

Investigating the European Commission's Choice of Legal Policy Instrument

Directive 2006/66/EC and
Regulation (EU) 2023/1542

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Abstract

Over the last three decades, the European Commission has actively developed directives and regulations targeting environmental issues, promoting sustainability, and ensuring long-term battery management across the European Union. Among them, the recent Regulation (EU) 2023/1542 is hailed to be the most comprehensive attempt by the EU to regulate the entire lifecycle of long-life batteries to date, while repealing the previous Directive 2006/66/EC. However, it is well understood that the legacy of prior choices has a significant impact on the type of policy tool. The instrument not only defines how uniformly a policy is administered throughout Member States, but also the speed, consistency, and political feasibility of implementation. The Commission thus makes far-reaching decisions when proposing the first piece of legislation. In this context, this research aims to understand why the battery policy changed from directive to regulation by testing potential factors involved in the Commission's choice of policy instrument in a most-similar systems design. The article includes an in-depth comparative analysis of Regulation (EU) 2023/1542 and Directive 2006/66/EC, using an array of primary and secondary literature. It was expected that *policy urgency* and *fear of non-compliance* influence the Commission in prioritizing regulations over directives. The findings confirmed the expectation of policy urgency (H1) but revealed mixed results for fear of non-compliance (H2). This study highlights a strategic calculation in EU policymaking. When faced with high urgency and significant non-compliance risks, the Commission chooses regulations to ensure quick and uniform implementation. When urgency is limited but harmonization is still required, directives are the preferable approach, allowing national flexibility for Member States. The transition reflects the EU's shifting priorities from gradual market harmonization to crisis-driven, regulated integration.

Keywords: European Commission – battery policy – legal instrument choice - directive - regulation - integration – EU policymaking

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Abbreviations

COD	Co-decision procedure
DG-ENV	Directorate-General for Environment
DG-GROW	Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs
EFA	European Free Alliance
ELDR	European Liberal Democrat and Reform Party Group
ENVI	Environment, Public Health and Food Safety
EP	European Parliament
EPP	European People's Party
EPR	Extended Producer Responsibility
EU	European Union
EV	Electric vehicle
GDPR	General Data Protection Regulation
GHG	Greenhouse gas
IEA	International Energy Agency
IND/DEM	Independence/Democracy Group
IT	Use of Information Technology
MSSD	Most Similar Systems Design
OLP	Ordinary Legislative Procedure
PES	Party of European Socialists
RoHS	Restriction of Hazardous Substances
6EAP	Sixth Environment Action Program
S&D	Socialists and Democrats
TEC	Treaty establishing the European Community
TFEU	Treaty on the Functioning of the European Union
WEEE	Waste Electrical and Electronic Equipment

Chapter 1 - Introduction

1.1. Context: Evolution of EU Battery Legislation

With the rapid advancement of technology, one field stands out for playing a crucial part in creating a sustainable future: batteries. Batteries are the key components of electric vehicles (EVs) and renewable energy sources, and they are essential to energy transition. Over the last three decades, the European Commission (the Commission hereafter) has actively developed directives and regulations targeting environmental issues, promoting sustainability, and ensuring long-term battery management across the European Union (EU). Directive 91/157/EEC (Council of the European Union & European Parliament, 1991) was the first important legislative move, concentrating on restricting dangerous chemicals - such as cadmium and mercury – as well as encouraging recycling and proper disposal. Subsequent legislation, such as the Waste Electrical and Electronic Equipment (WEEE) Directive of 2002-2003 (Council of the European Union & European Parliament, 2003b) and Directive 2006/66/EC (Council of the European Union & European Parliament, 2006) reinforced these efforts by establishing collection and recycling targets, labeling standards, and market restrictions.

Regulation (EU) 2023/1542 (Battery Regulation hereafter) was proposed by the Commission in December 2020 (Council of the European Union & European Parliament, 2023). This comprehensive framework to govern batteries and waste batteries establishes strict guidelines for battery safety, efficiency, and environmental effects while repealing previous Directive 2006/66/EC (Battery Directive hereafter). The rule strengthens sustainability measures across the battery life cycle, with a focus on responsible sourcing, recycling targets, performance standards, and carbon footprint reduction (IEA, 2024) (see Table 1 for comparison with prior directives). The accompanying impact assessment (European Commission, 2020a) emphasizes the significance of digital innovations such as the Battery Passport in promoting transparency. In January 2023, a provisional agreement was established after the protracted talks. The final Battery Regulation was adopted on July 12, 2023, legally implemented on August 17, 2023, and went into effect in all EU Member States on February 18, 2024 (Council of the European Union & European Parliament, 2023).

The Battery Regulation is viewed by scholars as arguably the most comprehensive attempt by the EU to regulate the entire lifecycle of long-life batteries, including the lithium-ion varieties that are now widely used in EVs (Johnson & Khosravani, 2024). In comparison to the voluntary standards previously used to monitor the social and environmental performance of battery and mining producers (MacInnes et al., 2017; Sauer, 2021), this regulation provides a robust system for reporting, verification, and compliance. As a result, the Battery Regulation not only marks a shift from ‘directive’ to ‘regulation’ status but also implies increasing regulatory pressure on stakeholders. The new status means a binding legislative act with immediate and uniform application across all EU Member States, eliminating room for national deviations (Shqairat et al., 2024). This raises an interesting puzzle: when specifically does the

Commission prefer to adopt a regulation and when is it willing to give Member States discretion by releasing a directive?

1.2. Problem Statement

The EU has various binding legal instruments at its disposal, including directives, regulations, and decisions. It is well understood that the legacy of prior choices has a significant impact on the type of policy tool. Once the Commission has decided on a legal instrument, it rarely deviates from that option in subsequent amendments, even when the entire statute is repealed and replaced (Hurka & Steinebach, 2021). After all, for the Commission, it is challenging to limit or increase the flexibility of the Member States in the future, both from a legal and political perspective. While it is traditionally permissible to replace a directive with a regulation and vice versa, the EU institutions' legal services do not endorse this approach. They indicate that “it is preferable for an amending act to be of the same type as the act to be amended” (European Commission Legal Service, 2015, p. 60). Hence, while switching between legal instruments when altering EU law is allowed, it is generally regarded as a bad practice because it increases the risk of legal confusion and uncertainty.

Furthermore, the distinction between EU directives and regulations does not only shape laws that affect everyday life - such as environmental standards, data privacy rights, and consumer protection - but also how it is implemented within Member States. The fundamental trade-off is that regulations provide legal uniformity across the EU while risking overriding national authority, whereas directives protect flexibility for Member States at the price of potential fragmentation (Kaeding, 2008). Selecting a directive could preserve democratic legitimacy and Member State sovereignty, while a regulation runs the danger of being seen as a centralized overreach from Brussels (Lacey, 2017; Kaeding, 2008). As a result, the Commission makes far-reaching choices when proposing the first piece of legislation on a given topic.

All of this emphasizes the importance of selecting the appropriate legal instrument. Therefore, modifications to legal instruments ought to be restricted to the few instances in which the current legal system exhibits apparent and indisputable flaws (European Commission Legal Service, 2015). In this context, the change from Battery Directive to Battery Regulation provides an interesting case as it is a stark contrast to conventional practices and beliefs. Moreover, scholars have so far shown little interest in the Commission's choice of legal tools, let alone the battery sector, whose importance has only recently grown. There have been very few evaluations of EU battery policymaking, which looked at either the coalition building within the EU Council during the creation of the Battery Directive (Häge, 2012) or the influence of changing stakeholders' belief systems on the integration of circular economy aspects in EU battery legislation (Barkhausen et al., 2023). Due to the novelty of the Battery Regulation, there is limited comparative literature that explains the ambitious shift from directive to regulation.

Table 1*Comparison of circular economy requirements coverage in EU battery legislation*

	Directive 91/157/EEC	Directive 2006/66/EC	Regulation (EU) 2023/1542
Focus	Limits hazardous substances, e.g. cadmium and mercury	Extends the scope, collection, recycling, and disposal requirements	Emphasizes sustainability, performance, safety, labelling and information requirements
Objective	Focused on environmental protection	Concerns resource efficiency, waste management, reduced hazardous	Centers the circular economy and sustainability
Scope	Merely batteries with hazardous substances	All kinds of batteries or accumulators	All kinds of batteries or accumulators
Sustainability	Limited focus on sustainability	Increased focus on collection and recycling	Additional focus on sustainable production, materials, waste management
Disposal	Mandates the recycling of batteries containing hazardous substances	Minimizes disposal, recycling and recovery of batteries	Directs the repurposing, remanufacturing, recycling, and recovery of batteries
Collection targets	Lacks specification	Establishes targets for portable batteries collection (25 percent by September 2012)	Sets higher collection targets for portable batteries (63 percent by 2027 and 73 percent by 2030)
Labeling	Lacks specification	Creates labeling requirements for the environment, e.g. disposal instructions for heavy metal	Places requirements for labeling, transparency (data access), and digital documentation (battery passport)
Sustainable materials	Restricted emphasis on hazardous substances	Emphasis on hazardous substances and recycled materials	Emphasis on hazardous substances, recycled materials, and responsible sourcing
Carbon footprint	Not covered	Not covered	Carbon footprint declaration of batteries
Circular economy	Not covered	Not covered	Recovered material and sustainable sourcing
Innovation	Not covered	Not covered	Use of Information Technology (IT) for transparency and traceability

Note. Summary based on Directive 91/157/EEC (Council of the European Union & European Parliament, 1991), Directive 2006/66/EC (Council of the European Union & European Parliament, 2006), and Regulation (EU) 2023/1542 (Council of the European Union & European Parliament, 2023).

1.3. Research Purpose and Significance of Research

Given the apparent shift in EU battery legislation from directive to regulation, it is worthwhile to examine the factors influencing the Commission's choice of legal policy instrument. To fill the aforementioned knowledge gaps, this study addresses the following central research question:

What explains the European Commission's decision to choose a Battery Directive in 2006 but a Battery Regulation in 2023?

The research aims to understand why the battery policy transitioned from a directive to regulation by examining the factors involved in the Commission's choice of policy instrument. It will do so by testing theory-driven expectations in a most-similar case study design and performing a comparative analysis of the Battery Directive and Battery Regulation. Overall, by expanding the current understanding of the EU's legal policy instruments, the present article contributes to the broader debate on European integration and opens new avenues of inquiry. In particular, the findings may shed light on how the EU approaches internal and external challenges through its choice of legal policy instrument.

1.3.1. Theoretical Relevance

This study extends the current literature in at least three important ways. First, this research lays groundwork for a future debate by examining the Commission's choice of legal policy instruments from an explanatory viewpoint, inspired by the literature on EU policymaking. This allows theoretically informed insights into the EU political process, both in the context of the battery legislation and more broadly. Second, it provides an empirically rich assessment of how battery legislation evolved through a detailed analysis of two case studies: the Battery Directive and Battery Regulation. Third, given the binding nature of regulations and directives for Member States as opposed to non-binding instruments such as recommendations, opinions, white papers, and communications (Bouwma et al., 2015), this study contributes to the larger European integration debate on how the Commission's use of legal policy tools reflects greater trends of regulatory harmonization and national flexibility.

