is a document covering planning, mobility, energy, and the fight against climate change. Regarding climate, air, and energy, it defines objectives in terms of mitigating and adapting to climate change, combating air pollution, energy efficiency, and developing renewable energy.

[146]https://www.adaptation-changement-climatique.gouv.fr/sites/cracc/files/fichiers/2018/11/392_%C3%89lus%2C%20l%27essentiel%20%C3%A0%20conna%C3%AEtre%20sur%20les%20PCAET.pdf

[147]See *above,* §21.

3. Dutch Regulations

While the Netherlands has its own definitions for businesses (3.1), it has also implemented specific measures to support the energy efficiency of buildings (3.3), including local-level programmes (3.4). Nevertheless, the transposition of various EU directives will lead to regulatory adjustments (3.2).

3.1 Definition of small and micro-enterprises under Dutch law

Definition of small and micro-enterprises. The legal definition of small and micro-enterprises in the Netherlands is only partially aligned with the 2003 European Recommendation[148]. The definition is set out in Book 2 of the Dutch Civil Code (Articles 395a and 396). Company size is determined based on three criteria: total assets (balance sheet), net turnover, and number of employees — a rather classic approach:

- **For micro-enterprises:** a legal entity that has met two or three of the following requirements at two consecutive balance sheet dates, without interruption
    - The value of the assets on the balance sheet with explanatory notes, based on acquisition and production cost, does not exceed €350,000 [as of 13 March 2024: €450,000]
    - Net turnover for the financial year does not exceed €700,000 [editor's note: as of 13 March 2024: €900,000]
    - The average number of employees during the financial year is fewer than 10
- **For small enterprises:** a legal entity that has met two or three of the following conditions at two consecutive balance sheet dates, without interruption:
    - The value of the assets on the balance sheet with explanatory notes does not exceed €7,500,000
    - Net turnover does not exceed €15,000,000
    - The average number of employees is fewer than 50

While the criteria regarding the number of employees are comparable to the 2003 Recommendation, the turnover and balance-sheet thresholds are not. These figures align more closely with Article 3 of Directive 2013/34/EU of 26 June 2013 on annual financial statements,

[148]Commission Recommendation of 6 May 2003 concerning the definition of micro, small and medium-sized enterprises [notified under number C(2003) 1422] (OJ L 124, 20.5.2003, p. 36-41).

consolidated financial statements and related reports of certain types of undertakings[149]. They correspond to the revised version of Directive 2013/34/EU as amended by Delegated Directive 2023/2775 of 17 October 2023.

[150]Indeed, the 2023 delegated directive raised the thresholds distinguishing companies. It provides, for micro-enterprises, a balance sheet total of €450,000 instead of €350,000, and a turnover of €900,000 instead of €800,000[151]. For small enterprises, Member States may increase thresholds up to €7,500,000 for balance sheet total and €15,000,000 for net turnover[152].

These revised thresholds have been incorporated into Dutch law via a Dutch implementing decree of 5 March 2024. [153]As of today, these thresholds are reflected in the above-mentioned Civil Code provisions and do not fully match the 2003 EU Recommendation.

[154]

	Micro Art. 2:395a BW	Klein Art. 2:396 BW	Middelgroot Art. 2:397 BW	Groot
Activa	Niet meer dan € 450.000	Niet meer dan € 7,5 miljoen	Niet meer dan € 25 miljoen	Meer dan € 25 miljoen
Netto-omzet	Niet meer dan € 900.000	Niet meer dan € 15 miljoen	Niet meer dan €50 miljoen	Meer dan € 50 miljoen
Werknemers	Minder dan 10	Minder dan 50	Minder dan 250	250 of meer

Figure 5 Comparative table of company categories in the Netherlands

In conclusion, the definitions of small and micro-enterprises found in the Dutch Civil Code[155] do not fully correspond to the 2003 Recommendation but are instead linked to tax measures and certain exemptions granted to companies based on their size, in accordance with the above-mentioned directives. These directives regulate financial reporting rather than enterprise

[149]Directive 2013/34/EU of 26 June 2013 on the annual financial statements, consolidated financial statements and related reports of certain types of undertakings, amending Directive 2006/43/EC of the European Parliament and of the Council and repealing Council Directives 78/660/EEC and 83/349/EEC, *OJ* L 182, 29 June 2013, p. 19-76.
[150]Delegated Directive 2023/2775 of 17 October 2023 amending Directive 2013/34/EU of the European Parliament and of the Council as regards the adjustment of size criteria for micro-, small, medium and large enterprises or groups, *OJ* L, 2023/2775, 21 June 2023.
[151]Prec., art. 1, 1.
[152]Prec., art. 1.2, b.
[153]Decision of 5 March 2024 to increase the threshold amounts referred to in Articles 395a, 396 and 397 of Book 2 of the Civil Code in execution of the delegated acts and Commission Directive (EU) 2023/2775 of 17 October 2023 amending Directive 2013/34/EU of the European Parliament and of the Council as regards adaptations to the size criteria for micro, small, medium and large enterprise groups (OJ L 2023/2775) (implementing decree of the directive on the increase of the thresholds). Belgian Official Gazette 2024, 52 | Overheid.nl > Official announcements
[154] https://www.ser.nl/nl/thema/duurzaamheid/faq/groot-middel-klein
[155] https://wetten.overheid.nl/BWBR0003045/2025-01-01

classification (which is the purpose of the 2003 Recommendation). Dutch partners maintain that the Netherlands does apply the 2003 Recommendation in practice, but no national legal text confirming this practice has been identified.

3.2 Transposition of EU Directives under Dutch Law

Transposition of the Energy Performance of Buildings Directive (EPBD). The previous EPBD was transposed into Dutch legislation on 10 March 2020. The new 2024 EPBD has been adopted at EU level and must now be transposed. Further amendments to Dutch laws and regulations will thus follow to ensure continued alignment for both existing and new buildings[156].

Transposition of the Energy Efficiency Directive (EED). Transposition is not yet complete. This includes transposition of Article 11 of the new EED, which will be incorporated into Article 18 of the forthcoming national regulation in the "Draft Act implementing Directive (EU) 2023/1791" [157]. Article 12, concerning data centres, has been transposed[158].

Nevertheless, recent Dutch regulation (energy-saving obligation) [159] already applies energy-saving measures to buildings regardless of their floor area or company category (micro, small, medium...), which aligns with the new EED[160].

3.3 Regulations on Building Energy Efficiency in National Law

Building energy-efficiency rules. Dutch legislation on building energy performance is based on the implementation of EU directives such as the EED and EPBD. Specific requirements exist to improve the performance of technical building systems (energy performance, sizing, installation, adjustment, adaptability). Requirements differ for new and existing buildings. Energy audits apply to large enterprises, with the scope expected to evolve to follow EU rules.

Nearly Zero Energy Buildings (NZEBs): New Construction. Since January 1, 2021, all new residential and non-residential buildings, including hospitality and catering establishments, must

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[156] Requirements for building technical systems - DPEB III | RVO.nl

[157] Draft law implementing Directive (EU) 2023/1791 | Overheid.nl | Legislative calendar

[158] Decree of 26 April 2024 amending the decree relating to environmental activities and the decree relating to the environment with a view to implementing Article 12 of 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.

https://zoek.officielebekendmakingen.nl/stb-2024-122.html

[159] See *below,* §39.

[160] See *above,* §9.

comply with the requirements for **Nearly Zero Energy Buildings (NZEBs) [161].** These requirements stem from European directives on the energy performance of buildings [162]. For all new residential and non-residential construction, permit applications submitted from January 1, 2021, onwards must comply with the requirements for Nearly Zero Energy Buildings.

The energy performance of nearly energy-neutral buildings must be coordinated based on three requirements [163]:

- The maximum energy requirement in kWh per m² of usable surface area per year.
- The maximum consumption of primary fossil energy, also in kWh per m² of usable surface area per year.
- The minimum share of renewable energy as a percentage.

Thus, BENG's requirements consider the building's energy consumption per m²:

- A specific requirement applies to the exterior face of the building (BENG 1) to limit energy needs.
- The building's energy consumption should also come as much as possible from renewable energy sources (BENG 3).
- The remaining energy must be produced with the greatest possible efficiency (BENG 2).

The level of requirements varies depending on the type of dwelling or its function and is specified in the decree on environmental construction of July 2025. [164]However, this decree applies to both residential and non-residential buildings [165], making it difficult to have a comprehensive overview of the regulations applicable to the hotel and restaurant sector. This decree is subject to change, in accordance with the latest directive on the energy performance of buildings, as it does not mandate the construction of zero-emission buildings, but only " [166]*near-zero* " emissions.

Renovation of existing buildings. Renovation of existing buildings. The requirements of the BENG [167]do not apply to renovations [168]. However, the decree on environmental construction [169]also regulates how buildings must be renovated.

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[161]Origins of the procedure:
https://www.rvo.nl/onderwerpen/wetten-en-regels-gebouwen/beng/ontstaan
https://www.rvo.nl/onderwerpen/wetten-en-regels-gebouwen/beng#energieprestatie-indicatoren---beng

[162]See *above,* §10.

[163] https://www.rvo.nl/onderwerpen/wetten-en-regels-gebouwen/beng/indicatoren

[164]Decree of 3 July 2018 regulating buildings in housing, JO 2018, 291.
wetten.nl - Regulations - Order concerning construction work for the living environment - BWBR0041297 .

[165]See article 2.1.

[166]See *above,* §10.

[167]See *above,* § 37.

[168] https://www.rvo.nl/onderwerpen/wetten-en-regels-gebouwen/beng/veelgestelde-vragen

[169]Decree of July 3, 2018, concerning the regulation of buildings in housing, cited above.

