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Circular transition in the construction sector- Hungary

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1. Executive summary

This study was prepared in the framework of the ReBuilt project and provides an operational overview of how Hungary can accelerate a shift towards circular construction, with a particular focus on the reuse and recycling of construction and demolition waste (CDW) and on the uptake of digital solutions that improve traceability and market transparency. The document reviews relevant EU policy drivers, the main elements of Hungarian transposition and implementation practice, stakeholder perspectives collected through the workshop process, and a set of targeted solutions and best practices that can be applied in the Hungarian context.

Policy context and scope

Circular construction is increasingly shaped by EU policy frameworks that promote resource efficiency, higher-value material recovery and better product information across the life cycle of buildings. The Transition Pathway for the Construction Ecosystem highlights circular design, higher use of secondary raw materials, improved traceability and circular procurement as practical levers for change. In parallel, the Waste Framework Directive establishes the waste hierarchy and the 70% target for preparation for reuse, recycling and other material recovery of non-hazardous CDW, while the revised Construction Products Regulation strengthens expectations on product performance information, including environmental aspects.

In the Hungarian context, these drivers interact with national waste legislation, construction law and guidance tools such as the Construction Technical Guidelines (ÉPMI), as well as with demand-side requirements embedded in EU funded programmes through DNSH-related conditionalities.

National situation in Hungary

Hungary has a functioning legal framework for CDW management and a growing set of practice-oriented instruments that can support circularity, but implementation remains uneven and is concentrated around end-of-life waste management rather than upstream measures. Existing Hungarian tools include public asset sales and reuse channels in the mobility sector (i.e. road maintenance), as well as selected ÉPMI guidelines that already address specific reclaimed materials and recycled aggregates.

EU funded programme requirements are an additional driver: some operational programmes translate circularity into quantified requirements, such as minimum shares of recycled or re-

used materials by mass and recovery targets for non-hazardous CDW, supported by recycling plans at the design stage. These instruments demonstrate that measurable requirements can be integrated into project governance when templates, roles and evidence requirements are clear.

Main bottlenecks are not a lack of theoretical policy direction, but rather a combination of regulatory uncertainty, administrative burdens and weak market confidence. Market actors report **inconsistent interpretation of waste status** across authorities, limited awareness of procedures among contractors, and a strong dependence of economic feasibility on project scale and timing. In smaller projects, the fixed costs of testing, documentation and authorisation can be disproportionate, while in larger projects the same steps become more viable due to volume effects and better planning capacity. **Storage and logistics** regulations are repeatedly highlighted as a practical constraint, particularly when reuse pathways require temporary holding of materials between demolition and incorporation.

Key limiting factors for reuse of secondary construction materials

The reuse of reclaimed materials faces multiple obstacles, primarily due to the regulatory environment, limited storage capacity, lack of market confidence, and challenges in quality assurance. The study identifies **five interlinked risks and limiting factors** that require coordinated responses.

Legal barriers remain a core issue, as reusable materials are often automatically classified as waste. This triggers waste-management authorisation requirements for collection, storage, transport and distribution, even when contamination risks are low and the intended use is clear. Uncertainty is amplified when different competent authorities apply divergent interpretations.

Technical compliance and certification challenges follow from safety and performance obligations. Demolition materials can only be declared suitable for reuse after comprehensive testing procedures and a documentation package that demonstrates performance, contamination control and fitness for the intended application. In practice, the absence of harmonised and widely accepted verification routes for several material streams increases cost and time.

Economic and competitiveness issues are driven by the combined costs of dismantling, sorting, storage, logistics, certification and resale. These costs reduce the competitiveness of secondary materials compared with new products, particularly in time-sensitive projects. Stakeholder feedback also points to suspected informal markets, which can further distort competition by bypassing compliance costs.

Divergent strategies within the construction sector influence uptake. Some actors prioritise brownfield redevelopment and accelerated delivery of new projects, while others emphasise material circularity and refurbishment. These differences translate into varied risk appetite and into uneven attention to selective demolition, reuse planning and procurement criteria.

Limitations in the adaptability of digital solutions constrain scaling. Available digital tools are often designed for larger systems and advanced BIM workflows, which can be difficult to apply in small and medium projects or in local markets with limited digital maturity. Without a minimum set of common data fields, responsibilities and incentives, digital solutions remain fragmented and do not deliver the expected reductions in transaction costs.

Building a path

It is clear that issues have to be resolved by mutually reinforcing measures that address regulation, technical guidance, incentives and implementation capacity.

A priority area is the **clarification of definitions, procedures and responsibilities** that determine when CDW-derived materials can move from waste status to safe and marketable secondary construction materials. This includes more consistent administrative practice and the wider use of standard documentation templates, supported by clear institutional roles.

Simultaneously, expanding and updating **construction technical guidelines** is required to cover additional material streams beyond those currently addressed, including mixed mineral fractions, plastics, gypsum-based materials, glass, insulation waste and selected metal reuse applications, with clear acceptance criteria and quality controls.

Demand-side instruments can be strengthened through **green public procurement** to enhance circularity. Practical approaches include embedding pre-demolition and pre-renovation audits, mandatory separation of key fractions, traceability requirements and minimum recovery targets in tender documentation, along with evidence requirements that are proportionate and auditable. EU funded programme conditionalities can be used to mainstream these requirements, while allowing justified derogations where feasibility constraints are documented.

Economic feasibility can be improved through i**ncentive structures that reduce the relative cost disadvantage of compliant secondary materials**:

- adjustments to landfill-related charges and enforcement to discourage disposal of recoverable CDW

- targeted support for selective demolition and sorting infrastructure,
- and incentives that favour refurbishment and renovation where appropriate.

Capacity building is an enabling condition: training for designers, engineers and contractors on circular design, documentation and qualification procedures is needed, as well as stronger cooperation between authorities and sector stakeholders.

Digitalisation should be approached pragmatically. Rather than pursuing complex platforms as a first step, **minimum viable data practices** should be implemented through project documentation and sector-wide registries, progressively improving traceability and enabling future material passports and markets where demand exists.

Hungary has a solid basis to accelerate circular construction, the decisive factor is implementation discipline: clear standards and credible quality assurance mechanisms are needed to move reuse from ad hoc practice to scalable, compliant market activity.

2. Introduction

The present study is prepared within the framework of the international project "Circular and digital renewal of Central Europe construction and building sector" – ReBuilt, CE0100390, Central Europe programme – supporting the wider uptake of circular economy principles and digital solutions in the construction and building sector.

The overall objective of the ReBuilt project is to increase awareness and enhance the attractiveness of circular and digital construction. This objective is pursued through the development of a dedicated education programme, the improvement and piloting of new technical and digital solutions, and the strengthening of demand-side instruments. These include green labelling schemes, the application of End-of-Waste (EoW) criteria, the reinforcement of green public procurement practices, and the elaboration of the first Central European circular and digital construction strategy. The strategy is to implement through a coordinated network of regional circular and digital construction HUBs.

This document contributes to laying the foundations for the successful establishment and operation of the HUB in Hungary, which will serve as a platform for cooperation, knowledge transfer and strategic implementation. The study focuses on providing a comprehensive assessment of the national situation in the field of circular construction solutions: presents the current regulatory and market environment, identifies legal and economic barriers, formulates regulatory proposals and assesses their potential impacts. The analysis is complemented by lessons derived from international experience that may inform national policy development and sectoral practice.

The study offers an integrated overview of the national characteristics, opportunities and proposed development directions of circular and digital construction. Through the structured involvement of relevant professional stakeholder groups, it aims to support informed decision-making and coordinated action at regional level.

3. The basics of circular economy

The concept of the circular economy has emerged as a response to increasing pressures on natural resources, rising waste generation and climate change. Traditional economic systems have largely followed a linear model in which resources are extracted, processed into products, used and finally disposed of as waste. This approach has led to significant environmental impacts and increasing demand for primary raw materials.

The circular economy proposes an alternative economic model in which the value of materials and products is maintained within the economy for as long as possible. The central objective is to minimise waste generation and reduce the extraction of primary resources through reuse, repair, refurbishment and recycling. In this model, materials remain in circulation through multiple life cycles rather than being discarded after a single use (European Commission, 2020).

At the theoretical level, the circular economy is based on several core principles. These include the prevention of waste through design, the extension of product lifetimes, and the recovery of materials after the end of product use. Design strategies therefore play an important role, as products and systems should enable disassembly, repair and material recovery. In addition, the circular economy emphasises the regeneration of natural systems and the reduction of environmental pressures associated with production and consumption.

Research and policy analysis highlight that the circular economy also involves systemic changes in production systems, value chains and consumption patterns. According to the OECD, circular approaches require coordinated policy frameworks, technological innovation and new business models that enable materials to circulate more effectively within the economy (OECD, 2020).

Within the European Union, the circular economy has become a central element of environmental and industrial policy. It contributes to multiple objectives, including climate mitigation, resource security and economic resilience. As a result, the transition towards circular economic systems is increasingly integrated into sectoral policies, including construction, energy and industrial production (European Commission, 2020).

3.1. Building circularity

The construction sector is one of the most resource-intensive sectors in Europe. Buildings require large quantities of mineral resources, metals and construction materials, while construction and demolition activities generate significant volumes of waste. In the European Union, construction and demolition waste represents one of the largest waste streams, accounting for approximately one third of total waste generation (European Commission, 2023).

Circular construction applies circular economy principles to the entire life cycle of buildings. This includes the planning, design, construction, operation and demolition phases. The objective is to extend the lifespan of buildings and construction products, reduce the consumption of primary raw materials and increase the reuse and recycling of materials.

Several strategies contribute to the implementation of circular construction practices. These include the design of buildings for adaptability and disassembly, the reuse of building components, and the recycling of construction materials. The use of digital technologies such as building information modelling can support the identification and traceability of materials throughout the building life cycle, which facilitates reuse and material recovery.

European policy frameworks emphasise the importance of improving the recovery rate of construction and demolition waste and strengthening markets for secondary raw materials. The transition towards circular construction therefore requires coordinated policies related to waste management, product standards and sustainable building practices (European Commission, 2020).

In Hungary, the regulatory framework also addresses the reuse of construction materials. Government Decree 275/2013 (VII.16.) on the specification and incorporation of construction products into buildings provides a definition relevant for circular construction. According to the decree, a demolished construction product is defined as a material or structural element generated during the demolition of a building that is intended for reuse and can be incorporated into a building without further processing[1]. This definition establishes a legal basis for the direct reuse of certain construction components within the built environment.

[1]This approach is consistent with the EU Construction Products Regulation (Regulation (EU) No 305/2011, Article 2(1)). The Hungarian decree provides a national legal basis to treat certain reclaimed components as eligible for planned, documented reuse in the built environment, while remaining within the CPR logic when such products are made available on the market.

In practice, such materials may include paving stones, kerbstones or other building elements that can be removed during demolition and reused in subsequent construction projects. The reuse of these components can reduce waste generation and decrease the demand for newly produced construction materials.

However, the implementation of circular construction also requires appropriate technical verification procedures. Construction materials incorporated into buildings must comply with safety and performance requirements. As a result, certification and performance verification processes play a central role in determining whether reused materials can be applied in new construction projects.

3.2. Adjacent EU strategies and goals

Circular construction is supported by several European Union strategies addressing climate change, resource efficiency and sustainable development. These policy frameworks create the broader context for the transition towards more circular material use in the built environment.

One of the most important frameworks is the European Green Deal, which establishes the objective of achieving climate neutrality in the European Union by 2050. The Green Deal emphasises resource efficiency and circular material use as key tools for reducing greenhouse gas emissions and environmental pressures associated with industrial production and construction activities.

The Circular Economy Action Plan, adopted in 2020, further develops these objectives by identifying priority sectors where circular approaches can deliver significant environmental benefits. Construction and buildings are recognised as one of these priority sectors due to their high material consumption and environmental impact. The Action Plan promotes improved durability of construction products, increased reuse of building components and higher rates of material recovery from demolition activities.

In addition, the European Commission has developed the EU Strategy for a Sustainable Built Environment, which aims to improve resource efficiency, reduce lifecycle emissions and increase resilience in the construction sector. This strategy encourages the use of recycled materials, the design of buildings for longer lifetimes and the integration of circular principles into construction value chains.

International organisations have also highlighted the importance of circular approaches in the construction sector. According to OECD the building sector represents a major opportunity for reducing resource consumption and environmental pressures through improved material efficiency, reuse and recycling practices.

3.2.1. Transition Pathway for the Construction Ecosystem[2]

The Transition Pathway for the Construction Ecosystem sets out a strategic framework for transforming the European construction sector towards climate neutrality, resource efficiency and digitalisation.

