CORELAB
CONSTRUCTION & REAL ESTATE LABORATORY

Co-funded by
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Morning Coffee Webinar:

Regenerative Construction:
Are We Building the Future We Need?

20.11.2026
8:00-9:30 (UTC +2)



Photo: Copilot

Program

8:00 Welcome

Alisa Hakola, Researcher, Tampere University

8:05 The Regenerative construction project: Progress, Challenges, and Lessons Learned

Anna-Sofia Aaltonen, Doctoral Researcher, Tampere University

8:20 Future REgenerative production for Sustainable Housing and buildings (FRESH): What is Regenerative Construction? Findings and insights

Dimosthenis Kifokeris, Docent and Associate Professor in Construction Production and Management of Construction Projects and **Amar Taja**, Doctoral Student, Chalmers University of Technology

8:40 Panel discussion: Where are we now with regenerative construction and where should we be?

Anna-Sofia Aaltonen, Doctoral Researcher, Tampere University
Liisa Jäätvuori, Executive Vice President | Corporate Development and Sustainability, A-Insinöörit
Antti Aaltonen, Director of Construction Industry Development, Rakennusteollisuus RT
Dimosthenis Kifokeris, Docent and Associate Professor, Chalmers University of Technology

9:25 Final discussion & questions

9:30 End of the webinar

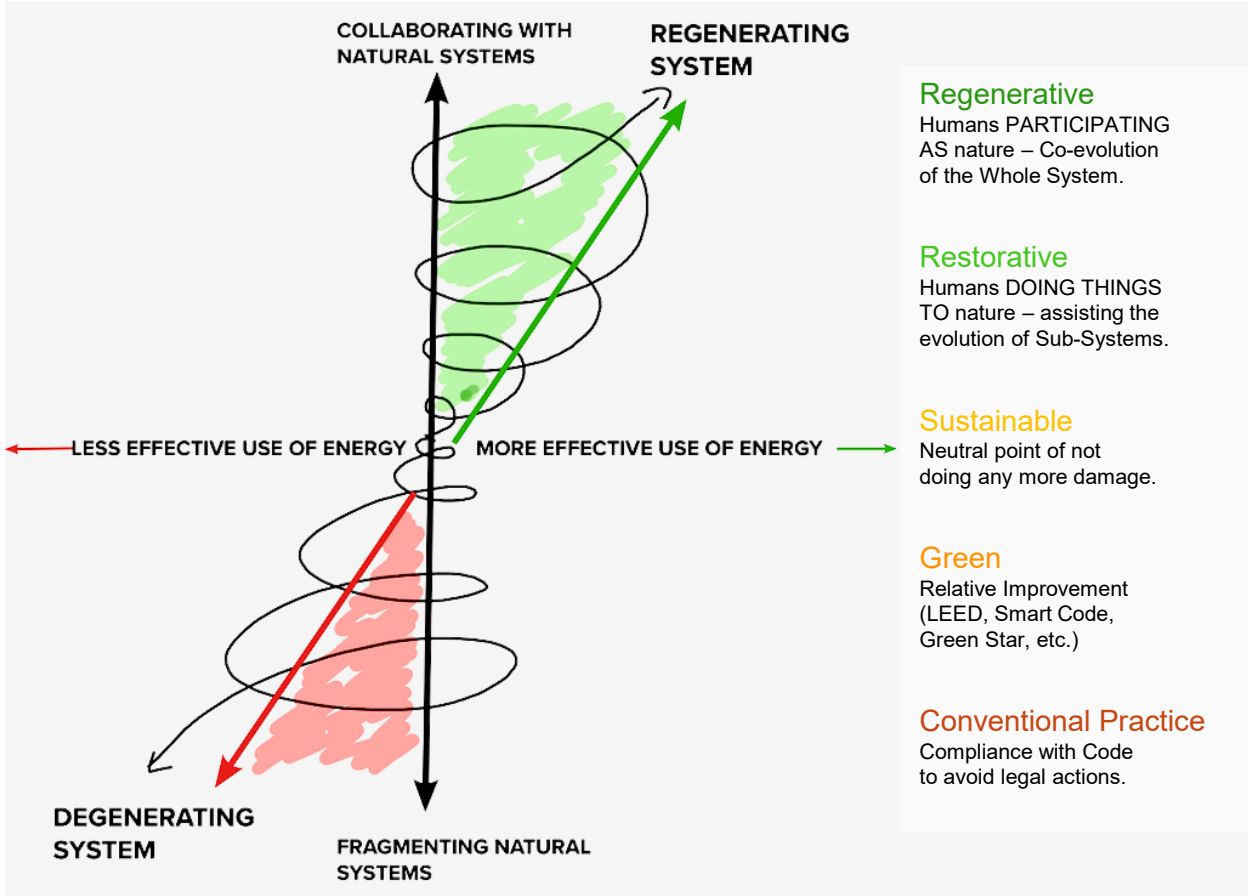
Regenerative Construction (ReCon) - project (01/26 – 12/27)

