



Prioritising the existing building stock

The potential of sufficiency measures for WLC emission reductions

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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
- **Sufficiency in the NBRP**: some ideas

- 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?
- EU Commission (DG ENV) project on „Conversion of offices to affordable housing“ (ongoing)
 - What are success factors and impacts?
 - Four cases



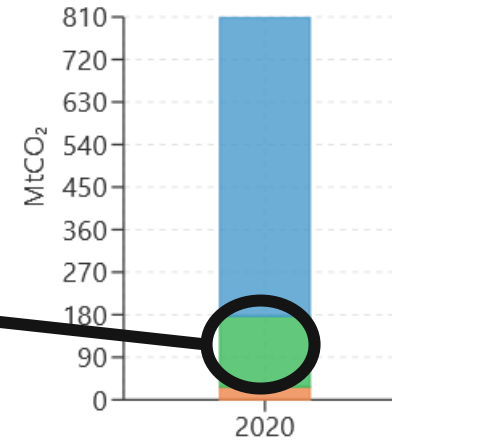
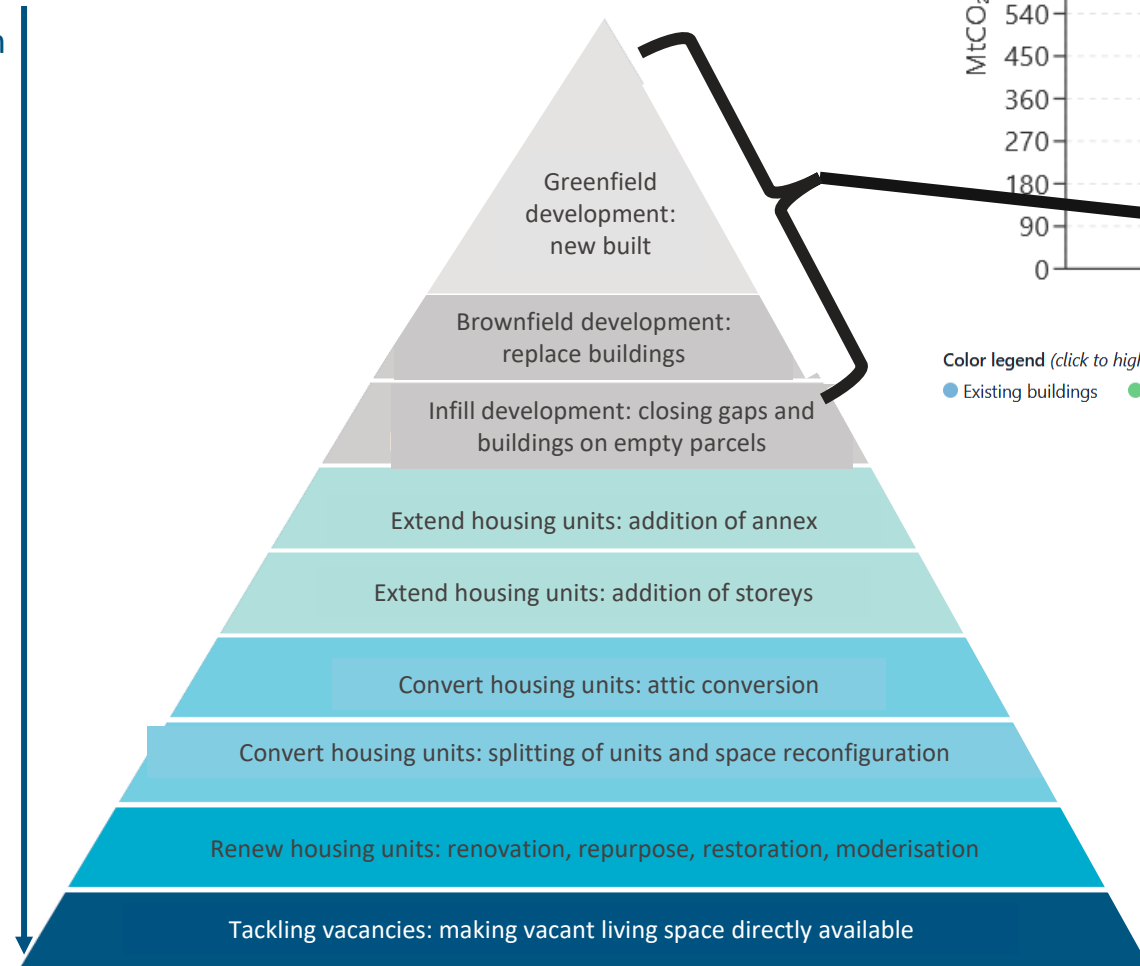
SUFFICIENCY IN THE BUILDING SECTOR

