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Directive 2023/1791 EED: A Step Closer to Mandatory Green Public Procurement Criteria Through Sectorial Legislation

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Abstract:

The European Union's Directive 2023/1791 EED is a critical step in the European Union's trajectory towards climate neutrality by 2050, instituting enforceable Green Public Procurement criteria. This article delves into the Directive's implementation complexities, scrutinising its potential to navigate the EU energy policy evolution and foster sustainability in public procurement. Notably, Article 7 and Annex IV of the Directive demonstrate a clear shift by mandating high energy efficiency performance standards across various sectors, signifying a move from discretionary to compulsory Green Public Procurement criteria. Despite its robust policy stance, the Directive faces practical impediments, including diverse Member States compliance levels and the need to balance regulatory directives with market dynamics. While the Directive aims to position public authorities at the forefront of sustainable procurement, catalysing market transformation, it walks a delicate line between legislative ambition and actionable enforcement. The variability in economic and technological capacities among Member States could hinder uniform application. By introducing a framework that allows for enforceable, adaptive, and technology-sensitive specifications, the Directive could bridge the gap between policy and practice, optimising its impact on energy consumption and environmental sustainability. However, addressing potential ambiguities in interpretation, the economic burden on public entities, and institutional inertia remains critical for its rigorous and effective implementation. This article provides a comprehensive analysis of Directive 2023/1791, situating it within the EU's broader energy policy framework, and critically evaluates its potential to truly change the Union's approach to energy efficiency and Green Public Procurement.

Keywords: EU Energy Efficiency, Energy Efficiency Directive, Green Public Procurement, Sustainable Construction, Climate Neutrality Legislation

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List of abbreviations:

CAs - Contract Authorities
CPD - Construction Products Directive (1989)
CPR - Construction Product Regulation
CJEU - Court of Justice of the European Union
EC - European Commission EED - Energy Efficiency Directive
EED – Energy Efficiency Directive
EPBD - Directive on the Energy Performance of Buildings
EPCs - Energy Performance Certificates
ESD - Energy Services Directive
ESPR - Ecodesign for Sustainable Products Regulation
EU - European Union
GDP – Gross Domestic Product
GHG - Greenhouse Gas
GPP - Green Public Procurement
GWP - Global warming potential
HWBD or Boiler Directive - Council Directive 92/42/EEC of 21 May 1992 on efficiency requirements for new hot-water boilers fired with liquid or gaseous fuels
ICT - Information and Communications Technology
LCA - Life Cycle Assessment
MEPS - Minimum energy performance standards
Mtoe - Million tonnes of oil equivalent
NECPs - National Energy and Climate Plans
nZEB - nearly Zero Energy Buildings
OECD - Organisation for Economic Co-operation and Development
PAs - Public authorities
PEF - Product Environment Footprint
PEFCRs - Product Environmental Footprint Category Rules
PRIMES 2020 - reference scenario
SAVE Directive - Council Directive 93/76/EEC of 13 September 1993 to limit carbon dioxide emissions by improving energy efficiency
SPP - Sustainable public Procurement
TED - Tenders Electronic Daily
WLC - Whole Life Carbon
ZEB - Zero Energy Buildings

1. Introduction

The dynamic evolution of the European Union's (EU) energy efficiency policy has been influenced by a combination of historical challenges, market responses, and legislative interventions. Among these historical challenges are pivotal moments such as the oil embargo of the 1970s and the global recession of 2008. These events, alongside recognised market failures, have underscored the importance of addressing energy efficiency not just as an economic concern but also as a strategic and environmental imperative.

One of the most salient market failures is the 'energy efficiency gap'—the divergence between current energy efficiency levels and their economically viable potential (Backlund, Thollander, Palm, & Ottosson, 2012; Gerarden, Newell, & Stavins, 2017; Jaffe & Stavins, 1994). This gap signifies more than a theoretical construct; it signifies an actionable divergence between current energy efficiency levels and their economically viable potential, underpinning tangible misallocations of resources. In environments where market imperfections are present, regulatory intervention becomes a critical mechanism for redirecting market trajectories toward optimal societal outcomes (Sanchez Graells, 2014). Nevertheless, the equilibrium between regulatory measures and market mechanisms is delicate, as excessive intervention may risk further market distortion.

Addressing this gap necessitates multifaceted interventions. The EU confronts energy security challenges stemming from reliance on external energy sources and grapples with externalities like the under-pricing of environmental impacts (EPSR, 2020; Gerarden et al., 2017; Mata Pérez, Scholten, & Smith Stegen, 2019). Concurrently, it recognises the expansive impact of energy efficiency, from macroeconomic vitality and air quality enhancement to job creation and, critically, climate change mitigation (COMBI, 2018).

Central to the EU's response to energy challenges is Energy Efficiency Directive 2023/1791 (hereafter EED 2023 or Directive) (EP & CEU, 2023). Designed to propel the EU toward climate neutrality by 2050, the Directive underscores the inadequacy of previous measures in achieving desired energy consumption reductions. Recent reports for 2023 reveal a troubling trend: only 16 EU countries met the deadline to submit updated National Energy and Climate Plans (NECPs) to the European Commission for the period leading to 2030, and astonishingly, none fully adhere to the latest energy efficiency benchmarks (The Coalition for Energy Savings, 2023). Specifically, the Directive mandates Member States (MS) to curtail their energy consumption by a minimum of 11.7% by 2030 (Art 4), coupled with an annual reduction target of 1.5% in final energy consumption from 2024 to 2030. Highlighting the public sector's leadership (Art 5, pr1), the Directive positions public authorities not just as regulatory entities but as influential market participants.

In this context, strategic state procurement—beyond its fiscal role—serves as a catalyst for innovation. As Perez in (Lember, Kattel, & Kalvet, 2014) asserts, through directed public investment, the state can encourage private sector ingenuity, driving both market expansion and technological advancements that are crucial for addressing environmental issues. Public procurement is instrumental in this regard, with public authorities as significant market players, using their purchasing power to effect change. By advocating for sustainable procurement policies, they not only guide market demand toward sustainability but also stimulate the development of energy-efficient solutions in the private sector. This approach is in harmony with the Directive's updated provisions, demonstrating how public entities can leverage their procurement strategies to foster an environment where energy efficiency is not just a directive but an integrated practice.

However, the balance between promoting energy efficiency and accommodating other economic and political considerations is delicate. Introducing the Directive EED 2023 exemplifies the EU's commitment to bridging this balance. It is noteworthy that while regulation, such as this Directive, can act as a remedy to market failures, its design and implementation must be carefully considered to avoid unintended consequences. This article aims to delve deeper into the implications of this Directive, particularly its potential to mandate Green Public Procurement (GPP) Criteria through sectorial legislation and assess its role in addressing the multifaceted challenges posed by the energy efficiency gap.

2. Historical Context: Energy Efficiency in the EU

The beginnings of EU energy policy can be traced back to the European Coal and Steel Community of 1951, followed by the European Atomic Energy Community in 1957. However, it was the oil embargo of the 1970s that made the EU realise the importance of energy security. This led to a shift in the energy discourse from just supply concerns to a more comprehensive strategy that included energy efficiency. The first European Council Resolution of 1974 aimed for a 15% reduction in energy consumption by 1985. This commitment was further strengthened in subsequent years and resulted in the 1986 Council Resolution, which aimed to balance energy and environmental solutions, thus laying the foundation for the EU's first explicit energy efficiency target (Economidou et al., 2020).

