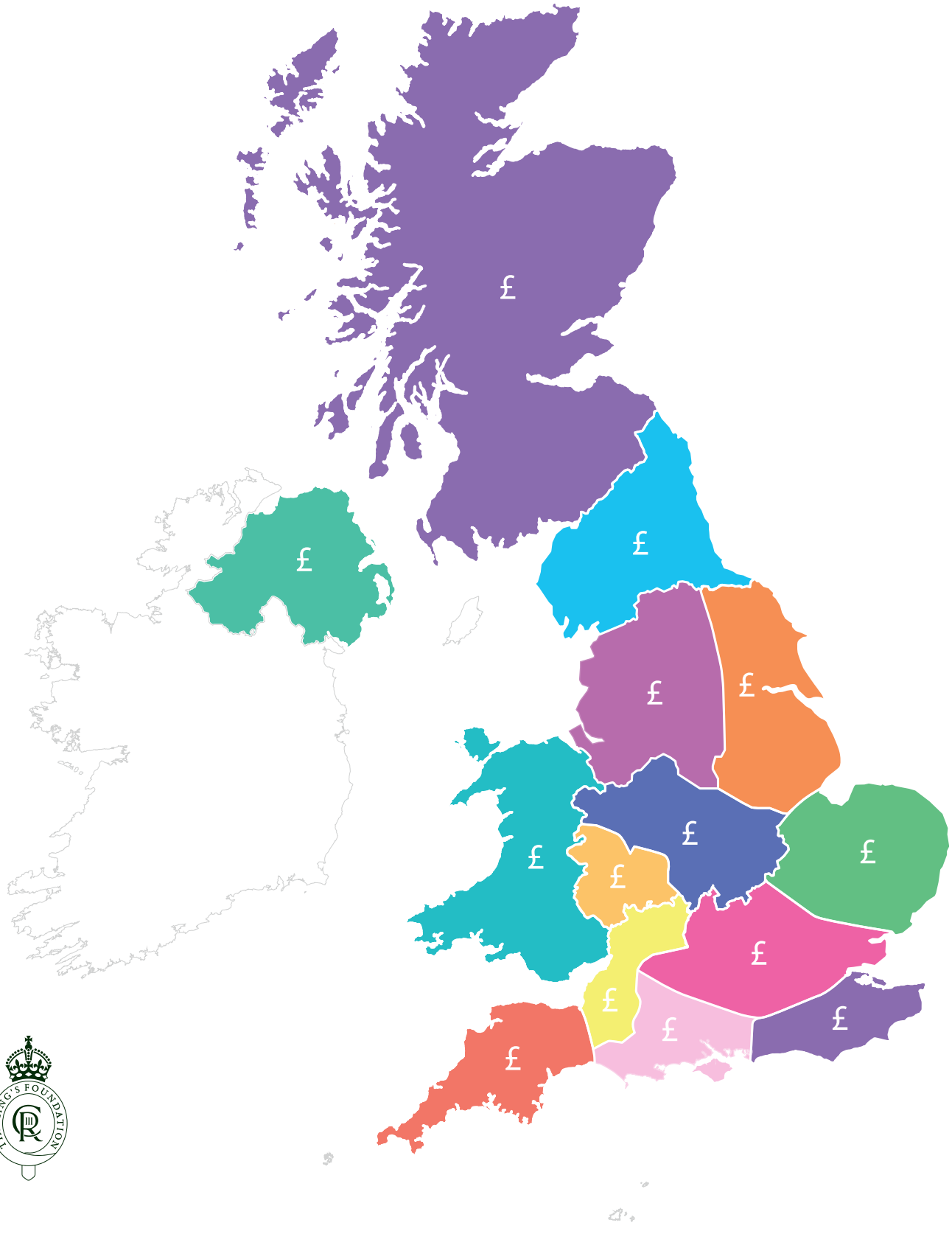
THE ECONOMY OF PLACE

BUILDING REGIONAL COMMUNITIES



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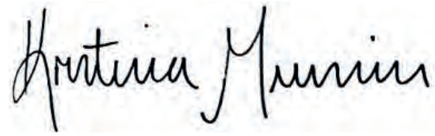
This year's report on the Economy of Place comes at a time that the new government is looking towards building new homes as a foundation upon which to grow the UK economy. There is no question that accelerating house building and providing more affordable homes to people struggling to get onto the housing ladder is a sensible aspiration but how those homes are built, by whom and with what are questions that have been occupying The King's Foundation for nearly 35 years.

His Majesty has always suggested that putting 'community' at the heart of our thinking is fundamental and as we look towards a model of housing, the question of what makes a vibrant and resilient community is one of the most important drivers in any business model to underpin the making of place. Our strong belief is that healthy and harmonious communities are formed by delivering mixed-use, mixed-income, walkable and locally distinctive places as opposed to car dependent housing estates that could be built anywhere. And in our extensive experience of working with communities across Britain we find they largely agree.

One key component of successful places is the delivery of affordable workspace next to homes for people to run businesses, another is the use of small to medium sized builders in a consortium who employ local sub-contractors, using regional materials. This not only supports the regional economy but engages with a community of people who live near to where they work and whose reputation depends on the success of what they build. If we get this right then the result is healthier people who walk to get their daily needs, lower car use, lower emissions and less embodied energy in materials used in building. These are all issues that in one way or another can help the public purse in years to come or put an undue strain on future generations paying for our actions today.

Landowners are central to the decision of what form of development is allowed on their land and we are hugely grateful to this growing network of pioneers looking to act as good stewards and set an example for others to follow.



— KRISTINA MURRIN,
CEO, The King's Foundation

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Building Community

GEORGE FERGUSON

‘Building community’ is a favourite call for action from the King – and has happily been a guiding principle throughout my working life as architect, social entrepreneur and subsequently as Bristol’s first elected mayor.

In this context ‘Building community’ has two complementary meanings, which are best expressed by ‘A building community’ – a community of builders – or ‘Building A community’ – the making of community. Both meanings are fundamental to the principles of good regional place making and both urgently require a national revival as the housing crisis mounts and a new government calls for the building of new towns and extended communities.

‘Quantity over Quality’

‘Volume Housebuilder’, and ‘British Housing Estate’ have become national terms of abuse, for very good reason, and yet both prevail with every government of whatever colour as politicians persist in championing numbers of units at the expense of the more subjective but equally important qualities of home, community and place. Governments faced by a series of economic, health and housing crises, understandably, like to measure their manifesto promises, and success in meeting them, by numbers, whether it be GDP, hospital beds or homes, while our true measurements of success should principally be around the more human but qualitative issues of social and economic sustainability and physical and mental wellbeing.

The giant national branded housebuilders, with their standard layouts and house types, have successfully squeezed out so many of our small and medium sized local and regional building companies to the extent that government is dependent on them to produce their promised numbers, whilst desperately needed local authority and housing association social housing, decimated by the ‘right to buy’ policy, has become a threatened species.

Grasping the Nettle

The challenge is clear, but the answers are complex, and it is complexity - which is anathema to the volume house builders - that helps make the best community. New towns are undoubtedly part of the answer, as are the revival and stitching together of existing buildings and urban areas and, dare I say it, the sensitive re-assessment of the Green Belt. However, while it is important that national government enables the loosening of national planning laws, it can be taken advantage of, with both the worst and best results.

The worst results will be a combination of inappropriate and out of scale development in our historic towns and cities and the continued sprawl of house builders’ monocultures. The best results will hopefully be the reinforcing of existing communities and the building of inspiring new mixed use and tenure communities to a human scale. For the best to happen we need a combination of visionary landowners and regional builders and architects with ‘skin in the game’ and a sensitivity to local needs.

Poundbury, Photo by Morever

Poundbury and the Prince

I served as President of the RIBA[1] (2003-5) at a time when it was fashionable for architects to sneer at the style and early results of the then HRH Prince of Wales’s mould breaking extension to Dorchester on Duchy of Cornwall land. I had regarded it as my mission to put good place making and urbanism at the heart of the architectural profession’s role and was determined to do what I could to build bridges between the Prince and the profession. Over tea in Clarence House, we recognised our strong and mutually held belief in the importance of architecture to people’s lives, and that Poundbury[2] represented a much-needed demonstration of community and place making in stark contrast with the prevailing soulless monocultures that are the products of the volume housebuilders. While Poundbury’s architectural style is still sneered at by those with an ideological distaste for traditional architecture there is, 30 years after digging the first sod, a widespread recognition of the vital role it, and its progeny has played in raising the bar in terms of procurement, human scale and liveable neighbourhoods. Its success has been remarkable, its influence has been immense, and its development principles are transferable to almost any region and architectural style, and yet we continue to see too many developers get away with deplorable ‘anywhere’ development at the expense of local community and character.

