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SUMMARY OF DOCTORAL THESIS

Buying green. Understanding the factors affecting the uptake of green public procurement in the EU

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Introduction

This research investigates the factors influencing the adoption and implementation of Green Public Procurement (GPP) across European Union member states, focusing on Romania and Italy as comparative case studies. The study examines why, despite two decades of policy development at the EU level, GPP implementation remains fragmented and significantly below target levels. Through a multi-dimensional analysis combining quantitative measurements of GPP levels, qualitative assessment of implementation barriers, and comparative evaluation of policy frameworks, this research reveals distinct patterns in the Europeanisation of this voluntary environmental policy instrument.

The findings demonstrate that GPP implementation is hindered by complex barriers spanning policy design, administrative capacity, and organisational factors. These include unclear legislation, knowledge deficits among procurement personnel, inadequate training, limited leadership support, and insufficient monitoring mechanisms. The comparative analysis of Romania and Italy reveals how similar challenges can yield dramatically different outcomes depending on policy design and implementation frameworks. Italy's mandatory approach to minimum environmental criteria has driven higher compliance rates than Romania's non-binding framework.

This research contributes to the theoretical understanding of Europeanisation processes, supporting concepts of differential Europe and the three worlds of compliance while extending these frameworks to voluntary policy domains. The findings offer valuable insights for policy development, suggesting that strengthening mandatory requirements, establishing standardised monitoring systems, developing targeted training programs, and promoting life-cycle costing approaches could significantly enhance GPP implementation across the EU.

Chapter 1

Public authorities in the European Union spend between 14% and 16% of GDP annually on products, services, and works, representing enormous purchasing power with a significant environmental impact. GPP is a policy instrument that enables public authorities to incorporate environmental considerations into public procurement processes, thereby protecting the environment and stimulating the development of green markets.

For the past two decades, the European Commission has emphasised the importance of GPP in its strategic policy documents, establishing a framework that includes communications,

guides, training tools, and dedicated resources. Two key communications stand out: the 2003 Integrated Product Policy Communication, which recommended that Member States adopt national action plans (NAPs) to green their public procurement by 2006, and the 2008 Communication "Public Procurement for a Better Environment," which recommended creating common GPP criteria and set a target of 50% green tendering procedures by 2010. Despite these efforts, the Commission has hesitated to make GPP mandatory, leaving implementation decisions to Member States. This voluntary approach has significantly varied GPP applications across the EU. This research seeks to understand the factors driving these differences in GPP adoption and implementation across EU countries.

Chapter 2

The academic literature reveals that GPP levels across EU member states generally fall below policy targets. The EU Commission's original 50% GPP target for 2010 has not been met, with implementation rates varying significantly between countries. Some member states have embraced ambitious mandatory targets (Italy mandating 100% for specific product categories, Lithuania requiring 100% of all purchases annually from 2023), while others have adopted more cautious approaches (Estonia implementing a graduated schedule of 25% by 2022, 30% by 2025, and 50% by 2035). Several countries have developed differentiated systems where targets vary by product category, governmental level, or purchasing entity, while others have not established formal targets.

The factors affecting GPP adoption and implementation can be categorised into two distinct phases: (i) Adoption-related factors affecting the transposition of EU GPP policy into national legislation include the voluntary nature of GPP as an environmental policy instrument, ambiguity in legal requirements, lack of mandatory provisions, the "link to the subject matter" requirement and tension between environmental objectives and single-market principles and (ii) implementation-related factors affecting member states' capacity to respond in a compliant manner include: awareness of GPP toolkit, regulations, and instruments, knowledge and skills of procurement personnel, training availability, attitudes and commitment of procurement officers, administrative capacity, strategic approach to GPP, communication between institutions, leadership support, human resources, administrative risk/risk avoidance, organisational factors (type, size, structure), monitoring effectiveness, supplier availability, budgetary constraints, cost

perceptions of green products, application of life-cycle costing and evaluation approaches (lowest price vs. best value).