2.1. The Formative Years: Energy Efficiency through sectorial legislation - Building-Centric

The EU's focus on buildings stemmed from the varying energy performance standards across its MS. This prompted the need for a harmonised approach. The first steps taken towards this goal were the 1989 Construction Products Directive (CPD) and the 1992 Boiler Directive (HWBD), which aimed to standardise construction product performance and promote energy efficiency labelling for heating systems, respectively. However, it was the 1993 Council Directive 93/76/EEC to limit carbon dioxide emissions by improving energy efficiency (SAVE Directive) that marked the EU's first comprehensive policy in this area. This Directive mandated MS to implement energy efficiency enhancement programs and encouraged thermal insulation provisions in new buildings. While it lacked the stringency to enforce efficiency requirements, it paved the way for subsequent directives such as the 2002 Directive on the Energy Performance of Buildings (EPBD) and the 2006 Directive on energy end-use efficiency and energy services. The SAVE Directive also advocated for building certification, heating regulation, third-party financing for public building energy efficiency, and energy audits for energy-intensive entities. Its significance cannot be overstated, as it has been instrumental in shaping the EU's energy efficiency policies.

2.2. Second Wave, Action Plans for Energy Efficiency

Since the early 2000s, the European Commission has progressively advanced its strategic vision for energy efficiency through a series of Action Plans. While reflecting a growing commitment to ecological responsibility, these plans also exhibit the evolution of the EU's regulatory approach in this domain.

The 2000 Energy Efficiency Action Plan: In response to the inadequate implementation of the SAVE Directive, the 2000 Action Plan was introduced. The previous Directive's limited success was mainly due to the MS reluctance to establish strict efficiency standards. After the 1997 Kyoto Protocol, the EU felt the urgency to actively promote energy efficiency, which led to the 2000 Action Plan. It called for improved measures and standardised reporting while respecting the autonomy of MS. This plan subsequently influenced the development of the EPBD in 2002.

The 2006 Energy Efficiency Action Plan: In 2006, a significant goal was set to reduce primary energy consumption by 20% before 2020. This objective was based on the Green Paper on European Energy Strategy, which identified the potential for 27% energy savings in residential buildings and 30% in commercial buildings by 2020. The plan emphasised the need for stringent requirements for building renovations, paving the way for the 2010 revision of the EPBD. The plan's impact was further highlighted by the EU's commitment to achieving the "20-20-20 targets" by 2020.

The 2011 Energy Efficiency Action Plan: The 2011 Plan aligned with the Commission's Roadmap for a low carbon economy and set ambitious goals to reduce GHG emissions by 2050. It acknowledged the potential for energy-saving in building renovations and highlighted the need for energy-efficient interventions in both public and private sectors. The Plan introduced mechanisms to address 'split incentives' and promoted energy performance contracting and audits. In 2018, the energy efficiency targets were adjusted to 32.5%, reflecting the EU's dynamic commitment to the cause.

The Energy Union and the Role of Energy Efficiency: In 2015, the Energy Union Strategy was introduced to reaffirm the EU's commitment to promoting sustainable energy. The strategy comprised five dimensions, focusing on energy efficiency as its core objective. Its main aim was to decrease the dependence on energy imports, facilitate job creation, and encourage economic growth. The strategy also called for revisions to the EPBD and the Energy Efficiency Directive (EED), ushering in a new era of energy and climate action governance.

Throughout these plans, a clear trajectory emerges. The EU has transitioned from a broad, often ambiguous approach to a more prescriptive, targeted strategy, underscoring the essential role of energy efficiency in its policy landscape.

2.3. Public Procurement: An Instrument for Sustainable Transformation

With the EU allocating approximately EUR 2.3 trillion annually to public expenditure—accounting for 19% of its GDP—the impact of procurement practices is far-reaching. This expenditure is directly linked to a notable 15% of global GHG emissions (Mission Possible Partnership & World Economic Forum, 2022), signifying the potential for procurement to drive significant environmental change.

Delving into the specifics, certain sectors exemplify the urgent need for sustainable procurement. The transport sector, for instance, is a major energy consumer, using over 30% of the EU's final energy, while the construction sector is a substantial contributor to energy use and GHG emissions, with 40% of energy consumption and 35% of GHG emissions attributed to it (IEA, 2022; UNEP, 2020). Compounded by the inefficiency of 75% of EU buildings, the imperative for reform is clear. Additionally, sectors like industry and ICT are notable for their environmental footprint, with the ICT sector alone accounting for 5-9% of global electricity consumption (EP & CEU, 2023).

The evolution of public procurement has progressed from being just a financial tool to becoming a driver of sustainable market behaviour, which aligns with Sustainable Development Goal 12. This goal promotes responsible consumption and production patterns. The One Planet Network (2020) has endorsed procurement practices that value societal impacts and economic costs, reflecting a paradigm shift in policy vision (Westerholm, 2020). This shift is also supported by contemporary scholars such as Bleda and Chicot (2020) and Mazzucato (2020), who advocate for procurement to be used as a strategic lever for societal advancements.

The EU has begun to align with this vision, especially after its 2014 Public Procurement reform. This shift is not just about standardising practices but about harnessing procurement to achieve broader economic and environmental aims. The EU Public Procurement Directive (2014/24/EU) highlights the importance of integrating socio-environmental standards in public procurement (EP & CEU, 2014). However, it falls short in providing a clear and actionable framework for harmonising these standards in practice, leaving a critical gap.

Public procurement, therefore, stands at a crossroads. The magnitude of public expenditure, interlaced with its environmental impact, places public authorities in a pivotal position to shape market trends. When properly executed, today's procurement strategies can confront multifaceted challenges—fostering transparency, efficiency, and delivering on the EU's policy objectives. The task ahead is to bridge the gap identified in the Directive, ensuring that the lofty goals of procurement reform translate into tangible, sustainable outcomes.

2.3.1. Public procurement Law

The evolution of EU public procurement law, particularly Directive 2014/24/EU, reflects the EU's progressive stance on leveraging procurement in support of societal goals, especially sustainability. This Directive, replacing the earlier 2004 suite, emerges from a 2011 proposal by the European Commission and is heavily influenced by landmark cases such as Concordia Bus Finland (8C-513/99) and Wienstrom (C-448/01 EVN AG), which validated the inclusion of environmental criteria in procurement decisions.

The 2014 Directive advances beyond its predecessors, 2004/17/EC and 2004/18/EC, by embedding sustainable procurement deeply within the legal framework of all EU's MS. It transcends the economic realm, placing a marked emphasis on life-cycle costing, endorsing eco-labels, and enforcing compliance with environmental standards(EP & CEU, 2014).

At the core of the Directive 2014/24/EU is Article 18, which establishes a mandate for compliance with environmental, social, and labour laws, anchoring the commitment to comprehensive sustainability. The principle of competition is balanced with sustainability goals, as seen in the Dutch Coffee/Max Havelaar judgment (C-368/10), although adherence to the subject matter principle is strictly maintained.

Articles 42 and 43 continue the sustainability trajectory by promoting transparency, non-discrimination, and inclusivity. Article 42's technical specifications encourage clear communication and accessibility, while Article 43's provisions on labelling guide authorities in promoting sustainability within the procurement process.

The Directive entrusts authorities with significant discretionary power. For instance, Article 56(1) paragraph 4 allows the rejection of tenders for non-compliance with the sustainability obligations laid out in Article 18(2). Enforcement mechanisms are also present in Articles 57(4) and 69(3), which provide for the exclusion of tenders violating social or environmental obligations and the rejection of abnormally low tenders, respectively.

