CZU: 332.142.6:061.1UE https://doi.org/10.59295/dnwe2025.43

TRANSITION TO THE CIRCULAR ECONOMY IN THE EU: OBSTACLES, GAPS AND PROSPECTS

RUSU ELENA
Moldova State University, 60 Alexe Mateevici, Chisinau, Republic of Moldova
ORCID ID: 0000-0001-8593-0079

Otilia MANTA
Romanian Academy, School of Advanced Studies of the Romanian Academy, Doctoral School of Economic Sciences, National Institute of Economic Research "Costin C. Kirițescu", Center for Financial and Monetary Research "Victor Slăvescu", Bucharest, Romania
ORCID ID: 0000-0002-9411-7925

Purpose of the article: *This article examines the transition towards a circular economy in the European Union, with a focus on the main obstacles, disparities among member states, and future prospects, particularly in the context of green and circular public procurement.*

Methodology: *The study employs established research methods, including monographic analysis, document review, comparative analysis, and trend evaluation. The research is based on a systematic examination of international frameworks, European Union policy documents, and illustrative case studies related to the implementation of circular economy principles.*

Conclusions: *The findings reveal significant institutional and practical challenges that hinder the widespread adoption of circular economy practices across EU member states. At the same time, the analysis identifies policy measures and strategic approaches that could contribute to more efficient resource use and support the advancement of sustainable development objectives.*

Originality: *The originality of the study lies in its integrated approach, combining policy analysis with practical insights into green and circular public procurement as a key instrument for accelerating the transition to a circular economy within the European Union.*

Keywords*: Circular Economy, Circular Procurement, Sustainable Development, Sustainable Public Procurement, Green Procurement.*

JEL Classification*: H6; O38, Q01, Q56.*

INTRODUCTION

In the current context of the European Union, optimizing and improving public procurement practices is a strategic priority for public authorities, being closely linked to the efficiency of budget spending and the integrity of administrative processes. By implementing more transparent and performance-oriented procedures, authorities aim to both reduce the risks of fraud and ensure access to high-quality goods, works and services, within the strict limits of available financial resources.

Recent transformations in public procurement have led to the emergence of innovative models focused on sustainability and social responsibility. In this context, circular public procurement is becoming an essential tool for integrating circular economy principles into public policies, simultaneously supporting sustainable development, reducing environmental impact and boosting economic competitiveness at both national and European levels. Such approaches contribute to closing economic loops by promoting reuse, recycling and resource efficiency in the procurement of goods and services.

In practice, the implementation of circular public procurement faces multiple obstacles, including the lack of standardization of environmental criteria, gaps in the institutional capacity of Member States and significant variations in the degree of adoption of sustainability policies. At the same time, there is a clear need for coordination between European directives and local practices, to ensure the coherence and efficiency of the measures adopted.

Purpose of the work

This paper presents arguments in support of the implementation of circular Public Procurement at European level.

RESEARCH METHODOLOGY

This paper aims to analyze the transition to a circular economy in the European Union, with a focus on circular public procurement, identifying the main obstacles, gaps between Member States and prospects for a faster and more efficient implementation. Through a systematic analysis of international documents, European guidelines and case studies, the paper explores how public policies can be oriented towards sustainability, contributing to reducing costs, protecting the environment and promoting circular economic development within the EU.

RESEARCH RESULTS

A key distinction between traditional and sustainable public procurement is how value is assessed. While conventional public procurement focuses primarily on cost-benefit at the point of purchase, circular public procurement takes a broader perspective, integrating social, economic and environmental considerations throughout the life cycle of a product or service. This holistic approach promotes sustainability and optimises the use of resources in the long term.

A significant international milestone in promoting these practices was the United Nations Conference on Sustainable Development (Rio+20), where, in June 2012, sustainable consumption and production programmes were adopted, brought together under the *10YFP (10-Year Framework of Programmes* **)** . The 10YFP functions as a global cooperation mechanism to accelerate the transition to sustainable consumption and production (SCP) patterns, in both developed and developing countries (UNEP, 2017).

The concept of *circular economy (CE)* has a broad spectrum, covering multiple dimensions of production and consumption, including resource efficiency, waste hierarchy, transition to renewable resources, sustainable energy use and many others. This complexity represents a strength of CE, which proposes to replace the traditional linear model – characterized by resource-intensive exploitation and unsustainable consumption – with a circular and regenerative model, generating economic, social and environmental benefits.

