

New Economic Thinking

Enabling a just transition
of the built environment in Europe



Laudes —
Foundation

Author and Aknowledgements

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[**Dark Matter Labs**](#) (DML) is an organisation working to transition society in response to the multiple and cascading crises of the 21st Century. Collaborating with stakeholders from various contexts DML is striving to create institutions, instruments and infrastructures for a more equitable, caring and sustainable future.

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[**Laudes Foundation**](#) is responding to the dual crises of inequality and climate change by supporting brave, innovative efforts that inspire and challenge industry to harness its power for good.

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1. Executive summary

Overview

In 2022-23, Laudes Foundation and Dark Matter Labs engaged in a collaborative research project exploring the challenges and opportunities presented by an equitable decarbonisation of Europe's land and buildings.¹ This report summarises the findings of that research. It focuses on transition strategies, economic context, social inclusion, deep trends and innovative individuals and organisations working in the field.

Among the groups who participated in this research were organisations that operate at the intersection of economic, ownership and governance issues, specifically relating to land and buildings. This included actors who are challenging established housing and real estate practices, multi-build networks, contributors to new economic thinking² within the built environment, market makers and mediators. Adjacent organisations also took part, adding their expertise in other critical fields such as law, finance and advocacy.

Insights derived from the research are intended to contribute to the future strategy of Laudes Foundation's Built Environment programme. We hope that it will inspire philanthropy more generally to support actors working on a just transition of the built environment. The report highlights complex issues without offering substantive proposals to resolve them. It can be viewed as a prologue to the next phase of this important work.

Audience

The report was prepared initially for Laudes Foundation. It has been made publicly available with the intention of furthering discussion and action relating to the future of Europe's built environment.

1. The term *Europe* refers to the continent of Europe. Within this wider context, the Laudes Foundation supports initiatives within the European Union, Norway, Switzerland and the UK.

2. *New economic thinking* is a broad term that encompasses multiple theories, ideas and movements that challenge the dominant political economy with the aim of creating a more equal, just and prosperous society.

Framing questions

Our research and analysis were shaped by two core questions:

- How can new economic thinking contribute to a just transition of Europe's built environment?
- Which approaches intended to create greater social equity in the built environment generate the most effective climate mitigation activities?

Given the labour, energy, material and ecological constraints that will impact the future of Europe's built environment, further nuance was provided by consideration of these strategic questions:

- Should we consider a no-build or low-build future that is centred on low-tech dematerialisation?
- How can we reframe housing as a human right in mainstream political discourse, challenging how space is used and distributed?
- How can we embed a culture of care in the sector that establishes an intrinsic approach to wellbeing through decarbonisation activities?
- What are the policies and pathways that will enable this vision to be realised?

Key findings

Inevitably, our research and analysis has prompted further questions:

- How can we develop the expertise necessary to reimagine core components of the built environment, thus establishing horizontal knowledge networks?
- How can we develop the collective capabilities required to scale initiatives that bring together multiple levels of the system, map available land, design new forms of finance or advocacy and shift the boundaries of political possibility?
- How do we develop the deep and complex governance networks necessary to improve coordination, orchestration and facilitation across the built environment?
- How can we make distributed communities and geographical hubs dedicated to the future of Europe's built environment more inclusive and regenerative?

Clear themes and insights have emerged that should inform future strategy development:

- We must embrace the reality of a resource constrained economy and work to achieve spatial justice in new ways.
- We need to encourage collaboration and shared missions involving civic institutions and industry.
- We require supportive legislation, planning and financing to enable the scaling of collaborative housing models without compromising their social inclusion mechanisms.
- We must deploy anti-speculation strategies, especially in complex political contexts, to facilitate the scaling of alternative models.
- We need to support traditional financial actors in developing appropriate frameworks and processes to catalyse inclusive funding pathways.
- We require generative and flexible orchestration frameworks that have been developed, tested, promoted and actively embedded in diverse settings.
- We need strong alternative economic narratives that respect contextual diversity and shift the cultural conversation.
- We must develop generative learning cycles between different actors in the network.

2. Introduction

Report context

This report has been prepared on behalf of Laudes Foundation to present the research undertaken by Dark Matter Labs into new economic thinking in Europe's built environment. Laudes Foundation aspires to support a widespread transition to an inclusive and regenerative economy, with a particular focus on how industry can be challenged and inspired to become a force for good.

Within that remit, Laudes' Built Environment programme has two strategic aims:

1. Enable the implementation of the built environment's transition roadmaps and legislation for an inclusive, climate and nature positive industry.
2. Support socially-inclusive business models that ensure workers, residents and communities are centred in the built transition.

This research was designed to look primarily at a socially inclusive transition in Europe, while remaining cognisant of the wider programme goals. The research outcomes are intended to inform the future strategic direction and funding of Laudes's Built Environment programme.

Objectives

The research addresses two interlinked questions:

- *Q1: How can **new economic thinking** contribute to a **just transition** of Europe's **built environment**?*
- *Q2: Which approaches intended to create greater social equity in the built environment generate the most effective climate mitigation and adaptation activities?*

Chapter 3 (Exploring the transition landscape of Europe's built environment) focuses on the first question. Chapter 4 (Organisational Mapping) focuses on the second, moving the discussion into a more practical realm. A critical analysis and discussion of both threads of enquiry is presented in Chapter 5.

The three terms highlighted in bold in question one can be interpreted in different ways, but in this context we are applying them to the following concepts:

- *New economic thinking* is a broad term. It encompasses multiple theories, ideas and movements that challenge the established political economy – in short, everything from Doughnut Economics³ to distributed money creation. In this report, we refer specifically to new ways of organising Europe's economic activities, in service of a sustainable and inclusive future.
- *A Just Transition* refers to three interrelated elements (Just Transition Alliance, 2023):
 - i. A principle: a healthy economy and a clean environment can and should co-exist.
 - ii. A process: the process for achieving that ambition should be fair. It should address past harms and ensure power is equitably distributed in the future.
 - iii. A practice: the communities who are most affected by pollution and climate change challenges should be deeply involved in designing the policies intended to address them.
- *Built environment* can be an ambiguous concept. For example, Oxford Reference defines it as '*man-made structures and facilities used to accommodate societies' activities. Any enclosures, spaces, structures, and infrastructure formed to convert the natural environment into a habitable and usable area for the purpose of living, working, and playing.*' (Gorse, Johnston and Pritchard, 2013) We use the term to describe how Europe's citizens interact with the region's land and buildings, with a particular focus on ownership, governance and investment models.

³. Doughnut Economics is a framework developed by the progressive economist Kate Raworth, that explores the mindset and ways of thinking needed for humans to thrive in the 21st Century.

3. Exploring the transition landscape of Europe's built environment

New economic thinking is a form of collective response to the opportunities and challenges that humanity faces. In this section, we have divided our analysis into two interrogative threads:

- What are the deep trends and systemic constraints that shape Europe's built environment?
- What are the implications and design options for lucid response strategies?

3.1 Deep trends and systemic constraints

Applying a new conceptual filter to old challenges

The work of Laudes Foundation and its wider network is founded in systems thinking. Its strategy and theory of change involve identification of the root causes of crises and examination of the interconnected nature of wicked problems, as exemplified by its [Race to Zero Built Environment System Map](#). Individuals within the Laudes ecosystem are all likely to have a particular area of interest or expertise. Some focus on advocacy because they believe a new political logic will be the catalyst for transformation. Others seek to tackle the growth obligation embedded in our economic system or they are concerned with reducing the material footprint of our buildings and preserving life's ecosystems. It's hard to argue with these convictions or the need to respond to each of them. In reality, there is a kaleidoscope of upstream factors and if we fail to address a single one, then the risk of complete failure rises.

We need to shift the focus from trying to enact solutions (for example, a Europe wide retrofit rollout or building a certain number of green homes) and to think instead about the dominant forces that are acting on the sector. What do these trends mean in terms of the constraints we must operate within and around? An obvious example is the

current spike in electricity prices which is putting enormous pressure on household budgets. If prices are set to rise into the future, will it be possible to achieve our current comfort levels of heating and cooling by electrifying the existing infrastructure? Even if energy prices fall, existing global mineral reserves are insufficient to manufacture even one generation of renewable technology units (EV's, H-cells, batteries, wind turbines and solar panels (Simon Michaux, 2023)).

Literature reviews and extensive discussion has enabled us to identify four *bottleneck filters*; factors that we consider to be the most significant in analysing the constraints of Europe's built environment decarbonisation challenge. These filters are offered to stimulate thought rather than as definitive conclusions, with the intention of creating a conceptual scaffold to frame potential response strategies.

The constraints: Four bottlenecks that will shape the future of Europe's built environment

The scope and scale of the transition ahead is unprecedented in terms of the human, physical and financial resources that will be required. In the EU, it is estimated that retrofitting the existing building stock will demand an estimated EUR 275 billion of additional investments per year to achieve EU climate targets by 2030 (European Commission, 2020). Despite the scale of this requirement, raising and managing this level of financial investment will only be part of the challenge.

We would like to consider four additional constraints in the context of an equitable and regenerative future. How might they shape the strategies, design options and pathways that are considered optimal for the transition of the built environment? What types of initiatives is Laudes and its partners already engaged in that recognise and address these converging limitations? What might this network need to lean further into or away from?

1 – Labour constraints

Labour shortages combined with an insufficiently skilled and ageing workforce, means that resourcing sustainable building activities for both modernisation and construction is already a major problem for the building sector (Euractiv, 2021). If we don't make this sector more engaging and inclusive, we will simply not attract the volume or quality of labour required. This dynamic will be further complicated by migration patterns that will not necessarily correlate to labour needs (in timeframe or geographical spread). Climate and war refugees will not neatly arrive in areas earmarked for planned renovations or green building programmes. Even if they did,

there will be other escalating labour priorities such as providing care or improving food security. As these pressures intensify it is likely that the allocation of labour to building renovation versus other critical missions will become a significant strategic issue.

2 – The energy crisis

The labour constraints above will be further accentuated by a reduction in the so-called 'fossil workers' who have boosted our productivity over the last century. Globally we currently use around 100 million barrels of oil per day (c. 36 billion barrels per year) but this resource is becoming harder and more expensive to obtain, even if we put aside the carbon considerations. To put this into perspective, one barrel of oil is equivalent to the amount of physical labour that a human can produce in 4.5 years.⁴ The annual consumption of around 8 billion humans is therefore 4.5 barrels per person (36bn barrels divided by 8bn humans) which equates to 20 years of equivalent human labour per person (4.5 barrels * 4.5 years = 20 years; Hagens, 2020). This is an extraordinary statistic that has profound implications for our future living standards.

The renewable energy sector is growing rapidly but still only represents around 11% of global energy consumption (C2ES, 2022). Since 2000, the use of electricity by the building sector has increased almost five times faster than the corresponding improvements in the decarbonisation of the electricity generation (IEA, 2019). Unless we shrink other areas of the economy the additional energy requirements of decarbonising our building stock may not be possible within our current economic system.

3 – The material crisis

This brings us on to the material crisis where energy shortages will collide with a requirement to power the mining of staggering quantities of additional materials. Copper is one example as it is an essential component for retrofitting (Copper Alliance, 2021). Between 4000 BCE and 2020 CE, humanity mined 700 million tonnes of copper, but to keep up with current copper demand (excluding additional requirements from decarbonisation or electrification) we will need to mine that volume in the next 22 years i.e. we will compress 6,000 years of extraction into just 22 (Nate Hagens, 2022).

Threaded through this bottleneck are geopolitical tensions that will almost certainly further intensify material resource pressures. Turkey, for example, currently sources

4. This is based on performing 40 hours of physical work per week all year at an average output of 600 watt-hours.

35% of its aluminium (which is a critical building material) from Russia (TALSAD, 2021). Other minerals used in construction (for example nickel as a component of stainless steel) are starting to be extracted from the deep sea beds of the global ocean. Here too tensions are rising as the frontiers of extraction expand, with China holding more contracts issued by the [International Seabed Authority](#) than any other country (United States Institute of Peace, 2022).

4 – Ecological dynamics

In 2021, the [Dasgupta review](#) on the economics of biodiversity was commissioned by the UK Treasury and concluded that '*we are currently damaging it [the natural world] so profoundly that many of its natural systems are now on the verge of breakdown*' (Dasgupta, 2021). Declining biodiversity levels are a tragedy in their own right, but without careful management will also limit the availability of biomaterials for green building technologies and biomass use for heat. Added to this are the intensifying severe weather patterns that will require huge improvements in the resilience of buildings, placing further pressure on natural stocks. If we aspire to reconfigure the built environment using green materials, we must first reconceive the relationship between our buildings and living resources like timber. Imagine a future where the shape and quantity of our buildings must be defined by the regenerative potential of our forests rather than the other way around.

To place this in context of the built environment, we did some rough calculations based on the global 96% carbon emission reduction requirement to stay within planetary boundaries and a per capita allocation of that budget per country.⁵ Our assumptions were also based on the current allocations of carbon to the construction industry in Europe (39% overall and 11% to pure construction) and an average emission figure of c.50 tonnes of carbon per new build. Using these high level figures, we estimate that the maximum number of houses that can be built within the carbon budget per year, would be around 176,000 for the whole of Europe and just 15,000 for the UK. To be clear, this is before we consider climate reparation budgets which will further restrict that number. In the context of 700,000 people being reported homeless each day in Europe and an annual target of 400,000 new homes to be built in Germany alone, these numbers are shocking (FEANTSA, 2022; The Local, 2023).

5. Based on [Planetary Boundary studies](#) to reach the IPCC targets.

3.2 Implications for designing lucid response strategies

Strategies and design options: Flipping our perspective to meet the future halfway

We can start to conceive response strategies that are either implied or invited by the aforementioned constraints. There are many possibilities; some are already being used to triage existing issues, others are quietly coalescing to power the next generation of responses, whilst many remain conceptual. The following prompts summarise the key strategic design principles derived from the constraints analysis:

Consider a no (or low) build future for Europe: there is no question that people need safe, green homes but can we realistically and ethically plan to build and renovate them, as resource and energy pressures continue to escalate? If we can't build the required homes then we will need to intensify our use of the existing building stock. This could include a radical repurposing of Europe's vacant buildings (including the 16% of homes that are currently unoccupied) and reconfiguring how we equitably share space (SYSTEMIQ, 2022).