Article 67 introduces a life-cycle cost approach to awarding public contracts, promoting a broad interpretation of sustainability. This ensures that environmental factors are integrated into decision-making processes, as highlighted in cases like Concordia. In Article 68, the Directive underscores the importance of life-cycle costing, acknowledging the comprehensive costs and environmental impacts of procurement, while Article 70 empowers contracting entities to enforce environmental conditions in contract performance, elevating the role of public procurement in sustainable development.

To conclude, the Public Procurement Directive intricately weaves sustainability with the principles of transparency, inclusivity, and competitiveness. It gives authorities broad discretion while providing checks to prevent misuse. However, it is also crucial to acknowledge that strict adherence to the subject matter principle may limit the full execution of sustainability objectives. Despite this, the Directive's overall direction is unmistakable—it advocates for a nuanced, balanced, and thorough approach to sustainable public procurement, establishing itself as a fundamental instrument for championing sustainable practices within public procurement processes.

2.3.2. Green Public Procurement

The urgency of environmental sustainability has positioned Green Public Procurement (GPP) as a critical instrument in global efforts towards more sustainable practices. GPP, a focused arm of sustainable public procurement (SPP), not only encompasses a wide range of environmental concerns, such as energy conservation and waste management, but also serves as a mechanism to drive the green agenda and net-zero aspirations (Bleda & Chicot, 2020; Mazzucato, 2018, 2020, 2023; Nilsson Lewis, Kaaret, Torres Morales, Piirsalu, & Axelsson, 2023).

Tracing its roots, GPP's inception was marked by the Organisation for Economic Co-operation and Development (OECD)'s landmark recommendation in 2002, subsequently reinforced by global initiatives like the Marrakech Task Force following the Johannesburg World Summit on Sustainable Development. These pivotal endorsements steered nations to adopt sustainable procurement policies, a trend that gained momentum with the OECD's recommendations in 2015 (OECD, 2015).

In the EU, GPP has evolved from an aspirational model into a strategic lever to align procurement practices with environmental imperatives, a transformation essential for EU MS to fulfil international commitments like the Paris Agreement and the European Green Deal. This strategic

alignment is underscored by the Communication 2008, which defines GPP as the process where public entities procure goods and services with the least environmental impact over their life-cycle (EP & CEU, 2008).

The EU's dedication to GPP took a systematic shape with the Commission Communication on Integrated Product Policy in 2003, which gave rise to national GPP action plans. Progressing further, the Commission's Communication COM (2008) 400 in 2008 underscored the importance of GPP in promoting innovation and sustainability (EP & CEU, 2008). It set forth ambitious targets to ensure that public tenders comply with essential GPP criteria—a vision supported by the EU's Public Procurement Directive 2014/24/EU. This Directive not only wove GPP into the broader European strategy but also established a nuanced, two-tier system to accommodate the differing levels of GPP implementation readiness among MS. However, the adoption of GPP has been tentative and slower than anticipated. Despite the 2020 New Circular Economy Action Plan's stipulation that "…the Commission will propose minimum mandatory green public procurement (GPP) criteria and targets in sectoral legislation and introduce compulsory reporting to monitor Green Public Procurement (GPP) uptake, without creating unjustified administrative burdens for public buyers," the EU has yet to enforce obligatory deadlines for enacting GPP policies (European Commission, 2020a, p. 5).

Scholarly contributions have significantly shaped the discourse on GPP. Researchers like Mazzucato (2023) and Nilsson Lewis et al. (2023) identify GPP as indispensable in decarbonising sectors like construction and transport. Their work, along with insights from Sönnichsen & Clement (2020), advocate a shift in procurement focus from cost to sustainability, considering the full product life-cycle.

Additionally, the academic narrative has evolved, highlighting the integration of GPP within public funding frameworks as crucial in redistributing risks and rewards equitably (Mazzucato, 2023). A mission-driven GPP approach offers procurement the autonomy to tackle societal challenges, like achieving carbon neutrality, and ensures that environmental criteria are embedded across procurement processes.

The scholarly landscape is rich with diverse perspectives on GPP. Researchers like Appolloni et al. (2014) and Cheng et al. (2018) have analysed its rise and the effectiveness of policy tools, while studies focused on regions such as South Africa by Agyepong & Nhamo (2017) underscore GPP's relevance in sustainable development and climate change adaptation. The dialogue on GPP is further enriched by the recognition of the influence of procurers' beliefs and values, as elucidated by Sönnichsen & Clement (2020).

Moving forward, integrating GPP into public funding discussions is crucial for distributing risks and rewards equitably and ensuring that environmental criteria are embedded in all aspects of procurement (Mazzucato, 2020). It calls for a concerted, multi-stakeholder effort to drive broad societal challenges, like achieving carbon neutrality, a notion supported by the segmented analysis of circular procurement by Xu et al. (2022) and the synthesis of factors influencing sustainable procurement by Qazi & Appolloni (2022).

2.3.3. Bridging the Divide: Towards a Unified Green Public Procurement Strategy in the EU

GPP in the EU, while lauded for its progressive guidelines, confronts significant practical challenges. The European Commission COM (2021) 245 final reports a patchwork landscape of GPP adoption, largely due to its voluntary nature and varying implementation among MS (European Commission, 2021a; Schebesta, 2018). This uneven uptake is stark, with some nations like the Netherlands targeting a 100% integration of green criteria in public contracts while others lack even the basic GPP framework (Rosell, 2021).

Contributing to this disparate adoption are barriers such as financial constraints, bureaucratic inertia, and the complexity of green strategies (Mazzucato, 2020; Nilsson Lewis et al., 2023). These obstacles are manifested organizationally, legally, politically, and economically, differing across nations and regions within them, signifying the need for a unified legislative approach to GPP.

Early studies illuminate the divergence in GPP success rates, with countries like Belgium and Sweden nearing 60% uptake while a dozen linger below 20% (Renda et al., 2012). Furthermore, Rosell's (2021) analysis of the Tenders Electronic Daily (TED) database from 2006-2017 found that a mere 7.2% of MEAT contracts incorporated green criteria. Despite the pioneering efforts of countries like Norway, France, and Denmark, regions like Eastern Europe, including nations like Portugal and Italy, fell behind.

The lack of mandatory adherence to GPP is a significant factor in this uneven adoption (Sapir, Schraepen, & Tagliapietra, 2022). An impact assessment by the European Commission (2018) on the Clean Vehicles Directive of 2009 is telling in this regard. It concluded that the Directive's lack of clear, enforceable quantitative criteria for the procurement of clean vehicles was a considerable barrier to its success. According to Blažo (2019), the outcomes observed could have been attained by market forces alone, even without the Directive. This points to the optional nature of GPP not only as a policy choice but as a potential pitfall, implying that voluntary measures may not be sufficient to bring about widespread change.

Despite these challenges, certain nations exemplify the effective application of GPP. Sweden has pioneered innovative green procurement, and the Dutch commitment to sustainable procurement illustrates the transformative potential of strategic GPP deployment (Mazzucato, 2023). Nevertheless, the broader EU narrative still needs to be more cohesive, with less than half of public procurement integrating GPP criteria as of 2023 (OECD, 2023).