A key priority identified in the document is the reduction of material consumption and construction waste through circular design approaches. This includes promoting building designs that allow easier disassembly, reuse and adaptability during the building life cycle. The pathway emphasises the importance of extending the lifetime of buildings through renovation and refurbishment instead of demolition and replacement. Renovation programmes are therefore seen as a major opportunity to reduce resource consumption while improving energy efficiency.

Another important element concerns the increased use of secondary raw materials derived from construction and demolition waste. The pathway highlights the need to improve quality standards, certification systems and traceability mechanisms in order to increase confidence in recycled construction materials. Harmonised standards and digital product documentation can support the wider integration of recycled aggregates, reclaimed components and other secondary materials into construction projects.

Digitalisation is identified as a critical enabling factor for circular construction. Tools such as Building Information Modelling (BIM), digital building logbooks and material databases can improve transparency regarding the composition, performance and future reuse potential of building materials. Such systems can also support demolition planning, material inventories and marketplaces for secondary construction materials.

The document also stresses the importance of circular procurement practices. Public authorities are encouraged to integrate circular criteria into public construction tenders, including

[2] **European Commission (2023).** *Transition Pathway for the Construction Ecosystem.* Brussels: European Commission, Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs: https://ec.europa.eu/docsroom/documents/53854

requirements for recycled material content, life-cycle cost evaluation and design solutions that enable future reuse. As public construction projects represent a significant share of the market, such measures can create demand for circular construction products and services.

Finally, the pathway highlights the need for stronger cooperation across the construction value chain. Developers, designers, contractors, manufacturers and waste operators must collaborate more closely to ensure that circular solutions are technically feasible and economically viable. Skills development, training programmes and knowledge exchange are therefore considered essential for implementing circular construction practices across the sector.

3.2.2. Waste Framework Directive (WFD)

The legal framework for the management of construction and demolition waste in the European Union is primarily established by Directive 2008/98/EC (Waste Framework Directive, WFD) – for further details see section (4.1.2). The Directive sets the general principles for waste prevention, reuse, recycling and recovery, and introduces the waste hierarchy as the central guiding concept for waste policy.

1. Figure The compass for EU waste management is the five-step "waste hierarchy" set up in the Waste Framework Directive.[3]

According to this hierarchy, priority must be given to prevention, followed by preparation for reuse, recycling, other recovery operations such as backfilling, and only as a last option

[3] European Commission: Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs, *EU construction & demolition waste management protocol including guidelines for pre-demolition and pre-renovation audits of construction works – Updated edition 2024*, Publications Office of the European Union, 2024, https://data.europa.eu/doi/10.2873/77980

disposal. Within the construction sector, this framework is intended to support a transition from linear material use towards circular resource management.

A key provision relevant to the circular construction sector is the target requiring Member States to take the necessary measures to achieve **at least 70% by weight of preparation for reuse, recycling** and other material recovery of non-hazardous construction and demolition waste. This objective aims to increase the recovery of materials such as concrete, bricks, metals, glass and wood, thereby reducing landfill disposal and limiting the extraction of primary raw materials. The Directive also establishes definitions for important circular economy operations, including reuse, preparation for reuse and recycling, which form the basis for regulatory and reporting practices across Member States.

The operational implementation of these principles within the construction value chain is further supported by complementary instruments such as the Construction and Demolition Protocol (see section 4.1.2) and CPR 2.0 (see section 4.1.3).

4. Circular construction in Hungary

4.1. Legal framework - transposition of EU legislation into Hungarian law

To better understand the legal framework in Hungary it is necessary to swiftly go through the latest updates of EU legislation affecting the construction sector's circularity resulting in a more holistic approach in assessing the transposal and interpretation of EU law in Hungarian law and practice.

4.1.1. Practical implications of the Act CLXXXV of 2012 - Waste Act

The Waste Framework Directive (Directive 2008/98/EC) has been incorporated into Hungarian legislation through Act CLXXXV of 2012 on Waste (hereinafter: the Waste Act). According to the Waste Act, waste is defined as any substance or object which the holder discards, intends to discard or is obliged to discard. Within this legal framework, the notion of "discarding" is linked to the person with whom the material arises or for whom it becomes surplus, rather than to the person who may subsequently intend to use the material.

From a practical perspective, waste can also be understood as a material that is no longer used for its original purpose or is not intended to be used for that purpose, even though it may still

be suitable for material recovery after appropriate processing. For instance, roof tiles removed from a building are regarded as construction and demolition waste if they are not reused for roofing on another building but instead used for purposes such as the improvement of an unpaved road.

Certain construction and demolition waste streams may become suitable for reuse only after physical treatment, including processes such as crushing. In such cases, waste status may cease only after the required treatment has been carried out and the material has been qualified by an entity holding a valid waste management permit.

Construction and demolition waste generated on a construction site may be reused directly at that location. Where such reuse does not take place, the waste must be transferred to an authorised waste management operator. This transfer must occur within one year from the date on which the waste was generated.

Where the quantity of construction or demolition waste within a given material category exceeds the relevant quantitative threshold, the developer is required to ensure that this waste is collected separately from other waste streams. Separate collection must be maintained until the waste is transferred to a treatment operator, thereby facilitating subsequent recovery.

Under Section 12(1) of the Waste Act, no waste management permit is required for the exclusive collection of waste at the place where it is generated. However, if construction and demolition waste is transported to another location, including a neighbouring property, a waste management permit becomes necessary for its collection at that site.

In case of public procurement projects (esp. at municipalities) collection at the construction site is might not be feasible, for example due to limited space or the small quantities generated at individual sites, construction and demolition waste may be collected at a central location within the municipality. Such sites are often located on municipally owned land and serve as temporary storage points prior to further treatment. There are examples when this collection method can be used in case of simultaneous private investments, but it is usually conducted on the waste management operator’s premises.

The purpose of this centralised collection approach is to ensure that, once sufficient quantities have been accumulated and in view of cost-efficiency considerations, the collected waste can be processed and recovered into usable materials.

Recovery operations at the collection site may be carried out either by the permit holder using their own or leased crushing equipment, or by a waste management operator authorised to perform recovery activities at external locations. In case of recovery activities carried out at the construction site, a preliminary examination procedure must be conducted prior to waste management permitting in accordance with Annex 3, point 107 of Government Decree 314/2005 (XII. 25.)[4] on environmental impact assessment and integrated environmental permitting (Waste Act).

During the performance of waste management activities, the permit holder must maintain up-to-date records and comply with reporting obligations pursuant to the Waste Act and Government Decree 309/2014 (XII. 11.)[5] on record-keeping and data provision obligations related to waste.

4.1.2. Infringement with Directive (EU) 2018/851[6]

Directive (EU) 2018/851 amended the Waste Framework Directive (Directive 2008/98/EC) tightening the operational conditions under which secondary materials can move from "waste" to "product", and strengthening governance tools that Member States must use to prioritise prevention, preparation for reuse and high-quality recycling.

End-of-waste and by-product rules as market access tools:

The amended framework reinforces the role of end-of-waste criteria and by-product conditions, which are central for construction when recycled aggregates, processed mineral fractions or recovered materials are intended to be placed on the market without being treated as waste

General minimum requirements for extended producer responsibility schemes:

The amendment inserted minimum requirements for EPR schemes, including clearer roles, transparency and cost coverage logic. While EPR is often associated with packaging, its governance requirements are part of the horizontal waste framework and influence how costs and responsibilities are distributed in national systems, including where construction products and materials become subject to EPR at national level.

[4] 314/2005. (XII. 25.) Korm. rendelet a környezeti hatásvizsgálati és az egységes környezethasználati engedélyezési eljárásról - Hatályos Jogszabályok Gyűjteménye

[5] 309/2014. (XII. 11.) Korm. rendelet a hulladékkal kapcsolatos nyilvántartási és adatszolgáltatási kötelezettségekről - Hatályos Jogszabályok Gyűjteménye

[6] Directive (EU) 2018/851: https://eur-lex.europa.eu/eli/dir/2018/851/oj/eng

Stronger waste prevention and programme requirements

Member States must maintain waste prevention programmes and measures that support the upper levels of the waste hierarchy, which is relevant for construction through policy support for reuse, refurbishment, longer service life and prevention of avoidable material losses

Governance and review expectations

The amended directive strengthens requirements that Member States keep waste management measures under review, including the way derogations from recovery operations are handled, which matters in practice for how consistently recovery is preferred over disposal

Hungarian infringement procedure

The European Commission opened an infringement procedure in 2020 against Hungary for failing to correctly transpose the Waste Framework Directive as amended by Directive (EU) 2018/851).

According to the latest status of the procedure – INFR(2024)2229[7] – the Commission identified, deficiencies relating to end-of-waste criteria, certain EPR-related requirements and transparency elements, and the regular review of derogations from recovery operations. What this means in practical terms for circular construction is that important "market access" building blocks for secondary materials remain legally less predictable than intended at EU level:

- end-of-waste conditions are unclear or applied inconsistently,
- recycled construction outputs (for example processed mineral fractions) are more likely to remain regulated as waste,
- which increases permitting, storage and traceability burdens for compliant operators.

Currently the Commission is conducting the assessment of the Hungarian reply and actions. If they are found as insufficient, the next step would be a reasoned opinion, followed by a possible referral to the Court of Justice if non-compliance persists.

4.1.3. Construction and Demolition Protocol

The EU Construction and Demolition Waste Management Protocol (and Guidelines) functions as practical guidance supporting the implementation of the Directive 2008/98/EC (Waste

[7] Commission infringements package (letter of formal notice to Hungary, INFR(2024)2229): https://ec.europa.eu/commission/presscorner/api/files/document/print/en/inf_24_5223/INF_24_5223_EN.pdf

Framework Directive), with the objective of improving construction and demolition waste (CDW) management across all stages of the value chain since 2016. The updated 2024 version places particular emphasis on increasing confidence in the quality of products prepared for reuse and materials destined for recycling. It provides practical rules, examples of best practices, technologies and operational tools drawn from across the European Union in areas such as pre-demolition and pre-renovation audits for the identification of CDW and construction products, selective demolition, source separation and collection, preparation for reuse and recycling, waste logistics, waste processing, quality management and the development of supportive policy and regulatory frameworks. Achieving these objectives requires technical knowledge and cooperation among all stakeholders involved in the construction value chain.

The Protocol is closely connected to the new Construction Products Regulation framework, established by Regulation (EU) 2024/3110 (commonly referred to as CPR2). While the Protocol focuses primarily on improving waste management practices and the recovery of construction materials, CPR2 addresses the market conditions and regulatory requirements governing construction products. In practice, the two instruments are complementary: the Protocol facilitates the generation of high-quality secondary materials through better demolition, separation and treatment practices, while CPR2 provides the regulatory framework that allows these recovered materials to be placed on the market as construction products meeting harmonised performance and sustainability requirements.

4.1.4. Regulation (EU) 2024/3110 - CPR 2.0[8]

In 2026 the new CPR 2.0 regulation has entered into force in its entirety, aiming to improve the comparability of construction products and ensure their safe use through transparent communication of product performance. The Regulation is implemented in Hungary directly, seeking to modernise the regulatory framework governing construction products and to reinforce sustainability considerations.

The regulation integrates circular economy principles into the construction product framework by requiring that building materials are designed for reuse, recyclability and longer service life. It promotes the use of **secondary and low-carbon materials**, supported by environmental

[8] https://eur-lex.europa.eu/legal-content/HU/TXT/?uri=CELEX:32024R3110

performance declarations that increase transparency regarding product composition and environmental impact. **Harmonised standards** establish quality and safety requirements for recycled construction materials such as **recycled aggregates and recovered concrete**, facilitating their wider market uptake. The introduction of a **Digital Product Passport** improves traceability of materials and supports end-of-life recovery. Market surveillance mechanisms ensure that secondary materials meet EU performance and sustainability criteria, while public procurement and financial incentives encourage the use of recycled materials in construction projects.

An additional significant change is that the assessment of the environmental impact of construction products has become an essential consideration during their manufacture and placement on the market. As under the previous system, manufacturers must follow a dedicated procedure for non-harmonised products. From 2026, however, they must issue not only a Declaration of Performance (DoP), but also a Declaration of Performance and Conformity (DoPC). In addition to the information previously required for the DoP, the DoPC must also indicate the environmental sustainability performance of the product across its entire life cycle – Article 15(2).

This requirement is complemented by a new assessment and verification system (AVS), under which the environmental sustainability assessment must be verified by a notified body – Annex IX. The AVS determines the conditions for placing construction products on the market and influences the certification requirements applicable to recycled construction materials. The table below presents the different assessment and verification systems (AVCP) forming part of the AVS.