Under this approach, waste and pollution are significantly reduced, and resources, materials and products circulate in the system at the highest possible value, being reused or integrated into the biosphere to restore natural capital, including biodiversity and ecosystems (UNEP, 2015).

The circular economy also promotes the replacement of hazardous chemicals with safer alternatives, following three fundamental principles:

1. Gradual elimination of non-recoverable waste and reduction of pollution;
2. Keeping products and materials at the highest use value possible;
3. Regeneration of natural systems, including biodiversity and ecosystems.

The transition to a circular economy involves a redefinition of traditional production and consumption models, leading authorities, businesses and consumers to integrate social and environmental considerations into the notion of “growth”, beyond simple economic profit. In this sense, the circular economy aims to decouple economic activity from the consumption of natural resources, ensuring the safe circulation of materials through the technosphere and biosphere, while simultaneously eliminating negative externalities, such as waste and pollution, from the system (UNEP, 2016).

Circular economy strategies and practices

The transformation of a linear economic system into a circular one, with the associated benefits, is achieved by applying practices and strategies that cover the entire value chain. These strategies can be structured in three main directions (Department for Environment, Food and Rural Affairs, 2006):

1. *Closing material loops* , i.e. using secondary materials or recovered products instead of new raw materials, including the integration of second-hand, repaired or refurbished components or parts, to maximize the value of existing materials.
2. *Slowing down material flows* , namely extending the lifespan of products through more sustainable design, proper maintenance and efficient repair possibilities, thus reducing the need for frequent replacement.
3. *Reducing material flows* , minimizing resource consumption per unit of product, or reducing the number of products needed to provide the same service to society, contributing to efficiency and sustainability.

To reduce environmental impact, products and production processes need to be redesigned according to the principles of the circular economy and the European Union's guidelines on waste prevention. Studies indicate that approximately 80% of a product's environmental impact is determined at the design stage, underlining the importance of a proactive approach in the development of products and services.

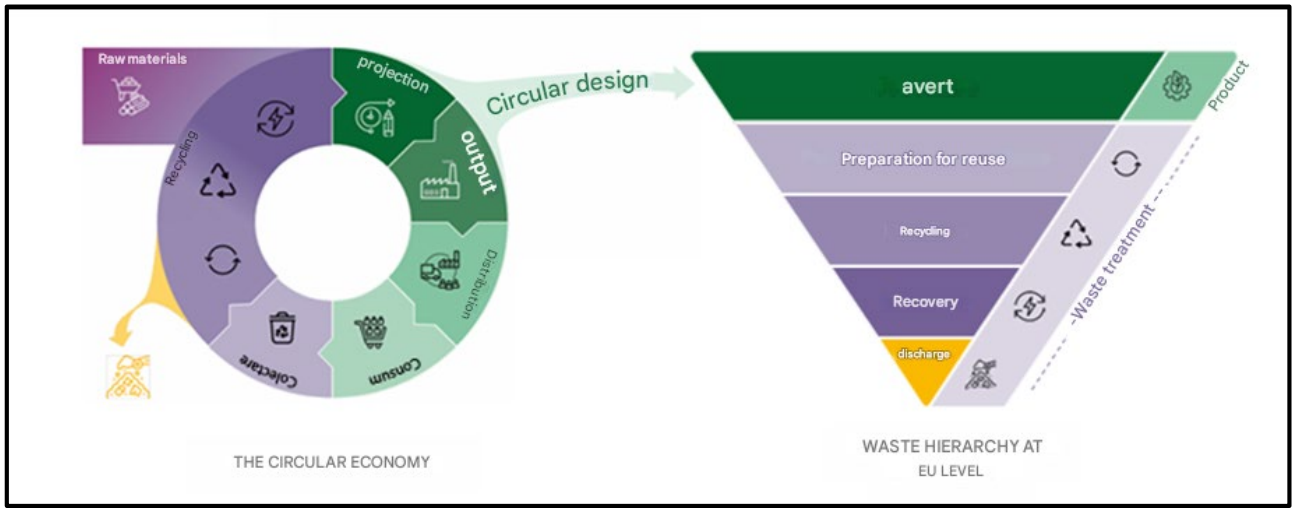


Figure 1. Phases of the circular economy compared to waste prevention in the EU
Source: *elaborated by the authors based on data European Court of Auditors, 2023*

The role of public procurement in supporting the transition to the circular economy

The effectiveness of public procurement in promoting strategic objectives depends largely on the degree of cohesion and solidarity of the actors involved, the institutional framework of procurement and the principles and practices applied in the procurement process. Its success is also influenced by the extent to which specific objectives are aligned with existing national, regional and international policies. For example, government procurement can be used as a tool to support the implementation of national energy policies, thus contributing to the achievement of international targets, such as the reduction of greenhouse gas emissions.

