

# Developing an Eco-social Enterprise

Session 1

Tuesday, 11 May, 2021

Tim Crabtree

Wessex Community Assets & Plymouth University



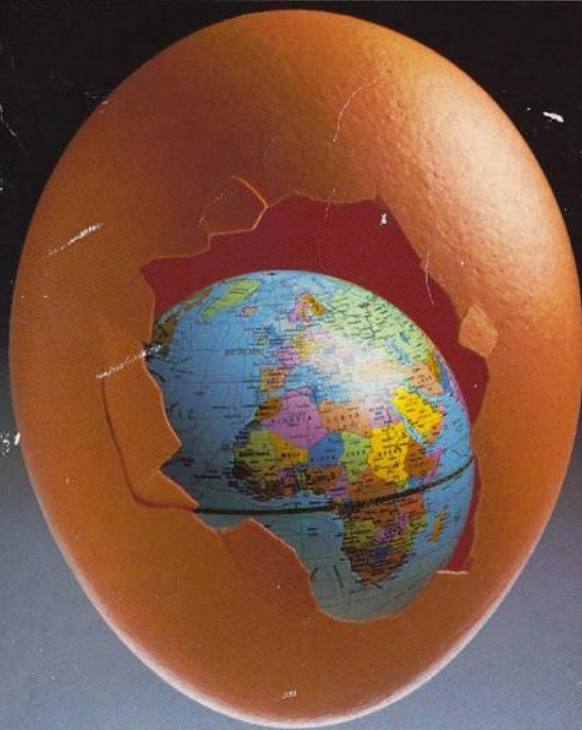




ABACUS

E.F.

**SCHUMACHER**  
**SMALL IS BEAUTIFUL**



A STUDY OF ECONOMICS AS IF  
PEOPLE MATTERED



**n e f**

economics as if people  
and the planet mattered

ABACUS

# SMALL IS POSSIBLE

George McRobie



The sequel to E.F. Schumacher's **SMALL IS BEAUTIFUL**  
and **A GUIDE FOR THE PERPLEXED**