1.3.2. Social Relevance

The key to understanding the strategic dynamics of EU policymaking is knowing when the Commission permits national flexibility and when it centralizes power. Comprehending the political and institutional factors that drive the Commission's decision between directives and regulations is therefore critical for evaluating the efficacy of EU legislation, particularly in sectors with high environmental and industrial relevance, such as batteries and the circular economy. The instrument used not only defines how uniformly a policy is administered throughout Member States, but also influences the speed, consistency, and political feasibility of implementation. In the context of the battery sector, this research carries practical implications for researchers, policymakers, and practitioners as it may aid them in understanding how the EU currently balances regulatory fragmentation, on the one hand, and climate and sustainability targets, on the other hand. The results could be applied to other politically contentious

or technically challenging policy sectors where it is critical to strike a careful balance between practical implementation and political viability.

1.4. Structure of the Study

The coming chapters start with an overview of existing studies, followed by the theoretical framing of the applied framework. The fourth chapter then details the research which explains the methods and means of the comparative analysis. The results are then presented through a case presentation and comparative analysis, which applies the variables to the two case studies and makes empirical observations based on the indicators. The findings lead to the final validation or invalidation of the hypotheses, which are explored in relation to the contribution of the theories suggested in the literature review. The final chapter covers a quick overview of the implications and limitations of this research.

Chapter 2 - Literature Review

This chapter describes the streams of literature that serve as a foundation for the study's topic. The literature review addresses the most pertinent theories drawn from broader policymaking discussions on European integration and legal policy instruments.

2.1. Supranationalism and Intergovernmentalism

The EU depends on the cooperation of supranational institutions, the willingness of the 27 Member States to cede authority to the EU level, and the backing of the general public for integrational measures (Pollex & Van Voorst, 2024). Among the key bodies, the Commission initiates legislation; the European Parliament (EP) and the Council of the EU adopt laws; and the European Court of Justice enforces legal compliance. As a supranational and intergovernmental organization, the EU has established policies that directly impact its Member States, mandating national governments to carry them out in compliance with their own domestic laws. However, broader European integration discussions highlight the challenge of balancing regulatory harmonization and national flexibility in EU law.

According to De Bièvre et al. (2013), upward regulatory harmonization involves either "tighten[ing] already existing international rules" or the "creation of new international rules to harmonize existing divergent domestic rules and then decrease the negative externalities that these engender" (p. 273). Drawing on perspectives of European integration and policymaking, literature of 'supranationalism' (Sweet & Sandholz, 1997) and the growing 'multilevel governance' nature of EU policymaking (Peterson & Bomberg, 1999; Peterson 2004; Peters & Flinders, 2004; Hooghe & Marks, 2003) highlight the growing authority of supranational organizations like the Commission and the EP. Because it has the sole authority to propose and draft new EU legislation as well as to supervise the implementation of existing legislation, the Commission plays a significant role in the policy-making process. The EP has influence over the decision-making process as well, particularly since the 1993 Maastricht Treaty's introduction of the co-decision procedure (COD) (Gulbrandsen & Christensen, 2014). Recent empirical studies particularly highlight the changing role of the Commission from a normative to a regulative driver of European integration. During crises and internal disputes, the Commission becomes an "authoritarian prosecutor of European policies" (Pircher, 2023, p. 763).

However, it is generally accepted that states and business associations resist regulations that threaten to impose costs of 'red tape' on businesses (Kinderman, 2020). Flexibility in EU legislation and policies therefore exists to "accommodate heterogeneity within the EU and to ensure a closer fit between Member State preferences and EU policies" (Zbiral et al., 2023, p. 103). This is in line with 'liberal intergovernmentalism', which views the outcomes of EU policy as the product of negotiations between states that each pursue their national interests (Moravcsik, 1998; Moravcsik & Schimmelfennig, 2009). While this perspective is a complex theory with multiple facets, EU policy outcomes are understood as a bargaining of national preferences that reflect the politics, institutions, and economics of Member

States. This school of thought either downplays the autonomous function of supranational organizations like the Commission and the EP or views them largely as representatives of national governments (Gulbrandsen & Christensen, 2014). Although EU member-states have different interests, the Commission is argued to act on Member States' requests during the decision-making, with powerful Member States determining the content of legislation (Gulbrandsen & Christensen, 2014).

This discussion suggests that industry and member-state concerns (intergovernmentalism) moderate the Commission's aspirations (supranationalism), resulting in a balance between regulatory harmonization and national flexibility within the contents of legislation. Yet, while these theories are highly informative and descriptive, they remain theoretical rather than practical. It provides only a partial answer to the puzzle about what precedes the proposal of EU legislation. It is therefore worthwhile to look at the EU's legal policy tools in more detail.

2.2. EU Policy Instruments

The EU has several legal mechanisms at its disposal. Depending on the policy, measure, action, or advice that the EU seeks to pursue, it may employ one or more legal instruments, while in some circumstances, only certain instruments can be utilized. These tools are used to develop policies, start programs, coordinate policy implementation, and provide guidance to Member States. Legal instruments are classified into two types: binding and non-binding instruments (Bouwma et al., 2015).

Among the binding legal instruments, directives and regulations serve as the primary foundations for EU secondary legislation (see Table 2). The policy instruments differ primarily in that the directive is "binding, as to the result to be achieved, (...), but shall leave to the national authorities the choice of form and methods," while regulations "shall be binding in its entirety and directly applicable in all Member States" (TFEU, Article 288, 2012). Another binding legal instrument is a 'decision', which targets specific entities like an EU country or an individual company. As the instrument does not always target Member States and has therefore limited legal comparability, it is not within the scope of this study. Finally, the non-binding instruments consist of recommendations, opinions, white papers, and communications (Bouwma et al., 2015).

As described by Zhelyazkova et al. (2018), Member States have discretion when transposing directives into national law, but in regulations such leeway is fundamentally omitted from the national level. Regulations ensure that the law is applied consistently across the EU, which is useful for enterprises that operate in various Member States. After all, they provide clear expectations, decreasing the possibility of ambiguity and uncertainty. The transposition process in Directives, however, guarantees that Member States have the flexibility to tailor the directive to their local legal and political contexts. They help to harmonize laws across the EU by ensuring that a desired objective is met in all Member States within an agreed-upon timetable, even if the precise implementation varies.

However, both instruments carry risks. On the one hand, certain Member States may fail to implement the directive, which is often known as ‘non-compliance’ (Falkner et al., 2004). The objective of legislative harmonization may be compromised by such measures, which are frequently seen negatively within the EU functioning of the internal market. On the other hand, regulations may lack the necessary considerations of legal traditions and socioeconomic particularities even if they guarantee prompt and consistent implementation throughout the EU. National discontent may arise from the unbalanced distribution of benefits promised by EU trade integration, resulting in a coupling problem (Sotiriou et al., 2025). The challenge therefore lies in reconciling harmonization through supranational legal standards with the diversity of national systems.

Table 2

Comparison of EU directives and regulations

	EU Directives	EU Regulations
Nature	Directives specify goals or outcomes that all EU Member States must attain, but national governments are responsible for determining the manner and form.	Regulations are applied uniformly throughout all EU Member States, eliminating the requirement for national implementation.
Implementation	Directives must be transposed into national laws by Member States within a specific time frame, leading to potential differences in implementation.	Regulations are directly enforced and applied as soon as they are passed, meaning that Member States do not have the power to modify them.
Characteristic	Directives provide flexibility by allowing Member States to accommodate differences between their legal and administrative frameworks.	Regulations ensure uniformity since they are the same in every Member State, suggesting increased regulatory harmonization.
Examples	The General Data Protection Directive which was replaced by GDPR. The Habitats Directive, concerning wildlife conservation.	The General Data Protection Regulation (GDPR), governing data privacy. The REACH Regulation, focusing on the use of chemicals.

Note. Data based on information by Popelier et al. (2019), Evans et al. (2013), and Pasquier (2022)

So far, scholars of European integration have shown little interest in the EU's selection of legal tools. One strand examined the impact of legal instruments on decision-making, mainly arguing that directives typically take longer to be adopted than regulations and decisions (Klüver & Sagarzazu, 2013; Rasmussen & Toshkov, 2013; Hurka & Haag, 2020). Furthermore, research on policy implementation and compliance has primarily focused on directives (Falkner et al., 2005; Zhelyazkova, 2013, 2020; Zhelyazkova et al., 2016, 2017, 2018), while regulations have received little attention. Even though this literature offers useful overviews of the legal scope conditions in which EU institutions work, the topic of what influences the choice of legal instrument (Hurka & Steinbach, 2021) and the research agenda to move beyond directives (Blom-Hansen et al., 2023) have only recently gained attention. For instance, Hurka & Steinbach (2021) discovered that the selection of directives or regulations is heavily influenced by earlier policy rulings and differs consistently across policy domains based on how much of each has historically been covered by the co-decision process. They also observed that the Commission is more likely to use regulations when there is a greater degree of Euroscepticism, suggesting that the Commission would rather keep opposing Member States on a short leash than give them more room for discretion. The topic, however, remains understudied.

2.3. Commission in EU Lawmaking

The Commission plays a critical role in developing EU legislation. Although it cannot adopt EU laws, its ability to propose and prioritize policies means that its public agenda serves as a clear indication of its targets for downstream negotiations with the Council and the EP. However, nowhere has the EU's institutional transformation been more evident than in the Commission itself. The Commission, formerly seen as the definition of supranational technocracy - unelected, impartial, and expert-driven - has discarded that image. Today, it not only operates in a political system that attracts significantly more scrutiny and contention, but it has also openly adopted a political identity (Kassim & Laffan, 2019). Unlike national governments, the Commission is not bound by re-election incentives. Nonetheless, it cannot cater simply to its network of experts, stakeholders, and insiders. As the EU's agenda-setter and public face of 'Brussels,' the Commission finds itself at the center of Eurosceptic backlash and calls for bolder supranational action (Koop et al., 2021; Kaeding et al., 2021).

