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Article

Challenges for Upscaling Green Public Procurement in Romania

Abstract: In the context of adopting the 2030 Agenda for Sustainable Development, green public procurement has gained much importance for achieving the targets set by Sustainable Development Goal (SDG) 12. Although green public procurement (GPP) is a voluntary instrument, the strategic EU framework set by the European Green Deal indicates that, at least for specific products with considerable impact on climate change, the contracting authorities shall have to use green criteria in tenders. This re-

search aims to explain the factors influencing the adoption of GPP rules, their implementation, and the actual use percentage in Romania employing questionnaires answered by Romanian contracting authorities, interviews with public procurement officers and documentary analysis of the tender books published between 2018 and 2022 for three products regulated by the Romanian GPP Guide. The results of this research indicate that more than half of the re-

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Doctoral School in Political Sciences, National University of Political Studies and Public Administration, PhD Student, Bucharest, Romania; alinabilan@onvlaw.ro spondents have never used the GPP criteria set by the Romanian government or the ones elaborated by the European Commission. The thorough verification of the technical specifications for the products mentioned in the Romanian GPP Guide shows that roughly only 20% of the tenders published between 2018-2022 are green. The main finding is that the principal factor that explains the small percentage of GPP in Romania is the absence of

mandatory requirements and targets for GPP. Although the public procurement clerks are slightly aware of GPP's importance, the lack of training, knowledge, skills and, furthermost, the absence of a strategic GPP approach and leadership support make achieving the neutrality targets using this environmental policy tool a slow and laborious process.

Keywords: green public procurement; sustainable consumption and production; SDG, GPP, GPP criteria

1. Introduction. GPP – a powerful environmental policy tool for sustainable development

Green public procurement (GPP) has been acknowledged and promoted worldwide as an essential environmental policy instrument (OECD, 2002) and a mean to achieving sustainable development (Commission of the European Communities, 2001; Illge, 2003). GPP implies that public purchasers use environmental criteria as technical requirements, contractual clauses, or qualification criteria when procuring products, services or works (Evans et al., 2010). The UN 2030 Agenda sets for SDG 12 a target for GPP Promote sustainable public procurement practices in accordance with national policies and priorities (United Nations, 2015). Due to their enormous purchasing power, public spenders can use GPP to improve the environment, stimulate innovation, and reduce unsustainable consumption (Tukker et al., 2006; Bauer, 2009; European Commission, 2017). The importance of using GPP has been stressed continuously at the EU level in the last 20 years (Council of the European Union, 2006; European Commission, 2010; European Commission, 2016; European Commission, 2019). In 2023, GPP is already happening in Romania, but the new EU strategy to be climate-neutral by 2050 requires a strategic approach. Romania seems to lag behind in comprehensive and clear sustainable procurement policies and implementation. This study aims to explain the factors influencing the adoption of GPP rules, their implementation, and the actual use percentage in Romania.

2. The main factors affecting GPP discussed in the academic literature

The academic literature on GPP in the last 20 years was constantly preoccupied with the barriers and enablers for upscaling GPP. The literature review identifies several factors that influence the uptake of GPP: unclear legislation (Burchard-DziubiDska and Jakubiec, 2012; Mélon, 2020), lack of enabling regulation for GPP (Hall et al., 2016), lack of insufficient enforcement of the requirements sanctions (Sjåfjell and Wiesbrock, 2015), lack of sustainable procurement national policies (Andhov et al., 2020; Kristensen et al., 2021), lack of knowledge (Georghiou et al., 2014), lack of training and administrative capacity (Van der Zwann, 2018; Conghu et al., 2020), possible distortion of the competition (Thomson and Jackson, 2007), the awareness of GPP practices, tools, and regulations, the support of external experts (Testa et al., 2012, 2016; Sönnichsen and Clement, 2020), the dimension of public authority (Michelsen and de Boer, 2009), the number and variety of factors to consider when distinguishing or choosing environmentally preferable products (Swanson et al., 2005), the role of actors and stakeholder in the procurement process (Guenther et al., 2013; Johnson and Klassen, 2022), the financial constraints (Walker and Brammer, 2009; Brammer and Walker, 2011), the perceived costs of green products (Leal Filho et al., 2019), the absence of official guidance (Swanson et al., 2005), the lack of dedicated personnel (Michelsen and de Boer, 2009; Testa et al., 2016), the behaviour of procurers and the absence of a practical commitment (Grandia, 2015; Hall et al., 2016; Grandia and Voncken, 2019), the confidence of procurement officers (Erridge and Hennigan, 2012; Hall et al., 2016), and the attitudes of the suppliers (Oruezabala and Rico, 2012; Lundberg and Marklund, 2013). Previous research on the Romanian case (Bilan, 2021) indicates that the scarcity of green criteria in tenders has various causes. These classify into adoptionrelated factors, implementation-related factors (lack of instruments and good practices guides,