**MONDRAGON**



HUMANITY  
AT WORK

Finance  
Industry  
Retail  
Knowledge



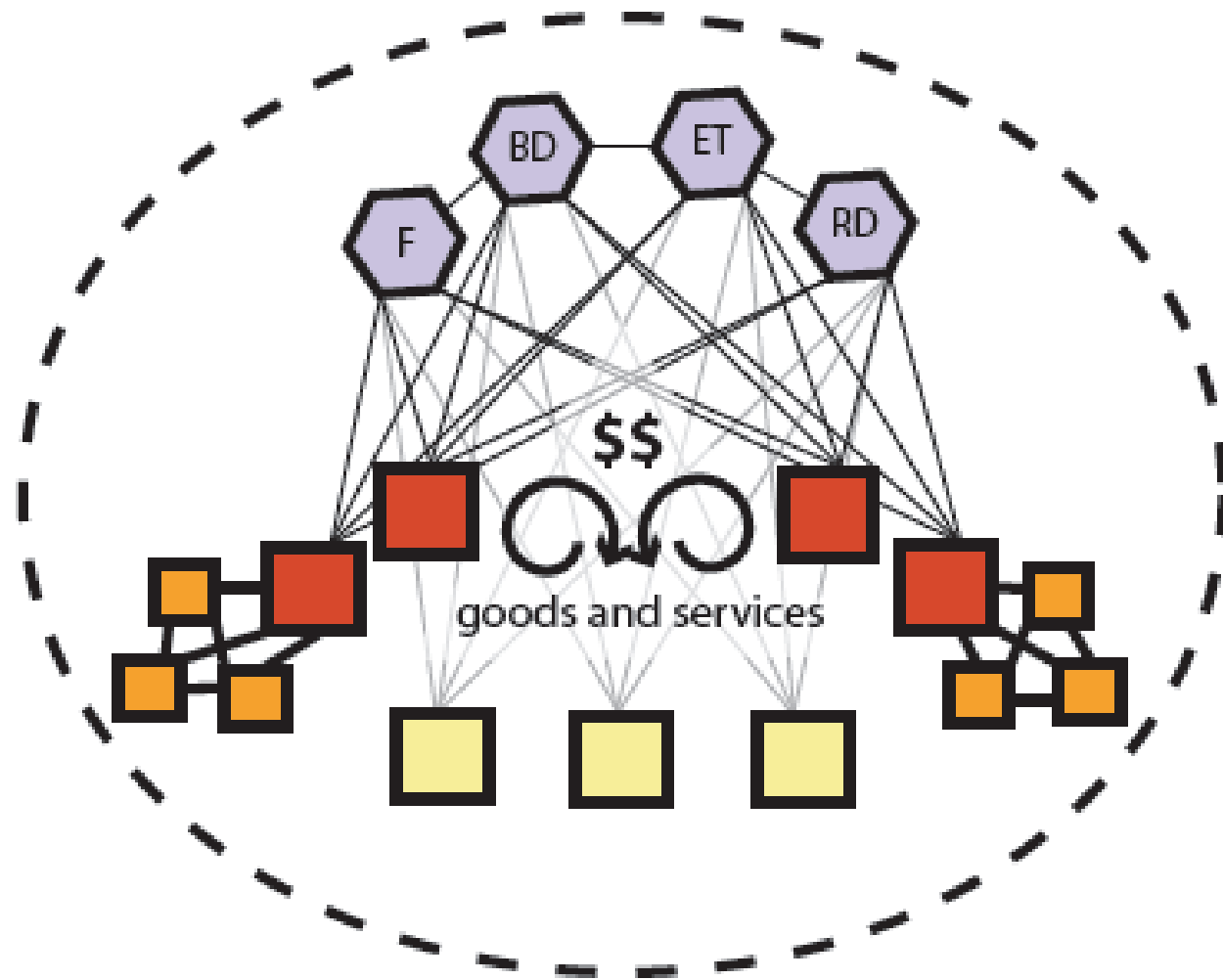
**mn**  
MONDRAGON  
UNIBERTSITATEA

ENPRESAGINTZA  
FAKULTATEA  
FACULTAD DE  
EMPRESARIALES





# Cooperative Network Model of Endogenous Economic Development



## LEGEND



Defined Geographic Area



Secondary Cooperatives or Institutions:  
F = Finance

BD = Business Development

ET = Education/Training

RD = Research & Development



First generation cooperatives



Second generation cooperatives



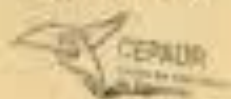
Spin-off Cooperatives



Cooperative Groups

development  
dialogue

Reprint from 1997-1



## HUMAN SCALE DEVELOPMENT

An Option for the Future

CEPAUR  
Dag Hammarskjöld Foundation

# REAL-LIFE ECONOMICS

Understanding World Crises



Edited by Paul Ekins  
and Manfred Max-Neef



Das Hammarskjöld-Fundation

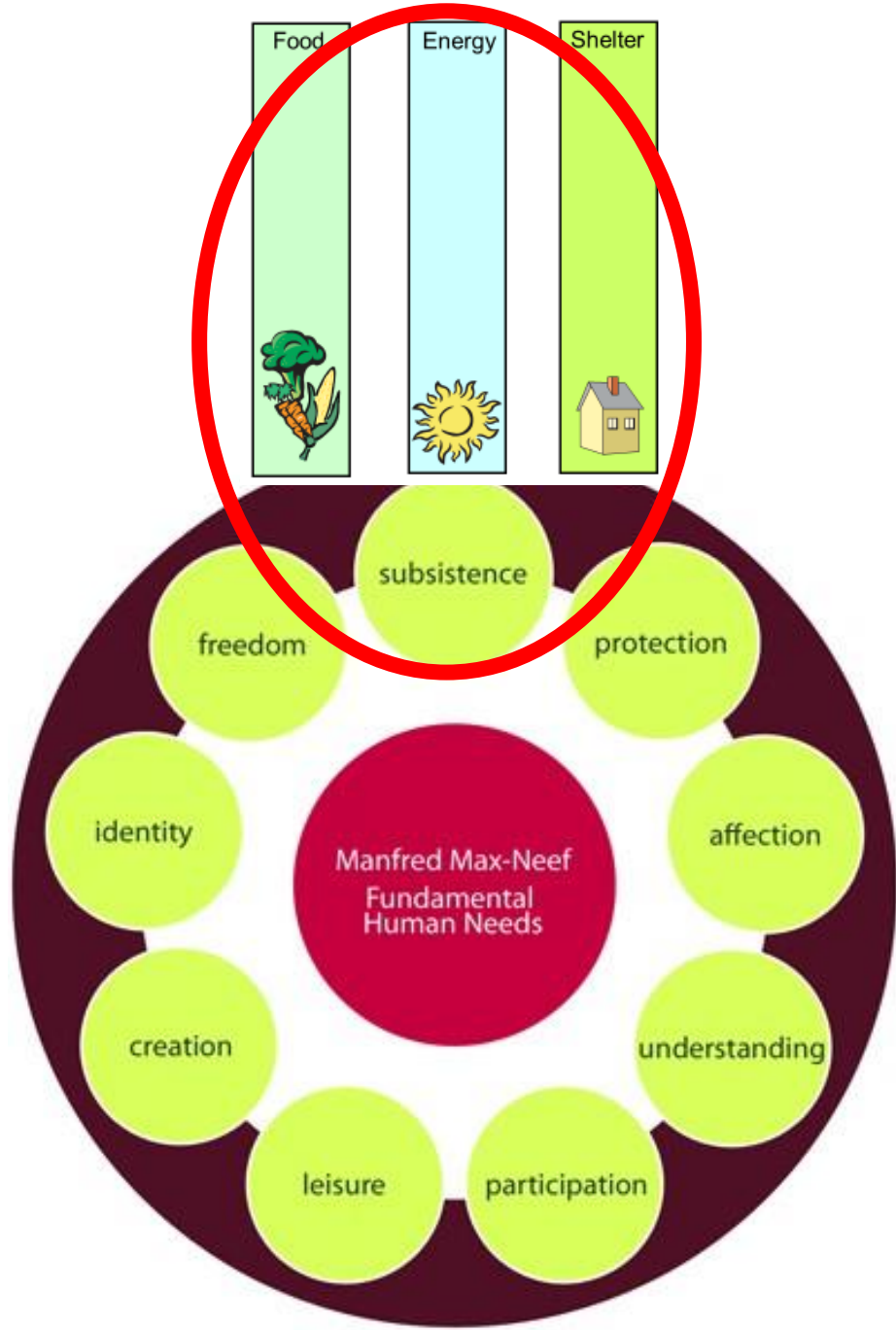
## What Next?

Draft thematic paper

