



EU Circular Talks

Sufficiency in the Building Sector

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AGENDA

- **Sufficiency:** what does it mean in the building sector?
- **What do we know about the impacts:** literature and case studies
- **Looking ahead:** conclusions and recommendations

- EU Commission (DG ENV) project on “Sufficiency in the building sector“ (Dec 23 – April 24)
 - What is sufficiency in the build environment?
 - What are the impacts?



Source: BPIE, Ramboll 2024 ([Link](#))

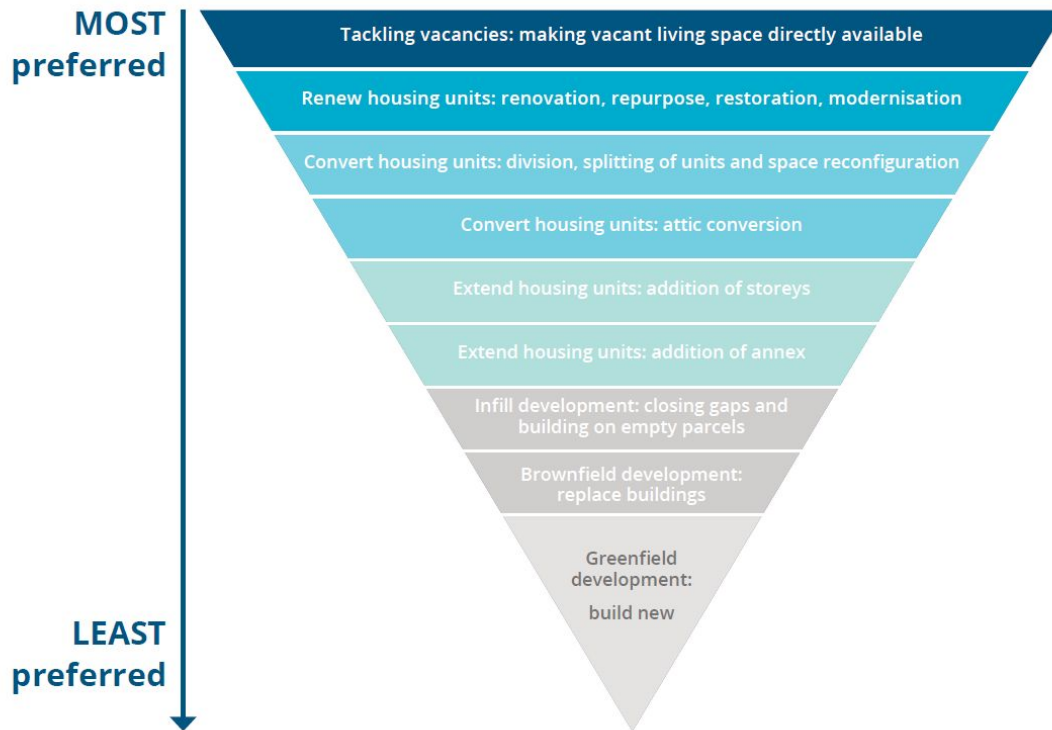
- Many of the priorities and circular strategies for design and construction are well aligned with sufficiency
- Sufficiency provides an additional focus on:
 - Social foundations (needs and well-being)
 - Existing buildings stock

