LOCATE EAST SUSSEX

East Sussex

The home of sustainable craft & materials

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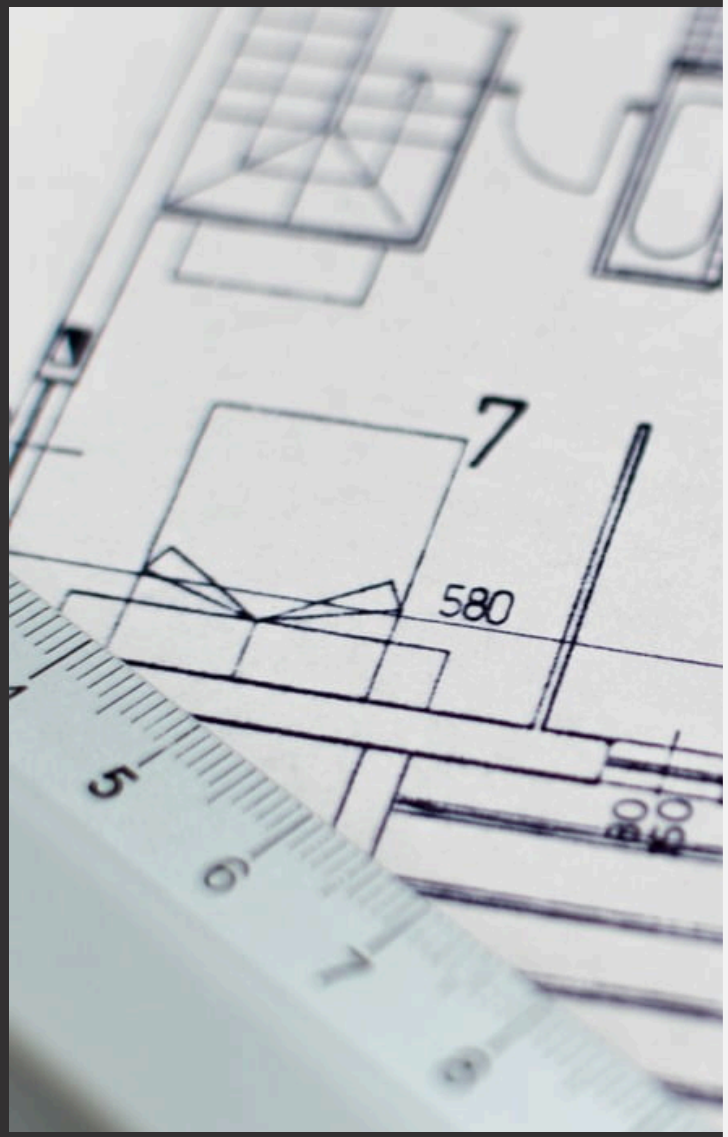

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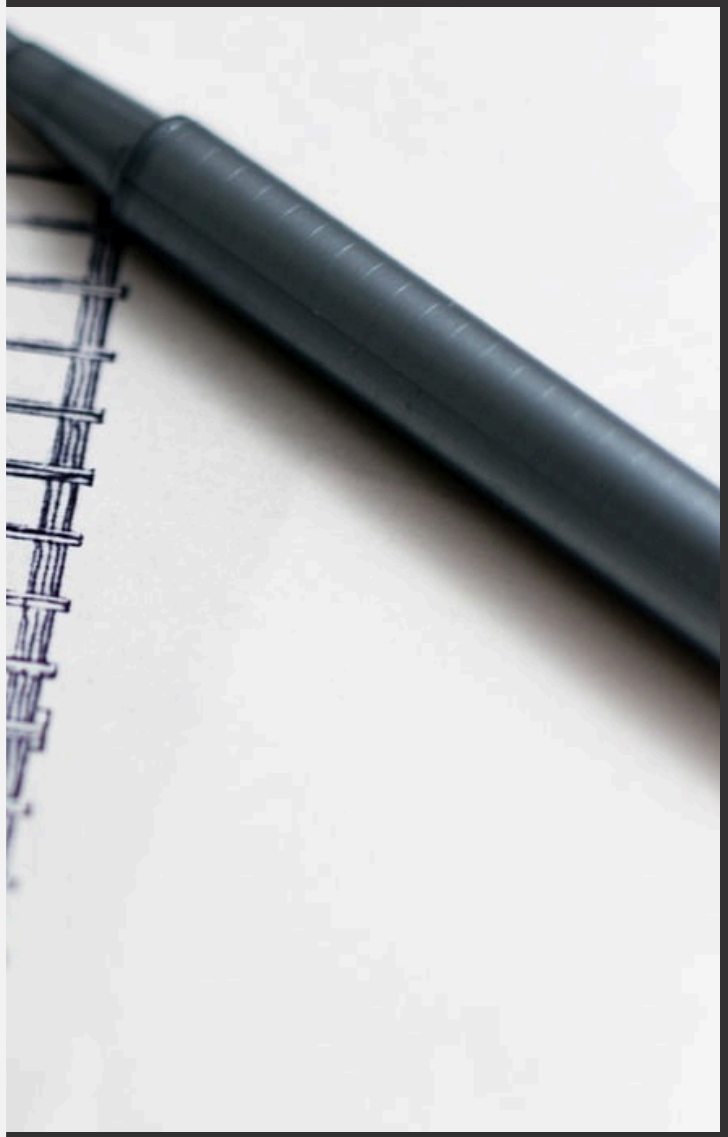