Turning the Tide

As with the importance of supporting facilities and traders to preserve diversity and a thriving local culture and economy on our high streets, there is so much to be gained by working with regional builder developers and a workforce with a local commitment and spending power. The means are in the hands of enlightened landowners to help turn the tide away from generic national solutions by working in creative partnerships with a building community of regional and local developers who share an understanding, if not a love, of both the needs and the culture of the area.

NEW PLANNING LEGISLATION GIVES AN OPPORTUNITY TO BRING A COMPLETE STOP TO SOULLESS DEVELOPMENT AND TO INSTAL RIGOROUS DESIGN REVIEW WITH COMMUNITY AT ITS HEART

Tobacco Factory Sunday Market, Raleigh Road, Bristol

Creating Community

Commissioning buildings and infrastructure is relatively simple. It requires a good professional team. Creating a thriving community is a much more complex mixture of science and art, but most of all of me and observation, collaboration and social entrepreneurship. It is an art I have practiced in my community of South Bristol since the mid 90's by injecting new uses into rescued buildings with the help of local builders and partners. 30 years on we have turned the shell of an abandoned 1910 Imperial Tobacco[3] factory in South Bristol into theatres, a school of acting, creative industry work and teaching space, a thriving café bar, farm shop, weekly market, and living accommodation, with events and community space and a brewery and bakery occupying a disused brewery building and garage down the road. Most importantly it created hundreds of jobs and a cultural hub whilst encouraging the regeneration of the local high street with a rich mix of independent traders and local products. I acknowledge that creating community from scratch is much more challenging – but can be done by learning from thriving places and adapting to the local situation. The art of making community is one that is not taught and will never be an exact science, as it is traditionally the result of decades, or more, of evolution. However, the making of places that enable good community is of vital importance. It is for this reason that I invited the late John Thompson to start an urbanism initiative at the RIBA in 2004 which morphed into the Academy of Urbanism[4] in 2006. The Academy is now one of the best resources in the country for those with an interest in good community and place making, ranging from neighbourhood to city level, and has amongst its membership some of the leading urbanists in the UK.

City as Community

In 2012 I became the first elected mayor of Bristol – as an Independent with no party machine. It was totally unexpected but presented the opportunity to help build community at a city level. Bristol, a city of some half a million population, is made up of over 100 villages, most retaining their original names, but brought together as one city. I appointed a 'rainbow' cabinet of all the parties represented on the Council and we engaged with contrasting communities of very different character and origin right across the city with the aim of building local pride.

The contrasts in wealth and poverty, and in culture and religion across most British cities is palpable, and sometimes deeply uncomfortable. It was important to us that we help engender pride in the local neighbourhoods through the strengthening of local representation via Neighbourhood Partnerships[5] and instituting community safety measures such as a 20mph limit across the city, enabling more walking and cycling and safer routes to school. Working with the city's primary schools we devised a competitive programme of healthy schools' awards to emphasise the importance of both physical and mental health prevention from a young age.

We sought to engender greater social and environmental resilience through such international programmes as the Rockefeller 100 Resilient Cities[6] and by securing the title of European Green Capital 2015[7]. We had also embraced the experiment of launching Bristol's own local currency, the Bristol Pound, encouraging spending in the local community whilst attracting international recognition as a leading green city – both physically and politically.

What I learned as mayor for just four years is that community can be defined at any level and that strong communities are our best defence against those who, for whatever reason, wish to make life miserable for some and challenging for everyone. Community shines through in times of crisis as has been wonderfully displayed over the past few tumultuous years and weeks.

Leaving a Legacy

Selling land may bring in the money but the results can be deeply depressing. The strongest form of planning control is that wielded by the landowner, whether public or private, and the best form of planning reform is one that rewards environmental responsibility and great place making rather than simply ticking the planners' boxes. The best development comes from those with a long term financial and personal investment in the place, as has been demonstrated historically by the great streets and squares of the London family estates and some of the Victorian industrialists' worker villages, exemplified by Richard and George Cadbury's Bournville[8] or Titus Salt's Saltaire[9], although in both cases the puritan patricians would not countenance the presence of a village pub – an essential element of any UK community!

New planning legislation gives an opportunity to bring a complete stop to soulless development and to install rigorous design review with community at its heart. The current emphasis on planning by numbers with what has proved to be a token mention of 'beauty' should be replaced by quality of place with an appropriate mix of uses for the scale of development, rewarding those landowners and regional builders and developers who go above and beyond. This is all the more important as we enter a spate of construction and presents a great opportunity to those who can identify suitable sites for the creation of new or extended communities combined with the regional design and development teams to deliver.

What better legacy can there be?

Wapping Wharf Bristol, visionary landowner and regional builders

THANKS TO THE KING'S LEADERSHIP AND INSISTENCE THROUGH THE DUCHY OF CORNWALL AND HIS OWN FOUNDATION, THERE HAS BEEN OVER THIRTY YEARS OF RE-LEARNING HOW TO 'BUILD TOWN' AND TRYING IT IN PRACTICE WITH DIFFERENT LANDOWNERS AND DEVELOPMENT MODELS

Poundbury, Photo by Morever

Remembering why we build villages, towns and cities

BEN BOLGAR

For millennia people around the world have built villages, towns and cities to facilitate the exchange of goods[10], services, knowledge and relationships. They are at the root of civilisation and in the western world, the bedrock of democracy[11]. And yet we have forgotten why we build them, how we build them and where we should build them. Rather than going into the complex reasons for this global amnesia we need look no further than the most valuable and desirable villages, towns and cities for evidence as to their benefits to society[12] and compare that to the last 100 years of housing sprawl to see which we think is more enduring and which has more social, economic and environmental value. It is sometimes a valuable exercise to imagine Britain with everything built before 1920 demolished and another scenario with everything after 1920 demolished. With the exception of a few places such as Harlow, Milton Keynes and Poundbury we would have no villages, towns and cities to speak of built in the last 100 years and that means we are relying on those we have inherited rather than those we are making to support our economy and quality of life.

The beauty of the village, town and city is that they have been shaped by people, almost intuitively and organically to grow food, fuel and fibre around them, taken to market in a town which supplies goods and services for cities where cultural pursuits and seats of higher learning are found. They almost replicate the Aristotelean theory[13] of pleasure, honour and virtue as the three stages of meaning in life where the village, town and city not only represent an elegant agglomeration of networks but also a hierarchy of needs from basic survival to spiritual awareness. The village, town and city network pre-1920 also teaches us how people lived off the land to the best of their ability without the use of fossil fuels and basic technologies, such as the internal combustion engine, which had such a destructive impact[14] on town and country alike. This destruction was not only brought about by technology but by an aligned theory of efficient planning or 'zoning', as extolled by Robert Moses[15] in New York in the 1920s where the car was king, and communities were flattened and divided to create highway heaven.

The planning theory of 'zoning' - where all of the different uses that make up a city or town are segregated rather than integrated is now outdated given that most light industries are clean and compatible with residential uses. However, what zoning[16] has left as a legacy is a world of specialists, regulations, investment models and blueprints for each of these use classes. So, while we have housebuilding specialists, business park specialists, school specialists, retails specialists and of course highways specialists, what we don't have are any mixed-use specialists who sit at the top of the tree and are expert in pulling all of these component parts together into a town. So, while we are still building all the ingredients of town, we find it very difficult, or near impossible, to build a town itself. Not only that, but there is very little debate today as to why building a town even matters or is different to a massive housing estate, with a supermarket, a GP surgery and a school.