In accordance with Article 5.20 of this decree concerning the energy efficiency of buildings, during the renovation of a building, " *the level of heat resistance [...] must not be less than 1.4 m²·K/W* ". Furthermore, when renewing or replacing the insulation layers of facades, in accordance with Article 5.20, paragraph 2 of the decree, about thermal insulation, the legally required level applies, subject to the following lower limits:

- Rc = 2.6 $^{m^2.K}$/W for one floor.
- 1.4 millimeters $^{2.}$ P/W for a front panel and
- 2.1 $^{m^2.K}$/W for a roof.

However, in the case of a **" major renovation** " as defined in Article 2 of the 2010 Energy Performance of Buildings Directive [170], by way of derogation from the first paragraph, the performance level indicated in Article 4.152 of the decree applies. This latter article applies to new constructions, which implies that in this scenario, major renovations entail the same requirements as for new buildings.

Energy saving obligation. The energy saving obligation applies to sites with **activities harmful to the environment.[171]** and whose **annual energy consumption is 50,000 kWh of electricity or 25,000 m3 of natural gas (the equivalent). Therefore, doubt remains about the "harmful" nature of restaurant and hotel activities.**

These obligations are described in [172]:

- The “Decree relating to environmental activities” (Bal) (art. 5.15) [173].
- The "Decree relating to environmental construction" (Bbl)(art.3.84)[174]

While the decree concerning environmental activities, which compels companies to save energy, requires that a company's activity be polluting, this is not the case for the decree concerning environmentally friendly construction. The latter requires measures if annual energy consumption reaches 50,000 kWh of electricity or 25,000 m³ of natural gas. It is therefore crucial to distinguish between business activities and buildings. Even if a company does not engage in environmentally harmful activities, it may still be required to implement energy-saving measures in accordance with

[170] *"The renovation of a building when it presents at least one of the following characteristics:*
a) the total cost of the renovation relating to the building envelope or the building's technical systems exceeds 25% of the building's value, excluding the value of the land on which it stands; or
b) more than 25% of the building envelope surface area is being renovated.
See Directive 2010/31/EU of 19 May 2010 on the energy performance of buildings, OJ L 153 of 18.6.2010, p. 13-35, art. 2.

[171] Over energy savings | RVO.nl.

[172] About the energy saving obligation | RVO.nl .

[173]Current activity leefomgeving, in force since September 20, 2025.
https://wetten.overheid.nl/BWBR0041330/2025-09-20 .

[174]Decree of July 3, 2018, concerning the regulation of buildings in housing, *cited above.*

the decree on environmentally friendly construction, provided the energy consumption thresholds are met.

If a company is subject to this obligation, since 2023 it must report on its energy-saving measures every four years [175]. A website helps determine whether a company needs to submit an energy savings report. The website considers the company's size and energy consumption [176].

Articles 5.15 of the Federal Act on Energy Efficiency (Bbl) and 3.84 of the Federal Act on Energy Efficiency (Bbl) stipulate that all measures aimed at making energy consumption more sustainable must have a payback period not exceeding five years. This obligation may include energy-saving measures or measures to produce renewable energy. Since the energy-saving obligation is included in both the Federal Act on Energy Efficiency (Bbl) and the Federal Act on Energy Efficiency (Bbl), this obligation applies to measures concerning buildings and activities.

In some cases, the obligation to save energy does not have to be met:

- If the building is for residential use (Article 3.3a, §2 Bal and Table 3.83 Bbl), the residential function is excluded from the scope of the energy saving obligation. For example, the energy consumption of apartments located above a supermarket is not to be considered.
- If energy consumption is low, i.e. below the thresholds of 50,000 kWh of electricity and 25,000 m³ of natural gas (articles 5.15 Bal and 3.84 Bbl).
- If only renewable energy produced on site is used (no use of the electricity grid) (article 5.15 Bal and article 3.84 Bbl).

Regarding the determination of the activity and its associated energy consumption, the legislator makes no distinction between the energy consumption of the activity itself and that of the building. Energy consumption corresponds to the total use of the polluting activity, including that of the building, over a calendar year. This means that the use of the process, the facilities, and the building is combined.

In practice, it is therefore important to determine what constitutes an environmentally harmful activity and which energy flows are included. According to Article 3.2.0 of the Building Regulations [177](section entitled " *Energy Consumption in Buildings"),* economic activities designated as environmentally harmful are those whose energy consumption over a given calendar year is at least 50,000 kWh of electricity or 25,000 m³ of natural gas equivalent.

Hotels and restaurants exceeding these criteria are therefore considered environmentally harmful and must implement energy-saving measures. They can do so using the **Lists of Recognized Energy Saving Measures (LSMs)** [178]. In fact, businesses subject to energy-saving obligations are required to implement all the measures listed on the LSMs. These lists contain energy-saving

[175]Decree relating to environmental construction, art. 3.84a, cited above.

[176] Roadmap for mandatory energy savings reporting. | RVO.nl

[177] https://wetten.overheid.nl/BWBR0041330/2025-09-20#Hoofdstuk2_Afdeling2.1_Artikel2.1 .

[178] Erkende maatregelenlijsten (EML) | RVO.nl.

measures with a payback period of five years or less. The LSMs are divided into three parts: Buildings, Installations, and Processes. Furthermore, there are sector-specific measures, including those **dedicated to the hotel and restaurant industry** [179].

Energy audit. Energy audits are mandatory under the EED and required every four years since 2023[180].

This procedure has been compulsory in the Netherlands since 2023 and must be renewed every four years. As European sustainability objectives have been strengthened since the European Green Deal [181], the scope of energy audits will also evolve.

Currently, in the Netherlands, energy audits are conducted in accordance with the 2012 Energy Efficiency Directive [182]. The aim is to raise awareness among businesses and institutions about their energy consumption and opportunities for energy savings. Therefore, in the Netherlands, energy audits are reserved for large companies (those with over 250 employees, an annual turnover exceeding €50 million, and an annual balance sheet total exceeding €43 million [183]).

Future national regulations should focus on companies' energy consumption rather than their size. The new obligations should be structured as follows [184]:

- Companies that are required to implement an energy management system (EBS obligation)
- Companies that are required to carry out an energy audit (EED audit obligation)

This includes the transposition of Article 11 of the new Energy Efficiency Directive [185], which will be included in Article 18 of the forthcoming national regulations in the *"Draft Law implementing Directive (EU) 2023/1791 [186]".*

179 https://www.facilicom.nl/sites/facilicom_ned/files/uploads/Facilicom_solutions/PDF/EML/Erkende-Maatregelenlijst-Hotels-en-restaurants.pdf .

180 See *above,* §9.

181 See *above,* §8.

182 Directive 2012/27/EU 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.

183 DEE audit obligation | RVO.nl

184 Revised EED Directive | RVO.nl

185 Directive 2023/1791 of 13 September 2023 on energy efficiency and amending Regulation (EU) 2023/955 (recast), OJ L 231, 20 September 2023, p. 1-111.

186 Draft law implementing Directive (EU) 2023/1791 | Overheid.nl | Legislative calendar

3.4 Territorial strategies

Territorial strategies and specificities. No separate provincial or municipal regulatory requirements exist[187]. However, the Province of Friesland and municipalities (such as Súdwest-Fryslân) actively encourage and facilitate energy efficiency measures through advisory programs and regional initiatives. The Municipality of Súdwest-Fryslân actively supports local businesses through its regional energy portal for companies and organizations (Energieloket), which provides basic advice, tools, and quick access to independent advisors to help SMEs identify and begin implementing energy-saving measures [188].

The following regional limitation has a direct impact on the energy strategies of the accommodation and hospitality sector: due to grid congestion, large-scale electrification or the injection of renewable energy (e.g., photovoltaics, heat pumps) is currently impossible in most regions. Therefore, almost all energy savings achieved during the ECOBoost project will have to come from reducing energy demand [189].

A different business-energy strategy was observed in a Belgian pilot region.

[187] According to data provided by Ecoboost's partners.
[188] Súdwest-Fryslân Municipality
[189]According to data provided by Ecoboost's partners.

4. Belgian Regulations

While Belgium has its own definitions of businesses (4.1), it has also implemented building-efficiency measures (4.2) and local-level programmes (4.3). However, the transposition of various EU directives will require regulatory adjustments (4.4).

4.1 Definition of small and micro-enterprises under Belgian law

Definition of small and micro-enterprises. The Belgian definition is only partially aligned with the 2003 EU Recommendation[190]. Defined in the Code of Companies and Associations (Title 5, Chapter 1):

- Small enterprises: fewer than 50 employees, turnover ≤ €11,250,000, balance sheet total ≤ €6,000,000 (Art. 1:24 §1)
- Micro-enterprises: fewer than 10 employees, turnover ≤ €900,000, balance sheet total ≤ €450,000.

While employee thresholds align with the Recommendation, the financial thresholds do not.

4.2 Transposition of European Directives

Transposition of the Energy Performance of Buildings Directive. The new directive on the energy performance of buildings has not yet been transposed[191] in the Flemish region, unlike the other regions of Belgium, which have been more active on this matter[192].

Transposition of the Energy Efficiency Directive. According to information provided by the Ecoboost partners, only provisional legislative texts currently exist. A draft decree will be integrated into the Energy Decree and the Energy Decision[193]. Nevertheless, some texts appear to implement partial transpositions, but these do not fall within Ecoboost's scope of action[194].

[190]Commission Recommendation of 6 May 2003 concerning the definition of micro, small and medium-sized enterprises [notified under number C(2003) 1422] (OJ L 124, 20.5.2003, p. 36-41).
[191]According to data provided by Ecoboost's partners, confirmed by Eurlex https://eur-lex.europa.eu/legal-content/FR/NIM/?uri=CELEX:32024L1275
[192] https://eur-lex.europa.eu/legal-content/FR/NIM/?uri=CELEX:32024L1275
[193]See *below,* § 39.
[194] https://eur-lex.europa.eu/legal-content/FR/NIM/?uri=CELEX:32023L1791

4.3 National Regulation on the Energy Efficiency of Buildings

Regulation on energy efficiency in Belgium. In Belgium, as in other EU Member States, directives related to reducing energy consumption must be applied. However, because energy efficiency falls within the competence of the regions, EU regulation has been implemented differently in Flanders, Wallonia, and the Brussels-Capital Region. To meet the EU's energy efficiency targets assigned to Belgium, each region contributes differently to the overall effort. Each has chosen different policy tools.