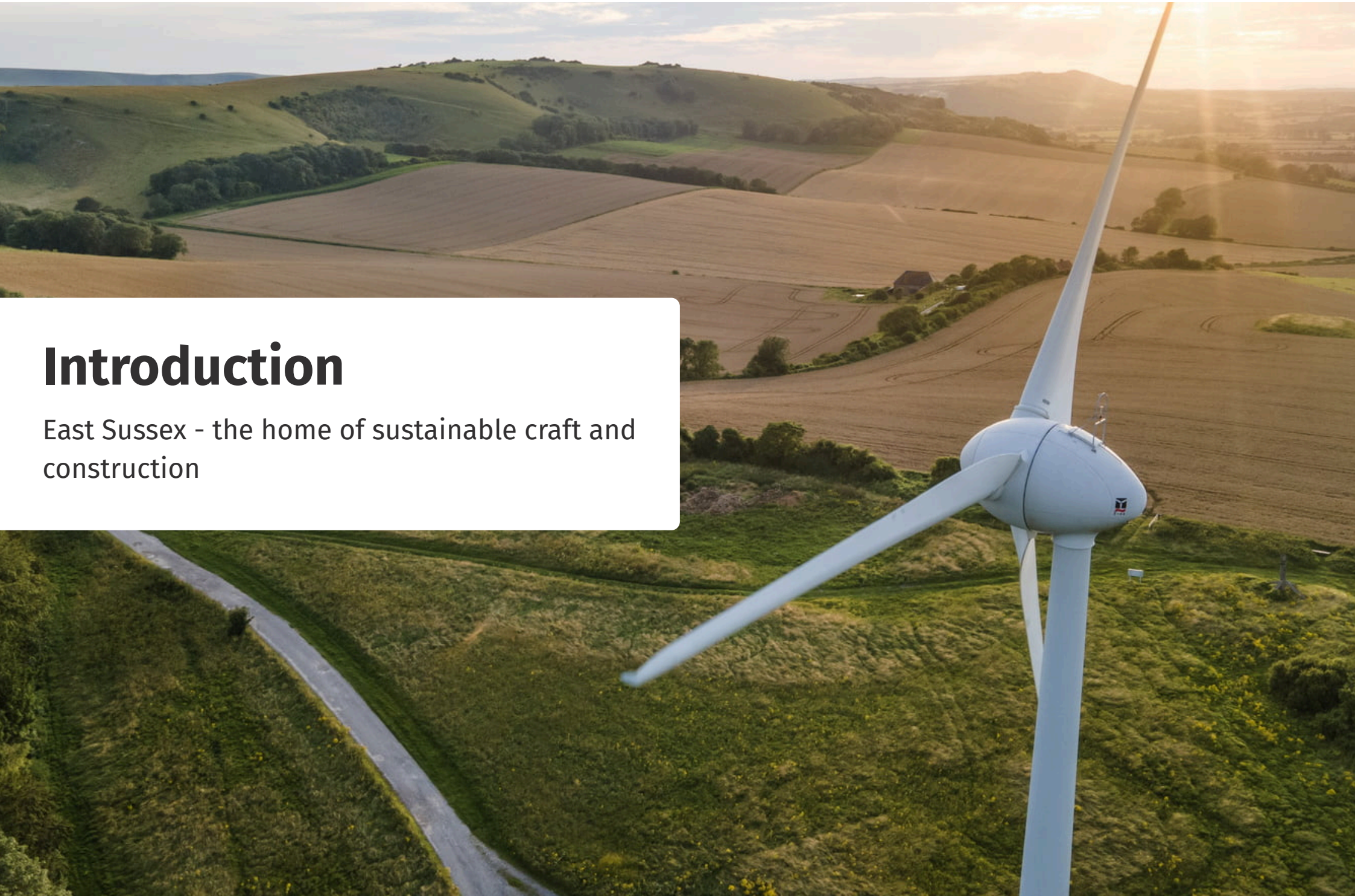

Introduction

East Sussex - the home of sustainable craft and construction

Introduction

The county of East Sussex, bordered by Kent, Surrey and West Sussex, and the English Channel to the south, boasts one of the UK's most diverse natural landscapes. From chalk hills and sandstone ridges to clay valleys, marshland and coastline, overlapping habitats create huge potential for biodiversity, with estimates indicating the presence of more than 10,000 species of flora and fauna in the Sussex Wildlife Trust Reserves alone.[1]

Woodland is perhaps the county's most notable characteristic. After Surrey, Sussex is England's most-wooded county, with coverage across 19% of its area (over 76,000ha), with over half of this (56%, or 42,447ha) classified as 'ancient woodland' by Natural England.[2]

Coupled with its historic clay reserves, the county's natural timber capital makes it an attractive prospect for the UK's low carbon and environmental goods and services sector – businesses working to decarbonise the energy sector, improve resource efficiency and preserve and enhance the natural environment.

And the need to do so is clear. "A healthy and productive environment is essential for sustainable social and economic prosperity," states the *East Sussex Environment Strategy 2020*, pointing out that environmental capital must be managed as surely as financial capital – especially with projected population growth across the county of +10% by 2032 creating demand for more than 2000 new homes every year, plus infrastructure investment to match.[3]

As material availability declines, prices rise, populations grow and the climate changes, businesses are under growing pressure to build sustainable futures, and sourcing locally can make sense from both an economic and an environmental perspective. Currently, progressive specialists making housing, children's playgrounds and furniture avail of timber sourced from within the county, while tile- and brick-making enterprises continue to draw upon its natural clay reserves.

With growing consumer demand for eco-friendly solutions, East Sussex is fast becoming the location of choice for environmentally minded enterprises, adding a new chapter to its history of natural construction and craft.

- [1] Glenn Norris, Reserves Ecologist, Sussex Wildlife Trust writing at https://sussexwildlifetrust.org.uk/news/how-many-species
- [2] The Flora of Sussex, 2018, Sussex Botanical Recording Society (Pisces Publications), p21
- [3] East Sussex Environment Strategy 2020, East Sussex Environment Board, p5

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A history of natural enterprise

A history of natural enterprise

The roots of Sussex industry lay in the mining and fashioning of flint, which began more than 4000 years ago, and was utilised by the Roman Empire thereafter.[4] The county's industrial importance waned significantly in the 1700s, with the emergence of coal and steam power prompting a migration towards the coalfields of the Midlands and the North of England, yet forestry endured. A region defined by the "landscape of woodland clearance"[5], Sussex remained rich in hazel, sweet chestnut, ash, hornbeam, fir, beech, birch, pine and, famously, oak. While the county's cloth and papermaking industries disappeared, demand for timber remained, from trades as diverse as shipbuilding and cask-making to the creation of charcoal.[6]

Prior to World War I, more people were employed in forestry than farming, states Steven Johnson, the architect of mixed-use woodland centre Flimwell Park – but the industry, and the county's woodlands, underwent profound change following World War II, as intensive agriculture gained ground and the population of Sussex boomed, going from 769,859 in 1931 to 937,339 in 1951, and to over 1,600,000 in 2011 – doubling in just 80 years.[7]

From 1981, a succession of protective measures ring-fenced various woodlands, while subsidies became available to environmentally minded farmers. Since 2006, Government agencies and local authorities have paid more attention to biodiversity, while work has been carried out by volunteers and conservation bodies to ensure the survival of Sussex's remaining forests.[8] On a broader scale, the Government's key natural capital legislative and policy targets include increasing England's woodland to 12% of its coverage by 2060.[9]

While West Sussex boasts several substantial forests, East Sussex is characterised by

numerous smaller woods and forests – notable examples include Ashdown Forest (2500ha of woodland) and Friston Forest (850ha).

Interestingly, much of the county's woodland would not be present if not for its historic iron industry, which endured from late medieval times to the 18th century. Francis Rose, writing in *The Flora of Sussex*, states: "Rather than causing the clearance of all the former forest as fuel for the furnaces, this seems to have helped to perpetuate much of the still very extensive woodland cover as managed coppice woodlands to supply the industry."[10]

The Weald remains the most heavily wooded part of the county, and the clay used in the manufacture of bricks, tiles and the region's distinctive earthenware pottery can be found in both the High Weald (Weald and Wadhurst Clay) and the Low Weald (Gault Clay),[11] with "the Hastings Beds of the High Weald [producing] the best strata of mineral content for brickmaking".[12]

With timber so plentiful, bricks were historically not the first construction material of choice.[13] Highlighting the relationship between these resources, the Ashburnham estate housed the last UK brickyard to burn handmade bricks in a wood-fired kiln.[14] Clay working and associated manufacturing still takes place in Sedlescombe, Chailey, Guestling and Bexhill.[15]

- [4] Sussex, Peter Brandon, 2006 (Robert Hale)
- [5] Sussex, Peter Brandon, 2006 (Robert Hale), p148
- [6] Sussex, George F. Bosworth, 1909 (Cambridge County Geographies, Cambridge University Press)
- [7] The Flora of Sussex, 2018, Sussex Botanical Recording Society (Pisces Publications), p42
- [8] The Flora of Sussex, 2018, Sussex Botanical Recording Society (Pisces Publications), p42
- [9] Part of the UK 25 Year Environment Plan, referenced in the East Sussex Environment Strategy 2020 (Technical Appendix), p17
- [10] The Flora of Sussex, 2018, Sussex Botanical Recording Society (Pisces Publications), p34
- [11] East Sussex, South Downs and Brighton & Hove Waste and Minerals Local Plan (adopted 19th February 2013), p84
- [12] Sussex Industrial Heritage, Colin Tyson, 2018 (Amberley Publishing), p19
- [13] Sussex Industrial Heritage, Colin Tyson, 2018 (Amberley Publishing), p19
- [14] Sussex Industrial Heritage, Colin Tyson, 2018 (Amberley Publishing), p19
- [15] East Sussex, South Downs and Brighton & Hove Waste and Minerals Local Plan (adopted 19th February 2013), p84

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A sustainable businesses community

A sustainable businesses community

Given the sustainable materials that can be sourced from within it, it is unsurprising that East Sussex is home to a growing number of businesses looking to strike a balance between enterprise and environment.

Timber is an increasingly valuable commodity, and it can make sense to establish local sources due to price, lead times, and the value of provenance to a growing number of consumers.