Thanks to the King's leadership and insistence through the Duchy of Cornwall and His own Foundation, there has been over thirty years of re-learning how to 'build town' and trying it in practice with different landowners and development models, with the significant conclusion that you need a long-term value creation and valuation model that places equal or greater value in the non-residential uses. In previous *Building a Legacy* reports we have demonstrated the added financial and social value in building a community,[17] we have shown how important the distribution of non-residential uses are to walkability[18] and we have collected robust evidence as to

the significant benefits of walking to human health[19] and the environment. And yet the stark reality is that some of the most aspirational and well-known new developments such as Northstowe[20], near Cambridge, and Sherford[21], near Plymouth, each have built over 1,000 homes and other than schools there is nothing other than a temporary coffee shop in a portacabin. Contrast this to the sometimes-maligned Poundbury which now has just over 2,200 homes with 250 businesses[22] employing 2,300 people on site, and the much newer Nansledan[23] in Newquay which only has 800 homes but already has 45 businesses and a new town centre and high street under construction.

Sherford and Nansledan were both planned under the same principles by The King's Foundation, with a tight design code and S106 agreement, and yet the reality on the ground couldn't be more different, with Sherford a giant housing estate and Nansledan a thriving new community. One little understood component, but hugely significant factor, in these scenarios is the volume housebuilder vs. SME builder and legacy landowner. In both Poundbury and Nansledan, many of the workplaces are small, affordable and owned by the builders or landowner which give them a reasonable rent and also add value to the homes as the place becomes a community. In Sherford, even though a main road has been built through the development, the developer consortium claims any non-residential use is unviable and therefore are pushing to build housing instead. This is because they are house builders, not mixed-use specialists and they place more value in residential than in commercial. The planners seem powerless or unwilling to enforce it and the people principally losing out are the residents who were sold the dream of a vibrant new community which isn't being delivered as the developers don't know how and it doesn't fit their financial model.

With the new government focussing on economic growth, devolution, new towns and accelerated housing delivery, it seems absolutely critical that the debate turns to how this vision can be most efficiently delivered in the short term while maintaining long term public benefit. If you consider that since 2018 Poundbury alone has been contributing over £100M GVA per annum to the regional economy[24], excluding construction which was another £380M, then if we shape new growth as mixed-use development we will create a legacy of economic generation in perpetuity, long after the builders have disappeared. If the target is 300,000 homes a year and volume housebuilders are likely to build half of that number, then in theory if we built 75 mixed-use places following Legacy principles that would be £7.5 billion GVA per annum into regional economies across Britain in perpetuity. Keeping the investment local and regional would not only be more efficient[25] but benefit people's quality of life and ensure that local communities see physical growth equate to social and economic benefits for generations to come.

KEEPING THE INVESTMENT LOCAL AND REGIONAL WOULD NOT ONLY BE MORE EFFICIENT BUT BENEFIT PEOPLE'S QUALITY OF LIFE AND ENSURE THEY SEE PHYSICAL GROWTH EQUATE TO SOCIAL AND ECONOMIC BENEFITS FOR GENERATIONS TO COME

Building the evidence base

DR DAVID HOWARD

Tornagrain, Photo by Morever

In 2020, a report by The King's Foundation and partners illustrated that walkable, mixed-use urban neighbourhoods provide a range of benefits for the local economy, which can improve the overall health and well-being of residents and workers. Following on from this initiative, the *Building a Legacy* report in 2021, *Walkability, Accessibility and Health*[26], presented evidence from an analysis of 600 peer-reviewed studies which confirmed that the overall positive impacts of higher levels of 'walkability'[27] and wheelchair accessibility, combined with more mixed-use neighbourhoods, delivered a better quality of life, notably improved mental and physical health. A subsequent *Building a Legacy* report published in 2023 as *Building Towards Net Zero*[28], similarly grounded in evidence-based research and a review of 600 studies, and again in partnership with the Global Centre on Healthcare and Urbanisation[29] (GCHU) at the University of Oxford, focused on the effective means and benefits of building towards net zero carbon homes. The report built on the work of the Commission on Creating Healthy Cities[30], which was established in December 2020 by the GCHU, working in partnership with The King's Foundation. The aim of the Commission was to review evidence related to healthy urbanism, and to present a series of recommendations for local and national governments, and for other stakeholders, to support health in cities. The Commission's findings highlighted the increasing recognition that health and well-being are prisms through which a wide range of public policies and urban development strategies should be viewed.

Last year's *Building a Legacy* report, followed our established method of rigorous evidence-gathering and review, to consider the pathways to, and impact of, *Planning with Nature*[31]. The report again reviewed over 600 peer-reviewed reports to assess the impact of access to 'green and blue infrastructures', woods, parks, lakes, ponds, and rivers on healthy urbanism - as ever, assessing social, economic, and environmental aspects. The evidence spoke for itself: the impact of entwining the natural world's needs - human, flora and fauna - more completely with the built environment was not only positive, but needed.

This year's report on *The Economy of Place* follows a similar methodological format. Reviews of relevant research literature and peer-reviewed studies were completed by the research team to provide the evidence for this report. A series of keywords were used to conduct a review of peer-reviewed research projects focusing on the potential role of establishing a network of regional building hubs across the UK. Each scoping review of published evidence was performed using the Scopus and Google Scholar online searches to survey the most relevant literature for the key themes, potential benefits, and possible problems. Reports and papers were accessed via the University of Oxford's Bodleian Libraries resources, if not available by online open access.

Of the initial 615 selected research publications, 230 were filtered by relevance to the main themes, and reviewed for this summary of current evidence. The following sections highlight the key themes of the report, where the relevance and requirement for establishing sustainable regional building hubs may likely seem self-evident to the readership.

Help or hindrance? Supporting community engagement with Regional Building Hubs

REBECCA GARDNER

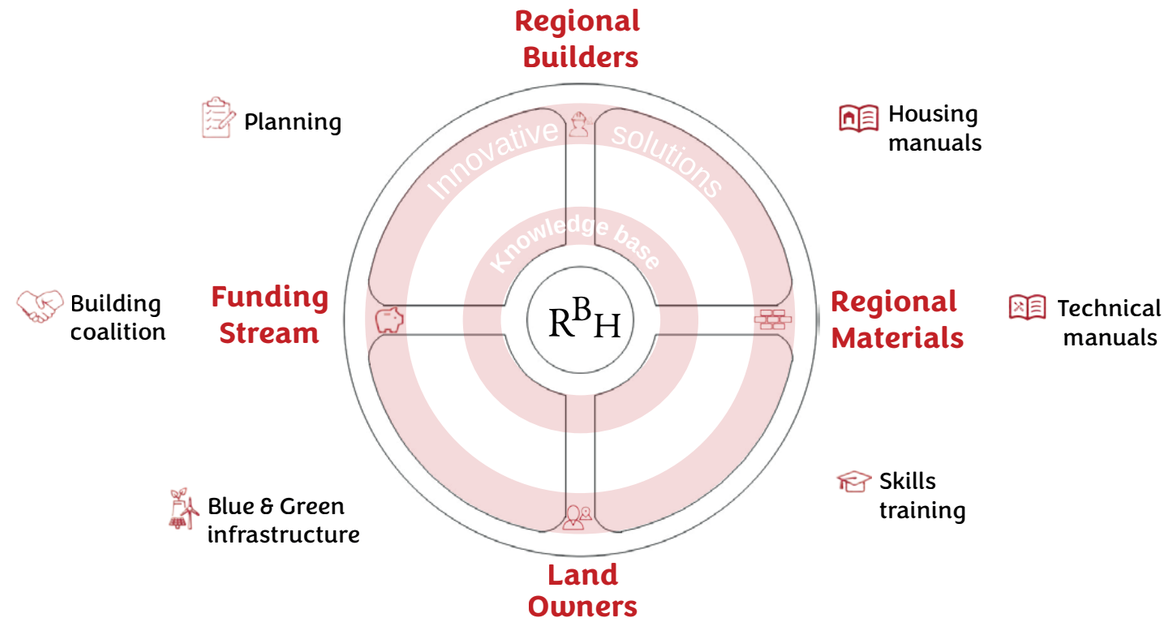
Taking a short walk through any of the UK's new-build estates reveals that our housing crisis runs far deeper than just a shortage of supply. A liberalised housing market has created conditions where volume builders build 44% of new homes[32]. Driven by speculative land pricing and short-term gains, this model of house building has produced neighbourhoods that may often seem to be uncreatively designed, or one-dimensional housing estates[33], deprived of the social and public infrastructure that can support community integration[34] challenge, politicians, practitioners, and the public have turned to the concept of 'community engagement'[35] as a cure-all for a range of ills, from poor design to NIMBY-ism (Not In My Backyard).