- Flanders, the pilot region of the Ecoboost project, has implemented numerous measures to support reductions in energy consumption
- Wallonia has focused more on the energy renovation of residential buildings.
- Brussels-Capital Region is strongly committed to energy efficiency. It aims for all buildings in the Brussels property stock to be energy-efficient, through the PLAGE scheme (Local Energy Management Action Plan). Reformed in 2018[195] and made mandatory under the Brussels Air, Climate, and Energy Management Code (CoBrACE), this mechanism requires all actors owning or renting more than 100,000 m² in Brussels to declare their consumption and meet set reduction targets.

Flemish Climate Strategy 2050. At the end of 2019, the Flemish government approved a general climate strategy for 2050[196]. For non-residential buildings, Flanders aims for a carbon-neutral building stock in terms of heating, domestic hot water, cooling, and lighting by 2050. The main challenge is improving the energy efficiency of the existing building stock.

The strategy seeks to leverage ownership changes, which provide an ideal opportunity to encourage energy renovation as part of broader renovation projects[197].

To accelerate the renovation of non-residential buildings, the strategy[198] focuses on:

[195]Ministerial decree establishing the effort scales within the framework of determining the quantified objective of the PLAGE, Numac no. 2018014829, 7 November 2018. Belgian Official Gazette

[196]VLAAMSE KLIMAATSTRATEGY 2050. https://assets.vlaanderen.be/image/upload/v1658319019/VlaamseKlimaatstrategie2050_gqrltw.pdf .

[197] *Ibid* p. 25

[198]https://www.vlaanderen.be/veka/energie-en-klimaatbeleid/vlaamse-langetermijnrenovatiestrategie-voor-gebouwen-2050#strategie-2050-voor-niet-residentiele-gebouwen

- the introduction of an energy performance certificate (EPC) [199] for all large non-residential buildings, indicating energy efficiency and the remaining effort required to reach carbon neutrality
- a renovation obligation[200] within five years of the notarised transfer of ownership, leasehold, or building rights for non-residential buildings

Regulation on energy efficiency in Flanders. Flanders actively encourages investment in solutions that can generate energy savings for businesses. It relies on two key legal instruments:

- Energy Decree of 8 May 2009[201]. This regional decree, regularly amended, contains the legal framework for Flemish energy policy. Title XI deals specifically with the regulation of the energy performance of buildings and transposes certain elements of the energy efficiency directives[202] into Flemish law. It is the main regional legal basis
- Energy Decision of November 19, 2010. [203]This is an implementing decision of the decree and constitutes its technical component. The decree notably contains the methodology used for the energy performance certificates [204]required by the above decree (calculation of the energy performance of buildings), the specific requirements for these certificates (U-values, ventilation, HVAC, rules for near-zero energy consumption), the exceptions, and the effective dates.

Energy Performance Certificate for Non-Residential Buildings (EPC NR). In Flanders, all new or extensively renovated non-residential buildings must comply with the EPC NR requirements defined in the 2010 Energy Decision (Energiebesluit) [205]. Specifically, they must meet all EPC NR requirements (insulation, systems, renewable energy). The Energy Decision includes the method for calculating energy performance, the requirements relating to energy performance, and the indoor climate of buildings. The annexes to the Energy Decree specify the calculation methods.

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[199] https://www.vlaanderen.be/bouwen-wonen-en-energie/niet-residentiele-gebouwen/epc-van-een-niet-residentiele-gebouweenheid-epc-nr .

[200] https://www.vlaanderen.be/bouwen-wonen-en-energie/niet-residentiele-gebouwen/verplichtingen-voor-niet-residentiele-gebouwen/renovatieverplichting-voor-niet-residentiele-gebouwen

[201] Decree defining general provisions on energy policy [title of the quote: "the Energy Decree"], May 8, 2009. https://codex.vlaanderen.be/portals/codex/documenten/1018092.html#H1100254 .

[202] See *above,* §9.

[203] Decision of the Flemish government containing general provisions on energy policy [quote "the Energy Decree of 19 November 2010"], 19 Nov. 2010. https://codex.vlaanderen.be/Zoeken/Document.aspx?DID=1019755&param=inhoud https://www.vlaanderen.be/epb-pedia/epb-regelgeving/energiebesluit-en-bijlagen#inhoud-energiebesluit .

[204] See *below,* §50.

[205] See *above,* § 49.

An Energy Performance Certificate (EPC) for non-residential buildings is mandatory for all large non-residential buildings (with a floor area exceeding 1,000 m²) [206], and from 1 January 2026, an EPC for non-residential buildings will be required for those smaller than 1,000 m² [207]. Furthermore, the decision stipulates [208]that an energy performance certificate for small non-residential buildings [209]may be issued for these smaller premises. Indeed, from 1 January 2030, each small non-residential building or unit must be equipped with a valid energy performance certificate for small non-residential buildings, demonstrating that, depending on the building type, the minimum standard specified in Article 9.2.7/2 has been met. However, they may also, by way of derogation, choose to comply with the obligation referred to in Article 9.2.6/3, which applies to large non-residential buildings.

Furthermore, the Flemish government website anticipates that the requirement to possess an EPC CR will be progressively strengthened until every large non-residential building has this certificate by 2026 [210].

Renovation obligation. Since 2022, and in accordance with Article 9.3.1 of the Energy Decision [211], non-residential buildings and units must meet minimum energy performance levels within five years of the date of signature of a notarial deed of sale of the premises, or of transfer of the lease. The five-year period begins on the date of signature of the deed of sale of the lease. The renovation obligation has two parts, both of which must be fulfilled within 5 years:

- a minimum set of measures (which relate to roof insulation, glazing, heating and cooling).
- a minimum " *energy label* " to be achieved (label E, i.e. at least 5% share in renewable energies)

Furthermore, based on the energy performance certificate, it is possible to determine the work to be carried out to meet the renovation obligation [212].

Owners of small non-residential buildings (bakeries, restaurants, hotels, etc.) can opt for a customized program [213], including renovation requirements, energy performance certification, and an associated long-term plan. This program is tailored to the specific characteristics and needs of these establishments.

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[206]Decision of the Flemish government containing general provisions on energy policy [quote "the Energy Decree of 19 November 2010"], 19 Nov. 2010, art. 9.2.6.
[207] *Ibid*
[208] *Ibid*, art. 9.2.7/3.
[209]The decision does not define this concept.
[210]https://www.vlaanderen.be/bouwen-wonen-en-energie/niet-residentiele-gebouwen/plichten-voor-niet-residentiele-gebouwen/renovatieplicht-voor-niet-residentiele-gebouwen .
[211]Precisely.
[212]https://www.vlaanderen.be/bouwen-wonen-en-energie/niet-residentiele-gebouwen/plichten-voor-niet-residentiele-gebouwen/renovatieplicht-voor-niet-residentiele-gebouwen/hoe-kan-ik-uit-het-epc-nr-afleiden-welke-verbeteringen-nodig-zijn-voor-de-renovatieplicht .
[213] Renovation obligation for small non-residential buildings | Flanders.be .

Energy audit obligations. As part of the Flemish energy and climate policy for businesses, certain companies are required to undergo [214]periodic energy audits depending on their energy intensity:

- Companies with high energy consumption (consumption greater than 0.1 PJ/year) [215]must participate in Energy Policy Agreements (EBO) [216]and establish an energy audit.
- Companies whose annual final energy consumption is between 0.05 and 0.1 PJ must carry out an energy audit, as well as measures identified during the audit [217];
- SMEs whose annual final energy consumption is between 0.02 and 0.05 PJ must maintain an energy balance and implement *"no regrets" measures* [218]and whether these establishments meet the definition of an SME [219];
- Companies below the thresholds (< 0.02 PJ) are encouraged (but not required) to conduct audits.

By comparing this energy audit to the Energy Performance Certificate for Non-Residential Buildings (EPC NR), it might seem that their objectives are identical. However, the Flemish government website clarifies that the EPC NR " *provides an objective assessment of the energy performance of your building(s), based on an energy rating or labeling system,* " whereas the energy audit is more " *in-depth.*" Based on its findings, companies receive specific and targeted recommendations to improve the building's energy efficiency [220].

Finally, to support businesses in this area, a support instrument is being put in place, namely the sectoral federation agreements (AFS) [221].

Building automation and control systems (BACS). In Flanders, all large non-residential buildings with HVAC (heating, cooling, and ventilation) systems with a nominal output exceeding 290 kW (sum of heating and/or cooling) must be equipped with a building automation and control system

[214]A detailed analysis of a building's energy consumption, including technical installations, the condition of the building envelope, etc. Its objective is to identify measures to save and produce energy.
[215]Decree of the Flemish government containing general provisions on energy policy [quote "the energy decree of 19 November 2010"], 19 Nov. 2010, article 6.5.1.
[216] https://ebo-vlaanderen.be/nl
[217] *See above,* article 6.5.9.
[218]*no regrets "* measures by sector (no measures for hotels and restaurants): https://www.vlaanderen.be/veka/energie-en-klimaatbeleid/energie-en-klimaatbeleid-voor-ondernemingen/energiebeleid-voor-niet-energie-intensieve-ondernemingen
[219] *Prev.*, article 6.5.16.
[220]https://www.veb.be/energie-efficientie/meting-analyse/epc-niet-residentieel#:~:text=Een%20EPC%20geeft%20objectieve%20beoordeling,energieaudit%20daarentegen%20is%20meer%20diepgaand
[221]https://www.vlaanderen.be/veka/energie-en-klimaatbeleid/energie-en-klimaatbeleid-voor-ondernemingen/energiebeleid-voor-niet-energie-intensieve-ondernemingen

(BACS). This requirement must be met by December 31, 2025, in accordance with Article 11.1/1.2 of the Energy Decree [222].