Given the significant need for more housing across the county, the building sector is a principal customer of the local timber industry. Although many (principally load-bearing) applications typically require higher grades of structural timber than can be found close by, Sussex timber is utilised for frames and decorative cladding, and in restorations and extensions (often to match the species used in older buildings).

Specialist suppliers fulfil various bespoke demands. Willows Sawmill in Uckfield caters for clients including East Sussex County Council (ESCC), historic buildings, windmill restoration projects and various private customers, while in Waldren, Copford Sawmill grows, grades and cuts larch, cedar and oak to spec. Its founder Alex Gingell says the ‘don’t move, improve’ mentality of many homeowners has driven additional demand from domestic quarters.

“We’re lucky that we’re in an area of Great Britain that, for hundreds of years, has been using oak as a building material,” he says. “If you look at some of the local villages, the houses are built out of very heavy beams, and this is partly what people are trying to replicate with new builds, new garages, and repairs to the old ones.”[16]

His son Harry, who runs the sawmill, adds: “Around us, there’s a need for the timber, and a need for someone to mill out the timber – and people like the fact that they know where it’s come from.”

Indirect trade, meanwhile, is facilitated by various operators. Ticehurst’s Woodland Enterprise Centre, for example, connects woodland owners and operators, and has invested in a mobile sawmill in order to source timber from some of the county’s more inaccessible areas – while online marketplace Woodlots has long been used for trading local timber. In-county milling specialists are also utilised.

Although timber is the most visible natural resource utilised by the county’s builders and makers, local clay and sand is still employed for tile and brickmaking, and often sourced from businesses’ own on-site pits.

Alongside those which draw solely on the county’s natural capital, a broad community of sustainably minded enterprises have made East Sussex their home, and they too benefit from access to materials and expertise, plus the opportunities to learn, grow and do business that come with being part of a bigger movement.

Eco-conscious makers of tiles and bricks include Aldershaw Handmade Tiles (Sedlescombe) and Sussex Handmade Brick (Three Oaks), while architect Baker Brown (Cooksbridge) champions “designing for a better future”, and Local Works Studio (Lewes) focuses on the creative and sustainable use of resources in landscape and building design.

Working with wood is more widespread. Specialist joinery companies include Parsons Joinery (Ringmer) and ITimber (Stoneham), while Studio Hardie (Lewes) and Natural Playscapes (Uckfield) focus primarily on playground design and development.

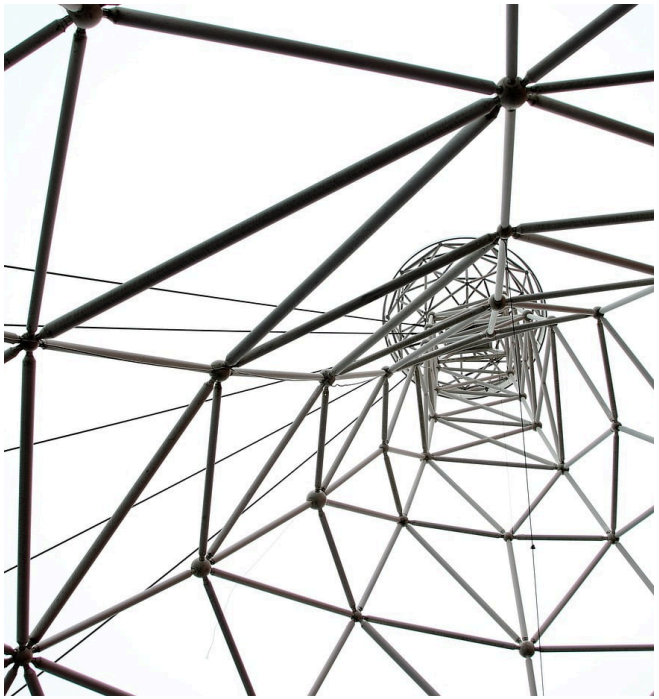
The county’s sustainable furniture-making and craft scene is particularly vibrant, with the likes of Crafted in Lewes and Inglis Hall operating in Lewes, and Fowler & Co (Newhaven) and High Weald Furniture (Hailsham) nearby.

Inwood Developments (Whitesmith) and Träframe (Eastbourne) act as machining and timber frame partners to the local construction industry, while Boutique Modern (Newhaven), one the county’s first B Corp-certified businesses, is an exemplar of sustainable development, creating modular solutions to address the region’s affordable housing crisis. It has pledged to be carbon neutral by 2025, and to build 1500 affordable homes across the south of England (while generating more than 500 new employment

opportunities) by 2030. The business recently worked with national social housing provider Stonewater to create 40 energy-efficient modular homes in Peacehaven, and more recently exchanged contracts on a new low-cost housing development in Lewes.

The strength of the region's business community becomes all the more apparent when its sustainable specialists come together. In 2003, the Woodland Enterprise Centre (WEC) opened in Ticehurst. A demonstration of what could be achieved with local timber resources, the development comprises offices, workshops and a meeting/training room, all set in 22ha of ancient woodland. Its award-winning centrepiece building was built from softwood and hardwood harvested in the South East, including a structural gridshell frame made from locally grown chestnut coppice.

As well as engineered timber and modified wood products, the centre comprises various low-embodied energy materials and natural insulation materials. "By demonstrating the use of locally sourced timber species, such as sweet chestnut, Scots pine, Douglas fir and European larch, the WEC has demonstrated how development can be very low environmental impact, and also make a positive contribution to woodland management in the region".[17]



Indeed, the WEC paved the way for an even more ambitious project, Flimwell Park, which opened in 2020, and was designed to be "an inspiringly beautiful, busy, and creative place to live, work and visit, producing food, fuel, materials, and a wide range of goods and services working in harmony with nature".[18] As well as workspaces, this mixed-use woodland centre comprises homes and hospitality venues, and further illustrates the potential of locally sourced natural materials – all of the buildings are made from timber, around 50% of it from Kent, East Sussex and Surrey.

Thanks in part to the inherent heat retention properties of timber buildings, Flimwell Park also sets new standards in energy efficiency, says its architect, Steven Johnson, adding that the very nature of a mixed-use development lends itself to energy preservation: "Traditional planning arbitrarily put different functions – working, living, playing, etc – in separate places (you might commute to work, for example). But the energy flow between them is huge. In Flimwell Park, these functions co-exist, and the mix means you don't have the expense of massive system shocks."

With ambitious Government targets prompting further re-evaluation of material use and community planning, the next level of sustainable development, Lewes' Phoenix project, is now inbound. A complete neighbourhood and supporting infrastructure, comprising housing blocks, transport and social hubs, recreational areas and workspaces, the 7.8ha development was created by real estate developer Human Nature, which says it represents "a new and regenerative way to make a place, build a community and create a more productive local economy fit for the 21st century".[19]

Its buildings will be constructed primarily from sustainable timber – much of from the woodlands around Lewes – while local chalk and clays will also be utilised. Upon its completion in some 10 years' time, the Phoenix promises to be "inherently sustainable … in the way it is designed, how it is built and through the lives its residents are able to lead".[20]

From small workshops to pioneering exemplar projects, the wealth of enterprise across East Sussex creates myriad business opportunities. But while the availability of natural capital can bring those involved in construction or craft closer to achieving their sustainable goals, ensuring truly sustainable growth demands a wider strategy.