Although the key role of community engagement in effective placemaking is clear, the substantial obstacles faced when enrolling communities into the planning process mean that the process can cause more problems than it solves. This is especially true for small and medium sized enterprises (SME) engaged in house building. Delays resulting from the process of community engagement disproportionately impact smaller enterprises[36] which lack the internal capital of large developers to weather financial risks. In fact, difficulties in securing planning permission is the most cited major barrier to growth by SMEs, a startling 93%.[37]

In order to sustainably meet the challenges of the housing supply crisis and secure community buy-in, a balance could be struck between the speed of delivery, and the quality of urban design and housing being built. In this respect, Regional Building Hubs, multi-platform hubs for knowledge sharing and networking between SMEs and landowners, have significant potential to empower SMEs to better navigate the community engagement process; to open up new opportunities for development, and to build more innovative, sustainable, and distinct places. In tandem with conscious planning policy, this model could be an important step in levelling the playing field between SMEs and volume builders, whilst at the same time delivering better places to live.

Community engagement has played an ever-larger role in the UK house planning process since the 1980s, when top-down governance viewed as cumbersome, one-size-fits-all, and inefficient began to be eschewed in favour of bottom-up, privatised, and devolved provision of housing.[38] At the centre of this shift was the idea that locals 'know best'[39], and when given the power to self-organise would proactively allocate land in consensus with national objectives so that houses would be built in the 'right places'.[40] The 2011 Localism Act and the 2017 Neighbourhood Planning Act together are the culmination of this agenda to return 'spatial sovereignty' to local communities.[41]

Alongside changes in planning regulations and the underpinning ethos, there has been a surge of interest in new models of community-led and co-operative housing developments in recent years. Community-led housing models are hugely diverse, ranging from Community Land Trusts in which local residents or landowners



Regional Building Hub model

acquire local land collectively, to co-housing projects, and to self-build projects organised by communities brought together by shared values. Whilst still in the minority, these models represent a host of proven opportunities for affordable, flexible, as well as socially, and environmentally sustainable placemaking. Their bespoke needs make SMEs the most suitable partners for these projects.

The potential benefits of effective engagement of communities in house building and urban planning are evident throughout the development process. Beginning with the planning stage, several studies show that when communities are involved in the design of communities, policies, and models promoting socially sustainable and characterful communities are more likely to be incorporated. For example, a study reviewing the outcomes of neighbourhood planning policy found collectively beneficial strategies such as green/renewable design, mixed-use development, and affordability to be well represented across neighbourhood plans. The analysis suggests that community voices can act as a moderator against the market-led imperatives of volume builders[42], rebalancing development outcomes in favour of the quality of life for residents.[43] Arguably, the greatest success of neighbourhood planning for communities is how it has empowered local people to make their mark on design policy[44], reflecting place character through architectural codes and responsive site allocation.[45]

Longniddry South, Courtesy of Edward Taylor

Longniddry South, Courtesy of Edward Taylor

On a community level, being part of an endeavour to create a neighbourhood or shape one's local area can create long-lasting place attachment, strengthening social cohesion and generating community capital. Engaging residents on planning issues has also been shown to inspire communities beyond the remit of planning to pursue wider community wellbeing projects. Moreover, case studies such as the co-housing community in Vauban, Germany, are evidence that the establishment of well-organised forums for community discussion can act as catalysts for more engaged and effective community governance, as well as improvements in the relationships between citizens and local planning authorities.[46] The increased social capital seen in engaged communities can set up a positive feedback loop, bringing wider societal benefits. Two extensive review studies have emphasised the relationship between Community-led housing and better physical and social wellbeing. Being a member of these communities has been associated with healthier ageing, and in turn reduced social care costs. This has largely been attributed to stronger social networks supporting healthier lifestyles and an ethos of neighbourliness[47] that makes residents more willing to help each other with support needs.[48]

Tornagrain, Photo by Morever

That being said, current frameworks for community engagement in the UK, namely Neighbourhood Planning, have proved inadequate at deploying local knowledge where it produces the best positive outcomes. Additionally, they are unable to deliver sustainable housing supply in line with national targets.[49] The primary barrier to effective community participation is that volunteer groups often lack the capacity to engage with the development process.[50] The logic of community engagement privileges grassroots, experiential, and non-expert knowledge over expert knowledge. However, the complexity of regulatory frameworks is such that most communities lack the knowledge required to carry out the planning process themselves, with seven in every ten neighbourhood planning groups hiring private consultative support.[51] The ability for communities to overcome barriers of capacity varies, with low-income and deprived communities less likely to have the necessary experience, time, and investment necessary to spend time upskilling their populations for community engagement. This is highlighted by the disparity in neighbourhood planning applications[52] between the wealthier Southeast and Southwest of England versus lower uptake in Northern and some inner-city communities. Incidences of miscommunication between communities and local planning authorities can be costly in terms of time and money, and lead to lasting antagonism between the two sides, threatening future cooperation.[53] For SMEs, these delays can become a serious threat to their financial viability.[54]

Another result of community engagement as currently practised is suppression of innovation. Studies show that while neighbourhood plans may engage more with pro-social policies, they are actually less likely to pursue innovative policies[55] such as self-build and increasing tree cover. There are various reasons suggested for this, including fatigue from burdens on time and finances, fears of plans being rejected during the review stage, and a lack of awareness by community groups of the genuinely innovative opportunities that exist within design and planning.[56] Consultants and planners act as a bottleneck[57] in some instances, limiting their suggestions to conventional practices, constrained by a lack of awareness of alternative or more creative possibilities and a desire to complete projects within a pre-specified deadline that leaves little room for new exploration and testing.[58 59 60]

Recent initiatives to promote community engagement have been criticised for their potentially tokenistic nature,[61] without giving local people tangible power over planning. The heavy demands on time and complexity of planning have meant that often it is the better resourced and experienced individuals who may have a stronger voice in community planning. As the onus remains on individuals to be proactive, such 'citizen planners' and 'activist volunteers'[62] can have a disproportionate influence on community engagement. Whilst neighbourhood planning has been presented as a way for local communities to 'take back control',[63] its primary objectives was not to create more sustainable communities, but to temper residents' opposition to new housing developments in their locality.Under the guise of horizontal participation, some have suggested that uneven hierarchical power structures become legitimised through the language of community participation.[64]