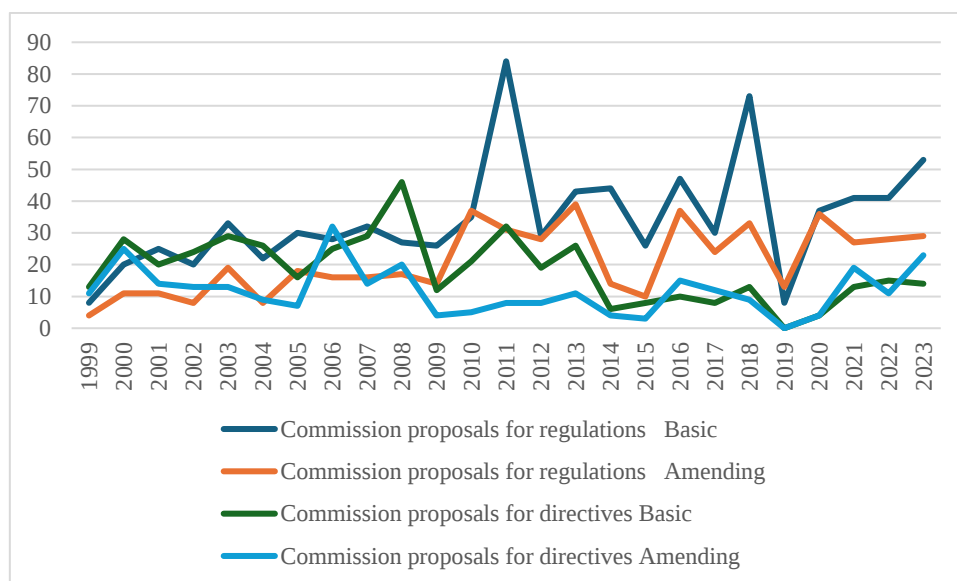
Since the Commission is the sole body with the authority to propose new laws, the rationale for choosing a directive or regulation is most evident in its working methods (Pollex & van Voorst, 2024). When it comes to international trade, regional development, and constitutional affairs, the Commission is often bound by the treaties to almost exclusively issue regulations. However, in policy areas outside the treaties, the Commission has discretion in choosing the legal instrument (Hurka & Steinebach, 2021). Whether the Commission proceeds to emphasize the necessity for strict harmonization through regulations or the need to provide leeway for Member States through directives is highly political. After all, a comparison between Figures 1 and 2 reveals that the proposals for new legislation do not immediately translate into its adoption by the Council and EP. While the first decade of the century

reveals that a significant share of EU law consists of directives, the figures also suggest a rise in the proposals and adoption of regulations as well as a decline in the proposals and adoption of directives in the years after.

More and more legislation is released as regulations, prior seen in the areas of general data protection, general product safety, cosmetics, and clinical trials (Van Raamsdonk & Loh, 2023). However, changes to legal instruments should only be made when the current framework has obvious flaws in the given context (European Commission Legal Service, 2015). After all, switching from directives to regulations necessitates interinstitutional agreement on the need for uniform legal standards which removes existing national provisions (Hurka & Steinbach, 2021). It therefore merits to look at the factors that influence the Commission's choice of specific legal policy instrument.

Figure 1

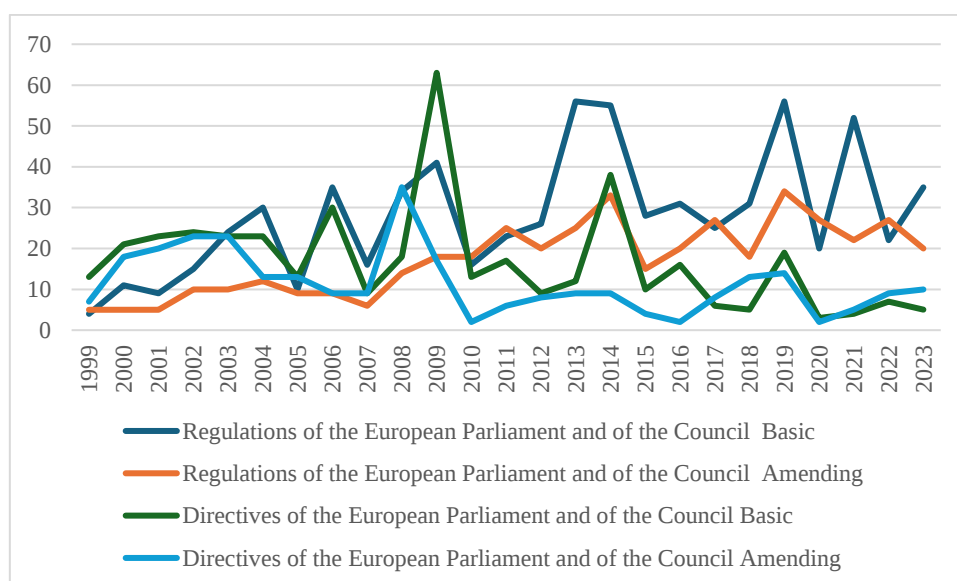
Proposed secondary legislation and amendments by the Commission over the years (1999-2023)



Note. Per year data sourced from [Legal acts – statistics] by EUR-Lex (2025). Copyright 2025 by Publications Office of the European Union.

Figure 2

Adopted secondary legislation and amendments by the European Parliament and the Council over the years (1999-2023)



Note. Per year data sourced from [Legal acts – statistics] by EUR-Lex (2025). Copyright 2025 by Publications Office of the European Union.

Chapter 3 - Theoretical Framework

The gap in the literature highlights the need to contribute to the discussion on the Commission's selection of policy instruments. This chapter will therefore present the theoretical framework of this research, drawing on existing theories to explain the choice between directives and regulations.

3.1. Theorizing The Factors Influencing Policy Instrument Selection

The choice of legal policy instrument is expected to mirror a game of external pressures, political actors, and institutional preferences. Such political dynamics are often apparent within the agenda-setting and decision-making phases of EU policymaking. To be more specific, based on existing literature, the following sections theorize several hypotheses on the potential factors that influence the choice between the different but still comparable legal acts. Two key factors are emphasized in this research.

3.1.1. Policy Urgency

The preference for regulations by the Commission may reflect procedural urgency, especially during crises when supranational and national interests often diverge (Pircher, 2023). Existing research shows that directives require longer legislative deliberation than regulations or decisions, and new legislative acts necessitate higher levels of procedural investment than revisions (Klüver & Sagarzazu, 2013; Rasmussen & Toshkov, 2013; Hurka & Haag, 2020). After all, a common belief is that directives are associated with high salience and political strife, whereas regulations are technical and consensus (Blom-Hansen et al., 2023). This perspective is consistent with research indicating that policy complexity in directives extends such legislative deadlines (Hurka & Haag, 2020). However, Hurka and Steinebach (2021) question this dichotomy, finding that 52% of contentious EU policies (1996-2008) were passed through regulations, as opposed to 41% through directives, challenging the idea that regulations are fundamentally apolitical. Therefore, the Commission may prioritize regulations to speed up implementation and avoid transposition delays. Salient issues spur policy urgency, reducing the luxury of extensively considering the large scope of options. Regulations take effect immediately and provide legal clarity, guaranteeing prompt and consistent enforcement throughout the EU. If a gradual approach is permissible, however, directives provide a transition period for countries to adjust to. The first hypothesis therefore goes as follows:

H1: The more policy urgency is prioritized, the more likely the Commission will propose regulations (over directives) to speed up implementation and avoid transposition delays.

3.1.2. Fear of Non-compliance

The preference for regulations may also derive from concern over various challenges in compliance. Member States may be less likely to comply with EU law because they either deliberately choose not to due to excessive costs (enforcement), lack the capacity or resources to comply (administration), or do not regard the laws as valid or suitable (legitimacy) (Börzel et al., 2007). Flexible adaptation through

directives is often used when domestic contexts vary significantly, which is traditionally represented by ‘goodness of fit’ or ‘misfit’ (Falkner et al., 2005; Mastenbroek & Kaeding, 2006; Thomson et al., 2020; Zhelyazkova, 2020). While the common belief that flexibility in directives leads to greater compliance with EU law appears reasonable, Zbiral et al. (2023) demonstrated a negative association between flexibility and compliance. Hurka and Steinbach (2020) also discovered that the Commission has reduced the total volume of legislative efforts by allowing Member States less discretion. Several findings suggest that a decline in popular support for integration in the Council has been accompanied by a rise in non-compliance, encouraging the Commission to prioritize regulations that skip transposition and apply directly to prevent legal fragmentation (Kaeding & Selck, 2005; Fjølseth & Carrubba, 2018). As a result, if there’s increased fear of non-compliance, the Commission is likely to seek a regulation. Limited concern implies that directives are sufficient in harmonizing legislation across the EU while retaining substantial room for Member States’ preferences and capacities. This brings us to the second hypothesis:

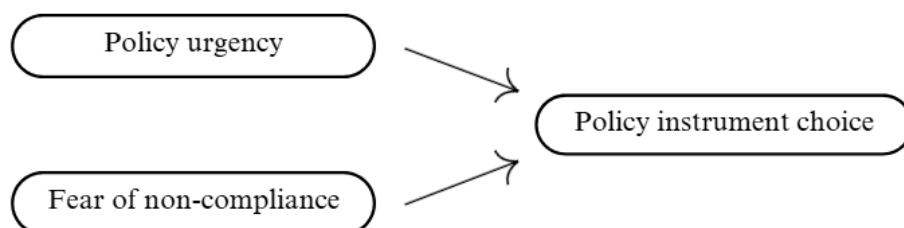
H2: The more the Commission fears non-compliance, the more likely the Commission will propose regulations (over directives) because of risk of the fragmentation.

3.2. Conclusion

In general, changes in legal instruments should be limited to circumstances in which existing legal frameworks have clear and undeniable inadequacies, which are often rare. Based on existing literature, hypotheses were proposed that resulted in a conceptual framework (see Figure 3). It is expected that a combination of policy urgency and fear of non-compliance spurs the Commission into choosing a regulation over a directive. As a result, the Commission may play the role of a policy entrepreneur by taking advantage of windows of opportunity to push supranational proposals (Ackrill & Kay, 2011). The Better Regulation guidelines and toolbox assist the Commission in developing new initiatives and proposals, as well as managing and analyzing existing legislation (Pollex & Van Voorst, 2024). These tools may have aided the Commission in persuading the Council and the EP, albeit this is not the focus of this study. The operationalization of the variables will be discussed in Section 4.2.

Figure 3

Conceptual model



Chapter 4 - Research Design and Methods

This chapter specifies the considerations for selecting an appropriate research design to answer the research question, operationalizing the variables, and explaining the case selection as well as the opted methods.

4.1. Research Strategy

The present research is geared towards the question: *What explains the European Commission's decision to choose a Battery Directive in 2006 but a Battery Regulation in 2023?* To address this puzzle, the comparative case study design is shown to be the most suitable design since it permits greater generalizability and practicality as opposed to a single case study or a process tracing design. As the research topic at hand is of an explanatory nature, the primary advantage of a comparative analysis is that it allows researchers to test a single theory more than once, ensuring the evaluation of both the Battery Directive and Battery Regulation. Case studies carry the advantage of enabling in-depth investigation and evaluation of actual cases (Zhelyazkova et al., 2016; Flyvberg 2006). Such contextualized knowledge is essential to uncover links and causes of site-specific concerns as well as consider complex actors and problem structures (Heidtmann & Selck, 2021).

To arrive at stronger conclusions regarding the role of the proposed explanatory variables, this research selects cases using Przeworski and Teune's (1970) Most Similar Systems Design (MSSD). In MSSD, the researcher emphasizes common systemic traits while using intersystem differences as explanatory factors. The researcher looks for high levels of common traits and a minimum of non-shared qualities. In other words, as the situations are contextually similar, variation in independent variables can legitimately be linked to the variance in the dependent variable. Nevertheless, this design still carries the risk of researchers being overly reliant on interpretations of events and processes, exposing the analysis to the researcher's bias. Section 4.2. will therefore address this issue through clear operationalization and theoretical guidance.