Embrace low-tech dematerialisation: if we can't mine or recycle the materials needed we will simply need to use less of them. Some of these resource savings may come from technological improvements, but we can also look at strategies that simplify our lifestyles. Do we really need to keep our houses at 20 degrees year round? Could we instead move to zonal heating where areas of the building are subdivided into smaller compartments for heating according to seasons? For example, it might be possible to think about radiant heating panels for targeted heat requirements such as over a work desk.

Think upstream of the solutions as well as the problems: we might think of plentiful materials with low levels of embodied carbon as providing solutions, but what if we widen the boundary of our risk assessments? For example, bamboo is considered to be a low-carbon material with strong mechanical qualities, but without careful management bamboo invasion can negatively impact native plant diversity (Xu et al., 2020). Seeking multiple perspectives on any response being proposed will be essential, if we are to prevent today's solutions from becoming tomorrow's escalation pathways.

Embed a culture of care: the working conditions and social status of those who are currently working in the industry is worrying. In 2020, more than 20% of fatal work accidents in the EU occurred within the construction industry (Eurostat, 2022). In the UK, the [Chartered Institute of Building](#) has recently reported that '*Mental ill-health is*

a silent crisis within the construction industry', with male construction workers three times more likely to die from suicide than the national average (CIOB, 2020). These are deeply disturbing statistics on a human level that fuel the subliminal narratives that percolate into every decision. How can we expect a worker appraising a development project to meaningfully embrace wellbeing outcomes when their lived reality of achieving financial targets is in such stark contrast?

Reframe housing as a universal basic service: since the 2008 financial crisis, investor-owned housing in Europe has increased by 700 percent (Green European Journal, 2021). On average across Europe 18% of dwellings are overcrowded, 35% are under occupied and 16% are not occupied at all (Eurostat, 2018; Cieśla, 2022). The situation is so absurd that a group of activists in Brussels have created an entirely fictional district ([Saint-Vide-Leegbeek](#)) to highlight the 6.5m m² and 30,000 units of empty properties in the city alone. Housing cannot legitimately remain subject to price speculation and wealth protection in a fair and sustainable future. How could the narrative of *housing as security* (together with the financial practices around it) be reframed, to spark a wide-scale public debate about what housing means in a resource constrained future?

Ignite imaginative thinking: what if an alternative resource-light architecture is predominantly constrained by a failure of our collective imagination rather than by a lack of viable alternatives? After Covid restrictions were lifted in Europe, many people expressed their wish not to return to their old patterns of living and working. This is obviously a dramatic example but does highlight the power of people viscerally experiencing alternative ways of living, shifting value perceptions. This is an idea playfully explored by the [New European Bauhaus](#) which invites Europe's citizens to co-create a '*sustainable and inclusive future that is beautiful for our eyes, minds, and souls*' (EU, 2023).

Build the politics of transition: many of the required strategies and capabilities will not be politically acceptable at present, but *everyday politics*⁶ will be a powerful driver in meeting the future halfway. How for example would our responses differ if citizens felt empowered to shape and design their own futures? Would residents of a district or city accept skyrocketing levels of inequality and homelessness if they felt that there were realistic alternatives? How would working conditions change if organisations agreed to operate under a revocable social license, that was periodically audited by a random selection of local stakeholders?

Move on from impossible: if the transition pathways that we were expecting are moving further out of reach, then we must stop chasing the impossible and think about responding to the difficult. If the materials and energy will not be available to

6. Everyday politics refers to community centred activities that reconnect citizens with public life.

retrofit the entirety of Europe's housing stock, then perhaps we can create houses within houses, using tent-like removable heat capture. Similarly, if we cannot mine the minerals of choice to power our heat pumps, then we will need to start investing in alternative battery technologies powered by plentiful elements such as sodium and fluoride.

3.3 Socio-economic context

In section 3.1, we explored how using different filters can help us to identify the constraints and related opportunities that exist in relation to a just transition. To ground this analysis in the practical reality of enacting change, we will now shift the focus to consider the wider socio-economic context in which the built environment is nested.

As we zoom out to the broader context, what does this mean for the dominant trends? How do material resource constraints manifest across different parts of the system? What happens when we combine a requirement (or even desire) for less energy use with a financial system that is tethered to that same resource? How realistic is dematerialisation as a response to increasing resource pressures when this kind of strategy flies in the face of the prevailing economic logic? Resource efficiency in manufacturing processes might align with reduced costs and increased profits, but simply leaving minerals in the ground and forgoing or delaying profits does not. However much we disagree with this worldview, economic value is a reality that we must explain and understand if we want to build effective strategies. It is easy to shrug our shoulders and make comments like 'it's just the way it is' or 'capitalism is the problem', but what exactly do we mean when we make such statements? What are the dominant forces or dynamics that are holding this kind of logic in place?

During our discussions, a concern surfaced about excluding an inequality filter from the constraints analysis. We would like to address this dimension of the transition landscape here, exploring some system dynamics that are fundamental to holding the current *imagined order*⁷ and crippling levels of inequality in place. When we use the term *system dynamics*, we are referring to patterns and forces that play out across multiple areas of the systems that we interact with (i.e. political, ecological, cultural and physical).

7. The 'imagined order' is a term used by the Oxford economist Eric Beinhocker to describe a series of stories told by the elite to justify their position in society.

Examples of system dynamics that drive inequality and volatility

There are many excellent resources that consider these types of dynamics in depth (see Appendix 1) but the following examples highlight some key drivers and practical illustrations of how they manifest in the built environment.

1 - The finance / power / inequality dynamic

“It is well enough that people of the nation do not understand our banking and monetary system, for if they did, I believe there would be a revolution before tomorrow morning.”

– Henry Ford

The fact that most of the money used in our economy is essentially created out of thin air, by bankers tapping digital numbers into existence, has been well documented (Bank of England, 2014). Less well publicised, however, is the link between the seemingly benign mechanism of money creation and rising housing inequality. A good example of how this occurs is the practice of quantitative easing (QE) that began in Japan and has been used extensively by the Bank of England, the European Central Bank and the American Federal Reserve. QE involves a Central Bank creating new digital money and using it to buy back government and corporate bonds (IOUs). The idea behind this process is to reboot a sluggish economy by reducing interest rates and making it easier for people to take out loans. Irrespective of whether this actually works, the process also results in the value of bonds rising (as the supply of bonds decreases the value of those that remain goes up). It also causes a general inflation of asset prices, as investments in the stock and property markets are closely linked to the bond markets. In short, those who are already wealthy and own assets benefit from QE, whilst those that don't fall further behind. For example:

- In the twelve years since the financial crisis where QE has been liberally deployed, UK house price increases have far outstripped the growth in wages, with the ratio of first-time buyer house prices to earnings rising from 4.3 to 5.6 over the past decade.⁸
- In August 2020, at the height of the first Covid-19 lockdown, western economies slumped to levels below the crash of 1929, whilst the FTSE100 and S&P500 rose dramatically. On the face of it, this made no sense. How could share prices be

8. Extracted from the Nationwide first time buyer house price earning ratio database. Available at: <https://www.nationwidehousepriceindex.co.uk/resources/ftb-hper-by-region>

rising when the entire global economy had been put on standby? The answer was that the newly created credit was predominantly lent to large corporations which, as they didn't need the money, used it to buy back their own shares. These buy-backs inflated both the company share prices and the management bonuses that were linked to them. Many of those bonuses were used to buy additional properties, creating further upward pressure on house prices and compounding existing housing inequalities (Anat Admati, 2020; Compass, 2020).

In both examples, the prioritisation of investors and asset prices over businesses and livelihoods was not a decision taken by citizens on behalf of society. It was a judgement made by bankers on behalf of existing asset holders, dramatically increasing social and housing inequalities across Europe.

2 - The energy / debt / growth dynamic

In our view this is one of the most important drivers in our current global economic and ecological situation, with severe consequences for the just element of Europe's decarbonisation. We see this as a chain of interlinked factors that will ultimately lead to increased economic volatility, with potentially devastating consequences for the most vulnerable members of European society

- GDP (a proxy for the sum of everything that is bought and sold in the economy) is currently 99% correlated to energy consumption, while the relationship to material use is more like 100%. This means that at current economic forecasts of 2-3% GDP growth per year, we will double our energy and material use every twenty-five years. It is important to note that many prominent economists such as Dianne Coyle and Thomas Picketty have provided robust challenges to GDP being used as a measure of societal progress at all (Coyle, 2021; Fay, 2020). However, as GDP growth is currently the dominant measure of economic success globally, its correlation to resource use remains a central issue.
- To date, absolute decoupling of GDP from energy on a global scale has not been achieved, despite dramatic technological and efficiency gains (Heun and Brockway, 2019). This is largely driven by a rebound effect (often referred to as Jevon's Paradox), whereby improvements in energy efficiency result in increased demand and greater resource consumption overall (Berners-Lee, 2019). This relationship is complex, involving institutional and individual behaviours, but the research to date indicates that technological improvements in isolation will not provide a solution to biophysical resource constraints (Giampietro and

Mayumi, 2018).

- An additional issue is the impact of new debt which creates a future claim on energy. To clarify, the creation of money by itself does not create a growth imperative, because if that was all that happened it would simply result in inflation. Instead, the availability of credit (and its associated interest) creates a future need to generate income by producing a good or service. This in turn equates to a forward claim on the energy that will be required to bring it into being. Despite finance itself being a system without biophysical boundaries, the physical claims coded into its creation are essentially a contract with the future of the Earth (Hagens, 2020).
- The levels of debt relative to GDP have steadily increased globally over the last decade (debt is doubling every eight and a half years compared to twenty-five years for GDP), showing that we are already struggling to service existing debt with current economic activities. As energy and resource costs rise and the quality of energy available decreases, this issue will be magnified, threatening the legitimacy of the global financial system (Josh Farley, 2022).

What happens when we can't make good on these embedded energy claims? Who will be the losers? After the 2008 crisis, it was the lower-income mortgage holders and general taxpayers who took the hit. As energy becomes scarcer and more expensive, how will the risks be allocated? If we fail to address people's needs at a rapid and inclusive scale (for example, by implementing a continent-wide equitable repurposing of vacant space), it will be the poorest citizens of Europe who suffer the most. Unless we can shift the relationship between how we finance real estate and its intrinsic value to society, initiatives aimed at repurposing space and retrofitting existing homes will remain marginal interventions.

Introducing the economic matrix framework

"Remember, always, that everything you know, and everything everyone knows, is only a model. Get your model out there where it can be viewed. Invite others to challenge your assumptions and add their own."

– Donella Meadows, Thinking in Systems

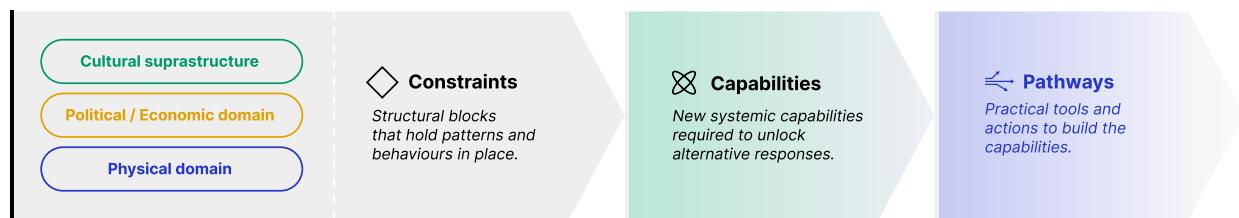
A combination of system dynamics, constraint filters and practical change initiatives can quickly become overwhelming. Our framework is intended to alleviate some of these difficulties, although we acknowledge that it involves an inevitable degree of

simplification and reductionist assumptions. We are aware of the irony of trying to illustrate complex systems by putting things into conceptual boxes. As such, the framework is intended to be held lightly, utilised as a flexible tool to add structure to complex ideas and discussions.

In designing the framework, we have drawn on the work of extraordinary thinkers from diverse disciplines, including Eric Beinhocker's [Ontological stack](#), Marvin Harris' [Cultural Materialism](#), [Daniel Schmachtenberger's](#) analysis of our political economy, the International Futures Forum's [3 Horizons model](#) and Donella Meadows' [Points to Intervene in a system](#). Their original work merits deeper exploration than the scope of this report allows.

Part 1 Framing our responses

The 3-by-3 grid below provides some prompts to think through how we can design responses to the different constraints, in the context of the systems we are working within.



On the vertical axis we have the different domains (or levels) of the system. There are three umbrella groupings which make it easier to visualise.

- The cultural suprastructure: this level relates to the values, wisdom, spirituality, ways of being and ways of knowing that are dominant in our culture. This domain results in the collective sense-making of what it means to live a good life and it is this value system that then shapes the political and economic structures below.
- Political and economic domains (governance and jurisprudence, finance and investment, market logic and ownership patterns): this group contains the institutions and processes that determine how we organise society. They provide the system's overall goals, rules, decision-making structures, patterns of behaviour and information flows.
- Physical domains (resource and land use): the physical domains represent the material and ecological economies and ground the socio-economic and

ontological domains in the systems' biophysical reality.