- [16] Promotional video for machinery supplier Wood-Mizer on Copford Sawmill's website
- [17] https://www.woodnet.org.uk/wec/
- [18] https://www.flimwellpark.com/about-us
- [19] https://www.humannature-places.com/phoenix
- [20] https://www.humannature-places.com/phoenix

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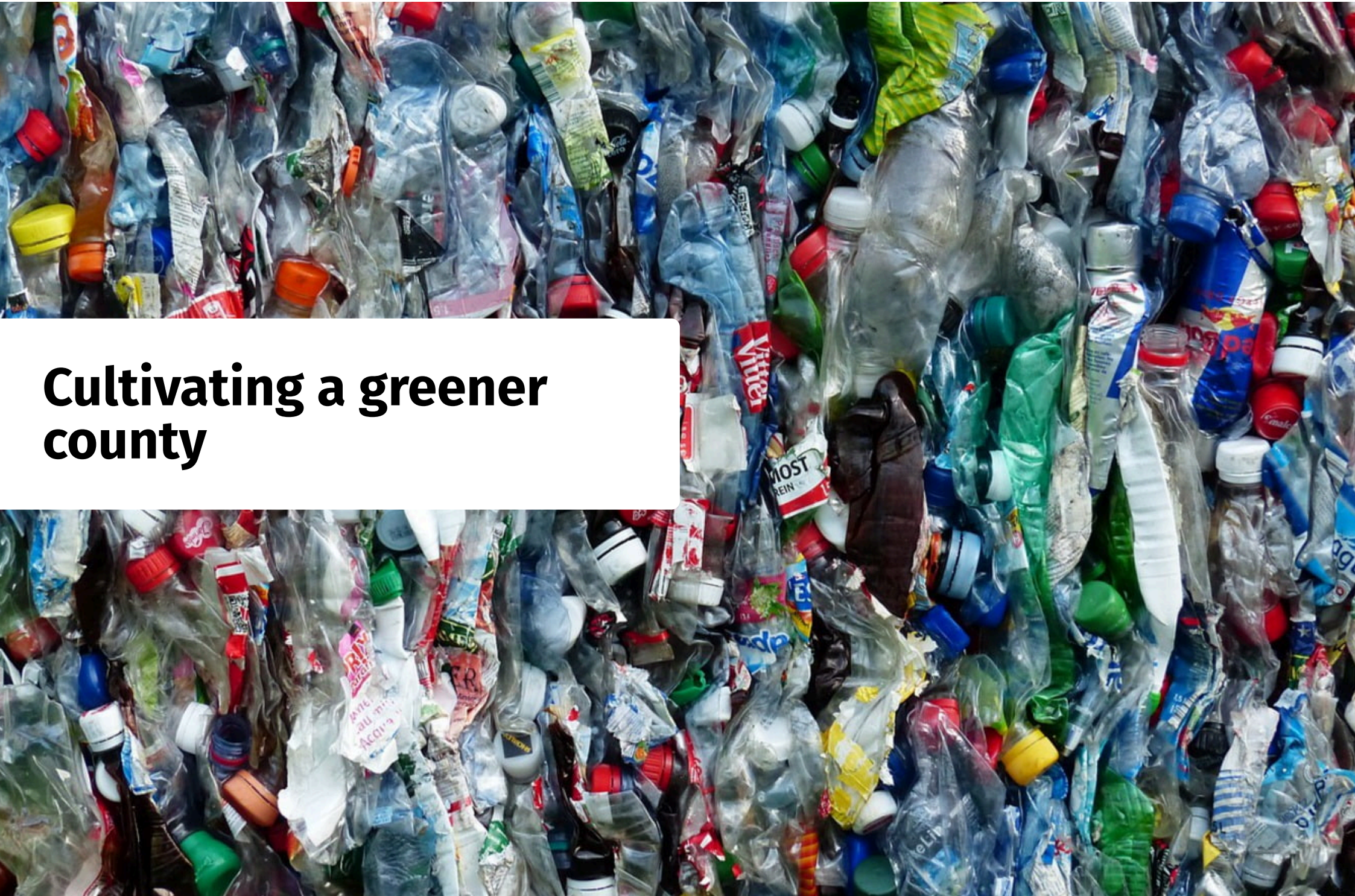
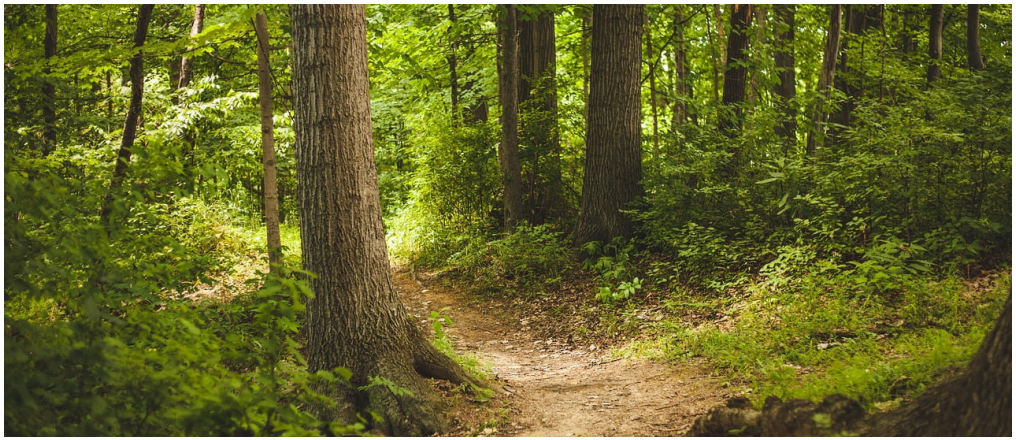


Cultivating a greener county

Cultivating a greener county

With climate change posing a significant threat, and the county's rich biodiversity in decline (in Sussex, over 470 species are globally threatened or in rapid decline [21]), the *East Sussex Environment Strategy 2020* set out goals relating to climate change, air quality, water, resource efficiency and natural capital, driving environmental improvement with the end goal of ensuring people continue to want to live, work, study, visit and do business in East Sussex.[22]



"The county's woodland is quite an asset in this regard, and there's growing interest in utilising it."

Andy Arnold, manager of ESCC's Environment Team

Emission reduction is at the core of the East Sussex Environment Board's objectives, and the huge demand for newbuild homes will need to be offset by zero-carbon solutions. "Wood can be used instead of steel and concrete, and locks some carbon emissions into the structure of the building," states the board's *Climate Emergency Road Map*, which, in the absence of a comprehensive national strategy, sets out the county's short-term aims. "It is no more technically complex to build houses and low-rise structures with timber, and the standards exist in the UK to do so."[23]

The strategy suggests that there were approximately 1,500 businesses in the low-carbon sector in East Sussex in 2020, employing some 8,735 people, with forestry and woodland management one of the largest subsectors –and that around £122b of investment is under consideration for clean growth in the South East by 2050, which would further drive significant business and job creation.[24]

Both the *East Sussex Growth Strategy* (2014) and the South East Local Enterprise Partnership (SELEP's) *Economic Strategy Statement* (2019) cite low-carbon business as a key growth sector – one that has already expanded consistently by around +5% per year over the last decade, compared with annual UK GDP growth of +1.5 to 3.1%.[25]

Crucially, funding streams are available to those investing in natural carbon offsetting measures such as woodland planting, management and development, alongside rewards for the sustainable development of agricultural land, and various partners are on hand to support such growth.[26] Brighton University's Green Growth Platform, the South East Regional Hub of Clean Growth UK, has helped provide support for local businesses including those in the woodland sector, says Andy Arnold, while LoCASE (Low Carbon Across the South and East) will have provided support and grants to some 150 businesses in East Sussex prior to its closure in June 2023.

Early examples of pioneering developments include the Barcombe CommuniHeat project – which has the potential to be the first electric low-carbon village in the UK – plus renewable heating plans for Firle and Forest Row, net-zero energy plans for Crowhurst, and a solar farm (with rewilding) in the Cuckmere Valley that will help power the regional rail network.[27]

Based on current scientific estimates, the county will need to cut carbon emissions by about -13% each year to maintain its share of the world's total carbon budget – a rate of reduction higher than that achieved in the past.[28]

Biodiversity is both the driver and the end-goal of many of these aims. According to Dr Kate Cole MCIEEM, ESCC Environment Team's County Ecologist (and Secretariat of the Sussex Local Nature Partnership), the primary driver of the Government's *Environment Act 2021* is biodiversity (indeed, the *Natural Environment and Rural Communities Act 2006* previously targeted a minimum net gain in biodiversity of +10%).