The literature review demonstrates that these factors collectively influence GPP outcomes, creating significant implementation challenges across the EU. This research adopts a Europeanisation theoretical framework to understand how these factors manifest in different member states and how they evolve.

Chapter 3

The research question guiding this study is: What factors drive the difference in the adoption and implementation of GPP in the EU countries? The dependent variable is GPP, the outcome that is to be explained, operationalised through two dependent variables: (i) the adoption of GPP rules, denoting the transposition of EU GPP policy into national legislation explained in this research as the GPP policy output and (ii) the implementation of GPP rules, explicated as the process ensuring compliance with GPP policy by contracting authorities, encompassing planning, resource allocation, actions, coordination, stakeholder participation, coercion, and the design of administrative and guidance instruments- policy outcome. As this research is relevant to the Europeanisation literature, the operationalisation of the two dependent variables draws from the theories in the academic literature of Europeanisation that explain the crucial distinction between policy output and policy outcome in the context of Europeanisation (Börzel and Risse 2002). Börzel and Risse highlight that understanding the actual impact of European integration on member states necessitates going beyond merely looking at the formal adoption of EU policies. They explain that policy output is the tangible, observable changes in the legal and institutional framework resulting from Europeanisation.

In contrast, policy outcome focuses on these policies' actual effects and consequences. It is about the fundamental societal changes – behaviours, practices, and conditions – brought about by implementing these European policies.

In order to verify the effect of the independent variables on the dependent variable, *GPP*, this research measured the percentage of GPP in the total number of public procurement procedures to indicate the policy's success or failure. Consequently, the central research question bifurcates into two operational research questions: *RQ1 What factors influence the adoption of GPP policies in EU countries? RQ2 What factors determine the implementation of GPP rules in the EU countries?*

The research for this study first identifies if the academic literature discusses the main factors affecting the GPP uptake in the EU countries (including the former member the UK) and Norway and points out that scientists from various domains were constantly preoccupied with the barriers and enablers for upscaling GPP in the last 20 years (Chapter 2). The literature review identifies several factors that influence the uptake of GPP in tenders (GPP uptake is explained in this study as GPP adoption + GPP implementation = higher percentage of GPP):

The research employs a mixed-methods approach structured around three sub-studies. Sub-study 1 (Chapter 4) investigates GPP policy in Romania, analysing GPP percentages in Romanian contracting authorities' practice from 2018 to 2024, the evolution of the GPP policy framework in Romania and adoption-related factors affecting the GPP ratio and factors hindering GPP implementation through questionnaires and interviews. Sub-study 2 (Chapter 5) provides a comparative analysis between Romania and Italy, examining similarities and differences in GPP policy frameworks, GPP implementation levels and challenges in both countries and factors explaining Italy's higher GPP compliance rates. Sub-study 3 (Chapter 6) compares all EU member states for each operational dependent variable and associated independent variables, analysing the geographical distribution of factors affecting GPP, the temporal evolution, and the patterns in how implementation challenges manifest across member states.

The Romanian case study measured GPP levels by examining tender documentation for five product categories (light-duty vehicles, copying and graphic paper, cleaning products and services, food and catering services, and IT office equipment) between 2018 and 2024. For Italy, this research collected data from the EU-funded CReIAMO PA project monitoring reports for 2018-2021. The research design has several limitations, including the focus on specific product categories, differences in data collection methods between countries, and potential selection bias in the literature review.

Chapter 4

The systematic analysis of 8,948 tender documents across five product categories from 2018-2023 revealed consistently low levels of GPP in Romania. Only 10.39% of tenders published for these product categories fully complied with green criteria during this period. Compliance rates varied significantly by product category: light-duty vehicles at 30.43%, copying and graphic paper at 15.63%, cleaning products and services at 11.83%, food and catering services at 3.52% and IT office equipment at 8.23%.

Following adopting the second GPP Guide in January 2024, an analysis of 1,673 award procedures showed improved vehicle compliance (67.90% vs. 38.99% in 2023) and IT equipment (67.03% vs. 23.53% in 2023). However, this improvement was primarily attributable to National Recovery and Resilience Plan (NRRP) funding requirements rather than systemic GPP policy implementation.