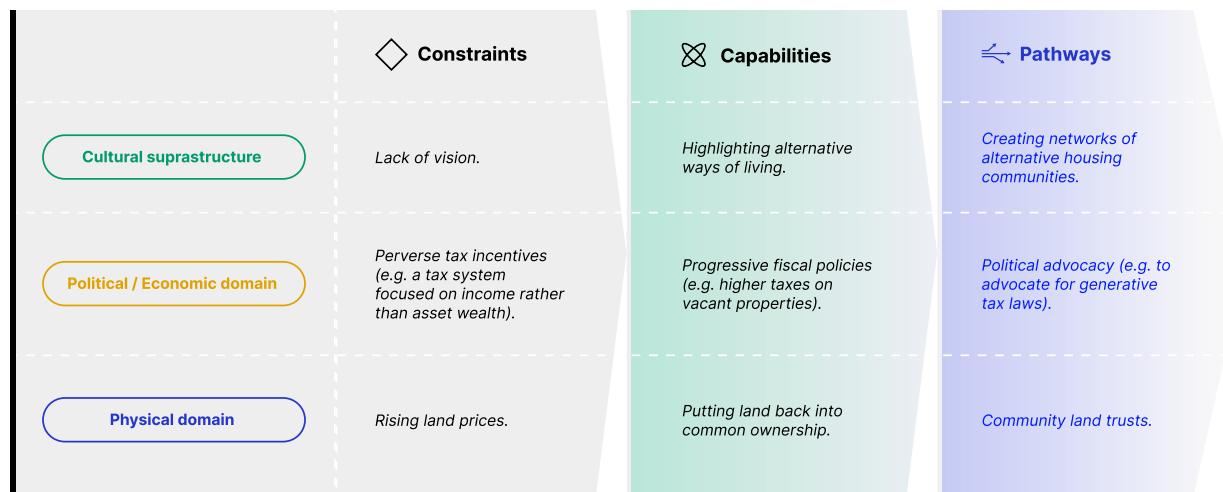
Across the horizontal axis we can identify specific constraints and responses.

- Constraints: these blocks can be viewed as physical (e.g. biodiversity, energy, labour and materials), structural (e.g. money creation, embedded inequality and private property rights) or psychological (e.g. failure of the imagination).
- Systemic capabilities: to address the structural blocks, we will need to create new capabilities in the system. Examples could include democratising money creation, embedding beyond GDP metrics in national policy, creating a new material economy or recognising land as a common asset.
- Pathways: these are the practical tools and pathways that can be used to start developing the systemic capabilities.

Once we have identified a constraint, we can use the matrix to think more granularly about the implications for a just transition. To bring this idea to life, we have worked through two potential strategies that were highlighted in Section 3.2

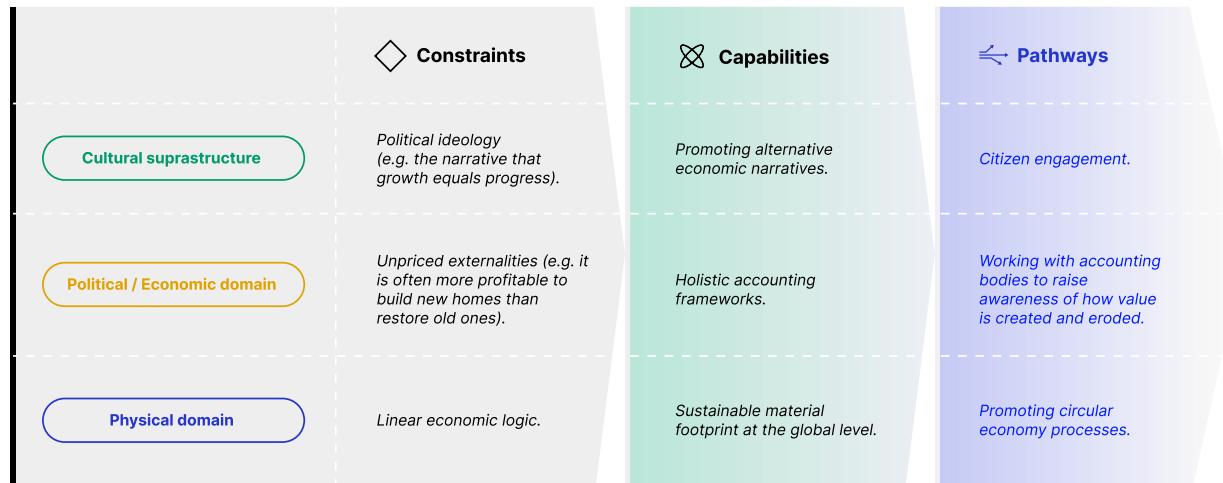
1. Consider a no-build or low-build future: *If we can't build the required volume of low-carbon homes, how can we intensify our use of existing ones?*

This strategy suggestion was driven primarily by physical constraints; i.e. intensifying pressures on energy and material resources. It was also however in consideration of inflated land and asset prices, which are excluding increasing numbers of people from home ownership.



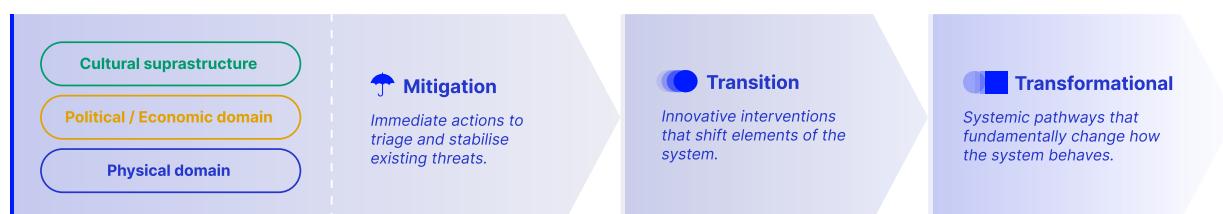
2. Embrace low-tech dematerialisation: *If we cannot feasibly mine or recycle the materials needed, how can we adapt the way that we use them?*

Reducing our material throughput cannot be left to individual choice alone, as people still have to live and operate in the existing system. Instead, we need to recognise the main factors that are holding a linear material economy in place, so that we can think practically about how they can be shifted.



Part 2 Visualising the response pathways over different time horizons

A second step that we find helpful in looking for response pathways, is to think about the desired capabilities over different timeframes. Some issues are immediately threatening and require rapid mitigation responses. Others will play out over the longer-term and invite us to think more tactically. Inspired by the [IFF's 3-Horizon model](#), we have begun to think about these time-bound responses in three tranches, that intersect vertically through the system domains as shown in the following matrix:



We have intentionally refrained from adding specific periods of time to the framework. This is because the response required in one geography at a specific point in time might be rapidly achievable, whilst the same response in another might need to be enacted over a period of several years.

Taking the example above of dematerialisation we can break the potential response pathways down by timeframe. For example, if we take the pathway of citizen engagement:

- A mitigation response to the cost of living and energy crisis might be to ask citizens to temporarily reduce their electricity consumption.
- A more transitional approach could be to introduce wide scale citizen assemblies to debate how to live better with less.
- A transformational pathway might be to work towards a new form of democracy where citizens' views on limited resource use are continuously consulted using digital technologies.

Or, if we are thinking about promoting a circular economy:

- An immediate response could be to provide easily accessible recycling facilities for household devices.
- An example of a transitional initiative can be seen in France where they have introduced an obsolescence law which requires manufacturers to comply with a repairability index (HOP, 2022).
- In terms of a transformational strategy we could start thinking about a planetary level governance mechanism for total material use to bring it back inside the earth's carrying capacity.

We do not believe that each type of response will intersect with every level of the system. In some triage situations for example, the appropriate response may be limited to an immediate governmental intervention, such as imposing lockdowns during the Covid-19 crisis. Furthermore, in categorising the pathways we are not attempting to create a hierarchy of responses, or to prioritise transformational pathways over mitigation tools. In our view, we will need to think and act over multiple timeframes using diverse system leverage points. Our goal with this framework is to probe the problem space, to try and make different elements of the system easier to visualise and interact with. We hope that by doing this we can begin to identify gaps in the existing response landscape, promoting flexible precision in the response pathways we choose to pursue.

4. Organisational mapping

In the previous chapter, we explored strategies to enable a just transition of Europe's built environment from a conceptual viewpoint. This approach is valuable in terms of understanding the depth and nuances of the transition challenges, but theories can only get us so far. Critically, there is a need to test our assumptions and conclusions in the messy and unpredictable reality of life if we are to offer anything more than our opinions. In this chapter, we shift our focus to the practical application of new economic thinking, addressing the second research question:

Which approaches intended to create greater social equity in the built environment generate the most effective climate mitigation and adaptation activities?

4.1 Research approach

While we might advocate for a low-build future in Europe, or for significantly reducing our reliance on traditional construction materials, we must also consider the entangled consequences. For example, what would this mean for an organisation urgently trying to provide shelter to climate refugees? How do we justly share our existing material and land assets and what are the fiscal incentives that could drive this? To achieve a just transition it is essential to actively involve citizens in the transition decisions that affect them. However, with the cost-of-living crisis and general political apathy, what kind of citizen engagement processes are appropriate? To start answering these questions, we mapped organisations working on the practical aspects of Europe's decarbonisation and inclusivity challenges. Our intention was to identify and categorise factors such as the differing theories of change, tactics, operational models, successes, challenges and collaborative opportunities.

Our starting point was the physical and structural constraints (discussed in Section 3) that we consider to be most dominant and problematic for the built environment's transition. From here, we were then able to start thinking about the new types of capabilities that would be vital in addressing them, positioning organisations as *capability building pathways* rather than as standalone innovators. An additional point to note is that while

we did consider the inclusivity of workers within the construction sector, our primary focus was on housing because of the disproportionate impact of the two themes (100% of Europe's citizens interact with housing versus 6.7% the workforce who are employed in the sector; Statista, 2023). For a robust analysis of the gender, LGBTQIA+ and social justice issues pertaining to the sector, we would recommend consulting publications from the Institute for Human Rights and Business (for example, their [Dignity by Design: Human Rights and the Built Environment Lifecycle](#) report; IHRB, 2019).

The research approach was designed from a constructivist perspective based on the central assumption '*that findings are literally created as the investigation proceeds*' (Bisman & Highfield, 2012). We were committed to planning and conducting the research in a respectful, inclusive and participatory spirit while acknowledging that '*democratic intentions do not obviate the need for thoughtful examination of the ethical implications of the research*' (Boser, 2006). In recognition of the need for active and continuous reflection we used the following as points of reference throughout the research process:

- Self-reflection on the personal values and presuppositions (particularly in relation to privilege, power and gender) that we hold and could impact on our approach.
- Awareness of the hierarchies, diversities of perspective and points of conflict that may exist within the community that we were engaging with.
- Appreciating the power structures and values that are embedded within the systems, institutions and geographical contexts that we were interacting with and within.

4.2 Landscape mapping: identifying innovative actors who are driving a new and just economy in Europe's built environment

4.2.1 Introducing two groups of innovation actors

During the active research phase of this work we were privileged to engage with many profoundly inspiring organisations. We cannot do justice to the diverse cultural contexts and geographical distribution of these initiatives within a single report, but we have created this interactive [linked pdf](#) of case studies which presents the landscape more fully. We would also acknowledge that, within the scope of this research project, we were unable to adequately consider the heterogeneity of cultural norms and behaviours that form the backbone of the housing landscape. Overall, the organisational mapping identified two broad groupings of actors as follows:

1. Core organisations: this group contains actors who are operating at the intersection of economic, ownership and governance issues, that specifically relate to land and buildings. We view these organisations as providing a central framework for the transition, as they vertically span multiple levels of the system and can provide a cohesive backbone for more peripheral activities. Examples include Community Land Trusts⁹ such as [CLT Brussels](#), cooperative housing networks such as [MOBA](#) in Central and Eastern Europe and [Sostre Civic](#) in Spain, and co-housing facilitators such as [Housing LAB](#), Italy and [Miethäusersyndikat](#) in Germany.
2. Adjacent organisations: although less obviously linked to inclusive land and building innovations, these actors are building the critical foundations and pathways towards scaled transition models. They are generally more focused in a single domain of the system, thus fusing deep expertise with innovative scalability. A good example of this type of actor is [Mobius](#) in France, who are improving the reuse of materials in the construction industry by sourcing and supplying reusable construction materials. Another would be the [GRI](#) (Global Reporting Initiative) who are developing a construction industry specific sector standard, as part of their 3-year pipeline.

Within these groups, there is a diverse range of models, tactics, theories of change and geographical impact. We have further categorised and delineated the actors in the maps and diagrams presented below to highlight the key areas of divergence and synergy. A table containing details of all the actors referenced in the maps is included in Appendix 2.