Table 1.: Assessment and verification systems (AVCP)[9]

AVCP type	Level of external control	Who performs the initial type testing (ITT)?	Factory production control (FPC)	Third-party inspection	Third-party audit	Type of certification	Main products concerned
1+	Very strict	Notified laboratory (NB)	Performed by manufacturer, verified by NB	NB initial and continuous inspection	NB random sampling	Certificate of Constancy of Performance (CoCP)	Load-bearing steel structures, fire-resistant doors, prefabricated concrete elements
1	Strict	Notified laboratory (NB)	Performed by manufacturer, verified by NB	NB initial and continuous inspection	No random sampling	Certificate of Constancy of Performance (CoCP)	High-risk construction materials (e.g. structural concrete)
2+	Moderately strict	Manufacturer	Performed by manufacturer, verified by NB	NB initial and continuous surveillance	NB regular audit	Factory Production Control certificate	Non-load-bearing concrete elements, masonry units
2	Moderate	Manufacturer	Performed by manufacturer, verified by NB	NB initial factory inspection	No continuous audit	Factory Production Control certificate	Medium-risk construction materials (e.g. masonry units)
3+	Medium	Notified laboratory (NB)	Performed by manufacturer	NB performs type testing	Manufacturer carries out own tests	No certificate, only DoP	Façade insulation systems
3	Low	Notified laboratory (NB)	Performed by manufacturer	No external inspection	No external audit	No certificate, only DoP	Tiles, insulation materials
4	Minimal	Manufacturer	Performed by manufacturer	No external inspection	No external audit	No certificate, only DoP	Paints, adhesives, low-risk products

[9] Terms used in the table: ITT (Initial Type Testing) – The initial product testing carried out either by the notified body (NB) or by the manufacturer itself. FPC (Factory Production Control) – Continuous monitoring and documentation of the production process. NB (Notified Body) – External laboratories and certification bodies that verify and certify products.

Table 2.: DoP, CoCP and DoPC[10]

	Issuer	Purpose	Mandatory?	Relevant AVCP systems	Application in general
DoP (Declaration of Performance)	Manufacturer	Verification of the product's performance characteristics based on hEN or EAD.	Yes, required for CE marking.	All AVCP systems (1+, 1, 2+, 2, 3, 3+, 4)	It does not certify conformity, only the declared performance.
CoCP (Certificate of Constancy of Performance)	Notified Body (NB)	Confirms the constancy of product performance and continuous factory production control.	Yes, only for high-risk products.	Only AVCP 1+ and 1	Mandatory for load-bearing concrete, fire-resistant doors and steel structures.
DoPC (Declaration of Performance and Conformity)	Manufacturer	Joint confirmation of performance and conformity.	Depends on the applicable legislation.	Mainly AVCP 1+ and 1	Applied in cases involving environmental considerations or recycled materials.

Among the AVCP systems, Systems 1+ and 1 are the most stringent and apply to construction products whose failure could pose serious safety risks. In these systems a notified body is responsible for the certification of the constancy of performance and for the verification of the manufacturer's factory production control. Systems 2+ and 2 represent a moderate level of control and mainly apply to structural construction materials where external certification is limited to the production control of the manufacturer. Systems 3+ and 3 concern lower-risk products, where an external laboratory performs the initial type testing while the manufacturer remains responsible for the declaration of performance. System 4 is the least strict arrangement, where the manufacturer relies entirely on internal testing and production control procedures to demonstrate the performance of the product.

From the perspective of the reuse of demolition materials, AVCP Systems 1 and 1+ are particularly relevant because structural construction products must demonstrate verified and consistent performance before being placed on the market. In practice this means that reused construction materials must undergo certification procedures comparable to those applied to newly manufactured products. These procedures may include testing, verification of production control and certification by a notified body. The process can therefore require considerable time

[10] European Commission – Construction Products Regulation (CPR): https://single-market-economy.ec.europa.eu/sectors/construction/construction-products-regulation-cpr_en

European Commission – Assessment and Verification of Constancy of Performance (AVCP): https://single-market-economy.ec.europa.eu/sectors/construction/construction-products-regulation-cpr/assessment-and-verification-constancy-performance_en

and financial resources, which may reduce the competitiveness of secondary construction products compared with newly manufactured materials.

Table 3.: Notified bodies for construction products in Hungary[11]

NB number	Organisation name	Main role
NB 1415	ÉMI Építésügyi Minőségellenőrző Innovációs Nonprofit Kft.	Product certification and factory production control certification
NB 1417	ÉMI-TÜV SÜD Minőségügyi és Biztonságtechnikai Kft.	Product testing and certification
NB 2102	TAM CERT Magyarország Vizsgáló és Tanúsító Kft.	Certification of structural construction products
NB 1008	TÜV Rheinland InterCert Műszaki Felügyeleti és Tanúsító Kft.	Product certification and conformity assessment
NB 3046	TÜV Thüringen Hungary Kft.	Certification of structural metal and timber products
NB 2526	ECM Irányítási Rendszerek Európai Tanúsítási Szolgálata Kft.	Certification of structural products
NB 2146	Magyar Aszfaltipari Egyesülés	Certification of aggregates and asphalt mixtures
NB 2095	TLI Technológiai, Laboratóriumi és Innovációs Zrt.	Laboratory testing and certification
NB 2006	QM System Ellenőrző és Tanúsító Kft.	Certification of aggregates and bituminous mixtures
NB 2071	KTI Magyar Közlekedéstudományi és Logisztikai Intézet Nonprofit Kft.	Certification of road construction products
NB 1414	CEMKUT Cementipari Kutató-Fejlesztő Kft.	Certification and testing of cement and lime

[11] The list includes organisations authorised to carry out certification procedures defined under **Regulation (EU) No 305/2011 – CPR**. Under **Regulation (EU) 2024/3110 – CPR2**, a new **AVS system** will fully apply from 2027, introducing updated conformity assessment systems that replace or redefine the current AVCP schemes. The framework for these bodies is currently transitioning to CPR2.0

Table 4.: List of Hungarian Technical Assessment Bodies (TAB) issuing European Technical Assessments (ETA) under the European Assessment Document (EAD) procedure[12]

Organisation	Main technical focus	Typical product areas covered
ÉMI – Építésügyi Minőségellenőrző Innovációs Nonprofit Kft.	Comprehensive construction product assessment body covering most building sectors	Structural construction materials (concrete, steel, timber), façade systems, insulation systems, membranes, doors and windows, fire protection products, building hardware, cables, geotextiles, sanitary products, glass products, heating appliances, prefabricated construction elements
CEMKUT – Cementipari Kutató-Fejlesztő Kft.	Cement industry research and certification body specialised in mineral-based construction materials	Cement, hydraulic binders, building lime, aggregates, concrete products, precast concrete elements, reinforcing and prestressing steel systems, masonry systems, construction adhesives, insulation systems, road construction materials
KTI – Közlekedéstudományi Intézet Nonprofit Kft.	Infrastructure and transport construction assessment body	Road construction materials, traffic equipment and road safety devices, geotextiles and geomembranes, structural bearings, membranes, concrete and cement products used in infrastructure, structural timber components

The revised Construction Products Regulation (CPR 2.0) entered into force at the beginning of 2026. For market actors, the year 2026 will primarily concern the adaptation to the new regulatory requirements, with particular attention to the assessment and reporting of environmental performance of construction products.

At present, there are no clear indications that the harmonisation of construction standards has accelerated in Hungary. However, from 8 January 2027, the enforceability of the regulation, including the application of sanctions, will become effective, which is expected to create a significant incentive for regulatory and market adjustments within the Hungarian construction sector.

4.1.5. Recyclable construction and demolition waste - Decree 45/2004 (VII. 26.) BM-KvVM[13]

When it comes to secondary raw materials originating from construction and demolition waste, or products incorporating such waste, the requirements are set out in the specific legislation governing the technical requirements for construction products, conformity assessment, as well as the detailed rules for placing on the market and use must be applied.

[12] For innovative products that are not covered by a harmonised standard, the preparation of a **European Assessment Document (EAD)** is required in order to obtain **CE marking**, which enables the construction product to be placed on the EU market. European Organisation for Technical Assessment (EOTA) – Technical Assessment Bodies: https://www.eota.eu/tabs?search=&product=all&country=HU#tabs-results

[13] 45/2004. (VII. 26.) BM-KvVM együttes rendelet az építési és bontási hulladék kezelésének részletes szabályairól - Hatályos Jogszabályok Gyűjteménye

Reuse is an operation by which a product, or a component thereof, that is not classified as waste is used again for the same purpose for which it was originally intended.

Preparation for reuse means a recovery operation consisting of cleaning, repairing and checking, whereby products or components that have become waste are prepared so that they can be reused without any further pre-treatment (Act CLXXXV of 2012 on Waste).

Table 5.: Construction waste streams required by law to be collected separately and are suitable for reuse (in all cases listed below, waste contaminated with hazardous substances is excluded).

Waste category by material type	Waste description	EWC code
Excavated soil	Uncontaminated soil and stones	17 05 04
	Dredging spoil	17 05 06
Concrete rubble	Concrete	17 01 01
Asphalt rubble	Asphalt not containing tar	17 03 02
Wood waste	Wood	17 02 01
Metal waste	Copper, bronze, brass	17 04 01
	Aluminium	17 04 02
	Lead	17 04 03
	Zinc	17 04 04
	Iron and steel	17 04 05
	Tin	17 04 06
	Mixed metals	17 04 07
	Metal packaging	17 04 11
Plastic waste	Plastic	17 02 03
Mixed construction and demolition waste	Mixed construction and demolition waste (excluding PCB, mercury and other hazardous substances)	17 09 04
Mineral-based construction material waste	Bricks	17 01 02
	Tiles and ceramics	17 01 03
	Concrete, bricks, tiles and ceramics fractions or mixtures thereof	17 01 07
	Glass	17 02 02
	Insulation materials	17 06 04
	Gypsum-based construction materials	17 08 02

4.1.6. Extended Producer Responsibility - 80/2023 Government Decree (EPR Decree)[14]

The Extended Producer Responsibility (EPR) system is a regulatory framework that entered into force in Hungary on 1 July 2023 on the basis of Government Decree 80/2023 (III. 14.) [15]

[14] 80/2023. (III. 14.) Korm. rendelet - Nemzeti Jogszabálytár

[15] termekdijmagyarorszag.hu+4Nak+4ABT+4https://kormany.hu

on the Extended Producer Responsibility system. The purpose of the system is to ensure that producers and first domestic distributors assume financial responsibility for the management of waste generated throughout the life cycle of the products they place on the market. The EPR system contributes to increasing recycling rates and supports the transition towards a circular economy.

The product streams covered by the EPR system include packaging, certain single-use plastic products, electrical and electronic equipment, batteries and accumulators, motor vehicles, tyres, office and advertising paper, cooking oil and fat, certain textile products and wooden furniture. In Hungary, the operational management of the system is carried out within the national waste management concession by MOHU MOL Waste Management Ltd. Producers and first distributors placing products on the Hungarian market are required to register in the MOHU Partner Portal and submit quarterly reports on the quantities of products placed on the market. Based on the reported data, MOHU issues the invoice for the extended producer responsibility fee, which must be paid within 15 days of receipt.

The practical implementation of the system stabilised during 2024–2025, and MOHU issued several methodological guidelines and clarifications concerning reporting procedures, the classification of product categories and the calculation of fees. At the same time, the EPR system has been aligned with the national deposit-return system (DRS) introduced by Government Decree 450/2023 (X. 4.) on the mandatory deposit-return system for beverage packaging. For packaging covered by the deposit-return system, certain adjustments apply to the EPR fee obligations, which requires more precise product tracking and reporting by producers.

From the perspective of the circular construction sector, the EPR system currently has mainly indirect relevance, since construction materials and construction products are not yet included as a separate EPR product category. Nevertheless, several regulated product streams are linked to construction and renovation activities, including packaging of construction materials, electrical equipment used in building systems, batteries used in building technologies, and furniture or textile products generated during building refurbishment. The EPR framework can therefore contribute indirectly to improved collection and recycling of these waste streams within the construction value chain.

Within the concession-based waste management system, MOHU has also initiated the development of new collection and treatment infrastructure and the digitalisation of waste tracking systems. These measures may support more efficient management of secondary raw materials and improve the traceability of material flows, which is relevant for the recovery and recycling of materials generated in construction and demolition activities.

Overall, the EPR system aims to create economic incentives for waste reduction, increased reuse and recycling, and more environmentally responsible product design. Although the system currently affects the construction sector mainly indirectly, ongoing developments in European circular economy policy and the revision of the Construction Products Regulation (CPR) indicate that life-cycle responsibility for construction products may become more prominent in the future.

