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CALL FOR PAPERS: special issue

Mainstreaming Building Component Reuse

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Deadline for abstracts: 10 February 2026

What practices and policies are needed for the viable reuse of building components?

Up- and downstream construction activities generate immense environmental burdens globally *e.g.* raw material mining, construction product manufacture, operational energy use, and construction & demolition waste (CDW) treatment. The circular economy (CE) is often proposed as a solution that will enable the construction sector to operate within the planetary boundaries. This special issue engages with the CE debate by investigating the potential of building component reuse in construction.

The CE is often crystallised through the R-ladder of 'reduce, reuse, recycle'. Alas, the practice of circular construction seems to be stuck on the lowest level, *i.e.* recycling. What cultural changes in practice and governance are needed for the construction sector to transition from recycling to the reuse of building materials and components? What are the benefits and challenges of moving up on the R-ladder?

Aims

The aim of this special issue is to create new knowledge and insights to accelerate the transition to the widespread and industrialised reuse of construction components. The inherent complexity and context-specificity surrounding reuse require a deeper understanding of the potentials and consequences of reclamation and reuse. This special issue will bridge this gap with robust data and evidence. Papers will examine how economic, social and societal barriers to reuse can be overcome; good practices for different professionals; the environmental potential; as well as policies, regulations and practical measures to accelerate the transition.

Questions to be addressed include:

- How does the reclamation and reuse of building components change the work processes and collaboration of different construction sector professionals and businesses in industrialised construction?
- How does deconstruction and reuse challenge business as usual?
- What practices (pre-demolition, auditing, decommissioning, design, procurement, regulatory / planning framework, etc.) need to change and how?
- Can empirical evidence from case studies verify the underlying environmental imperative? What trade-offs are unnoticed?
- How similar or different are the environmental benefits at different scales (component vs. building vs. building stock)?
- What approaches or tools could improve cost efficiency of reclamation and reuse?
- What are the social impacts of reclamation and reuse?

Submissions are expected to examine these aspects in geographical and cultural contexts as well as for various building materials, components and product types. Submissions are sought that examine these issues through empirical data from the field, *i.e.* case studies, field observations or measurements, interviews, policy analyses, etc. Systemic approaches, *i.e.* works that approach reuse from multi- or interdisciplinary angles, covering various process phases or stakeholders holistically, are desirable, provided they are not solely theoretical but draw from real-life activities.

Context

Reclamation and reuse of building parts used to be an integral part of building cultures, whether vernacular or monumental, *e.g.* Roman spolia. Since construction became industrialised, reuse became associated with negative connotations. From the material abundance of the modernity, reuse became seen as a sign of poverty and marginalisation. Research is challenging these interpretations, which have been imposed on the past from the present times. (Brilliant & Kinney 2011).

Reuse is being rediscovered for its environmental benefits. Literature, although scarce, points to substantial environmental saving potentials (*e.g.* Mettke 2010; Andersen *et al.* 2022; Devos *et al.* 2024). Reused components do not become waste, and the manufacture of new components can be avoided. Embodied impacts (Röck *et al.* 2020; Alaux *et al.* 2025) are reduced. In present LCA standards and practices, there are various ways to allocate the impacts of reuse (de Wolf *et al.* 2020; Gobbo *et al.* 2021), even though reclamation may generate impacts that differ from those of conventional demolition.

Reuse challenges business-as-usual practices by involving novel practices in building decommissioning, logistics, information management, design and construction (Huuhka *et al.* 2023; Hosseini *et al.* 2024). Although few industrial construction actors have any first-hand experience on reuse, many believe it will be labour-intensive, slow and costly. End users may doubt if their spatial needs can be met optimally by using pre-existing parts. Interested clients lack guidelines and best practices when seeking to procure reclaimed components. Businesses are reluctant to invest in reuse when the sizes of potential urban mines (*i.e.* available donor buildings) and reuse markets remain unknown and when the policy environment is unpredictable.

Digitalisation could facilitate the cost-efficiency and competitiveness of component reuse. Digital tools could be helpful in evaluating the reuse potential in early design stages. Digital information management can enable the capturing and sharing of information between parties throughout the process as well as ensuring the long-term preservation of essential information for future reuse cycles. Notable efforts include work on information requirements for BIM models (Dervishaj, Hernández Vargas *et al.* 2023), work on tracking technologies for building components (Dervishaj, Fonsati *et al.* 2023), studies on building passports (Jansen *et al.* 2022) and research on site scanning techniques for reuse planning (Xiong *et al.* 2022) as well as the work of Çetin *et al.* (2021) on a framework that maps promising digital technologies for circular economy.