This research design deviates to some extent from the traditional MSSD. Firstly, this research evaluates two plausible independent variables rather than isolating one traditional explanation, which underlines the lack of pre-existing theories regarding the choice of EU policy instruments. Secondly, whereas MSSD require formal control variables, this study relies on thematic and temporal consistency to identify differences. By keeping the policy domain as well as institutional and political framework constant, the variance is narrowed down to contextual shifts rather than procedural or structural changes. Lastly, as opposed to the usual contemporaneous case comparisons in MSSD, the two cases of interest are characterized by a time gap, which underscores the importance of dynamic theories. The temporal context is, however, crucial for the interpretation of the independent variable *policy urgency*, thus contributing to a more dynamic interpretation over time. As a result, the revised MSSD provides a

reasonable approach for theorizing *policy instrument choice*, even in the absence of pre-existing control variables or prior distinct conceptions.

4.2. Operationalization of Variables

To understand the conditions under which the Commission prioritizes a specific legal policy instrument, fitting measurement instruments are critical for a thorough understanding of the topic as well as the key parts of the analysis. Following the MSSD, the operationalization of the dependent variable - *policy instrument choice* - is straightforward as the outcomes take shape through their legal form: directive or regulation. The choice can be distinguished through binary coding based on EUR-Lex classification (0=Directive, 1=Regulation). As the cases are argued to have similar values for important control variables, - which will be detailed in Section 5.1.3. - the focus lies on the values of the independent variables (see Table 3) (Anckar, 2008).

Table 3

Operationalization framework

Independent Variable	Operationalization	Method
Policy urgency	Crisis framing: References of need to respond to external events and pressures	Content analysis
	Timeline pressure: References of short deadlines and negative consequences of delays	Content analysis
Fear of non-compliance	Risk of non-compliance: Statements of risk of non-compliance	Content analysis
	Risk of fragmentation: Statements of risk of fragmentation and uneven enforcement	Content analysis

4.2.1. Independent Variable: Policy Urgency

Policymakers may experience ‘problem uncertainty’ because of crises, where they are unsure of the specifics of the issues at hand. However, crises can also lead to ‘policy urgency’ when decision-makers prioritize taking rapid action (Lesch and Millar, 2022). Crises have long been recognized by policy experts as a critical juncture when significant policy innovation and change are likely to be sparked by policy ideas (Kingdon 1984). Moreover, the Commission is argued to be agenda-responsive to such windows of opportunity (Koop et al., 2021). As a result, while analyzing the overall context of the legislative documents’ adoption in 2006 and 2023, it is expected that the Commission uses targeted performance under policy urgency through the adoption of a regulation. This can be indicated by articulate *crisis framing*, which relies on a more in-depth investigation of the Commission’s communications and is represented by references to the need to respond to external events and pressures. In addition, *timeline pressure* is another indicator, derived from certain terminology, such as short deadlines and negative consequences of delays.

4.2.2. Independent Variable: Fear of Non-compliance

Non-compliance may derive from challenges of enforcement costs or shortcomings in the capacity of resources (Börzel et al., 2007). It may also relate to Euroscepticism, which embodies a show of opposition towards further European integration, often emerging from the intention to restructure political contestations around issues of cultural diversity, immigration, ecology, and nationalism (Ahrens et al., 2022; Kaeding et al., 2021). The diversity of preferences may result in the introduction of additional binding instruments to ensure that Member States comply. It is therefore expected that diverging supranational and national interests create a tendency towards the choice of regulation to ensure centralized enforcement. The first indicator of interest is therefore the **risk of non-compliance**, which is reflected in statements indicating worries about existing non-compliance by Member States. Another indicator is the Commission's **risk of fragmentation**, which may be represented by forward-looking statements that anticipate risks of fragmentation and uneven enforcement.

4.3. Data Collection

Due to the empirical nature of this research, this study mainly relies on primary sources, including legislative texts; policy proposals, impact assessments, and press releases by the European Commission; as well as policy reports and amendments by the EP and Council. Table 4 reveals the search strategy and the results of the primary sources, for which only EU official databases were consulted, particularly the EUR-Lex database and the Legislative Observatory by the EP. The process started off by tracing the documents related to the legislative procedure of both the Battery Directive and Battery Regulation. These primary documents led to a network of related materials, which contributed to deepening the researcher's understanding of the topic. While the choice of policy instruments precedes the legislative procedure, the documents by the Commission, the Council, and the EP still provide valuable insights for probing the context in which the legislation was proposed, more so than aggregate data. The search was performed from the 13th of April till the 18th of April 2025, which was linked to the software Zotero which is specifically designed to aid researchers in the process of collecting, organizing, and citing research. As such, the final data sample includes an array of legal documents, reports, and articles.

Table 4*Search syntax and results*

Data Configurations		EU Legislative Observatory & EUR-Lex			
		European Commission	European Parliament	Council of Ministers	Other*
Directive 2006/66/EC Procedure	Text search: Exact word/phrase; Keywords/Tag: 2003/0282(COD); Language: English	8	3	3	1
Regulation (EU) 2023/1542 Procedure	Text search: Exact word/phrase; Keywords/Tag: 2020/0353(COD); Language: English	8	1	4	3
Total by institution		16	4	7	4

Note. Documents of procedure 2003/0282(COD) derived from Legislative Observatory European Parliament (2006) and Publications Office of the European Union (2025a). Documents of procedure 2020/0353(COD) derived from Legislative Observatory European Parliament (2023) and Publications Office of the European Union (2025b).

* Reports by the United Nations (2002) and World Economic Forum (Brudermüller et al., 2019) as well as European Commission official websites (DG-ENV, 2020; DG-GROW, 2021).

4.4. Data Analysis

To analyze the documents, a content analysis was performed. Content analysis is a process of systematically interpreting a text and its context using unique codes and categories, which may be “exploratory (content-driven) or confirmatory (hypothesis-driven)” (Mackieson et al., 2019). Krippendorff (2019) suggests that such analysis can provide valuable insights into the opinions towards the EU. Relevant information was first recorded based on the documents in the legislative procedure, including the author(s) or institution, date, and document type (refer to Appendix A). The synthesis of the final data sample involved the use of ATLAS.ti - a software designed for qualitative data analysis - to conduct a coding process.

A coding scheme was therefore adopted to assign the passages within documents to the operationalized variables (refer to Appendix B for example). When analyzing documents for *policy urgency*, it looked at: (1) the scope of action, which captures signals of pressures and short deadlines; (2) the issues and themes, which specify whether the pressure originated from within the EU institution or external events; and (3) the actors, which identifies who posed the argument when applicable. Similarly, *fear of non-compliance* followed the same trajectory. First, references to the risk of non-compliance and

fragmentation were recorded (scope of action); second, the main explanations for non-compliance and fragmentation were considered (issues and themes); and third, the specific actors posing the argument were noted. This process aids the researcher in scoping the context surrounding the Battery Directive and Battery Regulation, which contributes to the evaluation of the independent variables influencing the Commission's proposals. Ultimately, the findings on the Battery Directive and Battery Regulation were compared and conclusions were drawn on the hypotheses.

4.5. Validity and Reliability

The case study approach is often criticized for its low validity and reliability (Ferreira et al., 2020). To address this, clear operationalization through a coding scheme and theoretical underpinnings ensures greater internal validity. The in-depth analysis offers comprehensive and contextualized explanations for the study's outcome. In addition, the MSSD improves external validity, isolating *policy instrument choice* by comparing two battery legislation within the same policy domain and controlling for confounding variables. In other words, the cases differ on the dependent variable but are most similar on all other independent factors. Yet, the in-depth nature of the results might not be translated well to other contexts where the examples are more varied. Still, to test generalizability, the study's results could be compared to the context of other EU environmental legislation - such as the Packaging Waste Directive - by future research. Lastly, a structured content analysis and detailed documentation of the databases improve the study's reliability but still lack a solid protocol (Ferreira et al., 2020). Overall, the study's methodological rigor and theoretical nuance ensure credibility of its conclusions, yet additional comparison research would improve robustness.

4.6. Ethical Considerations

This research complies with the highest ethical standards, which include the researcher's integrity, fairness, and open-mindedness. To guarantee this, several ethical issues were taken into account when collecting the primary and secondary data. First, the researcher ensured that the usage of the primary and secondary data was consistent with the original consent agreements. The researcher ensured that open data licenses were followed and looked for any restrictions on further usage in terms and conditions. Furthermore, to credit research efforts and prevent plagiarism, the original data sources were correctly acknowledged and cited. Finally, the study ensures responsible data analysis and reporting, considering and acknowledging potential inherent biases and limitations in the conclusions.

Chapter 5 - Empirical Findings & Analysis

This chapter presents the empirical examination, which is structured into three main parts. First off, the case presentation provides the necessary background and highlights the main similarities to control for extraneous factors. Second, the comparative analysis consists of a systematic per-variable overview of the empirical findings. Finally, the discussion assesses the findings in light of the hypotheses.

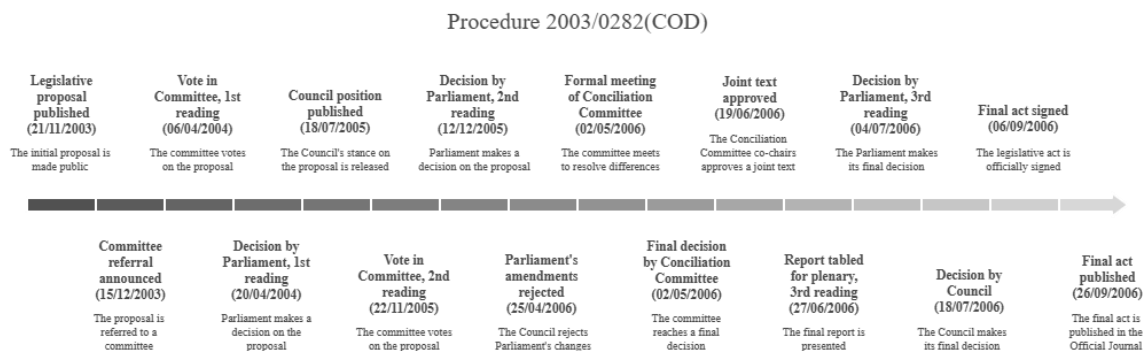
5.1. Case Presentation

Batteries play an important part in the decarbonization of road transport, and as such, they have become a technology of great interest to the EU economy and automobile industry. Considering the strategic importance of batteries to the EU economy, it is important to analyze how the product group of batteries has been regulated so far.

5.1.1. Directive 2006/66/EC

Figure 4

Timeline Battery Directive



Note. Data based on information by Legislative Observatory European Parliament (2006).

The draft of the Battery Directive was proposed on November 21, 2003, marking the start of the legislative process (see Figure 4). The first reading in EP began after the committee referral on December 15, 2003, and ended on April 6, 2004, with a committee vote and report. On April 19–20, 2004, there was a plenary debate and adoption. The second reading process started when the Council released its position on July 18, 2005. Committee action took place from November 8–22, 2005, while parliamentary debate and voting took place from December 12–13, 2005. However, a conciliation process was required because of the Council's informal indication that it would not be able to accept all the revisions proposed by the EP on April 25, 2006. After a series of trialogues and an informal tripartite meeting, a formal committee procedure was opened and closed on May 2, 2006, and a joint text was approved by the Conciliation Committee co-chairs on June 19, 2006. On July 3–4, 2006, the third reading came to an

end with parliamentary discussion and adoption. On July 18, 2006, the Council approved it. The parliamentary process ended on September 6, 2006, when the final act was signed. On September 26, 2006, it was published in the Official Journal (Legislative Observatory European Parliament, 2006).