4.1.7. EU Taxonomy and the national implications of the "do no significant harm" (DNSH) principle

The EU Taxonomy framework[16] defines what significant harm to environmental objectives means, determining whether an activity is environmentally sustainable. Amongst the 6 DNSH principles[17] number 4 considers the implications of significant harms to the circular economy – inc. waste prevention and recycling. An action is considered to cause significant harm if:

- leads to significant inefficiencies in the use of materials or in the direct or indirect use of natural resources, or
- significantly increases the generation, incineration or disposal of waste, or
- the long-term disposal of waste may cause significant and long-term environmental harm

The latest update of any Technical guidance on the application of the DNSH[18] has been carried out in 2025, with regards to the use of EU resources under the Social Climate Fund which forms part of the broader circular economy considerations in EU practice in various funding schemes such as European Regional Development Fund, European Social Fund Plus, Cohesion Fund,

[16] Regulation (EU) 2020/852 of the European Parliament and of the Council of 18 June 2020 on the establishment of a framework to facilitate sustainable investment, and amending Regulation (EU) 2019/2088: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32020R0852#tit_1

[17] Regulation (EU) 2020/852 of the European Parliament and of the Council of 18 June 2020 on the establishment of a framework to facilitate sustainable investment, and amending Regulation (EU) 2019/2088, OJ L 198, 22.6.2020, p. 13, Article 17: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32020R0852#art_17

[18] Technical guidance on applying the 'do no significant harm' principle under the Social Climate Fund Regulation (C/2025/1596), COMMISSION NOTICE (2025): https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX%3A52025XC01596&utm

Just Transition Fund[19]. In general EU funded projects containing infrastructure elements are obliged to comply with a dedicated programme specific guidance since 2021.

Annex 1 of the latest guidance contains a sector-specific list of activities with accompanying measures to comply with the DNSH principle (non-exhaustive). Projects that include renovation or demolition activities are also specifically mentioned in scenarios where more than 2000m^2 of useful floor area – calculated on project basis not per building unit – is affected. In such cases a **pre-demolition/ renovation audit** has to completed based on applicable national or local methodologies, and Annex F of the EU Construction and Demolition Waste Management Protocol[20]. Also at least **70 % of** the non-hazardous **construction and demolition waste (CDW) – see section 3.2.2 –** generated on the construction site (by mass) should be prepared for **re-use or recycled,** where backfilling is not considered preparing for re-use or recycling**.**

[19] European Commission, EGESIF_21-0025-00, "Application of the 'Do No Significant Harm' principle under Cohesion Policy", 27 September 2021 (Commission services working document): https://www.lavoro.gov.it/temi-e-priorita-europa-e-fondi-europei/focus/06_egesif_21-0025-00_dnsh_expl_note?utm

[20] European Commission: Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs, *EU construction & demolition waste management protocol including guidelines for pre-demolition and pre-renovation audits of construction works – Updated edition 2024*, Publications Office of the European Union, 2024, **https://data.europa.eu/doi/10.2873/77980**

Consequently programme specific DNSH guidelines have been formulated on a national level, which further specify compliance meausers with EU legislation in Hungary where EU funds are involved[21]. These entail specific circularity measures to be followed as seen in the table below:

Table 6.: DNSH Guidance in Hungarian operational programmes

Programme[22]	Target for secondary material inputs	Target for non-hazardous CDW recovery	Conditionality	Other specific circularity guidance
KEHOP Plusz	projects over a 150 million HUF where construction/demolition takes place: at least 30% by mass recycled/re-used materials and/or by-products Recycling Plan required	at least 70% by mass preparation for re-use, recycling or other material recovery of non-hazardous CDW (excluding non-contaminated soil and stones)	If targets cannot be met, maximum achievable rate must be defined; lead designer declaration required explaining technical/resource constraints	Mandatory Recycling Plan; assessment of recycled/by-product options at design stage; procurement preference for higher recycled content, durability, repairability
IKOP Plusz	at least 30% by mass recycled/re-used materials and/or by-products in works, where relevant and feasible	at least 70% by mass preparation for re-use, recycling or material recovery of non-hazardous CDW (excluding non-contaminated soil and stones), where relevant	Where relevant and feasible; Traceability and documentation of recovery required	Priority to in-project re-installation/re-use before other recycling; destination and technology of recovery must be defined
GINOP Plusz	at least 30% by mass recycled/re-used materials and/or by-products Recycling Plan for larger construction/demolition projects required	at least 70% by mass preparation for re-use, recycling or material recovery of non-hazardous CDW (excluding non-contaminated soil and stones)	Where relevant and feasible	Recycling Plan embedded in detailed design; systematic assessment of secondary material use

[21] https://www.palyazat.gov.hu/informacio/elemzesek/dnsh

[22] other Hungarian operative programmes did not include any specific measures regarding the circularity of projects: TOP Plusz, EFOP Plusz, DIMOP Plusz, VOP Plusz

Across Hungarian DNSH guidance, construction-related circularity requirements are most clearly operationalised in KEHOP Plusz, IKOP Plusz and GINOP Plusz. These programmes introduce a 30% minimum target (by mass) for recycled or re-used materials and/or by-products incorporated into works and a 70% recovery target for non-hazardous construction and demolition waste, excluding non-hazardous soil and stones (EWC 17 05 04). However, conditionality is embedded in each document requiring justification and a designer declaration where targets cannot be met. Mandatory recycling plans (pre-demolition/ -renovation audit**)** at design stage strengthen ex-ante assessment and traceability.

In other programmes such as Interreg and transnational cooperation programmes which Hungary participates in, DNSH operates as a horizontal compliance requirement implemented through screening, qualitative assessment and mitigation, rather than through quantified circular construction targets. Programme manuals, applicant guides and programme assessments embed DNSH in selection methodology requiring applicants and beneficiaries to demonstrate that planned activities do not cause significant harm against the six environmental objectives. For construction and demolition related activities, this is translated into an obligation to identify potential negative impacts and to describe measures that avoid or minimise them, supported by DNSH reporting and, in some cases, standard programme templates. Feasibility aspects are generally addressed implicitly through narrative mitigation logic and project specific justification.

4.1.8. Specific Hungarian legislation affecting circularity in the construction sector

4.1.8.1. Construction Act

Act LXXVIII of 1997 on the shaping and protection of the built environment (Construction Act – Étv.), and the **Government Decree 275/2013 (VII.16.)** on the detailed rules governing the specification and incorporation of construction products into buildings and the verification of their performance during this process, define what is a demolition construction product:

A material or structural component generated during the demolition of a building that is intended for reuse and incorporation without further processing.

4.1.8.2. Construction technical guidelines (ÉPMI) and database

Construction Technical Guidelines (Építésügyi Műszaki Irányelvek – ÉPMI) provide practical technical guidance for construction professionals on the application of construction products, building technologies and quality requirements. Although the guidelines are not legally binding, they are widely used as professional reference documents in design practice, permitting procedures, public

procurement and quality assurance systems. In the context of circular construction, these guidelines are particularly relevant as they define technical conditions for the reuse of reclaimed building elements and the use of materials derived from construction and demolition waste.

The guidelines and related technical documents are publicly accessible through the **Construction Technical Database (Építésügyi Műszaki Adattár)**, established by **Decree 6/2019 (IV. 4.) of the Ministry for Innovation and Technology**. The database functions as a central digital platform providing access to technical guidance for the construction sector and facilitating the dissemination of innovative building technologies and materials. It also supports the practical implementation of circular construction solutions by providing technical references for the qualification and application of secondary construction materials.

The preparation and periodic revision of the guidelines are coordinated by the **Construction Technical Regulatory Committee (Építésügyi Műszaki Szabályozási Bizottság – ÉMSZB)**, which ensures that the documents reflect technological progress, evolving industry practices and sustainability considerations.

The current regulatory framework governing building authority procedures is defined by **Government Decree 281/2024 (IX. 30.)**, adopted to implement **Act C of 2023 on Hungarian Architecture**. The regulation establishes detailed procedural rules for building authority procedures, construction supervision and inspections. Subsequent amendments introduced by **Government Decree 284/2025 (VIII. 25.)** and **Government Decree 448/2025 (XII. 29.)** refined certain procedural aspects, including requirements related to construction documentation and simplified notification procedures for residential buildings.

Although the **regulation does not specifically regulate circular construction or the use of secondary construction materials**, the strengthened documentation and supervision requirements may indirectly support their wider application. More detailed documentation of construction processes and materials can improve transparency regarding the origin, quality and traceability of reused or recycled materials. This may facilitate their acceptance in permitting procedures and contribute to a more reliable integration of materials derived from construction and demolition waste into construction projects.

Even where building permits are not required, construction activities remain subject to local urban design regulations, local building codes and other applicable construction and environmental requirements (see sections 4.1.8.5, 4.1.8.6)

4.1.8.3. Environmental protection

Act LIII of 1995 on the General Rules of Environmental Protection establishes the overarching legal framework for environmental regulation in Hungary. The act aims to ensure environmental protection and the sustainable use of natural resources.

Section 30 sets out general obligations for waste management. Any material or product that the owner cannot or does not intend to use for its original purpose, including packaging materials and residues generated during use, is considered waste. The environmental user is responsible for ensuring the proper management of such waste, including recovery or disposal.

In practice, these provisions have a direct impact on the handling of construction and demolition materials. Materials generated during demolition activities, such as reclaimed construction components, contaminated soils, or dismantled building products, are typically classified as waste and must therefore be managed according to waste legislation.

A practical implication is that certain materials may receive waste status even when contamination is absent. For example, soil and stone excavated during foundation works may legally qualify as waste, which restricts their reuse for landscaping or site levelling unless specific regulatory procedures are completed.

The act also introduces environmental load charges for pollutants released into environmental media. This economic instrument encourages the reduction of waste generation and promotes the use of environmentally responsible technologies.

4.1.8.4. Resilience

Hungary's climate policy framework is defined by the Second National Climate Change Strategy (NÉS-2), adopted by Parliament in 2018 with a horizon to 2030 and an outlook to 2050. The strategy includes the National Decarbonisation Roadmap, the National Adaptation Strategy, and the Climate Awareness Partnership Plan. These documents establish national targets and actions for greenhouse gas emission reduction and climate adaptation.

In the construction sector, environmental performance and climate resilience are increasingly reflected in building regulations. Government Decree 253/1997 (XII.20.) on National Spatial Planning and Building Requirements (OTÉK) sets technical and planning requirements for buildings, including provisions that address environmental performance and adaptation to climate change.

4.1.8.5. Residential buildings subject to simplified permit procedures

In Hungary, certain residential construction projects may be carried out through a simplified procedure, which replaces the full building permit procedure under defined conditions. This framework is regulated primarily by Act LXXVIII of 1997 on the Formation and Protection of the Built Environment (Étv.) and the procedural rules established in Government Decree 281/2024 (IX. 30.) on building authority procedures and inspections.

Under this system, the construction of single-family residential buildings with a total floor area not exceeding 300 m², and are intended for the builder's own residential use, do not require a traditional building permit. Instead, the project may commence following a simplified notification procedure submitted through the electronic construction administration system.

In certain cases, the simplified notification procedure may also apply to larger residential developments, including multi-apartment buildings with up to six residences and a total floor area of approximately 1,000 m², provided that the project meets the relevant legal and planning requirements.

The simplified notification procedure significantly shortens the administrative process, as construction may generally begin 15 days after the notification has been submitted, assuming that the required documentation has been properly provided.

4.1.8.6. Projects of outstanding importance for the national economy – "Otthon Start" Programme

In Hungary, projects may be designated as "of outstanding importance for the national economy", which significantly affects the regulatory environment of construction. Such status is typically granted through government decrees that attach special procedural rules to the designated investment – for example Government Decree 141/2018 (VII. 27.). In the housing sector, recent programmes indicate that large residential developments – projects delivering at least 250 residences under the "Otthon Start" housing programme – may receive this status through dedicated decrees regulating the implementation of the programme – Government Decree 335/2025 (X. 30.).

The practical consequence of this designation is a combination of accelerated administrative procedures and regulatory derogations. Priority projects may receive shorter administrative deadlines in building authority procedures, which are governed by the framework established in Government Decree 281/2024 (IX. 30.) on building authority procedures and inspections. In addition, certain project-specific decrees may **allow deviations from local spatial planning instruments or national construction requirements** where these conflict with the specific provisions defined for the project.

In practice, this may include the temporary suspension or non-application of local planning rules, such as local building regulations (Helyi Építési Szabályzat – HÉSZ) or national spatial planning and construction requirements (OTÉK – currently largely replaced by the Településrendezési és Építési Követelmények, TÉKA). Project-specific decrees may also disapply previously imposed change bans land parcel-formation bans or construction bans affecting the designated site (for example under Government Decree 141/2018 (VII. 27.).