In this context, *the Circular Economy Action Plans (CEAPs)* constitute key elements of the European Commission's strategic framework for the circular economy (Figure 2), setting directions and priorities for integrating circular principles into public policies and procurement practices, facilitating the sustainable transition in EU Member States.

The Circular Economy Action Plans (CEAPs) comprise four main types of measures. First, they ensure that an *appropriate regulatory framework is in place* , through directives and implementing regulations. Second, they implement *cross-cutting measures* to guide policies in areas such as innovation and investment, including the development of horizontal testing schemes to stimulate the transition to circularity. Third, the CEAPs provide for *the allocation of European funding* for projects

that accelerate the adoption of circular economy principles. Finally, they focus on *monitoring the Union's progress* towards a circular economy, in order to assess the effectiveness of these measures.

Action plans and monitoring of the transition to the circular economy

Although Member States are increasingly paying attention to the circular economy, progress in implementing measures remains slow and monitoring results is challenging. In this regard, PAEC 1 included the development of a *monitoring framework* to assess the EU's transition to a circular economy, based on existing data from Eurostat and other official sources. The framework, launched in 2018, introduced the indicator " *circular material use rate* ", also known as the "circularity rate", which quantifies the percentage of materials recycled and reintegrated into the economy. This indicator is used by both international organisations and national authorities to assess overall progress towards a circular economy, and the European Commission used it to set the PAEC 2 target for 2030 and in its annual reports on Member States' progress.