The Battery Directive set a comprehensive framework surrounding two principal goals: first, to prohibit the use of heavy metals in batteries and accumulators; and second, to regulate their life cycle, including collection, treatment, recycling, and environmentally sound disposal. These techniques were designed to eliminate the disposal of hazardous battery components while recovering valuable materials (Council of the European Union & European Parliament, 2006). The Directive also aimed to improve the environmental performance of battery goods and all participants in their value chain, including manufacturers, distributors, consumers, and waste treatment operators (European Parliament, 2005). Several innovative measures were introduced, including specific collection targets for portable batteries, a landfill and incineration ban for industrial and automotive batteries, mandatory minimum recycling standards, requirements for national collection and recycling infrastructure, and Extended Producer Responsibility (EPR) for waste management (Council of the European Union, 2005a).

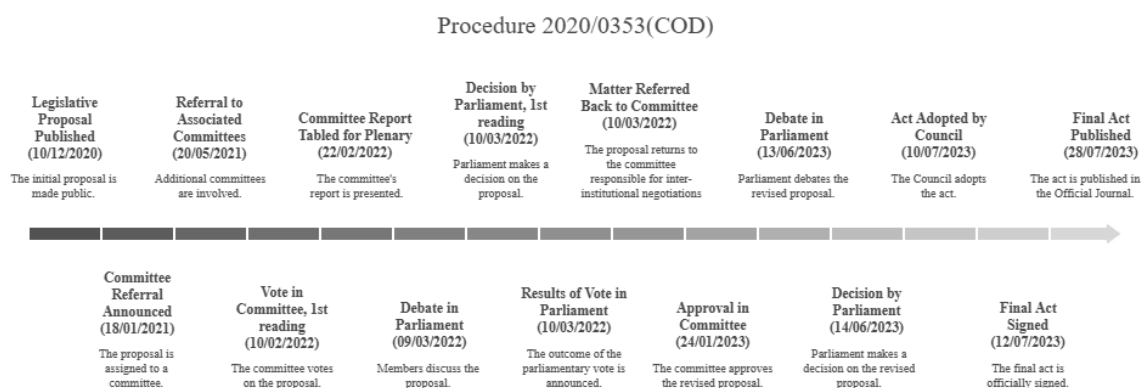
The legal underpinning, which was founded on a dual legal basis, shows the combined focus on market circumstances for product-related provisions - such as bans on hazardous substances, and labeling - and environmental protection measures like waste collection and recycling targets. The dual legal basis recognized the distinct difference between environmental policy (Article 175 TEC), reflecting the principle of subsidiarity where Member States could maintain or enact stricter rules, and international market harmonization for product rules (Article 95 TEC) where more stringent national measures were not allowed to prevent trade distortions (Council of the European Union & European Parliament, 2006). Recognizing that some aspects of battery policy, including waste collection and recycling, could be customized to national circumstances, the directive implemented subsidiarity more flexibly. The Battery Directive therefore allowed Member States to choose how to accomplish collection and recycling targets through voluntary agreements or EPR schemes, even as it unified product regulations to prevent internal market distortions (European Commission, 2003).

The Battery Directive used a more restricted approach to proportionality, avoiding undue regulatory burdens while concentrating on measures, such as collecting targets and prohibitions on dangerous substances. For example, after an impact study determined that targeted restrictions were more suitable, the Commission contemplated but rejected a complete ban on cadmium in batteries (European Commission, 2003). Additionally, proportionality was reflected in its legal nature, which permitted Member States to modify transposition to suit local circumstances. In waste management, where local characteristics were important, the directive struck a compromise between national flexibility and EU conformity. By avoiding extensive regulatory overreach, its proportionality was based on the least amount of essential intervention (European Commission, 2003).

5.1.2. Regulation (EU) 2023/1542

Figure 5

Timeline Battery Regulation



Note. Data based on information by Legislative Observatory European Parliament (2023)

On December 10, 2020, the Battery Regulation's first draft was published, marking the start of the legislative process (see Figure 5). The proposal was referred to related committees on May 20, 2021, after the committee referral was announced in the EP on January 18, 2021. A committee vote on February 10, 2022, and the tabulation of the committee report on February 22, 2022, marked the advancement of the first reading phase. The topic was submitted back to the committee for interinstitutional discussions after parliamentary consideration, which included voting on March 8–9, 2022, debate on March 9, and final adoption on March 10. After the committee approved the text at the interinstitutional negotiations on January 24, 2023, the proposal was sent back to the EP for discussion on June 13 and final adoption on June 14. Following the Council's adoption of the act on July 10, 2023, the legislative process came to an end when the final act was signed on July 12 and published in the Official Journal on July 28 (Legislative Observatory European Parliament, 2023).

The Commission advocated a comprehensive regulation to replace the Battery Directive, with the aim of modernizing the EU's regulatory framework by addressing three core objectives: first, to improve the internal market through harmonized rules; second, to advance circular economy principles; and last, to mitigate environmental and social impacts throughout the battery lifecycle (Council of the European Union & European Parliament, 2023). This program marked a vital component of the European Green Deal, complementing strategic objectives like the Circular Economy Action Plan (European Commission, 2020b; DG-ENV, 2020) and the Sustainable and Smart Mobility Strategy (European Commission, 2020c, European Commission, 2021a). The Battery Regulation takes a comprehensive approach to sustainability and safety, including carbon footprint thresholds, recycled content mandates,

and durability criteria. It also includes transparency measures like labeling, battery passport systems, and public procurement rules; end-of-life management through EPR, collection targets, and recycling efficiency benchmarks; and lastly, increasing enforcement tools, such as due diligence obligations, conformity assessments, and market surveillance mechanisms (Council of the European Union, 2021b).

The Battery Regulation is based on Article 114 TFEU and is concerned with measures that guarantee the internal market's functioning. Due to this legal basis, the main goals of the Regulation are to ensure fair competition for battery manufacturers and recyclers and to minimize market fragmentation. Environmental issues, such as carbon footprint and recycling efficiency, are also included in the regulation, but they are presented as supplementary to the Single Market goals rather than as independent environmental policy objectives. To prevent regulatory fragmentation and guarantee a functional Single Market for batteries, the Battery Regulation places a high emphasis on the need for EU-level intervention, which offers the regulatory certainty needed for significant investments, given the expensive nature of battery production and recycling (European Commission, 2020d)

By implementing incremental, evidence-based requirements for the performance standards of industrial batteries, the Regulation ensures proportionality. The Commission minimized overregulation by proposing information responsibilities before establishing obligatory thresholds. To maintain market coherence, its overall scope is comprehensive and prescriptive, encompassing the full battery lifecycle from the sourcing of raw materials to the recycling of batteries. Within the Battery Regulation, it is argued that partial requirements would not solve fundamental market flaws in battery sustainability, which is why it takes a comprehensive approach (Council of the European Union & European Parliament, 2023). It is an example of a centralized, market-driven approach in which the necessity for EU-wide harmonization to promote industrial strategy and circular economy goals takes precedence over subsidiarity. Phased adoption preserves proportionality, but in order to avoid regulatory loopholes, the overall framework is stricter (European Commission, 2020d).

5.1.3. Case Comparability and Variable Control

While MSSD has often been applied to countries and regions that similar economic systems, political structures, and/or cultural traditions (Roman-Urrestarazu et al., 2018; Li et al., 2019; Bishop et al., 2020; Immormino & Stowell, 2022), this research applies it to the Battery Directive and Battery Regulation. For the two cases to be suitable for comparison, they cannot differ too much when it comes to the EU institutional and political environment. In general, the context surrounding the adoption of the Battery Directive (2003-2006) and Battery Regulation (2020-2023) both reveal European People's Party (EPP) leadership in the Commission, with an emphasis on important policy areas such as climate change and low carbon economy. The EPP representation in the Commission during both periods decreases partisan bias as a confounding variable. Furthermore, both legal texts were adopted in the same policy sector, concerning the same policy issue, in a relatively stable institutional environment. After all, both legal

instruments were passed to regulate the manufacture and disposal of waste batteries within the area of environmental policy, and were subject to the co-decision procedure, which the Lisbon Treaty renamed the Ordinary Legislative Procedure (OLP) in 2009. Comparable governance procedures were ensured by the EU's stable institutional architecture during both the post-Nice Treaty and post-Lisbon periods.

However, several considerations must be noted (see Table 5 for full institutional comparison). Firstly, *leadership systems* evolved, most notably with the appointment of a permanent European Council President following the Lisbon Treaty. Secondly, the *political party distribution* has seen traditional European parties – the EPP and Socialists and Democrats (S&D) – wane while Greens and other groupings made significant advances between 2004 and 2019. Lastly, the *Commission's presidency* suggests differences when it comes to environmental efforts and crisis management. In contrast to Barroso Commission I (2004-2009), which gave priority to market liberalization, economic growth, and EU expansion, von der Leyen Commission I (2019-2024) has stressed sustainability through the European Green Deal, digital transformation, and strategic resilience. Notwithstanding these factors, the shift in policy priorities represents an agenda evolution at the EU level rather than ideological disruption.

As a result, given the similarity of the contexts surrounding the Battery Directive and Battery Regulation, the outcome in the choice of legal policy instrument by the Commission may be explained by variation in the independent variables.

Table 5*Institutional comparison*

	Battery Directive (2003-2006)	Battery Regulation (2020-2023)
European Council	Presidency based on rotation among member states without permanent president	President: Charles Michel Party: Renew Europe Priorities: EU unity, COVID-19 response, foreign policy coordination
European Commission	President: José Manuel Barroso (2004-2009) Party: EPP Priorities: Economic reform, EU enlargement, Lisbon Strategy	President: Ursula von der Leyen (2019-present) Party: EPP Priorities: EU Green Deal, COVID-19 recovery, digital transformation, EU strategic autonomy
ENVI Commissioner	Commissioner: Stavros Dimas (2004-2010) Political affiliation: EPP (Greece) Priorities: Climate change, air quality, and biodiversity	Commissioner: Virginijus Sinkevičius (2019-present) Political affiliation: Greens/EFA (Lithuania) Priorities: EU Green Deal, circular economy, and biodiversity
European Parliament	Presidents: Pat Cox (until 2004, ELDR), Josep Borrell (2004–2007, PES)	Presidents: David Sassoli (until Jan 2022, S&D), Roberta Metsola (from Jan 2022, EPP)

Note. European Council data is based on Müller & Tömmel (2024). European Commission and the Committee on the Environment, Public Health and Food Safety (ENVI) data is compiled from Berggren (2020), Hey (2007), Peterson (2015), and Von der Leyen (2019). The European Parliament data is provided by European Parliament (2016).