lack of awareness of the Guides), and percentages of application-related factors (lack of training and monitoring). Ciumara and Lupu highlight barriers to implementing GPP in Romania, such as the lack of specific knowledge, clear professional training, higher cost of green procurement, and the lack of providers for green goods and services (Ciumara and Lupu, 2020). A vital component of understanding the use of GPP in the EU is quantifying to what extent it is practised (European Commission, 2017). Most academics analysed the contract notices and contract award notices for tenders published in the national electronic systems for public procurements or in TED based on keywords searches (Prenen, 2008; Igarashi et al., 2015; D□upka et al., 2020; Grandia and Kruyen, 2020; Litardi et al., 2020; Yu et al., 2020; Rosell, 2021) and/or they used surveys, and interviews. The most frequent mentioned factors that affect GPP uptake constituted the independent variables that formed the basis for designing the questionnaire and interview.

3. Localization of the research and preliminary results

This research aims to explain the factors influencing the adoption of GPP rules, their implementation, and the actual use percentage in Romania. As submitted in section 2, this analysis emphasised that scientists from various domains were constantly preoccupied with the barriers and enablers for upscaling GPP in the last 20 years. The factors identified in the literature are the independent variables tested through questionnaires answered by procurement experts from Romanian contracting authorities and interviews with public procurement officers to assess if these barriers are the same in Romania. The research also employed a documentary analysis of the tender books published between 2018 and 2022 for four products regulated by the Romanian GPP Guide to check the percentage of the GPP Guide compliance in practice.

The answers to an online questionnaire and interviews with Romanian public procurement officers from distinct contracting authorities at different levels of government (central, regional, local, hospitals, schools, and state-owned companies) came between January 2023 and March 30, respectively, 2023. In order to avoid the potential biases of the respondents during interviews and questionnaires, this research also employed a document analysis and scrutinized all the tender books published in the ESPP between November 13, 2019, and December 31, 2022, for three categories of products (light-duty vehicles, copying and graphic paper, cleaning products and services) out the six comprised in the Romanian GPP Guide that begun in 2020. This study highlights only the results of the preliminary data collected and envisages a future in-depth statistical analysis.

An online questionnaire was sent to 146 contracting authorities from Romania at different levels of government, central, regional, and local, out of which 60 responses have been collected so far, with a 41 % response rate. When inquired about the annual percentage of GPP out of their total public procurements, 40 % of the respondents answered that they do not know or cannot answer, or 0%. 35% indicated that their annual rate of GPP is between 1-9%, 10% indicated a level between 10-19% of GPP, 2% revealed a level between 20-29% of GPP, 3% indicated a GPP level between 30-39%, 3% mentioned a GPP level between 40-49%, 2% mentioned a GPP level between 60-69%, 3% mentioned a GPP level between 70-79% while 2% mentioned a GPP level between 80-89% (Fig. 1).

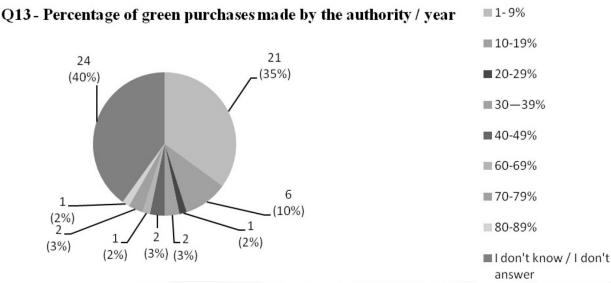


Figure 1. Percentage of green purchases made by the authority/year

These responses show that only five respondents (8%) have a GPP level above 50%, while most (35%) present a very low level of GPP, under 10 %. When inquired if they use the EU GPP criteria, 49% (29 respondents) answered that they do not use them, 3% (2 respondents) have not heard of the GPP EU criteria, and 8% (5 respondents) mentioned that they use it to a small extent. (Fig. 2). These responses highlight that more than 50% of the respondents do not use these green criteria.