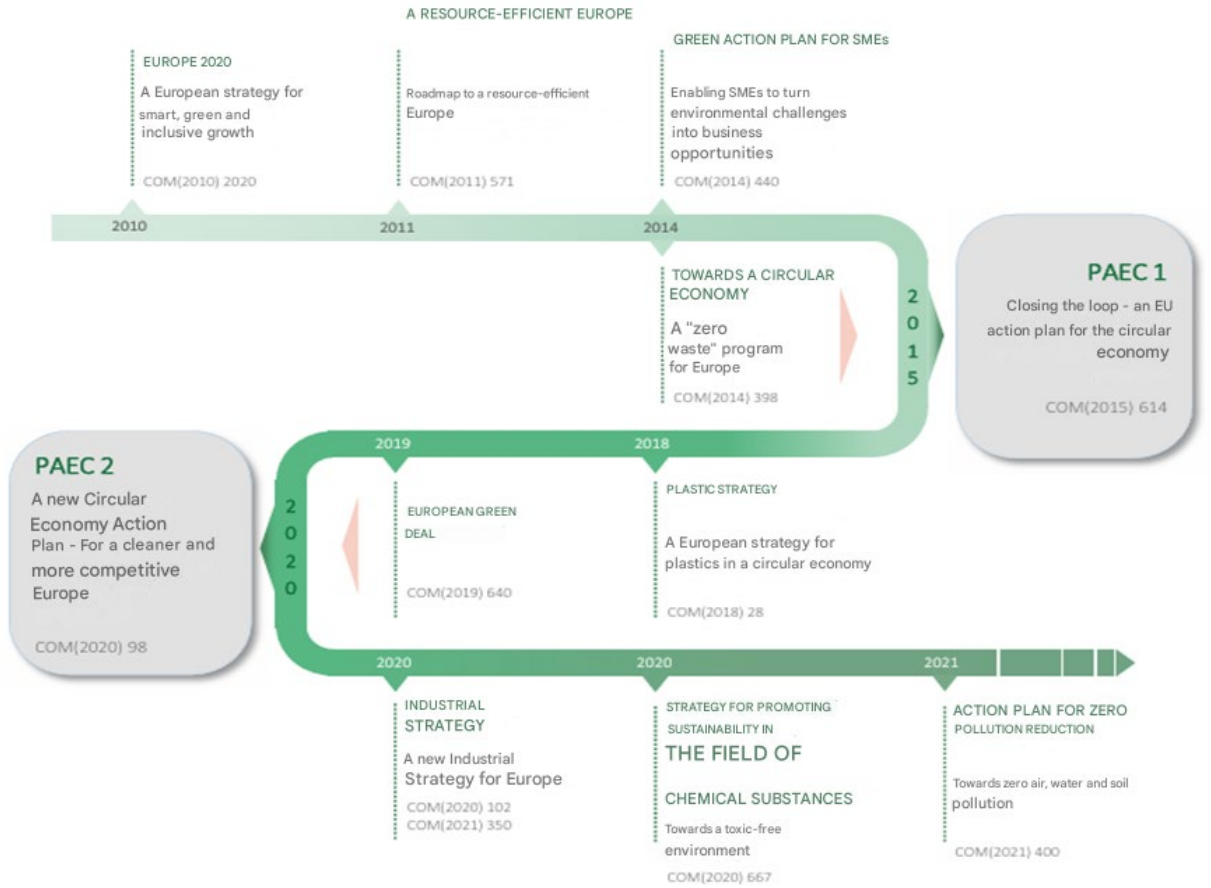


Figure 2. EU strategic framework for the circular economy

Source: *elaborated by the authors based on data European Court of Auditors, 2023*

According to recent data, *the circularity rate in the European Union in 2021* was 11.7%, exceeding the global average of 7.6%, which decreased compared to 9.1% in 2018 (Circle Economy, 2021). This development highlights the EU's moderate progress in adopting circular practices, while the gaps with the global average and the slow pace of implementation highlight the need for further measures to accelerate the transition.

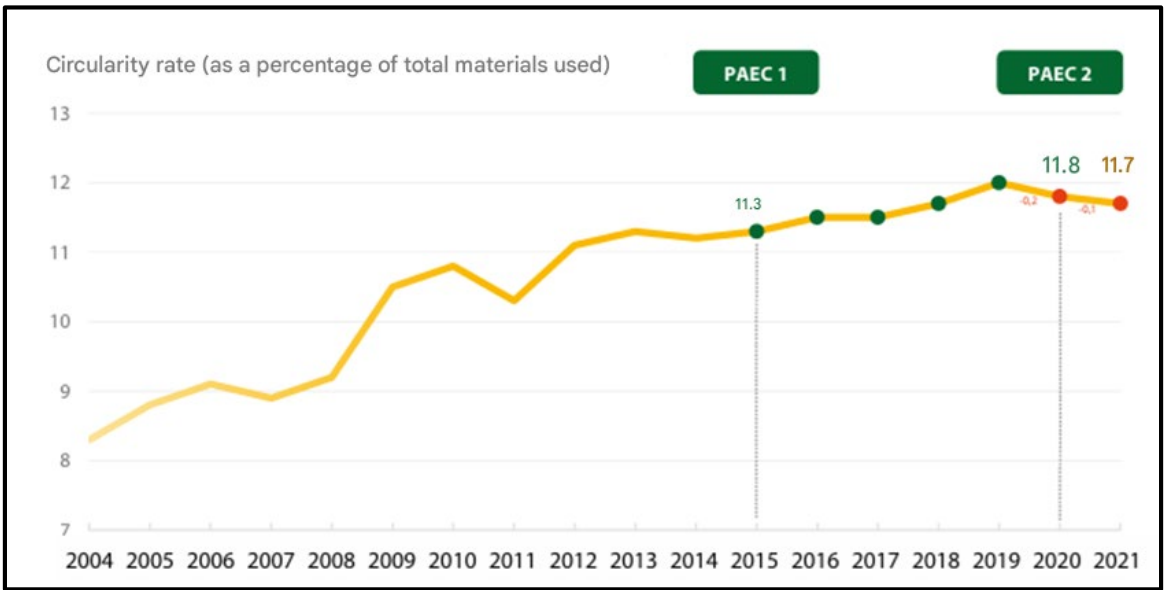


Figure 3. Progress in the EU-27 towards a circular economy

***Source**: elaborated by the authors based on data European Court of Auditors, 2023, based on Eurostat circular material use rate.*

Figure 4 also shows that there are significant variations in circularity rates between Member States; some use much more recycled materials than others.