Today's focus

- Tweaking new builds for small efficiency gains
- Converting, repurposing, adapting ... making use of 'the already there' not yet mainstream

Most common practice

Least common practice



Color legend (click to highlight)

- Existing buildings
- New buildings
- Refurbishment

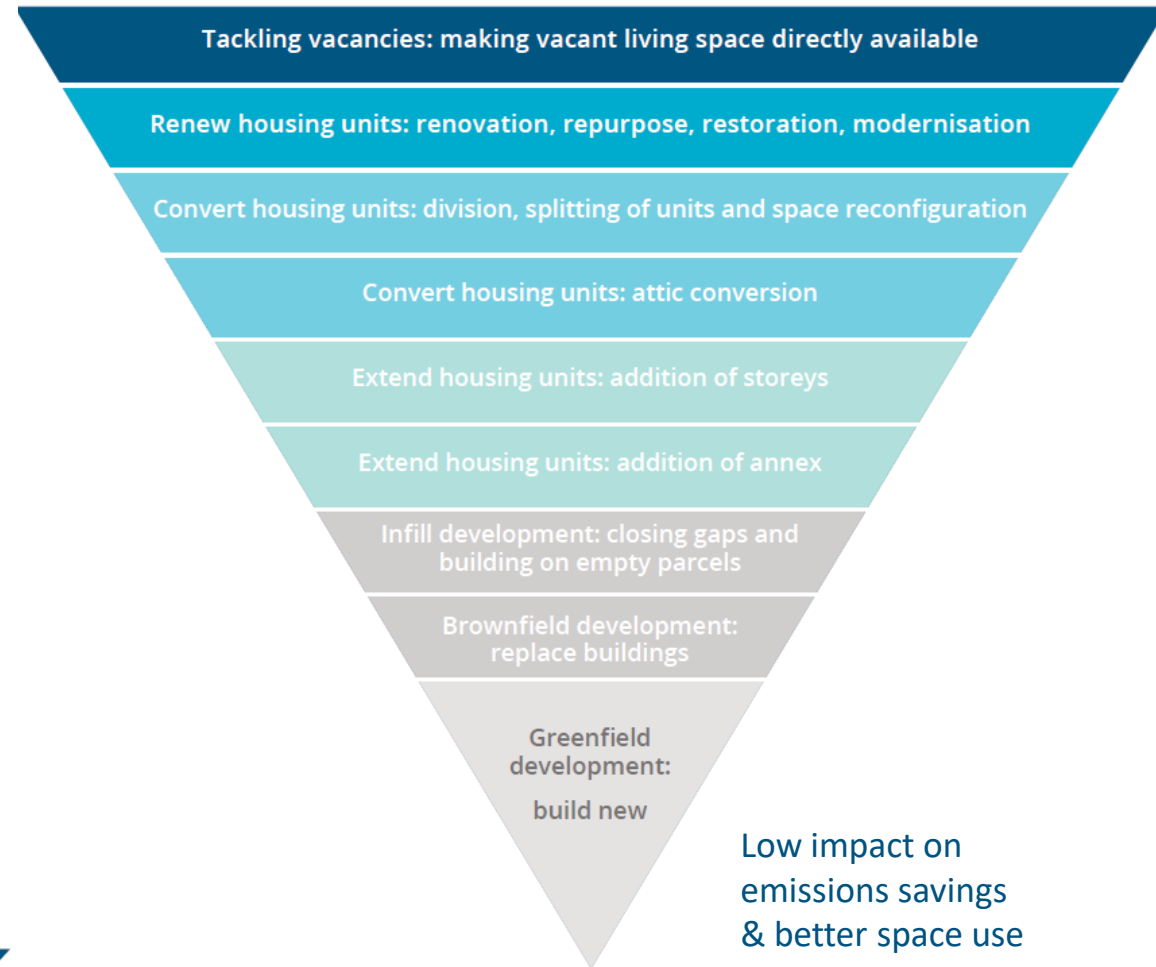
SUFFICIENCY IN THE BUILDING SECTOR

But the future is already built

- Applying sufficiency principles to buildings can take many **different forms**
- In addition: **social foundation** and **neighbourhood/building stock** perspectives

Most common practice

Least common practice



High impact on emissions savings & better space use

Low impact on emissions savings & better space use

The potential to be unlocked by 'flipping the script'

Evidence base / literature

Emissions

GHG saving potential through using the existing stock instead of building new

e.g.:

Germany: - 9 mio tones of CO₂
(Zimmermann / BBSR 2023)

Netherlands: - 85 % GHG emissions compared to new builds
(EIB 2024)

France: - 28% of energy demand
(négaWatt scenario 2022 for France).