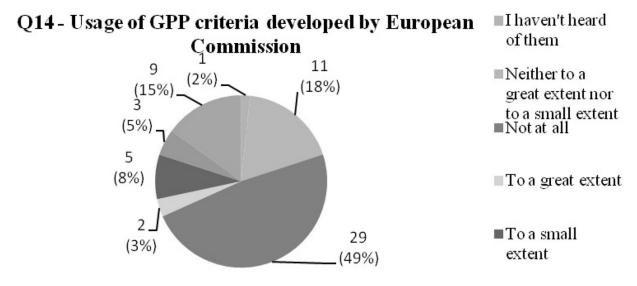


Figure 2. Usage of GPP criteria developed by the European Commission

The online survey asked the respondents to indicate the percentage of use of the GPP Guide². Fig. 3 shows that 53% (32 respondents) do not use them at all, 2% (1 respondent) have not heard of them, and 7 % (4 respondents) use them in tenders to a small extent.

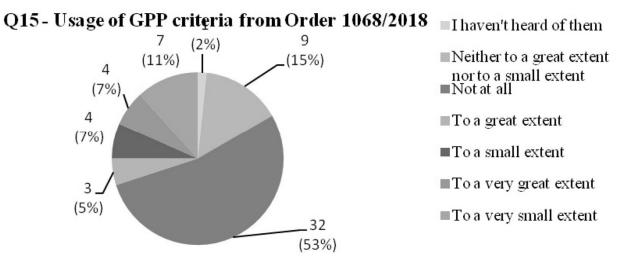


Figure 3. Usage of GPP criteria from Order 1068/2018

56,6 % of the respondents declared they have sufficient theoretical knowledge to apply GPP. In contrast, the rest of the respondents declared that they possess theoretical knowledge to a small extent (21,7%), to a very small extent (18,3%) or not at all (3,3%). Only 36,7% mentioned that they have enough practical experience to apply GPP. 50,6 % of the respondents know the importance of GPP for environmental protection. Lack of knowledge, skills, and information seems that affect the application of GPP if almost 50% of the contracting authorities declare that. Only 5% are familiar with the EU GPP Criteria to a very great extent, 13,3% to a great extent, while 16,7% are familiar neither to a great extent nor to a small extent. 28,3% are familiar with these criteria to a small extent and 16,7% to a very small extent. The percentage of respondents who do not know the EU GPP criteria is 20%.

18,3% of the respondents have not heard of the Romanian GPP Guide (3,3%) or are unfamiliar with its provisions (15%). 11,7% of respondents are familiar with the GPP Guide to a very small extent, 23,3% to a small extent, 13,3% neither a great extent nor to a small extent, 30% to a great extent and only 3,3% to a very great extent. 48,4% consider that the guidelines and information at the national level on how to use green specifications are insufficient, while only 21,7% consider to a great extent that they are sufficient. The result emphasises that awareness of existing tools and regulations is very low.

26,7% of the respondents declared that they do not know if there is a strategy for applying green public procurement within the authority where they are working, while 61,7% mentioned that there is none. This result highlights a significant lack of a strategic approach to GPP practice.

Only 15% of the respondents answered that they have sufficient personnel to use GPP, and 61,7% declared that it is insufficient to apply GPP. 55 % of respondents declared they would feel encouraged to employ GPP if there was a national NAP with a mandatory target. 33,3% of the contracting authorities mentioned that they never use green technical specifications or green evaluation factors in tender documents, and 36,7 % rarely use them. 85% of the respondents have never attended courses or training programs for GPP.