From Knowledge to Understanding: Navigations and  
Returns

Manfred A. Max-Neef





**Food**

**Energy**

**Transport**

**Housing**

**Communication**

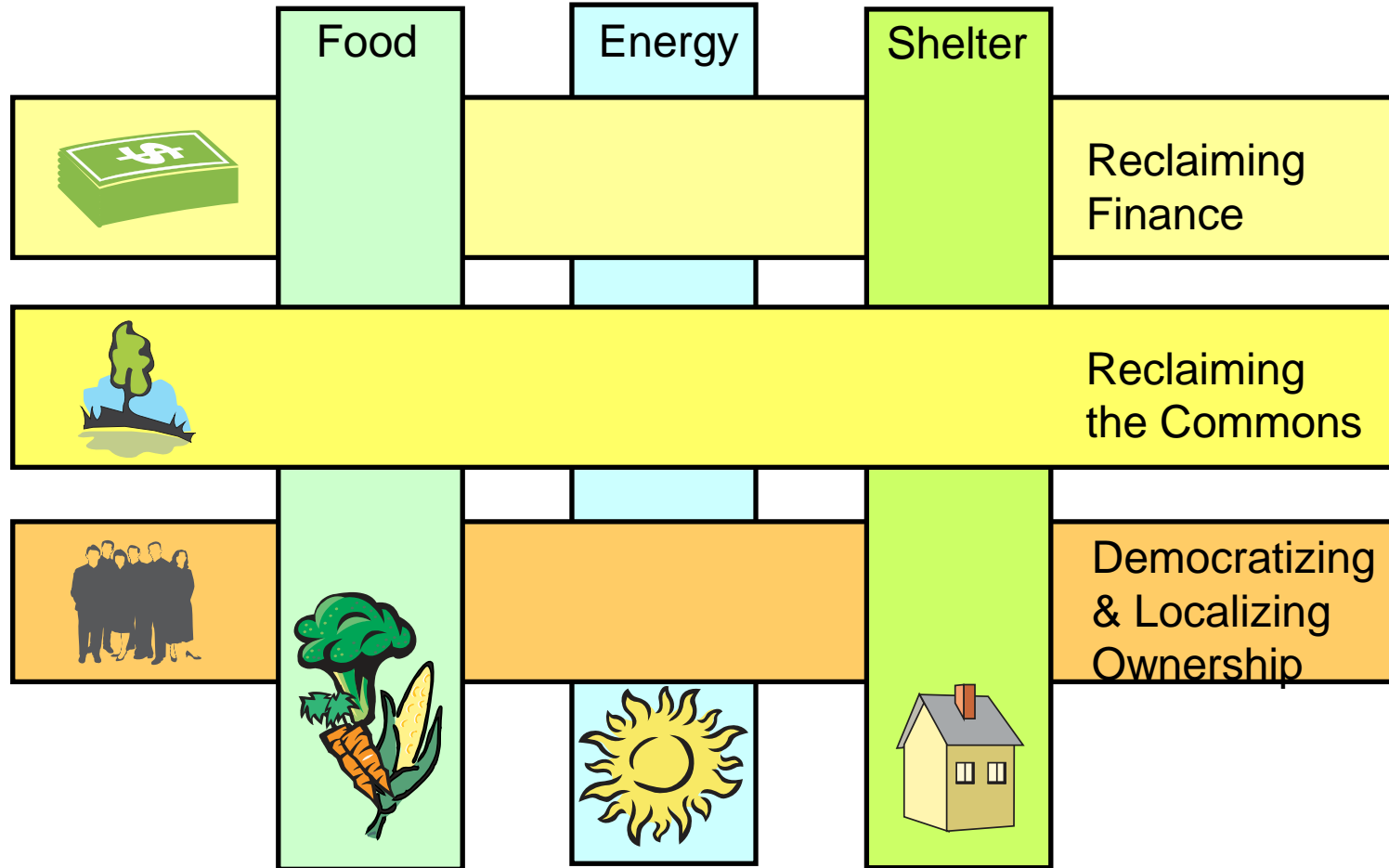


**Culture**

**Social care  
& health**

**Education**

# SATISFIERS



ENABLERS

# HOUSING



# FOOD



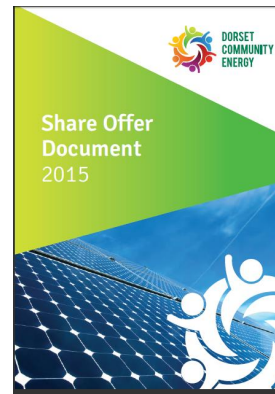
# ENERGY



# WORKSPACE



# FINANCE



# Training & Community Development





# Bridport Centre for Local Food





## New Central Kitchen at Centre for Local Food



# Local Food Links: ethical sourcing

- **Meat** – Genesis Farmers
- **Milk** – Coombe Farm
- **Yogurt** – Yeo Valley
- **Butter** – Denhay Farms & Coombe Farm
- **Cheese** – Denhay & Coombe Farm
- **Flour** – Edward Gallia, Cerne Abbas
- **Eggs** – Vurlands Farm
- **Vegetables in season** – Bothen Hill Organic, Washingpool Farm, Somerset Organic Link
- **Fruit in season** – Elwell Farm
- **Bread** – Leakers, Punch & Judy Bakery
- **Food service** – Essential Trading