Therefore, there is a scholarly consensus on the necessity of mandatory GPP regulations (Andhov et al., 2020; Caranta, 2023; Janssen & Caranta, 2023; Martinez Romera & Caranta, 2017). Suggested reforms advocate for a shift from contract-specific considerations to a life cycle perspective, focusing on the environmental impact from production to disposal (Andhov et al., 2020; Pouikli, 2021). Such a holistic view could underpin a more rigorous and unified GPP framework. Moreover, such an approach aims to close the disparity in GPP adoption among MS, and it's essential that its implementation is paired with harmonised EU monitoring, tracking, guidance, and information systems (Andhov et al., 2020). It is probable that these aspirations will be realised to a degree in the forthcoming years (Janssen & Caranta, 2023), given that the recent EU Green Deal asserts that: "[t]he Commission will propose minimum mandatory green criteria or targets for public procurements in sectorial initiatives, EU funding or product-specific legislation. Such minimum criteria will 'de facto' set a common definition of what a 'green purchase' is, allowing collection of comparable data from public buyers, and setting the basis for assessing the impact of green public procurements. Public authorities (PAs) across Europe will be encouraged to integrate green criteria and use labels in their procurements" (EC, 2020, p. 12).

In conclusion, while the strategic vision for GPP in the EU is ambitious, actualisation lags due to a lack of uniformity and enforceable standards. The gap between ambition and practice underscores the imperative for a robust, mandatory GPP directive to align MS with the EU's environmental goals, as foreseen by the recent EU Green Deal. Only through such concerted efforts can the EU hope to fully harness the potential of GPP for sustainable development.

2.4. Leveraging Mandatory Environmental Criteria in Public Procurement: Sector-Specific Legislation for Enhanced Energy Efficiency

Environmental standards are mandatory in public procurement, particularly due to sector-specific legislation. Such legislation may take the form of regulations and directives. Regulations provide a uniform and binding framework for all EU MS. In contrast, directives set overarching goals for the entire EU, but delegate the methodological specifics to individual MS (European Union, 2022). To ensure compliance with these directives, MS shall impose sanctions that are "effective, proportionate, and dissuasive" (Art. 27) (EP & CEU, 2010). It is worth noting that mandatory GPP requirements already apply to sectors such as buildings, transport or IT.

2.4.1. Sectoral Legislation for Mandatory GPP Rules: EPBD

The EU's commitment to a greener and more energy-efficient future of our built environment is anchored in the Energy Performance of Buildings Directives (EPBD). This analytical overview charts its evolution and highlights key measures and their overarching impacts.

EPBD (2002) – With the introduction of Directive 2002/91/EC, the EU introduced a uniform methodology for assessing the energy performance of buildings. In addition, the conditions have been created for the prominent presentation of energy certificates (EPCs) in public buildings. Moreover, the directives promoted energy performance standards and offered incentives to encourage the installation of energy-saving heating and cooling systems (EP & CEU, 2002).

EPBD (2010) - The 2010 recast, represented by Directive 2010/31/EC, underlined the EU's increased ambition to exploit potential energy savings. An essential part of this was the presentation of the concept for nearly zero energy buildings (nZEB). In addition, the scope of the Directive has been expanded to include smaller buildings in the energy standards. In addition, financial mechanisms reinforced by structural funds and incentives were used to promote energy-efficient renovations (EP & CEU, 2010).

EPBD (2018) - This iteration (2018/844), which emerged from the EU's Energy Union Strategy, emphasised the goal of a decarbonised building stock by 2050 (EP & CEU, 2018a). It called for optimal energy performance of all buildings and promoted smart technologies alongside e-mobility. Significantly, the focus was placed on the health and well-being of residents and measures to improve air quality and ventilation were promoted. This version also identified and prioritised older, inefficient buildings for renovation to address energy poverty directly (EP & CEU, 2018a).

In December 2021, the Commission proposed a significant overhaul of the EPBD through a legislative proposal (COM/2021/802) under the Fit for 55 initiative (European Commission, 2021b). By 2027, "zero energy buildings" (ZEB) will be introduced for new public buildings and, by 2030, for new or deeply renovated structures. These changes transition from the nZEBs standard and specify targeted national renovation plans with milestones for 2030 to 2050, embedding a life-cycle approach to emissions. The recast EPBD tightens regulations for renovations and EPCs, establishing EU-wide minimum energy performance standards (MEPS) and encouraging MS to aim higher. The use of life-cycle GWP calculations will become mandatory for new buildings as of 2030, promoting a holistic approach to the sustainability of buildings. Some provisions ensure that the energy performance of heritage buildings is improved without compromising their historical significance. An essential addition is the phase-out of fossil fuel boiler subsidies by 2027. In addition, this strategy, combined with the requirement for healthy indoor environments and climate change adaptation, underscores the EU's commitment to decarbonising the building stock by 2050. In order to achieve these ambitious climate goals, a harmonised roadmap and periodic revisions are required (European Commission, 2021b).

On March 14, 2023, the European Parliament approved the amendments to the Commission EPBD proposal, which advances MEPS as a fundamental component of existing building stock (EP, 2023). The adopted framework requires non-residential buildings to achieve a D-class energy performance by 2030 and residential buildings by 2033. The compromise emphasised the importance of a transparent investment framework that considers the particulars of each country's building stock and social protections, focusing on energy poverty among vulnerable groups and ensuring a fair distribution of responsibility among the nation's MS (EP, 2023).

Furthermore, the legislation stipulates that ZEB should have an A-class EPC, introducing an A+ category for those also contributing renewable energy to the grid. Including a Whole Life Carbon (WLC) approach for measuring and minimising carbon emissions across all life cycle phases of buildings aligns with broader environmental goals. This measure promotes the adoption of low-carbon materials and boosts recycling in construction, moving towards more circular and sustainable practices (EP, 2023). Despite this, intense lobbying has led to exemptions for hybrid systems and boilers that use partly renewable fuels, which raises concerns about their dependence on potentially less eco-friendly and more costly energy sources.

2.4.2. The Energy Services Directive (ESD) and Energy Efficiency Directive (EED)

The ESD (2006/32/EC) was created in 2006 as a bridge between the SAVE Directive and its successor, the EED (EP & CEU, 2006a). This Directive established a foundational framework with national benchmarks aiming for energy savings of at least 9% by 2016. Additionally, according to Articles 4(2) and 14, Energy Efficiency Action Plans (EEAPs) were introduced as a mechanism to orchestrate these ambitions. Although the focus was not solely on buildings, the ESD made progress in incorporating provisions related to energy metering, billing, financing, and performance contracts.

Transitioning from the ESD foundations, the EED expanded its scope to include products, buildings, and services. At its core was the introduction of binding energy efficiency measures. A 20% increase in energy efficiency by 2020 was the original target set in 2012 by EED (2012/27/EU), using 2005 as a reference year (EP & CEU, 2012). A subsequent revision in 2018 (2018/2002) and (2018/844) tightened this target, aiming for a 32.5% increase by 2030 (EP & CEU, 2018b, 2018a). Although the targets were indicative, the EED prescribed several policy measures to achieve these ambitions. Relevant articles addressing buildings include Articles 4 (2018/844) and Articles 5, 9, and 11 (2018/2002), which cover topics ranging from the renovation of public buildings and measurement requirements to long-term renovation strategies (EP & CEU, 2018b, 2018a). In particular, Article 8 underscores the importance of energy performance contracts and introduces mandatory audits for large companies. The 2018 amendment further expanded the Directive's scope to include the 2030 energy efficiency benchmarks (EP & CEU, 2018b).