STRATEGIES FOR DESIGN AND CONSTRUCTION

Responsible use of raw materials and resources		Avoid premature demolition		Keep materials in the cycle	
A minimise total AMOUNT of materials	B minimise ENVIRONMENTAL IMPACT of materials	C extend the USEFUL LIFE of buildings	D maximise the REUSABILITY of elements	E maximise the REUSABILITY OR RECYCLABILITY of materials	
A1 question needs for new construction and/or fulfil them differently	B1 gain insight into the environmental impact of the building (materials & energy) & optimise via TOTEM	C1 design with potential for future functions (functional adaptability)	D1 detailing with consideration for easy dismantling (reversibility)	E1 choose elements that can be dismantled into pure raw materials	
A2 preserve the value of existing heritage	B2 focus on reusing elements/materials & assess environmental impact via TOTEM	C2 design for adaptability: flexibility, versatility, "support-infill-heritage"	D2 design with consideration for modularity, prefabrication, standardisation	E2 keep harmful/toxic substances out	
A3 share spaces with third parties	B3 invest in materials with high recycled content & assess environmental impact via TOTEM	C3 design with consideration for future extension/ "in-fill"	D3 consider compatibility & interchangeability when choosing construction elements	E3 choose (raw) materials that are biodegradable or can be disposed of responsibly	
A4 share technical equipment with third parties	B4 focus on bio-based structural elements/materials & assess environmental impact via TOTEM	C4 design for future maintenance, upgrading & repair; include independent & accessible functional layers	D4 choose elements with contractual agreements regarding take-back schemes	E4 choose (raw) materials with already existing, closed loops	
A5 make spaces multifunctional	B5 avoid irresponsible management of natural resources (forest cover, arable farming, estuaries, etc.)	C5 choose robust & high-quality materials	D5 Identify existing valuable parts during renovation/ dismantling	E5 choose elements/materials with a take-back guarantee and/or recycling guarantee	
A6 dematerialisation at the structural level: design lightweight structures	B6 minimise energy needs	C6 Building stock regularly maintained & optimally managed	D6 Identify & record elements/ components of the new building	E6 Identify (raw) materials in existing elements/ components	
A7 dematerialisation at the material level: design with raw materials as finishing (without additional layers)	B7 use renewable energy sources	C7 contractually encourage the extension of useful life	D7 preserve elements that have cultural value (e.g. heritage) in subsequent building cycles	E7 Identify elements, materials & raw materials during renovation and/or dismantling	
A8 dematerialisation at the technical level: design smart-tech solutions	B8 meet remaining energy needs as efficiently as possible			E8 tap into second-hand markets or platforms for selective demolition and/or deconstruction	

Source: Circular Flanders

- Applying sufficiency principles to buildings can take many different forms

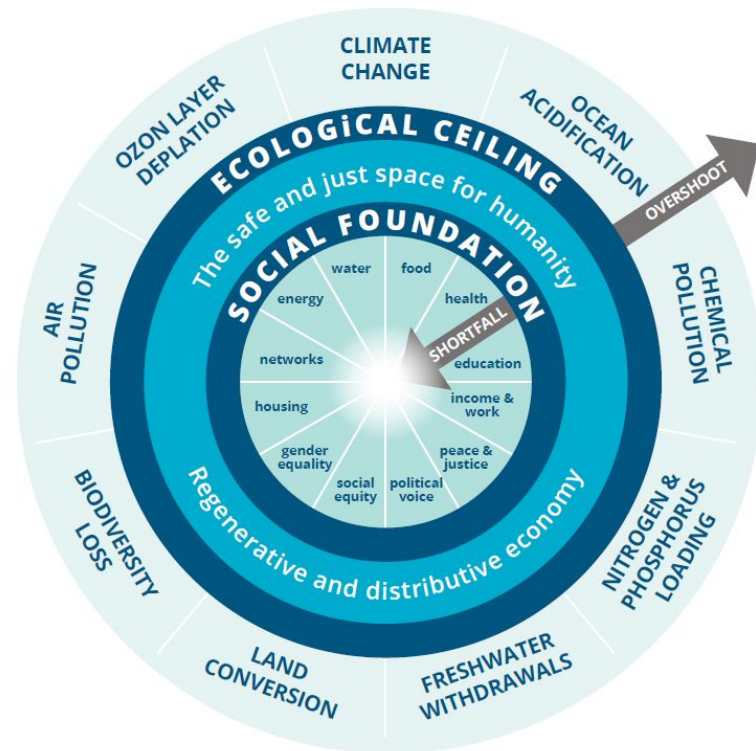


Source: BPIE 2024, adapted from Zimmermann & First (2024), [LINK](#)

Sufficiency

“two types of enough”

- Human wellbeing within planetary boundaries
 - Inside: SDGs => social housing, accessibility, affordability
 - Outside: Planetary boundaries
- Sufficiency aligns with a vision that seeks to fulfil the international human right to adequate housing, viewing buildings as vital components of societal well-being



Source: BPIE 2024, based on Doughnut Economics 2019



SUFFICIENCY

The concept



**While efficiency is about doing things right,
sufficiency is about doing the right things.**










SUFFICIENCY - THE EVIDENCE

The potential: What do we know so far?

