

Regenerative Sustainability of the Urban Industry Zones in New Zealand

A Response to Climate Change Natural Hazards

Sustainability is NOT enough!

Because:

- Its approach in the built environment is insufficient to address the pace, scale, and urgency of global climate emergencies.
- The tools are fragmented, checklist-based, and mostly focused on improving individual components.
- The focus has primarily been on reducing harm, rather than promoting the regeneration of Earth's natural systems.



Natural



Human



Economy

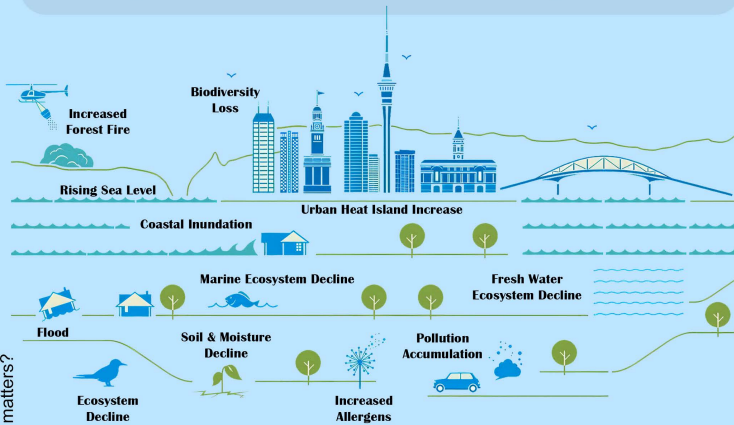


Built



Governance

The five key domains in New Zealand at risk from climate change in 2020-2026

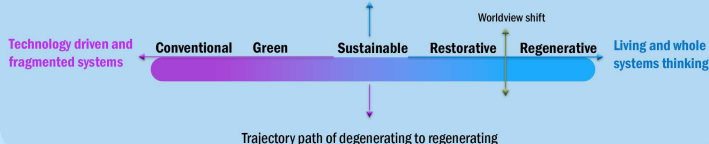


Climate Change and Natural Hazards in Auckland

Why regenerative sustainability can be a promising alternative?

Regenerative sustainability focusing on co-evolving the relationship between the built environment and natural systems in order to not only reducing the harm but also adding positive impact on the environment.

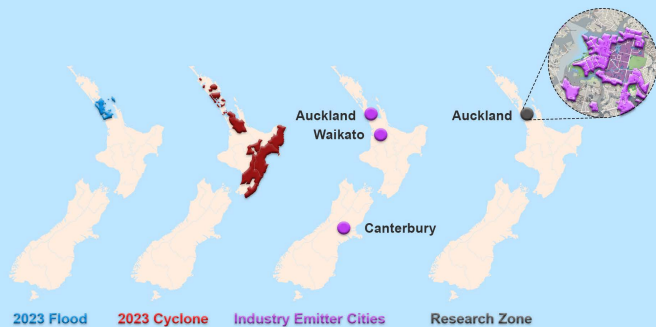
Achieving zero impact is necessary for sustainability, but focusing solely on efficiency and reducing harm is not enough to reverse the damage we have already caused. We must go beyond this approach and actively work toward restoring and regenerating the built environment we live in.



Methodology

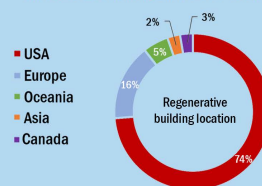
- **Systematic Literature Review:** Comprehensive analysis of existing research on regenerative sustainability and climate change impacts.
- **Semi-structured Interviews:** Conducting open-ended interviews with experts in regenerative sustainability, representatives from climate change-related organizations, and local business owners affected by recent natural hazards linked to climate change.
- **Case Study:** Auckland, New Zealand.

HOW to do it?

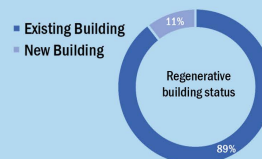


Key Findings (to date)

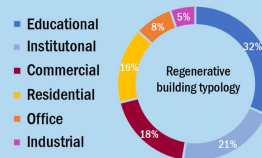
- There is a low uptake of regenerative sustainability in the New Zealand built environment.
- Urban industry zones are the core of economy, however, have adverse environmental effects on the built environment and urban ecosystem.
- Among 17 issues identified by EECA (2023), facing by New Zealand businesses, environmental concerns ranking relatively low, which shows more research is needed in this area.



+ The concentration of case studies in the USA and Europe indicates that these regions have a higher awareness of regenerative sustainability, more supportive policies, greater stakeholder engagement, and a higher level of expertise in regenerative practices, highlighting the significant focus in Western countries compared to other regions.



+ 89% of the case studies focus on new construction, emphasizing the integration of regenerative sustainability principles from the design and planning stages.



+ There is a higher adoption rate of regenerative principles in Educational and Institutional sectors. In contrast, the industrial sector remains underexplored. The lack of typology-specific guidelines can lead to inconsistencies and challenges in practical implementation.

Conclusion

While regenerative sustainability aims to reduce environmental impact and enhance benefits for communities and businesses, their approaches and challenges vary by building typology and location. Tailored strategies are essential for sectors such as education, residential, commercial, and industrial, with calibration to local contexts and regulations. Developing sector-based frameworks with embedded calibration methods will help ensure that regenerative practices are both relevant and effective across diverse settings.