In the times of geopolitical uncertainty and global supply chain disruptions, reuse can contribute to national, regional, and local self-sufficiency. Job generation from reclamation could potentially empower shrinking communities and associate surplus building stock with more positive connotations. Reuse has the potential to revalue existing surplus building stock and provide entry-level practical jobs (Devlieger & Vande Capelle 2024).

Potential risks exist. Reuse could be instrumentalised for greenwashing, *e.g.* for accelerating the decommissioning of repair-worthy building stock, with adverse socio-cultural and environmental impacts. Political tensions have already been observed to exist in the nexus between circularity and social housing policies (Jonker-Hoffrén 2023). Reuse may adversely affect the relation between owners and users of buildings, which may become more urgent if surplus buildings are seen as an urban mine. While reuse may be more widespread in the Global South, issues of social justice require exploration regardless of context: from work safety and material healthiness concerns to questions how benefits and harms are distributed. Furthermore, the logic of reuse contradicts the linear production processes that have been optimized over many decades. Reuse is a disruptive practice, to which established firms with vested interests need to respond (Hosseini *et al.* 2024).

Suggested topics

Urban mining

- Identification and quantification of urban mines / donor buildings to reclaim building component for reuse; Material Stock and Flow Analysis (MSFA) of components
- Supply and demand analysis; communities' self-sufficiency of construction materials and products

Impact assessment

- Environmental and/or economic performance of reclaimed building parts vs. new products with virgin or recycled raw materials
- Social and/or cultural consequences of reclamation and reuse
- Wider socio-economic impacts of reused vs. virgin or recycled products *e.g.* externalised environmental costs
- Contribution of reclamation and reuse to societies' overall sustainability performance, given potential supply and demand
- Trade-offs between reuse and other R-ladder strategies (reduction and/or recycling)
- Different ways of measuring or modelling the savings associated with reuse; suitability of assessment methods to address multiple use cycles and communicate benefits; sensitivity to underlying assumptions; methodological development needs in impact assessment

Work processes and business reorganisation

- Value chain organisation of businesses to implement reclamation and reuse; novel collaboration needs between value chain actors
- New business models; new product, process or service innovations in reclamation and reuse
- How reclamation and reuse change work processes of various professions
- Risk management with reuse: hazardous substance investigation, health impact assessment, structural & service life calculations, etc.
- The need for increased collaboration between professions, value chain actors and/or businesses in the reuse ecosystem
- Skills and tools needed by different professions of the construction sector to scale up reclamation and reuse
- How digitalisation can create value by reducing workloads and providing data preservation *e.g.* product passports, inventories for reuse, tracking and tracing technologies, building information modelling (BIM), and other digital information management tools
- Case studies of implemented reclamation and reuse projects, with generalisable lessons
- Lessons for design and product innovation to facilitate easier reclamation and reuse, *e.g.* Design for Disassembly (DfD)

Policies

- Challenges and catalysts for reuse-based circularity in the present policy environment
- Solutions to challenges posed by waste legislation and construction products regulation, *e.g.* waste status of reclaimed parts, end-of-waste criteria, lack of processes and standards for product certification, etc.
- Challenges in procurement of reclaimed parts; public procurement compliant good practices
- Other policies, strategies and criteria for facilitating mainstreaming of reclamation and reuse
- Reuse as an instrument for urban renewal in shrinking regions
- Challenges and synergies of policymaking at different levels (e.g. EU, national, local)
- Perceived risks, negative attitudes, and cultural norms towards reuse

Briefing note for contributors

You are invited to submit an abstract for this special issue. Please send a **500 word (maximum) abstract** to editor **Richard Lorch** richard@rlorch.net **by 10 FEBRUARY 2026.** Your submission must include these 3 items:

1. the author's and all co-author's names, institutional & departmental affiliations and contact details
2. the question(s) in this Call for Papers that the abstract and intended paper address
3. the abstract (300 - 500 words maximum) defining the research question(s), scope, methods and results

Abstracts will be reviewed by the editors to ensure a varied, yet integrated selection of papers around the topic. Authors of accepted abstracts will be invited to submit a full paper (maximum 8000 words – including main text, abstracts, tables and references).

Timeline

Abstracts due	**10 February 2026**	
Full papers due	13 April 2026	(NB: authors can submit sooner if they wish)
Referees' comments	04 September 2026	
Final version due	05 October 2026	
Publication	January 2027	(NB: papers are published as soon as they are accepted)

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Questions?

If you have a question, please contact: **Richard Lorch** richard@rlorch.net or **Satu Huuhka** satu.huuhka@tuni.fi

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