Resources

... along with massive resource savings

e.g. - 60% for Germany
(BBSR 2023), EU
(Zimmermann 2022)

France: - 76% of material use (négaWatt scenario 2022).

Homes

... while providing enough homes

e.g.:

political target of 400k units / year without building new (Germany);

Using underoccupied homes has theoretical housing potential for 100 million people in Europe (Lage et al. 2025)

Existing brownfield land and vacant office spaces in Europe > enough to satisfy land demand required over the next 10 – 15 yrs
(Systemiq 2024)

The potential to be unlocked by 'flipping the script'

Economics

Huge investment opportunity

e.g.:

4 trillion in urban regeneration projects (Systemiq 2024)

Urban regeneration allows for 20% less infrastructure expenditure than in sprawl cities (ibid.)

Global justice

Enables equitable resource use and housing justice worldwide

e.g.:

right-sizing in the Global North creates ecological space needed for fair housing improvements (Kuhnhenh et al 2020)

Social acceptance

Social acceptance higher than one would expect

e.g. Citizens Assemblies in 8 EU MS (Lage et al. 2024);


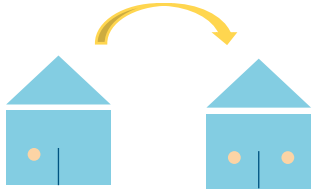



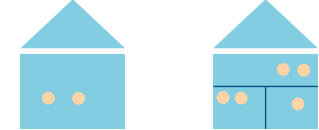




avoid measures highly relevant (public consultation on EU WLC Roadmap);

30% of home-owners find „home is too large“ (Verband Wohneigentum 2024);

75% indicated willingness to share living space (Finland; Ruokamo et al 2024)

EXAMPLES FROM EUROPE






Different initiatives aiming at better space use

	COUNTRY	INITIATIVE	MECHANISM	
Belgium		1TOIT2AGES Brussels and Wallonia	Mobilise 'invisible living space'	
France		Plan lutte contre les logements vacants National	National strategy to map vacancies and making them habitable	
Germany		Aus Alt mach 2 .. Oder mehr Pilot project Ravensburg	Premium for consultation for reconstruction of single-family buildings	
Poland		Empty Spaces for affordable houses National	Mapping vacancies and making them habitable	
Ireland		Parkwest Dublin 12 The Plaza Office building in Dublin	Conversion of offices into housing units	

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

EXAMPLES FROM EUROPE

What did they achieve? What is the potential?