The research identified several adoption-related factors hindering GPP uptake in Romania, such as poor coordination between GPP legislation and public procurement laws, legal inconsistencies in the GPP Law of 2016, inadequate coordination between responsible institutions, failure to adopt a national action plan with mandatory GPP targets until April 2025, limited scope of the first Romanian GPP Guide (covering only six product categories) and policy shifts between emphasising technical specifications and award criteria.

Implementation-related barriers identified through surveys and interviews included limited awareness of GPP tools and regulations (44% of municipalities and 42% of communes using the GPP Guide only to a small extent), lack of knowledge and practical skills (only 34% of surveyed procurement staff felt they had sufficient practical skills), insufficient training (76.5% had never attended GPP-specific training), absence of strategic approach (only 10.3% of organisations had a formal strategy for implementing GPP), limited resources (61.8% reported insufficient staff capacity), lack of management support (57.7% received no instructions from managers to insert green criteria), absence of leadership encouragement (59.6% reported little or no encouragement from leadership) and the perception that green products are more expensive. Statistical analysis confirmed strong correlations between GPP implementation and variables related to knowledge, information access, and leadership support. The research demonstrates that Romania's GPP policy represents weak and incomplete Europeanisation, characterised by formal adoption without meaningful implementation.

Chapter 5

The comparative analysis between Romania and Italy reveals significant differences in GPP implementation levels despite similar challenges. According to monitoring data from the CReIAMO PA project, in 2021, 8 out of 13 Italian regions achieved 100% green public purchases (by value) for products with mandatory minimum environmental criteria. Approximately 72% of tenders organised by Italian regions for such product categories were green. By comparison, Romania's local authorities showed dramatically lower GPP rates across all product categories.

Both countries face common implementation challenges such as insufficient training, knowledge deficits, difficulties in drafting tenders with green criteria and limited availability of green suppliers for specific sectors.

However, key policy design and implementation differences explain Italy's higher compliance rates. Italy adopted a mandatory approach to minimum environmental criteria (MECs) through Law 221/2015, requiring all contracting authorities to include environmental requirements. Romania maintained a non-binding framework. Italy developed minimum environmental criteria for 21 product categories compared to Romania's 11 categories by 2024. Italy maintained a straightforward approach, treating a contract as "green" only when it includes both technical specifications and award criteria with environmental considerations. Romania oscillated between emphasising technical specifications and award criteria. Italy established a national action plan with mandatory targets early in its GPP policy development, while Romania failed to adopt it until January 2025.

The comparative analysis demonstrates that Italy's proactive stance in GPP policy, particularly its mandatory requirements, has been a key driver of higher implementation rates. From a Europeanisation perspective, Italy represents a successful voluntary alignment with EU norms, where domestic actors have effectively leveraged EU frameworks to drive modernisation in specific sectors.

Chapter 6

The analysis of the geographical and temporal distribution of factors influencing GPP adoption and implementation across EU member states revealed several distinct patterns. This chapter emphasises a cyclical pattern of Europeanisation. Similar barriers emerge across different temporal phases and administrative contexts. Challenges related to legal frameworks, knowledge gaps, and monitoring difficulties persist despite policy evolution and technological advancements.

The analysis in the sixth chapter highlights a geographical rhythm of GPP implementation challenges for GPP that often begin in Northern and Western European member states before being recognised in Southern and Eastern European contexts. For example, "lack of awareness" was first documented in Norway and Ireland (2009), then Italy and Poland (2011-2012), before becoming prominent in Romania (2020-2023). There are common implementation challenges as, despite formally adopting GPP policies, the member states face similar implementation challenges regardless of their administrative traditions or economic development levels. Barriers related to

organisational structure, leadership support, and administrative risk aversion are particularly evident. Without mandatory requirements, the voluntary nature of GPP has led to divergent national approaches, creating regulatory diversity across the EU. The third sub-study also reveals regional patterns of the factors hindering GPP application. Nordic countries frequently pioneer in identifying implementation challenges. Eastern European member states have shown a notable grouping of barrier recognition in recent years (2021-2023). Mediterranean member states demonstrate particular attention to barriers related to training and behavioural attitudes

The temporal evolution of GPP challenges shows progress in understanding implementation barriers: in the early phase (2006-2010), there was an initial focus on structural barriers; in the intermediate phase (2011-2016), the focus expanded to include operational challenges and in the recent phase (2017-2023) there is a growing emphasis on systemic barriers.