The building automation and control system must at least:

- Energy consumption monitoring: continuous control, tracking and analysis, and the possibility of adjusting energy consumption.
- Evaluate the building's energy efficiency, identify inefficiencies in the building's technical systems, and inform the person responsible for managing technical installations about opportunities to improve energy efficiency.
- They enable communication with connected building technical systems and can collaborate, communicate and exchange information with building technical systems from different technologies, devices and manufacturers.
- Monitor the indoor environment.

This requirement applies to new and existing non-residential buildings. This limit will be reduced to 70 kW by December 31, 2029, meaning that this requirement will apply to many more buildings [223], in accordance with new European regulations that must be transposed [224].

There is no specific regulation for the hospitality sector [225]. The applicable rules are those described above.

4.4 Territorial Strategies

Territorial strategies and particularities. The political and regulatory strategies of the Flemish region in Belgium have already been addressed above[226] and will therefore not be reviewed again here.

A different approach to energy efficiency has been identified in one pilot region of Belgium.

[222]Decree defining general provisions on energy policy [title of the quote: "the Energy Decree"], May 8, 2009, art. 11.1/1.2.
https://codex.vlaanderen.be/portals/codex/documenten/1018092.html#H1100254
[223]https://www.vlaanderen.be/gebouwautomatisering-en-controlesystemen-voor-niet-residentiele-gebouwen-verplicht-tegen-eind-2025 .
[224]See above, paragraphs 9 and 10.
[225]According to data provided by Ecoboost's partners.
[226]See *above,* § 47 et seq.

5. Irish regulations

While Belgium has its own definitions of businesses (5.1), it has also implemented specific measures to promote energy efficiency in buildings (5.3), with specific programs at the local level (5.4). Nevertheless, the transposition of various European directives will lead to adjustments in the regulations (5.2).

5.1 Definition of small and very small businesses under Irish law

The concept of small and very small businesses. According to the government website [227], small and very small businesses are defined as follows:

- Micro-enterprises: companies with fewer than 10 employees and annual turnover or total balance sheet not exceeding 2 million euros.
- Small businesses: companies with between 10 and 49 employees. Fewer than 50 employees and annual turnover or total balance sheet not exceeding 10 million euros.

These definitions are entirely consistent with those of the 2003 European recommendation [228].

5.2 Transposition of European directives

Transposition of the Energy Performance of Buildings Directive. The new Energy Performance of Buildings Directive has only been partially transposed into Irish domestic law. This is achieved through Decree No. 642/2024, [229]which defines the building automation and control system, but does not address its scope or its enforceability against businesses.

Transposition of the Energy Efficiency Directive. The measures falling under the new Energy Efficiency Directive have not yet been transposed into Irish domestic law.

[227] Small and medium-sized enterprises (SMEs)

[228]See *above,* §11.

[229]Regulation (EC) No 642/2024 - European Union Regulation (Energy performance of buildings) 2024.
https://www.irishstatutebook.ie/eli/2024/si/642/made/en/print .

5.3 Regulations relating to the energy efficiency of buildings in national law

Climate Action Plan 2025 (PAC25) [230]. The CAP25 is Ireland's strategic roadmap, published in 2025, for achieving its climate transition goals. It is Ireland's third climate action plan and outlines the key actions to be prioritized in the coming year. Achieving targets for renewable energy, electricity, and decarbonizing transport is presented as a key objective of CAP25. It reports on the latest assessments of progress made in Ireland over the past year and sets out the next steps.

This CAP25 report presents statistics that highlight the progress made by Ireland over the past year in achieving its climate objectives:

- The first half of 2024 saw a 3.5% reduction in emissions compared to the same period in 2023.
- The most significant reductions are in energy. Emissions from the electricity sector fell by more than 17% in the first half of 2024.

The document notes that the residential sector is on track to meet its sectoral emissions cap for 2025. However, commercial and public buildings will need to reduce their emissions by 2.9% per year to stay within the targets [231].

To achieve this, several actions have been proposed, including:

- To publish a bill to transpose the European directive on the Energy Performance of Buildings Directive (EPBD) into Irish law. This text is among the priorities of the **government's legislative program for summer 2025** [232].
- Develop the **national building renovation plan [233]**, in accordance with the requirements of the 2024 Energy Performance of Buildings Directive [234]. This plan will guarantee the renovation of the national building stock, residential and non-residential, public and private, in order to make it a high energy performance and decarbonized building stock by 2050, with the objective of transforming existing buildings into zero emission buildings.

The document also highlights that the transposition of the new 2024 Energy Performance of Buildings Directive [235]is underway. This directive will have significant repercussions for the entire

[230] Climate Action Plan 2025, Government of Ireland, 2025. https://assets.gov.ie/static/documents/Climate_Action_Plan_2025_updated_cover.pdf .
[231] *Ibid*, p. 84.
[232]See below, §62.
[233]See *below,* §63.
[234]See *above,* §10.
[235] *Ibid.*

non-residential sector. It will be essential to raise awareness among businesses about the directive's impact on their buildings, particularly the obligation to meet minimum energy performance standards for commercial buildings.

Furthermore, the document recalls that the recast 2023 Energy Efficiency Directive [236]requires each Member State to achieve significant additional energy savings by 2030. Ireland is required to transpose this directive by October 2025.

Government legislative program for summer 2025. The government legislative program for summer 2025 [237], cited by CAP25 [238], provides for the imminent transposition of the directive on the energy performance of buildings (EU/2024/1275).

National Building Renovation Plan. The new national building renovation plan, taking into account the new Energy Performance of Buildings Directive [239], is expected. The last national plan dates from 2020, as is the case for other countries [240]. Workshops have been implemented.[241] to identify obstacles and propose solutions to accelerate energy renovation and decarbonize Ireland's building stock. This workshop is part of Ireland's response to the recast Energy Performance of Buildings Directive (EU 2024/1275), which requires all Member States to establish detailed roadmaps for the complete decarbonization of their national building stock by 2050. The first draft of Ireland's building renovation plan is expected to be submitted to the European Commission by the end of 2025.

Regarding non-residential buildings, strengthened regulatory tools were discussed, including " *renovation passports* " [242]and a proposed " *National Building Energy Consumption Monitoring Scheme* " (NBEC) aimed at tracking actual energy consumption. Participants also highlighted the potential benefits of green clauses in leases to improve data exchange between tenants and landlords and

[236]See *above,* §9.
[237] file:///C:/Users/k.yougatova/Downloads/Government_Legislation_Programme_Summer_2025.pdf.
[238]See *above,* §61.
[239]See *above,* §10.
[240]https://energy.ec.europa.eu/topics/energy-efficiency/energy-performance-buildings/national-building-renovation-plans_en#:~:text=The%20plans%20will%20ensure%20the,buildings%20into%20zero%2Demission%20buildings .
[241] https://www.igbc.ie/developing-an-ambitious-national-building-renovation-plan/ .
[242] Building https://www.igbc.ie/policy-and-regulation/renovation-strategies/building-renovation-passports/Renovationhttps://www.igbc.ie/policy-and-regulation/renovation-strategies/building-renovation-passports/ https://www.igbc.ie/policy-and-regulation/renovation-strategies/building-renovation-passports/Passports https://www.igbc.ie/policy-and-regulation/renovation-strategies/building-renovation-passports/- Irish Green Building Council .

bridge performance gaps, while purchasing tools such as a " CO_2 [243]*performance scale* " could incentivize energy-efficient renovations across the commercial sector.

BCAR (Building Control Amendment Regulations). The BCAR refers to a set of regulations put in place in Ireland to strengthen the control of construction and ensure that construction projects comply with specific regulatory standards and requirements.

Since its implementation in 2014, the BCAR has undergone several amendments to address practical issues, simplify procedures, and enhance its effectiveness. This 2014 regulation [244]applies to the majority of construction projects that commenced after March 1, 2014. It introduces new procedures to ensure compliance with building regulations. Given the diversity of construction projects in practice, the requirements may vary. The legislation mandates design certification, the filing of plans and details, and contractor supervision and certification. Compliance must be verified through a mandatory inspection plan prepared by a designated certifier.

Historically, this regulation originated from the 1990 Building Control Act [245], which has been regularly amended and has resulted in two sets of regulations:

- The 1997 building regulations [246], which define the appropriate building standards;
- The Building Control Regulations 1997 [247], as amended, require owners, builders, and registered building professionals to demonstrate, through the statutory register of building control activities, that the works or building in question have been designed and constructed in accordance with the building regulations. The building control regulations generally apply to new buildings and to existing buildings undergoing extension, substantial alteration, or a significant change of use.

In addition to the Building Regulations, which define the appropriate building standards, the Building Control Regulations provide the administrative mechanisms to support the implementation of the standards, including notices of commencement of work, fire safety

[243] https://www.igbc.ie/co2-performance-ladder/Reduce https://www.igbc.ie/co2-performance-ladder/CO2 https://www.igbc.ie/co2-performance-ladder/emissions https://www.igbc.ie/co2-performance-ladder/and https://www.igbc.ie/co2-performance-ladder/implement https://www.igbc.ie/co2-performance-ladder/Green Public https://www.igbc.ie/co2-performance-ladder/Procurementhttps://www.igbc.ie/co2-performance-ladder/ https://www.igbc.ie/co2-performance-ladder/with https://www.igbc.ie/co2-performance-ladder/the CO2 Performance Ladder - Irish Green Building Council .

[244] https://scsi.ie/wp-content/uploads/2020/08/BCAR-for-Project-Management-IP-.pdf .

[245]BUILDING CONTROL ACT of 1990, Number 3 of 1990. https://www.irishstatutebook.ie/eli/1990/act/3/enacted/en/print.html .

[246]SI No. 497/1997 - Building Regulations, 1997. https://www.irishstatutebook.ie/eli/1997/si/497 .