- GHG savings through using the existing stock instead of building new, while providing enough homes
 - E.g. for Germany (BBSR 2023), for the Netherlands (IEB 2024)
- ... along with massive resource savings
 - E.g. - 60% for Germany (BBSR 2023), EU (Zimmermann 2022)
- Huge theoretical housing potential
 - E.g. using under-occupied homes > for 100 million people (Lage et al. 2025)
- What's in for investors?
 - 4 trillion investment opportunity in urban regeneration projects (Systemiq 2024)
- Social acceptance higher than one would expect from the outset
 - E.g. analysis of citizens assemblies in 8 EU MS (Lage et al. 2024), WLC experts in public consultation of WLC EU Roadmap
 - E.g. several surveys: 30% of home-owners in Germany: „home is too large“

SUFFICIENCY – CASE STUDIES

The potential: What do we know so far?

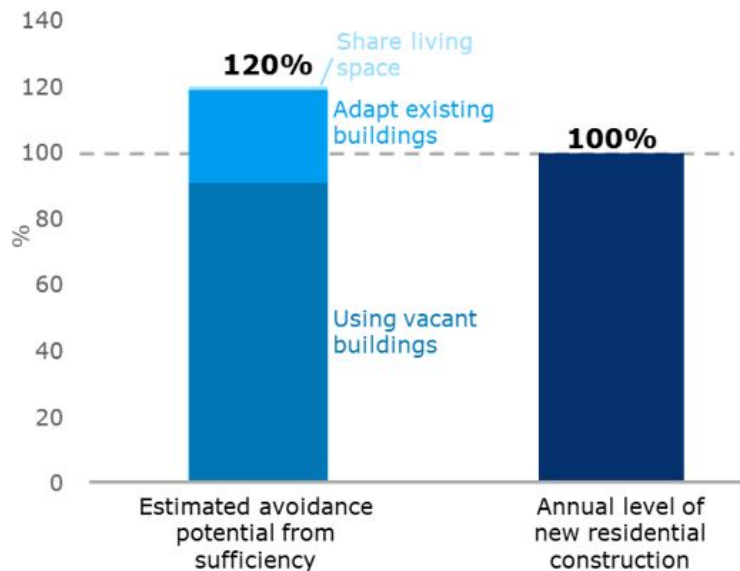
COUNTRY	INITIATIVE	MECHANISM	CURRENT OUTCOMES	ESTIMATED POTENTIAL (max)	
				Avoided new construction	Avoided embodied emissions
	1TOIT2AGES Brussels and Wallonia	Mobilise ‘invisible living space’	Facilitated 604 matches in 2023	26.800 m ²	15.000 tCO ₂
	Plan lutte contre les logements vacants National	National strategy to map vacancies and making them habitable	1,1 Mio vacant buildings; over 6.000 “exited” vacancy status	20.190.000 m ²	9.500.000 tCO ₂
	Aus Alt mach 2 .. Oder mehr Pilot project Ravensburg	Premium for consultation for reconstruction of single-family buildings	A quarter of homeowners considers a reconstruction	23.526.000 m ²	11.200.000 tCO ₂
	Empty Spaces for affordable houses National	Mapping vacancies and making them habitable	Estimates of 215.000 usable units after renovation	12.106.000 m ²	5.750.000 tCO ₂
	Parkwest Dublin 12 The Plaza Office building in Dublin	Conversion of offices into housing units	86 social housing units created	5.800 m ²	2.759 tCO ₂ (- 82% less embodied carbon compared to new built)

Source: BPIE, Ramboll 2024 ([Link](#))

SUFFICIENCY – CASE STUDIES

The potential: What do we know so far?

The combined potential of the analysed sufficiency initiatives (BE, FR, DE) in comparison with annual new construction activity in these countries.