Leading the way are projects like Iford Estate, Lewes, a 1200ha mixed-use farm on the South Downs near Lewes which aims to become an exemplar landscape restoration project that delivers both food production and a platform for biodiversity by 2025. It will offer investors biodiversity net gain (BNG) credits to offset their own ESG targets.

Lois Mayhew, Biodiversity Projects Lead at the Sussex Biodiversity Record Centre, says that a total of 20,489 species (83% animals, 15% plants and 1% fungi) had been recorded in Sussex (as of February 2023). The wide range of woodland types present in Sussex includes rare wet woodlands – home to species including otter, wood horsetail, common crane and beech fern.[29]

"It's likely that where you deliver biodiversity net gains, you'll be able to stack the benefits. Yes, development pressure in the South East is massive, but we can see from projects we've worked on alongside SELEP that there's a real desire among local businesses to use nature-based solutions for offsetting carbon."

Dr Kate Cole MCIEEM, ESCC Environment Team's County Ecologist

Discovering new or better ways to employ the region's natural capital will be essential to protecting and extending their diverse habitats. However, any attempt to transform the natural landscape must be carefully considered. The distribution of the county's woodlands is important, states a report by the Sussex Local Nature Partnership, which reiterates the role played by hedgerows and woodland of varying density in biodiversity.[30] Progressive woodland development projects will need to consider the creation of 'habitat banks' and contiguous stretches that allow the movement of species back and forth, without being cut off by road or urban developments, says Kate Cole.

To this end, the Sussex Nature Partnership and Sussex Biodiversity Record Centre have developed a county-wide map of the nature recovery opportunities, which includes a dedicated section on the opportunities for woodland establishment in Sussex and the South Downs.[31] The report states that the Government has identified "new measures to

increase tree planting, as a central pillar in the efforts to reach net zero emissions by 2050", and plans to create 7000ha of new woodland in England each year to 2024, as part of its target to create 30,000ha each year – with £640m invested in planting more than 40 million trees, and a real need to know 'what the right tree in the right place looks like'.[32]

The project set out to provide farmers, landowners and others involved in woodland creation projects with a guide to the likely suitability of land for woodland creation, and identified 5515ha as 'high level of opportunity' sites (usually around existing woodland) – an area which, if converted to woodland, could store up to 37,667,500 tonnes of CO_2 after 100 years.[33] ESCC plans to produce a *Local Nature Recovery Strategy* shortly.

- [21] The 2019 Intergovernmental Platform on Biodiversity and Ecosystem Services, referenced in the East Sussex Environment Strategy 2020, p8
- [22] East Sussex Environment Strategy 2020, East Sussex Environment Board, p3
- [23] East Sussex Climate Emergency Road Map 2022-25, p29
- [24] East Sussex Climate Emergency Road Map 2022-25, p53
- [25] East Sussex Environment Strategy 2020, East Sussex Environment Board, p13, citing findings by Grantham Institute in 2019
- [26] East Sussex Climate Emergency Road Map 2022-25, p45
- [27] East Sussex Climate Emergency Road Map 2022-25, p11
- [28] East Sussex Climate Emergency Road Map 2022-25, p6, referencing findings by the UK's Tyndall Centre for Climate Change Research
- [29] https://sussexwildlifetrust.org.uk/discover/around-sussex/wetland-habitats/wet-woodland
- [30] Natural Capital Investment Strategy for Sussex (summary), Sussex Local Nature Partnership, January 2020, p21
- [31] Mapping a Nature Recovery Network in Sussex at the District Level, Sussex Nature Partnership and Sussex Biodiversity Record Centre, April 2021
- [32] Mapping Woodland Opportunity in Sussex and the South Downs National Park (technical report), Holly Pike and Julie Middleton, July 2022, p3, with reference to figures from Ares & Uberoi, 2020
- [33] Mapping Woodland Opportunity in Sussex and the South Downs National Park (technical report), Holly Pike and Julie Middleton, July 2022, p15

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The future of natural capital in East Sussex

The future of natural capital in East Sussex

Demand for extra housing, infrastructure and goods across the county was already high before the pandemic encouraged many to migrate from the cities to the countryside and coast, and before it and other global developments reduced the availability of raw materials. With a projected population growth of +10% in the next decade alone in East Sussex, it is clear that this demand will only grow.

As the ESCC's *Climate Emergency Road Map* puts it: "The aim is simple – to make progress in achieving the vision of being a net zero and climate-resilient county. The road to get there is anything but simple."[34] The Government has identified the need to protect and improve the natural environment in order to "create a more productive, healthier, happier and more sustainable county", but acknowledges that delivering growth within a more considered environmental framework will require new thinking, approaches, and ways of doing business.[35]

Andy Tugby, Sustainable Materials & Construction lead on the Phoenix project, believes there is no option but to embrace natural materials:

> **"As developers, we've got no right to build any other way than sustainably. If all the houses projected for completion by 2030 are built using the current methods, they'll suck up the county's entire carbon budget in embodied carbon alone."**
>
> Andy Tugby, Sustainable Materials & Construction lead

Andy hopes that the Phoenix project, and others like it, will kickstart greater use of local timber in mainstream construction – that it will have "a strong, positive impact on timber in Sussex", creating greater stability in supply and pricing.

Indeed, Human Nature has already hosted its first timber summit in Lewes, where it brought together experts in engineering, architecture, sustainable building and forestry to discuss the barriers and opportunities arising from truly low carbon construction at a significant scale – focusing on the developer's plans to make the Phoenix "the most sustainable neighbourhood in Europe".[36]

Flimwell Park's architect Steven Johnson also believes that, if properly communicated, new projects could open the door to a more sustainable future: "With new demand for timber and other crop-based products such as hemp, farmers, foresters, millers and fabricators are beginning to act to fill a void that has existed in this country since World War I. There's plenty of good timber around, but developing new ways of replacing that timber, once felled, in a sustainable and environment-enhancing way, is a big and exciting challenge we must face.

> **"We must also build better and more direct links between the university and industrial sectors, and that will dramatically increase the likelihood of good sustainable practices becoming normalised and embedded in our working practices. If done right, this could have a huge uplift on the economy and environment of the entire South East of England."**
>
> Steven Johnson, Flimwell Park's architect

He adds that timber developers and fabricators in Europe have already identified the potential, and are looking at establishing their own facilities in the UK.

And the business opportunities across the broader biodiversity movement have not gone unnoticed, notes Dr Kate Cole: "Through

biodiversity net gain, we are seeing new third-party providers pop up. There will definitely be a market for local carbon."

But developing a sustainable strategy for the county's natural capital is just part of the picture. While those accessible resources might give low-carbon businesses a reason to invest or establish themselves in East Sussex, the appeal of a cleaner, greener working and living environment should not be overlooked.

According to the *East Sussex Environment Strategy 2020*, there is "a growing body of evidence that the unique and extensive natural environment of East Sussex helps to attract and retain skilled workers and increase the area's appeal to business start-ups and inward investors".[37]

As a backdrop to business, the county's diverse, species-rich landscapes, of which woodlands are an important part, serve as a daily reminder of what these businesses are striving to protect. Alex Moran, whose joinery workshop, Cab, is based in Lewes, says: "We work hard, and it's often noisy and at times stressful. Being in a green and peaceful rural setting provides a very welcome counterbalance. Dogs can be walked during breaks, and in the summer we can even wash off the sawdust with a swim in the River Ouse after work."

The county's industrial days may be behind it, but there is opportunity – and inescapable demand – for East Sussex to recapture some of the self-sufficiency it once knew. The low carbon and environmental goods and services sector promises to deliver this renaissance, following in the footsteps of those which, whether making furniture or designing homes, have shown that it makes sense to do so sustainably, and with the natural capital on their own doorstep.