[247]SI No. 496 of 1997, BUILDING CONTROL REGULATIONS 1997. https://revisedacts.lawreform.ie/eli/1997/si/496/front/revised/en/html .

certificates (FSCs), accessibility certificates for persons with disabilities and now, in certain cases, inspection regimes and certificates of compliance[248].

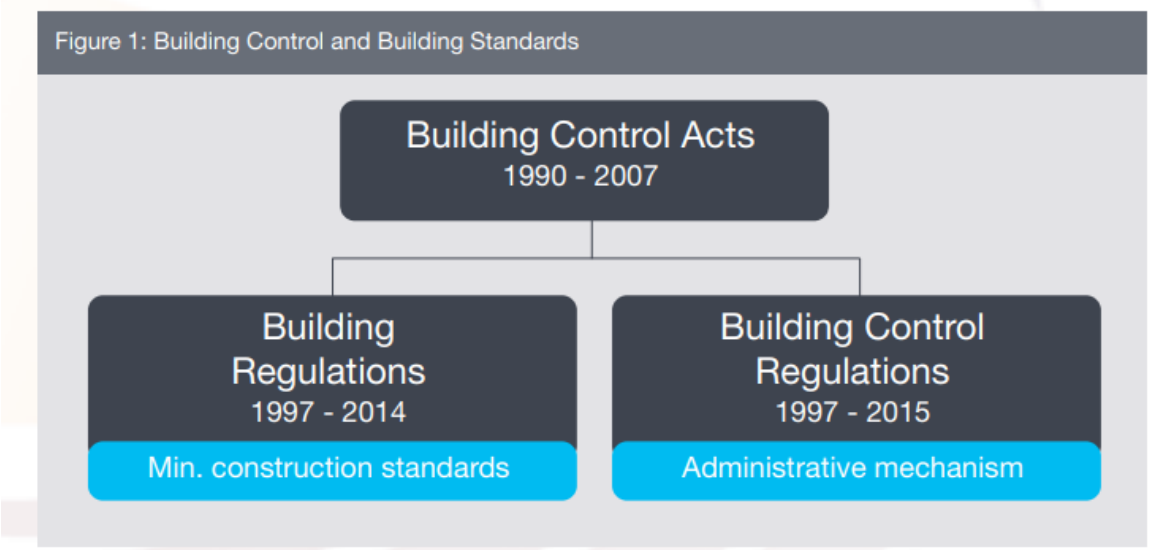

Figure 6. A Guide to the Building Control (Amendment) Regulations 2014 for Chartered Project Management Surveyors

The 1997 Building Regulations originally contained, in Annex II, Part L, a single sentence dedicated to energy efficiency: *"A building must be designed and constructed in such a way as to ensure, as far as possible, the conservation of fuel and energy.*" A national decree dating from 2017 [249]amends the 1997 Building Regulations to comply with European regulations. It stipulates, in particular, that a building must be designed and constructed in such a way as to ensure that its energy performance is such that the amount of energy required for the building's operation and the amount of carbon dioxide (CO2) emissions associated with this energy use are limited as far as possible. Since this 2017 decree, for **existing buildings** other than dwellings, the requirements must be met as follows:

(a) limit heat loss and, where appropriate, take advantage of heat gains through the building envelope;

(b) provide energy-efficient space heating and cooling systems, heating and cooling equipment, water heating systems and ventilation systems, with efficient controls;

(c) ensure that the building is designed appropriately to limit cooling requirements and, where air conditioning or mechanical ventilation is installed, that the systems installed are energy-efficient, appropriately sized and properly controlled;

[248] https://scsi.ie/wp-content/uploads/2020/08/BCAR-for-Project-Management-IP-.pdf .
[249]Decree No. 538/2017 - Building Regulations (amendment of Part L) 2017, OJ No. L 153, 18.6.2010, page 13.
https://www.irishstatutebook.ie/eli/2017/si/538/made/en/print .

(d) limit heat loss from pipes, ducts and tanks used for the transport or storage of water or hot air;

(e) limit heat gains from chilled water and refrigerant tanks, as well as from pipes and ducts that serve air conditioning systems;

(f) provide energy-efficient artificial lighting systems and adequate control of those systems;

(g) provide the building owner with sufficient information on the building's structure, fixed building services, controls and their maintenance requirements when replaced, so that the building can be operated in a manner that does not consume more fuel and energy than is reasonable; and

(h) when a building undergoes major renovation, the minimum energy performance requirements of the building or the renovated part thereof shall be upgraded to meet the optimal level of energy performance in terms of cost, insofar as this is technically, functionally and economically feasible.

For **new buildings** other than dwellings, the requirements must be met by:

(a) the condition that the energy performance of the building is such that it limits the calculated primary energy consumption and related carbon dioxide (CO2) emissions to those of a nearly zero-energy building within the meaning of the Directive, as far as possible, where energy consumption and carbon dioxide emissions are calculated using the non-domestic energy assessment procedure (NEAP) published by the Sustainable Energy Authority of Ireland;

(b) the condition that the quantity of energy required, which is almost zero or very small, is covered to a very large extent by energy from renewable sources, including energy from renewable sources produced on-site or nearby;

(c) limiting heat loss and, where appropriate, taking advantage of heat gains through the building envelope;

(d) supply and commission energy-efficient space heating and cooling systems, heating and cooling equipment, water heating systems and ventilation systems, with efficient controls;

(e) ensure that the building is designed appropriately to limit cooling requirements and, where air conditioning or mechanical ventilation is installed, that the systems installed are energy-efficient, appropriately sized and properly controlled;

(f) limit heat loss from pipes, ducts and tanks used for the transport or storage of water or hot air;

(g) limit heat gains from chilled water and refrigerant tanks, as well as from pipes and ducts that serve air conditioning systems;

(h) provide energy-efficient artificial lighting systems and adequate control of those systems; and

(i) provide the building owner with sufficient information about the building, the building's fixed services, controls and their maintenance requirements so that the building can be operated in a manner that does not use more fuel and energy than is reasonable.

While this approach is commendable, it lacks concrete objectives, as **no specific quantifiable goals have been identified. The text should be supplemented with minimum or maximum values to make the measures more tangible for businesses.**

Technical Guidance Document (TGD) – Part L of the Building Regulations. The Technical Guidance Document (TGD), regularly updated and published by the Minister of Housing, provides guidance on Part L of Annex II of the 1997 Building Regulations, as amended [250]. The Technical Guidance Document (TGD) [251]provides a pedagogical methodology for achieving these objectives, which are not quantified. The transposition of European regulations [252]should enable the achievement of specific objectives.

Building Energy Performance Certificates (EPCs). In Ireland, as in many European countries, Building Energy Ratings (BERs) are mandatory for the sale and rental of buildings. Regulation (EC) No 666 of 2006 [253]transposes into Irish law Articles 5 and 7 of the European Directive on the Energy Performance of Buildings (2002/91/EC of 16 December 2002). This Regulation requires that all new dwellings and all non-residential buildings offered for sale or rental to a prospective buyer or tenant have an Energy Performance Certificate issued by a certified energy assessor [254]. Since 1 July 2008, a BER has been mandatory for all new non-residential buildings.

Nearly Zero Energy Buildings (nZEBs) [255]. In Ireland, ensuring the energy efficiency of buildings is not a choice, but a legal obligation. Developed by the Department of Housing, Communities and Heritage, this regulation sets energy performance and energy efficiency standards for new buildings and existing buildings undergoing major renovations. Often referred to by the acronym nZEB (nearly zero energy buildings), these buildings play a crucial role in achieving national energy efficiency targets and reducing carbon emissions.

In accordance with the Energy Performance of Buildings Directive [256], EU Member States must ensure that all new buildings are "nearly zero-energy buildings" (nZEBs) by 31 December 2020.

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[250] Building Regulations 1997 — 2017 (SI No. 497 of 1997).
[251]Building Regulations Technical Guidance Document L 202.
https://assets.gov.ie/static/documents/building-regulations-2022-technical-guidance-document-l-buildings-other-than-dwellings.pdf .
[252]See *above,* paragraphs 9 and 10.
[253]SI No. 666/2006 - European Communities (Energy Performance of Buildings) Regulations 2006
https://www.irishstatutebook.ie/eli/2006/si/666/made/en/print .
[254]See the categories here:
https://www.cso.ie/en/methods/surveybackgroundnotes/domesticbuildingenergyratings/ .
[255]The definition of a nearly zero-energy building in the 2021 Energy Performance of Buildings Directive (COM (2021) 802 final) is as follows: " *very high energy performance, as determined in accordance with Annex 1. The amount of energy required, nearly zero or very low, must be covered to a very large extent by energy from renewable sources, including energy from renewable sources produced on-site or nearby.* "
[256]See *above,* §10.

[257]The implementation of Part L of the Building Regulations 2017 [258](nearly zero-energy buildings) demonstrates Ireland's commitment to reducing its energy consumption and carbon emissions. New non-residential buildings receiving planning permission after 31 December 2018 must comply with Part L of the Building Regulations 2017 (nZEBs).

The main changes to Part L concerning the compliance of buildings other than dwellings include, in particular:

- A maximum energy performance coefficient (MPEPC) of 1.0.
- A maximum carbon performance coefficient (MPCPC) of 1.15.
- A renewable energy rate (RER) of 20% or 10% depending on the case [259].
- An air tightness threshold of 5 m3/m2/h and mandatory air tightness tests are required.
- Walls 0.27 W/m².K 0.21 W/ m².K
- Sloping roof 0.20 W/m².K 0.16 W/ m².K
- Flat roof 0.22 W/m².K 0.20 W/ m².K
- Floor: 0.25 W/m².K 0.21 W/ m².K
- Windows and doors: 2.2 W/m².K 1.6 W/ m².K

Therefore, for all new buildings, an improvement in energy performance equivalent to 60% compared to the 2008 regulations is required [260]. This implies better energy performance of the building envelope, equipment, and lighting. The regulations also introduce a requirement to use renewable energy sources. These must generally cover 20% of primary energy consumption [261].