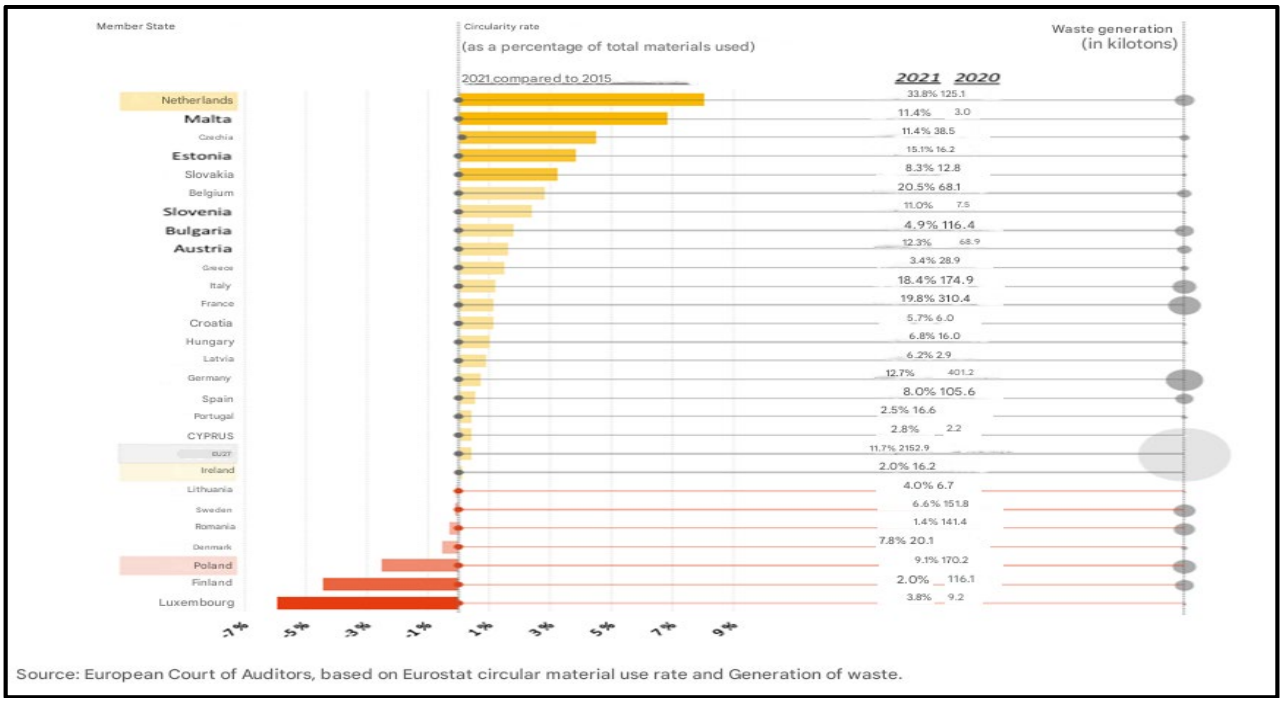


Figure 4. Progress made by Member States towards a circular economy in the period 2015-2021

***Source**: elaborated by the authors based on data European Court of Auditors, 2023*

Progress, national strategies and challenges in implementing the circular economy

Figure 5 shows the progress made by each EU Member State between 2015 and 2021, as well as the amount of waste generated. Seven Member States, including Poland, which we analysed in detail, have regressed over this period (CPR Moldova, 2020).

A term frequently used within the EU is *green public procurement (GPP),* defined as "a process by which public authorities purchase goods, services and works with a reduced environmental impact throughout their life cycle, compared to alternatives with the same primary function" (EU, 2012) (CPR Moldova, 2020).

Traditionally, economies follow a linear model of make-use-dispose. The circular economy, on the other hand, aims to preserve the value of products, materials and resources for as long as possible, while reducing the generation of waste. For citizens, this translates into products that last longer and are easier to repair, upgrade, remanufacture, reuse or recycle. For businesses, the circular economy offers opportunities for more efficient use of resources.