From the perspective of circular construction, the implications are mainly procedural and operational rather than regulatory. Accelerated permitting and simplified planning conditions can favour rapid project delivery and large-scale demolition and reconstruction. **As a result, circular solutions—such as selective dismantling, reuse of building elements or the integration of secondary construction materials—may be difficult to introduce if they are not integrated into the project design at an early stage.**

At the same time, priority status does not exempt projects from environmental or waste management obligations, including those arising under Act CLXXXV of 2012 on Waste and the environmental assessment framework established by Government Decree 314/2005 (XII. 25.) on environmental impact assessment and integrated environmental permitting. Consequently, requirements related to construction and demolition waste management, material recovery and environmental protection remain applicable even in accelerated projects, however authorities have much shorter time to reflect on the construction and demolition plans and thus cannot pursue detailed adjustments.

4.2. Stakeholders

This chapter describes the main policy and market actors in the construction sector focusing on their potential in enhancing circularity.

4.2.1. Government institutions and public authorities

National ministries (policy, strategies, national registers)

National ministries set sector policy and secondary legislation, maintain national digital systems (e.g., NÉNY under Act C of 2023 – see section 5.2.5) and issue guidance that influences permitting, public investment rules and product-data requirements, affecting how circular solutions are documented and accepted in projects (Act C of 2023).

County and capital government offices as building authorities

County and capital government offices act as the main building authority. They run permitting and occupancy procedures in the electronic system (ÉTDR), perform site inspections and take

enforcement measures against non-compliance, which directly affects how reuse, demolition methods and material substitutions must be documented (Government Decree 281/2024 (IX. 30.).

Environmental authority (screening, EIA, permits)

Environmental authorities decide on screening and environmental impact assessment and issue environmental permits where required. Their conditions shape demolition sequencing, on-site treatment and limits for noise, dust, water and habitat impacts, which can constrain or enable selective demolition and on-site recycling (Government Decree 314/2005 (XII. 25.)).

Waste management authority (permits for CDW handling)

Waste management authorities issue permits/registrations for waste collection, transport and treatment. This determines who may sort, crush or temporarily store construction and demolition waste and under which record-keeping duties, which is decisive for creating reliable secondary material streams (Act CLXXXV of 2012).

Municipalities (spatial planning, local building and townscape rules)

Municipalities regulate local land use and building through the local building code (HÉSZ) and zoning plans, and manage townscape rules via local decrees and procedures. These decisions affect whether refurbishment, densification or demolition is feasible and can be used to steer projects towards reuse-friendly solutions (Act LXXVIII of 1997; Act LXXIV of 2016).

Chief architects (települési/térségi főépítész)

Municipal or regional chief architects (főépítész) advise on planning and townscape matters and support consistent application of planning and architectural principles; settlements must have a chief architect or share one via association. Their practical role can raise early design issues that influence adaptability, refurbishment and material choices (Government Decree 190/2009 (IX. 15.); Act C of 2023).

Heritage authorities (built heritage and archaeology)

Heritage authorities participate in cases affecting protected buildings or archaeological areas, setting binding conditions that often favour conservation, repair and compatible materials over replacement. This can support circular outcomes by prioritising refurbishment and careful dismantling (Act C of 2023; Government Decree 281/2024).

4.2.2. Professional chambers and

- **Chamber of Hungarian Architects (MÉK):** The Chamber of Hungarian Architects (MÉK) is a public-law body with national competence. It keeps registers and grants professional entitlements for architectural practice, supports continuing training and applies ethics/disciplinary rules, shaping how circular design competences are embedded in practice (Act LVIII of 1996)
- **Chamber of Hungarian Engineers (MMK):** The Chamber of Hungarian Engineers (MMK) is the equivalent public-law body for engineering disciplines. It maintains registers and licences for technical experts (e.g., structural, MEP), sets competence frameworks and supports training, influencing how circular requirements are translated into calculations, specifications and site control (Act LVIII of 1996).

4.2.3. Industry associations and cross-professional organisations

- **ÉVOSZ (National Federation of Hungarian Construction Contractors)** represents contractors in policy consultations, submits proposals towards policy makers on construction waste, recycling and BIM, and runs sector surveys and briefings that shape procurement criteria and site routines. It supports contract templates and training that make selective demolition, documentation and material traceability easier to apply on real projects.
- **HuGBC (Hungarian Green Building Council):** HuGBC develops guidance, training and sector dialogue on circular and low-carbon buildings, including renovation and resource-efficient design. It convenes designers, investors and suppliers to test tools such as material inventories, product data and design-for-disassembly, and then communicates lessons to professional communities and policy forums.
- **BCSDH Circular Economy Platform:** BCSDH's Circular Economy Platform convenes companies and experts to develop practical circular solutions and share implementable business cases. Through working groups and events it promotes resource-efficient procurement and corporate reporting, and aids in turning cross-sector commitments into measurable actions relevant for construction supply chains.
- **MAÚT, Hungarian Road and Railway Society** develops and updates road technical specifications (e-UT) that set accepted methods and limits for using secondary materials in infrastructure, such as reclaimed asphalt. By clarifying quality requirements, testing rules and design options, it reduces uncertainty for designers and contractors and supports higher-value recycling in road works.

- **FIEC, European Construction Industry Federation – national membership programme:** Through FIEC, the European federation of construction industry associations, Hungarian stakeholders can feed positions on the green transition, public procurement and skills into EU debates. This helps anticipate EU rules on circular materials, supports aligned procurement guidance and improves consistency between national practice and European expectations.

4.2.4. Businesses and private-sector actors

Construction contractors (general contracting, civil works, demolition, earthworks)

Construction contractors deliver works on site (demolition, earthworks, structures, MEP installation) and must organise compliance with approved designs, permits and site documentation (including „e-napló" practice under the building authority framework in Government Decree 281/2024 (IX. 30.). In circular projects, contractors are the key actors for selective dismantling, separation logistics, on-site stock management, and enforcing specifications for secondary materials so they remain auditable at handover.

Top private contractors (indicative):

- **Market Építő Zrt.** (large-scale building construction) https://forbes.hu/lists/magyar100-2025/market-epito-zrt/ (Forbes.hu)
- **Duna Aszfalt Zrt.** (infrastructure/road construction) https://forbes.hu/lists/magyar100-2025/duna-aszfalt-zrt/
- **KÉSZ Holding Zrt.**: https://forbes.hu/lists/magyar100-2025/kesz-holding-zrt/

Waste management companies (CDW collection, treatment, recycling)

Waste management firms manage collection, transport, sorting and treatment of construction and demolition waste under waste permits and reporting obligations (Act CLXXXV of 2012 on Waste; Government Decree 309/2014 (XII. 11.). For circular construction, they provide the practical bridge from "waste" to marketable secondary materials, through sorting quality, contamination control, and issuing documentation that supports lawful use.

Top private operators active in Hungary (indicative):

- **MOHU MOL Hulladékgazdálkodási Zrt.** (national concession operator shaping collection and treatment infrastructure; relevant for system-level flows) https://mohu.hu
- **Saubermacher-Magyarország Kft.** (major waste-management provider; offers construction waste services) https://saubermacher.hu/en/teljesitmeny/removal-of-construction-waste/

- **FCC Magyarország Környezetvédelem és Hulladékgazdálkodás Kft.** (FCC Environment group; full-service waste management) https://www.fcc-group.eu/magyarorszag/fooldal

Architects and technical experts (design, engineering, supervision)

Architects and engineers design, specify and certify technical compliance, and their professional practice is tied to chamber registration (Act LVIII of 1996 on chambers). High potential in affecting circularity: material passports, deconstruction-friendly detailing, component reuse specifications, and proof packages for secondary materials (performance, contamination, intended use) must be prepared so authorities, insurers and clients can accept them.

Top Hungarian design / integrated technical service firms (indicative):

- **KÖZTI Zrt.:** https://www.kozti.hu/en/we-are-kozti/
- **DVM group** (integrated architecture & building services; design, project management, consultancy) https://dvmgroup.com/en/homepage/
- **Archikon Architects** (recognised leading practice; strong refurbishment/reconfiguration track record) https://archikon.hu/en/about-us/

Developers and clients (investors, public and private building owners)

Developers and clients finance and steer projects, appoint designers/contractors, set tender criteria, and decide whether reuse- and secondary materials are “must-have” or optional. They are decisive for circularity because they control early-stage choices: refurbishment vs demolition, design brief requirements, procurement scoring, risk allocation for secondary materials, and time allowances for selective dismantling and material qualification.

Top private developers/investors (indicative):

- **WING Zrt.** (leading Hungarian-owned property developer/investor) https://wing.hu/en/about-wing
- **Futureal Group** (Central European developer with urban renewal pipeline) https://www.futurealgroup.com/en/; https://www.futureal.hu/en/index.php
- **Bayer Construct Zrt.** (developer/contractor group active in major residential and mixed projects): https://www.forbes.hu/lists/magyar100-2025/

Raw material and building material manufacturers (cement, bricks, insulation, gypsum)

Manufacturers supply the products and technical documentation that enable circular solutions at scale: recycled content products, take-back schemes (where available), and consistent performance declarations. They must comply with EU and national product conformity frameworks (linked to CPR 2.0) and provide product documentation viable in permitting and procurement.

Top manufacturers with major Hungarian market presence (indicative):

- **Wienerberger Magyarország** (bricks, roof tiles; major domestic producer) https://www.wienerberger.hu/
- **Holcim Magyarország Kft.** (cement and related materials; major producer) https://www.holcim.hu/
- **Masterplast Nyrt.** (insulation and building material manufacturing and distribution; regional leader) https://www.masterplastgroup.com/en/2021/05/25/department-of-hungarian-construction-material-manufacturers-is-established/
- Also widely relevant for circular building interiors: **Knauf** gypsum systems in Hungary https://knauf.com/hu-HU/knauf-gypsum/knaufrol/bemutatkozas

Developer–contractor integrations

If a real estate development company also operates its own construction company, it can significantly facilitate the implementation of circular material use in the construction sector. In such integrated structures, decisions related to design, material procurement, demolition, and construction can be coordinated within a single organizational framework, enabling more efficient planning and execution of material reuse. The developer–contractor integration allows reusable materials identified during demolition or renovation to be directly incorporated into new projects without the administrative, contractual, and logistical barriers that often arise between independent actors. This also improves traceability, quality control, and storage management of recovered materials. Furthermore, internal coordination can support long-term strategic planning for circular practices, such as establishing internal material banks or standardized reuse procedures. As a result, companies with both development and construction capacities are better positioned to reduce waste, lower material consumption, and implement circular economy principles in a practical and economically viable way.

4.3. Identified issues

The following chapters assess the gaps and practical applicability of the existing legal framework in Hungary showing similarities with the ReBUILT project previously identified a range of structural and market-related challenges.

4.3.1. Policy gaps in Hungarian law

The circular economy considerations are currently addressed primarily at the end-of-life phase of buildings, mainly through waste management and recycling policies. Earlier stages of the building life cycle, including the production of construction materials and building design, remain less developed from a circular economy perspective. Hungary also lacks a comprehensive national strategy specifically addressing the transition towards a circular construction sector.