The use of specialized software, such as DEAP (Dwelling Energy Assessment) Procedure) for residential buildings and NEAP (Non- domestic Energy Assessment) Procedure) for commercial buildings, is essential to demonstrate compliance with Part L in the building design.

With regard to existing buildings, during major renovations (corresponding to the renovation of more than 25% of the building envelope surface area), it is necessary to comply with the following three measures:

- Heating system over 15 years old needs modernization;

[257]The European directive on the energy performance of buildings, revised in 2010, requires that all new buildings be nearly zero-energy buildings by December 31, 2020.
[258]Decree No. 538/2017 - Building Regulations (amendment of Part L) 2017, OJ No. L 153, 18.6.2010, p.13.
[259]Building Regulations Technical Guidance Document L 2022, p. 21. https://assets.gov.ie/static/documents/building-regulations-2022-technical-guidance-document-l-buildings-other-than-dwellings.pdf
[260]Building Regulations Technical Guidance Document L 2022, p. 21. https://assets.gov.ie/static/documents/building-regulations-2022-technical-guidance-document-l-buildings-other-than-dwellings.pdf
[261]More information on these measures can be found here: https://www.ibci.ie/docs/conferences/2018/2018-05_Sean_Armstrong-Part_L_NZEB_and_Major_Renovations.pdf .

- Modernize cooling and ventilation systems that are more than 15 years old;
- Modernize lighting that is over 15 years old [262].

A BER certificate is then issued to officially attest to the building's compliance with established energy performance standards [263].

However, this regulation is subject to change, in accordance with the latest directive on the energy performance of buildings [264], as it does not require the construction of zero-emission buildings, but only " *nearly zero* " emissions.

Building Automation and Control System. Decree SI No. 393/2021 [265]mandates a building automation and control system, in accordance with the former Energy Performance of Buildings Directive [266]. Specifically, the decree stipulates that existing non-residential buildings must, by December 31, 2025, where technically and economically feasible, be equipped with a building automation and control system if their heating, ventilation, or air conditioning systems have an *effective rated output* exceeding 290 kW. This limit will normally be reviewed in accordance with the new Energy Performance of Buildings Directive [267]. The decree also mandates self-regulating devices to control the temperature of rooms or zones in new buildings and when replacing heat generators in existing buildings.

In this regard, Decree No. 642/2024 [268]defines the building automation and control system, but it does not address its scope or its enforceability against businesses. It therefore amends the 2021 decree and stipulates, in particular, that from May 29, 2026, these systems must monitor the quality of the indoor environment.

Energy Audit. The Energy Efficiency Directive [269] requires large organizations to conduct an energy audit. This obligation was transposed into Irish law by Decree No. 426 of 2014 [270]and amended by

[262]Building Regulations Technical Guidance Document L 2022, p. 70.
https://assets.gov.ie/static/documents/building-regulations-2022-technical-guidance-document-l-buildings-other-than-dwellings.pdf
[263]See *above, §* 66.
[264]See *above,* §10.
[265]Regulation (EC) No 393/2021 - European Union Regulation (Energy performance of buildings) 2021.
https://www.irishstatutebook.ie/eli/2021/si/393/made/en/print .
[266] Directive 2010/31/EU of 19 May 2010 on the energy performance of buildings, OJ L 153 of 18 June 2010, p. 13-35.
[267]See above, §10.
[268]Regulation (EC) No 642/2024 - European Union Regulation (Energy performance of buildings) 2024.
https://www.irishstatutebook.ie/eli/2024/si/642/made/en/print .
[269]See *above,* §9.
[270]SI No. 426/2014 - European Union Regulation (energy efficiency) 2014.
https://www.irishstatutebook.ie/eli/2014/si/426 .

Decrees No. 646 of 2016 [271]and No. 599 of 2019. [272]These texts therefore transpose the earlier versions of the European regulation on energy efficiency. Under this Irish legislation (via SI 426 and its amendments), large companies must carry out energy audits at least every four years. The SEAI [273]manages a system for notifying compliance of audits, a register of energy auditors, sets minimum criteria for what audits must cover (e.g., the percentage of energy consumption within the scope), and monitors compliance.

The energy audit scheme specifically includes the following measures in Ireland:

- Minimum criteria for energy audits. The SEAI has established and published minimum criteria for energy audits [274]. These criteria concern buildings or groups of buildings, industrial operations or installations, including transport, and are based on the guidelines set out in Annex VI of the Energy Efficiency Directive;
- Energy audit compliance notification system. Those required to conduct an energy audit must have this audit carried out and report to the SEAI. The SEAI has implemented an online notification system [275];
- Register of energy auditors;
- Guides on energy audits. First, there is an energy audit handbook [276]where the SEAI provides detailed instructions for conducting a typical energy audit, from preparation and preliminary analysis to the site visit and report writing. This is particularly useful for those wishing to carry out their first energy audit. There is also a guide to achieving compliance [277], which explains how the energy compliance audit system works in Ireland, what the audit must cover and what it must demonstrate to show compliance, and the consequences of non-compliance.

These bonds also aim to support Ireland's Climate Action Plan and its goal of carbon neutrality by 2050 [278]. To date, the aforementioned guide stipulates that only the following companies are subject to energy audits:

- A company that employs 250 people or more;
- A company whose annual turnover exceeds 50 million euros and whose total annual balance sheet exceeds 43 million euros;

[271]SI No. 646/2016 - European Union Regulation (energy efficiency) (amendment) 2016. https://www.irishstatutebook.ie/eli/2016/si/646/made/en/print .
[272]SI No. 599/2019 - European Union Regulation (Energy Efficiency) (amendment) of 2019
[273]Irish Sustainable Energy Authority. https://www.seai.ie/ .
[274]https://www.seai.ie/sites/default/files/plan-your-energy-journey/public-sector/energy-auditing/Minimum-Criteria-for-Energy-Audits.doc.pdf .
[275]https://www.seai.ie/plan-your-energy-journey/public-sector/energy-auditing/eed-compliance-form .
[276] https://www.seai.ie/sites/default/files/publications/SEAI-Energy-Audit-Handbook.pdf
[277]https://www.seai.ie/sites/default/files/plan-your-energy-journey/public-sector/energy-auditing/SEAI-Guide-to-Energy-Audit-Compliance-Scheme.pdf .
[278]See *above,* §61.

- A public body owning individual buildings with a total usable area exceeding 500 m² or whose annual energy expenditure exceeds €35,000.

This therefore mainly concerns large companies, in accordance with the previous Energy Efficiency Directive [279]. These obligations are expected to change with the revision of the Energy Efficiency Directive [280]. Indeed, according to the previous version of the directive (2012/27/EU), " *companies that are not SMEs* " are required to carry out an energy audit every four years. The revised directive aims to modify the scope of this obligation. Its application will no longer depend on the size of the company, i.e., whether or not it is an SME. From now on, its scope will be entirely determined by its average annual energy consumption.

Article 11 of the revised directive [281]requires that:

- Companies whose average annual energy consumption is greater than 85 TJ over the past three years, across all energy sources, must implement an energy management system (EMS) by October 11, 2027.
- Companies without an environmental management system (EMS) and whose energy consumption is below the 85 TJ threshold must comply with certain requirements if their average annual energy consumption, across all sectors, has exceeded 10 TJ over the past three years. These companies must conduct an energy audit every four years. The first audit must be completed by October 11, 2026. Following each energy audit, they must develop and publish an action plan outlining the implementation of the recommendations.

Member States must transpose the provisions of Article 11 into national law by 11 October 2025. These provisions will not enter directly into force in Ireland until they have been transposed into national legislation. However, the Irish transposition legislation has not yet been published [282]. In this regard, a 2025 report detailing the difficulties faced by SMEs in complying with the obligations arising from the new Energy Efficiency Directive [283]states that if an exemption for small businesses is not possible with regard to the energy management system and energy audit, an extension of the deadline to October 2027 would be conceivable.

IS 399 Standard – Energy Efficiency Design Management. IS 399 [284]is a standard developed by SEAI and NSAI[285] to integrate energy efficiency into new investments and projects as a

[279]See *above,* §9.
[280] *Ibid.*
[281] *Ibid.*
[282] https://www.mhc.ie/latest/insights/changes-to-energy-audit-and-management-obligations .
[283]SME test report on the energy efficiency directive. https://www.gov.ie/en/department-of-climate-energy-and-the-environment/publications/energy-efficiency-directive-eed/ .
[284]https://www.seai.ie/sites/default/files/publications/IS399-Energy-Efficient-Design-Management-overview-.pdf .
https://shop.standards.ie/en-ie/standards/is-399-2021-878265_saig_nsai_nsai_3078898/ .
[285]National Standards Authority of Ireland New Standards Shop.

management system. While voluntary, it helps demonstrate best practices and can be used in regulatory reviews or grant applications.

Legislation applicable to small and micro-enterprises (accommodation and food services). No specific sectoral law exists concerning small businesses in the hotel and restaurant sector [286]. However, general provisions may apply to these particular businesses:

- Energy Efficiency Obligation Scheme (EEOS) [287]. This scheme obliges large energy suppliers/distributors to help end consumers (including commercial SMEs) save energy. It is part of Ireland's implementation of its energy saving targets under the Energy Efficiency Directives [288];
- SEAI energy audits and subsidies: accessible to SMEs via the GreenStart [289]and Green for Micro programs [290].

5.2 Territorial Strategies

Regional requirements and initiatives. Regulations are national, but local authorities can implement initiatives through building permits .

https://www.nsai.ie/about/ .

[286]According to information provided by the partner.

[287]https://www.seai.ie/about/regulatory-functions/energy-efficiency-obligation-scheme/about-eeos

[288]See *above,* §9.