During research for elaborating the first Voluntary subnational Report on the Localization of the Sustainable Development Goals of the UN at the level of municipalities and communes in Romania, 109 municipalities and 2862 communes from Romania received a questionnaire. The rate of responses is 64% for municipalities (70 respondents) and 19% for communes (539).

respondents). For SDG 12, the survey required local governments to indicate how much they use the GPP Guide or the EU green criteria. Answers show that only 4 % of the local governments use, to a very great extent, the green criteria from the GPP Guide or those elaborated by the EU Commission. 30% of the municipalities and 24% of the communes use green criteria to a great extent. In comparison, 44% of the municipalities and 42% of the communes use green criteria to a small extent. The rate of non-usage, or to a minimal extent, of green criteria is 30% of communes and 23% of the municipalities.

Tender books analysis³ for a period comprised between November 13, 2019, and December 31, 2022, for three categories of products (light-duty vehicles, copying and graphic paper, cleaning products⁴ and services) out of the six comprised in the GPP Guide highlights a shallow rate of GPP and compliance with the Guide. The selection of the tenders employed keywords: "*vehicle*"⁵, "*car*", "*paper*", and "*cleaning*"⁶. To establish compliance with the GPP Guide, I verified if the tender books met the two prerequisites specified in the Guide. The following classifications arose from the analysis: non-compliant, partially compliant⁸, and fully compliant.

Between 13.11.2018-31.12.2018, only 42 % of the procurements of the vehicles were compliant with the GPP Guide. The rest of the 58 % were non-compliant. In 2019 only 39 % of the tenders complied with the GPP Guide. In 2020, the percentage decreased to 21% from the total vehicle procurements analysed. In 2021, the percentage of compliant procedures was 32%. In 2022 percentage decreased to 23 %, indicating that although more than three years have passed since the adoption of the GPPP Guide, its provisions are insufficiently known by the contracting authorities. The analysis for the whole scrutinised period emphasizes that only 29% of all the public procurement procedures for vehicles published in this interval were green.

Between 13.11.2018-31.12.2018, only 8% of the public procurements for copying and graphic paper complied with the GPP Guide. In 2019 only 16 % of the tenders complied with the GPP Guide; in 2020, the percentage of green tenders decreased to 11%. In 2021 there were only 16% of green tenders out of the total tenders for copying-paper published that year. The percentage of compliant procedures decreased to 10% in 2022. Analysis of the tender procedures for purchasing copying and graphic paper, published in ESPP for the period November 18 2018 – December 31, 2022, reveals that only 13% of the number of published tenders in the last four years were fully compliant with the GPP Guide, while 7% were partially compliant. The percentage of non-compliant procedures is 80%, demonstrating that the GPP policy in Romania has not reached its purpose.

Tender books analysis for cleaning products and services for 13.11.2018-31.12.2018 highlights that 88 % of the published procedures were not compliant with the GPP Guide: in 2019, the percentage of non-compliant tenders was 86%, which increased in 2020 to 87%. In 2021 the percentage of non-compliant tenders increased further to 89% and slightly decreased in 2022 to 80%.

Analysis of the tender procedures for purchasing cleaning products and services published in ESPP for the period November 18 2018 – December 31, 2022, reveals that only 10% of the number of published tenders in the last four years were fully compliant with the GPP Guide, while 5% were partially compliant. The percentage of non-compliant procedures is 85% which shows that the GPP policy in Romania has failed, although it has been more than four years since adopting the Guide.

An interview with 43 public procurement workers from different levels of government took place in February and March 2023. The interpretation of these preliminary data shows that attitude toward the environment is not a barrier to GPP uptake in Romania.

Regarding the commitment to "greening" the public procurement practice of the institution where they work, 11,6% of respondents affirmed a very strong commitment. 55,8% mentioned a strong commitment, 27,9% declared neither an extensive nor weak commitment, and 4,7% described their commitment as weak from these preliminary data outcomes that the commitment to change is not an influencing factor to upscaling GPP. Similar with other responses, it seems that motivation does not represent a factor that significantly influences the application of GPP.