## The schools we supply

### **Bridport & Dorchester area**

**Bridport Primary**

**Broadwindsor**

**Burton Bradstock**

**Charmouth**

**Dorchester Middle School**

**Dorchester Opportunity Group**

**Loders**

**Powerstock**

**Prince of Wales**

**Salwayash**

**St Catherines**

**Stickland's**

**St Mary's Beaminster**

**Radipole**

**St Michael's Lyme**

**Symondsbury**

**Thorners**

### **Blandford area**

**Archbishop Wake**

**Blandford St Mary**

**Downlands**

**Dunbury Church of England**

**Academy**

**Durweston**

**Hazelbury Bryan**

**Milldown**

**Pimperne**

**Spetisbury**

**St Andrew's**

**Shillingstone**

**Stalbridge Primary**

**St Nicholas Child Okeford**

**Stower Provost**

**William Barnes**



### Local Food Links: The first 10 years

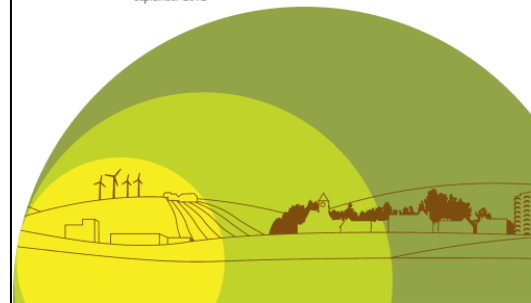
What we have done and what we have learned about adding value to local produce through catering



## Prospects for the Future: Scaling Up the Community Food Sector

Research by Cardiff University for the  
Making Local Food Work Programme

September 2012





Twenty-two solar installations, one hundred and ninety-eight shareholders, and 1023kW of solar photovoltaic panels on fifteen schools, four community buildings and three hospitals in Dorset.

Sign up to our quarterly newsletter

[More about Dorset Community Energy](#)



**Share Offer  
Document  
2015**



**Share Offer  
Document  
November  
2015**





# 3rd Share Offer Re-opening Covering letter

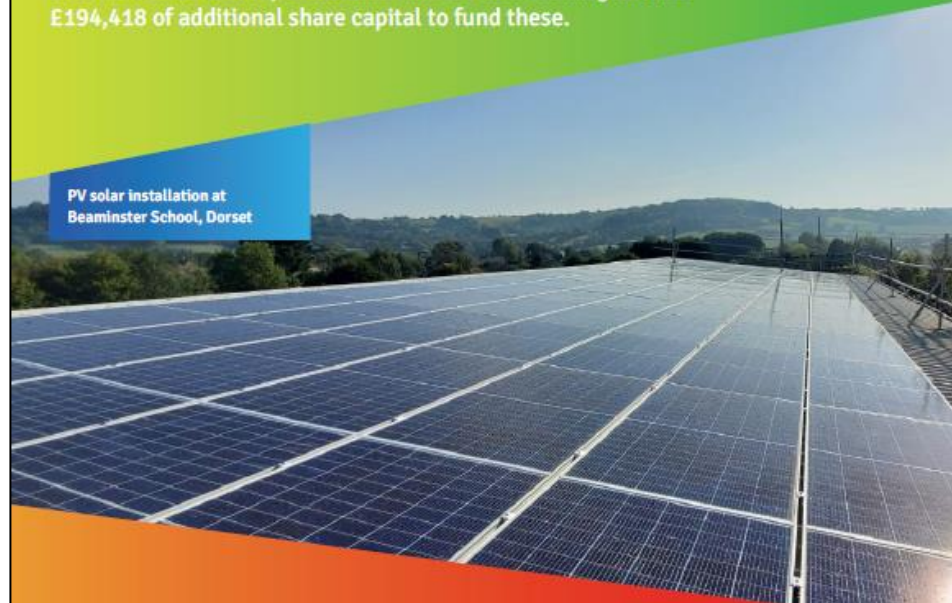


**May 10th 2021**

Dorset Community Energy (DCE) is pleased to announce that it is re-opening its 3rd share offer that closed in July 2019 having successfully reached its target of £445,000.

These funds have been used to install 700kWp of rooftop solar panels on schools and hospitals across Dorset. We have been able to secure a further three rooftop solar sites and are now seeking to raise £194,418 of additional share capital to fund these.

PV solar installation at  
Beaminster School, Dorset



# Wessex Community Assets

Wessex Community Assets helps communities to become more resilient through access to land and finance.



# Wessex Community Housing Hub

- A technical support 'hub' for Community Housing projects
- Working in Devon, Dorset and Somerset
- 22 projects completed – over 200 houses; 50 in progress



# Background: 2001 – 2011

Stand-alone CLT projects – inspirational and challenging

Dorset - Buckland  
Newton CLT



Devon – High  
Bickington CLT

# Background: 2011 – 2020

A focus on CLT partnerships with housing associations



Christow CLT and Teign Housing completed 18 affordable homes in the Dartmoor National Park







**Marshwood Community Land Trust**





# Question:

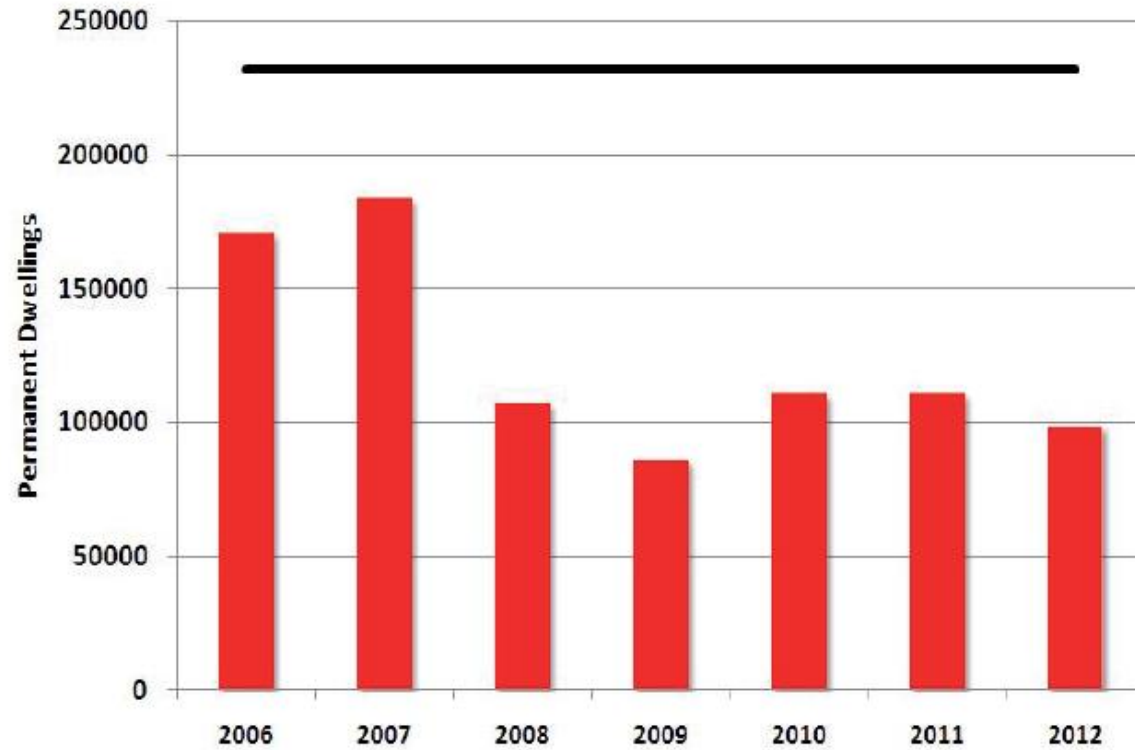
What am I concerned about?