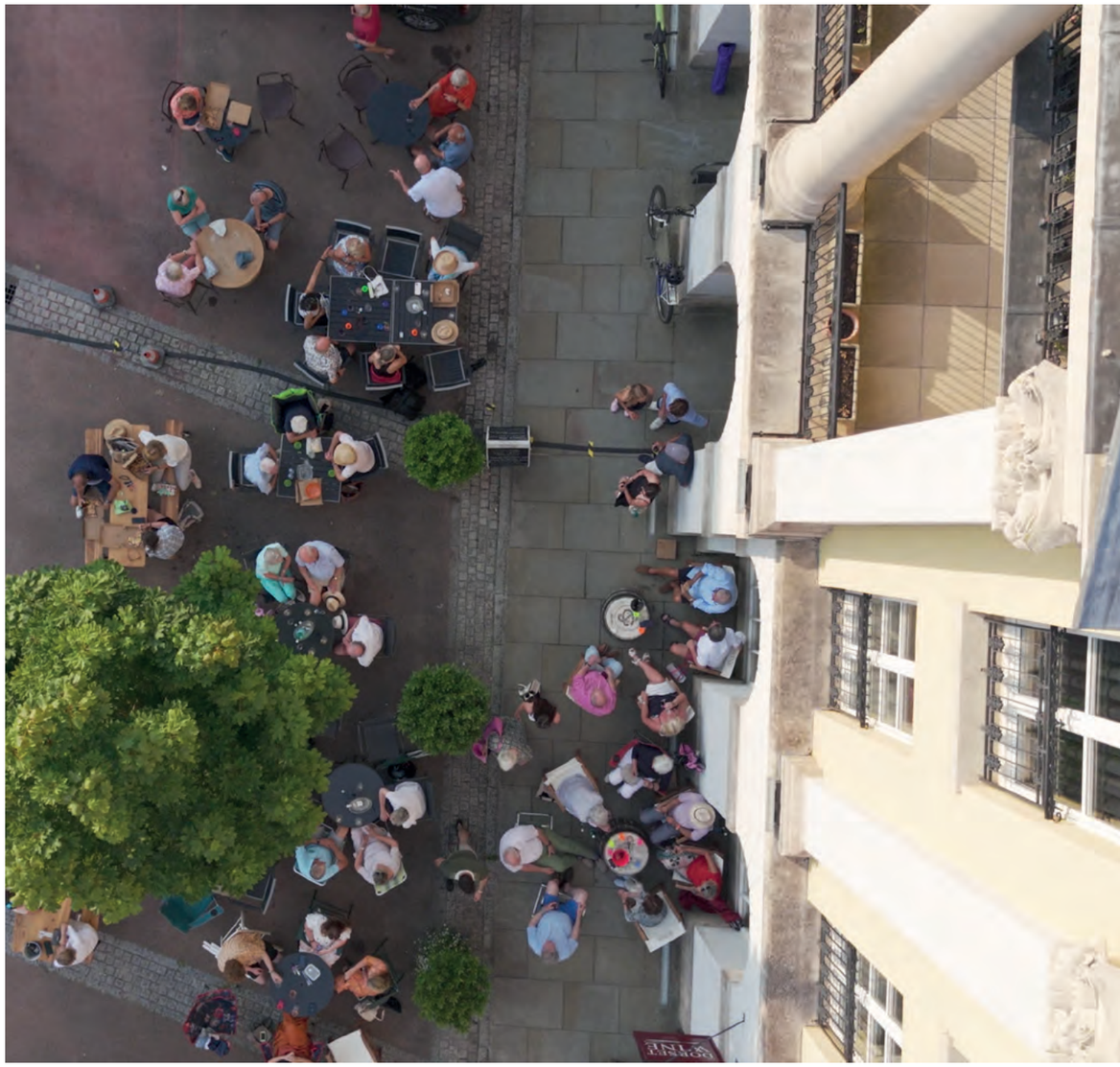
With studies showing up to 86% of respondents believe residents should have more influence over house planning[65] in their local areas, it is increasingly apparent that community engagement is becoming a popular and political consensus for most urban development. Most scholars, planners, and designers also agree that community engagement is essential for developing sustainable communities. This means that in order to thrive in the future housing market, SMEs should be encouraged to form strong and positive relationships with communities to reduce risk, and to accelerate the allocation, planning, and building of new housing projects. Regional Building Hubs have great potential to enhance how builders work together with communities, especially those interested in Community-led housing developments.

As knowledge-sharing hubs, Regional Building Hubs can foster the adoption of more innovative and sustainable housing solutions. Resident-led groups, often without a detailed history or knowledge of planning or design, are restricted in grasping all possibilities for development. Examples of net-zero technologies, placemaking theory, and non-traditional land use could raise the awareness and capacity of SMEs to respond to diverse community needs and suggest creative, flexible, and bespoke solutions. This could open more potential sites for development, especially brownfield sites, which are more likely to receive community buy-in.[66] A breadth of innovative and flexible solutions could also open new avenues for SMEs to balance community needs with national priorities, and promote design for wellbeing, social spaces, and the natural environment. The 'seeing is believing' aspect of Regional Building Hubs could be particularly helpful here. Examples of high-quality settlements where social infrastructure is placed front and centre can build trust between developers and community groups and foster aspirational perceptions of development.

Regional Building Hubs could also become an important networking hub between SMEs and communities or landowners pursuing non-traditional land acquisition and development models, namely Community-led housing. Both Neighbourhood Planning groups and community-led building projects tend to show strong preferences for working with regional SMEs[67] as opposed to high-volume builders, both due to ethical reasons, and the willingness of SMEs to take on bespoke briefs. As demonstrated in the following article in this report, the Community Land Trust model is particularly well suited for creating legacy communities that are guided by the ethos of environmental stewardship. In addition to connecting SMEs with community-led housing groups and landowners, Regional Building Hubs could also support capacity building in these groups by providing examples of best governance practices. Securing adequate funds remains a core challenge for both community-led housing and SME building projects. Regional Building Hubs could facilitate networking between national organisations providing funding to community-led building projects and connect similar projects in the same region to share advice and resources. SMEs could also benefit from horizontal knowledge sharing, using Regional Building Hubs to exchange practical experiences of working with communities and post-occupancy insights to iterate on community engagement approaches.

Community engagement, by its very nature, will be difficult to get right. The enrolment and organisation of large numbers of stakeholders and interest groups, many of whom lack previous planning experience, presents a formidable challenge, without considering the emotional, political, and social tensions that surround decisions about who, and how many should live where. The purpose of Regional Building Hubs is not to solve these fundamental issues per se, but they have significant potential to enhance how SMEs work together with communities. Over the past few decades, community engagement has sometimes been less of a productive force in planning, and more of a source of antagonism between stakeholders. This needs to change - not only to ensure that the UK maintains a vibrant housing sector capable of responding to local needs, but also to deliver sustainable communities of which residents, builders, and developers can feel shared pride. The following section looks towards one possible pathway to achieving this aim.

Poundbury, Photo by Morever



Towards the regionalisation of Community Land Trusts

HELENA CATALÁN BUSQUETS

Poundbury, Photo by Morever

As noted in the previous section, the effective engagement of communities is a key to offset the current housing crisis. However, it involves the risk of transforming this approach into a buzzword without a real impact. This is why it is paramount to explore what tangible forms community engagement can take, and Community Land Trusts can be a key component.

The Community Land Trust model is an innovative housing policy, which has its roots in the United States during the 1960s, but also draws on Ebenezer Howard's model of the Garden City. Specifically, a Community Land Trust is a nonprofit entity, with legal status, that owns the land, oversees its development, and then allocates housing rights to private owners (either individuals or institutional investors who can buy or rent through long-term contracts). Hence, its most distinctive feature is the dual ownership structure, as individuals and institutions own the structures built on the land (buildings or property), and the trust owns the land.[68]

To expose the benefits of Community Land Trusts, a three-fold holistic sustainability framework is useful to adopt. As already noted, community-led housing, such as those projects linked with Community Land Trusts, can enhance the economic, social, and environmental sustainability of local neighbourhoods.[69]

First, regarding the economic context, the trust guarantees house accessibility for lower-income households that do not reach the threshold for accessing social housing.[70] But, how does a Community Land Trust ensure housing affordability? The trust imposes resale restrictions on the structures built on the land.[71] The trust has a pre-emption right in the case individuals or institutions wanting to sell their property: 70% of the surplus coming from the sale would be used to lower the price of the house for future buyers, therefore reducing its cost. Hence, homeowners agree to sell their homes at resale-restricted prices to keep homes affordable for future generations of lower-income buyers, preventing the property from being sold at higher or unaffordable market rates. Another dimension of economic sustainability that may be generated by Community Land Trusts is in the context of the local economy. As these trusts promote the development of commercial spaces and businesses to serve local communities, they can create the economic dynamism, and enable wealth-building that are crucial for neighbourhood revitalisation.[72] Evidence shows that this revitalisation does not necessarily result in gentrification, forced displacement, or government-forced evictions, as the trust 'locks in' the decrease in property prices through the above-mentioned restrictions, ensuring perpetual affordability.[73] Finally, by ensuring that marginalised communities have access to affordable housing, Community Land Trusts can contribute to more inclusive and equitable regional development, generating and preserving socio-economically diverse places, which is an important pillar of sustainability, and one of the main missions of the Regional Building Hubs project.[74]