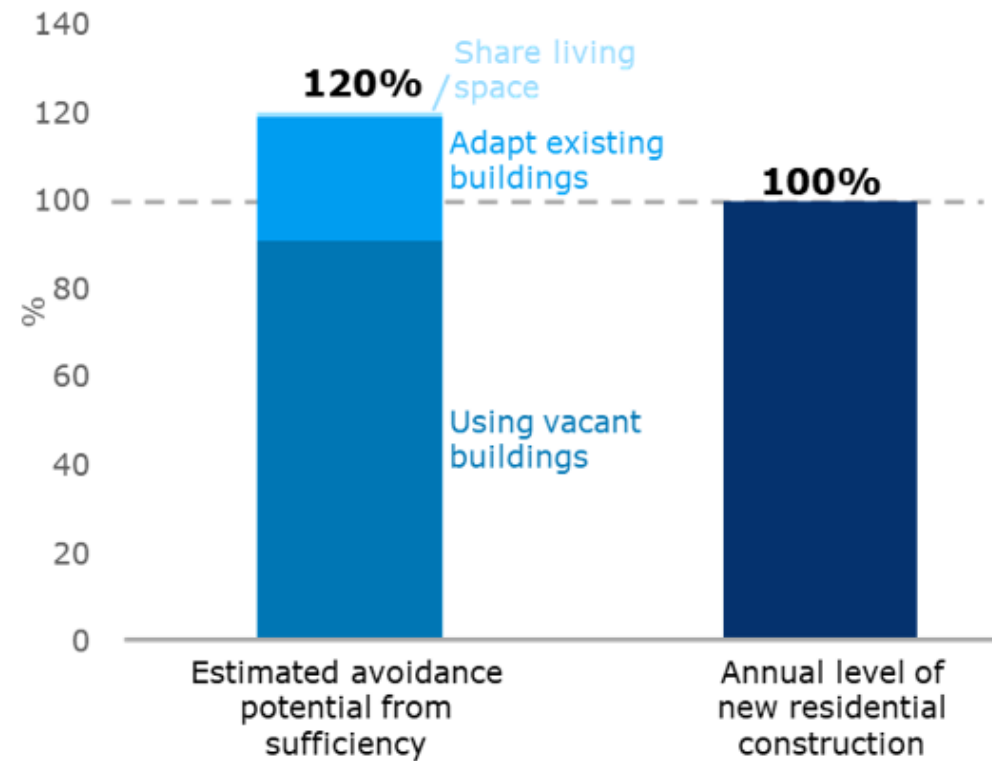
	COUNTRY	INITIATIVE	MECHANISM	CURRENT OUTCOMES	ESTIMATED POTENTIAL (max)	
					Avoided new construction	Avoided embodied emissions
Belgium		1TOIT2AGES Brussels and Wallonia	Mobilise 'invisible living space'	Facilitated 604 matches in 2023	26.800 m ²	15.000 tCO ₂
France		Plan lutte contre les logements 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
Germany		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
Poland		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
Ireland		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](#))

EXAMPLES FROM EUROPE

Estimating the theoretical potential

- The combined potential of the analysed sufficiency initiatives (BE, FR, DE) in comparison with annual new construction activity in these countries.
- Theoretical potential even higher, as office conversion is not included

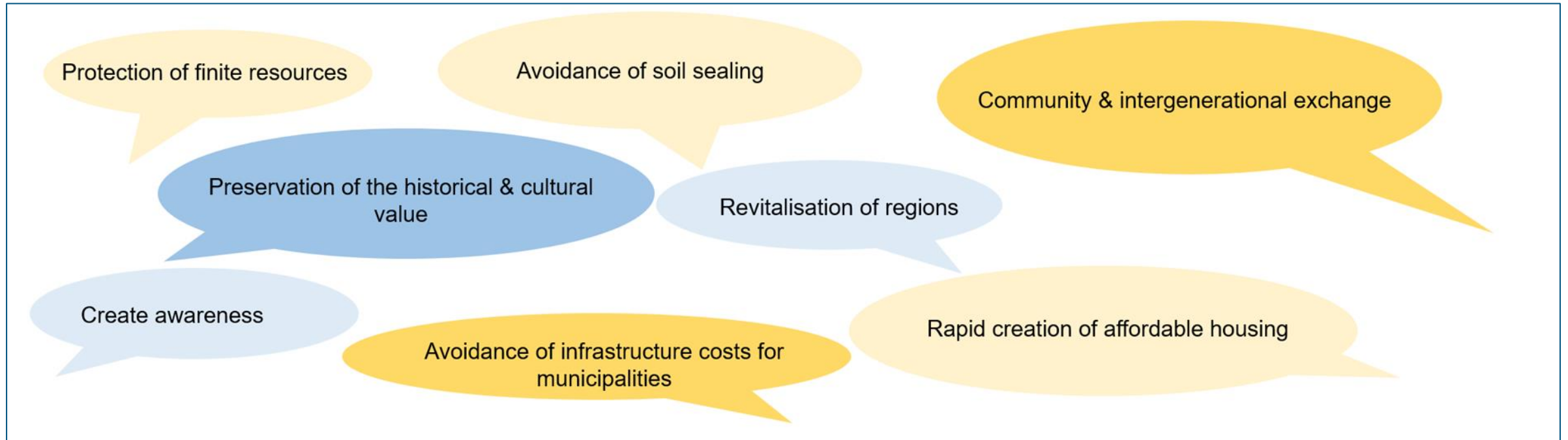


Source: BPIE, Ramboll 2024 ([Link](#))

Examples from Europe

The potential: What do we know so far?