- Uudistava rakentaminen –projekti (in Finnish)
- Our goals are to:
  - Clarify the characteristics and features of regenerative construction
  - Explore construction methods that help us adapt to climate change
  - Our final result will be a handbook on regenerative construction
- The project includes:
  - 5 workshops (2 completed); next workshop will be on Monday 23rd of November at 14:00
  - 2 study trips (1 completed)



Regenerative design

It is no longer enough to simply reduce negative impacts; we must begin to create positive impacts



Source: Regenesis Group

Results from the first workshop (1/2)

Our aim was to clarify the terminology of regenerative construction, define its key elements, and explore the boundaries and scales of regeneration.

Difference in ambition

Sustainable:
Maintain the current state

→

Regenerative:
Improve environmental and social systems

Scale

Building → Property → District → System

Regeneration is not a characteristic of a single building

Process

Planning → Implementation → Use → Monitoring → Adaptation

Regeneration is a continuous life-cycle process

Measurement

- Different footprints:
  - Carbon
  - Ecological
  - Future footprints?
- Positive impacts and handprints
- Use rate of the building
  - Underuse

Link to broader sustainability frameworks

Results from the first workshop (2/2)

Identified challenges:

- Definition still unclear
- Value of old building vs. new one
- Implementing changes in the existing building stock is hard
- Environmental goals vs. economic goals
  - Decision-making is strongly economic based
- Construction projects are isolated entities

Regeneration to construction:

- Weak performance in some aspects cannot be compensated by strong results in other aspects
- Positive impacts should emerge even during the construction process
- Assessing the impacts of buildings
  → time horizon up to 200 years
- Usage of existing systems:
  - focus on reducing energy demand
  - improving existing solutions.

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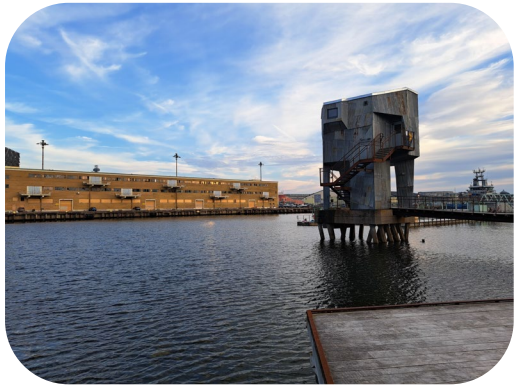
Study trip to Sweden

An overview of the places we visited







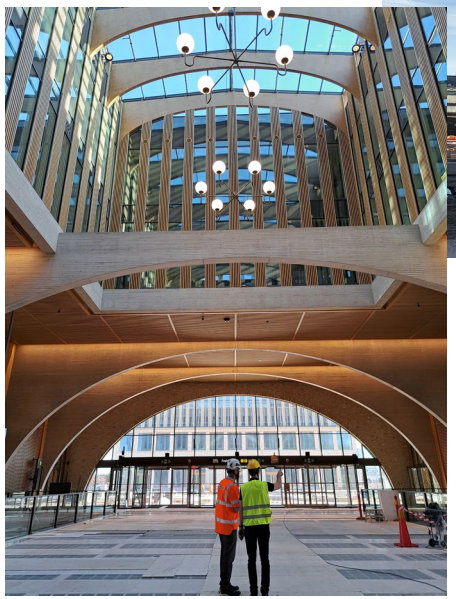
Sites we saw:

Gothenburg Grand Central

- New expansion of the Gothenburg Central Station with offices and retail spaces.
- Focus on sustainability and a minimal climate footprint:
  - The station building's frame and joists are mostly made of wood.
  - The project also will also use ECO-Betong (ECO-Concrete), recycled steel and other materials with less climate impact as far as possible.
  - Facade made of 100 % recycled bricks (524 000)
  - BREEAM Outstanding on the design phase