In its efforts to promote energy efficiency, the EED introduces long-term renovation strategies focusing on residential and commercial buildings. These strategies serve as blueprints to support MS in their decarbonisation goals. Despite their novelty, strategies varied in depth and ambition across countries. The 2018 EED revision aimed to promote near-zero energy structures by emphasising the 2030 and 2040 milestones. Under Article 5, the EED emphasised the central role of the public sector in leading the transition to energy efficiency (EP & CEU, 2018b)

Consequently, MS were mandated to renovate 3% of central government buildings annually. Reactions to this have been mixed, with some MS adhering strictly to it while others opting for alternative approaches to achieve comparable energy savings. Article 19(a) of the EED addressed the complexity of split incentives in the building sector, urging MS to assess and develop strategies to alleviate barriers to energy efficiency. Rather than offering a one-size-fits-all solution, the Directive proposed various strategies ranging from regulatory reforms to financial incentives (EP & CEU, 2018b).

Finally, with Articles 9 to 11, the EED advocates energy-conscious behaviour by prescribing consumption-oriented cost distribution and billing protocols, particularly in multi-dwelling units (EP & CEU, 2018b). Building on the foundations of its predecessors, the EED established itself as a pivotal framework for accurate measurement and billing—a framework that received further enhancements with the 2018 policy revisions.

2.4.3. The Directive on Clean and Energy-Efficient Road Transport Vehicles and the Battery Directive

The Directive on Clean and Energy-Efficient Road Transport Vehicles (2019/1161) endeavours to invigorate the clean, energy-efficient vehicle market and bolster the transport sector's alignment with the Union's environmental, climate, and energy policies (EP & CEU, 2019). An essential provision of this Directive requires purchasing authorities to consider the lifetime energy and environmental impacts, including energy consumption and CO2 and other pollutant emissions when purchasing certain road transport vehicles. Although several regulations are in place to improve emissions standards for new vehicles, a gap remains. The EU lacks a common methodology for determining environmental impacts, leading to different practices between procuring entities.

Shifting the lens to the Battery Directive (2006/66/EC), it formulates regulations surrounding the attributes and disposal mechanisms for all battery categories. This Directive clearly prohibits the inclusion of harmful elements such as mercury, cadmium and lead in batteries, while establishing protocols for the collection, processing, recycling and disposal of used batteries (EP & CEU, 2006b). Recent considerations in 2020 aim to refine this policy further and introduce strict regulations for all battery types, focusing on, among other things, carbon footprint declaration, minimum recycled content requirements and strict safety and durability standards (Halleux, 2023). A notable feature of this proposal highlights the indispensability of binding benchmarks or targets for green public procurement.

2.5. Other related legislative regulations supporting GPP implementation

The proposal for Ecodesign for Sustainable Products Regulation (ESPR), introduced in 2022 under 2022/0095(COD) and set for publication in 2024, aims to enhance environmental accountability throughout product life cycles (European Commission, 2022a). Rooted in the (2019) Ecodesign Directive, the ESPR seeks to standardise sustainable products within the EU (EP & CEU, 2009a). A notable aspect of this reform is the shift from voluntary to mandatory green public procurement criteria. This revised regulation introduces a digital product passport and underscores the importance of preventing the destruction of unsold consumer goods. Article 58 focuses on green public procurement, laying out requirements for public contracts. These provisions weigh the economic value, market demand for sustainable products, and the economic feasibility of ensuring that purchasing sustainable products does not lead to disproportionate costs. Additionally, the ESPR broadens its scope to encompass product durability, reusability, energy efficiency, and the incorporation of substances that support product circularity.

In contrast, the Construction Product Regulation (CPR) No 305/2011, in effect since 2011, highlights sustainability, recycling, and reuse in construction trade regulations (EP & CEU, 2011). Its emphasis on Environmental Product Declarations aligns with the ISO 14025 standard. A proposed 2022 revision (Procedure 2022/0094/COD) seeks to reinforce environmental standards in the EU construction sector (European Commission, 2022b). This amendment not only resonates with the Circular Economy Action Plan and the Sustainable Products Initiative (SPI) but also mirrors the ESPR. Moreover, the CPR update brings in environmental mandates, ensuring a unified approach to assessing construction product sustainability. It also tackles potential disagreements between European Standardisation Organisations and EU directives, allowing the Commission to establish standards underlining the EU's commitment to an eco-friendly, transparent, and adaptive construction sector.

Public procurement is emphasised in the CPR proposal as a vital tool to promote sustainable practices. Notably, Article 7 of the CPR prevents MS from enforcing "additional requirements" on products once standards are mentioned in the Official Journal of the European Union. Although it may seem contradictory to Recital 90, which promotes SPP and urges public entities to prioritise the use of sustainable products that comply with the ESPR, a closer look at Article 7(2) shows a balanced approach. It encourages harmonisation while granting MS the freedom to take environmental performance into account within established technical specifications (European Commission, 2022b). Intriguingly, the proposed CPR and ESPR are interconnected. Whereas the ESPR provides a comprehensive framework targeting universal product sustainability, the CPR revision delivers bespoke regulations explicitly crafted for the construction sector.

Furthermore, the European Commission has developed the Product Environment Footprint (PEF) method to help people understand the environmental impact of products. This method is based on Life Cycle Assessment (LCA) principles. In addition, guidelines known as the Product Environmental Footprint Category Rules (PEFCRs) have been created to provide a detailed guide for determining environmental footprints for unique product categories (European Commission, 2017). However, comparing different products or services directly is still challenging due to their inherent differences, even with the help of PEFCRs. It is worth noting that while PEFCRs have been developed for certain construction products, there are currently no rules for road transportation products, so the PEF method must be used exclusively for them. The Commission

has recommended using the PEF method and encouraged MS to include it in their procurement procedures by the end of 2021(European Commission, 2017).

Simultaneously, environmental labels are instrumental in guiding eco-aware purchasing decisions by setting standardised technical benchmarks. The merit of these labels stems from their transparency, bolstered by third-party validations in line with global environmental standards. The criteria for these labels, such as the EU Eco-label, are rigorously defined, as documented in Regulation (EC) No 66/2010 (EP & CEU, 2009b).

3. Key Features of Directive 2023/1791 for Energy Efficiency (EED 2023)

EED 2023 marks a pivotal step in the EU's progression towards greener public procurement and closer alignment with its climate neutrality aspirations (EP & CEU, 2023). Central to this initiative is the Directive's emphasis on the public sector leading energy efficiency efforts. This section delves into its key features, showcasing how the Directive repositions public entities not just as regulators but as pioneers of sustainable practices.

3.1. The Energy Efficiency First Principle

Article 3 of EED 2023 marks a strategic inflexion in European energy policy, underpinning the 'Energy Efficiency First' (EE1st) principle with newfound legislative rigour. This principle is not merely an option but a prescribed priority in the planning and implementation of energy-related actions by MS. The Directive mandates an evaluative preference for energy-efficient solutions in significant investment decisions and policy formulations, extending beyond the energy sector to include those like ICT and agriculture, which indirectly influence energy consumption profiles.

An analysis of this Directive reveals a dual focus: on the one hand, it prioritises high-value projects with thresholds set at EUR 100 million for transport and EUR 175 million for infrastructure projects, which suggests an aim to target major energy-saving potentials. On the other hand, this financial demarcation might omit smaller initiatives that cumulatively bear on energy efficiency, hinting at a potential scope for refining future amendments.

Moreover, the Directive's requirement for integrating EE1st into all facets of the NECPs underscores a holistic approach, ensuring the principle weaves through the fabric of national energy strategies. Furthermore, it mandates MS to identify barriers to EE1st's implementation, ensuring systematic eradication of impediments to its adoption.