Technical guidance on DNSH in EU funded projects

No Interreg (or transnational) programme[23] establishes a fixed, construction specific feasibility clause or quantitative conditions for the use of secondary construction materials; instead, feasibility is reflected softly – "where relevant" – through the **expectation that applicants propose proportionate mitigation measures and comply with the rather fragmented and complex legal framework (waste-, construction- and environment legislation)**. More measurable requirements, and clearer rules should be present in more Hungarian operational programmes – namely TOP Plusz, EFOP Plusz, DIMOP Plusz, VOP Plusz – to incentivise the presence of secondary raw materials and CDW reuse in infrastructure projects (following the footsteps of DNSH technical guidance of the national IKOP programme)

[23] Interreg Central Europe (ERDF); Danube Region Programme (ERDF, IPA, NDICI mix); Interreg VI-A Austria–Hungary (CBC, ERDF); Interreg VI-A Romania–Hungary (CBC, ERDF); Interreg VI-A Hungary–Slovakia (CBC, ERDF);Interreg VI-A Slovenia–Hungary (CBC, ERDF); Interreg VI-A Hungary–Croatia (CBC, ERDF); Interreg VI-A IPA Hungary–Serbia (CBC, IPA III with Interreg rules); Interreg VI-A NEXT Hungary–Slovakia–Romania–Ukraine (CBC, NDICI with Interreg rules)

Extend construction and technical guidelines providing rules for more CDW treatment options:

Annex E of the Construction and Demolition Waste Management Protocol (4.1.2) lists the possible treatment and reusability options for various CDW types as seen in the table below:

Table 7.: CDW treatment possibilities in Hungarian law

CDW category	Available treatment options	Classification according to WFD (3.2.2)	Material considered as recyclable/useable by Hungarian law (EWC codes)[24]
Mineral waste (Concrete; Bricks; Tiles and ceramic; Mixed/other mineral/inert waste)	Sorting and crushing into aggregates for road construction or recycled aggregates for concrete; limited by standards (e.g. EN 206); fine fractions may be used as cement additives in some MS; old bricks may be prepared for reuse after selective dismantling.	Other recovery (backfilling); recycling (if used in new concrete); preparation for reuse (bricks).	17 01 01 (Concrete); 17 01 02 (Bricks); 17 01 03 (Tiles and ceramics); 17 01 07 (Mixed mineral fractions)
Plastic	Mechanical recycling into granulates (PVC, PP, HDPE, PS, EPS, PU); feedstock recycling (pyrolysis, gasification); energy recovery.	Recycling or other recovery (energy recovery).	17 02 03 (Plastic)
Metal (Mixed metals; Ferrous; Non-ferrous)	Remelting and production of new metal; high recyclability and economic viability.	Recycling.	17 04 01 (Copper, bronze, brass); 17 04 02 (Aluminium); 17 04 03 (Lead); 17 04 04 (Zinc); 17 04 05 (Iron and steel); 17 04 06 (Tin); 17 04 07 (Mixed metals); 17 04 11 (Metal packaging)
Glass	Selective collection; recycling into flat glass or container glass.	Recycling.	17 02 02 (Glass)
Wood	Recycling into particleboard (if clean); energy recovery if contaminated; rare cases of reuse.	Recycling; other recovery (energy recovery); in rare cases preparation for reuse.	17 02 01 (Wood)
Gypsum	Recycling into gypsum, paper and ferrous fractions; reuse in plasterboards or cement production.	Recycling.	17 08 02 (Gypsum-based construction materials)
Insulation	Recycling of mineral wool (closed-loop or brick industry); polymer-based insulation mainly incinerated or landfilled; bio-based insulation composted or incinerated where feasible.	Recycling; other recovery (energy recovery); disposal (landfilling).	17 06 04 (Insulation materials)
Paper and cardboard	Recycling if selectively collected; otherwise incineration with energy recovery.	Recycling; other recovery (energy recovery).	(Typically 15 01 01 for packaging waste; not explicitly listed in previous table)
Mixed waste, generic	Sorting; backfilling; recycling; incineration; landfilling depending on composition.	Recycling; other recovery (backfilling, energy recovery); disposal (landfilling).	17 09 04 (Mixed construction and demolition waste)
Hazardous waste (excluding hazardous soil and dredging spoil)	High-temperature incineration; incineration with special permits; hazardous landfill; underground storage.	Other recovery (energy recovery); disposal (without energy recovery or landfill).	Various 17 codes marked as hazardous depending on contaminant

[24] 45/2004. (VII. 26.) BM-KvVM együttes rendelet az építési és bontási hulladék kezelésének részletes szabályairól - Hatályos Jogszabályok Gyűjteménye

Despite the various CDW treatment options at present, only a limited number of Construction Technical Guidelines (Építésügyi Műszaki Irányelvek)[25] address the qualification and reuse of secondary construction materials as seen below:

- ÉPMI 3/2019 (1 July 2019) – Qualification of reclaimed bricks prior to reuse
- ÉPMI 4/2019 (1 July 2019) – Conditions for the application of aggregate materials produced from the recycling of construction and demolition waste in building construction
- ÉPMI 4/2020 (11 May 2020) – Qualification of reclaimed artificial stone, mosaic and natural stone slabs prior to use
- Qualification of reclaimed timber prior to reuse (2022)
- SECAP: Sustainable Energy and Climate Action Planning at municipal level (ÉPMI 8/2022)
- Possible methods and evaluation criteria for life-cycle assessment (ÉPMI 10/2022)

[25] ÉMI Nonprofit Kft. – Construction Technical Guidelines (Építésügyi Műszaki Irányelvek) registry: https://emi.hu/emi/web.nsf/Pub/epitesugyi_muszaki_iranyelvek
Építésügyi Műszaki Szabályozási Bizottság (Construction Technical Regulatory Committee): https://www.emszb.hu

4.3.2. Market, economic and technological barriers

A significant part of the Hungarian construction sector still operates with outdated machinery and construction technologies, which limits the introduction of more resource-efficient and innovative building solutions.

The level of digitalisation in the construction industry remains lower than in many other sectors, which reduces the ability of companies to use digital tools that could improve planning, material tracking and project efficiency.

The market uptake of industrialised and prefabricated construction technologies is also slow, despite their potential to improve material efficiency and reduce construction waste.

Shortages of skilled workers and engineers, together with gaps in professional training, make it more difficult for companies to adopt new construction technologies and sustainability-oriented practices.

4.3.3. Lack of infrastructure and incentives

Several structural gaps limit the wider adoption of circular construction practices. These include the lack of economic and regulatory incentives encouraging the use of secondary construction materials, limited guidance for designers and construction professionals on circular design approaches, weak incentives to extend the service life and flexible use of buildings, and insufficient measures supporting the reuse and recycling of construction and demolition waste. In addition, horizontal policy tools supporting coordination, knowledge transfer and monitoring across the construction value chain remain limited.

Furthermore the uncertainty surrounding public construction projects makes long-term planning and technological investment difficult for companies hinders well prepared public investment programmes where elaborate CDW management plans could be formulated.

The creation and expansion of databases for environmentally certified construction products and services is considered necessary to improve transparency and encourage the use of sustainable materials and technologies.

Stronger public support for technological modernisation, training programmes and sectoral cooperation would be required to enable construction companies to adapt to sustainability and resource-efficiency requirements.

4.3.4. Main points addressed during the stakeholder workshop

In this section only the issues emerging from the stakeholder workshop are presented. Participants also proposed resolving measures, which were incorporated under section 5.

Regulatory uncertainty in material classification

A frequently reported problem concerns the inconsistent interpretation of material status by different authorities. The Environmental Protection Authority and the Soil Protection Authority may assess the same material differently. In practice, this means that a material considered suitable for reuse by one authority may be classified as hazardous by another, which can lead to sanctions. This situation has been observed even in the case of commonly reused materials such as asphalt or stone dust.

The absence of a clearly defined institutional responsibility for material qualification contributes to this uncertainty. In certain cases, technical qualification may be carried out by the Hungarian Institute for Quality Control and Innovation in Building (ÉMI), although this procedure is not systematically applied in practice.

Reuse potential exists but procedures are difficult to apply in smaller projects

Several materials generated during demolition activities could be reused without significant technical risks. Participants mentioned kerbstones, paving stones and non-load-bearing brick elements as examples. However, formal procedures such as waste status assessment and incorporation suitability testing are required before these materials can be reused in construction works. These procedures involve administrative steps, laboratory testing and associated costs. For projects with small material volumes the process may become disproportionate in terms of cost and time. When large volumes are involved, the relative cost of testing and certification becomes significantly lower, which makes reuse economically more viable constituting an major economic barrier linked to testing requirements

Limited awareness among market actors

Participants indicated that contractors and other market actors often have limited knowledge of the regulatory framework governing reuse and recycling. In many cases, companies become aware of the applicable requirements only after inspections or penalties occur. This lack of information reduces the willingness of companies to experiment with circular solutions.

Storage and logistical considerations

The regulatory requirements related to the temporary storage of construction materials are considered complex by market actors. At the same time, participants emphasised that excessive deregulation

could create environmental risks if low-quality materials enter reuse streams without proper control. Companies involved in demolition and certification activities noted that in many cases a separate intermediate storage depot is not technically necessary between demolition and reuse. Materials can be transferred directly to new construction projects when appropriate planning and certification procedures are in place.

Implications for the construction waste market

Due to the combination of regulatory uncertainty, administrative costs and limited awareness, part of the reuse of demolition materials currently occurs outside formal regulatory channels. According to workshop participants, this situation increases the likelihood of informal practices and may contribute to the emergence of illegal dumping sites instead of regulated reuse pathways.

It was also highlighted in the workshop that there is a lack of awareness among stakeholders about existing good practices. As noted by experts , there are already examples where actors have successfully identified workable solutions in areas where the national regulatory framework is unclear or leaves certain gaps. However, knowledge about these practical experiences is not widely shared, which limits the ability of other stakeholders to replicate and build on these successful approaches.

5. Solutions for a shift towards more circular construction

This chapter is based upon the findings of this study (including the stakeholder workshop), the OECD's work – Towards a National Circular Economy Strategy for Hungary[26], 2023, and the communication by the National Federation of Hungarian Construction Contractors (ÉVOSZ), 2025.[27]

5.1.1. Introduction of new definitions, requirements and incentives

Strengthening circular construction requires the introduction of clearer policy instruments supporting the use of secondary construction materials and resource-efficient design practices. Relevant policy directions include:

- development of a national policy framework supporting the use of secondary raw materials in construction
- introduction of quality standards and certification schemes for recycled construction materials in order to increase market confidence
- simplification of administrative procedures allowing the incorporation of secondary materials into construction projects
- consideration of fiscal instruments improving the competitiveness of recycled materials, including potential taxation mechanisms targeting selected virgin construction aggregates.
- wider application of Building Information Modelling (BIM) in construction projects,
- development of life-cycle based evaluation methods
- integration of environmental criteria into project planning and procurement

5.1.2. Harmonisation with EU policy objectives and national law practice

Further alignment with evolving EU policy frameworks is necessary to support the circular transformation of the construction sector. Relevant areas include:

- introduce legal provisions for selective demolition and partial mandatory recycling of materials generated during demolition, as well as establishing a regulatory framework for life-cycle assessment in construction projects

[26] OECD (2023), *Towards a National Circular Economy Strategy for Hungary*, OECD Publishing, Paris, https://doi.org/10.1787/1178c379-en.

[27] Koji, L. (2025) *Az építési ágazat 2025. évi súlyponti problémái, javaslatok ezek megoldásához.* Budapest: Építési Vállalkozók Országos Szakszövetsége (ÉVOSZ): https://epuletgepesz.hu/wp-content/uploads/2025/03/epitesi_agazat_2025_evosz.pdf?utm

- strengthening the preparation of engineers and construction professionals for EU-level requirements thus improving the integration of European technical standards into the Hungarian construction regulatory environment.
- integrating minimum recycled content requirements into legislation and public procurement frameworks (delivering on the Hungarian Green Procurement Strategy 2022-2027[28])
- revising construction-related legislation to introduce performance-based criteria for construction materials and components
- adapting spatial planning approaches to support the development of resource-efficient and circular urban environments.
- strengthening measures that reduce undeclared construction work, whitening the current practice of CDW management

5.1.2.1. Technical guidelines on how CDWs can be reused as secondary construction materials

Based on the EU CDW Protocol Annex E, the currently applicable Hungarian **Construction Technical Guidelines (Építésügyi Műszaki Irányelvek – ÉPMI)** address only a limited number of secondary construction materials.

One area where further guidance could be developed concerns **mineral construction materials**. Waste streams classified under **EWC 17 01 03 (tiles and ceramics)** and **EWC 17 01 07 (mixtures of concrete, bricks, tiles and ceramics)** represent a substantial proportion of construction and demolition waste. After appropriate sorting and crushing, these materials may be processed into recycled aggregates that can be used in road construction layers, embankments or, in some cases, in new concrete production. Future construction technical guidelines could define quality requirements for such recycled aggregates, including grading specifications, contamination limits and permitted construction applications.

Another material stream that is currently not addressed by specific guidelines concerns **plastic construction materials**. Waste classified under **EWC 17 02 03 (plastic)** typically includes PVC pipes, window profiles, insulation foams and other polymer-based construction components. These materials may be mechanically recycled into granulates or processed through chemical recycling

[28] https://evosz.hu/data/dokument/Magyarorszag%20zold%20kozbeszerzesi%20strategiaja%202022-2027.pdf

technologies. A future technical guideline could establish quality criteria for secondary plastic materials used in construction products and define conditions for their safe application.

Metal construction materials also present considerable reuse and recycling potential. Waste streams within the **EWC 17 04 category**, including **17 04 01 (copper, bronze, brass), 17 04 02 (aluminium), 17 04 05 (iron and steel)** and **17 04 07 (mixed metals)**, are generally characterised by high recyclability and strong economic value. At present, recycling and reuse of metals are largely regulated through industrial standards rather than construction technical guidelines. A dedicated guideline could provide technical requirements for the reuse of structural steel elements or other metal construction components, including testing procedures, documentation requirements and traceability criteria.