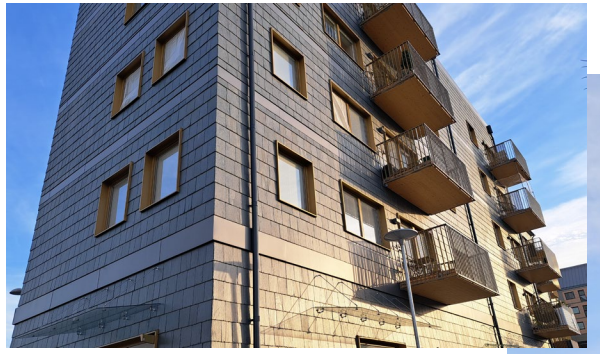


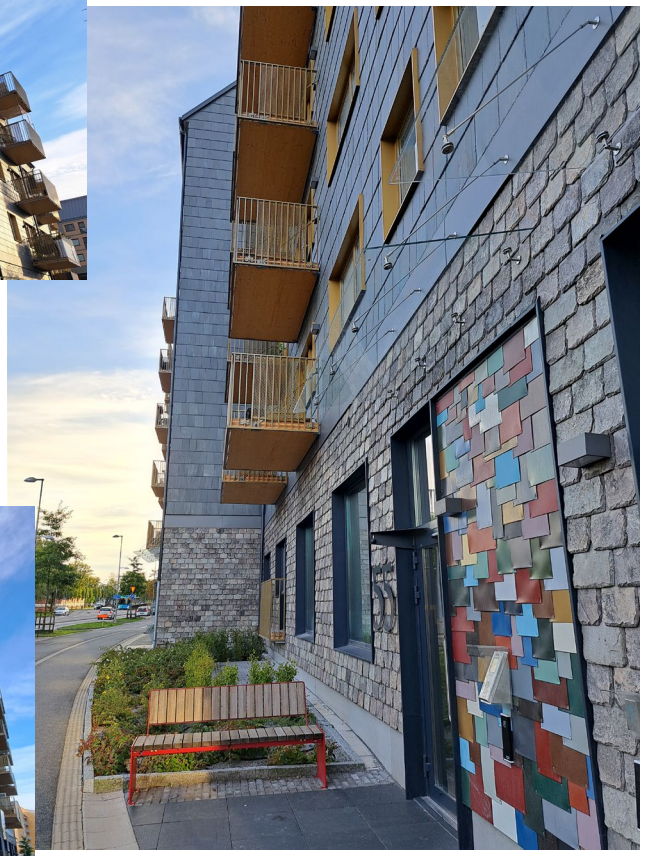


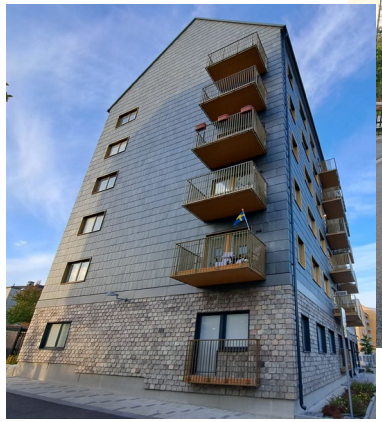
Customer: Jernhusen
Builder: Peab
Site: 15 000 m2
Building time:
summer 2024 – the end of 2026

Kvarteret Omställningen

- Apartment building with 63 rental apartments
- Main themes: carbon budget and low-carbon development
  - The reported reduction in climate impact was 57%
  - Emissions reductions were not achieved through a single major technical innovation; rather, low-carbon design served as a criterion for decision-making throughout the entire construction project and over time.
- Wooden frame
- Facade made of reclaimed slate
- Demonstrates how change in a process can have significant effects