One of the notable features of Article 3 is the inclusion of a review system for financial thresholds. This ensures that the Directive remains relevant even as economic conditions change. By 2024, standardised cost-benefit methodologies will be required to provide a consistent yet flexible evaluation process for all MSs while considering regional differences. In addition, according to Article 3(4), the Directive endorses a comprehensive perspective on energy savings through the use of cost-benefit methodologies to evaluate energy efficiency measures, taking into account social and environmental benefits as well. Importantly, the Directive also recognises the social implications of energy policy, particularly with regards to energy poverty (as set out in Articles 3 and 8) and ensures that the principle is applied in an equitable manner (as per Article 3(5)). The designation of specific monitoring entities for EE1st enforces accountability and fortifies the principle's operational integrity. In combination with explicit reporting mandates, this facilitates an empirical assessment of the principle's enactment efficacy.

3.2. Targets and National Energy Action Plans

The European Union's EED 2023 heralds a decisive transition towards aggressive energy conservation, setting a collective reduction target of 11.7% in primary and final energy consumption compared to the PRIMES 2020 reference scenario. This target delineated through Article 4, distributes the burden among MS via a calculated formula that factors economic, industrial, and environmental considerations. Article 8 complements this by imposing a scalable energy savings obligation, escalating from 0.8% in 2021 to 1.9% by 2030. This dual strategy

underscores a nuanced balance between collective ambition and individual MS capabilities, incorporating both overarching targets and national contributions within the framework of the NECPs.

In aligning with Article 4, MS are mandated to chart trajectories that fulfil their designated energy efficiency contributions, with the specificity of targets for both final (763 Mtoe) and primary energy (992.5 Mtoe) consumption, facilitating measurable progress. The Directive requires meticulous planning of policies, measures, and programs that will propel MS towards their 2030 commitments. Meanwhile, Article 8 offers a granular approach to energy savings, allowing for proportional flexibility and inclusivity, particularly for smaller states like Cyprus and Malta, and prioritising support for vulnerable households.

The EED 2023 emphasises transparency and accountability through robust monitoring and reporting obligations, demanding regular updates to the NECPs. This transparency is critical in tracking progress, ensuring that each state's trajectory towards energy efficiency is clear and assessable. Additionally, the Commission's oversight function, equipped with the authority to propose supplemental measures and adjust contributions, ensures that MS adhere to their commitments and that the collective goal remains within reach.

A notable aspect of the EED 2023 is the flexibility afforded to MS in achieving these targets. Article 8 encourages a diversified mix of energy efficiency obligation schemes and alternative policy measures, facilitating the inclusion of citizens' energy communities. This not only respects the diversity of national energy landscapes but also champions the democratisation of energy conservation efforts.

Looking beyond immediate targets, the Directive mandates continuous annual savings even past 2030, showcasing the EU's foresight and long-term commitment to sustainability and climate neutrality. The integration of energy efficiency goals into the broader regulatory framework for energy and climate governance ensures that energy policy is not just about meeting present targets but also about anticipating and shaping the future energy paradigm.

In summary, the EU's strategic Directive for 2030, through Articles 4 and 8, presents a meticulous and forward-looking approach that marries ambition with practicality, securing a path for a cohesive and socially equitable advancement in energy efficiency.

3.3. Public Sector Leading on Energy Efficiency

Article 5 outlines the conceptual and operational framework for the combined energy consumption reduction of all public bodies, prescribing a cumulative annual reduction of at least 1.9% against the 2021 baseline. The emphasis on the public sector is underscored by the fact that it accounts for approximately 5% to 10% of the Union's total final energy consumption, as stated in Recital 33. Given their significant consumption, targeting efficiency in public sector consumption is both logical and impactful. This approach underlines the principle of "leading by example," where Recital 33 further elucidates the public sector's crucial role in stimulating "market transformation towards more efficient products, buildings, and services," as well as influencing "behavioral changes in energy consumption by citizens and enterprises." Additionally, reducing energy consumption through improvement measures can free public resources for other purposes.

A nuanced approach is evident in Article 5, where MS are granted the discretion to exempt specific sectors, such as public transport and the armed forces. The 2023 EED reinforces this approach by allowing MS to exclude the energy consumption of these sectors from the obligation. Directive 2023 EED strengthens this position by aligning the definition of public bodies with Directive 2014/24/EU, offering legal clarity supported by CJEU case law (Caranta, 2023). Adopting a phased strategy, the Directive marks the period leading up to October 11, 2027, as transitional. During this time, the targets are suggestive rather than mandatory, offering MS a grace period to align their actual performance with the goals. This transitional phase is subject to reassessment, particularly in light of historical reluctance in the public sector to fully commit to energy efficiency due to cost and feasibility concerns.

Furthermore, the 2023 EED introduces sector-specific actions, including healthcare, water management and wastewater treatment, public lighting, education, and social services, to support this comprehensive reduction target. The objective only becomes binding two years after the end of the transposition period, in October 2027. Moreover, Article 5(3) caters to obligations scaled according to the size of local administrative units, implementing a proportionate approach. It also allows MS flexibility to account for climatic variations when assessing energy performance. As emphasised in Recital 39, the Directive provides a supportive framework, encouraging MS to empower public bodies in planning and adopting energy efficiency measures, including competence-building, training opportunities, and inter-agency cooperation at both regional and local levels.

In a commendable move toward accountability and transparency, Article 5 mandates annual reporting protocols, creating a basis for ongoing strategic planning by regional and local authorities. This commitment to transparency is part of the EED 2023 aspirations to include all public bodies in energy efficiency initiatives at every administrative level. Furthermore, MS are required to detail the measures planned to achieve the energy consumption reduction objective in the public sector. This approach promotes financial and technical support to public bodies, emphasising the need to consider a broader array of metrics beyond mere energy savings, especially for municipalities with less than 50,000 inhabitants whose energy consumption is not included until 31 December 2026, and for those with less than 5,000 inhabitants until the end of 2029.

3.4. The Concept of Nearly Zero-Energy Buildings (nZEB):

It is important to note that the Directive has many aspects, but one of the most significant is the emphasis on nZEB. This was not just a goal but a mandatory requirement for all new public buildings by 2018 and all new buildings from 2021 (EP & CEU, 2010, 2018a). This change is significant because it represents a major shift from traditional construction methods to a more holistic approach that combines innovative architecture, sustainable building materials, and cutting-edge energy-efficient technologies. EED 2023 underscores this by aligning renovations with nZEB standards as part of the broader Renovation Wave Strategy (European Commission, 2020b).

3.5. Exemplary Role of Public Bodies' Buildings

Article 6 of Directive 2010/31/EU propels the energy efficiency agenda by setting forth renovation obligations for buildings owned or occupied by central public bodies (EP & CEU, 2010). It commands that at least 3% of the total floor area of these buildings must be renovated annually to meet nZEB standards, as defined by Article 9 of the same Directive. The 2023 EED builds upon these requirements, extending the scope to include public buildings that are heated and/or cooled, and integrating the progressive zero-emission building (ZEB) standard as envisioned in the forthcoming recast of the EPBD (EP, 2023; EP & CEU, 2023; European Commission, 2021b).

The scope of these mandates now extends to sectors such as healthcare, education and public housing that fall under public ownership, ensuring that sectors such as healthcare and education are not excluded from the energy efficiency vision. In addition to the nZEB standards, renovated buildings must now also aim to meet or exceed the new ZEB standard to strengthen the robustness of the policy (EP, 2023; EP & CEU, 2023; European Commission, 2021b).