When asked if they received a specific request from the management to insert ecological criteria in tenders, 37,2% declared that they did not receive such a request, 20,9% have been asked by the managers very rarely and 7% rarely. 23,3% of the respondents stated that the managers asked them to include green criteria in tenders neither often nor rarely. In comparison, only 9,3% mentioned they have this request often, and 2,3% mentioned that the manager often asks for green criteria. The responses indicate that the lack of implication from the management for using GPP represents a substantial factor affecting GPP application.

37,2% of the interviewed procurement officers declared that management encouraged them to introduce green factors in the awarding procedures to a very small extent, 25,58% encouraged to a small extent, and 32,55 % neither to a great nor to a small extent. In comparison, only 4,7% are encouraged to a great extent to introduce green criteria in public procurement. This result indicates that leadership support is an essential factor influencing the application of GPP in Romania.

Risk adversity or fear of control is not a barrier to using green criteria. 37,2% of the interviewees declared that they fear control from the auditing bodies to a minimal extent, and 25,58% to a small extent. Only 4,7% of the respondents prefer not to use GPP due to their fear of control.

The perception that the products, services, and works with an ecological component are more expensive does not play a significant role as a barrier to using GPP as only 4.5% of the interviewed express this belief to a very great extent, 11.4% to a great extent, 31.8% have this perception neither to a great nor to a small extent. In comparison, 34.1% believe to a small extent that green products are more expensive and 18.2% to a very small extent.

The perception is that GPP is not an obstacle to free competition as only 13,9% of the procurement officers perceived that GPP could distort competition to a great extent or to a great extent. Regarding the green suppliers' availability, there is a belief that there are not enough producers and providers on the market to supply ecological products. This factor does seem to influence the application of GPP.

4. Conclusions

The results of this research indicate that the principal factor that explains the small percentage of GPP in Romania is the absence of mandatory requirements and targets for GPP. Impediments such as lack of training, awareness of the existing tools, insufficient knowledge and skills and, furthermost, the absence of a strategic GPP approach and leadership support of contracting authorities make the upscaling GPP in Romania a problematic endeavour.

Conflicts of interest

The author declares no conflict of interest.

Endnotes

- 1. This specific target has the corresponding indicator, which is general: "12.7.1 Number of countries implementing sustainable public procurement policies and action plans".
- 2. The Order no. 1068/1652/2018 for the approval of the Green Procurement Guide that sets forth the minimum requirements regarding environmental protection for six groups of products and services: 1. Copy paper and graphic paper; 2. Transportation vehicles requirements: (i) carbon dioxide CO2 emissions and the pollution norm; 3. New interior and exterior furniture renovation/reconditioning and collection and reuse services a stock of furniture at the end of its life cycle; 4. Cleaning products and services; 5. Food and catering services: 6. Office IT equipment.
- 3. The public procurement procedures initiated by the contracting authorities were identified on the official website www.e-licitatie.ro hosting ESPP, the Electronic System for Public Procurement.
- 4. This group includes 6 product categories: universal detergents; detergents for sanitary installations; detergents for windows; detergents and rinsing products for dishwashers; dish detergents for manual washing; laundry detergents and pre-wash stain removers for washing machines.
- 5. The research considered only vehicle purchases (including through the leasing system) but excluded vehicle rentals, transport services and bus purchases.
- 6. The tenders published by hospitals/sanitary facilities and residential centres for the protection of children, the disabled and the elderly were excluded from the selection because the GPP guide does not apply to those contracting authorities.
- 7. Requirements for vehicles: (1) the carbon dioxide emissions level expressed in CO2 emissions in g/km and (2) the pollution norm (Euro 6); requirements for copying and graphic paper: (1) the paper must be produced from recovered paper fibres, recycled paper or based on unprocessed fibres, in a proportion of 75% 100% and (2) the paper should not contain elementary chlorine "elementary chlorine free" ECF; requirements for cleaning products and services: (1) Product labelling and (2) Dosage and packaging.
- 8. Partial fulfilment of the conditions of the GPP Guide implies that mention was made solely to only one condition out of the two mandatory requirements of the Guide.