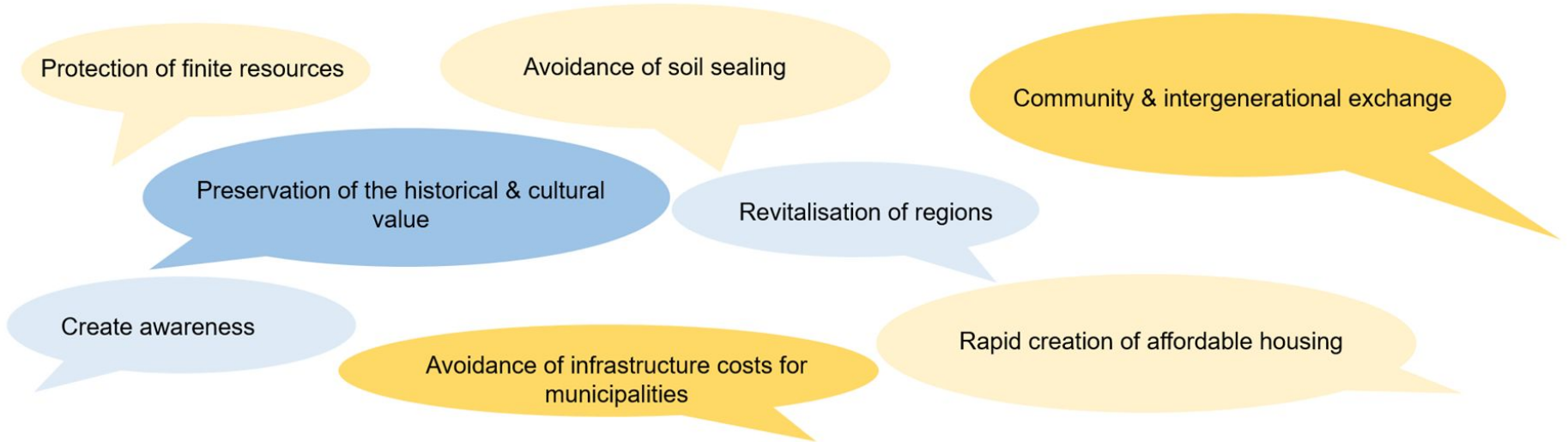


Source: BPIE, Ramboll 2024 ([Link](#))

Sufficiency – Case Studies

The potential: What do we know so far?

Harvesting positive social, economic and environmental impact of sufficiency policies:



Do we have the right metrics and KPIs driving building regulation?

Existing building policies have failed to alleviate planetary pressure, inequality and housing shortages, as they rely on a narrow view of carbon and energy intensity metrics. Savings are offset by floor area growth per capita which continues to outpace population growth.

How to create value from doing less?



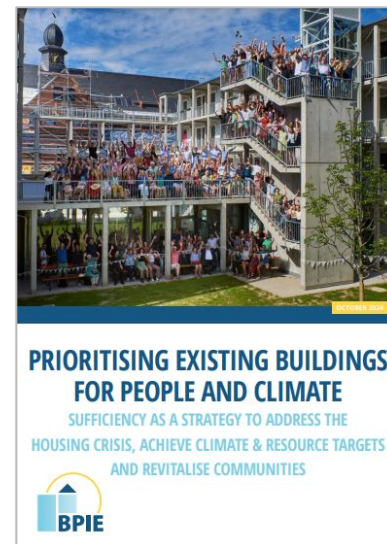
Maximising the potential of existing building stock requires fundamentally rethinking the persistent focus on new construction and traditional building methods. "New" is not always better — there's cultural and historical value in thoughtfully repurposing existing structures.



Sufficiency in the building sector

Recommendations

1. Make best use of vacant or underoccupied buildings by collecting data
2. Prioritise and incentivise the preservation, repurposing and reuse of the existing building stock ahead of new construction
3. Support experimentation of sufficiency initiatives and exchange of experiences and awareness raising
4. Use synergies with other policy fields and forge new alliances
5. Invest in research on the qualitative and quantitative impacts of sufficiency initiatives





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