[289]This grant is intended to finance a training, consulting, or support project lasting up to seven days, delivered directly to an eligible company by an external green service provider. The project aims to improve the company's environmental performance, thereby strengthening its agility and resilience to the impacts of climate change. The grant is intended for companies that lack sufficient knowledge or expertise in environmental improvement methodologies.
https://www.localenterprise.ie/green/other-green-supports/greenstart.html .

[290]The Green for Micro program helps small businesses prepare for the low-carbon and more resource-efficient economy of tomorrow.
https://www.corkcoco.ie/en/business/cork-county-council-local-enterprise-offices/green-for-micro .

6. German regulations

While Germany has its own definitions of companies (6.1), it has also implemented specific measures to promote energy efficiency in buildings (6.3), with specific programs at the local level (6.4). Nevertheless, the transposition of various European directives will lead to adjustments in regulations (6.2).

6.1 Definition of small and very small businesses under German law

Concept of small and very small enterprises. In Germany, the Federal Statistical Office defines SMEs according to their turnover and workforce, in accordance with European Commission Recommendation 2003/361/EC [291]:

- **Micro-enterprise** : less than 10 employees and a turnover and balance sheet total of a maximum of 2 million euros.
- **Small business** : Employs fewer than 50 people and has a balance sheet total not exceeding 10 million euros[292].

Größenklasse	Tätige Personen	Jahresumsatz
Kleinstunternehmen	bis 9	und bis 2 Mill. EUR
Kleine Unternehmen[1]	bis 49	und bis 10 Mill. EUR
Mittlere Unternehmen[2]	bis 249	und bis 50 Mill. EUR
Großunternehmen	über 249	oder über 50 Mill. EUR

Figure 7. Definition of companies in Germany

6.2 Transposition of European directives

Transposition of the directive on the energy performance of buildings [293]. Germany has not yet fully transposed European Directive 2024/1275 on the energy performance of buildings into national law. However, the process is actively underway.

[291] See *above,* §11.
[292] https://www.destatis.de/DE/Themen/Branchen-Unternehmen/Unternehmen/Kleine-Unternehmen-Mittlere-Unternehmen/Glossar/kmu.html .
[293] See *above,* §10.

The German Building Energy Act (Gebäudeenergiegesetz – GEG**)** [294]is currently being revised and adapted to align with new EU requirements. This includes, in particular [295]:

- Strengthening energy performance standards;
- The presentation of minimum energy performance standards (MEPS) for non-residential buildings;
- The promotion of zero-emission buildings and the installation of solar panels;

Other efforts are underway in Germany: the German **Energy Agency (dena)** [296]is in contact with experts to develop proposals for updating the GEG (General Energy Consumption) in accordance with the directive. The aim is to ensure that the transformation is economically viable and socially acceptable. Analyses are underway, which are being conducted on:

- The life cycle performance of buildings;
- The profitability of renovation measures;
- Social acceptance.

Transposition of the Energy Efficiency Directive [297]. Germany transposed key elements of Directive 2023/1791 on energy efficiency into national law through the Energy Efficiency Act (Energieeffizienzgesetz – EnEfG) [298], which was adopted by the Bundestag on 21 September 2023.

6.3 Regulations relating to the energy efficiency of buildings in national law

Building Energy Act (Gebäudeenergiegesetz, GEG). For buildings in general, the Building Energy Act (Gebäudeenergiegesetz, GEG) [299]is essential legislation in Germany. Its objective is to make a significant contribution to achieving national climate protection goals. This objective will be achieved through economically and socially responsible measures that improve efficiency and generate savings [300].

[294]Building Energy Act of 8 August 2020 (Federal Official Journal I, p. 1728), as last amended by Article 1 of the Act of 16 October 2023 (Federal Official Journal 2023 I, No. 280). https://www.gesetze-im-internet.de/geg/GEG.pdf .
[295]In accordance with the data provided by the partner.
[296]The German Energy Agency (dena). https://www.dena.de/ .
[297]See *above,* §9.
[298]Energy Efficiency Act of 13 November 2023 (Federal Official Journal 2023 I No. 309. https://www.gesetze-im-internet.de/enefg/BJNR1350B0023.htmlEnEfG https://www.gesetze-im-internet.de/enefg/BJNR1350B0023.html- Law to increase energy efficiency in Germany 1 .
[299]Building Energy Act of 8 August 2020 (Federal Official Journal I, p. 1728), as last amended by Article 1 of the Act of 16 October 2023 (Federal Official Journal 2023 I, No. 280). https://www.gesetze-im-internet.de/geg/ .
[300] *Ibid*, §1.

The GEG defines, in particular, the requirements for:

- The **energy performance of buildings** (numerous figures can be found in the appendices);
- The use **of renewable energy** for heating and cooling;
- The issuance **and use of energy performance certificates;**
- It applies to **all heated or air-conditioned buildings,** including residential, commercial and industrial buildings;
- **New buildings:**
    - Energy efficiency standards;
    - From January 2024, new heating systems will have to use at least 65% renewable energy [301](This rule currently applies to new buildings located in designated development areas; for other buildings, it will apply from 2026 or 2028, depending on local thermal planning).
- **Existing buildings:**

    - Companies must ensure compliance with insulation standards;
    - The requirements also cover air exchange rates, system efficiency and hydraulic balancing of heating systems.

- **Energy performance certificates:**
    - Mandatory for the sale, rental or major renovation of buildings.
    - Must reflect the building's energy consumption and efficiency class.

The application of the GEG falls under the responsibility of the Länder. In the Länder of Hesse, this regulation falls under the Hessian Ministry of Economic Affairs, Energy, Transport and Housing [302].

GEG Law and nearly zero-energy buildings. Regarding non-residential nearly zero-energy buildings **,** Article 10 of the law stipulates that new buildings must be constructed as nearly zero-energy buildings, complying with the following measures:

- 1. The total energy demand for heating, domestic hot water, ventilation and air conditioning, and, in the case of non-residential buildings, also for integrated lighting, does not exceed the respective maximum value determined in accordance with Article 18 [303];

[301] *Ibid* , §91.
[302]See below , paragraphs 87 and following.
[303]A non-residential building to be constructed must be constructed in such a way that the annual primary energy demand for heating, domestic hot water production, ventilation, cooling and integrated lighting does not exceed 0.55 times the value of the annual primary energy demand, based on the net floor area, of a reference building having the same geometry, the same net floor area, the same orientation and the same use, including the arrangement of use units, as the building to be constructed and which corresponds to the reference technical design of Annex 2.

- 2. Energy losses during heating and air conditioning are avoided through structural thermal insulation in accordance with Article 19 [304];
- 3. the requirements of Article 71§1, are complied with [305].

GEG Law and minimum thermal insulation. With regard to minimum thermal insulation, Article 11 stipulates that in buildings to be constructed, building elements which separate the outside air, the ground or parts of the building having significantly lower internal temperatures, must be designed in such a way as to comply with the minimum thermal insulation requirements according to DIN 4108-2 : 2013-02 and DIN 4108-3 : 2018-10.

GEG Law and requirements for existing buildings. In accordance with Article 47 of the law, owners of residential and non-residential buildings that, by their intended use, are heated to an internal temperature of at least 19 degrees Celsius for at least four months a year, must ensure that the ceilings of upper floors that do not meet the minimum thermal insulation requirements of DIN 4108-2: 2013-02 are insulated so that their thermal transmittance coefficient does not exceed 0.24 watts per square meter per kelvin. This obligation is deemed fulfilled if, instead of the ceiling of the upper floor, the roof is insulated in accordance with DIN 4108-2: 2013-02.

GEG Law and Building Automation Systems. In accordance with Article 71a of the law, any non-residential building with a rated heating system or combined heating and ventilation system exceeding 290 kilowatts must be equipped with a building automation and control system by December 31, 2024. The first sentence also applies to any non-residential building with a rated air conditioning system or combined air conditioning and ventilation system exceeding 290 kilowatts. This article is subject to change as new European regulations broaden the scope of this measure [306].

To achieve this, a non-residential building must be equipped with digital energy monitoring technology that enables:

- 1. Continuous monitoring, recording and analysis of the consumption of all major energy sources and all building systems;
- 2. access to the data collected via a common and freely configurable interface, so that assessments can be carried out independently of companies and manufacturers;
- 3. the definition of target values relating to the energy efficiency of the building;
- 4. Identifying inefficiencies in building systems; and
- 5. Informing the person responsible for the installation or management of the building about possible improvements in energy efficiency.

[304] A non-residential building to be erected must be constructed in such a way that the maximum values of the average heat transfer coefficients of the heat transfer envelope in Annex 3 are not exceeded.

[305] A heating system may only be installed or put into operation in a building if it produces at least 65% of the heat supplied by the system from renewable energy sources or unavoidable waste heat, in accordance with paragraphs 4 to 6 and Articles 71b to 71h. The first sentence therefore applies to a heating system that supplies a building network.

[306] See *above,* §9.

In addition, a person or company responsible for the building's energy management must be designated or mandated to analyze and exploit the potential for optimized energy use of the building as part of a continuous improvement process.

In addition to the aforementioned requirements, any non-residential building to be constructed must:

- 1. be equipped with a building management system (BMS) of level B according to DIN V 18599-11: 2018-09 or higher; and
- 2. be subject to technical commissioning management, including the adjustment of building service systems, in order to guarantee optimal operation.
-

GEG Law and Energy Performance Certificate. The principles of Energy performance certificates are governed by Article 79 et seq. of the GEG Law: Energy Performance Certificates (EPCs) serve exclusively to provide information on a building's energy performance and allow for an approximate comparison between buildings, including energy consumption. They are issued for a period of ten years. However, energy performance certificates are not mandatory for small buildings (with a usable floor area not exceeding 50 square meters).

Furthermore, the owner of a building with a usable floor area exceeding 250 square meters and subject to high public traffic due to its official use must ensure that an Energy Performance Certificate (EPC) is issued for the building. The owner must display the issued EPC in a location clearly visible to the public.