5.2. Comparative Analysis

5.2.1. Policy Urgency

A first impression of the Battery Directive and Battery Regulation suggests that the legislative procedures underwent a similar duration, with the Battery Directive lasting 2 years, 10 months, and 5 days and the Battery Regulation lasting 2 years, 7 months, and 18 days. However, as Table 6 reveals, the main distinction is that the Directive underwent three rounds of readings and amendments as opposed to the single round of the Regulation. Policy urgency, however, is not solely determined by the speed or deliberation of the procedure. The subsequent sections therefore pay closer attention to the content of the documents in framing urgent action.

Table 6

EP Committee's amendments and votes for reading rounds

Case	Committee	Rapporteurs	Number of Amendments	Vote in Committee
Battery Directive	Committee on the Environment, Public Health, Consumer Policy	Johannes (Hans) Blokland (IND/DEM)*	125	25 for 17 against 0 abstain
	Committee on the Environment, Public Health and Food Safety	Johannes (Hans) Blokland (IND/DEM)*	59	45 for 10 against 0 abstain
	EP Delegation to Conciliation Committee	Johannes (Hans) Blokland (IND/DEM)*	x	15 for 0 against 0 abstain
Battery Regulation	Committee on the Environment, Public Health and Food Safety	Simona Bonafè (S&D)	508	74 for 8 against 5 abstain

Note. The conciliation phase consisted of informal negotiations (trialogues) between the EP delegation and the Council regarding the approval of the joint text. Data sourced from European Parliament (2004), European Parliament (2005), European Parliament (2006), and European Parliament (2022).

* Independence/Democracy Group (IND/DEM)

5.2.1.1. Battery Directive

The Battery Directive grew out of prior environmental concerns regarding waste management and dangerous compounds as specified in the Sixth Environment Action Program (6EAP) (Council of the European Union & European Parliament, 2002). This 6EAP provided "the main impetus for this Proposal" (European Commission, 2003, p. 6), as it laid down the main environmental priorities for the coming decade as of 2002. In addition, the Commission's proposal (European Commission, 2003) referenced important international accords in its explanatory memorandum, such as the 2002 Johannesburg Summit which stressed the challenge of waste minimization and recycling globally (United Nations, 2002). The Battery Directive was also consistent with other EU waste rules such as the

WEEE (Council of the European Union & European Parliament, 2003b), Restriction of Hazardous Substances (RoHS) (Council of the European Union & European Parliament, 2003a), and End-of-Life Vehicles (Council of the European Union & European Parliament, 2000) Directives.

The mentioned policy considerations lead to several insights. On the one hand, it was acknowledged that “the world battery market has grown in value by approximately 9% every year since 1989, driven by the growth linked to the development of new consumer electronic appliances” (European Commission, 2003, p. 4). Particularly, 6EAP and the WEEE called for the revisions of Directive 91/157/EEC as soon as possible. On the other hand, “in value terms, the current growth trend seems to have slowed down,” resulting in the Commission welcoming long-term collection targets (European Commission, 2003, p. 4). While the need for action in the policy field was acknowledged, these policy considerations lack the emphasis on short deadlines, suggesting limited timeline pressure.

In addition, in its opinion on the Common Position of 18 July 2005, the Commission welcomed “the increase of the long term collection target” (European Commission, 2005). To avoid enormous expenses, the Directive focused on modest harmonization through cadmium limitations and collection targets. A ban on cadmium was rejected in favor of gradual market-driven phaseouts (European Commission, 2005), which reflected a less pressing policy situation at the time. A balance between harmonization and national flexibility was ensured through approximate rather than fully unified rules, allowing Member States to tailor collection schemes and recycling infrastructure to local conditions, for example, by using existing WEEE Directive systems (Council of the European Union & European Parliament, 2003b). As the Directive was “consistent with other pieces of Community waste legislation” (European Commission, 2003, p. 31), instrument consistency was prioritized over change.

5.2.1.2. Battery Regulation

The Battery Regulation is presented within the urgent context of renewable energy transition, transportation electrification, and the EU Green Deal. The proposal’s explanatory memorandum clearly provides such evidence in various ways. The Commission explicitly relates battery manufacture to the EU’s climate goals, specifically the need to cut transport-related greenhouse gas (GHG) emissions - 25% of total EU emissions - and promote the use of EVs (European Commission, 2020d). It also reacts to global challenges, particularly mentioning the World Economic Forum’s forecast which estimates that battery output must expand by 19 times to fulfill low-carbon economy demands (European Commission, 2003; Bruder Müller et al., 2019). Furthermore, the Regulation is linked to broader EU policies, including the Circular Economy Action Plan (European Commission, 2020b; DG-ENV, 2020), the Industrial Strategy for Europe (European Commission, 2021b; DG-GROW, 2021), and the Sustainable and Smart Mobility Strategy (European Commission, 2020c, European Commission, 2021a), all of which seek to reduce transport emissions by 90% by 2050 (European Commission, 2020d). These policy considerations indicate a strategic change toward sustainability and economic competitiveness.

Furthermore, the Commission backs the need for action through various impact assessments (European Commission, 2019; European Commission 2020a; European Commission, 2020d). The proposal of the Regulation addressed three groups of interlinked problems: the lack of a framework that incentivizes investment in sustainable batteries, the insufficient functioning of recycling markets, and limited coverage of social and environmental risks by battery life cycles (European Commission, 2019; European Commission 2020a). Among four policy options - business-as-usual, medium level of ambition, high level of ambition, and very high level of ambition - the Commission opted for a combination of medium to high level as it was argued to “facilitate the EU’s response to the fast-changing market conditions and ambitiously support a switch towards a more low-carbon economy, without risking excessive costs or disruption” (European Commission, 2020d, p. 8). As the issues stem from market and knowledge failures, the Battery Regulation represents a strategic decision to pursue complete harmonization and legal certainty in a fast-changing market (European Commission, 2020d).

While balancing effectiveness (achievement of Green Deal goals) and efficiency (cost-effectiveness), the Battery Regulation allowed the gradual strengthening of the Commission’s ambition (European Commission, 2020d). In particular, the increasing implementing measures of the Commission allow “for more timely setting of common rules” and reduce “uncertainties over timelines during the transposition process” (European Commission, 2020d, p. 5). With a rapidly expanding battery industry driven by EVs and energy storage, the transposition period of a Directive - which usually takes two years or more - was regarded as too long for an industry that required quick legal clarity to achieve large-scale investments (European Commission, 2020d). The Regulation therefore enables swift implementation, which is essential for a capital-intensive, globally competitive economy.

5.2.2. Fear of Non-compliance

A comparison of the votes by the Council provides a first indication of potential misfits (refer to Appendix C). After all, the further the disconnect between EU-level measures and national capabilities, the more it can cause dissatisfaction or frustration among Member States. In the 2745th meeting of the Council on 18 July 2006, the Battery Directive was passed unanimously. Meanwhile, in the 3963rd meeting on 10 July 2023, the Battery Regulation was passed with two abstainers: Bulgaria and Slovenia. The explanatory statements of these national representatives particularly revealed concerns over the “feasibility of reaching the targets within the timetable proposed” (Council of the European Union, 2021b), “administrative and financial burdens, in adapting existing national systems to the revised requirements” (Council of the European Union, 2023), and “level of flexibility with regard to the management of waste batteries” (Council of the European Union, 2021a). While these may suggest greater misfit - and risk of non-compliance - in the Battery Regulation as opposed to the Battery Directive, the evidence in the coming sections highlights that the Commission’s concerns over non-compliance and fragmentation were key components in the proposals of both legislative acts.

5.2.2.1. Battery Directive

The evidence detailed below demonstrates that addressing non-compliance was a main objective of the Battery Directive, but the Commission still acted in a reactive manner with limited harmonization. The Commission's proposal particularly stressed differences between national laws implementing the predecessor Directive 91/157/EEC, claiming that "the objectives of these Directives have not been fully attained" (European Commission, 2003, p. 34). Three major failings are repeated in both the Commission's proposal as well as the positions of the Council and the EP. For starters, varying national regulations on hazardous substances - such as cadmium and lead - caused trade barriers that disadvantaged producers operating across borders (Council of the European Union, 2005a). Second, varied collection and recycling programs resulted in patchy enforcement, with only a few Member States obtaining full battery recovery (European Commission, 2003). The EP agreed, claiming that "only Austria, Belgium, France, Germany, the Netherlands and Sweden currently have a national system to collect all types of waste batteries for recycling" (European Parliament, 2006, p. 6). Lastly, market distortions arose from varying producer responsibilities, with some countries imposing stricter and costlier obligations than others. As a result, the Commission argued that ensuring a level playing field across the EU was critical (European Commission, 2003).

However, although the proposal compelled Member States to broaden the scope of those schemes to all batteries and accumulators put on the market, Member States were free to organize collection and recycling systems on their own territory (Council of the European Union & European Parliament, 2006). The rationale was provided in the Commission's extended impact assessment, which stated that "More ambitious options, like more stringent collection and recycling requirements, were not chosen mainly because of the cost implications" (European Commission, 2003, p. 31). The risk of non-compliance and fragmentation was therefore not deemed significant enough to outweigh the anticipated administrative and political costs.

The Commission's discussion with the Council regarding increased harmonization further supports the argument that cost-effectiveness took precedence over efficiency (Council of the European Union, 2005b). Among the demands, the Council resisted EP's higher minimum collection rates (50% and 60%), inferring practical difficulties in tracking battery sales against actual collection (European Parliament, 2006). The Council also established a *de minimis* exemption for small producers, allowing Member States to ease compliance for enterprises that handle only a few batteries and citing the necessity to minimize undue administrative costs (Council of the European Union, 2005b). In response, the Commission restated ongoing non-compliance risks, particularly in enforcement and data reporting, but also accepted that "the proposed 'closed-loop' system may entail a higher administrative burden and higher costs than initially estimated" (European Commission, 2005, p. 3). In the end, national flexibility and economic viability took priority over more stringent environmental regulations.

5.2.2.2. Battery Regulation

The evidence, as discussed below, suggests that the Commission stresses the need to tackle non-compliance and fragmentation in a proactive manner through complete harmonization. First, impact assessments prior to the Commission's proposal indicated that diverse national implementations, especially in waste collection and recycling, have resulted in an unclear regulatory framework, distorting competitiveness and impeding cross-border activities (European Commission, 2019; European Commission, 2020a). Second, the risk of fragmentation was explicitly brought up by the Commission which stressed its intention to "promote a circular battery industry across Europe, and avoid fragmentation from possibly diverging national approaches" (European Commission, 2020d, p. 4). The proposal itself stressed that fragmented recycling markets may jeopardize the security and recovery of raw materials like lithium and cobalt, which are essential for capital-intensive recycling technologies at EU-wide economies of scale (European Commission, 2020d). In the pursuit for greater legal clarity, the Battery Regulation's immediate applicability under Article 114 TFEU reduces transposition delays and national interpretation risks, allowing uniform enforcement and greater investment certainty (European Commission, 2020d).