The reuse and recycling of **construction glass**, classified under **EWC 17 02 02 (glass)**, could also benefit from dedicated technical guidance. When selectively collected during demolition, architectural glass and window glass may be processed into cullet for the production of new glass products or used as a component in certain construction materials. A construction technical guideline could define requirements for the separation, handling and processing of glass originating from construction activities.

Gypsum-based construction materials, particularly plasterboard, represent another significant waste stream. Materials classified under **EWC 17 08 02 (gypsum-based construction materials)** may be recycled into gypsum powder, which can be used again in plasterboard production or as an additive in cement manufacturing. A technical guideline could support this process by defining requirements for the selective collection, cleaning and processing of gypsum-based waste.

In addition, **insulation materials** classified under **EWC 17 06 04** are becoming increasingly relevant as the renovation of buildings accelerates across Europe. These materials include mineral wool, polymer-based insulation foams and bio-based insulation products. Each category requires different treatment and recovery processes. Future guidelines could therefore address selective dismantling methods, quality requirements for recovered materials and possible recycling or recovery pathways.

Finally, **mixed construction and demolition waste**, classified under **EWC 17 09 04**, represents a complex waste stream consisting of multiple material types. Efficient recovery of materials from this fraction depends largely on proper sorting and pre-treatment processes. A construction technical guideline could define minimum requirements for sorting, pre-treatment and quality control of

recovered secondary materials in order to facilitate their safe use in construction applications such as backfilling or infrastructure works.

Overall, the current system of Hungarian Construction Technical Guidelines provides a useful framework for the reuse of certain construction materials. Nevertheless, several important material streams identified through the **European Waste Catalogue (EWC)** remain outside the scope of existing guidance. Extending the guidelines to cover additional materials such as plastics, glass, gypsum-based materials, insulation materials and mixed mineral fractions could significantly support the wider application of secondary construction materials and contribute to the implementation of circular economy principles in the construction sector.

5.1.2.2. Unified understanding of the law in practice

Harmonisation of local and county-level administrative practices at national level in order to eliminate differences in legal interpretation both between authorities of the same type operating in different counties and between different competent authorities (such as construction, waste management and environmental authorities) operating within the same territorial administrative unit. For example if excavated soil by the waste management authorities is classified as reuseable soil it should also fall under the same classification by the environmental authorities and vice-versa.

5.2. Economic incentives and support mechanisms

5.2.1. Public support schemes

Possible policy directions include extending renovation and modernisation programmes to integrate circular economy criteria, in addition to existing energy efficiency objectives, and providing targeted support for technological innovation and modernisation in the construction materials sector, particularly for materials containing recycled content. Investments supporting digitalisation and resource-efficient construction technologies may further contribute to the development of circular value chains: expanding databases of environmentally certified construction products and services in order to increase transparency and promote the use of more sustainable construction materials and technologies.

Public sector projects can also play a significant role in stimulating demand for circular construction solutions. In municipal projects, planning practices that prioritise material reuse and recycling may be strengthened, including the systematic consideration of reclaimed construction materials during project preparation. In certain cases, municipalities or contracting authorities may also provide

construction materials recovered from demolition or renovation projects for use in publicly funded construction works, thereby supporting the practical application of secondary construction materials.

Also, fair competition within the EU market has to be ensured while protecting the position of domestic construction companies operating within the European economic area i.e. technological modernisation of construction companies, for the easier adoption of digital solutions and the introduction of more efficient construction technologies helping the transition towards more resource-efficient construction practices.

5.2.2. Possible adjustments to tax and fee systems

Economic instruments may help shift market conditions in favour of circular solutions. Possible measures include increasing landfill taxes and strengthening enforcement of waste management regulations to reduce the landfilling of construction and demolition waste, as well as reducing value-added tax on renovation works in order to promote refurbishment and building reuse instead of demolition and new construction. Further adjustments to tax and fee structures may also be considered in order to improve the economic competitiveness of secondary construction materials compared to primary raw materials.

Tax-based support for sectoral training programmes should be intorduced, updating the financing system of dual vocational training

5.2.3. Strengthening prevention and awareness instead of sanctions

Capacity building and knowledge transfer within the construction sector are essential to support the adoption of circular practices. Relevant actions include training and awareness programmes for architects, engineers and construction companies on circular design and material reuse, strengthening cooperation between public authorities, research institutions and industry stakeholders, and providing targeted advisory and financial support to SMEs developing circular construction solutions. This includes supporting the introduction of BIM in public investments and establishing training centres for new construction technologies and strengthening cooperation between universities and industry organisations.

Awareness-raising activities may also focus on informing construction companies about certification and qualification procedures related to secondary construction materials. This includes processes defined under Act CLXXXV of 2012 on Waste, such as the termination of waste status (end-of-waste determination) and the technical suitability assessment of reclaimed materials, which verifies that the

material's technical properties and environmental characteristics comply with the requirements of the intended construction application.

Improving cooperation between authorities responsible for construction regulation, waste management and environmental protection may further support the consistent interpretation and practical application of these procedures.

In addition, developing economic feasibility assessments for the main stages of secondary material use — such as selective or value-preserving demolition, material qualification, temporary storage and subsequent reuse — may help identify cost-effective circular solutions and support their wider adoption in construction projects.

Additional horizontal measures include the development of digital systems supporting material traceability and monitoring of construction material flows and construction and demolition waste generation. (for further information see the section on the National Construction Economy Registry)

5.2.4. "Otthon Start" Programme

Currently the new legal framework has been developped in the "Otthon Start" programme, which shows the Hungarian government commitment to answer to the large market demand for new housing (esp. in the capital and county centres), wanting to accelerate the permit procedures for large-scale projects, which receive the priority status of "outstanding importance for the national economy".

In practice, circular construction strategies in projects with priority status would be most effective when they are addressed during the early design and procurement phases. This may include conducting pre-demolition audits, planning selective dismantling and material recovery, and specifying the use of secondary construction materials with clear technical documentation and traceability. Early integration of such measures can help ensure that circular solutions remain feasible even within the accelerated procedural framework applied to nationally significant investments. It would be highly advantageous to incorporate these preventive circular construction solutions in the planning phase of these projects as a baseline for receiving the priority status.

5.2.5. National Construction Economy Registry

The legal basis of the registry was established by Act C of 2023 on Hungarian Architecture[29], which introduced the National Construction Economy Registry[30] ("NÉNY") as a central data system for the construction sector. The act enters into force in several phases. The provisions related to the registry was scheduled to enter into force on 1 January 2026. Subsequent legislation adopted in 2025 confirmed the establishment of the system and the need to **extended the preparation period** in order to create the necessary technical, organisational, legal and financial conditions for its operation and to allow affected market actors to prepare for the new reporting obligations (Act XCIII of 2025[31]). Thus, the new registry is now analysed as a possible supporting mechanism in the hopes of future implementation.

The National Construction Economy Registry is intended to function as a centralised digital data system integrating information relevant to the construction sector. The registry is designed to support transparency, supply security of construction materials and more efficient planning of construction activities. The system is expected to integrate several databases and digital applications into a unified national platform covering construction materials, construction products, public investments and sectoral statistics.

Main system components

According to the current concept, the registry will include several interconnected subsystems:

- Construction raw materials database, containing data on strategically important construction raw materials and their available quantities.
- Construction product database, including performance declarations and product information aligned with the revised EU Construction Products Regulation.
- Performance declaration database for construction products.
- Construction cost database, enabling standardised monitoring of construction costs, particularly in public investments.
- Additional digital systems defined by implementing regulations

[29] https://net.jogtar.hu/jogszabaly?docid=a2300100.tv

[30] https://fataj.hu/wp-content/uploads/2024/11/1_NENY_EKM_FAGOSZ_20241029.pdf?utm

[31] https://njt.hu/jogszabaly/2025-93-00-00?utm

In addition, the system will also integrate data related to public construction investments, construction product supply and sectoral statistics.

Data reporting obligations

The registry will require data reporting from a range of actors in the construction value chain, including:

- construction material manufacturers
- construction product suppliers and traders
- construction companies
- recycling and waste processing operators dealing with construction and demolition waste.

The objective is to create a comprehensive overview of production capacities, material flows and construction market dynamics within Hungary.

Policy objectives

The registry is expected to support several policy objectives, including:

- improving transparency and monitoring of the construction economy
- strengthening the security of supply of strategic construction materials
- supporting long-term planning of large public construction investments
- enabling better monitoring of construction costs and market developments
- facilitating digitalisation of the construction sector.

In specific circumstances, the regulatory framework may also allow the government to intervene in order to maintain production of strategically important construction materials if supply disruptions threaten the implementation of major public investments.

Relevance for circular construction

From the perspective of circular construction, the registry could improve the **traceability of construction material flows and provide better information on the availability of secondary materials**. The integration of construction materials databases, product registries and investment data supports more efficient planning of material use and potentially increases the visibility of recycled construction materials on the market.

At the same time, the current regulatory framework primarily focuses on supply security and market transparency, while specific mechanisms directly promoting circular construction practices are expected to develop gradually as the system becomes operational.

5.3. Expected outcomes

The implementation of circular construction policies may generate a range of environmental, economic and social effects across the construction value chain. These impacts arise from the increased reuse of materials, improved resource efficiency and the development of new circular business models within the sector.

Environmental impacts

- Circular construction can reduce the extraction of virgin raw materials by promoting the reuse of construction components and the recycling of construction and demolition waste. This approach helps to preserve natural resources and reduce pressure on raw material supply chains. It also contributes to lowering the environmental footprint of construction activities.
- The reuse of materials and the substitution of primary resources with secondary construction materials may contribute to reducing greenhouse gas emissions associated with the production and transport of building materials. These measures support broader climate objectives within the built environment sector.
- Circular construction practices increase the recovery and reuse rates of construction and demolition waste. By keeping materials in use for longer periods, the sector can reduce the volume of waste sent to landfill and improve overall material efficiency.

Economic impacts

- Circular construction policies can stimulate the development of markets for secondary construction materials, including reused structural elements and recycled aggregates. The emergence of such markets can diversify supply chains and provide additional material sources for construction projects.
- The transition towards circular construction encourages technological development and innovation within the construction sector. Companies may adopt new design approaches, material recovery technologies and digital solutions to improve the traceability and reuse of construction products.

- Circular value chains may also generate new economic activities related to refurbishment, dismantling, recycling and material processing. These activities can create additional value within local and regional economies.

Social impacts

- The expansion of circular construction practices may generate new employment opportunities in areas such as selective demolition, material recovery, recycling technologies and logistics services. These activities may support the development of specialised skills within the construction workforce.
- Improved resource efficiency and the diversification of material supply chains may strengthen the resilience of the construction sector. By relying on locally recovered materials and circular processes, the sector may become less exposed to fluctuations in raw material supply and price volatility.

6. Best practices

6.1. Hungary

6.1.1. Online market for construction and demolition materials from road works[32]

Magyar Közút Nonprofit Ltd. operates a public interface for selling materials and components originating from road maintenance and reconstruction works. Typical lots include reclaimed asphalt (milled asphalt), broken asphalt, concrete and reinforced concrete elements, paving stones, crushed stone and timber. The mechanism supports circular construction by redirecting materials to new uses with a transparent allocation process and documented transfer conditions.

Main takeaways:

- Open access and clear process: prior registration is not required; bids are submitted by post within a defined bidding period and the highest bid wins.
- Material information: listings usually indicate the material type, location, bidding round and whether the listing is active or closed, which helps buyers plan transport and timing.
- Traceable handover: the sales process sits within an internal governance framework for state asset management and supports predictable documentation for subsequent use.
- Circular benefit: reclaimed asphalt and recovered paving materials can be channelled into local road and municipal projects where technical acceptance rules exist.

Technical reference for reuse in road construction: Hungary's road technical specification for reclaimed asphalt (e UT 05.02.15:2025), provides a structured basis for using reclaimed asphalt as a secondary construction material in asphalt mixtures, subject to testing and verification requirements.[33]

6.1.2. Professional capacity building and market facilitation[34]

Circular construction requires routine cooperation between demolition actors, designers, contractors, recyclers and clients. In Hungary, professional platforms such as the Hungarian Green Building

[32] https://internet.kozut.hu/ugyfelszolgalat/vagyontargyak-ertekesitese/

[33] https://ume.kozut.hu/dokumentum/1706

[34] https://www.hugbc.hu/

Council contribute by disseminating practice-oriented knowledge and promoting design approaches that enable adaptability, disassembly and material recovery. (https://www.hugbc.hu/)

Main takeaways:

- Common vocabulary: sector guidance helps align expectations on what can realistically be reused, when and under which conditions.
- Demand creation: the promotion of circular criteria in client briefs and green building practice can increase market interest in secondary construction materials.
- Skills and processes: training materials help translate circular objectives into site planning, storage logistics and quality assurance routines.