These patterns provide insights into the differential Europeanisation of GPP and highlight the challenges of policy transfer in voluntary environmental policy domains.

Conclusions

The research yields several predominant conclusions. The first is that policy design matters. Mandatory requirements significantly enhance GPP implementation compared to voluntary approaches. Italy's experience with mandatory minimum environmental criteria has driven higher compliance rates compared to Romania's non-binding framework. Then, the administrative capacity is critical: knowledge deficits, insufficient training, and limited expertise consistently emerge as primary barriers to effective GPP implementation across all member states studied. Third, leadership involvement is essential. The absence of political and administrative leadership support represents a significant barrier to GPP implementation. Statistical analysis confirmed strong correlations between GPP implementation rates and leadership encouragement. Furthermore, monitoring systems are essential. The lack of effective monitoring mechanisms creates a circular problem, as without concrete data demonstrating GPP's environmental and economic benefits, securing political support and resources becomes difficult. The research reveals significant variation in GPP levels across product categories, reflecting differences in market readiness and the availability of green alternatives. Last, the Europeanisation process of GPP follows distinct patterns. The analysis exposes a cyclical pattern of GPP Europeanisation where similar barriers emerge across different temporal phases and administrative contexts.

Based on these findings, the research offers several policy recommendations. The European Commission should consider moving from a voluntary to a mandatory approach for GPP implementation, particularly for product categories with high environmental impact and mature green markets. The EU policymakers should consider developing EU-wide systems that enable better tracking of GPP implementation and provide evidence of environmental and economic benefits. Developing and implementing training for procurement professionals, emphasising practical skills for implementing GPP criteria, is a process that needs further development. Another policy recommendation is to develop and promote standardised methodologies and tools to address persistent perceptions that green products are more expensive and to establish formal coordination mechanisms between environmental and procurement authorities to ensure coherent implementation. Developing targeted approaches for different administrative levels is essential because it recognises the distinct challenges faced by different levels of government and develops tailored support mechanisms.

This research demonstrates that effective implementation of GPP requires a multi-faceted approach addressing legal frameworks, administrative capacity, leadership commitment, and monitoring mechanisms. As the EU advances toward its climate neutrality objectives under the European Green Deal, GPP represents a critical policy instrument with significant untapped potential.

This research contributes to the theoretical understanding of Europeanisation processes in several ways. It supports Héritier's argument that voluntary policy instruments face particular implementation challenges in administrative contexts with limited capacity. It demonstrates what Börzel and Risse term "differential Europe", where formally similar policies yield dramatically different implementation outcomes based on domestic institutional arrangements. It supports Falkner's "three worlds of compliance" framework while extending this concept to voluntary policy domains. It addresses post-accession sustainability challenges by examining how newer member states struggle with implementing environmental policies without direct conditionality pressures. It demonstrates what Jordan and Lenschow identify as an institutional disconnection between environmental ambitions and administrative capacities.

Areas for future research include developing methodologies for measuring the actual environmental impacts of GPP implementation, examining how markets respond to GPP requirements, exploring how funding conditionality can be leveraged to enhance GPP uptake,

studying how implementation knowledge and best practices spread between member states, investigating how GPP interacts with other environmental policy instruments and examining the behavioural and attitudinal factors influencing procurement professionals' decisions.

This research fills a significant gap in understanding the factors that influence GPP uptake in the EU and provides valuable insights for policymakers seeking to enhance the effectiveness of this important voluntary environmental policy instrument.

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