4.2.2 Core organisations

The quadrant diagram on the following page presents the core organisations that are shown in green on the map below, in relation to their scalability (system change versus demonstrators) and the extent to which they focus on decarbonisation. These actors are then further categorised into four functional subgroups as follows:

1. New economic demonstrators
2. Multi-build networks
3. New economic multipliers
4. Market makers and mediators

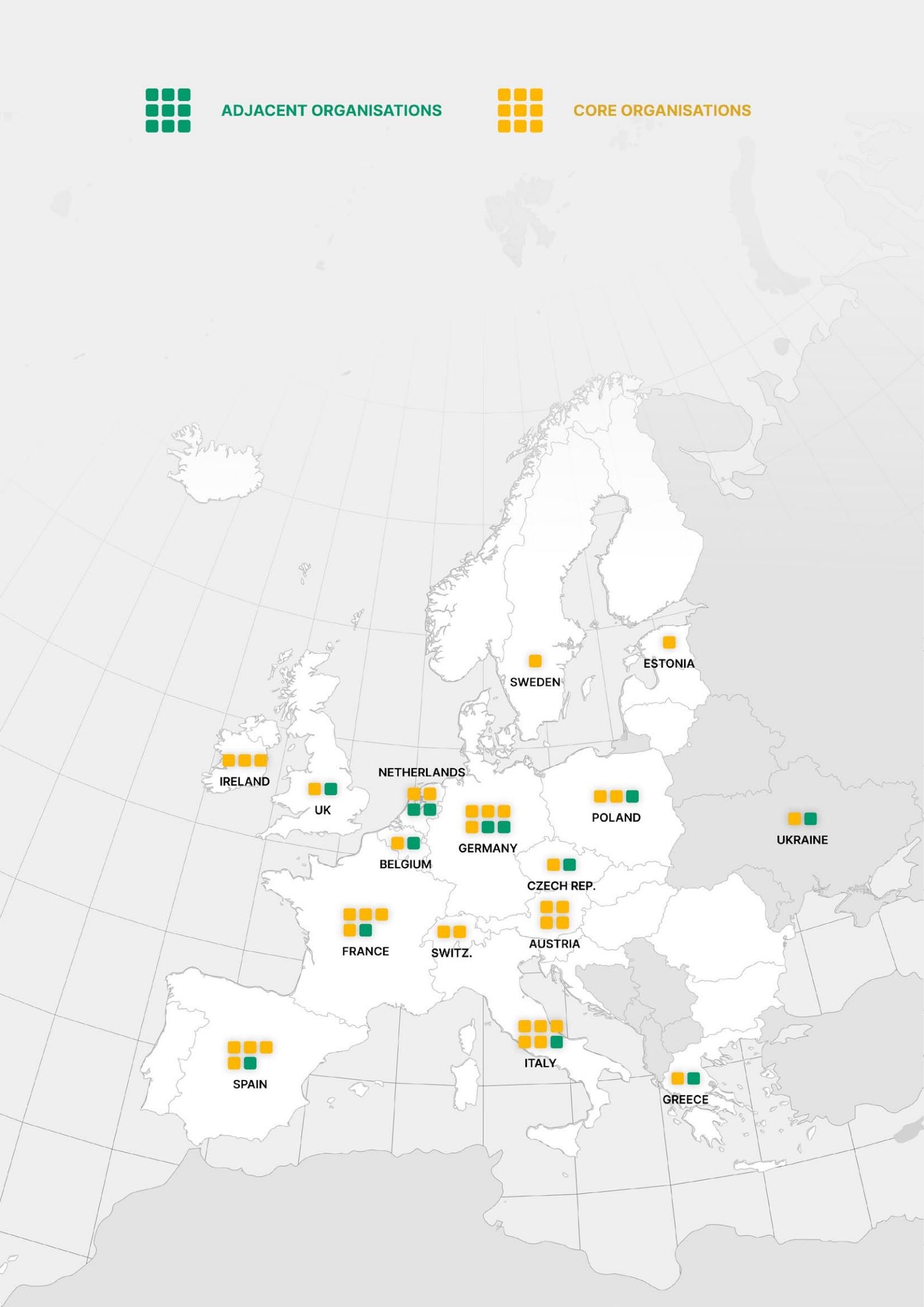
9. Community Land Trusts are not-for-profit organisations that own and develop land on behalf of the community. One key advantage is that land ownership is separated from building ownership enabling people to buy a home without purchasing land.



ADJACENT ORGANISATIONS



CORE ORGANISATIONS



LaDinamo

LaDinamo is a foundation that was born with the aim of encouraging and promoting the implementation of the transfer in use cooperative housing model, as an alternative to traditional ownership. They work across 3 spheres of influence: fostering and replication of the model, research and training.

SPAIN

coplink

Coplink is an association of housing cooperatives that promotes cooperative housing models. Their team has extensive non-profit experience in housing organisations and they became the first widespread housing networker in the country, allowing different coops to share experiences and scale their successes. They also represent the interests of community groups with politicians and other parties

NETHERLANDS

urbamonde

urbamonde is committed to working alongside inhabitants, urban professionals and public authorities to increase the share of collaborative housing locally and internationally. They provide technical support, resources and network building capacity.

GERMANY / FRANCE

SOSTRE CIVIC

Sostre Civic promotes the right to use housing concept as an alternative to traditional ownership, thus ensuring permanent affordability. They also incorporate sustainable construction and social innovation and have both ongoing and successfully completed housing projects.

SPAIN

Peter McVerry Trust

The Peter McVerry Trust is a national housing and homeless charity that transforms vacant properties into social housing. Besides finding empty property for people in need and providing loans for the repair, they also actively advocate for using vacant spaces on a systemic level. Their advocacy work has led to the inclusion of Empty Homes Pillar in Ireland's Housing & Homeless Strategy.

IRELAND

id22:

id22 is a multidisciplinary, civil-society organisation working with the theory and practice of achieving a post-growth, common-good, non-speculative urban landscape. They focus on self-organisation, community-led housing, co-housing, cooperatives, CLTs, community gardening, justice and democracy.

GERMANY

HOMES4ALL

Homes4All mobilises ethical investor capital towards regenerating vacant properties for social housing. It began as a project in Turin and has now evolved into a permanent enterprise.

ITALY

TORINO URBAN LAB

Urban Lab is a partner of the EU NETCO initiative (Network of Cities for Collaborative Housing), that aims to promote peer learning and exchange among city practitioners, citizens and organisations. They focus on collective housing models at the local level, as a long-term policy solution to multiple interconnected problems.

ITALY

HOUSING LAB

Housing Lab is a network of technicians and professionals who support the design and construction of cohousing projects in Italy (through community building, capacity building and service codesign). They also map the emerging movement across Italy.

ITALY

SYSTEM CHANGE



HABITAT PARTICIPATIF

FRANCE

Habitat Participatif is a nation-wide organisation that promotes cooperative housing and creates partnerships between government, NGOs and banks. They are responsible for the movement that sparked more than 900 cooperatives across France.

FRANCE

Kollektivhus NU

Kollektivhus NU is the leading association for cooperative housing in Sweden. The organisation has a long history but still is very active and influential today. They serve as a central node in the country-wide network of umbrella organisations, individual startups and small housing communities.

SWEDEN

AGENTUR StadtWohnen CHEMNITZ

StadtWohnen Chemnitz is an agency that coordinates between different stakeholders in the city (municipality, owners, investors, users) of Chemnitz, to renovate and repurpose vacant or underutilised buildings. They work in association with a city commissioned project (Cooperative forms of living in Chemnitz) to match people who are interested in cooperative living with suitable projects.

GERMANY

Self Organised Architecture

Self Organised Architecture is a research think tank enabling community lead housing in Ireland. The organisation promotes participatory, non speculative, affordable housing practices in Ireland. Its goal is to demonstrate that such processes have the potential for positive social transformation.

IRELAND

Mietshäuser Syndikat

Mietshäuser Syndikat is a self-organised housing association which, through a joint venture governance mechanism, enables a networked mutual support system between old and new housing projects. Each of the individual houses is set up and run as a limited liability company with the Mietshäuser Syndikat GmbH as a shareholder.

GERMANY

HOMERS COHOUSING FOR REAL

HOMERS is an organisation supporting co-housing projects in the identification and acquisition of property. They facilitate community building, planning, building permits and obtaining mortgages. They work to repurpose abandoned historic buildings to combine quality of life and innovation.

ITALY

EST KORTERIÜHISTUTE LIT

Eesti Korteriusitute Liit is an independent non-profit working across Estonia to support apartment associations and to represent their interests on local, national and international level. They support the development of cooperative housing through many levels of the process. For example, they have their own private school and they organise Baltic Housing Conferences.

ESTONIA

europian

europian is a bridge building organisation that connects projects and organisations to policy makers and planners across Europe. They identify best practice sustainable models and work to apply them to local communities.

AUSTRIA & ITALY

neuner IMMO

Neuner Immo connects the real estate industry with social organisations so that people affected by poverty can find affordable homes. They combine affordable housing with professional help.

AUSTRIA

O CUALANN COHOUSING ALLIANCE

O Cualann builds mixed developments of social and affordable housing where no owner has to spend more than 33% of their net household income on a mortgage. The cost of the homes is reduced mainly through local authorities supplying sites at little or no cost and waiving development levies.

IRELAND

The Cigüe is a self-managed cooperative for student management means that participative cooperatives are involved in their house within the Cigüe's overall structure. The central function is that cooperators through the in the decision-making

SWITZERLAND

NO G
AGE

Bright Green Future eco-developer, focused on zero carbon, future proof communities to live in standards and create that support each other

UK

Co-Haty



Co-Haty is a project led by 2 NGOs, in which they are using vacant buildings to retrofit them into social housing by the end of 2023. In addition, they are planning to use these buildings as system demonstrators for a new type of housing model in the Ukraine. The model is centred on cooperative and social housing and aims to advocate for more supportive laws.

UKRAINE

Entreprios



Entreprios is a small umbrella organisation similar to Sostre Civic. It has accomplished the creation of the first Right-to-use cooperative in Madrid. They have 3 buildings planned in total and 66 co-op members. Their project is based on the 3-pillars model: Social, Environmental and Economic.

SPAIN

Home Silk Road



Home Silk Road is a project run by Lyon Metropole City. It combines retrofitting for housing vulnerable groups in the central district, a modular construction model for interim housing, demolition waste reuse and employment opportunities within one construction site. It is part of the Urban Lab of Europe initiative.

FRANCE

Living For Future



Living For Future are building a housing project that spans the entire 100-year horizon (1/10/100 years.) The 1-year horizon stands for adaptation of ways of living based on seasonal change, 10-years is for changing in the living units and tenant structures, 100-years is for future climate change and transition. The association includes architects, an energy company and habitAT Austria.

AUSTRIA

H-BUURT



CLT H-Buurt was the first CLT model in the Netherlands and is now part of the European CLT Network.

NETHERLANDS

habitAT



habitAT has transferred the structures of the German 'Miethäuser Syndikat' into the legal framing in Austria. The main target of the network is to realise new self-managed and solidarity housing project initiatives, as well as to support existing projects.

AUSTRIA

la borda



la borda Cooperative d'habitation en cession d'usufruct

La Borda's main purpose is to provide decent, social, affordable and ecologically sustainable accommodation to the members of the cooperative and, at the same time, to promote intergenerational relationships and community integration. It is based on a 'grant-of-use' cooperative model and is a good example of cross-sectoral collaboration and sustainable building techniques.

SPAIN

Kalkbreite



Kalkbreite is a cooperative housing model that experiments with what they call the 'hall principle', where the majority of space is dedicated for flexible management which can be used either for events or for enlargement of some housing units. They are also combining commercial cooperative activities with residential units.

SWITZERLAND

OFSL
MÉTROPOLE LILLOISE
Organisme de foncier solidaire

The Organisme de Foncier Solidaire de la Métropole Lilloise (OFSM) is run in partnership with the City of Lille and governed by a balance of public and private members. The OFS buys land to keep it for the long term, thus the price of the housing units sold is decoupled from the value of land. The new (eligible) owners pay a small annual fee instead.

FRANCE

MOBA



MOBA is a networked cooperative housing model where the cooperative owns the real-estate and manages the loans to pay for its construction. Cooperative membership gives access to stable long term use of a unit with members contributing financially (on a monthly basis) and through participation (initial investment).

EASTERN EUROPE + SLOVAKIA

CLT GENT



Community Land Trust Gent enables the provision of high quality, energy efficient homes for people with a low to modest incomes. The land remains the property of the foundation, whereas homes are owned by the residents. Citizens who are eligible for social housing can register as candidate residents. The model guarantees permanent affordability.

BELGIUM

Sdilene Domky



Sdilene Domky is a network of houses providing its residents with affordable and community-based accommodation in collective ownership. The Czech model was inspired by the Miethäuser Syndikat and habitAT Austria.

*Part of the MOBA network

CZECH REPUBLIC

Stadtodenstiftung



Stadtodenstiftung is the first CLT in Berlin, where land and real estate properties have been rising significantly. They have transferred the Anglo-Saxon CLT model to the German context and work with the European CLT network. The organisation also engages in political debate about rights to land, ownership and affordable housing.

GERMANY

Gleis 21



Gleis 21 is a communal living project combining sustainable timber construction, democratic governance (Sociocracy) and an arts programme.

AUSTRIA

BACO



BACO Cobitare a Sud promotes and disseminates the co-housing model through stakeholder network creation. They provide events, training in the management of co-housing communities, help to search for properties, participatory co-design of spaces and technical support.

ITALY

CoHab Athens



CoHab Athens is an applied research project focused on co-housing and collaborative living in Athens. They provide research papers, workshops and events and are already in dialogue with MOBA.

GREECE

Habitat for Humanity



Habitat for Humanity Poland promotes cooperative housing solutions and helped to create a housing cooperative in the Warsaw area. They are involved in legislative processes aimed at introducing legal regulations that will facilitate the operation of cooperatives.

POLAND

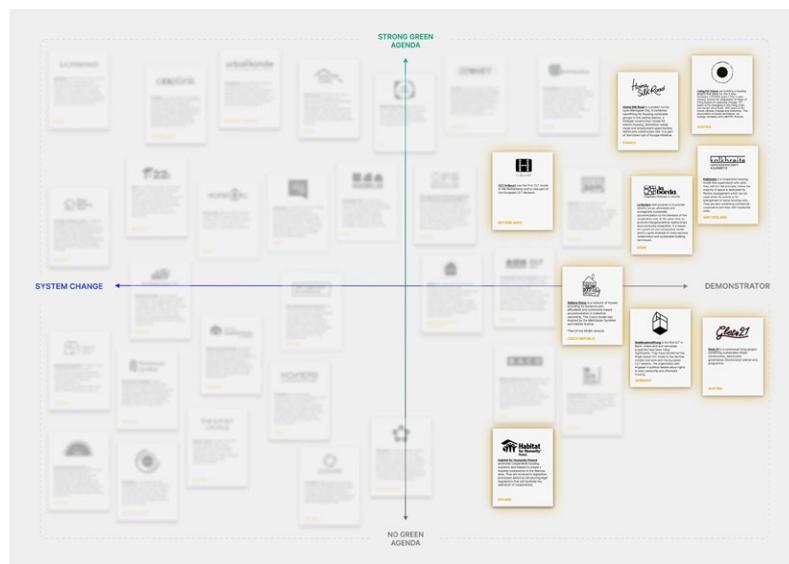
DEMONSTRATOR

1 – New economic demonstrators

This group contains niche organisations or multipliers who have developed a single (or small) number of housing projects. These system actors have deployed an innovative model that challenges the standard modes of housing and real estate development. New economic demonstrators show (predominantly at a local level) that change is possible. However, their impact is not significantly scaled or the principles behind the model are not yet embedded in the wider system. In our view, these types of actors are particularly important in emerging contexts where the existing innovation is scarce.