Second, in relation to the social dimension, the trust has positive impacts on both individual and collective social capital. On the one hand, it builds skills, by providing support services such as pre-purchase and post-purchase training and financial counselling workshops.[75] Moreover, Community Land Trusts are correlated with increased individual well-being, as they strengthen a sense of security and stability.[76] By providing individuals such a stable day-to-day living space, it may lead to further their professional and personal development. Individuals, after becoming members of a Community Land Trust, have a higher probability of becoming employed, advancing in their education, and pursuing activities that contribute to their self-realization.[77] Moreover, this housing model has also been shown to have individual positive health effects. By creating accessible social spaces, it provides more support for residents to engage in active, community activities, such as co-managing allotments or communal amenities. In some cases, participating in a community-led project was perceived to members to exercise or attend community events together.[78] As a Community Land Trust provides social facilities besides housing, such as workplaces, gardens and parks, it can encourage the development of new communal relations. As already suggested above, there is a positive relationship between Community Land Trusts, reduced loneliness, and increased social cohesion.[79] Moreover, this model, through the provision of community control of land, is also a mechanism to achieve community empowerment. As the trust pioneer, Robert Swan, has claimed: 'Local community can gain control of the development process in their own neighbourhoods'.[80] This is the result of two characteristics of the Community Land

Trust model. First, the community owns the land through the trust, which has the mandate to respond to local community needs. Having ownership of the land provides them with the autonomy to decide how that place can be developed.[81] Second, the trust is responsive to the local community through a tripartite form of governance. In this governance structure, three main actors are represented (Community Land Trust residents, professional or public institutions, and other community members, such as local employers), placing the community and its overall welfare at the centre of decision-making regarding neighbourhood development.[82] This involvement can ensure that development aligns with the community's needs and priorities. This, in turn, avoids the top-down, expert-driven approach of urban renewal that may be largely isolated from community-input and grassroot engagement.[83]

Chapelton, Photo by Elsick Development Company

Third, and connected to the environmental dimension, Community Land Trusts have two associated benefits. First, the Community Land Trust framework contributes to environmental justice. Insecure land tenure is linked to greater exposure to risks, and the negative consequences of climate change and disasters.[84] Low-income communities typically finding housing options in environmentally and economically marginal areas.[85] Hence, community-driven collective ownership of land offers ways to reduce this vulnerability, as it provides low-income populations with less-risky and secure housing, creating pathways to environment justice, and with less exposure to climate change disruptions. Second, Community Land Trusts tend to adopt measures to prevent, mitigate and adapt to climate change and its consequences.[86] Among others, they conserve and protect land, which contributes to biodiversity preservation, and they develop urban agriculture projects, urban gardening, and green spaces that reduce greenhouse gas emissions through carbon sequestration. They can also promote green retrofitting and infrastructure development.[87] Many have asked why Community Land Trusts tend to have this environmentalist ethos. The answer is perhaps because the land is owned by a trust, not exposed to market interests, and signals the residents' a long-term commitment to that area, encouraging them to adopt a 'stewardship role', participating in measures that will preserve, protect, and conserve the land in the future as they have a stake on its preservation.[88] A form of Community Land Trust was the foundation of Howard's Garden City model, often overlooked since, with only Letchworth retaining its original community land ownership structure, through a special Act of Parliament at the time Right to Buy was introduced.

Poundbury, Photo by Morever

Poundbury, Photo by Morever

These threefold sustainability-enhancement effects together transform Community Land Trusts into a potential solution to the entrenched housing problems that the UK has endured for several years. Moreover, Community Land Trusts and Regional Building Hubs arguably share three common objectives.

The first is to improve the efficiency and effectiveness of the whole building process for SME Builders. Community Land Trusts can foster public-private partnerships with civil society organisations, public institutions, policy makers, financial institutions such as local banks, private donors, and most importantly, construction firms. Community Land Trusts can also collaborate with SMEs in a win-win relationship. The benefits for the SME are twofold. First, Community Land Trusts can provide access to land for small and medium builders. Community Land Trusts often retain ownership of the land while allowing builders to develop the housing units. Moreover, as Community Land Trusts reduce speculative pressures on real estate, this can be particularly beneficial for small and medium builders who may face challenges due to fluctuating land prices. Second, as Community Land Trusts often involve community members in decision-making processes, this can enable SME builders to design construction projects aligned with the community's needs and values. This 'local tailoring' may avoid conflict, resistance, and tensions. These tend to occur with large construction firms that design high-volume housing projects that are not responsive to local needs. This local responsiveness can also enable builders to incorporate environmentally friendly practices and design principles, as Community Land Trust residents often emphasise environmental sustainability due to the long-term ethos of this model. Similarly, the Community Land Trusts also obtain some benefits. First, partnering with SME builders can contribute to local economic development, providing job opportunities to construction firms that are part of the local economy (as opposed to large national construction firms). Second, the creation of mixed-use, mixed-income, walkable places that reflect local character. Community Land Trusts may work with builders to create diverse housing options, including single-family homes, multi-family developments, and mixed-use projects. Third, securing the access to funding. Community Land Trusts may have access to government funding and grants for affordable housing initiatives. Collaborating with SME builders within the Community Land Trust structure can enhance the potential for securing such funding.

The second objective is to promote the consortium model as the default form of governance. Due to the tripartite organisational structure that characterises the Community Land Trusts, they can popularise this governance structure. The third objective may be

to support a stewardship model of development with long term social, environmental, and economic benefits. Community Land Trusts have the potential to build healthy, liveable places, supporting sustainable urban livelihoods.

That said, the Community Land Trust approach is not a 'silver bullet', and it is important to highlight some of the limitations. First, transferability. As shown in different studies, there is not a one-size-fits-all Community Land Trust, as each must be adapted to the specificities of the local political economy such as differential access to public funding and subsidies, legal frameworks, and partnerships. In other words, the benefits identified in one Community Land Trust might not be generalisable to other places. Second, its commentators show the difficulty in translating theory into practice. Two main problems can arise during the implementation phase. On the one hand, it is not always feasible to maintain the participatory nature of the model, and that community engagement is limited due to a range of reasons, such as time and capacity to contribute. Second, it risks losing its 'structural transformative' spirit if co-opted by more powerful or larger actors such as local government or the private sector. As noted above, 'tokenism' is a widespread phenomenon in community-led housing projects.[89]

Recognising these risks but being aware of the strong alignment between the Community Land Trust model and Regional Building Hubs objectives, the latter framework has much to gain from the former as a means to achieve its ends and offset the housing crisis. However, this relies on three main premises. First, the importance of adopting a standardised, but flexible approach to each project. Second, the need to promote full community involvement to achieve a consensual approach to development. Third, investment to establish an evidence base of examples where social and environmental needs embodied in the Community Land Trust approach have aligned with market needs. With all this in mind, it is feasible that the Community Land Trust approach can move from innovative theory to common practice, becoming a self-evident solution to the housing crisis, and improving the lives of local communities. The realisation of a regionalisation of Community Land Trusts is very much tied into the role of the construction sector, as outlined in the next section.

Poundbury, Photo by Morever

Poundbury, Photo by Morever

Regional building material hubs: embedding circularity in the construction sector

YASEEN RAAD

The construction industry in the UK currently involves the inevitable by-product of waste. According to the Department for Environment, Food & Rural Affairs, the construction, demolition, and excavation industry produced 62% of the total -waste in the UK in 2018. The recovery rate of Construction and Demolition Waste (CDW) stands at 92.6% as of 2020,[90] which is among the highest in Europe, surpassing the 70% recovery target set by the European Commission for the same year.[91] Most of this recovery comes from downcycling Construction And Demolition Waste into aggregates for reuse in new construction. This at first may suggest that current construction methods are already sustainable. However, downcycling Construction And Demolition Waste into aggregates can only do so much. According to a 2022 report by the Mineral Products Association,[92] the UK is reaching its 'upper limit' in aggregate recycling with 72% of total aggregate demand still being met through primary source extraction, resulting in resource depletion and greenhouse gas emissions. Although commendable, aggregate recycling appears to be insufficient. The construction sector in the UK arguably has a challenge ahead to undertake business more sustainably. Embedding circu-larity hubs in the construction value chain could help spread awareness, establish regional circularity networks, and introduce diverse recycling practices. These networks of recycling and re-use can be part and parcel of the emerging Regional Building Hubs landscape Circularity hubs may be better conceived as one amongst many methods aiming to address systemic unsustainability in the construction sector, within the bounds of current market realities. The following section briefly introduces the concept of the circular economy, highlighting evidence from emerging research on circular construction. This evidence is then related to the construction sector in the UK, and its potential importance for establishing regional building material hubs. This at first may suggest that current construction methods are already sustainable. However, downcycling Construction And Demolition Waste into aggregates can only do so much. According to a 2022 report by the Mineral Products Association,[93] the UK is reaching its 'upper limit' in aggregate recycling with 72% of total aggregate demand still being met through primary source extraction, resulting in resource depletion and greenhouse gas emissions.