The energy performance certificate must contain at least the following information for a non-residential building:

- Final energy consumption of the building for heating and electricity production (heating, domestic hot water production, cooling, ventilation and integrated lighting);
- Primary energy consumption in kilowatt-hours per year and per square meter of net floor area;
- Greenhouse gas emissions resulting from primary energy consumption, expressed as carbon dioxide equivalent, in kilograms per year and per square meter of net floor area of the building.

Application of the GEG [307]to small and micro-enterprises. SMEs are not exempt from the GEG if they own or operate buildings subject to heating or cooling. Although the GEG law does not impose specific obligations based on company size, its application is determined by the ownership and use of the building. SMEs can nevertheless benefit from public subsidies for energy-efficient renovations and renewable heating systems.

Energy Efficiency Act (EnEfG). For SMEs, there is no general obligation to implement energy management systems or conduct audits. While the Energy Efficiency Act (EnEfG) [308]is the main

[307]See *above,* §77.

[308]Energy Efficiency Act of 13 November 2023 (Federal Official Journal 2023 I No. 309). https://www.gesetze-im-internet.de/enefg/BJNR1350B0023.htmlEnEfG https://www.gesetze-im-internet.de/enefg/BJNR1350B0023.html- Law to increase energy efficiency in Germany 1 .

German law aimed at improving energy efficiency, it imposes different measures on companies depending on their energy consumption:

- Companies consuming more than 7.5 GWh/year must implement an energy or environmental management system (e.g., ISO 50001 or EMAS).
- Companies consuming more than 2.5 GWh/year must develop and publish plans for implementing economically viable energy efficiency measures.

Therefore, this law generally does not apply to SMEs, unless they are significant consumers.

However, the objective of this law [309]is to:

- Reduce Germany's final energy consumption by at least 26.5% by 2030 compared to 2008 to a final energy consumption of 1,867 terawatt-hours;
- Reduce German primary energy consumption by at least 39.3% by 2030, compared to 2008, for a primary energy consumption of 2,252 terawatt-hours.
- For the period after 2030, the federal government aims to reduce Germany's final energy consumption by 45% by 2045 compared to 2008.

To achieve these objectives, it would be important for this law to evolve in order to include SMEs, which, taken as a whole, can have significant energy consumption, especially if they are not subject to any binding measures (obligation to reduce consumption, energy audit, etc.).

Energy Services Act (EDL-G) [310]. This law governs the obligation energy audits [311]for Companies that are not SMEs (i.e., larger companies) [312]. SMEs are generally exempt from this measure, but can do so voluntarily or benefit from support programs.

It is essential that this law be amended to include energy-intensive SMEs in the energy audit program.

[309]V. art. 4.

[310]Law of 4 November 2010 relating to energy services and other energy efficiency measures (Federal Official Journal I, p. 1483), as last amended by Article 3 of the Law of 27 February 2025 (Federal Official Journal 2025 I, No. 70).
EDL-G - https://www.gesetze-im-internet.de/edl-g/nichtamtlicheshttps://www.gesetze-im-internet.de/edl-g/ https://www.gesetze-im-internet.de/edl-g/Table of Contents https://www.gesetze-im-internet.de/edl-g/.

[311]See article 8.

[312]V. §1 of the law: scope of application: "Companies which do not constitute micro, small and medium-sized enterprises within the meaning of Commission Recommendation 2003/361/EC of 6 May 2003 concerning the definition of micro, small and medium-sized enterprises (OJ 2003 L 2003, p. OJ L 124, 20.5.2003, p. 36)."

Regulations promoting energy efficiency in the accommodation and catering sector. There are no specific regulations in the field of energy efficiency in this sector [313].

6.4 Territorial Strategies

Implementation of the GEG [314]in the regions/Länder. The implementation of the GEG is the responsibility of the Länder. In the Länder of Hesse, this implementation is managed by the Hessian Ministry of Economic Affairs, Energy, Transport and Housing.

Specific regulations in Hesse: the Hessian Energy Act (HEG) [315]. The HEG supplements the GEG with specific objectives and requirements for the state :

- Climate neutrality by 2045 for state-owned buildings;
- Annual renovation rate of 2.5 to 3% for existing buildings;
- 100% renewable energy for electricity and heating in construction projects.

Municipal heating planning. Hesse implements the federal obligation for thermal planning through the Energy Act (GEG) [316]and the Thermal Planning Act (WPG) [317]:

- Municipalities with more than 100,000 inhabitants must implement a thermal plan by mid-2026;
- Smaller municipalities must do so by mid-2028.

The primary objective, therefore, is to decarbonize heating networks. In Germany, the Building Energy Act (GEG) was amended at the beginning of 2024. It stipulates that from 2045 onwards, heating in Germany can only be provided using renewable energy sources and unavoidable waste heat. Waste heat is considered unavoidable if, for example, it cannot be used in the production process of an industrial facility or power plant for economic or safety reasons, and it is impossible to reduce it through reasonable efforts.

The GEG Act and the WPG Act are linked: certain provisions of the Building Energy Act concerning new heating systems will only apply to owners once the municipal heating plan is available [318].

[313]According to data provided by the partner.
[314]See *above,* §77.
[315]Hessian Energy Act (HEG) of November 21, 2012 (GVBl . p. 444). https://www.rv.hessenrecht.hessen.de/perma?j=EnG_HE .
[316]See above, §83.
[317]Thermal Planning Act of 20 December 2023 (Federal Official Journal 2023 I No. 394), as amended by Article 20 of the Act of 2 December 2025 (Federal Official Journal 2025 I No. 301) https://www.gesetze-im-internet.de/wpg/BJNR18A0B0023.html .
[318]More information here: https://www.verbraucherzentrale.nrw/wissen/energie/heizen-und-warmwasser/kommunale-waermeplanung-kommt-ein-waermenetz-an-meinen-wohnort-99606#:~:text=Bei%20der%20kommunalen%20W%C3%A4rmeplanung%20erarbeiten,Nah%2D%20oder%20Fernw%C3%A4rmenetz%20geben%20kann .

Regional support strategies in Hesse. At the regional level, in the state of Hesse, there is a wide range of information, programs, and support mechanisms, both free and commercial, available to businesses in general, which may include the following [319]:

- The Hessian Energy Agency (LEA) [320]offers a free initial energy audit. Experienced consultants visit facilities and provide practical advice on reducing energy costs. The agency also offers ongoing support to help companies navigate the various funding programs and prepare grant applications. It connects companies with specialist consultants who have in-depth industry knowledge. The LEA has also published a wide range of information materials on energy efficiency and renewable energy [321]. Furthermore, the LEA coordinates the regional energy efficiency networks in Hesse. More than 30 Hessian networks regularly exchange ideas at their meetings and learn how energy efficiency is being implemented in other companies [322].
- RKW Hessen [323]is a membership association that offers consulting services to Hessian SMEs in various thematic areas, including energy costs and efficiency. Thanks to funding from the State of Hesse and its cooperation with LEA, it is often able to offer a free initial consultation.
- Finally, the regional chambers of commerce in Hesse offer information and events on financing programs, energy efficiency, and other energy-related topics [324]. In addition, the Kassel-Marburg Chamber of Commerce offers a free training program (Energy Scouts) for apprentices to help them identify and effectively utilize energy-saving potential within their companies [325]. They also organize monthly online consultation days on environmental and energy issues.

[319]According to data provided by the partner.
[320] https://www.energieeffizienz-hessen.de/kostenfreie-impulsberatung/ .
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Conclusion

Analysis of European and national regulatory frameworks on energy efficiency highlights an ambitious and constantly evolving dynamic, driven by the European Union's climate commitments stemming from the European Green Deal [326]. The revised directives on energy efficiency and the energy performance of buildings significantly strengthen the obligations incumbent upon Member States, particularly concerning the renovation of commercial buildings and the optimization of energy consumption.

In this context, the Member States studied – France, the Netherlands, Belgium, Ireland, and Germany – translate these requirements into different ways, revealing national approaches that are sometimes convergent and sometimes divergent, particularly in the definition of small businesses or in the criteria for regulatory compliance. However, a common trend emerges: the increasing importance of measures aimed at reducing energy consumption, modernizing buildings, and integrating businesses into a path of active energy sobriety and sustainable energy efficiency.

The study demonstrates that, while the European Union sets common objectives for energy savings, emissions reduction, and improved energy performance, the latitude granted to Member States in choosing implementation methods leads to significant divergences in national transpositions. Nevertheless, a convergence in regulations is emerging: in all the countries studied, legislators are progressively strengthening the scope of the measures, extending obligations to smaller companies when their energy consumption is significant, and increasing the requirements for renovating commercial buildings. Similarly, the management tools—such as periodic reporting, audits, energy management systems, and absolute consumption targets—reflect a shared commitment to strictly controlling the trajectory of energy consumption reduction.

The study also highlights that small and very small businesses in the hospitality and catering sector, at the heart of the ECOboost project , are gradually facing increasing demands but also new opportunities. Current and future regulations, combined with European support tools, aim to remove the technical obstacles that still hinder their energy efficiency. However, it should be noted that these particular businesses, overall, are not subject to tailored national regulations.

The entire regulatory framework, whether European, national or territorial, outlines a coherent strategy towards carbon neutrality by 2050. This trajectory, however, requires strengthened governance, better harmonization between Member States and increased support for small businesses, so that energy efficiency becomes a lever for competitiveness, resilience and sustainability.

[326] The Green Deal for Europe, 11 Dec. 2019, COM (2019) 640 final.

Ultimately, the body of regulations examined demonstrates a gradual, but still improvable, harmonization of energy efficiency obligations. Consistency between European directives, their national transposition, and their territorial implementation is a major legal challenge for ensuring the effective implementation of energy efficiency objectives. Increased vigilance must therefore be paid to the continuous adaptation of national legislation to guarantee full compliance with EU law and enable the companies concerned to sustainably align themselves with the energy trajectory set by European institutions.

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