What is it that affects me?

What am I drawn to engage with?

At this point, don't talk about "intentions", "solutions" or your idea for an eco-social enterprise.

## We've not been building enough homes



■ Total housing starts  
— Arising housing need

Source: DCLG

# Shelter

# BridportNEWS

[News](#)[Sport](#)[Leisure](#)[Info](#)[Your Say](#)[Family](#)[Video](#)[Announcements](#)[National News](#)[Local News](#)[Bridport](#)[Lyme Regis](#)[Elections](#)

[Bridport and Lyme Regis News](#) » [News](#) »

**NEWS** 

## Bridport: 1,000 people chase just 15 new homes

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By Rene Gerryts

10:32am Wednesday 30th March 2011 in News

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A STAGGERING 1,000 local people applied for just 15 homes when they went up for grabs in [Bridport](#).

**3,496,000**  
**PRICED OUT**


The PricedOut Index of taxpayers trapped renting

## The campaign for affordable house prices

Angry about the high cost of housing? PricedOut gives you a voice.

Housing across much of the UK has become unaffordable for ordinary people, as successive governments encourage people to treat houses as investments rather than somewhere to live. As a result of rising house prices it now takes 12 years on average to save a deposit.

We call for action from government to build more homes and reduce the cost of decent housing.

 Sign in with Facebook

 Sign in with Twitter

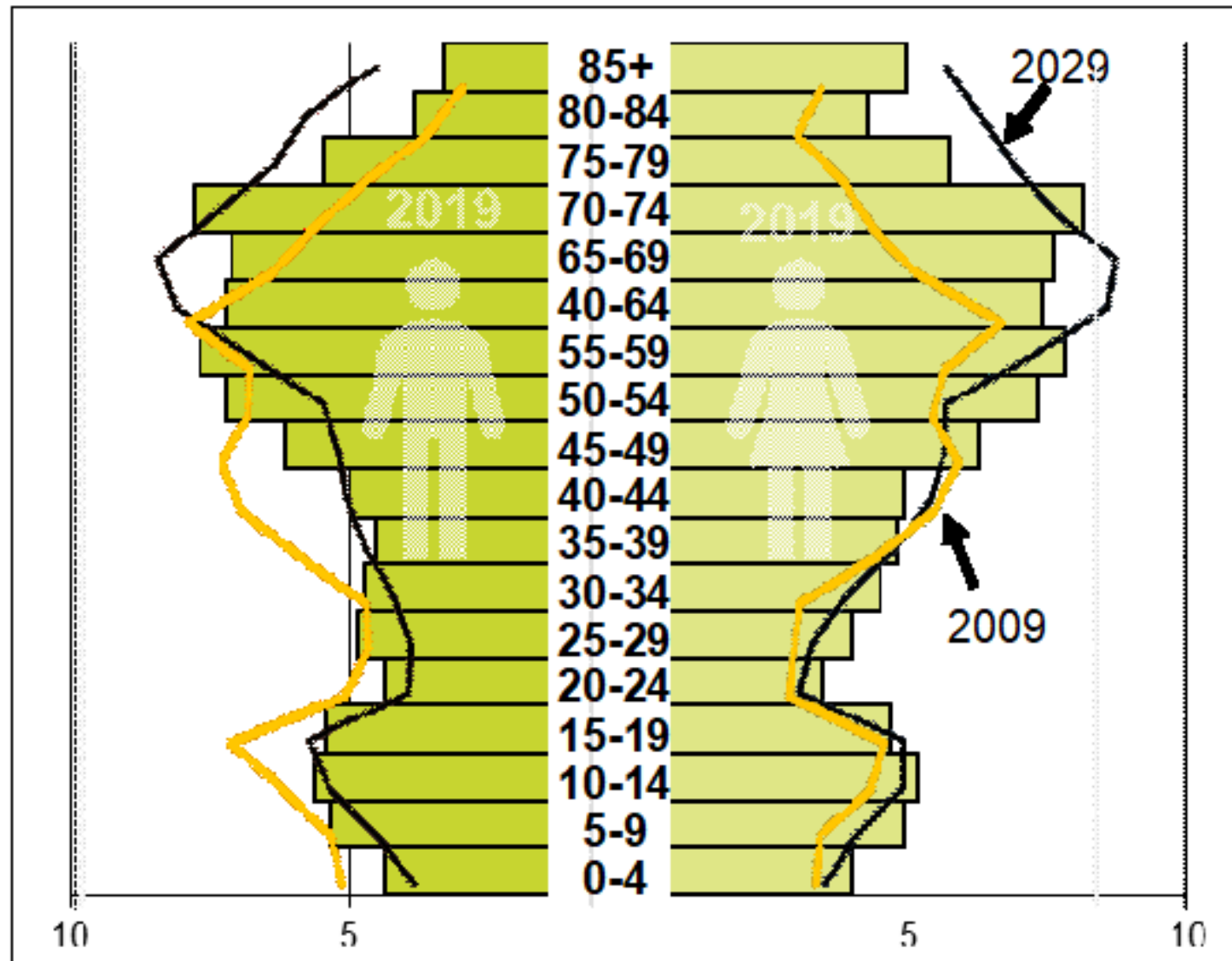
 Sign in with Email

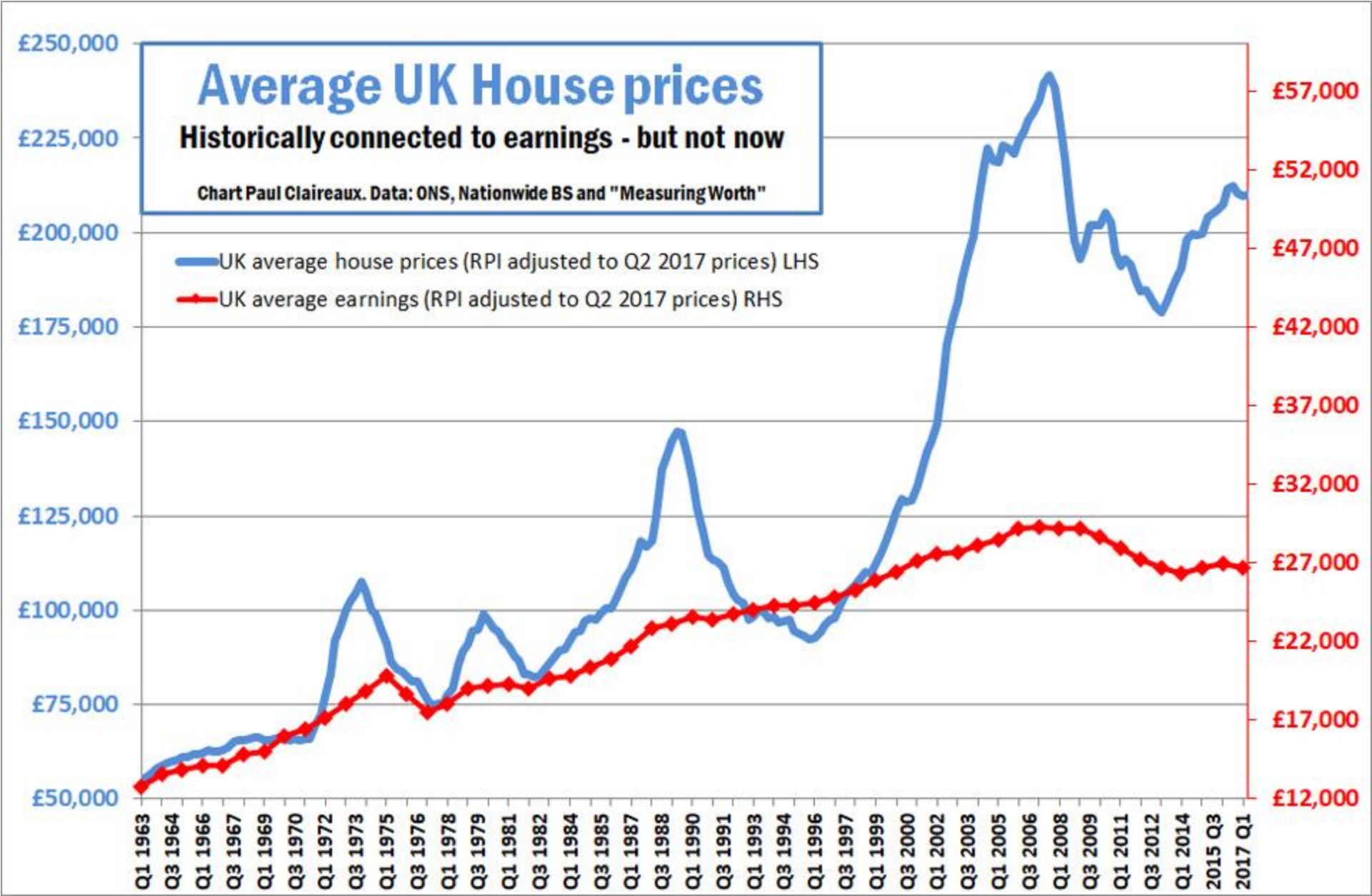
Email address

## Young families priced out of rental markets in two-thirds of the UK

Figures suggest soaring rents make having children financially prohibitive for young couples in southern England and beyond







	The concerns we are addressing
<b>Affordable sustainable housing</b>	<p>The housing crisis:</p> <ul style="list-style-type: none"><li>– Lack of affordability</li><li>– Disparity between house prices and average wages</li><li>– Lack of security</li><li>– Lack of sustainability</li></ul>
<b>Local enterprise infrastructure</b>	<p>The crisis of livelihoods:</p> <ul style="list-style-type: none"><li>– Fragile local economies</li><li>– Job insecurity</li><li>– Lack of skills &amp; facilities to create regenerative &amp; resilient local economies</li></ul>
<b>Regenerative land management</b>	<p>The ecological crisis:</p> <ul style="list-style-type: none"><li>– Climate change</li><li>– Biodiversity loss</li><li>– Pollution, including from intensive agriculture</li><li>– Resource depletion</li></ul>





# Raise the Roof

[www.raisetherooft.info](http://www.raisetherooft.info)