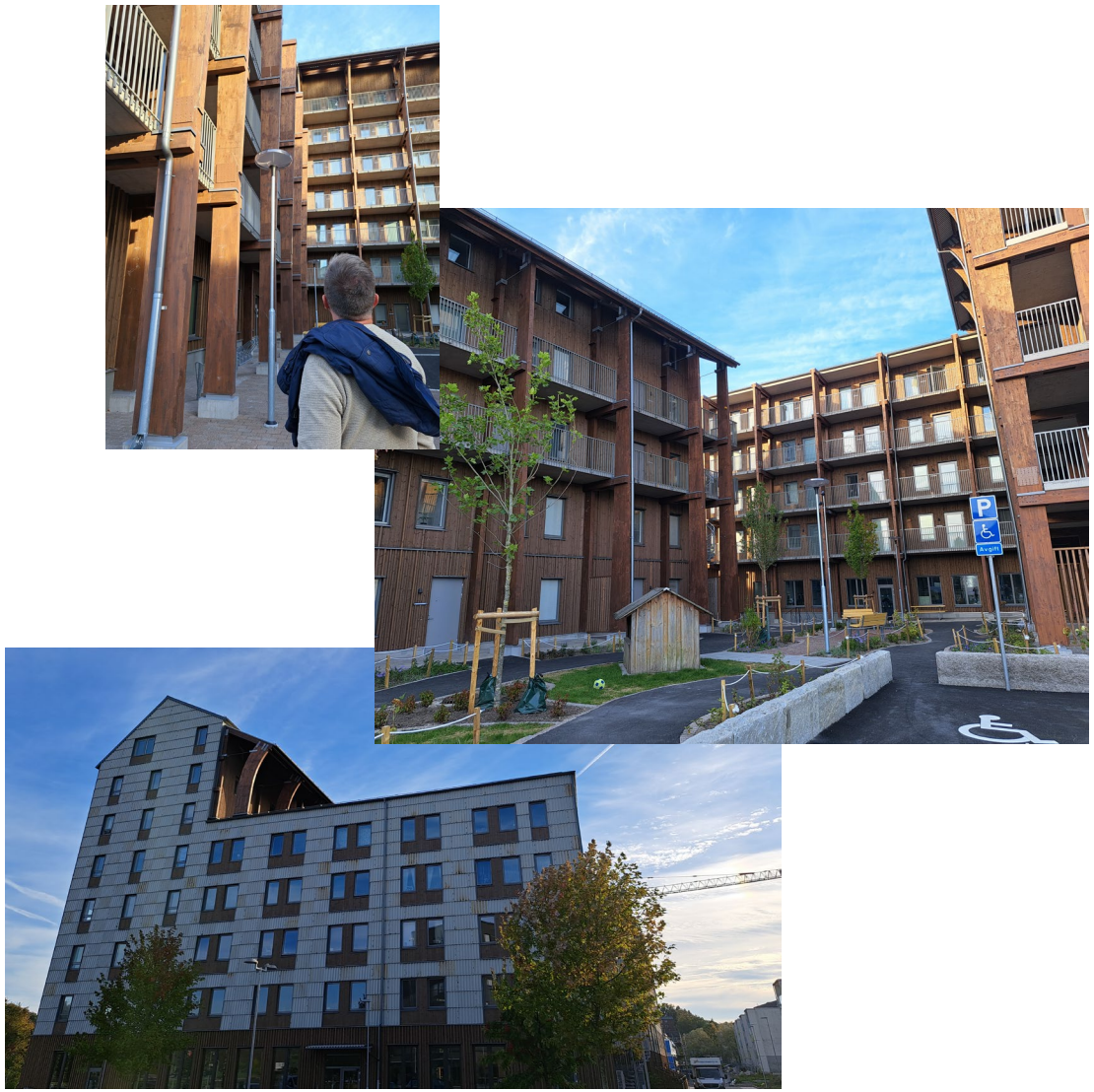






Kvarteret Återbruket

- Two apartment buildings with 63 rental apartments
- Main theme: Reuse of load-bearing structures
- During the planning phase, a target was set that at least half of the materials would be reused
  - Almost 90% of the load-bearing structures were reused
  - Intermediate floors from an old IKEA store
  - The facade features glued-laminated timber beams and corrugated metal sheeting from an old ice rink
  - Bathroom sinks from an old office building
- Demonstrates how the design and implementation methods differ from the conventional ones when using recycled materials
  - Appearance has changed depending on the materials that have been available
- Quality checks were performed on the reused materials



Hoppet 2

- Daycare centre
- Main themes: preserving and reusing
- The goal was to salvage as much material as possible from the old building
  - An old concrete slab was used as the foundation for the new building
  - A lot of material from the old building was preserved, but it could not be used for its original purpose; instead, new uses were found for it.
  - For example, an old steel frame was turned into a pergola for the yard
- The project served as a learning process for the city so that the practices could be implemented in other projects







Program

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FORMAS

Future REgenerative production for Sustainable Housing and buildings (FRESH)



What is regenerative construction?

Dimosthenis Kifokeris

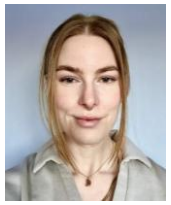
FRESH and the project team

Funded by Formas: ca. 12 MSEK

Duration: 2025 – 2029/2030

Project team:

Dimosthenis Kifokeris, Daniella Troje, Amar Taja

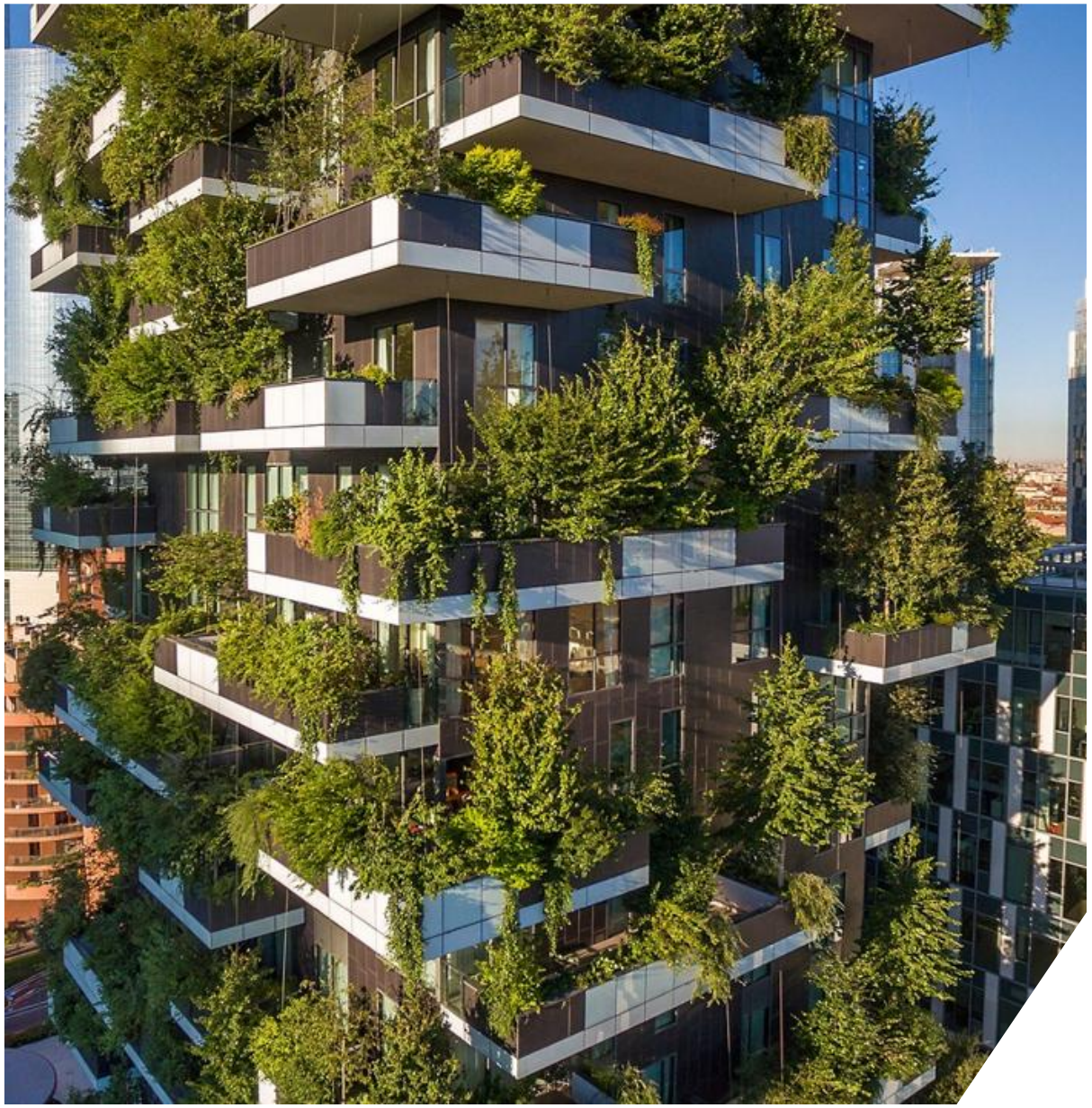




Radhlinah Aulin, Tove Jörgensen




Henrik Linderoth





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Our reference group



Joakim Forsemalm
CMB



Olle Samuelson
IQ Samhällsbyggnad



Lilly Rosander
Byggherrarna



Christina Olofsson