- [34] East Sussex Climate Emergency Road Map 2022-25, foreword
- [35] Graham Peters and Michael Turner, East Sussex Environment Strategy 2020, East Sussex Environment Board, p3
- [36] https://www.humannature-places.com/journal/human-nature-hosts-first-timber-summit-at-phoenix-house
- [37] East Sussex Environment Strategy 2020, East Sussex Environment Board, p14

LOCATE EAST SUSSEX

Aldershaw Handmade Tiles

Case Study

Aldershaw Handmade Tiles

Founded in 1999 by Antony Kindell, Aldershaw Handmade Tiles is based in Kent Street, Sedlescombe, within 33 acres of ancient woodland. Here, it draws on Wadhurst clay from its own on-site pit to hand-make tiles for roofs and walls, terracotta floor tiles and bricks, employing traditional skills passed down through generations of English tilemakers.

"It's a very different product to that which comes out of a machine."

Lindy Latreille, Co-Director

Aldershaw is also proficient in making Mathematical tiles, which have been used in British architecture since the early 18th century – initially as a fashion statement, and latterly to prevent weathering to wooden buildings. "Interestingly," says Lindy, "we're getting enquiries from developers of new builds for these – they're lightweight, and allow the possibility of added wall insulation."

The workshop's countryside location necessitates the use of power generators, so energy efficiency is crucial. Care is taken to ensure all resources, from raw materials to water, are used sparingly, and, when possible, reused.

Aldershaw boasts a comprehensive programme of waste minimalisation, heat efficiency, heat recovery, CHP, waste recycling, and the recovery of surface water for process and other non-potable uses. The business generates its own electricity for all motive power, recovers the heat from its generation for use in its dryers and recycles its tile waste. It also owns and manages enough nearby woodland to sequester more than six times more carbon than its fuel consumption produces.

“We care about protecting our architectural heritage as much as we do the environment, which is a duty that we take very seriously.”

Lindy Latreille, Co-Director

Only a handful of makers nationwide still hand-craft tiles in this way, but customer demand for authenticity remains. Tiles are among the most visible components of the built environment, and historically architecture tended to be defined by the building materials closest to hand. Consequently, Wealden clay remains a defining feature of many older buildings in Sussex, and beyond.

From its own 150 million-year-old clay, Aldershaw is able to generate six colours of tile, which, if necessary, can be glazed in nearby Rye and Lewes, to protect them from the coastal elements. Their subtle red and orange tones are characteristic of the Weald, and are thus actively sought by conservationists, architects and planners, particularly for restoration projects, or when working in areas of outstanding natural beauty or other sensitive areas.

Aside from its local domestic work, notable projects include rooves on the Queen’s House at the Tower of London, the medieval Harmondsworth Great Barn, the Real Tennis Court at Hampton Court, St James’ Church in Piccadilly, and National Trust properties in West Wycombe. Aldershaw has also supplied tiles for a palace in Sweden, a chateau in Bordeaux, houses in Holland, and floors in Ireland and the US.

Having availed of a South East Business Boost (SEBB) and other grants to augment and repair its kilns, Aldershaw’s eight-strong team works hard to balance traditional techniques and modern demand – but Lindy is adamant that her business “won’t leave the planet worse off than when we found it”.

LOCATE EAST SUSSEX

Flimwell Park

Case Study

Flimwell Park

Flimwell Park is a pioneering mixed-use woodland centre set in 46 acres of countryside near Ticehurst. An example of 'slow architecture' some 12 years in the making, the development opened in 2020, and comprises workspaces, hospitality venues and homes.

Environmental, social and economic sustainability are at the project's heart, and all timber has been sustainably sourced. The project aims to demonstrate how architectural and woodland development can exist in a continuous, integrated and mutually beneficial relationship.

The centre comprises eight workspaces, which are occupied by local businesses – from creative and cyber security agencies, to sustainable clothing and accessories brand, Swole Panda – while learning and teaching takes place within its focal building.

Meanwhile, 10 subterranean chalets, a restaurant-cafe, luxury spa and woodland trail await recreational visitors, and its final component, three ecologically advanced private homes, will be completed this summer.

Steven Johnson, a lecturer at the University College of London, and the project's masterplanner and architect, previously worked on the Downland Gridshell project at the Weald & Downland Open Air Museum, and subsequently Ticehurst's Woodland Enterprise Centre (WEC), just a mile away from Flimwell Park (and similarly sized), which opened in 2003 and laid much of the groundwork for the project.

> **"Back then, obtaining planning permission to work in ancient woodland was extremely difficult, but in doing so we immeasurably improved the prospects for local timber growers and sawmills."**

Steven Johnson, Lecturer

“Both Flimwell park and the WEC were designed to support new 21st century woodland commerce and, through that, sustainable forestry through timber design and the making of innovative timber buildings and resilient and biologically-rich landscapes,” he says. “Both also have a social agenda, with Flimwell Park becoming a place where people can visit, learn, and see timber projects happening, along with woodland management (which will eventually include permaculture and woodland farming).”

By opening up areas for visitors, timber production, woodland learning and creative projects, Flimwell Park’s woodland management plan aims to put the land to a variety of innovative uses, while increasing biodiversity and productivity. Species present include the heath lobelia, one of the UK’s rarest wild flowers.

“Our hope is that by establishing diverse uses for the site, we will offer a more resilient and sustainable future, which can be an exemplar of mixed-use woodland development,” says Steven, who explains that the bigger picture is about promoting “a new understanding of what constitutes sustainable forestry and woodland management, particularly in South East England”.

Image credit: Shootlab

“At Flimwell Park, there was a combination of South East framing timber used in the buildings’ structures and most of the cladding,” says Steven. “Although Germanic or Scandinavian timber was used to make some structural elements, around 50% of the timber used was grown in Kent, East Sussex and Surrey.”

Steven Johnson, Lecturer

Unsurprisingly, making use of local timber, where possible, was crucial. To that end, Steven investigated the availability of appropriate timber in the region’s woodlands, and its longer-term milling and fabrication

potential. “The timber is there, but getting to it is not always straightforward,” he says. “However, we did find companies who could produce the standard framing timber we needed.

The buildings are clad in softwoods such as larch and Douglas fir, while the non-glue-laminated timber structures were made with South East-grown English oak and Douglas fir.[38]

With the project going beyond the commercial and into the residential, the domestic dwellings are particularly noteworthy. Alongside access to an on-site Tesla supercharger station, each home comes with solar panels and uses renewable energy systems, rainwater harvesting and air source heat pumps, with underfloor heating throughout.

Timber construction also offers a high level of natural insulation. “From an economic point of view, it doesn’t make any commercial sense to build in brick and block, which comes with a huge amount of on-site work, which can be adversely affected by weather and the flow of masonry units,” says Steven. “As well as being incredibly simple and quick to build (smaller houses can be completed in just three days), these timber homes are practically made of insulation. The families living in Flimwell Park’s wear T-shirts and shorts all year round – their energy bill came to just £800 last year! In a standard house, the walls would need to be 0.5m thick to achieve that kind of heat retention, while the foundations need to be much bigger – all of which matters when space is at a premium.”

Image credit: Shootlab

In terms of sustainable resources, natural clay also played a larger part in the project than expected, says Steven: “Our students dug pile holes, extracted their own clay, and were able to use it pretty much straight out of the

Image credit: Shootlab

ground. It was so effective that we set up our own hotdesking unit for ceramic artists."

Chris O'Callaghan, the Director of Regalmain, which developed the project on behalf of owner Matthew Hedges, states: "The vision was to bring together the local community and to provide a place for businesses to collaborate and work. With the high standard of sustainable architecture and the managed woodland, Flimwell Park has created an environment that harnesses opportunities for woodland enterprise, recreation, conservation and education, whilst harmonising all this with nature. As well as the short term, we are extremely excited what the development will bring to the area – and East Sussex – in the long term, too."

Steven concludes that the project is generating significant interest from parties both public and private wishing to know more: "Planners, councillors, other architects and developers have been visiting the site to see what's been built there. The local authorities are trying to do the right thing, by looking into the possibilities of building council housing that make use of local timber. If we can get this right, it could have a profound positive impact on the whole local economy, from job creation to working the land and making things."