Strong examples in this group include:

- Home Silk Road: a multidisciplinary project run by Lyon Metropole City that combines retrofitting for housing vulnerable groups with modular construction, demolition waste reuse and employment opportunities, all within a single construction site.
- Living For Future: a housing project in Austria that is being developed to meet three transitional time horizons (1 /10/100 years).
- Stadtodenstiftung: the first CLT in Berlin promoting civil society led land management.
- La Borda: a Spanish cooperative based on a grant-of-use model¹⁰ providing affordable and ecologically sustainable accommodation. They also promote intergenerational relationships and community integration.



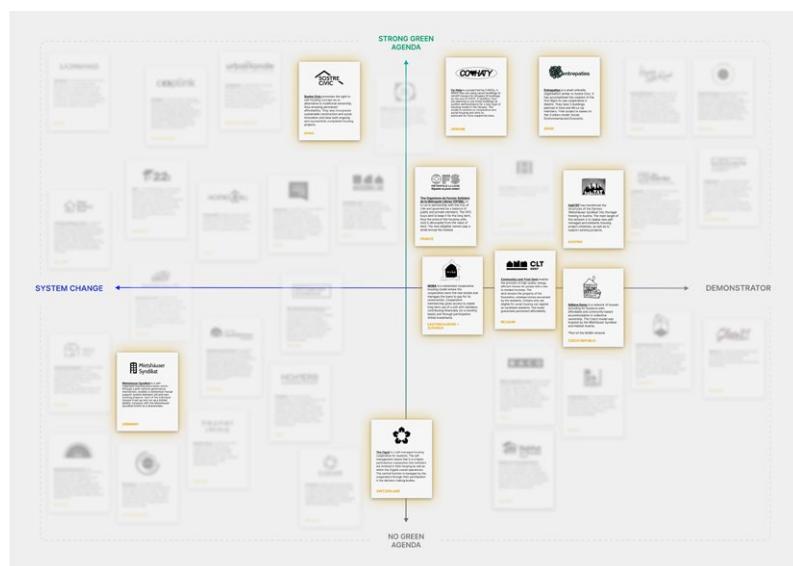
10. Use is personal but ownership is collective. Residents have the status of cooperative partners and can live there for life but cannot sell or rent their units.

2 – Multi-build networks

Using their core model (relating to land, governance and ownership) these organisations initiate multiple housing projects across a geography. A central feature of their theory of change is that they unite and support multiple smaller actors under one governance scheme.

Interesting actors in this group include:

- [**Sostre Civic**](#): a Catalonian association that promotes the right to use housing concept¹¹ as an alternative to traditional ownership, thus ensuring permanent affordability. They also incorporate sustainable construction and social innovation.
- [**Entrepatrios**](#): a small umbrella organisation similar to Sostre Civic based in Madrid.
- [**MOBA**](#): a networked cooperative housing model across Central and Eastern Europe. The cooperative owns the real estate and manages the loans to pay for its construction. Cooperative membership gives access to stable long term use of a unit, with members contributing financially (on a monthly basis) and through participation (initial investment).
- [**Mietshäuser Syndikat**](#): a self-organised housing association which through a joint venture governance mechanism, enables a networked mutual support system between old and new housing projects in Germany.
- [**habiTAT Austria**](#) and [**Sdilene Domy**](#): using a similar model to 'Mietshäuser Syndikat' these organisations have transferred the concept to be legally compliant in Austria and the Czech Republic.



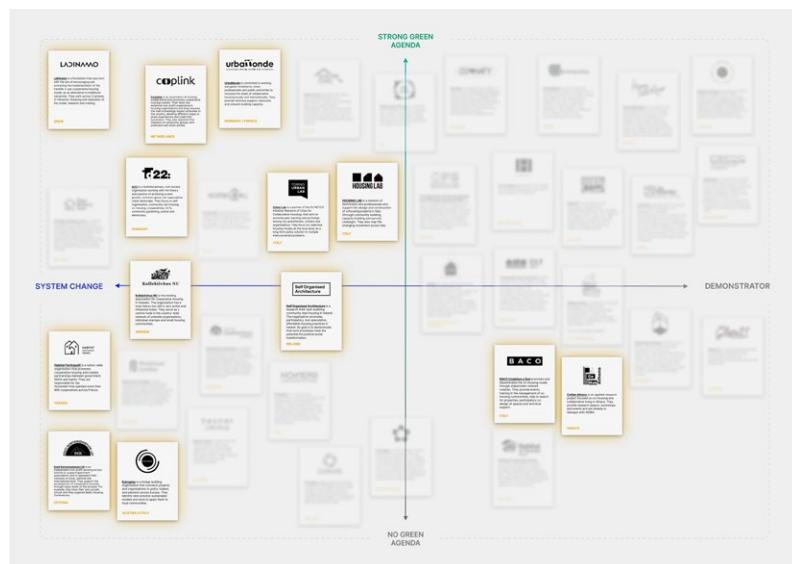
¹¹. Right to use grants residents a lifetime right to a stable home in exchange for a moderate monthly fee.

3 – New economic thinking amplifiers

This group of organisations do not manifest tangible outcomes in the built environment, but significantly contribute to the new economic thinking within it. The cluster includes organisations that work with elements such as policy advocacy and law, thus contributing to the potential for national scale system change.

Prominent actors within this group include:

- Ladinamo: a Spanish foundation that supports the implementation of the *transfer-in-use* cooperative housing model¹², as an alternative to traditional ownership. They work across three spheres of influence (fostering and replication of the model, research and training).
- CoopLink: an association that works as a knowledge-based networker in the Netherlands. They also represent the interests of community groups with politicians and other parties.
- ID22: a multidisciplinary, civil-society organisation working with the theory and practice of achieving a post-growth, common-good, non-speculative urban landscape.
- Self Organised Architecture: a research think tank enabling community led housing in Ireland.
- Housing Lab: a network of technicians and professionals who support the design and construction of cohousing projects in Italy;
- CoHab Athens: an applied research project focused on cohousing and collaborative living in Athens.



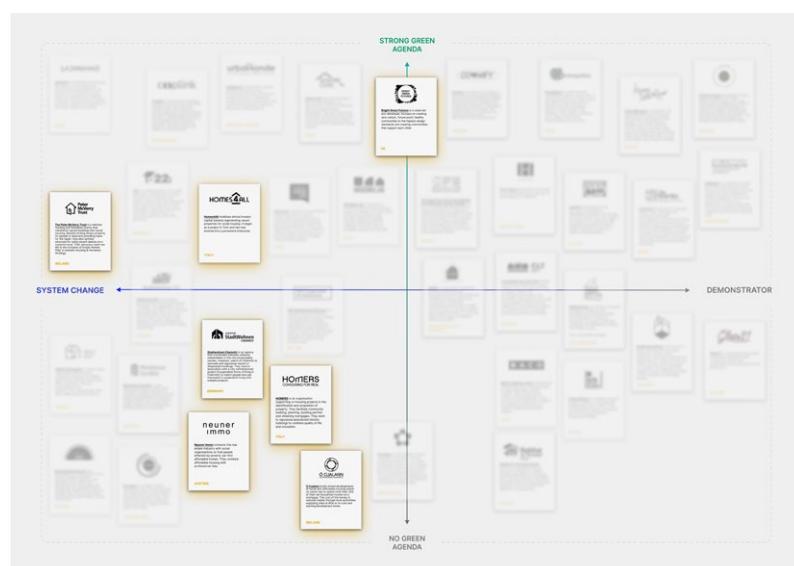
12. This is based on five core principles including the absence of profit, collective property ownership, self-management and social inclusiveness.

4 – Market makers and mediators

These organisations innovate within and around more traditional market structures. They include industry actors working towards social inclusion, city coordination agencies, collaborations between real estate actors, social housing providers and high-profile charities driving national policy change to open up the market.

Innovative actors in this group include:

- [**Peter McVerry Trust**](#): a national housing and homeless charity that transforms vacant buildings into social housing. Besides finding empty property for people in need and providing loans for repairs, they also advocate for using vacant spaces on a systemic level. Their advocacy work has led to the inclusion of the Empty Homes Pillar in Ireland's Housing and Homeless Strategy (Housing Solutions Platform, 2019).
- [**Neuner Immo**](#): an organisation that connects the real estate industry with social organisations so that people affected by poverty can find affordable homes. They combine affordable housing with professional help (e.g. as a partner of Erste Bank's [**Social Housing Initiative**](#)).
- [**Stadtwohnen Chemnitz**](#): an agency that coordinates between different stakeholders (for example, municipality, owners, investors and users) in the German city of Chemnitz to renovate and repurpose vacant or dilapidated building
- [**Bright Green Futures**](#): a value led eco-developer, focused on creating zero carbon, future proof and supportive communities.
- [**Homes4All**](#): a start-up mobilising ethical investor capital towards regenerating vacant properties for social housing.



4.2.3. Adjacent pathway organisations

The quadrant diagram on the following page presents the adjacent organisations (represented in yellow on the map below). The organisations provide essential support functions to the core models discussed previously. They have been grouped into five functions:

- Economic interventions;
- Civic engagement;
- Policy advocacy;
- Research;
- Circularity.

Promising examples identified under each sub-category are as follows:

Economic interventions

- [GRI](#): a global sustainability standard setter who are developing a construction industry specific standard, which presents a good opportunity to research current practices in the sector.
- [Positive Money](#): an organisation campaigning to unlock finance for socially inclusive and energy efficient homes.

Civic engagement

- [Civocracy](#): a consultancy that supports cities and regions to develop meaningful citizen engagement processes and build political will. Their citizen-engagement projects are wide-reaching and help to explore the opportunities and barriers for urban transition. For example, they have recently worked with the City of Lyon to host a citizen debate on the city's overall strategy to address climate change.

Political advocacy

- [CoopTechHub](#): a Polish cooperative working to reignite cooperativism in the region through digitalisation, research and advocacy.

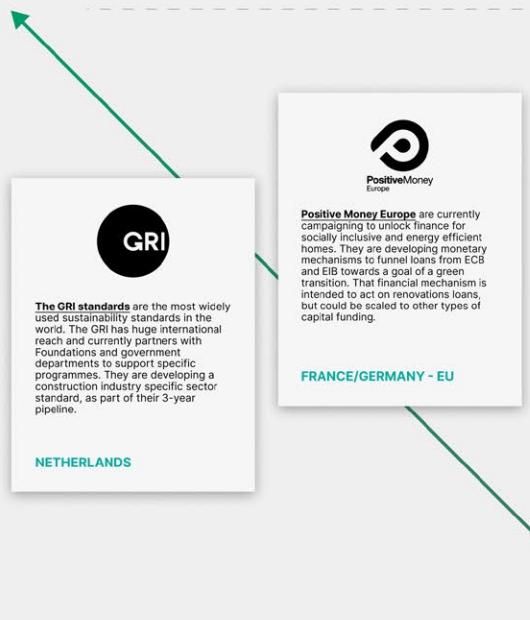
Research

- 300,000 Km/s: a Spanish organisation that helps governments and municipalities to work towards more inclusive and prosperous societies, via data-science based projects and policy advocacy. They are in the process of developing an Affordable Housing Atlas and plan to create a database of affordable housing good practices from around the world.
- Co-Lab Research: a knowledge hub for collaborative housing in the Netherlands.

Circularity

- Brda: a Polish cooperative focused on the reuse of recycled materials and circularity through projects, research and advocacy, workshops with citizens and competitions.
- Rotor DC: a cooperative in Belgium that organises the reuse of construction materials. They dismantle, process and trade salvaged building components.
- Mobius: a French organisation supporting material reuse in the construction industry by providing advice, sourcing and supplying reusable construction materials.

ECONOMIC INTERVENTIONS



RESEARCH



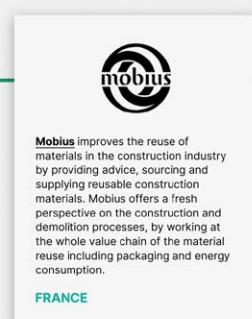
CIVIC ENGAGEMENT



Civico supports democratic, transparent processes and builds citizen engagement, reaching and helping opportunities and life transition. For example, we will host a citizen debate overall strategy to change.

FRANCE / GERMANY

**CO
ORGANISATION**



5. Insights and potential funding strategies

In Section 4, we highlighted some inspiring examples of actors innovating in the social and ecological spaces of Europe's built environment transition. While these sparks of potential should be celebrated and bolstered, we must also challenge ourselves to recognise and lean into the strategic gaps between them. If we want to move from lifeboats and beautiful exceptions to enduring social and spatial justice, we cannot allow ourselves to become complacent.

5.1. A critical analysis of the existing innovation landscape

Collaborative housing: beautiful exceptions or a realistic pathway to scalable housing inclusivity?

When we think about collaborative housing models, we generally refer to collectively owned, democratically run organisations that are designed to meet a common need. In the examples of Sostre Civic and MOBA, these values are central, but there are some additional design principles that neatly transcend extractive and speculative real estate models. The first is the idea of *collective ownership* where the cooperative remains the owner of the property indefinitely, thereby making it impossible for members to profit from selling or renting their individual units. The second relates to the concept of *the right to use* which grants residents a lifetime right to a stable home in exchange for a moderate monthly fee. As the fee is determined by the shared costs of the cooperative rather than market prices, they remain stable irrespective of real estate market fluctuations.