Byggföretagen



Kajsa Hessel
Svensk Byggtjänst, IQ Samhällsbyggnad & IVA



Henrik Melkstam
Coreco



Térèse Kuldkepp
Installatörsföretagen



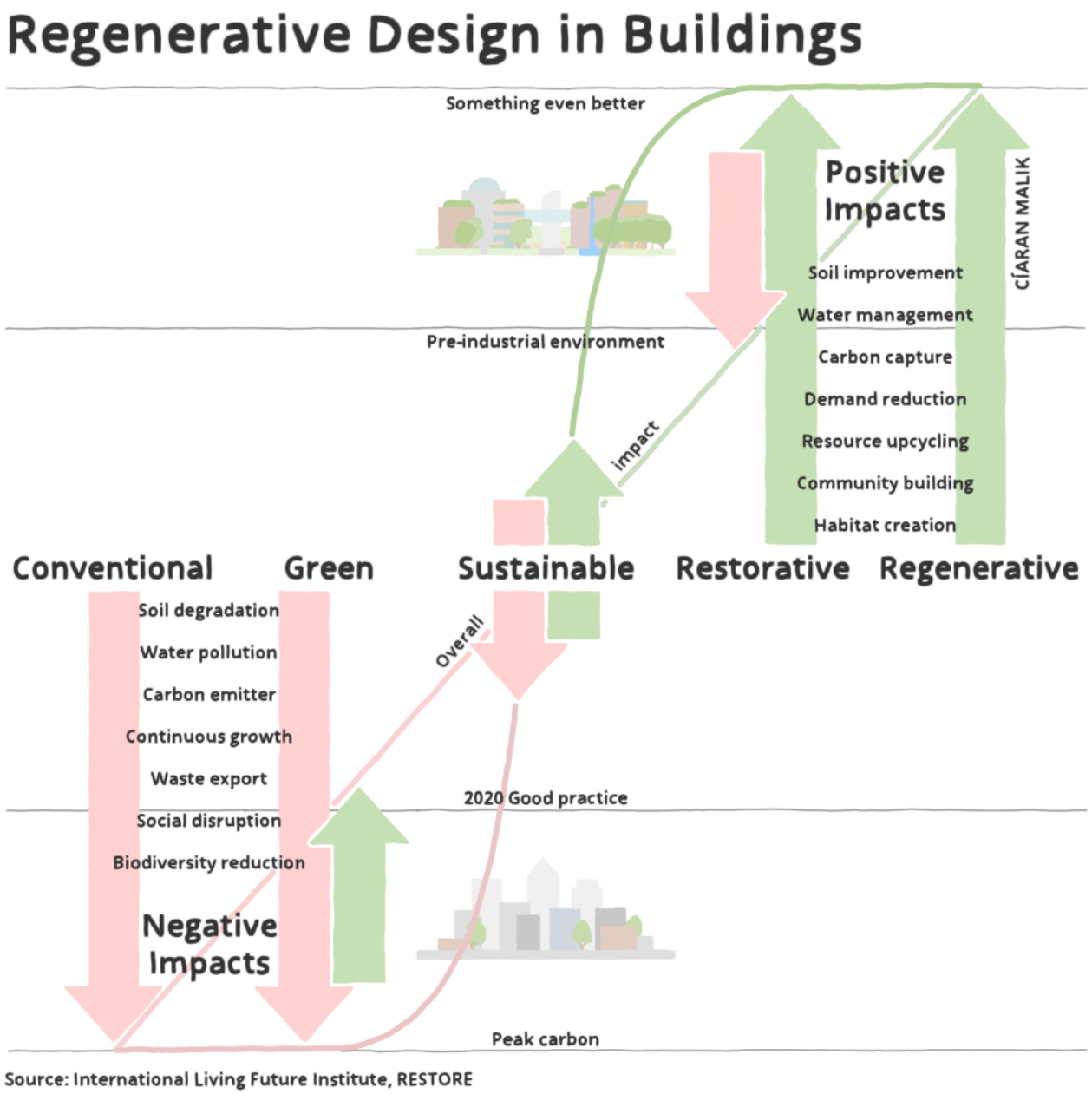
Joel López
Sweden Design Computing Community



Urban Persson
LTH



Regeneration in architecture and building design – towards something better?