Bridport Community-led Economic Development

## Local Materials in Construction

Tim Crabtree

**Timber & other local materials as key inputs**



**Affordable, sustainable houses**

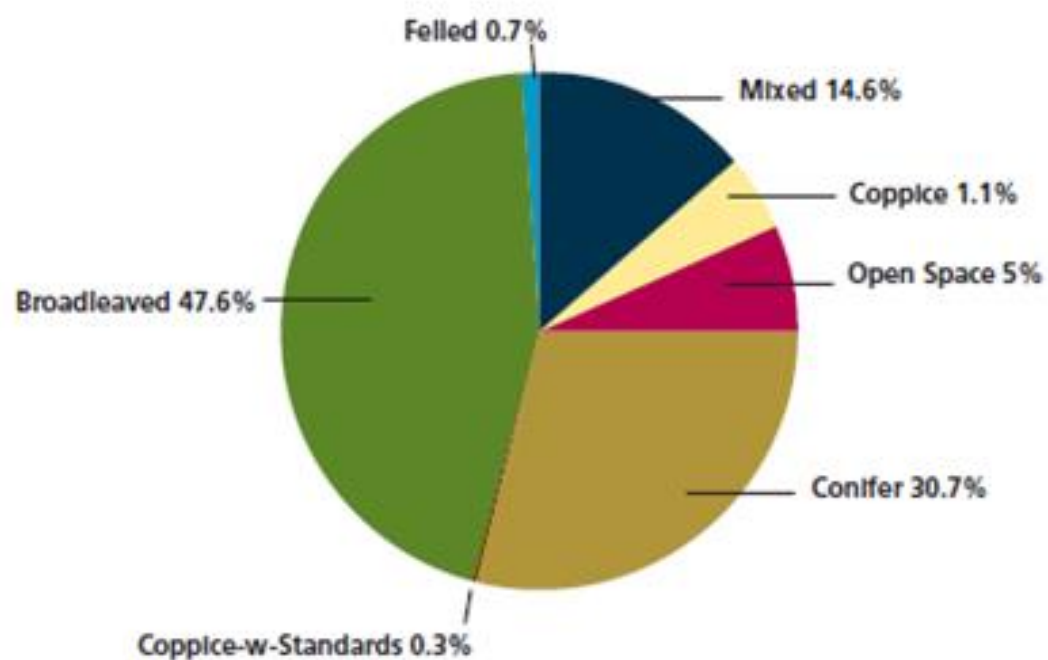


# Question 1:

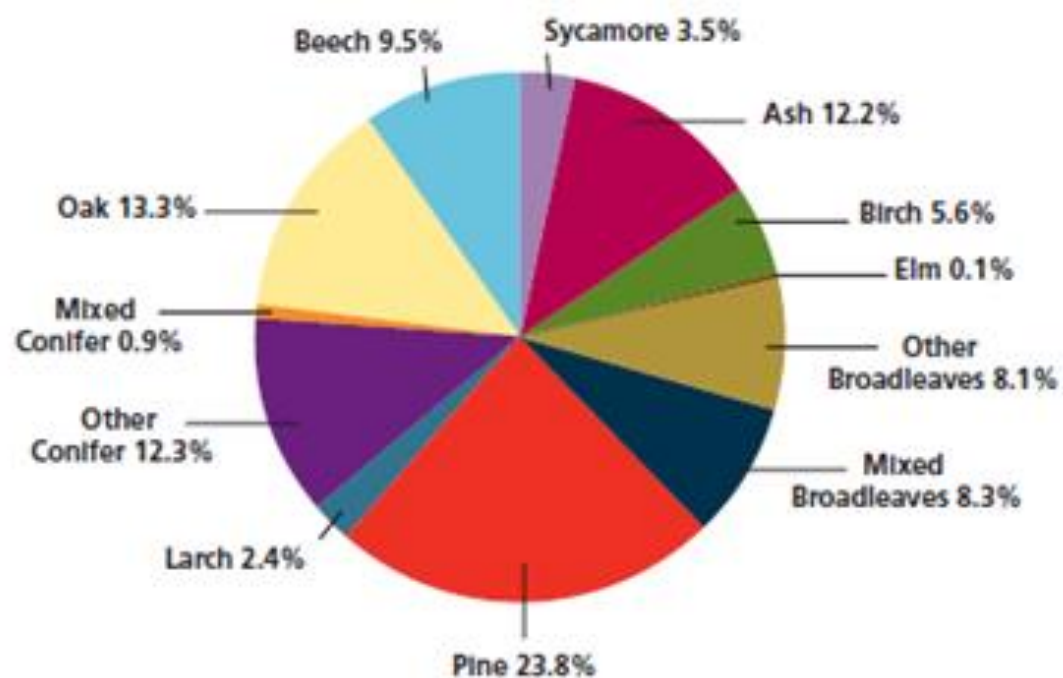
What resources do we have available locally:  
e.g. timber, clay, limestone, chalk, reclaimed materials, etc.  
And what do we mean by “local” materials?



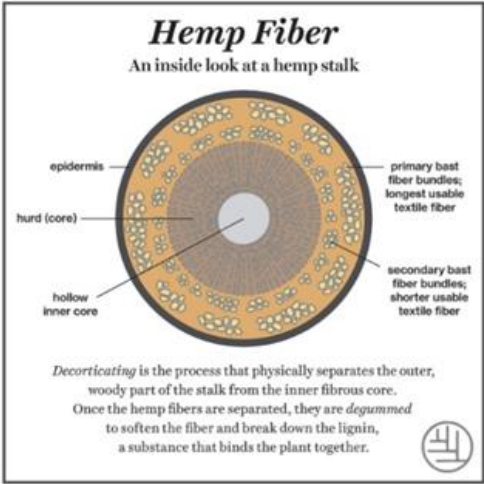
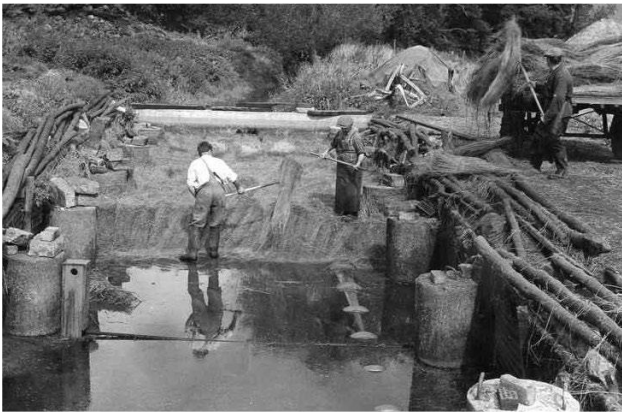
Dorset's Woodland by Forest Type



Woodland Area by Principal Species  
(excluding coppice, felled and open areas)



# West Dorset's heritage of flax and hemp





WESSEX  
COMMUNITY  
ASSETS

# ASSEMBLE COMMON GROUND



**Dorset**  
Area of Outstanding  
Natural Beauty



Supported using public funding by  
**ARTS COUNCIL  
ENGLAND**

**Dorset  
Woodhub**



Bridport  
Town  
Council

**THE ARTS  
DEVELOPMENT  
COMPANY**



Can we make homes which are more efficient to build, more affordable to inhabit and more flexible in adjusting to our changing needs?

Can we identify new opportunities for local development and community wealth-building by re-organising how we relate to the land and locally available resources?



# Assemble's initial propositions

Key types - Mansion Type



Key types - Courtyard Row Type



# Initial propositions

Key types - Apartment Type



Key types - Courtyard Type



Technology -

combining building crafts  
with contemporary technology



**Structure**



**Envelope**

Construction -

Extensive use and expression of natural and site-based materials



Wall buildup



Exterior cladding

**Timber shingles**

Western red cedar roof shingles, interchangeable with standard profiled roof sheathing product