Although the objective is clear, the Directive leaves room for manoeuvre and recognises that cost-effectiveness and technical feasibility are crucial for successful implementation. Recital 45 discusses the means to achieve this aim, indicating that to calculate the renovation rate, MS should possess a thorough inventory of buildings that do not meet nZEB standards. The MS are now also tasked with maintaining and periodically updating an inventory that, where pertinent, should include social housing, integrated within a larger energy performance certificate database. This inventory can now facilitate data access for private entities, supporting the broader energy efficiency strategy.

Moreover, this Directive harmonises with the EU's comprehensive energy efficiency strategy, as seen in the EPBD proposal from 2021 (COM/2021/802) (European Commission, 2021b). This proposal underscores the urgent need to renovate energy-inefficient buildings. Buildings in the lowest energy performance category are now mandated to upgrade progressively, aiming for higher energy performance classes at set intervals, with non-residential buildings required to reach at least EPC class F by 2027 and E by 2030, while residential buildings must achieve class F by 2030 and class E by 2033 (EP, 2023; European Commission, 2021b).

Article 6 adds nuanced complexity, presenting exceptions based on building usage and characteristics. Several flexibilities to the renovation requirement are allowed, including the option to exclude social housing from stringent requirements, to renovate certain building types to a lower performance level, or to include new buildings owned by public bodies in exceptional cases. Additionally, early compliance can counterbalance forthcoming renovation obligations, serving as a strategic advantage for early adopters.

In summary, Articles 5 and 6 of the EED 2023 signify a pivotal change in the EU's energy policy, casting the public sector in a proactive role within the energy efficiency dialogue. These articles craft a sophisticated mix of stipulations, exceptions, and support structures to manifest an ambitious yet flexible framework, making it clear that the Directive aims to be both assertive and practical in its approach to energy efficiency. With the detailed granularity and the introduced flexibilities, such as the possibility for MS to adopt an alternative approach delivering equivalent energy savings and the requirement for buildings to attain nZEB levels by 2040, the Directive emerges as a thoughtfully calibrated legislation, poised to be both ambitious and achievable.

3.6. Public Procurement as a Catalyst for Change

EED 2023 manifests a heightened sense of responsibility toward public procurement as an efficacious lever for achieving the EU's energy and climate objectives. Article 7 and Annex IV are especially seminal in consolidating the public procurement process with energy efficiency and sustainability goals.

One of the most salient features of Article 7 is its emphasis on prioritising high energy-efficiency performance in public contracts and concessions. The Directive specifies that contracts equal to or exceeding the financial thresholds set out in Directives 2014/23/EU, 2014/24/EU, and 2014/25/EU must focus on energy-efficient products, services, buildings, and works. Moreover, Article 7(1) underscores this commitment by removing conditionalities related to cost-effectiveness and economic feasibility. This means that all products, services, and works procured should invariably exhibit high energy-efficiency performance. Such a move is a significant departure from previous directives, reinforcing the non-negotiable nature of the commitment to energy efficiency. It also resonates with the 'energy efficiency first principle,' highlighting an integrative policy alignment that is both clear and progressive.

Another notable development is the heightened emphasis on Green Public Procurement (GPP). Paragraph 5 of Article 7 encourages MS to ensure that contracting authorities consider a range of criteria in their decisions. These criteria encompass wider sustainability, social and environmental factors, as well as circular economy aspects, all aligned with the Union's goals for decarbonisation and achieving zero pollution. This perspective is further endorsed by Recital 41, emphasising that the MS should motivate public bodies to recognise benefits beyond mere energy savings. Such benefits include enhancing the indoor environment's quality and elevating the occupants' well-being and comfort in renovated public buildings. This applies especially to facilities frequently accessed by the public, such as schools, daycare centres, nursing homes, sheltered housing, hospitals, and social housing. This holistic view on public procurement is also reflected in Annex IV, which lays down explicit requirements for energy efficiency in public contracts. Together, these provisions amplify the role of GPP as a vital tool for securing targeted energy savings.

Furthermore, as per Article 7(2), the EED 2023 outlines the exceptions and flexibilities where energy efficiency obligations may not apply, such as in matters of public security and health

emergencies. This reflects a nuanced understanding of the complex exigencies that governments may face, ensuring that energy efficiency does not inadvertently compromise other critical social objectives. However, these carve-outs might be too open-ended, inviting loose interpretations that could dilute the Directive's efficacy. To curb this, a narrower delineation of exceptions might be requisite.

Also, according to Article 7(3), The EED 2023 promotes long-term energy performance contracts. This provision underscores the assessment of the feasibility of these contracts, especially when it comes to service contracts with a significant energy component. Such an emphasis aligns seamlessly with the overarching notion of sustainability. This approach fosters a longer-term perspective instead of merely focusing on short-term gains. Under this paradigm, suppliers bear responsibility not just for the delivery of products or services but are also intrinsically tied to the energy performance of the commodities they deliver. This ensures that procured solutions don't merely theoretically claim energy efficiency but demonstrate it tangibly in practice. In a parallel vein, the Directive's Annex IV casts a spotlight on 'nearly zero-energy level' buildings. As indicated in point f of Annex IV, this signals a significant shift towards more sustainable infrastructural investments, emphasising the EU's commitment to conserving energy and actively promoting inherently energy-efficient infrastructures.

Despite these commendable strides, the EED 2023 might be critiqued for not having explicit punitive measures for non-compliance, which could undermine implementation. Moreover, while the Directive offers the latitude for the MS to adopt national criteria equivalent to Union green public procurement criteria[1], this could potentially lead to a lack of uniformity, affecting the harmonisation of energy efficiency standards across the Union.

In summary, Article 7 and Annex IV represent a progressive amplification of the EU's legislative framework on energy efficiency through public procurement. These newly revised sections elevate the GPP and establish a more comprehensive yet flexible path to achieving the EU's ambitious energy and climate targets. Moreover, EED 2023 introduces a minimum harmonisation approach, allowing the MSs to enact more stringent measures if compatible with Union law.[2]

4. General Observations - Challenges and Potential for Improvement in the EED 2023

EED 2023 presents an ambitious framework for enhancing energy efficiency across the EU. However, several articles and provisions within the Directive highlight distinct challenges and areas ripe for potential improvement.

Economic and Technological Disparities: As highlighted in Articles 4 and 8, economic and technological disparities among MS can stall uniform progress towards energy efficiency targets due to different capabilities in adopting new technologies and adapting economically (Art. 4). The gradual increase in energy savings obligations outlined in Article 8 could burden less developed infrastructures. An improvement would be a tailored support system that respects the unique economic conditions of each MS, thus supporting a fair attainment of collective goals.

Sovereignty and Uniformity: The Commission's oversight, as delineated in Article 4, might stir sovereignty concerns, requiring a delicate equilibrium between national independence and EU-wide consistency in energy policies. This challenge is reflected in Articles 5 and 7, where the local discretion may clash with the homogenous application of efficiency norms. Enhancements could include clarifying the Commission's oversight scope to mitigate concerns while promoting regional uniformity.

Bureaucratic and Administrative Complexities: Articles 4 and 7 both shed light on the bureaucratic complexities associated with the Directive. Smaller MS may find the required administrative efforts for monitoring and reporting (Art. 4) demanding. Furthermore, the public disclosure

[1] Article 7(5) of Directive 2023/1791

[2] Article 1(2) of Directive 2023/1791

mandates in Article 7 could be burdensome for smaller entities. Simplified reporting protocols and administrative aid to smaller MS or public bodies could be beneficial improvements.