These types of organisations present strong alternative models to create affordable housing, with the potential to spread across different countries and to both urban and rural contexts. A bold illustration from Ukraine is Metalab's [Co-Haty](#) project, which is currently retrofitting and repurposing vacant properties for war refugees,

with the longer term goal of developing a cooperative housing network. Despite this potential, our dialogues with actors spanning the European region exposed some interesting challenges to this theory of change. For example, how feasible or attractive is a collaborative living set up if you come from a minority or vulnerable group? How exactly could these types of models be financially scaled in less supportive political or banking contexts? What are the cultural norms that might encourage or impede the uptake of cooperative models in certain countries?

During our conversations with [CoopTechHub](#) from Poland, we began to appreciate how a lack of trust in the general model of cooperativism can be a barrier to their use as a viable economic model. In their view, one reason for this distrust in Poland is the historical context of the country's communist past and the subsequent transformation to a capitalist market society in the 1990s. In the post-war period, cooperatives operated under a central planning model that essentially stripped them of the principles of self-governance. Later, during the years of economic 'shock therapy', fiscal disincentives (for example, new taxes preventing wage rises in the public or cooperative sector) further eroded the legitimacy of the cooperative model (Prospect Journal, 2010). In Poland today, cooperatives are widely viewed as the 'cooperatives of the poor'; social organisations for people with disabilities rather than active market players. In their work, CoopTechHub are aiming to reframe this narrative and ignite a new model of digital cooperativism in the real economy, through a combination of digitization, research and advocacy. This work is demanding and opaque in terms of tangible outcomes, yet it seems an essential component to any wide scale uptake of cooperative housing models in the region.

While there are no one-size-fits-all solutions to collaborative housing, the cooperative model does provide a robust, non-extractive alternative to traditional private property ownership patterns. This feels like a solid base to work from, but even the strongest core models do not operate in a vacuum. If our goal is to amplify an inclusive and regenerative built environment, then we must also consider the auxiliary functions that make them operationally possible. Finance is an obvious example because it provides the lifeblood for any type of development. In countries with a strong history of collaborative housing, obtaining commercial funding is a viable pathway, but what are the options in less sympathetic environments? Philanthropy could offer a possible route but the scale of transformation needed makes providing scaled capital support unrealistic. One organisation working to address this issue (and referenced in Section 4.2.2) is [Positive Money Europe](#), which is currently campaigning for banks to play their part in Europe's green transition. Its core tactics are to repurpose existing institutions and processes (such as the European Central Bank's low or negative interest refinancing options for commercial banks), to enable wide-scale building renovations across the EU (Positive Money, 2021). Although the proposed intervention is intended to act on

renovation loans it could be scaled to other types of capital funding, thus creating critical pathways for collaborative models in less supportive political contexts.¹³

Even if the funding for sustainable renovations can be democratically unlocked, procuring the necessary materials throws up its own set of challenges. When we talk about retrofitting, we are generally referring to insulating against the cold. But for many poorer countries in Europe, the issue is in fact mitigating against heat. Fuel poverty is a well-publicised social problem, but what about the inclusivity of heat regulation? If energy prices remain high while temperatures continue to rise, vulnerable communities will need urgent alternatives to air conditioning. One innovative response is being developed by [JustNature](#) (a collaboration between the University of Malta and the city of Gzira), which is experimenting with green roofs and walls to reduce the summer heat pressure and expedite carbon capture. Another issue affecting both new builds and refurbishments, is the intersection of the deepening global material crisis with the physical destruction of war. The scale of the reconstruction necessary is humbling. While there are glimmers of hope (such as [Brda](#) in Poland who have been sending used windows to Ukraine and are now creating a registry of reusable materials), the need for an alternative and **inclusive** material infrastructure is profound.

Building a vision: is the current state of our collective imagination both dangerous and regressive?

Mark Carney has described the climate crisis as a ‘tragedy of the horizon’ (Carney, 2021, p. 7). A type of coordination failure on a global scale, that seems equally applicable to the current inadequate trajectory of Europe’s green transition. This is a true tragedy in the literary sense of the word; a disastrous event with mitigations and solutions that we seemingly cannot bring ourselves to enact. The classic example of such a self-induced trap is the tragedy of the commons. Although debunked by Elinor Ostrom at a local level (Ostrom, 2009), unfortunately it seems to hold true in the global context (carbon emissions, rare mineral mining for batteries, etc.). This has serious implications for a just transition in Europe, because decarbonising individual cities or countries will be ineffectual if these trends continue to play out and we do not foster alternative cultural attractors. If we can’t solve any of the individual problems (e.g. continent-wide retrofitting or repurposing of vacant space) without solving all of the linked problems (e.g. inclusive financing mechanisms), then it is critical that we begin looking for actors who can play meaningful orchestration roles.

It seems likely that this collective action impasse is closely bound to a failure of the imagination. Without a clear vision for a different future in practical terms, the

13. Positive Money’s [Unlock Campaign](#) is focused on unlocking both private and public financing.

motivation to push for political change is severely dampened and business as usual prevails. This is a challenge taken up by the team at [Civocracy](#) who are supporting cities to develop meaningful citizen engagement processes. Their work is interwoven with many of the barriers and opportunities highlighted above, because in both cases strong local civic support will be needed to shift and repattern entrenched behaviours. A brilliant illustration of this kind of repatterning pathway can be seen in Athens, where [Curing the Limbo](#) are creating new models for cities and refugees to coexist and thrive, through the linked provision of language lessons, retraining and affordable housing.

Is there potential for community-industry models to catalyse positive competitive disruption?

The organisational mapping of actors in relation to new economic thinking in Europe's built environment revealed a gap in industry-driven inclusive models. The examples we found were often innovative but lacked the potential to shift market incentives or provide routes to inclusive scalability. Two examples are as follows:

- [Bright Green Futures](#) (referenced above in Section 4.2.2 – Market Makers and Mediators) is a value-led eco-developer that aims to create supportive communities. The organisation provides watertight shells for purchasers to self-finish and the plots are arranged on sites which include shared facilities such as communal gardens. Its business model takes on the upfront risk of financing and planning and can expedite the implementation of collaborative housing schemes. In its current form, however, this model remains relatively exclusive, due to the high costs of buying a unit and the small and oversubscribed scale of each development. The plots need to be sold at market rates for the business to remain viable, which means the pool of people able to self-select into such a scheme is very limited. Despite this, the use of private finance to develop housing with communal living and decarbonisation at its core is interesting. The developer is already looking at the potential to access public funding to enable an element of affordable housing to be incorporated into future schemes. We would challenge whether this can be taken further, linking new developments to community land trusts or other perpetual affordability models.
- [Kingfisher Plc](#) is a multinational home-improvement business, including brands such as Screwfix, Brico Depot and B&Q. The Group has a commitment to help two million people with housing needs across Europe by 2025, supporting charities to deliver projects ranging from essential home repairs to DIY training programmes. This is an impressive commitment and many of the projects it supports are focused on improving social inclusion (for example, a project in France is teaching DIY skills to socially isolated people in remote communities), but the model of delivery

remains rooted in a business-as-usual approach. Kingfisher is a purpose-driven organisation, which is commendable. However, the resources it provides are entirely at its discretion and dependent on the profitability of their core business, which is decoupled from the inclusivity outcomes it advocates.

These examples raise some challenging questions. For example, are profit-driven industry actors structurally able to centre meaningful social inclusion in their business models? If industry is intrinsically better aligned with green innovation, then should it focus on driving this capability rather than trying to adapt its core models towards social inclusion?

There are no easy answers but in our view it is important to acknowledge these deep structural limitations and consider alternative pathways. Perhaps, instead of trying to encourage (for example, via voluntary disclosures) or coerce (via legislation) socially inclusive behaviours, we should accept the fundamental divergence in motivations and focus on strengthening civic-industry partnerships. If all parties can work towards goals that naturally complement their values, legal requirements and funding structures while remaining bound by a common mission, the potential for transformative change is likely to increase.

Some strong examples of these types of plural-motive models and multidisciplinary projects are as follows:

- The city coordination agency, Stadtwohnen Chemnitz in Germany (referenced in Section 4.2.2 - Market Makers and Mediators) is a good example of a private actor playing a coordination role between diverse stakeholders, renovating and repurposing vacant or dilapidated buildings. As well as proactively approaching landlords of empty properties and brokering commercial deals, the agency also works in association with a city-commissioned project (Cooperative Living Chemnitz) to match people who are interested in cooperative living with suitable developments. In their wider network, the agency is part of the [ALT/BAU Transfer Network](#), which focuses on transferring knowledge about repurposing decaying building stock in central and historical districts of Europe. The network includes partners from seven European cities, including Rybnik in Poland and Constanta in Romania.
- [Co-Hope](#) is a multi-city and transdisciplinary project funded by JPI Urban Europe. The initiative aims to explore collaborative housing as a model to address the three interconnected issues of affordability, integration and health, attracting diverse actors to participate. This set-up echoes the goal of [Neuner Immo](#) (referenced in Section 4.2.2 – Net Amplifiers), which develops collaborative housing as an anchor point, around which other commercial and social services can be clustered.

5.2 Building the network: Strategies to support, amplify and connect innovative organisations operating within Europe's built environment

To take this work forward, it is important to first step back and think strategically about the pathways and tools that we have begun to map (both nascent and established), together with those that still need to be built. This requires asking some hard-yet-essential questions and boldly challenging the landscapes of existing innovation, highlighting the gap that is emerging between even the most inspiring initiatives and society's future needs. What is the potential for radical collaboration and evolution? Where are the weaknesses, gaps and bottlenecks? How are these efforts being bolstered or restricted by the existing funding networks? Given the nascent state of many of the actors, is there an implicit need for a network of networks similar to that provided by [Built by Nature?](#)

Inviting the discovery of a more regenerative and inclusive future

The gaps and inadequacies in the more intangible aspects of our political economy have been surfacing with increasing frequency across many aspects of our work. Despite this initiative being focused on the specific context of Europe's built environment, some institutional and social intelligence gaps are pervasive across all sectors. We have started to think about these insufficiencies in terms of three strategic themes.

1. **A new cultural logic:** in our view, the current cultural logic for how we share and use assets and spaces in our cities is outdated and unjust. In the future, how can we think about creating a new *Use-Justice Economy*, to unlock fundamentally different ways of coexisting in Europe's built environment? The melting pot of our physical constraints and social thermodynamics is forging a new political landscape that we are ill-equipped to navigate. We must begin to construct inclusive, everyday politics for a post-abundant yet just society. This could be initiated by using mission-oriented innovation policies¹⁴ to design and test new generative public engagement processes, together with facilitating the R&D required to support and evolve them.
2. **An interconnected understanding of civic value:** the dominant economic theory of value is stifling appropriate adaptation and mitigation responses.

14. The UCL Institute for Innovation and Public Purpose is widely credited with putting missions at the heart of innovation and policy in Europe (UCL, 2017).

Outdated accounting frameworks are no longer capable of capturing and presenting the intangible value of buildings and land (for example, the reduced levels of depression that are associated with co-housing models). They also ignore many of the associated risks and liabilities (such as the negative shared impacts on air quality of privately owned vehicles). In reality, there are entire classes of assets that are missing from our investment and scenario plans. Why, for example, are intangible public assets like preventive health still considered as a cost rather than an investment in governmental budgets? It is apparent that the accounting, legal and investment frameworks of a just future are missing, while the existing versions will become increasingly obsolete as the constraint pressures escalate.

3. **Next generation institutions:** throughout this research project a constant refrain has been, 'Yes but..' How will many of the pathways that we recommend be given the legitimacy and teeth to be impactful at the city, region or country level? There is a clear need for an entire suite of next generation institutions that are agile, multidisciplinary governance and decision-making vehicles, capable of building strategies and responses for the years of transition and beyond. Examples might include city land trusts (to collectively own and regulate the real estate prices), public-city banks (to receive and allocate funding on behalf of the citizens) or carbon and material city guardians (to measure and regulate the use of limited resources).

People who live in glass houses shouldn't throw stones

It is very easy to sit behind a screen, talking and writing about the opportunities and challenges of a just transition. Yet what would our response be if we were to be held to account? If Laudes and Dark Matter Labs were granted carte blanche over EU decision-making for a day, what policies or interventions would we introduce? If we were asked to play an orchestration role in coordinating the transition landscape, how would we proceed?

In reality, any strategy is restricted by the quality of the inputs that shape it. From our perspective, if we had the required resources and authority, we would seek to rapidly increase the number and diversity of people who are able to interact with the problem space. Many people have an intuition of what could and probably should be happening, but having the time or resources to engage deeply with such ideas is a privilege reserved for the minority. We are well aware that projects such as this one are well-intentioned but inadequate contributions. In our view, socialising the constraints and required response strategies, together with actively engaging

citizens from across Europe in their design, is an absolute priority. If we had the agency, we would co-create a playbook for the future – a *break the glass in case of emergency* set of policies – designed by the citizens of Europe for our shared urban futures.

The evolving funding landscape: Opening a space for collaborative dialogue

From a funding standpoint, our instinct is that any collectively intelligent response could and should include varied and co-existing approaches. If we start from a constraints perspective, then broaden it to include an ecosystem of desired outcomes, there is the potential to build coherence across the system without limiting the scope of imaginative possibility. It seems likely that there are areas of interest, geographical points of focus or thematic investments that can be interwoven to support the overall transition. Perhaps by collating narratives, ideas, case studies and conversations, we can encourage new connections to form that are beyond our current perception. It feels important that we move beyond conversations about distributed power, to open space for aspects such as the equity and inclusivity of who is included. In our experience, there is a delicate balance between the desire to be regenerative by design and the constrictive arrogance that can be contained within that aspiration. This is a point of tension that deserves respect, without surrendering individual agency or accountability.

Encouragingly, we have recently observed an increased appetite among funders to discuss and coordinate their strategies. This is an exciting and emerging area of our wider work and is explored in depth in our *BeyondTheRules* publications (for example, in this [grantmaking provocation](#)). At this point, however, it is important to acknowledge that Laudes Foundation (and many other funders that we interact with) already have deeply thoughtful and considered strategies in place.