It is estimated that *around 80% of a product's environmental impact* is determined by how it is designed. Redesigning products and production processes in line with circular economy principles and EU waste prevention priorities is therefore essential. Since the publication of the first action plan, government activities related to the circular economy have increased, but the pace of progress remains slow. The EU's ambition to double the percentage of recycled and re-introduced materials into the economy by 2030 remains elusive (Circle Economy, 2021).

National circular economy strategies provide relevant examples. The Dutch strategy, adopted in autumn 2016, sets a 50% reduction in the use of primary raw materials by 2030 and a fully circular economy by 2050, covering all stages of the circular cycle, including product design, in line with PAEC 1 (European Court of Auditors, 2023). Poland's 2019 Circular Economy Roadmap covered the design and production stages, building on PAEC 1, and in July 2022 the Polish government adopted a new Productivity Strategy, focused on supporting the transition to a circular economy and monitoring through additional indicators, such as 'resource productivity' (European Court of Auditors, 2023).

In Ireland, the Waste Action Plan for a Circular Economy (2020) aimed to prevent the generation of harmful waste, extend the life of products and reuse them. In December 2021, the Irish government adopted a government-wide Circular Economy Strategy, with the objective of increasing the circularity rate above the EU average by 2030 (European Court of Auditors, 2023).

At the national level, despite the adoption of the new public procurement law and repeated adjustments, the legal framework is not fully aligned with EU directives and does not guarantee the efficiency and transparency of the public procurement process (Circle Economy, 2021). This underlines the need for further measures to accelerate the transition towards a functioning and integrated circular economy.

CONCLUSIONS

In conclusion, *circular public procurement* aims to use public funds efficiently to purchase products, services and projects that support sustainable and sustainable development. Circularity is becoming an essential dimension in the strategic development agenda of a nation, and attention must be directed towards *public procurement systems that generate long-term economic, social and environmental benefits.* Thus, the impact of circular procurement is not limited to governments, but extends to the whole of society, including citizens and economic actors.

Practical recommendations are outlined :

- Strengthening mechanisms to *monitor the transition of Member States* towards a circular economy;
- Investigate the causes of *the low use of EU funding* for circular design projects and assess the opportunity to increase incentives to accelerate the adoption of these practices.

Although the concept of circular procurement is relatively recent, it is not a completely new type of procurement. Rather, it aims to *integrate environmental, social and economic consequences* into all stages of the product or service life cycle, from design and production, to use and final management. This highlights the potential of circular public procurement to stimulate the transition to more sustainable and efficient economic models across the European Union.

Limitations and future research directions:

The study focuses mainly on the analysis of official EU documents, strategies and indicators, without a detailed empirical assessment at the level of local implementation in all Member States. Future research could include in-depth comparative case studies, assessing the effectiveness of circular procurement in different sectors and the direct impact on reducing waste and increasing resource productivity. It is also necessary to analyze the impact of national policies on the direct adaptation of companies and citizens to the circular economy.

REFERENCES

1. United Nations Environment Programme. (2017). *Sustainable public procurement: A global review* (Final report). https://wedocs.unep.org/bitstream/handle/20.500.11822/20919/GlobalReview_Sust_Procurement.pdf
2. Department for Environment, Food and Rural Affairs. (2006). *Procuring the future: Sustainable procurement national action plan—Recommendations from the Sustainable Procurement Task Force*. UK Government. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69417/pb11710-procuring-the-future-060607.pdf
3. United Nations Environment Programme. (2016). *Monitoring sustainable public procurement implementation: Recommendations and case studies*. http://www.scpclearinghouse.org/sites/default/files/monitoring_sustainable_public_procurement_implementation.pdf
4. United Nations Environment Programme. (2015). *The sustainable public procurement programme of the 10-year framework of programmes (10YFP SPP Programme): Principles of sustainable public procurement*. https://www.unep.org/10yfp/programmes/sustainable-public-procurement
5. CPR Moldova. (2020, April 8). *Eșecuri și excepții ale reformei achizițiilor publice*. https://cpr.md/2020/04/08/esecuri-si-exceptii-ale-reformei-achizitiilor-publice/
6. Circle Economy. (2021). *The circularity gap report 2021*. https://www.circularity-gap.world/2021#downloads
7. European Court of Auditors. (2023). *Special report No. 17/2023: Circular economy—Slow transition in member states, despite EU action*.https://www.eca.europa.eu/en/publications/SR-2023-17