Source: International Living Future Institute, RESTORE

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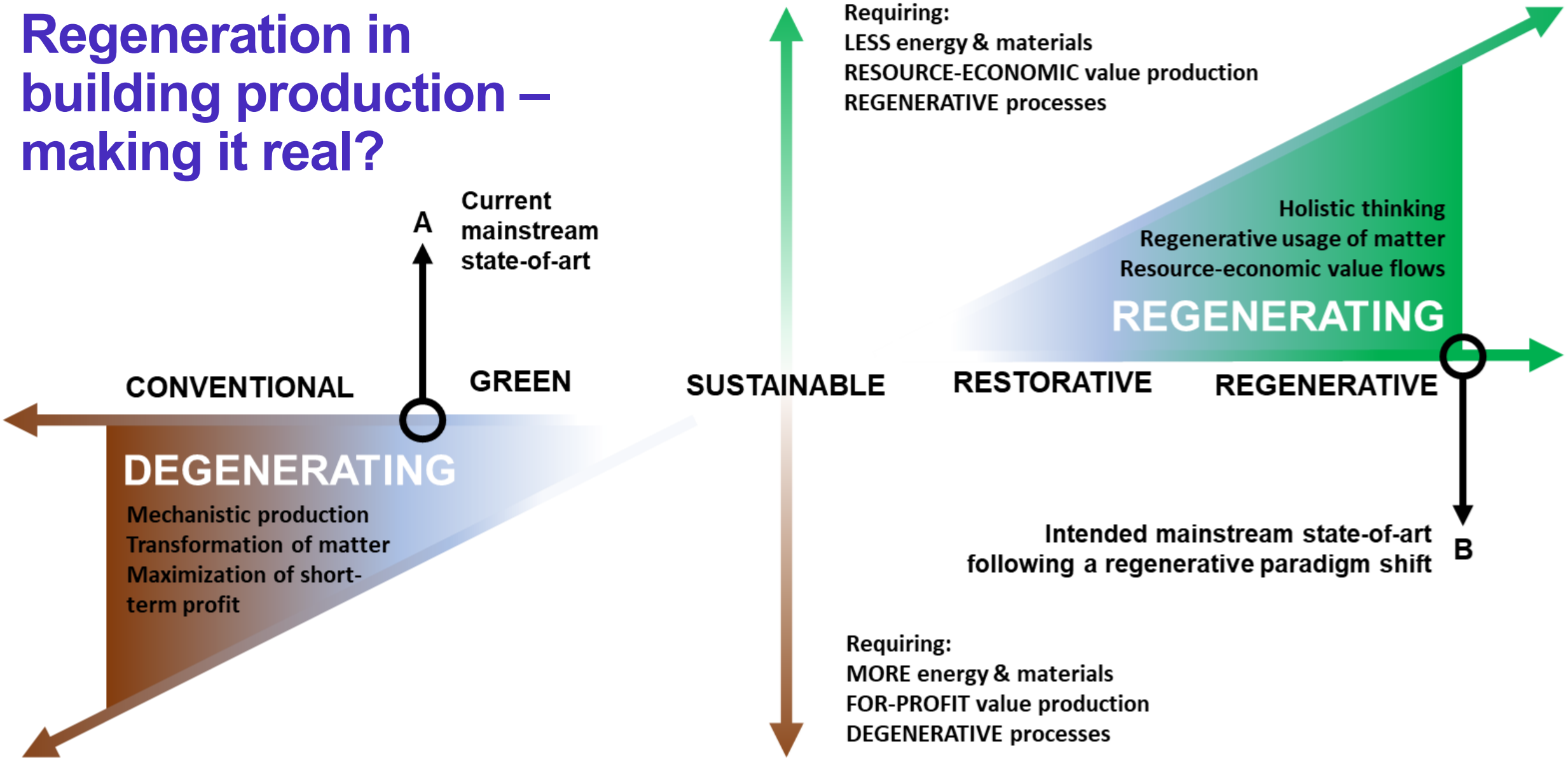
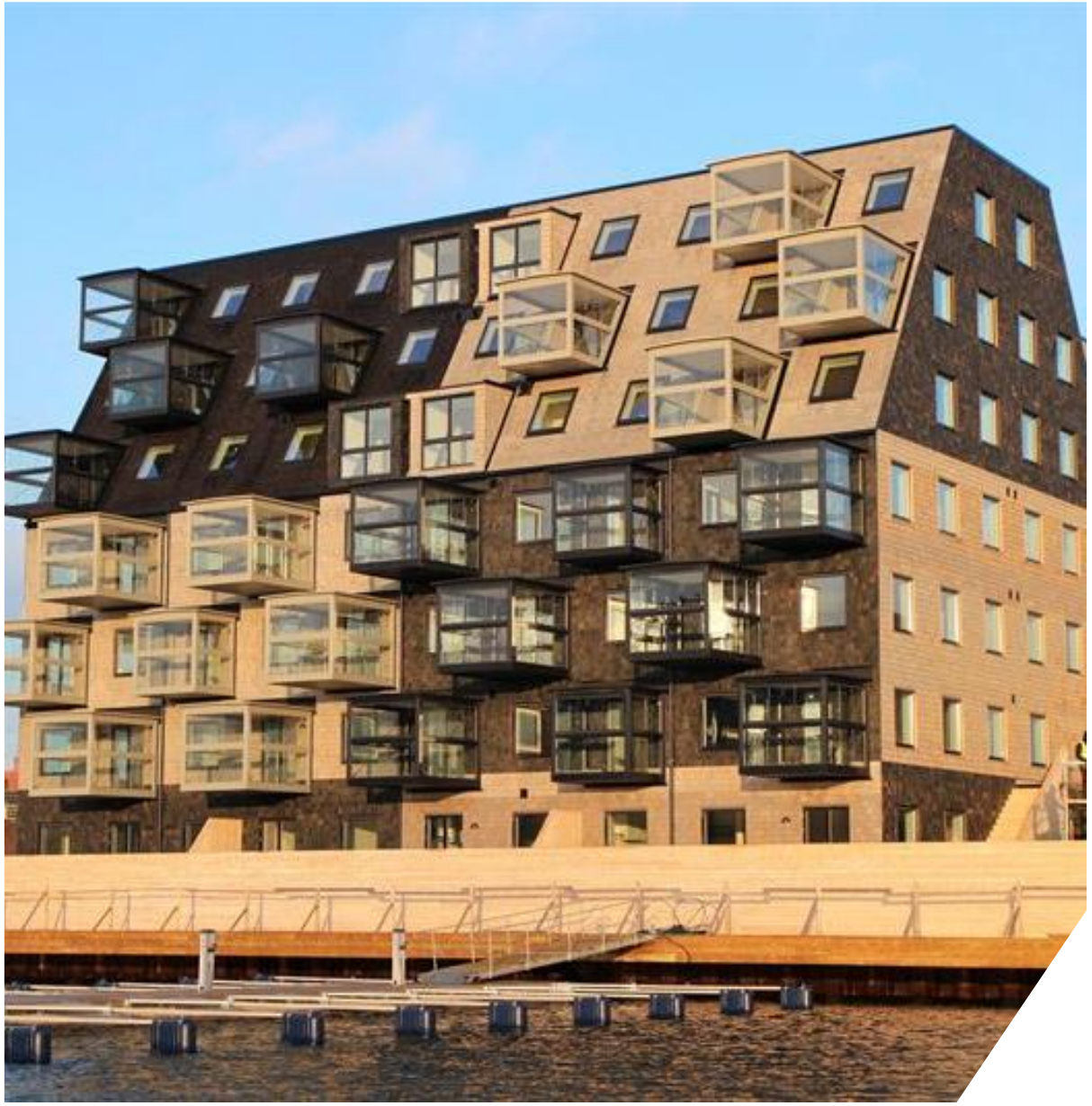
Regeneration in building production – making it real?