References

- Andhov, M., Caranta, R., Stoffel, T., Grandia, J., Janssen, W. A., Vornicu, R., Czarnezki, J. J., Gromnica, A., Tallbo, K., Martin-Ortega, O., Mélon, L., Edman, Å., Göthberg, P. Nohrstedt, P., and Wiesbrock, A. (2020) Sustainability Through Public Procurement: The Way Forward Reform Proposals. Available at: SSRN: https://ssrn.com/abstract=3559393; https://doi.org/10.2139/ssrn.3559393.
- Bauer, B., Christensen, J., Christensen, K., Dyekjær-Hansen, T., and Bode, I. (2009) *Benefits of green public procurement*, Nordic Council of Ministers, [e-book] TemaNord 2009:593, Available through: https://www.norden.org/en/publication/benefits-green-public-procurement. [Accessed 30 May 2022].
- Bilan, A. (2021) Chapter 7: Buying Green? How a Green Public Procurement-Dedicated Law Can Do More Harm than Good Chapter In: Todor, A., Helepciuc, F.E. (eds) Europeanization of Environmental Policies and their Limitations. Springer, Cham. Available at: https://doi.org/10.1007/978-3-030-68586-7 7.
- Brammer, S., Walker, H. (2011) Sustainable procurement in the public sector: An international comparative study. International Journal of Operations & Production Management, 31, 9551. Available at: https://doi.org/10.1108/01443571111119551.
- Burchard-Dziubinska, M., Jakubiec, T. (2012) Green public procurements (GPP) as an instrument of implementation of sustainable development. Analysis of the experience of the Lódz region local government. Comparative Economic Research. 15(3), 0015-9. Available at: https://doi.org/10.2478/v10103-012-0015-9.
- Ciumara, T., Lupu, I. (2020) Green procurement practices in Romania: evidence from a survey at the level of local authorities. Sustainability 2020, 12(23), 10169. Available at: https://doi.org/10.3390/su122310169.
- Commission of the European Communities (2001)- Green Paper on Integrated Product Policy (COM(2001) 68 Final). Available at https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A52001DC0068. [Accessed 16 March 2023].