6.2. Europe

6.2.1. Tracimat (Flanders, Belgium): traceability and quality assurance for recycled aggregates[35]

Tracimat is a traceability and quality assurance system for construction and demolition materials in Flanders. It is embedded in the Flemish regulatory context and is linked to requirements for recycled aggregates, aiming to provide confidence that material flows are properly mapped and managed up to the first processor.

Main takeaways:

- Certificate logic: the system issues a selective demolition certificate linked to traceability requirements, supporting higher trust in recycled aggregates.
- Process discipline: selective demolition, documented transport and verified processing reduce contamination risk, which is often the main obstacle for higher value recycling.
- Market effect: improved trust and clearer responsibilities can increase the uptake of recycled aggregates in more demanding applications.

Applicability in Hungary

Hungary already has partial building blocks for a Tracimat-like approach: separate collection obligations for key CDW streams (e.g. concrete, asphalt, bricks, metals, wood, gypsum) and established waste record keeping and reporting duties for permit holders. Market confidence and

[35] https://www.fir-recycling.com/wp-content/uploads/2023/02/FPRGErkenning_Tracimatversie_Engels.pdf

quality assurance difficulties are central bottlenecks for reclaimed materials, which is precisely what a traceability plus certification scheme is designed to address.

Although companies producing recycled construction materials are already present in Hungary, their operation still faces significant barriers. For example, firms such as Makrópa – Waste Light Concrete manufacture recycled blocks and aggregates that meet the required quality standards. However, obtaining suitable construction and demolition waste as input material remains very difficult, largely due to the current waste management system and regulatory environment (e.g. the role of MOHU), which limits access to the necessary waste streams for manufacturing.

Practical applicability is strongest where Hungary already uses secondary materials in a controlled way, particularly in road works, supported by sectoral technical specifications and known material flows. To be transferable, a Hungarian scheme would need a standardised pre demolition audit output, chain of custody documentation (transport, storage, processing) and an independent verification step that is credible for designers, clients and authorities.

Main constraints are the fragmented legal environment and the tendency to treat reusable materials as waste by default, triggering permitting burdens for trading and handling.

6.2.2. Helsinki (Finland): circular requirements embedded in demolition procurement[36]

Helsinki has integrated circular requirements into the procurement of demolition services. Reported practice includes clear recycling and separate collection expectations for key material fractions, which turns circular objectives into measurable contractual obligations. (https://knowledge-hub.circle-economy.com/cec/article/9072)

Practical points relevant for circular construction:

- Performance requirement: guidance referenced in public reporting includes a minimum share of waste to be recycled or reused as a material, creating a measurable baseline.
- Mandatory separation: key fractions such as metal, glass, plasterboard, wood, concrete and brick are required to be collected separately, supporting higher quality recycling.
- Contract management: explicit separation duties simplify monitoring, reduce disputes on responsibilities and improve data quality for reporting.

[36] https://knowledge-hub.circle-economy.com/cec/article/9072

Applicability in Hungary:

This approach is directly applicable in Hungary because the document identifies public procurement and programme conditionalities as key levers: several Hungarian operational programmes translate DNSH into measurable requirements, such as 30% recycled or re used material content (by mass) and 70% preparation for reuse, recycling or material recovery of non hazardous CDW, while allowing justified derogations.

Practically, Hungarian contracting authorities can operationalise circular demolition via tender clauses and supervision checklists that specify mandatory separate collection fractions, minimum recovery targets, evidence requirements (weighbridge tickets, waste transfer documentation) and site logistics plans. The strengthened documentation expectations in building procedures can support auditable records, even though they do not target circularity explicitly.

Constraints are capacity and incentives: if contract timelines and risk allocation do not accommodate selective demolition and material qualification, bidders will price in risk or avoid circular offers, reinforcing the competitiveness gap between secondary and new materials noted in the document.

6.2.3. CityLoops (EU cities): pre demolition audits and contract level tools[37]

CityLoops has produced tools that support municipalities in operationalising circular demolition, including guidance on pre demolition audits that combine hazardous material identification with an inventory of non-hazardous materials and reusable products.

Main takeaways:

- Audit scope: the guide separates hazardous material identification from the inventory of reusable and recyclable materials, which is critical for safe reuse and higher quality recycling.
- Decision support: an inventory of quantities and locations enables early decisions on reuse pathways, storage needs and potential buyers.
- Replicability: the tool is designed for municipal use and can be adapted into tender documentation and site supervision checklists.

[37]https://cityloops.eu/fileadmin/user_upload/Materials/Tools/Circular_demolition/Circular_demolition_-_Instrument_-_CityLoops_guide_for_pre-demolition_audit.pdf

Applicability in Hungary:

The document already points in this direction: it notes that mandatory recycling plans (pre demolition or pre renovation audit) at design stage strengthen ex ante assessment and traceability in certain Hungarian funding schemes.

This creates a clear entry point to mainstream a CityLoops-style audit template nationally. Applicability is high for municipalities and state clients because the method separates hazardous material identification from the inventory of reusable and recyclable materials, reducing safety and liability risks while improving material quality. This responds to the document's identified need for better technical verification and quality assurance procedures for reclaimed materials.

A practical Hungarian roll out could use the Construction Technical Database (Építésügyi Műszaki Adattár) as the dissemination channel for standard audit templates and acceptance criteria, given its established role in design, permitting and procurement practice.

6.2.4. Madaster - Materials passports and registries enabling reuse through structured material information[38]

Materials passports record information on components and materials in buildings and infrastructure assets. Madaster is a digital platform that enables circular construction by treating building materials as recoverable assets. It supports the creation of material passports for buildings and infrastructure, giving project teams structured visibility on the types and quantities of products and materials in an asset, and keeping this information available for future refurbishment or dismantling.

The platform offers circularity insights, life-cycle assessment outputs and portfolio-level views, and frames these results for sustainability reporting and building certification use cases, including EU Taxonomy and Level(s). Interoperability with common BIM tools and links to data networks such as verified EPD sources is ensured, which supports more consistent documentation and comparability across projects.

Main takeaways:

- Design stage value: structuring product and component information improves future dismantling planning and reduces information loss over the building life cycle.

[38] https://madaster.com/platform/

- Transaction support: searchable inventories can lower transaction costs for reuse by linking supply with demand and clarifying component specifications.
- Quality signalling: consistent data on composition and potential contaminants supports safer reuse decisions.

Applicability in Hungary:

The document flags two relevant factors: digitalisation is an enabling factor for transparency and reuse planning, but digital tools may be difficult to adapt locally because many are designed for different scales and contexts.

This means applicability in Hungary is likely to be highest first in larger portfolios (public asset owners, major developers) and in projects already using BIM.

A practical pathway is to start with minimum viable material inventories at design and handover: component lists, product documentation, and reuse relevant attributes (location, condition, disassembly method), aligning with the document's emphasis on improved traceability and product documentation.

Over time, this can support marketplaces for reclaimed components and reduce transaction costs, but only if paired with clearer technical guidelines and unified legal interpretation for secondary materials, which the document identifies as a priority.

6.2.5. Legislation patterns in EU countries

Germany:[39]

Binding rules for the use of mineral substitute building materials and their environmentally safe application. Germany's Substitute Building Materials Ordinance (Ersatzbaustoffverordnung, under the Mantelverordnung) sets nationwide requirements for the production, classification and installation of mineral substitute building materials, with the objective of high-quality recovery while protecting soil and groundwater.

[39] https://www.bundesumweltministerium.de/gesetz/verordnung-zur-aenderung-der-ersatzbaustoffverordnung-und-der-brennstoffwechsel-gasmangellage-verordnung; https://www.gesetze-im-internet.de/ersatzbaustoffv/

France:[40]

Extended Producer Responsibility (EPR) for building products and materials, shifting part of waste-management costs upstream and creating nationwide collection and take-back arrangements. France's EPR scheme for building construction products and materials (PMCB/BPCM) is linked to the AGEC framework and is implemented through approved eco-organisations, with progressive roll-out of collection and recovery services.

[40] https://www.valobat.fr/wp-content/uploads/2025/11/24-PMCB-MEMBERS-GUIDE-BCPM-ANG.pdf ; https://www.eea.europa.eu/en/topics/in-depth/waste-and-recycling/country-profiles-on-waste-prevention-2025/fr-waste-prevention-factsheet-final.pdf

7. Overview and recommendations

The present study assessed the Hungarian framework for circular construction with a focus on construction and demolition waste streams, the market conditions for secondary construction materials and the enabling role of technical guidance, certification and digital solutions. The review indicates that circularity is currently addressed primarily at the end-of-life stage through waste management obligations, while upstream measures related to design, procurement and product information require reinforcement to unlock higher-value reuse and recycling.

7.1. Summary of key findings

Hungary has several instruments that can support circular construction in practice. These include an established legal basis for construction and waste management, selected Construction Technical Guidelines (ÉPMI) that already cover some reclaimed materials and recycled aggregates, and demand-side requirements in certain EU funded programmes that operationalise circularity through quantified targets and design-stage recycling plans. At the same time, market uptake of reclaimed materials remains limited and uneven across material streams and project types.

Stakeholder feedback and the legal review converge on a set of structural barriers. Reusable materials are frequently treated as waste by default, which triggers authorisation requirements for storage and distribution and increases administrative burden. Technical suitability and performance verification can be complex and costly, particularly where guidance is missing or where authorities apply divergent interpretations. Economic feasibility is constrained by the combined costs of selective dismantling, sorting, testing, storage and logistics, which reduces competitiveness compared with new materials and increases incentives for informal practices. Storage constraints and project timing are recurring issues, especially where materials cannot be transferred directly to a new project. Digital solutions can reduce transaction costs and improve traceability, but current tools are often designed for larger systems and do not easily fit small and medium projects without simplified data requirements and clear governance.

7.2. Policy-making

Clarify legal pathways for the transition from waste to secondary construction materials. A practical priority is to reduce uncertainty in material classification by defining consistent criteria and procedural steps that apply across competent authorities. Standardised templates for documentation,

sampling and evidence packages should be developed and disseminated so that companies can plan compliance costs and timelines.

Strengthen technical guidance and verification routes. The ÉPMI system provides a credible national channel for operationalising circularity. Its scope should be extended to additional CDW streams and applications that are common in Hungary, with clear quality requirements, contamination limits, permitted uses and recommended testing protocols. Guidance should be aligned with project realities, distinguishing between low-risk direct reuse applications and higher-risk applications requiring more extensive verification.

Use public procurement and programme conditionalities to create predictable demand. Circular construction requirements should be translated into contract-level obligations, including pre-demolition and pre-renovation audits, mandatory separation of key fractions, traceability requirements and minimum targets for recovery and, where feasible, recycled content. Tender documents should specify evidence requirements, roles and responsibilities, and site supervision checks to reduce disputes and improve reporting reliability.

Improve the economics of compliant circular solutions. Selective demolition, sorting and quality management require investment and working capital. Targeted support schemes should prioritise infrastructure and services that lower transaction costs, such as intermediate storage hubs with controlled quality management, mobile processing capacity for mineral fractions and shared testing services. Economic instruments may also be considered to discourage disposal of recoverable CDW and to favour refurbishment and renovation where this delivers better life-cycle outcomes.

Invest in capacity building and coherent communication. Designers, engineers, contractors and inspectors require practical guidance on documentation, verification and risk management for secondary materials. Training actions should be linked to the needs of SMEs and supported by professional chambers and sector organisations. Regular coordination between construction, waste and environmental authorities is essential to reduce divergent interpretations and to build trust in compliant reuse pathways.

Adopt a pragmatic digital approach. Digitalisation should start with minimum viable data requirements that can be integrated into existing project documentation and registries, focusing on traceability fields that matter for reuse decisions: origin, material type, quantity, condition, contamination controls and intended application. Over time, these practices can support material

inventories, building logbooks and marketplace functions where the volume of transactions justifies the investment.

7.3. Topics for future research

Further work is needed to quantify feasibility and to guide prioritisation of secondary construction materials by:

- developing cost and time benchmarks for selective dismantling and reuse pathways in typical Hungarian project types
- testing procurement-based pilots in municipal and state-funded works with transparent monitoring of outcomes
- producing evidence on performance and environmental characteristics of priority secondary materials under Hungarian conditions.

In parallel, the practical implications of CPR-related changes for products with recycled content should be monitored, with attention to how product documentation requirements interact with waste status rules and with the capacity of conformity assessment actors.

Overall, the study indicates that Hungary can accelerate circular construction through a combination of clarified legal practice, strengthened technical guidance, demand creation through procurement and targeted support for the operational infrastructure that makes compliant reuse economically viable.