The circular economy has been defined as 'an economic system that replaces the "end-of-life" concept with reducing, alternatively reusing, recycling and recovering materials in production/distribution and consumption processes'.[94] The four Rs (reduction, reuse, recycle, and recover) constitute the main features of the circular economy. When applied to construction, three applications of circular economy have been identified for the built environment.[95] These are: resource and waste management; design for reversible buildings, and stakeholder networking.

Current resource and waste management practices emphasise the quantity of recycled materials rather than their quality. This is the case in a number of European countries including the UK. Reuse in construction should be equally promoted to ensure supplies of recycled building materials of adequate quality. Those involved in the management of Construction and Demolition Waste in the UK may lack sufficient awareness of the concept of closed-loop, circular construction.[96] They may equally be unwilling to implement reversible building design due to perceived risks of losing business competitiveness. Numerous studies illustrate[97] the same concern as a major barrier preventing the uptake of circularity in construction. Accordingly, the construction sector could benefit from a clear business case and model[98] to enable circularity in construction.

As a business model with viable examples from other countries, regional building material hubs present a promising opportunity to raise awareness, accumulate expertise, and establish networks within the circular construction sector and related sectors. Circularity hubs can be defined as 'locations where clusters of circular companies can gather to exchange resources and knowledge, or where waste can be stored, processed, and re-distributed as secondary resources.'[99] In the Netherlands, there are different types of hubs, each playing a certain role in the circular construction value chain. Moreover, building material hubs may also be categorised according to their organizational type. In the US, both for-profit and not-for-profit building material hubs have been shown to operate successfully.[100] Examples of circularity hubs in the US include Community Forklift [101] and ReUse Action. [102] These were established within former factories, further contributing to sustainable urban development by adaptively reusing abandoned buildings. Community events are hosted onsite to spread awareness about circular construction. Both organisations have an online marketplace to increase access to larger markets and clients including SMEs. Another important criterion concerns the physical location of hubs. These should be located in a way that facilitates accessibility and minimises travel distance[103] to ensure circularity benefits are not offset by greenhouse gas emissions from long transportation routes.

In sum, circularity hubs hold promise for the evolution of a more sustainable, and circular construction sector in the UK. Studies have illustrated the important role of the government to initiate change toward circularity[104] through infrastructure, policy, regulation, and incentives. The way we perceive the value of used building materials also plays an important role in whether circular construction gains wider traction. The current view often results in avoidance, devaluation, and misuse, preventing us from adopting material circulation. One of the biggest challenges is to engage more sustainably in the way we procure, use, and dispose of construction materials in the search more viable forms of urbanism, and move towards environmental stewardship as a central component of how we approach the built environment.

Environmental stewardship and housing

CYNTHIA WAMUKOTA

In 2023, a report by the Home Builders Federation found that the UK has inadequate quality housing, with 15% of all homes falling short of the Decent Homes Standard.[105] According to the Federation, the heightened pace of house building to meet increasing demand will have an adverse impact[106] on the environment if not properly managed. This presents a unique opportunity to meet housing needs while caring for the environment. As noted earlier in this report, there is a need to reimagine the community engagement approach regarding land use in the housing sector. Environmental stewardship provides a combined pathway, incorporating knowledge sharing through regional building hubs, or collaborative efforts such as community land trusts.[107] Although environmental protection and housing needs appear diametrically opposed, taking a stewardship approach can ensure the achievement of both. In the past couple of decades, environmental stewardship has taken root in the UK. It is seen as a combination of conservation, restoration, and sustainable use and management of resources.[108] Care for nature is at the heart of environmental stewardship as an acknowledgment of the finiteness of resources. With the acceleration in global warming and climate change, the urge for proactive conservation of nature has never been more evident.[109] Retrofitting older homes can provide affordable and cheaper options to clients while preserving community heritage and the environment.[110] Before building a new house, a cost-benefit analysis incorporating social, economic, and environmental variables provides a useful starting point for adopting a stewardship approach for urban development. Brownfield development[111] may be a preferred route when all angles are considered and costed, not least in terms of the carbon footprint of construction.[112] Each case has its own context, but stewardship embodies an approach adopted in the previous Planning with Nature report.[113]

Building design increasingly encourages the minimum use of energy. By using locally available material,[114] the carbon footprint related to transportation needs can be reduced. The orientation and positioning of buildings on site can significantly influences access to natural light, and efficient ventilation which may reduce the use of electricity. The use of renewable sources of energy

Poundbury, Photo by Morever

such as solar and wind power offers an opportunity for environmental conservation because they emit little to no greenhouse gases. In many cases, key elements of environmental stewardship are already embedded in the building sector. Environmental stewardship and housing can be symbiotic concepts that coexist through sustainable planning and practices. The Environment Agency,[115] tasked with protecting and improving the environment, has extensively researched the feasibility of marrying the population's housing needs with environmental conservation through sustainable development.[116] Sustainable communities and sustainable development are pivotal in ensuring environmental stewardship. Housing plays a crucial role in this regard.

Environmental stewardship should not be prioritised at the expense of people's welfare, but embraces the principles of social justice and community care,[117] as much as it does for the biosphere. Education[118] remains a core aspect of promoting stewardship at all levels. This requires an exploration and wider dissemination of innovative and proven practices in sustainable urbanism to achieve environmental stewardship goals while providing adequate housing. Seeking the expertise of industry stakeholders who have experience with different approaches to sustainable housing has been a critical starting point. Retrofitting urban structures is a recurring theme in conversations with practitioners in the construction industry. A close connection between traditional methods to current sustainable building practices is necessary to harmonise environmental stewardship and housing needs. This shift requires a holistic approach that considers environmental, social, and economic factors. Environmental stewardship and housing can coexist through sensitive planning, education, and efficient practice. By embracing sustainable development, the UK can create communities that not only meet housing needs, but also protect the environment for future generations. Incorporating a stewardship approach, incorporating Regional Building Hubs and Community Land Trusts, could potentially have a positive impact in accelerating sustainability while addressing the country's housing needs.

Environmental impacts of Regional Building Hubs: a long-term vision

ERIKA NAKATA MOUSSIS

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Regional Building Hubs have emerged as a promising solution to addressing the environmental challenges associated with traditional construction practices. Existing legislative framework[119] often seem to do little to deliver tangible transformations in the delivery of sustainable and affordable social housing for low-income groups. This arguably lies at the core of what Regional Building Hubs could strive to solve. By promoting the local sourcing of materials, reducing transportation emissions, and fostering sustainable building practices, Regional Building Hubs have the potential to mitigate environmental impacts and promote long-term sustainability in the construction sector. However, key issues such as biodiversity fragmentation[120] and increased concrete surface[121] area that have been part of the growth of any urban settlement should be put into consideration to consolidate Regional Building Hubs at the forefront of sustainable urban development for the long term.