The following groupings and ideas are offered as prompts for further discussion and reflection:

1. **Horizontal knowledge networks:** how can we think about building the deep expertise to reimagine core components of the built environment? An example would be Community Land Trusts which have the potential to fundamentally change the unjust economic logic of land speculation. What kind of legislative changes will be needed across different geographies to support their wider uptake? How can we ensure that they are not co-opted or exploited in the future? Will we need new accounting methodologies to represent their holistic value?

In 2022, the [Young Foundation](#) partnered with the [Community Land Trust \(CLT\) Network](#) to bring together a group of researchers, to highlight barriers and opportunities in relation to diversity and inclusion in the CLT movement. A similar idea would be to analyse international best practice to identify existing and potential future pathway gaps. For example, a strong collaboration might be between [Grounded Solutions Network in the US](#), [Community Land Scotland](#) and a university research team.

2. **Moving from new economic demonstrators to full system demonstrators:** system demonstrators intersect at multiple levels of the system, from mapping available land to designing new forms of finance or advocacy, thereby shifting the boundaries of political possibility. If we think about eliminating vacant space in cities, what kind of actors would be needed to create viable operational models? How could they be replicated or adapted for varied geographies and contexts? How can we ensure robust knowledge sharing is built into their blueprint?

We conceive a system demonstrator to represent four intersecting elements:

- a. The physical, tangible demonstration of a new way of organising. For example, innovative multipurpose space use in a central district.
- b. The system innovations that service it, such as holistic, multi-value business plans and care agreements (as opposed to transactional contracts).
- c. The market making infrastructure that will enable scaling (e.g. [public-commons institutions](#) or inclusive planning laws).
- d. The cultural conversations that are necessary to expand the Overton window and shift market dynamics.

The coordination of these different threads is nuanced and complex. The space for creative divergence needs to be balanced with supportive, committed orchestration to drive the overall mission forwards. This is a critical area of collective capability which we believe will only be realised via deeply rooted place-based experimentation, combined with the development of technical tools and institutional reforms.

Laudes Foundation currently supports some specific new economic demonstrator projects, such as the [EU Cinco collaboration](#), which is showcasing projects for bio-based and circular construction in Madrid and Milan. In the

future, could connecting demonstrators involved in different scales and contexts help to amplify alternative visions?

3. **Coordination / orchestration hubs:** there is a vital requirement for actors who can play system facilitation roles in the built environment. Developing system capabilities is deep, complex work with infinite unfolding directions and feedback loops. It requires that we reimagine our networks of governance. How can we begin designing and testing new types of highly agile institutions and equitable decision-making processes for the sector?

For example, could cities with strong administrative innovation capacity (e.g. [Amsterdam's Innovation Unit](#) or [Chemnitz](#) in Germany) facilitate and support hubs in emerging locations (e.g. [EKUL](#) in Estonia or [Restart Ukraine](#))? Similar existing examples are the [EU EUBACT](#) that supports cities to coordinate and share knowledge and the [ALT/BAU Transfer Network](#) (referenced in Section 5.1) that connects cities to activate unused and decaying housing stock.

4. **Distributed communities of practice and geographical hubs:** is there an opportunity to focus on core organisations who are centred on the inclusivity of ownership (for example, CLTs and shared equity models) and support them in making the pathways for their operations and scaling (such as materials, governance, media, finance and policy) more inclusive and regenerative? One example could address the inclusivity of materials used in retrofitting. Another could explore whether nature-based solutions can improve the outcomes for low-income groups in hot countries by reducing the costs of cooling and can make the buildings more sustainable through carbon capture. A cooperative housing network such as [MOBA](#) could potentially collaborate with an organisation in the same region (such as [Brda](#) in Poland) to improve the equitable and regenerative elements of their material procurement processes. In some cases, this network could be enabled across contexts as a distributed community of practice. In others, a geographical capability hub might be more effective. In both cases, the goal would be to strengthen or create the support pathways necessary for inclusive and regenerative scaling of the anchor model.

Organisations who create these pathways could be supported individually, on the assumption that they will be needed for the future development and scaling of any collaborative housing models (including those that do not exist yet). These *foundational pathway organisations* could be clustered by theme, addressing specific constraints, or by leverage points in the system, such as the inclusive financing models.

6. Conclusions

This research project has focused on the actors and models that are catalysing a just transition in Europe's built environment. However, any conclusions must also be clearly framed in the context of Laudes Foundation's overall mission. Many of the identified examples and sparks of potential are rooted in community-led action. While this is not entirely unexpected, it does invite us to think imaginatively about what '*brave action to inspire and challenge industry to harness its power for good*'¹⁵ could mean if it was centred on housing inclusivity.

At this pivotal juncture, we must question what it means to live in '*right relationship*' both with each other and with our planetary home. We see industry and business as forms of human response to the infinite and evolving questions that define what it is to be alive. If the construction industry is to find its authentic place in a regenerative and equitable future, then it may involve challenging the very core of its identity. Perhaps the question should not be 'How can industry act as a force for good' and instead 'How can the businesses within it understand themselves as global organisms and respond accordingly?' Proactively challenging such a powerful identity would necessitate profound bravery. It would involve seeking and developing diverse perspectives and deliberately de-centering industry from its own transitional response. The generative potential of such action is formidable. If value is understood to be intrinsically pluralistic and reciprocal in nature, then transformative partnerships, alliances and networks can replace competition as a primary driver for innovation.

This research has identified small but definitive shifts towards a new community-and-industry framing of inclusive success. Cultivating this nascent energy feels essential and exciting yet laced with fragility. We are deeply attached to our personal and group identities. When they are challenged, especially during times of uncertainty, these allegiances are often exaggerated. Laudes Foundation's own theory of change is comprehensive and speaks eloquently to many of the points raised, including cultivating alliances, amplifying narratives and redefining value. The addition of *reimagining identities* in the built environment would further strengthen this theory.

¹⁵ Stated as Laudes's overall mission on the [Strategy Page](#) of their website.

A practical first step could be to leverage networking events that convene industry and civic actors, beginning to explore the relational and psychological blocks to a transformative and just transition response.

Suggested areas for future research and focus

Spanning multiple geographies, this initiative has delved into diverse political and social contexts. In this respect it is challenging to draw coherent conclusions, but the following table summarises nine focal themes that we consider pivotal to a just and regenerative transition.

Conclusion / prompt	Strategic implication	Examples of existing pathways
Constraints: The physical and social constraints that define the built environment are intensifying.	We must embrace the reality of a post-abundant economy and work to achieve spatial justice in new ways.	Vacant space use: progressive initiatives and models which reclaim and repurpose vacant land and buildings (e.g. Co-haty , Ukraine).
Motivations: The motivational and structural norms of different actors represent both a block to progress and a strong opportunity.	Civic-industry collaborations need to be deliberately and carefully crafted to address shared missions.	Diverse stakeholder coordination: cities and networks who are actively engaging stakeholders to accelerate housing provision (e.g. Stadtwohnen Chemnitz Agency , Germany).
Social capital capture: The gentrification of collaborative housing erodes its inclusivity potential.	Supportive legislation, planning and financing is critical to channel this housing model towards driving inclusion.	Political advocacy: driving market-making infrastructures such as generative planning laws (e.g. the Peter McVerry Trust , Ireland).
Speculation: mainstream land ownership structures are a critical limiting factor in scaling affordable housing.	Actively deploying anti-speculation strategies (especially in complex political contexts such as Greece and Romania) will be a key building block towards scaling inclusive models.	Embedded permanent affordability: models that amplify the CLT model to challenging locations (e.g. Stadtbodenstiftung in Berlin) and governance structures that prevent homes from being sold (e.g. the right-to-use cooperative model used by Sostre Civic).

Finance: commercial finance is not geared to support less established models (particularly in emerging geographies).	We need to support more traditional financial actors (e.g. commercial banks) to develop appropriate frameworks and processes.	Constructive activism: positive challenge to capital providers across Europe to develop non-traditional lending pathways (e.g. Positive Money Europe).
Identity: unlocking regional and sector identities is a fundamental piece of the inclusivity puzzle.	Strong alternative economic narratives that respect contextual diversity will be essential to shift the cultural conversation (e.g. towards housing as a human right rather than an asset).	New economic demonstrators: innovative models with high visibility are a powerful signal, especially in sparse or resistant contexts (e.g. Habitat for Humanity , Poland).
Institutions: the institutional infrastructure required to scale new economic demonstrators is lacking or inadequate.	Traditional public institutions must be reimagined as agile, multidisciplinary, inclusive hubs.	Balanced governance partnerships: models and frameworks that include a mixture of public and private members (e.g. OFML , Lille).
Orchestration: siloed, single outcome based approaches and projects still command a lion's share of the available funding and human capital.	Generative and flexible orchestration frameworks must be actively developed, tested, promoted and supported to spread to diverse settings.	Pioneer cities: harnessing the collective intelligence and agency of cities to enact holistic interventions (e.g. Home Silk Road in Lyon).
Systemic learning: we cannot solve any of the individual interconnected problems without having a wide-boundary understanding of the problem space.	It will be important to develop sensory, non-linear learning cycles between different actors in the network.	Multidisciplinary collaborations: knowledge building initiatives anchored around affordable housing (e.g. the Co-Hope initiative).

Laudes Foundation is a central figure in the transition landscape of Europe's built environment and a leading voice championing social inclusivity. Significant progress has been made, especially in relation to decarbonisation innovation pathways, but the work needed to shift and redefine the sector as a force for good remains extensive and profound. In the words of the polymath Bayo Akomolafe, '*may this decade bring more than just solutions, more than just a future - may it bring words we don't know*

yet, and temporalities we have not yet inhabited'. We are deeply grateful for the rich collaboration between Laudes Foundation and Dark Matter Labs and aspire to intensify our future contributions to this evolving area of work.

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Appendix

Appendix 1: Recommended new economic materials that explore system dynamics and inequality in more depth.

1 – Economic narratives and power:

Professor Eric Beinhocker

Oxford professor who argues that the dominant economic models are based on outdated ideologies and theories that are scientifically inaccurate and morally unsound. He makes the case that the current imagined order is held in place by an elite minority to justify their own positions.

- Talk: [New economic and moral foundations for the Anthropocene](#);
- Book: [The Origin of Wealth: Evolution, Complexity and the Radical Remaking of Economics](#) (Chapter 1 on framing the economy as humanity's most complex creation).

Mariana Mazzucato

Prominent economist most famous for her work on why economic value theory matters.

- Book: [The value of everything: Making and taking in the global economy](#) (Chapter 7 on stories about value creation);
- Podcast: [George the Poet meets Marianna Mazzucato - a moonshot guide to changing capitalism](#).

Anand Giridharadas

Journalist and ex McKinsey employee - explores the narratives and logic of the global elite in relation to social justice.

- Book: [Winners Take All: The Elite Charade of Changing the World](#);
- Podcast: [Capitalism in the time of Corona](#).

2 – The financial system and debt:

Yanis Varoufakis

Economist and ex Finance Minister of Greece. Clear, succinct description of how the banking system fundamentally works.

- Book: [Talking to my daughter \(Chapter 4\).](#)

Tim Jackson

Ecological Economist and writer who is also head of the Centre for the Understanding of Sustainable Prosperity. He has a very approachable writing style and has written and spoken with great clarity about [numerous progressive economic ideas](#). He provides a strong analysis of the social implications of a debt based economy and potential policy solutions.

- Book: [Prosperity Without Growth: Foundations for the Economy of Tomorrow, Chapter 8, pp153-157.](#)

Anat Admati

Standford Economist argues that during times of crisis the stock markets become a “*saving glut for the rich*” and provides a clear analysis of how they have become decoupled from the real economy.

- Podcast: [I Don't Want CEOs to Solve Society's Problems, I Want the Government to Solve Them;](#)
- Talk: [ten years after the financial crisis.](#)

3 – The link between energy, debt and growth:

Nate Hagens

Excellent, clear communicator on the link between a debt based system and the relentless depletion of finite resources.

- Academic paper: [Economics for the future: beyond the superorganism](#);
- Podcast: The Great Simplification ([Episode 5](#) is a good introduction to what he terms 'energy blindness').

Josh Farley

Accessible introduction to the ecological implications of our dominant financial system.

- Podcast: Money, money, money ([minute 17:48](#) is where he discusses how money creation is a claim on future resources).

Mike Berners Lee

Good explanation of the different types of decoupling, rebound effects and Jevon's Paradox.

- Book: [There is no Plan\(et\) B: a handbook for the make or break years](#) (chapter 3, pp 82-84).

Appendix 2: A summary table of mapped organisations

The following tables are provided to support the diagrams and maps presented in Section 4.