- [38] Flimwell Park pioneers self-sufficiency, enki magazine, December 2021

LOCATE EAST SUSSEX

Fowler & Co

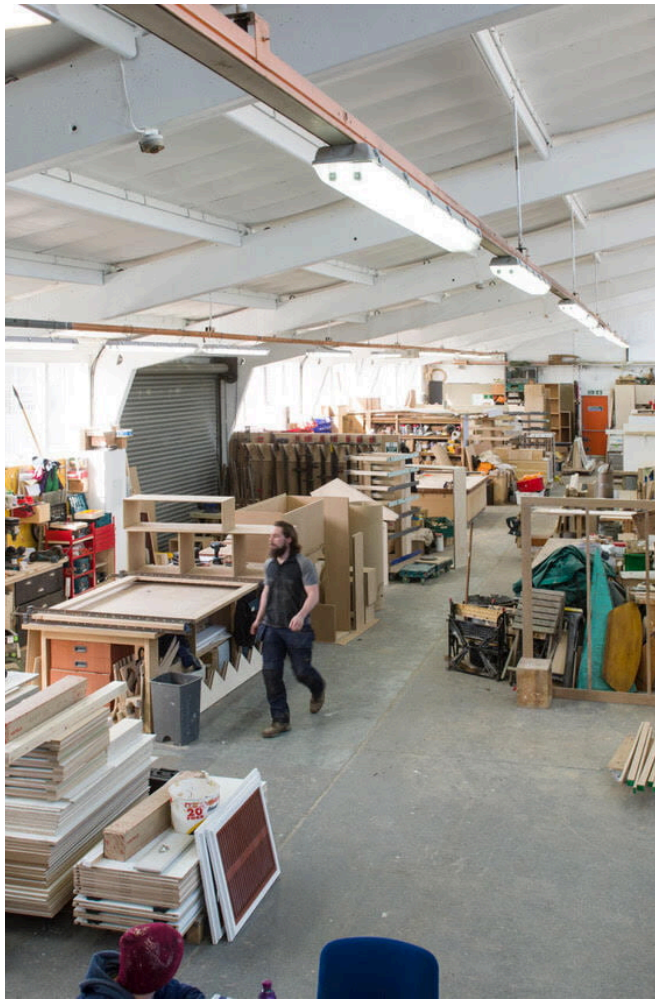
Case Study

Fowler & Co

Offering a complete furniture design and manufacture service, from bespoke joinery to consultancy on architectural projects and product prototyping, Newhaven's Fowler & Co has worked with high street brands, architects, private and corporate clients.

Its portfolio includes Marks & Spencer's best-selling Sonoma range, as well as retail lines for John Lewis, Habitat and Ercol, while the studio has worked on commissions as diverse as the interior of a major opera house in Germany, to a giant operational sundial for Melbourn Science Park near Cambridge.

Fowler & Co works solely with FSC-certified timber. The business sources this locally whenever possible, but doing so is often a long-term commitment, says the studio's founder, Ben Fowler. For example, the business recently bought several trees from nearby Copford Sawmill – timber which will be dried and ready for use in 2-3 years' time.



“Our key aim is to limit tree miles, we work with a local sawmill to source locally grown timbers, some from our own county, Sussex. The ash for the first batch of our Orb bed range, for example, came from nearby Petworth – a total of 69 tree miles!”[39]

Ben Fowler, Studio Founder to enki magazine in 2022

As well as materials, Ben enjoys the access to both skilled craftspeople and nationwide deliveries his location affords: “Our location is very well connected,” he says. “There’s a variety of skilled associated industries – wood turners, metalworkers, glass suppliers, etc – within easy reach, while national firms regularly deliver to the area.”

With a legacy of pandemic lockdowns prompting many to reassess their domestic surroundings, demand for the furnituremaker’s expertise remains high.

- [39] Marque Sussex champions the slow furniture movement, enkimagazine.com, April 2022

LOCATE EAST SUSSEX

Natural Playscapes

Case Study

Natural Playscapes

Natural Playscapes is a bespoke playground design and build company that operates throughout the UK. It aims to “enhance learning through play”, and works predominantly with natural materials.

All of its timber is ethically and responsibly sourced – principally robinia from Hungary, chosen for its hardwearing, weather-resistant properties. However, locally grown larch – which, too, requires no artificial preservation – makes up some 25% of its playgrounds, parks and canopies.

“We use a lot of larch from Willow Sawmill near Uckfield. We employ it in the rooves for our playhouses, facing trims, mud kitchens, planters … anywhere we can use a more natural softwood. We’ve been getting a monthly supply from them since we set up the business.”

Matthew Hedges, Director

Projects range from inner-city schools to Areas of Outstanding Natural Beauty. Natural Playscapes’ playground at Broadfields School (built from robinia and clad in larch for added safety) promises children an exciting activity space regardless of their physical abilities –

while the build delivered at Holt Garden Centre in Norfolk combines active play with imaginative play elements, and sits well within its North Norfolk coastal woodland surroundings.

"As our name implies, we try to be a bit different from our competitors," concludes Matthew, "so the question of sustainability often comes up in our conversations with prospective clients."

LOCATE EAST SUSSEX

The Phoenix

Case Study

The Phoenix

Over the coming decade, a former industrial site in Lewes will be transformed into the Phoenix, a ground-breaking 7.8ha sustainable neighbourhood which aims to turn “the imperatives of the climate and natural emergencies into opportunities for better design, better placemaking and ultimately healthier and better living”.[40]

The development will comprise 18 housing blocks containing 700 residential units, designed by 12 different architects, plus a central hall/canteen/office space, gardens, workshops, microbrewery and taproom, sports and wellness centre, mobility hub for vehicles, and much more – an entire infrastructure with accessibility for all and sustainability at its heart.

Delivered by real estate developer Human Nature, together with Periscope, Arup and Whaleback, the Phoenix promises to transform a neglected brownfield site into a

vibrant community space, prioritising people over cars, powered by 100% renewable energy, encouraging a culture of sharing, and creating more than 300 permanent jobs (not to mention more than 500 in its construction).

Its buildings will be constructed primarily in sustainable timber, and the goal is to source as much of it as possible from East Sussex and its neighbouring counties, says Andy Tugby, Human Nature's Sustainable Materials & Construction lead: "As well as employing significant amounts of local chalk and clays, the design process specified the use of local timber from the outset. We're intending to build primarily out of timber harvested from East and West Sussex, Kent and Surrey, most of which will be manufactured into prefabricated elements in an on-site facility in Lewes."

A capacity study is currently being carried out to identify the full extent of timber availability in the project's proximity. "The initial results suggest that there's enough structurally graded (C24) timber within reach, but we'd rather not rely on Forestry Commission Land, as it's not Sussex owned," says Andy, who proposes removing the need for C24-graded timber at the design stage, turning instead to cross-laminated timber (CLT) to take the structural weight, so a much higher proportion of (mid-grade) C16 timber can be utilised. "Alongside hempcrete and natural fibre insulation, that would allow us to use more of the Sussex wood in the wall cassette panels, too, meaning we'd be using almost entirely Sussex-grown timber," he adds.

"We're even hoping to preserve a link between each batch of wood and where it's sourced from. The manual that comes with each house will tell the buyer where their wood comes from in Sussex – so they'll be able to go and have a picnic on the ground where their house came from! That connection with the real world will truly help people understand the project's message."

Andy Tugby, Human Nature's Sustainable Materials & Construction lead

One of the development's key principles is to support a circular economy and improve material efficiency targets via the re-use of site materials, says Andy, so the Phoenix will

employ steel, masonry, hardcore and glass as re-usable components, re-constituted elements or recycled aggregates, retaining and capturing any embodied carbon: “In a way, all of these materials will also be from East Sussex!”