- Conghu, W., Yuhua, Q., Xiaoming, L. (2020) A systems approach for green public procurement implementation. Journal of Public Procurement 20(3), 0017. Available at: https://doi.org/10.1108/JOPP-03-2019-0017.
- Council of the European Union (2006) 10917/06 Renewed EU Sustainable Development Strategy. Available at: https://data.consilium.europa.eu/doc/document/ST-10917-2006-INIT/en/pdf. [Accessed 10 January 2023].
- Dzupka, P., Kubák, M., Nemec, P. (2020) Sustainable Public Procurement in Central European Countries. Can It Also Bring Savings? Sustainability 2020, 12(21), 9241. Available at: https://doi.org/10.3390/su12219241.
- Erridge, A., Hennigan, S. (2012) Sustainable procurement in health and social care in Northern Ireland. Public Money & Management 32(5):363–370. Available at: https://doi.org/10.1080/09540962.2012.703422.
- European Commission Directorate-General for Communication (2019) COM(2019)22 Towards a sustainable Europe by 2030 Reflection paper. European Commission, Brussels. Available at: https://commission.europa.eu/publications/sustainable-europe-2030 en. [Accessed 10 February 2023].
- European Commission (2010) COM(2010) 2020 final EUROPE 2020 A strategy for smart, sustainable and inclusive growth. Available at: https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:2020: FIN:EN:PDF. [Accessed 20 November 2022].
- European Commission (2017) Public Procurement for a Circular Economy. Good practice and guidance. Available at: https://circabc.europa.eu/ui/group/44278090-3fae-4515-bcc2-44fd57c1d0d1/library/d0edba 29-8379-49d5-a61a-915984e567d5?p=1&n=10&sort=modified_DESC. [Accessed 4 April 2023].
- European Commission, Secretariat-General (2016) Commission Staff Working Document Key European action supporting the 2030 Agenda and the Sustainable Development Goals Accompanying the document Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions Next steps for a sustainable European future: European Union action for sustainability SWD/2016/0390 final. Available at: https://eur-lex.europa.eu/legalcontent/en/ALL/?uri=CELEX:52016SC0390. [Accessed 15 March 2023].
- Evans, L., Nuttall, C., Mouat. A., Ewing. D. (2010) Assessment and comparison of national green and sustainable public procurement criteria and underlying schemes. Final Report. Available at: http://ec.europa.eu/environment/gpp/pdf/Criteria%20and%20Underlying%20Schemes.pdf. [Accessed 17 November 2020].
- Georghiou, L., Edler, J., Uyarra, E., Yeow, J. (2014) Policy instruments for public procurement of innovation: Choice, design and assessment. Technological Forecast and Social Change 86, 018. Available at: https://doi.org/10.1016/j.techfore.2013.09.018.
- Grandia, J. (2015) The role of change agents in sustainable public procurement projects. Public Money & Management 35(2), 7706. Available at: https://doi.org/10.1080/09540962.2015.1007706.
- Grandia, J., Kruyen, P.M. (2020) Assessing the implementation of sustainable public procurement using quantitative text-analysis tools: A large-scale analysis of Belgian public procurement notices. Journal of Purchasing and Supply Management 26(4), 0627. Available at: https://doi.org/10.1016/j.pursup.2020.100627.
- Grandia, J., Voncken, D. (2019) Sustainable public procurement: the impact of ability, motivation, and opportunity on the implementation of different types. Sustainability 2019, 11(19), 5215. Available at: https://doi.org/10.3390/su11195215.
- Guenther, E., Hueske A-K, Stechemesser K, Buscher L (2013) The 'why not' perspective of green purchasing: a multilevel case study analysis. Journal of Change Management 13 (4), 1950. Available at: https://doi.org/10.1080/14697017.2013.851950.
- Hall, P., Löfgren, K., Peters, G. (2016) Greening the street-level procurer: challenges in the strongly decentralized Swedish system. Journal of Consumer Policy 39(4), 282-8. Available at: https://doi.org/10.1007/s10603-015-9282-8.
- Igarashi, M., de Boer, L., Michelsen, O. (2015) Investigating the anatomy of supplier selection in green public procurement. Journal of Cleaner Production 108(A), 8.010. Available at: https://doi.org/10.1016/j.jcle pro.2015.08.010.
- Illge, L. (2003) *Integrated Product Policy: an Opportunity for Environmental and Economic Policy*. Economic Bulletin 3. Available at: https://www.researchgate.net/publication/275950333_Integrated_Product_Policy_an_Opportunity_for_Environmental_and_Economic_Policy [Accessed 22 may 2021].
- Johnson, P.F., Klassen, R.D. (2022) New directions for research in green public procurement: the challenge of inter-stakeholder tensions. Cleaner Logistics and Supply Chain 3,100017. Available at: https://doi.org/10. 1016/j.clscn.2021.100017.