Fear of non-compliance set a higher bar for the EU's green transition, which is evident from the statement of the Commission provided within the General Secretariat of the Council's communication to the Permanent Representatives Committee (Council of the European Union, 2023). It recorded how the Commission "regrets the short deadlines for the adoption of delegated and implementing acts as well as several other follow-up actions" (Council of the European Union, 2023, p. 3), although it continued to defend its ambitious plan. The Commission acknowledged some practical limitations, allowing flexibility in EPR rules, but cautioned that divergent systems might weaken the Single Market (Council of the European Union, 2023). It resisted efforts to decrease due diligence, claiming that ethical sourcing was important to the EU's green transition (Council of the European Union, 2023). After all, the legislation clearly links environmental aims to market integration in order to address internal market dysfunction, stating that various national recycling, labeling, and due diligence laws impede cross-border trade and discourage investment (Council of the European Union & European Parliament, 2023). A regulation that applies immediately and consistently throughout all Member States eliminates transposition delays and inconsistencies, and as a result, helps address market dynamics and investment certainty for the circular battery industry (European Commission, 2020d).

5.3. Discussion

The discussion starts off with some broad remarks. An interesting observation is that the findings contrast with the common assumption that directives require longer legislative deliberation than regulations or decisions (Klüver & Sagarzazu, 2013; Rasmussen & Toshkov, 2013; Hurka & Haag, 2020). The duration of the legislative procedures did not differ significantly, but the processes still reveal a main distinction. The Battery Directive underwent several more rounds of readings and amendments than the Battery Regulation (see Table 6). This might give credence to the idea of greater policy complexity of directives in general. However, a more plausible explanation is the rise of trilogues and early agreements over the years (for more see Dionigi & Koop, 2017). With this said, let us now proceed to the main hypotheses (see Table 7).

Table 7

Hypotheses and findings

H	Hyptheses	Empirical Findings
H1	Greater policy urgency, regulation	Supported by findings
H2	Greater fear of non-compliance, regulation	Partly supported by findings

It was expected that the more policy urgency is prioritized, the more likely the Commission would propose regulations (over directives) to speed up implementation and avoid transposition delays. Similar observations are present in this analysis. From waste management to a strategic, climate-driven industrial policy, the Regulation marks a paradigm leap from the Directive as it reacts to supply chain vulnerabilities, global competitiveness, and the EU's Green Deal aspirations (Council of the European Union & European Parliament, 2023). The Regulation is a more thorough and forward-looking framework because of its wider scope, tighter harmonization, and alignment with the decarbonization target (European Commission, 2020d). In contrast, the Battery Directive, which prioritized hazardous waste reduction over industrial transformation, was the result of environmental policy in the early 2000s that struck a compromise between national implementation flexibility and minimum harmonization. Unlike the Battery Regulation, batteries were not framed as a strategic industrial asset, but rather as a waste stream that needed improved management, with an emphasis on lead, cadmium, and mercury reduction (European Commission, 2003). External events and pressures highlight the necessity for tight deadlines and lend weight to the idea that policy urgency necessitates regulation.

It was also anticipated that the more the Commission fears non-compliance, the more likely the Commission would propose regulations (over directives) because of the risk of fragmentation. Following the goodness of fit argument, when EU policies diverge significantly from national practices, implementation becomes difficult, resulting in resistance, delays, and/or non-compliance (Falkner et al., 2005; Mastenbroek & Kaeding, 2006; Thomson et al., 2020; Zhelyazkova, 2020). A quick comparison of the votes by the Council reveals that two countries abstained when voting for the regulation, while

the directive was passed unanimously (refer to Appendix C). In the Battery Directive, the Commission allowed severe relaxation of environmental regulations due to reasons of cost-effectiveness (Council of the European Union & European Parliament, 2006). In the Battery Regulation, however, the Commission only allowed some delays and flexibility rather than outright target reductions (Council of the European Union & European Parliament, 2023). In this case, the Commission rejected the Council's efforts to weaken due diligence - contrary to the Battery Directive's compromises - which signals a tougher stance to limit fragmentation (Council of the European Union, 2023). The Commission's position can be argued to have shifted from lesser ambition (Directive) to preserving high standards regardless of practical constraints (Regulation).

However, a deeper investigation of the Commission's rationale revealed that the fear of non-compliance and the risk of fragmentation were key themes for both legislations. After all, EP reports revealed that only six Member States had functional battery collection systems leading up to the proposal of the Battery Directive (European Parliament, 2006). Such concerns of fragmented national systems were also reported in the proposal of Battery Regulation (European Commission, 2020d), which is in line with scholarly findings that suggest merely 56.7 percent of waste portable batteries went uncollected each year, and the majority of Member States only met a 25 percent collection target by 2012 while merely 14 states met the 45 percent objective in 2016 (Neumann et al., 2022). Both proposals thus aimed to contribute to the effective operation of the Single Market, thereby ensuring the free movement of commodities and contributing to the formation of an internal market for the recycling of collected batteries.

As risks of non-compliance and fragmentation seem to play a substantial role in both cases, greater weight should be put on policy urgency. In the case of the Battery Regulation, policy urgency (H1) and the fear of non-compliance (H2) overrode usual politicization regarding European integration (Hurka & Steinebach, 2021). Stricter measures are frequently used as a preemptive enforcement weapon, rather than a negotiation technique, to reduce divergence in implementation, avoid loopholes, and ensure consistent application (May & Burby, 1998). In some policy fields, fragmentation is considered as more detrimental than non-adoption, particularly in times of great urgency (Cihon et al., 2020). A directive with flexibility may never accomplish its policy objectives if Member States use discretion to avoid effective implementation (Steunenberg & Toshkov, 2009). As a result, the Battery Regulation required higher standards of legal clarity and market integration from the start (European Commission, 2003). It particularly highlights the Commission's agenda-setting power to promote legislation as part of a larger normative and political agenda, defining commitment to EU-wide aims and influencing Member States through a clear implementing and monitoring framework (Maltby, 2013; Blom-Hansen & Senninger, 2020). This move reflects the EU's increased emphasis on circular economy notions, in which environmental goals are not negotiable (Maris & Flouros, 2021).

In the case of the Battery Directive, the findings do confirm the expectation of lower policy urgency (H1) but also reveal to be driven by similar concerns of non-compliance as the Battery Regulation. The risk of fragmentation is a consistent issue, addressed in both proposals (European Commission, 2003; European Commission, 2020d). Both cases revealed considerations of effectiveness and efficiency, but in the Battery Directive, the considerations of cost-effectiveness took precedence over the achievement of environmental goals (Council of the European Union & European Parliament, 2006; Council of the European Union & European Parliament, 2023). One could argue that the environmental ambition of the EP and the Council was at least equivalent to the Commission's proposal (European Commission, 2005), which might have already been a win for the Commission. This would align with the context of limited urgency, in which targeted action was not yet driven by pressing external forces. Even though resistance was anticipated, raising the bar early in the discussions may have been a calculated move to lock in ambition (Bailer, 2013).

Nevertheless, as the market for batteries is expanding at a rate never seen before, fragmentation has become an existential danger to the EU's green industrial goals, especially in the EV industry, which requires safer and more environmentally friendly battery solutions (Barkhausen et al., 2023). By anchoring rules in Single Market logic, environmental and economic incentives aligned to support the renewable energy transition and drive automotive sector competitiveness (European Commission, 2020d). With attention to enforceable and universal standards, the EU's battery legislation must also progress with them, providing opportunities for the proposal of the Battery Regulation (Council of the European Union & European Parliament, 2023). The Commission's move matches broader EU trends: environmental policy is no longer compartmentalized but incorporated into competitiveness strategy, with harmonization serving as a tool to deter non-compliance rather than punishing it (Maris & Flouros, 2021). The growing importance of environmental salience and climate policy on the EU agenda, as evidenced by initiatives such as the Green Deal, suggests a significant driver of change that could be an interesting explanatory factor for future research into the EU policy trajectory and consensus-building.

Chapter 6 - Conclusion

The Commission's choice of legal policy instrument has been identified as a key area for research and this study responds to this call by analyzing the case of the Battery Directive and Battery Regulation. Against this background, the MSSD guided the research that aimed to test theory-based hypotheses by identifying and synthesizing empirical evidence on the processes influencing the adoption of the Battery Directive and Battery Regulation. To build on existing understanding, the theoretical framework identified potential factors that influence the Commission's choice for regulations and directives, namely *policy urgency* and *fear of non-compliance*. The comparative analysis confirmed the hypothesis that the Commission's legal policy selection is influenced by policy urgency (H1). However, the empirical material revealed mixed results for fear of non-compliance (H2). In the case of the Battery Regulation, both concerns were important: the Green Deal's climate urgency mandated immediate, consistent action, whereas uneven member-state enforcement necessitated stricter measures. In contrast, the Directive originated in a low-urgency atmosphere, with fears of non-compliance addressed through flexible implementation rather than centralized enforcement.

Given the results, the research question¹ can be answered as follows. The Commission's supranational policymaking responds to increasing external pressures and shocks, resulting in greater coverage of the entire lifecycle of batteries to support a competitive and sustainable EU battery industry through the Battery Regulation in 2023, as opposed to the low-urgency context of the Battery Directive in 2006. This study highlights a strategic calculation in EU policymaking. When faced with high urgency and significant non-compliance risks, the Commission chooses regulations for quick and uniform implementation. When urgency is limited but harmonization is still required, directives are the preferable approach, allowing national flexibility for Member States to adapt. In the context of the battery sector, the shift from directive to regulation contributes to the broader debate on European integration, since the transition indicates the EU's shifting priorities from gradual market harmonization to crisis-driven, regulated integration.

The findings carry broader implications for EU policymaking. While the EU legal services do not endorse switching between legal instruments, this study suggests that the legacy of prior policy instruments may not dictate future instrument choices, particularly in the context of high policy urgency. These days, it is more likely that the Commission will rescind the discretion it has allowed in past directives. While it is too early to say, the current decisions to rely more heavily on regulations may bind subsequent commissions. Continued research will be crucial in assessing future developments and strengthening the theoretical basis. Nevertheless, this research also has practical significance for

¹ What explains the European Commission's decision to choose a Battery Directive in 2006 but a Battery Regulation in 2023?

policymakers and practitioners. The Battery Regulation demonstrates that emergencies necessitate regulations but overusing them may also risk backlash. While it is good to take preventive action, transitional flexibility is also needed in regulations to succeed, for instance through phased deadlines or conditional exemptions.

This study does have several limitations. Firstly, the theoretical concept of discretion is reduced to a binary dichotomy (directive vs. regulation), ignoring subtle differences in flexibility within each policy instrument. Secondly, this research design allows limited avenues for generalizability as it merely compared two cases within one policy domain. Lastly, while an array of existing primary and secondary data was thoroughly reviewed, triangulation through interviews or stakeholder reports might have improved validity. Future studies should broaden the scope to include additional policy domains to see whether urgency and compliance issues consistently predict instrument choice. Despite the limited generalizability, prospective research may compare the study's findings to other EU environmental legislation like the Packaging Waste Directive or even policy fields in which the Commission has also replaced directives with regulations, such as the example of the GDPR. In addition, the current results support the idea of context-dependent factors, such as external challenges, that shape the Commission's choice of legal policy instruments. However, these findings could be substantiated by further investigation into internal challenges, including inter-institutional dynamics with the EP and Council, as well as internal processes, such as the broader agenda shift within the European Commission.