Ambiguity and Enforcement: A notable issue is the ambiguity in terms such as "high energy-efficiency performance" (Art. 7), which can lead to inconsistent applications. The dichotomy between aspiration and actualisation in Article 7 emerges as a significant analytical concern, with the Directive's vagueness inviting a spectrum of interpretations and risking disparate practices across MS. The Directive could be strengthened by standardising definitions and introducing explicit enforcement guidelines, particularly for long-term energy performance contracts, which currently lack a solid framework for enforcement.

Potential for Inequity: Article 5 introduces worries about exemptions that could establish unequal standards across MS. Additionally, Article 8's specific derogations for Cyprus and Malta may set a precedent for disparity. A more nuanced application of exemptions and derogations would ensure fair application and maintain collective efforts.

Monitoring and Reporting: The significance of stringent monitoring and reporting is underpinned by Articles 4 and 8, along with Annex IV. However, inconsistencies in data quality and reporting can impede monitoring effectiveness. A more robust approach would be to define explicit metrics and methodologies for consistent and accountable reporting.

Technological and Market Evolution: The commitment to current standards detailed in Annex IV could inadvertently hinder innovation. Annex IV, intended as a guidepost amidst compliance challenges, must contend with the fluidity of regulatory benchmarks, calling for adaptive mechanisms that can match the pace of technological progress. This adaptive capacity is crucial to prevent the Annex from becoming obsolete and to ensure that emerging sustainable solutions are encouraged in public procurement.

Overall, while the EED 2023 establishes an advanced Directive for energy efficiency, the integration of these additional arguments reveals the need for nuanced regulations that acknowledge the dynamic nature of technology, market demands, and the socio-economic landscape of the EU.

4.1. Integrating Sustainable Objectives into Public Procurement: The Need for Mandatory Measures and Holistic Criteria

The revisions to the EED 2023, specifically through Article 7 and Annex IV, mark a significant legislative stride towards embedding energy efficiency within public procurement frameworks. On a general note, the public procurement directives allow for the purchase of green and sustainable products and services. However, the uptake of sustainability measures has been slow despite the availability of GPP criteria. The main issue with GPP as an instrument is that it is not enforced enough. It is worth noting that the current EED 2023 fails to make GPP criteria mandatory, which is a significant missed opportunity. Article 7 and Annex IV on public procurement do not cover some important aspects required for achieving the EU's climate ambitions, particularly in targeted industries such as construction.

Firstly, MS and Contract Authorities (CAs) should make a mandatory contribution of 3% towards the renovation of their public buildings every year. However, this requirement was also present in the past Directive, with the only difference being the size of buildings addressed. Nevertheless, this goal is not supported by any penalties for non-compliance, and very few MSs have achieved this indicator. Some countries, such as Germany, even renovate fewer buildings compared to the previous year (Kurmayer, 2023). This reflects a systemic problem within the Directive—a lack of stringent, enforceable criteria that could compel consistent and comprehensive adherence across all CAs.

Secondly, there is a new development of GPP criteria for buildings that are being developed in line with the Level (s) framework and EU Taxonomy (Donatello, Arcipowska, & Perez, 2022). This presents an ideal opportunity to establish mandatory core criteria for GPP that encompass not only

energy efficiency but all other aspects of making buildings green, such as sustainable and circular products, water conservation, climate risk and adaptation, etc. This step would not only help achieve energy efficiency targets but also reduce greenhouse gas emissions, which are mandatory for MS under this EED 2023 also.

Thirdly, GPP criteria not only provide guidance for selection and award criteria but also encompass steps to cover the broader life-cycle of the "subject matter." For instance, with respect to buildings, CAs requiring in technical specifications nZEB in accordance with legislation in force may pose risks for contract authorities as per Buftic (2023). Specifically, due to a lack of awareness and knowledge about the means of checking and testing complex performance standards requirements, CAs are left with the "good words" of developers that everything is in line.

Finally, according to Annex IV (c), the appeal to "make best efforts" in GPP and the voluntary adoption of "shall" wording fall short of mandatory enforcement, reflecting a voluntary approach that academic discourse criticises for its insufficient drive towards widespread adoption (Sapir et al., 2022). The non-mandatory status of GPP, as noted by Sapir et al. (2022), alongside the European Commission's critique of the Clean Vehicles Directive (2018), highlights a systemic issue where voluntary measures lack the impetus to instigate widespread change. This stance inadvertently leaves CAs grappling with energy efficiency commitments, often supported by legislative frameworks that lag in coherence, timeliness, and detail (Blažo, 2019). Consequently, the voluntary status of GPP may render its knowledge and application accessible only to the already informed or interested, failing to engender a more ubiquitous and robust uptake necessary for achieving the EU's 2050 climate neutrality goals.

While the EED 2023 revisions present a progressive framework, their effectiveness is hampered by non-mandatory GPP criteria and insufficient enforcement provisions. Addressing these gaps by implementing binding regulations and clearer guidelines could significantly enhance efforts to meet the EU's energy efficiency and climate objectives.

5. Conclusion

In conclusion, EED 2023 encapsulates a definitive approach towards mitigating the 'energy efficiency gap' and steering the bloc towards its ambitious 2050 climate neutrality objective. It represents an evolution of EU policy from the initial, less stringent measures to today's sophisticated, binding legislative framework that underscores the vital role of energy efficiency in achieving a sustainable energy system. This Directive, through its stringent targets and strategic integration into national planning, addresses not only the economic aspects but also the imperative strategic and environmental concerns associated with energy use.

The significance of EED 2023 lies in its potential to guide the EU through a transformative process, fundamentally redefining the energy landscape. However, the challenges in harmonising implementation across diverse MS, coupled with the complexities of enforcement, pose significant barriers. It is critical for policymakers to ensure that the Directive's implementation is as robust and universal as the ideals it espouses. This entails providing clear, actionable guidance and support mechanisms to facilitate compliance and incentivise progressive energy practices, especially in MS, lagging behind in the submission of updated plans and adherence to new benchmarks.

For public entities, the EED 2023 calls for leadership through sustainable procurement and innovation, demanding a proactive rather than reactive engagement with the market. Public procurement has a pivotal role in this regard, setting a precedent for market demand and, thus, driving the sustainability agenda forward.

Recommendations for policymakers include tightening the Directive's enforcement mechanisms, promoting technological innovation, and offering greater support for capacity building within MS. It is critical to bridge the gap between policy formulation and on-the-ground implementation, acknowledging that while the Directive is a substantial move forward, its success hinges on real-world application and compliance.

Stakeholders must also realise the critical balance between regulation and market forces. There is a need for a dialogue that considers the impact of the Directive on competitiveness and market dynamics, ensuring that energy efficiency enhancements do not inadvertently create market distortions. While laudable for its ambition, the Directive's approach must be critically evaluated and iteratively refined to align with market realities and technological advancements.

In the quest for a greener future, the EED 2023 serves as a regulatory instrument and a strategic framework for energy innovation and sustainable development. As the EU endeavours to lead by example, the Directive's implications extend beyond its borders, potentially offering a template for global energy efficiency governance. However, for this vision to materialise, a concerted effort from all stakeholders is imperative to transform the Directive's ambitious goals into tangible, equitable, and sustainable outcomes.

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