**Timber cladding**

Vertical timber cladding boards

**Timber stud work**

100mm wood fibre insulation parallel between timber studs

**Timber floorboards**

Solid timber floorboards

**Timber floor joists**

insulation  
250mm deep timber floor joists with wood fibre insulation between



Western red cedar



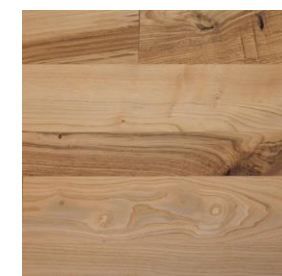
Oak



Beech



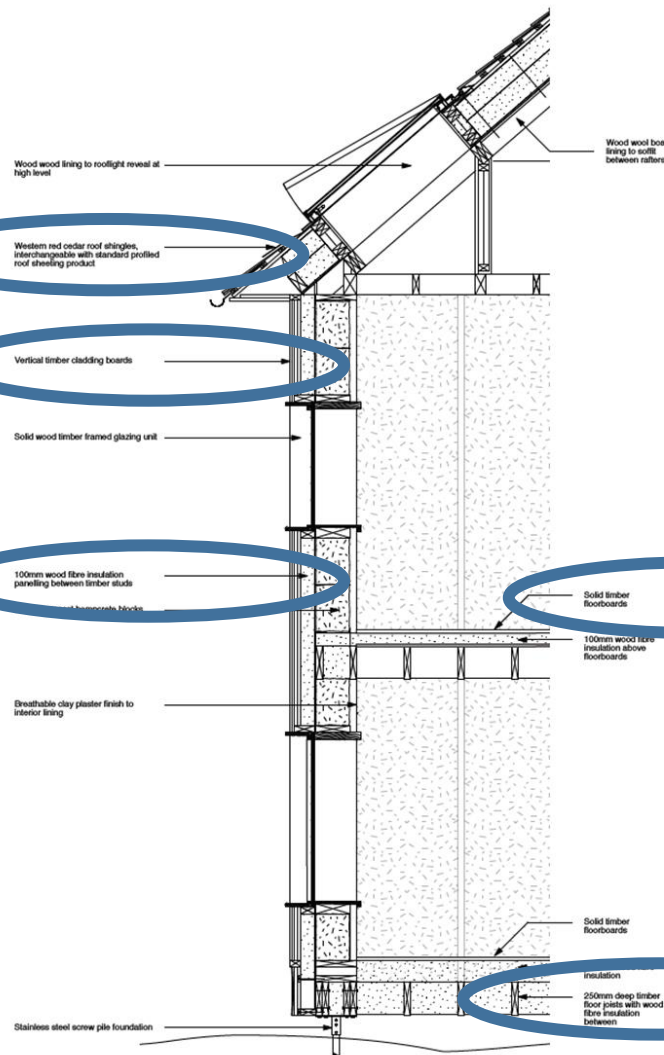
Ash



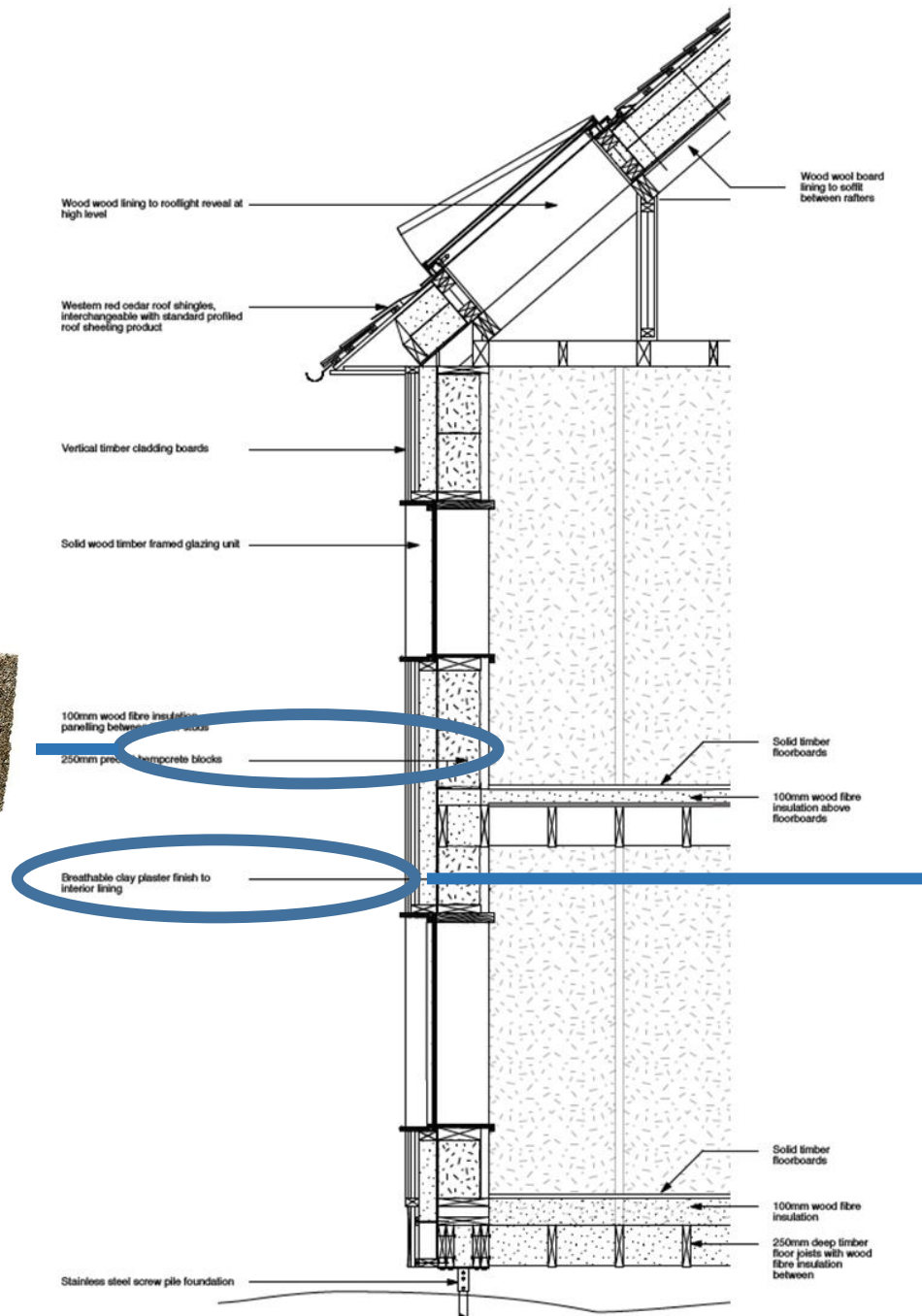
Sweet chestnut



Larch



## Hempcrete insulation within timber panels



## Clay plaster finish



Question 2: What is the optimum design of timber & hempcrete panels – for a West Dorset context?

# DunAgro - Netherlands





# DunAgro - Netherlands



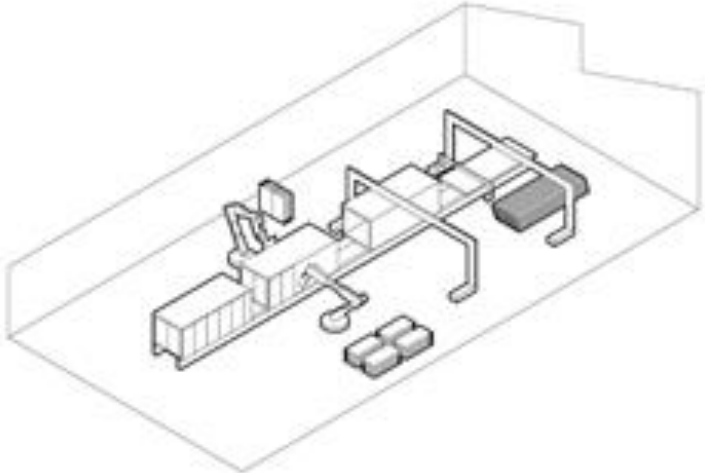
# Margent Farm



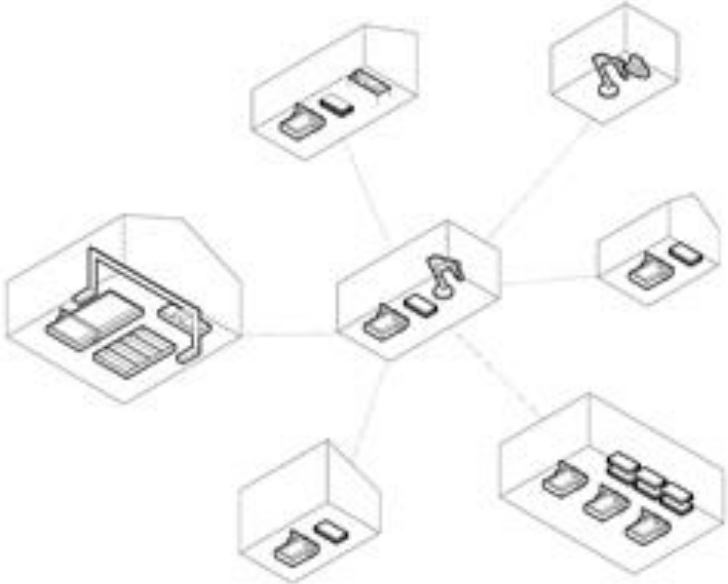
Question 3:

How do we develop local off-site fabrication capacity?