Despite the drawbacks, this work lays down the groundwork for a new debate in the field of EU policymaking by improving the theoretical knowledge of the selection of policy instruments and encouraging in-depth investigation into the concrete motivations that guide the Commission when it chooses a legal instrument.

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Appendices

Appendix A

Metadata documents of analysis

Directive 2006/66/EC	
European Commission	Document Title: Directive 2000/53/EC of the European Parliament and of the Council of 18 September 2000 on end-of life vehicles Date: 2000 Document type: Legal document
	Document Title: Decision No 1600/2002/EC of the European Parliament and of the Council of 22 July 2002 laying down the Sixth Community Environment Action Program Date: 2002 Document type: Legal document
	Document Title: COM (2003) 723: Proposal for a Directive of the European Parliament and of the Council on batteries and accumulators and spent batteries and accumulators [SEC(2003)1343] Date: 2003 Document type: Policy proposal
	Document Title: Directive 2002/96/EC of the European Parliament and of the Council of 27 January 2003 on waste electrical and electronic equipment (WEEE) - Joint declaration of the European Parliament, the Council and the Commission relating to Article 9 Date: 2003 Document type: Legal document
	Document Title: Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment. Date: 2003 Document type: Legal document
	Document Title: Communication from the Commission to the European Parliament pursuant to the second subparagraph of Article 251 (2) of the EC Treaty concerning the Common Position of the Council on the adoption of a Directive of the European Parliament and of the Council on batteries and accumulators and spent batteries and accumulators Date: 2005 Document type: Policy report
	Document Title: Opinion of the Commission pursuant to Article 251 (2), third subparagraph, point (c) of the EC Treaty, on the European Parliament's amendments to the Council's common position regarding the proposal for a Directive of the European Parliament and of the Council on batteries and accumulators and waste batteries and accumulators repealing Directive 91/157/EEC

	Date: 2006 Document type: Policy report
	Document Title: Directive 2006/66/EC of the European Parliament and of the Council of 6 September 2006 on batteries and accumulators and waste batteries and accumulators and repealing Directive 91/157/EEC Date: 2006 Document type: Legal document
European Parliament	Document Title: ***I Report on the proposal for a European Parliament and Council directive on batteries and accumulators and spent batteries and accumulators (COM(2003) 723 – C5-0563/2003 – 2003/0282(COD)) Date: 2004 Document type: Policy report/amendments
	Document Title: ***II Recommendation for second reading on the Council common position for adopting a directive of the European Parliament and of the Council on batteries and accumulators and waste batteries and accumulators and repealing Directive 91/157/EEC (5694/5/2005 – C6-0268/2005 – 2003/0282(COD)) Date: 2005 Document type: Policy report/amendments
	Document Title: ***III Report on the joint text approved by the Conciliation Committee for a Directive of the European Parliament and of the Council on batteries and accumulators and waste batteries and accumulators and repealing Directive 91/157/EEC (PE-CONS 3615/2006 – C6-0154/2006 – 2003/0282(COD)) Date: 2006 Document type: Policy report
Council of the European Union	Document Title: Common position adopted by the Council on 18 July 2005 with a view to the adoption of the Directive of the European Parliament and of the Council on batteries and accumulators and waste batteries and accumulators and repealing Directive 91/157/EEC Date: 2005 Document type: Policy report
	Document Title: Common position adopted by the Council on 18 July 2005 with a view to the adoption of the Directive of the European Parliament and of the Council on batteries and accumulators and waste batteries and accumulators and repealing Directive 91/157/EEC - Statement of the Council's reasons Date: 2005 Document type: Policy report
	Document Title: Voting results 2745th meeting of the Council of the European Union (Agriculture and Fisheries) on 18 July 2006 Date: 2006 Document type: Policy report
United Nations	Document Title: Report of the World Summit on Sustainable Development Johannesburg, South Africa, 26 August - 4 September

	2002 Date: 2002 Document type: Report
Regulation (EU) 2023/1542	
European Commission	Document Title: Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on the implementation and the impact on the environment and the functioning of the internal market of Directive 2006/66/EC of the European Parliament and of the Council of 6 September 2006 on batteries and accumulators and waste batteries and accumulators and repealing Directive 91/157/EEC Date: 2019 Document type: Impact assessment
	Document Title: Commission staff working document impact assessment report accompanying the document Proposal for a Regulation of the European Parliament and of the Council concerning batteries and waste batteries, repealing Directive 2006/66/EC and amending Regulation (EU) 2019/1020 Date: 2020 Document type: Impact assessment
	Document Title: Proposal for a Regulation of the European Parliament and of the Council concerning batteries and waste batteries, repealing Directive 2006/66/EC and amending Regulation (EU) No 2019/1020 Date: 2020 Document type: Policy proposal
	Document Title: Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: A new circular economy action plan for a cleaner and more competitive Europe COM/2020/98 final Date: 2020 Document type: Policy report
	Document Title: Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Sustainable and Smart Mobility Strategy – putting European transport on track for the future. Date: 2020 Document type: Policy report
	Document Title: Circular economy action plan Date: 2020 Document type: Press release
	Document Title: Sustainable and Smart Mobility Strategy: Putting European transport on track for the future Date: 2021 Document type: Policy report

	Document Title: Updating the 2020 new industrial strategy: Building a stronger single market for Europe's recovery Date: 2021 Document type: Policy report
	Document Title: European industrial strategy Date: 2021 Document type: Press release
	Document Title: Regulation (EU) 2023/1542 of the European Parliament and of the Council of 12 July 2023 concerning batteries and waste batteries, amending Directive 2008/98/EC and Regulation (EU) 2019/1020 and repealing Directive 2006/66/EC Date: 2023 Document type: Legislative document
European Parliament	Document Title: ***I Report A9-0031/2022 on the proposal for a regulation of the European Parliament and of the Council concerning batteries and waste batteries, repealing Directive 2006/66/EC and amending Regulation (EU) No 2019/1020 (COM(2020)0798 – C9-0400/2020 – 2020/0353(COD)) Date: 2022 Document type: Policy report/amendments
Council of the European Union	Document Title: Progress report on 28 May 2021 from General Secretariat of the Council to Permanent Representatives Committee/Council Date: 2021 Document type: Policy report
	Document Title: Progress report on 7 December 2021 from General Secretariat of the Council to Permanent Representatives Committee/Council Date: 2021 Document type: Policy report
	Document Title: Adoption of the legislative act and statements on 30 June 2023 from General Secretariat of the Council to Permanent Representatives Committee/Council Date: 2023 Document type: Policy report
	Document Title: Voting result 3963rd meeting of the Council of the European Union (General Affairs) on 10 July 2023 Date: 2023 Document type: Policy report
World Economic Forum	Document Title: A vision for a sustainable battery value chain in 2030: Unlocking the full potential to power sustainable development and climate change mitigation Date: 2019 Document type: Report

Appendix B

Example of coding scheme and process

H₁: Policy urgency

Code	Definition	Example Phrases
Crisis framing	References of need to respond to external events and pressure	"According to estimates from the World Economic Forum, there is a need to scale up global battery production by a factor of 19 to accelerate the transition to a low-carbon economy" (European Commission, 2020d, p. 1).

26:3 p 2 in EC-1
According to estimates from the World Economic Forum, there is a need to scale up global battery production by a factor of 19 to accelerate the transition to a low-carbon economy2.

1 Coding
Crisis framing

Timeline pressure	References of short deadlines and negative consequences of delays	"The WEEE Directive explicitly calls for the revision of Directive 91/157/EEC as soon as possible" (European Commission, 2003, p. 8).
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16:8 p 8 in EC1
The WEEE Directive explicitly calls for the revision of Directive 91/157/EEC as soon as possible

1 Coding
Timeline pressure

H₂: Fear of non-compliance

Code	Definition	Example Phrases
Risk of non-compliance	Statements of risk of non-compliance	"Most Member States have met or exceeded the 2012 target for the collection of waste portable batteries (set at 25 %), but only 14 Member States have met the 2016 target (set at 45 %)" (European Commission, 2019, p. 3).

32:1 p 4 in CELEX_52019DC0166_EN_TXT
Most Member States have met or exceeded the 2012 target for the collection of waste portable batteries (set at 25 %), but only 14 Member States have met the 2016 target (set at 45 %)

1 Coding
Risk of non-compliance

Risk of fragmentation	Statements of risk of fragmentation and uneven enforcement	"This gives rise to market fragmentation, leads to uncertainty for business and could hinder the development of related economic activities" (European Commission, 2020a, p.19).
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33:1 p 20 in cellar_See7d299-3ad8-11eb-b27b-01aa75ed71a1.0001.02_DOC_1
This gives rise to market fragmentation, leads to uncertainty for business and could hinder the development of related economic activities.

1 Coding
Risk of fragmentation

Appendix C

Votes by the Council for adoption

2745th meeting of the Council (Agriculture and Fisheries) on 18 July 2006					
Member state	Vote	Weighting	Member state	Vote	Weighting
Belgium	Yes	12	Austria	Yes	10
Czech Republic	Yes	12	Poland	Yes	27
Denmark	Yes	7	Portugal	Yes	12
Germany	Yes	29	Slovenia	Yes	4
Estonia	Yes	4	Slovakia	Yes	7
Greece	Yes	12	Finland	Yes	7
Spain	Yes	27	Sweden	Yes	10
France	Yes	29	United Kingdom	Yes	29
Ireland	Yes	7			
Italy	Yes	29			
			Vote	Members	Votes cast
Cyprus	Yes	4	Yes	25	321
Latvia	Yes	4	No	0	0
Lithuania	Yes	7	Abstain	0	0
Luxembourg	Yes	4	Not participating	0	0
Hungary	Yes	12	Total	25	321
Malta	Yes	3			
Netherlands	Yes	13			

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Member state	Vote	Weighting	Member state	Vote	Weighting
Belgium	Yes	2,60	Malta	Yes	0,12
Bulgaria	Abstain	1,53	Netherlands	Yes	3,96
Czech Republic	Yes	2,36	Austria	Yes	2,00
Denmark	Yes	1,31	Poland	Yes	8,41
Germany	Yes	18,59	Portugal	Yes	2,31
Estonia	Yes	0,30	Romania	Yes	4,25
Ireland	Yes	1,13	Slovenia	Abstain	0,47
Greece	Yes	2,37	Slovakia	Yes	1,21
Spain	Yes	10,60	Finland	Yes	1,24
France	Yes	15,16	Sweden	Yes	2,33
Croatia	Yes	0,86			
Italy	Yes	13,32			
Cyprus	Yes	0,20			
Latvia	Yes	0,42			
Lithuania	Yes	0,63			
Luxembourg	Yes	0,14			
Hungary	Yes	2,17			

Note. Voting results of 18 July 2006 adopted from General Secretariat of the Council (2006). A qualified majority was reached if at least 232 votes in favor were cast by at least 13 Council members. The voting results of 10 July 2023 adopted from General Secretariat of the Council (2023). A qualified majority was reached if at least 15 out of 27 Council members voted in favor, which must represent at least 65% of the total EU population.