Some of the main environmental impacts that residential developments need to consider are surface temperature increase, hydrological systems and drainage pathways, and the conservation or enhancement of biodiversity. These conditions should be considered across varying time scales, becoming increasingly complex when incorporating additional factors such as climate change[122] and resource consumption, which have proven difficult to predict and model at the current stage.[123,124] In particular, a focus on everyday consumption practices, such as food and building materials might be prioritised when considering long-term sustainability, encouraging aspects of recycling and the circular economy, as mentioned earlier.[125] Circular economies are a key factor of Regional Building Hubs, and potentially allow the resource carrying capacity to evolve in tandem with housing and demographic necessities. For example, a study of over 23 communities[126] showed that housing and food consumption account for approximately 75% of the total ecological footprint, with transport accounting for a further 14%. By reducing transport emissions[127] for delivering food, energy and water needs, Regional Building Hubs have the potential to produce more sustainable and environmentally friendly residential areas. In terms of energy supply, the implementation and combined use of microgrids as part of a circular economy[128] can produce significant efficiencies, reducing consumption and regional emissions.As time passes, the resource capacity of a residential area should be able to adapt to the changing social, economic, and environmental factors. Regional Building Hubs also can support long-term ecological conservation in rural areas.[129] In addition to the short-term initial impacts of development in a rural area, such as greenhouse gas production and noise pollution,[130] detrimental long-term impacts such as ecosystem fragmentation[131] and altered microclimates[132] also need to be considered.Particularly, the change in microclimates[133] due to altered surface materials and land use change can add to the complexity of long-term urban planning. Low Impact Development technologies[134] such as bioretention cells, can help to sustain energy, water and prevent microclimate instability, and may be increasingly as part of Regional Building Hubs planning and delivery.In conclusion, although there are deep complexities that unfold in the concept of Regional Building Hubs, they provide a promising solution to address the environmental challenges associated with traditional construction practices. By integrating Regional Building Hubs into the diverse operations of supply chains in the housing industry, including planning, procurement, design, and construction, the potential for more sustainable and environmentally friendly building processes can be realised, as outlined in the following section.

Supply chain integration and sustainable housing solutions

MATTHEW GRIGG

Supply chains in the housing industry feature a diverse range of operations including planning, procurement, design, and construction. As noted above, some current approaches have had limited success in supporting environmental sustainability in the construction sector, but much potential remains to be explored. Although lacking in continuity, there has been a drive towards sustainability[135] forming a greater part of the assessment and outcomes of housing developments in recent decades. Sustainability ratings in the real estate sector have increased from the seventh to the third most important acquisition attribute.[136] While policies such as the Code For Sustainable Homes[137] have aimed to advance the implementation and supply of sustainable technologies through the supply chain, much remains to be achieved. The UK is in need of a practical framework which can consistently deliver sustainable homes, and a sustainable supply chain supporting the sector.[138] Regional Building Hubs can provide a range of useful dimensions, notably in relation to organisation, connectivity and supply, necessary for such a framework. The following section of the report assesses sustainability within the UK housing supply chain, and how Regional Building Hubs are important considerations.

In the early stages of the supply chain, planning and policy on a national scale arguably are disconnected from the realities of implementing sustainable urbanism. For instance, a study[139] on government energy efficiency policies reveals doubt about the viability of widespread on-site photovoltaic energy supply. Past plans for energy supply have failed to appreciate the scale of the challenge for the UK to move away from traditional technologies.[140] Despite the Sustainable Communities Plan, both the Thames Gateway and Manchester regions[141] have struggled to secure environmentally sustainable developments that are also socially and economically cohesive. Pre-construction planning to deliver EcoHomes with a 'very good' rating has faced challenges in being inclusive of social and economic sustainability needs.[142] For better developing sustainable housing supply chains, a study of municipalities in Wisconsin, USA, suggests providing greater powers to local authorities in the early supply chain can address such constraints.[143] Regional Building Hubs offer smaller builders, local authorities, and communities a greater stake in the process of urban development.

Intermediate stages of the housing supply chain, such as procurement, are challenged by the need for private sector developers to collaborate with a wider range of stakeholders[144] in land procurement.This a key aspect that that fully accessible, online REGIONAL BUILDING HUBS directories of local builders, suppliers, developers and suppliers could facilitate. As an example, the Sustainable Communities Initiative in Baltimore[145] generated greater stakeholder collaboration, but was hindered by a lack of private sector commitment. The initiative offers good lessons from which to learn. Confidence of the private sector in such initiatives has been hampered by the lack of homogeneity in the implementation of sustainable technologies[146] and greater guidance for business engagement. A key aspect of environmental sustainability is the allocation and use of land for building, the need for which can be reduced by retrofitting existing homes, as mentioned above. Research[147] has indicated the potential for empty homes in the UK to be secured for sustainable retrofit by procurement consortia,allowing the upskilling of local and regional stakeholders. Procurement consortia[148], embodying a key tenet of Regional Building Hubs aims, could provide greater direction and efficiency to sustainable supply, bringing together separate supply chains, and allowing greater focus on sustainable outcomes beyond fulfilling regulatory procedures.

Challenges to sustainable construction[149] include the homogeneity of provision, persisting environmental impacts, and inefficiencies in construction management,with off-site production postulated as a potential solution. Assembling units off-site, while offering greater efficiency and reduced environmental impacts, is dependent on efficiently co-ordinated supply chains. This was highlighted in a survey of 110 companies which showed the reluctance of the construction industry in China[150] to implement off-site assembly due to insufficient planning and co-ordination. A study of smaller builders in Wuhan[151], China illustrated the challenge of adopting such sustainable techniques in the presence of poor waste management, rigid planning policies, and rapid development pressures. The UK context differs, but these insights suggest that smaller builders can construct more sustainably when there is greater supply chain integration, connecting SMEs to other stakeholders in the Regional Building Hubs model. A European[152] study showed mistrust among some home buyers in the private sector with regard to energy supply and data protection in sustainable technologies, requesting greater transparency and connectivity between stakeholders. Whilst there is a need for supply-side reform of housing in the UK, a consumer-based approach that markets the mass-customisation of sustainable homes, such as in Japan,[153] is also lacking. This type of approach, in which more tailored and consumer-connected outcomes for new homes are possible through local involvement, could advance the appetite for new developments, enhancing delivery, and increasing supply chain confidence to integrate and provide sustainable housing.

Throughout the UK housing supply chain, it is clear that greater integration between different processes and stakeholders from planning to purchasing is needed to advance sustainability. Focusing on a more qualitative approach that seeks to strengthen relationships in the supply chain is supported by recommendations to involve more communities[154] at all stages of the supply chain to focus on placemaking.Such a process could gain traction in the UK, and a regional approach would be well placed to do this to better guide the efficacy of an integrated sustainable supply chain and sustainable housing delivery, attentive to and adaptive of local conditions and wider policies. Regional Building Hubs offer a clear organisational framework, a manageable spatial scale of co-ordination, and a nexus of accessible information via online directories of stakeholders, that is well-placed to support more integrated supply chains for a more coherent pursuit of sustainable homes. By addressing the needs of the whole supply chain, as well as other key aspects highlighted in the evidence of this report, Regional Building Hubs provide a flexible and tangible model suitable to build more sustainable communities.

Concluding comments

BEN BOLGAR & DR DAVID HOWARD

George Ferguson proposes at the start of this report that practitioners, landowners, and communities should 'grasp the nettle' and face the complex challenges of the housing crisis in the UK. In the sections above, we have reviewed the range of evidence that suggests regional building hubs can create the basis for a solution – by providing better access, for more people, to affordable and sustainable housing. Linking regional infrastructures and local resources, connecting knowledge exchange and efficient business operations are part and parcel of the suggested stewardship approach. Recognising the underdeveloped potential of economies of place, by reassessing past regional resource strengths, current capacity and skills, and merging them with the future possibilities of sustainable finance, communications, and building technologies is the pathway charted above.

The evidence presented above reveals the key role that Regional Building Hubs can play in providing organisational frameworks and fora for greater community engagement, connecting local SMEs directly with the needs, wishes, and concerns of residents. Working in tandem with Community Land Trusts, these hubs can deliver greater access to more affordable housing for local populations, while growing more resilient regional economies, and enhancing social and environmental capital. The regional sourcing and recycling of building materials, embedding circularity in the construction chain, has been shown to provide long-term environmental and economic sustainability. The studies reviewed above further highlight the importance of stewardship to balance environmental, economic, and demographic demands on a regional basis. The final section above draws together evidence that shows the direct impact that regional building hubs can have in generating sustainable supply chains, not only in terms of building materials, but by joining up labour, knowledge, and community capacities to provide efficient economies of place. Such place-based approaches frame regions as core entities, integrating local geographies, populations, and businesses to provide housing solutions.

As previous *Building a Legacy* reports have illustrated, a critical awareness and analysis of the evidence available often provides the most convincing and clear means of delivering a message and providing solutions. This report has cast a light on the economy of place in the context of housing. Studies show that regional building hubs, driven by small enterprises, careful land stewardship, and community integration can produce healthy forms of urbanism, able to house local populations, nurture businesses and employment, and remain in harmony with the natural environment.

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