TABLE 1: CORE ORGANISATIONS

Name	Description	Country	Legal set-up
New Economic Demonstrators			
<u>CLT H-Buurt</u>	CLT H-Buurt was the first CLT model in the Netherlands and is now part of the European CLT Network.	Netherlands	CLT
<u>Gleis 21</u>	Gleis 21 is a communal living project combining sustainable timber construction, democratic governance (sociocracy) and an arts programme.	Austria	Association
<u>Habitat for Humanity Poland</u>	Habitat for Humanity Poland promotes cooperative housing solutions and helped to create a housing cooperative in the Warsaw area. They are involved in legislative processes aimed at introducing legal regulations that will facilitate the operation of cooperatives. Due to their activities, a draft law on housing cooperatives was created.	Poland	Foundation
<u>Home Silk Road</u>	Home Silk Road is a project run by Lyon Metropole City. It combines retrofitting for housing vulnerable groups in the central district, a modular construction model for interim housing, demolition waste reuse and employment opportunities within one construction site. It is part of the Urban Lab of Europe Initiative.	France	City Administration

<u>Kalkbreite</u>	Kalkbreite is a cooperative housing model that experiments with what they call the 'hall principle', where the majority of space is dedicated for flexible management which can be used either for events or for enlargement of some housing units. They are also combining commercial cooperative activities with residential units.	Switzerland	Cooperative
<u>La Borda</u>	La Borda's main purpose is to provide decent, social, affordable and ecologically sustainable accommodation to the members of the cooperative and, at the same time, to promote intergenerational relationships and community integration. It is based on a grant-of-use cooperative model and is a good example of cross-sectoral collaboration and sustainable building techniques.	Spain	Cooperative
<u>Living for Future</u>	Living For Future are building a housing project that plans for the 3 time Horizons (1/10/100 years.) The 1-year horizon stands for adaptation of ways of living based on seasonal change. 10-years is for changing in the living units and tenant structures. 100-years is for future climate change and transition. The association includes architects, an energy company and habiTAT Austria.	Austria	Association
<u>Stadt-boden-stiftung</u>	Stadtodenstiftung aims to take urban land off the market and secure it for civil society led management that is oriented towards the common good. They are the first CLT in Berlin where land and real estate properties have been rising significantly and have transferred the Anglo-Saxon CLT model to the German context. They work with the European CLT network and engage widely in political debate about rights to land, ownership and affordable housing.	Germany	CLT

Multi-building Networks			
<u>CLT Ghent</u>	Community Land Trust Ghent enables the provision of high quality, energy efficient homes for people with a low to modest incomes. The land remains the property of the foundation, whereas homes are owned by the residents. Citizens who are eligible for social housing can register as candidate residents. The model guarantees permanent affordability.	Belgium	CLT
<u>Co-Haty</u>	Co-Haty is a project led by two NGOs, in which they are using vacant buildings to retrofit houses for refugees (9 buildings by the end of 2023). In addition, they are planning to use these buildings as system demonstrators for a new type of housing model in the Ukraine. The model is centred on cooperative and social housing and aims to advocate for more supportive laws.	Ukraine	NGO
<u>Entrepatis</u>	Entrepatis is a small umbrella organisation similar to Sostre Civic. It has accomplished the creation of the first Right-to-use cooperative in Madrid. They have 3 buildings planned in total and 66 co-op members. Their project is based on the 3-pillars model: Social, Environmental and Economic.	Spain	Cooperative
<u>habiTAT</u>	habiTAT has transferred the structures of the German 'Mietshäuser Syndikat' into the legal framing in Austria. The main target of the network is to realise new self-managed and solidarity housing project initiatives, as well as to support existing projects.	Austria	Association
<u>Mietshauser Syndikat</u>	Mietshauser Syndikat is a self-organised housing association which, through a joint venture governance mechanism, enables a networked mutual support system between old and new housing projects. Each of the individual houses is set up and run as a limited liability company with the Mietshauser Syndikat GmbH as a shareholder. It facilitates peer-to-peer financing via a solidarity fund, legal and organisational know-how.	Germany	Network of limited liability companies. Mietshauser Syndikat GmbH is a shareholder in each of the companies.
<u>MOBA</u>	A networked cooperative housing model where the cooperative owns the real estate and manages the loans to pay for its construction. Cooperative membership gives access to stable long term use of a unit with members contributing financially (on a monthly basis) and through participation (initial investment).	Central, South-eastern and Easter Europe	Unconfirmed

<u>OFML</u>	The Organisme de Foncier Solidaire de la Métropole Lilloise (OFML) is run in partnership with the City of Lille and governed by a balance of public and private members. The OFML buys land to keep it for the long term, thus the price of the housing units sold is decoupled from the value of land. The new (eligible) owners pay a small annual fee instead.	France	Not-for-profit (solidarity land organisation)
<u>Sdílené Domy</u>	Sdílené Domy in the Czech Republic was inspired by the Miethäuser Syndikat and habiTAT models. The organisation is in the process of establishing its first housing project and is part of the Moba network.	Czech Republic	Collective
<u>Sostre Civic</u>	Sostre Civic promotes the right to use concept as an alternative to traditional home ownership, thus ensuring permanent affordability. They also incorporate sustainable construction and social innovation and have both ongoing and successfully completed housing projects.	Spain	Cooperative
<u>The Ciguë</u>	The Ciguë is a self-managed housing cooperative for students. The self management means that it is a highly participative cooperative (the members are involved in their housing as well as within the Ciguë's overall operations). The central function is managed by the cooperators through their participation in the decision-making bodies.	Switzerland	Cooperative

NET Amplifiers			
<u>BACO</u>	BACO Coabitare a Sud promotes and disseminates the co-housing model through stakeholder network creation. They provide events, training in the management of cohousing communities, help to search for properties, participatory co-design of spaces and technical support.	Italy	Association
<u>CoHab Athens</u>	CoHab Athens is an applied research project focused on cohousing and collaborative living in Athens. They provide research papers, workshops and events and are already in dialogue with MOBA.	Greece	Informal group
<u>Cooplink</u>	Cooplink is an association of housing cooperatives that promotes cooperative housing models. Their team has extensive nonprofit experience in housing organisations and they became the main knowledge-based networker in the country, allowing different coops to share experiences and scale their successes. They also represent the interests of community groups with politicians and other parties.	Netherlands	Association / Club
<u>EKUL</u>	Eesti Korteriusistute Liit is an independent non-profit working across Estonia to support apartment associations and to represent their interests on local, national and international level. They support the development of cooperative housing through many levels of the process. For example, they have their own private school and they organise Baltic Housing Conferences.	Estonia	Not-for-profit national organisation
<u>Eutropian</u>	Eutropian is a bridge building organisation that connects projects and organisations to policy makers and planners across Europe. They identify best practice sustainable models and work to apply them to local communities.	Austria & Italy	Private company (Germany) and Association (Italy)
<u>Habitat Participatif</u>	Habitat Participatif is a nationwide organisation that promotes cooperative housing and creates partnerships between government, NGOs and banks. They are responsible for the movement that sparked more than 900 cooperatives across France.	France	Unconfirmed
<u>Housing Lab</u>	Housing Lab is a network of technicians and professionals who support the design and construction of cohousing projects in Italy (through community building, capacity building and service codesign). They also map the emerging movement across Italy.	Italy	Association

<u>id22</u>	id22 is a multidisciplinary, civil-society organisation working with the theory and practice of achieving a post-growth, common-good, non-speculative urban landscape. They focus on self organisation, community-led housing, cohousing, cooperatives, CLTs, community gardening, justice and democracy.	Germany	Not-for-profit
<u>Kollektivhus</u>	Kollektivhus NU is the leading association for cooperative housing in Sweden. The organisation has a long history but remains very active and influential today. They serve as a central node in the country-wide network of umbrella organisations, individual start-ups and small housing communities	Sweden	National association
<u>LaDinamo</u>	LaDinamo is a foundation that was born with the aim of encouraging and promoting the implementation of the transfer in use cooperative housing model, as an alternative to traditional ownership. They work across 3 spheres of influence: fostering and replication of the model, research and training.	Spain	Not-for-profit
<u>Self Organised Architecture</u>	Self Organised Architecture is a research think tank enabling community led housing in Ireland. The organisation promotes participatory, non-speculative, affordable housing practices in Ireland. Its goal is to demonstrate that such processes have the potential for positive social transformation.	Ireland	Not-for-profit
<u>Torino Urban Lab</u>	Urban Lab is a partner of the EU NETCO initiative (Network of Cities for Collaborative Housing), that aims to promote peer learning and exchange among city practitioners, citizens and organisations. They focus on collective housing models at the local level, as a long-term policy solution to multiple interconnected problems.	Italy	Association
<u>UrbaMonde</u>	UrbaMonde is committed to working alongside inhabitants, urban professionals and public authorities to increase the share of collaborative housing locally and internationally. They provide technical support, resources and network building capacity.	France & Switzerland	Association

Market Makers & Mediators			
<u>Bright Green Futures</u>	Bright Green Futures is a value led eco-developer, focused on creating zero carbon, future proof and supportive communities. They provide watertight shells for purchasers to self-finish and the plots are arranged on sites which include shared facilities such as communal gardens.	UK	Private company
<u>Homers</u>	Homers is an organisation supporting cohousing projects in the identification and acquisition of property. They facilitate community building, planning, building permits and obtaining mortgages. They work to repurpose abandoned historic buildings to combine quality of life and innovation.	Italy	Società benefit (social purpose company)
<u>Homes 4 All</u>	Homes 4 All mobilises ethical investor capital towards regenerating vacant properties for social housing. It began as a project in Turin and has now evolved into a permanent enterprise.	Italy	Benefit corporation (Società Benefit)
<u>Neuner Immo</u>	Neuner Immo connects the real estate industry with social organisations so that people affected by poverty and homelessness can find affordable homes. They combine affordable housing with professional help.	Austria	Not-for-profit GmbH
<u>Ó Cualann</u>	Ó Cualann builds mixed developments of social and affordable housing where no owner has to spend more than 33% of their net household income on a mortgage. The cost of the homes is reduced mainly through local authorities supplying sites at little or no cost and waiving development levies. They also implement some sustainable innovations in their homes.	Ireland	Company limited by guarantee
<u>Peter McVerry Trust</u>	The Peter McVerry Trust is a national housing and homeless charity that transforms vacant buildings into social housing. Besides finding empty property for people in need and providing loans for repairs, they also advocate for using vacant spaces on a systemic level. Their advocacy work has led to the inclusion of the Empty Homes Pillar in Ireland's Housing & Homeless Strategy.	Ireland	Charity
<u>StadtWohnen Chemnitz</u>	StadtWohnen Chemnitz is an agency that coordinates between different stakeholders in the city (municipality, owners, investors, users) of Chemnitz to renovate and repurpose vacant or dilapidated buildings. They work in association with a city commissioned project (Cooperative Living Chemnitz) to match people who are interested in cooperative living with suitable projects.	Germany	Private company

TABLE 2: ADJACENT PATHWAYS

Name	Description	Country	Legal set-up
Economic			
<u>Curing the Limbo</u>	Curing the Limbo was a pilot programme run as a partnership between the City of Athens, the University of Athens and a number of relief charities. Its aim was to test an integration housing model that allowed refugees to become socially active and to support their transition from emergency support to an autonomous life in Athens. The core services offered were language lessons and technical skills development, access to affordable housing, psychosocial support and employment counselling services.	Greece	City of Athens project
<u>GRI (Global Reporting Initiative)</u>	The GRI standards are the most widely used sustainability standards in the world. The GRI has huge international reach and currently partners with foundations and government departments to support specific programmes. They are developing a construction industry specific sector standard, as part of their 3-year pipeline which presents a good opportunity to research current practices in the sector.	Netherlands	Intergovernmental organisation
<u>Positive Money Europe</u>	Positive Money Europe are currently campaigning to unlock finance for socially inclusive and energy efficient homes. They are developing monetary mechanisms to funnel loans from the ECB and EIB towards the goal of a green transition. The proposed intervention is intended to act on renovations loans, but could be scaled to other types of capital funding. This could create critical pathways for collaborative models in less supportive political contexts.	Belgium	Not-for-profit association
Material circularity			
<u>BRDA</u>	BRDA's work centres on the reuse of recycled materials and circularity through projects, research and advocacy, workshops with citizens and competitions. They also aim to create a material register of materials for reuse.	Poland	Not-for-profit foundation
<u>Mobius</u>	Mobius improves the reuse of materials in the construction industry by providing advice, sourcing and supplying reusable construction materials. Mobius offers a fresh perspective on the construction and demolition processes, by working at the whole value chain of the material reuse including packaging and energy consumption.	France	Not confirmed

<u>RotorDC</u>	RotorDC (a spin-off of Rotor) is a cooperative that organises the reuse of construction materials. They dismantle, process and trade salvaged building components. Their activities help to reduce the quantity of demolition waste, while offering quality building materials that have a negligible environmental impact. They also develop deconstruction techniques, logistical systems and remanufacturing installations for contemporary building materials.	Belgium	Cooperative
Research & education			
<u>Autonomy</u>	Autonomy is an independent, progressive research organisation that focuses on the future of work, economic planning and climate change. They produce progressive and knowledgeable reports about labour and the urban environment.	UK	Not-for-profit
<u>CoLab Research</u>	Co-lab Research is a knowledge hub for collaborative housing. The group of researchers engage in research and related activities (publications, teaching, seminars etc.) around affordable and collaborative housing models. Their Co-Lab Mapping Project provides a scientifically validated categorisation of the different collaborative housing forms in Europe. The goal is to create a base for comparative and quantitative studies on collaborative housing.	Netherlands	Informal group
<u>300.000KMs</u>	300.000 km/s helps governments and municipalities to work towards more inclusive, fair, healthy and prosperous societies through data-science based projects and policy advocacy. They are in the process of developing an Affordable Housing Atlas, with data from multiple sources and plan to create a database of affordable housing good practices from around the world.	Spain	Not confirmed
Political advocacy			
<u>CoopTec Hub</u>	CoopTec Hub works to reignite cooperativism in Poland through digitalization, research and advocacy with a central goal of increasing levels of societal trust. They are also developing real life projects using digital technologies to harness the community's collective powers.	Poland	Cooperative

<u>Re-Set</u>	Re-Set is a policy advocacy and community support group that works on a social-ecological transformation towards a new economic model. They are focused on cooperation instead of competition, care instead of selfishness and democratic forms of ownership and control. They work as a consultancy and research think tank to produce reports and progressive policy proposals.	Czech Republic	Collective
<u>ReStart Ukraine</u>	ReStart Ukraine is an open-source collective of researchers and practitioners. They are exploring and developing the best ways to restore afflicted urban and rural areas after mass destruction. They are building a replicable framework for post-war city reconstruction that could be applied both in Ukraine and in other countries who have suffered from war.	Ukraine	Collective
Civic Engagement			
<u>Civocracy</u>	Civocracy supports cities and regions to develop meaningful citizen engagement processes and build political will. Their citizen engagement projects are wide reaching and help to explore the opportunities and barriers for urban transition. For example, they have recently worked with the City of Lyon to host a citizen debate on the City's overall strategy to address climate change.	France	Private company



Laudes _____
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