A radical change of perception, paradigm, and practice

- **Sustainability transitions (ST):** Incremental improvements in sociotechnical systems fail to counter unsustainable consumption and production; **a radical change is needed**
- ST grounded in sociotechnical concepts:
  - **Multilevel perspective (MLP)**
  - **Technological innovation systems (TIS)**
  - **Strategic niche management (SNM)**
- **MLP, TIS, SNM → complementary:** Managing niches to function as seeds for broader transition dynamics
- MLP understands macro-context and timing of transitions; TIS diagnoses innovation system weaknesses and crafts policy support for meso-level system building; SNM informs on-the-ground experimentation and micro-level innovation and stakeholder management



Conceptualizing regenerative building production

- Net-positive effects actively restoring and improving socio-ecological systems and human development
- Resource efficiency, ecosystemic services, cultural value and community well-being become measurable success factors
- Mainly targeting neighborhood and district levels to integrate urban infrastructure with nature and improve community engagement
- Few accreditations (e.g., LBC), design tools (e.g., LENSES), and **building** examples (e.g., Bullitt Centre, Phipps Centre); Lack of implementing regeneration in mainstream production beyond flagship cases (<25 LBC-certified buildings by 2026)





- Inconsistencies in defining and realizing regenerative production through material sourcing, supply chains, economic structures, and site management and practices
- Barriers: Inadequate stakeholder engagement, entrenched industry norms, lack of incentives (e.g., market valuations rarely considering socioecological benefits)

So how will FRESH do it?

- **Two PhD students (Amar, Tove) taking up the mission and being supervised by the rest of the research team**
- **Translation of regenerative and ecologically balanced design to regenerative production:** Architectural intent transformed to production practices
- Regeneration as **a systems-oriented process enhancing the capacity** for vitality in socio-ecological systems
- Shifts in design & production: **From standardized delivery to place-based and systems-aware development**
- **Regenerative strategies:** Net-positivity, resource efficiency, environmental improvement, skills building
- **Regenerative business models and policies:** Equitable and interdisciplinary partnerships for long-term resource security
- Can a building itself be regenerative?



From idea to research content to applied praxis

Constructing the phenomenon

What *is* regenerative building production?

Framing the phenomenon

Shaping regenerative building production as a *transitional phenomenon*

Creating the knowledge base for the phenomenon

Creating the *ontology* of regenerative building production

Situating the phenomenon

Contextualizing in *Swedish* building production theory and praxis

Creating and applying a holistic framework

Showcasing the implementation of regenerative building production in case studies

Find us on Linkedin:



FRESH internationally and in the news:

Article in the newspaper *Trouw* (in Dutch)

Article in the newspaper *Hållbart Byggande* (in Swedish)

Article in the newspaper *Byggindustrin* (in Swedish)

Article on *Coreco*'s website (in Swedish)

Other webinars:

Webinar organized by *Sveriges Bygguniversitet* (SBU) (in English + Swedish)

... and seven joint publications as of 11/2026 – check out our Google Scholar profiles!

Thank you!

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