Harvesting positive social, economic and environmental impact of better using the existing building stock:



Annotated NBRP template for the narrative report:

- C) Overview of planned and implemented policies and measures
 - J) the reduction of whole-life-cycle greenhouse gas emissions for the construction, renovation, operation and end of life of buildings, and the uptake of carbon removals
 - Focus on embodied carbon
 - Combine with measures to prevent and high-quality treatment of CDW (g)
 - „Sufficiency“

Annotated NBRP template

The following recent reports and initiatives give some examples of techniques and solution to address this topic:

- [Supporting the development of a roadmap for the reduction of whole life carbon of buildings](#)
- [Addressing the environmental and climate footprint of buildings](#)
- [Sufficiency in the building sector - Publications Office of the EU](#)
- [Level\(s\)](#) is a voluntary reporting framework to improve the sustainability of buildings. Using existing standards, Level(s) provides a common EU approach to the assessment of environmental performance in the built environment throughout their whole lifecycle



SUFFICIENCY

... and the NBRPs (some ideas)

g) prevention and high-quality treatment of construction and demolition waste

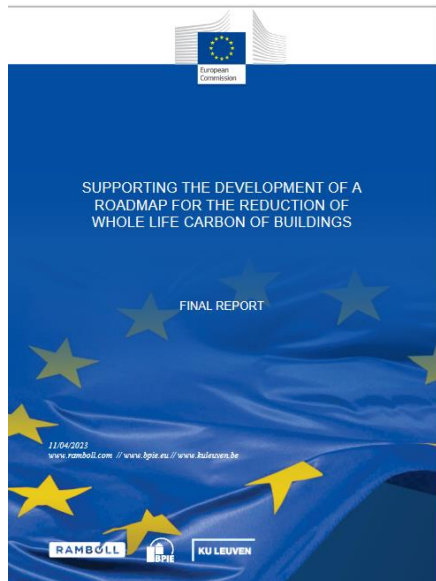
- Mandatory pre-demolition audit linked to WLC assessment (comparing new build vs. repurposing / renovating)
- Establish EPR schemes for construction products (beyond flat glass)

j) the reduction of WLC emissions for the construction, renovation, operation and end of life of buildings, and the uptake of carbon removals

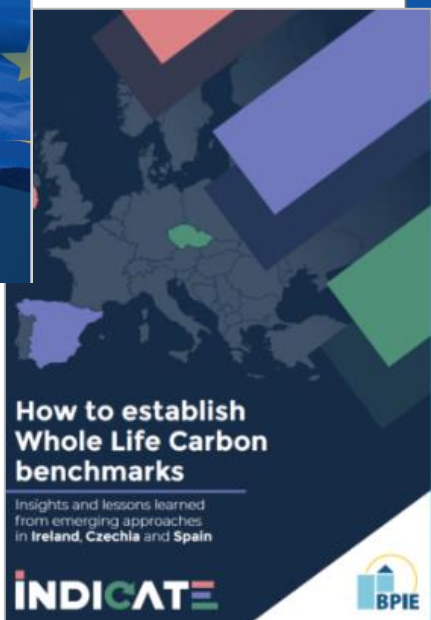
- Plan to gather data on vacancies and under-used spaces
- Strategy to make public owned vacant offices available, e.g. for social housing
- Incentives for updating zoning to allow mixed-use and/or temporary waving of zoning and permitting regimes for conversion
- Tax on vacancies, short-term rentals, reduced VAT for refurbishment
- Provide capacities for local authorities & awareness → include sufficiency in roll-out of OSS
- Funding programmes for conversion, splitting of large homes, etc.
- WLC requirements (Article 7): both relative and absolute metrics

BPIE's publications (selection)

Whole Life Carbon & Sufficiency



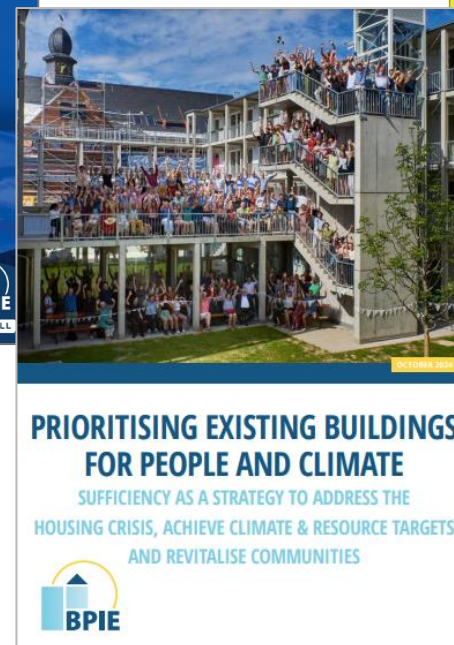
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