- Kristensen, H.S., Mosgaard, M.A., Remmen, A. (2021) Circular public procurement practices in Danish municipalities. Journal of Cleaner Production 281, 124962. Available at: https://doi.org/10.1016/j.jclepro.2020.124962.
- Leal Filho W., Skouloudis, A., Brandli, L.L., Salvia, A.M., Veiga Avila, L., Rayman-Bacchus, L. (2019) Sustainability and procurement practices in higher education institutions: Barriers and drivers. Journal of Cleaner Production 231, 202. Available at: https://doi.org/10.1016/j.jclepro.2019.05.202.
- Litardi, I., Fiorani, G., Alimonti, D. (2020) Chapter 9 The State of the Art of Green Public Procurement in Europe: Documental Analysis of European Practices. In: Brunelli, S., Di Carlo, E. (eds) Accountability, Ethics and Sustainability of Organizations. Accounting, Finance, Sustainability, Governance & Fraud: Theory and Application. Springer, Cham. Available at: https://doi.org/10.1007/978-3-030-31193-3_9.
- Lundberg, S., Marklund, P.-O. (2013) Green public procurement as an environmental policy instrument: cost-effectiveness. Environmental Economics 4(4). Available at: https://www.researchgate.net/publication/267094182_Green_public_procurement_as_an_environmental_policy_instrument_cost_effectiveness [Accessed 4 June 2022].
- Mélon, L. (2020) More than a nudge? Arguments and tools for mandating green public procurement in the EU. Sustainability 2020, 12(3), 988. Available at: https://doi.org/10.3390/su12030988.
- Michelsen, O., de Boer, L. (2009) Green procurement in Norway; a survey of practices at the municipal and county level. Journal of Environmental Management 91(1), 8.001. Available at: https://doi.org/10.1016/j.jenvman.2009.08.001.
- OECD (2002) Recommendation of the Council on Improving the Environmental Performance of Public Procurement OECD/LEGAL/0311. Available at: https://legalinstruments.oecd.org/public/doc/46/46.en.pdf [Accessed 10 December 2022].
- Oruezabala, G., Rico, J.-C. (2012) The impact of sustainable public procurement on supplier management— The case of French public hospitals. Industrial Marketing Management 41(4), 4.004. Available at: https://doi.org/10.1016/j.indmarman.2012.04.004.
- Prenen, E.C. (2008) Green and sustainable public procurement in the Netherlands: an inconvenient truth. In: Proceedings of the 3rd International Public Procurement Proceedings. Amsterdam, The Netherlands, 28-20 August 2008, IPPC3, pp.551-570.
- Rosell, J. (2021) Getting the green light on green public procurement: Macro and meso determinants. Journal of Cleaner Production 279, 3710. Available at: https://doi.org/10.1016/j.jclepro.2020.123710.
- Sjåfjell, B., Wiesbrock, A. (2015) Sustainable public procurement under EU law: new perspectives on the state as stakeholder. Cambridge University Press.
- Sönnichsen, S.D., Clement, J. (2020) Review of green and sustainable public procurement: Towards circular public procurement. Journal of Cleaner Production 245, 118901. Available at: https://doi.org/10.1016/j.jclepro.2019.118901.
- Swanson, M., Weissman, A., Davis, G., Socolof, M.L., Davis, K. (2005) Developing priorities for greener state government purchasing: a California case study. Journal of Cleaner Production 13(7), 2.011. Available at: https://doi.org/10.1016/j.jclepro.2003.12.011.
- Testa, F., Grappio, P., Gusmerotti N.M., Iraldo, F., Frey, M. (2016) Examining green public procurement using content analysis: existing difficulties for procurers and useful recommendations. Environment, Development and Sustainability 18, 634-1. Available at: https://doi.org/10.1007/s10668-015-9634-1.
- Testa, F., Iraldo, F., Frey, M., and Daddi, T. (2012) What factors influence the uptake of GPP (green public procurement) practices? New evidence from an Italian survey, Ecological Economics, 82, 011. Available at: https://doi.org/10.1016/j.ecolecon.2012.07.011.
- Thomson, J., Jackson, T. (2007) Sustainable procurement in practice: lessons from local government. Journal of Environmental Planning and Management 50(3), 1695. Available at: https://doi.org/10.1080/09640560701261695.
- Tukker, A., Huppes, G., Guinée, J., Heijungs, R., de Koning, A., van Oers, L., Suh, S., Geerken, T., Van Holderbeke, M., Jansen, B. (2006) Environmental Impact of Products (EIPRO) Analysis of the life cycle environmental impacts related to the final consumption of the EU-25. European Commission, Joint Research Centre, Institute for Prospective Technological Studies, Leiden, Technical Report EUR 22284 EN.

- United Nations (2015) Transforming Our World: The 2030 Agenda for Sustainable Development, A/RES/70/1. Available at: https://sustainabledevelopment.un.org/index.php?page=view&type=111&nr=8496&menu=35 [Accessed 20 November 2022].
- Van der Zwann, J. (2018) Green Public Procurement as environmental policy tool: A theoretical framework. Working Paper May 2018. Available at: https://www.a-id.org/wp-content/uploads/2018/05/Green_rpcurement_May_2018_21.pdf [Accessed 20 January 2023].
- Walker, H., Brammer, S. (2009) Sustainable procurement in the United Kingdom public sector. Supply Chain Management 14(2), 1993. Available at: https://doi.org/10.1108/13598540910941993.
- Yu, C., Morotomi, T., Yu, H. (2020) What influences adoption of green award criteria in a public contract? An empirical analysis of 2018 European public procurement contract award notices. Sustainability 2020, 12(3), 1261. Available at: https://doi.org/10.3390/su12031261.