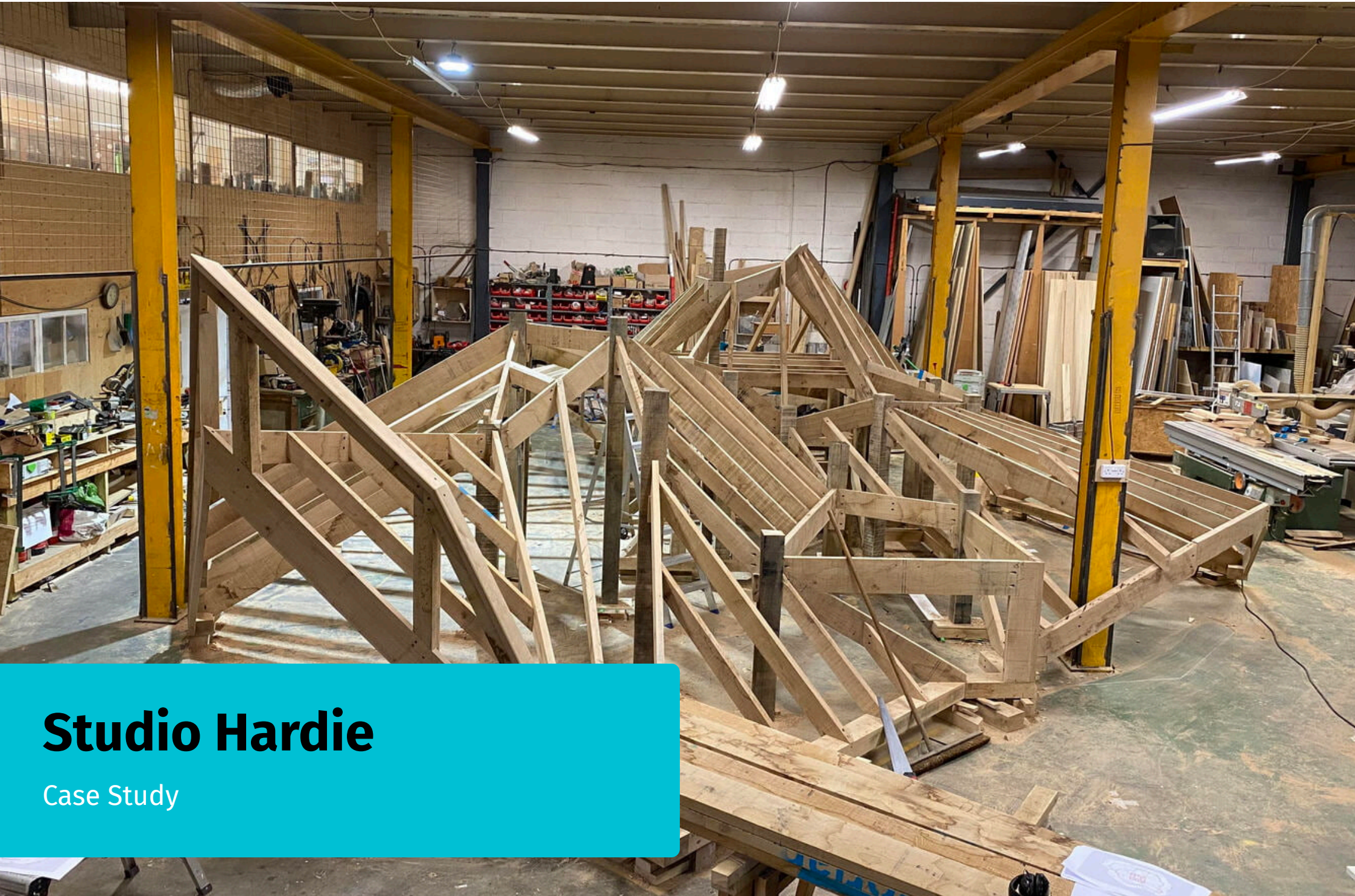
It will also boast on-site recycling, waste management and composting facilities, with the latter providing a good example of the development’s circular economy – food waste will be composted, providing fertilisation for urban farming, where food is grown for the neighbourhood canteen, cafes and restaurant.[41]

In all, the Phoenix represents a significant step forward in sustainable housing development, and proposes workable solutions to an existential threat. “My education opened my eyes to the fact that building an eco-house in the woods may be a great exemplar project, but it’s not going to solve the issues we’re facing with climate change,” says Andy.[42]

“Led, funded and built by local people, the Phoenix is naturally and necessarily of its place. It seeks to capture the radical spirit of Lewes and enhance its extraordinary landscape – and, if Lewes is anything, it’s a place where ground-breaking things happen.”

- [40] https://www.humannature-places.com/phoenix
- [41] https://www.humannature-places.com/phoenix
- [42] https://www.humannature-places.com/journal/meet-the-team-andy-tugby

LOCATE EAST SUSSEX



Studio Hardie

Case Study

Studio Hardie

"Sustainability is a bi-product of good design," says William Hardie, the founder of designer/maker Studio Hardie. The nine-employee workshop is located in the Phoenix Works in Lewes, which is soon to be part of radical sustainable neighbourhood development project, the Phoenix.

Studio Hardie shares much of that scheme's ethos of sustainability and integrity. Although playgrounds account for around 70% of its work, the studio tackles projects as diverse as architectural installations and concept homes – its clients include English Heritage, National Trust and The Design Museum. William and his team also make regular appearances on Channel 4's *George Clarke's Amazing Spaces*.

Studio Hardie's designs range from the Seaton Delaval Hall playground, a baroque-style woodland play area in Northumberland, to the Vivo Vvagon, a "mobile pop-up space" made from sustainable materials, which runs on solar power.

Despite a dazzling level of diversity, they all share a common essence. "Sustainability has always been utterly essential to our business," says William, who studied and promoted permaculture before founding the studio, and whose early experiences in repairing timber-framed buildings proved formative: "Working on 500-year-old buildings really changes your outlook on how long things should last, and how sustainable structures can really be," he says.

Studio Hardie principally uses larch, oak and cedar to create durable and characterful playgrounds for the heritage sector and local councils, and the provenance of the materials used is increasingly important to those clients. "In our educational and play-based projects, having that connection with the landscape is

important," says William. Indeed, many of the studio's larger partners will only specify native species.

Aside from some projects which demand wood from overseas, Studio Hardie sources the bulk of its timber from local partners including Copford Sawmill in Heathfield, and Willow Sawmill, near Uckfield. All of it is felled and milled within 20 miles of the business.

Demand has grown – as have its suppliers' lead times, accordingly – but doing business with local sawmills is straightforward, and guarantees good quality, says William: "If we ever do feel let down, they're just around the corner, and able to rectify any problems right away." Local expertise is also readily available.

William says that numerous public and private clients are keen to start new projects – and, for many of them, the studio's sustainable credentials are its key draw. For William, whose team has always been sensitive to matters of ecology and minimising waste, a sea change in how businesses and people perceive sustainability cannot come soon enough. In the long term, he would like to build a wholly sustainable workshop, to demonstrate just how easily industrial buildings can be made and operated from these foundations.

"East Sussex has a lot of woodlands, so we find sourcing timber relatively easy. There's a selection of local timber mills, plus numerous local fabricators and specialist manufacturers – failing that, Kent and West Sussex are close by. And we also find we can regularly form teams of consultants from our doorstep. Lewes, in particular, has a wealth of makers and experts with whom we regularly collaborate, but also within easy reach is a large base of architects, engineers, designers, specialist suppliers, craftspeople and builders."

William Hardie, Founder

Until then, he is content with how closely his East Sussex surroundings facilitate his aspirations. "The quality of life here in Lewes very high. It's close to London – without the London overheads – and is a cultural and making hub quite unlike other rural market towns. It's also a great place to live, with fantastic schools, beautiful countryside (both woodland and Downs), and the sea close by."

Thank you for reading

East Sussex - the home of sustainable craft & construction