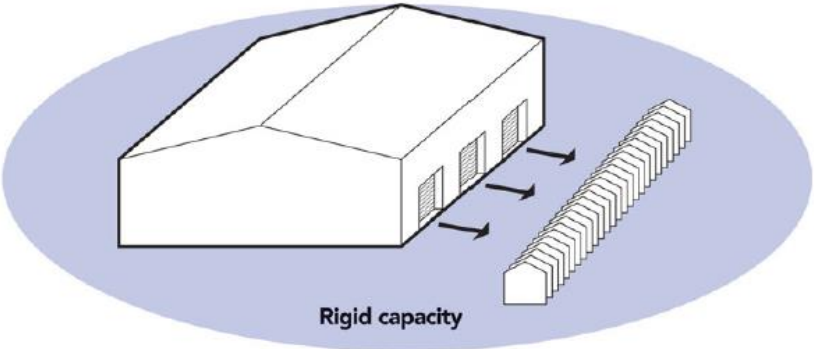
# Distributed off-site fabrication



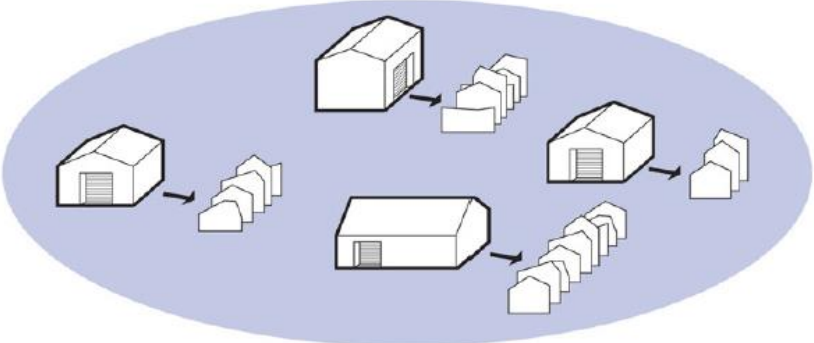
Centralised manufacturing



Distributed manufacturing

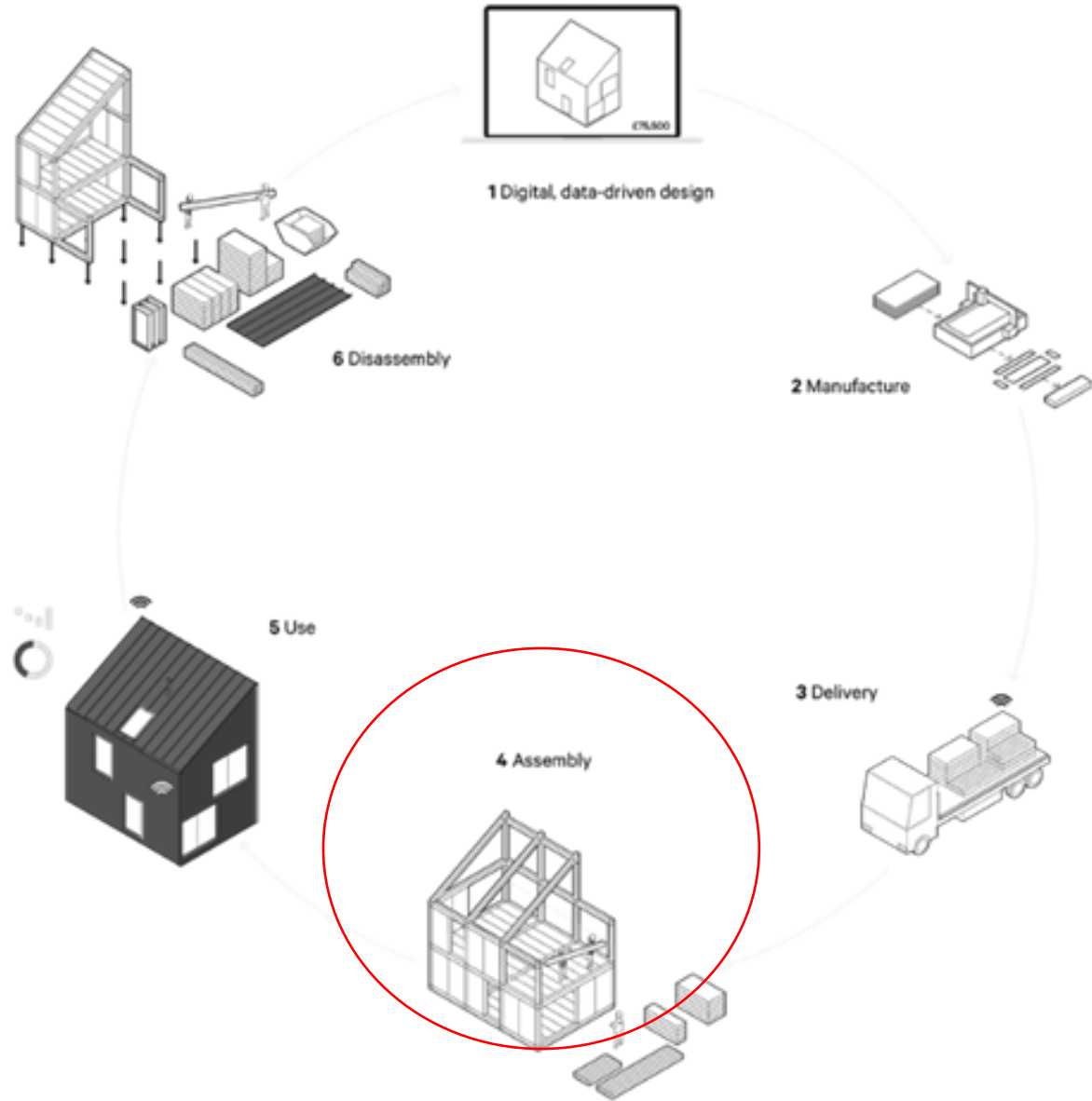


Rigid capacity



Dynamic, flexible capacity

# On-site assembly and finishing



We're here to make small British woodlands thrive.

[OPPORTUNITIES](#)

[GET INVOLVED](#)

[BOOK YOUR IDEA](#)



# THE WOODLAND

presents

[HOME](#)

[THE GLADE](#) ▾

[WHAT'S ON](#)

[WOODLAB](#)

[LOOK & SEE](#)

[JOURNAL](#)

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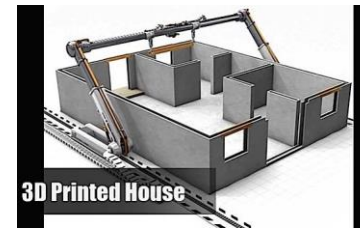
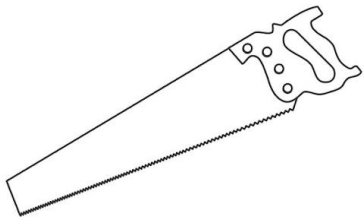






# Question 3

Where on the spectrum of local manufacturing technologies do we want to sit?





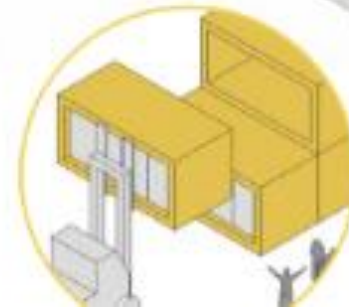


**ecomotive**  
SUPPORTING SUSTAINABLE LIFESTYLES

## CONSTRUCTION: Community Hub Housing Factory



Factory & Training



DESIGN &  
CONSTRUCTION

# ZedPod



## POP-UP FACTORY

Factory area: 20m x 12m (240m<sup>2</sup>) = one ZEDpod/week  
All ZEDPods components are prefabricated, tensioned and  
manufactured by reputable companies with good QA systems.  
The list of components, specs and suppliers is defined and  
numbering/documentation is finalized.

# AN OPEN COMMUNITY CONSTRUCTION SET



www.wikihouse.cc

WikiHouse is a mass-collaborative design project. Its aim is to make it possible for almost anyone, regardless of their formal skills, to freely download and build structures which are affordable and suited to their needs. There is no single design, or single designer. Houses and components are designed by an open community of designers and users for everyone's benefit.

Used with permission. All Wikimedia Commons images are published under a Creative Commons Attribution-ShareAlike license. You can download the models, cut lists and other files, provided the original authors are also attributed and the future versions are also distributed under the same license. The technical pages and an information sheet are available online on the [www.wikihouse.cc](http://www.wikihouse.cc) website. You can also use the [www.wikihouse.cc](http://www.wikihouse.cc) website to order the parts.



1 Download houses and components which are created and shared by an open community of users around the world. Individual components can be combined or adapted to form a structure which responds to an individual site or set of needs.



2 Click 'Make this house'. From the models WikiHouse generates a complete set of milling drawings which can be used by a CNC cutter to fabricate the house parts.



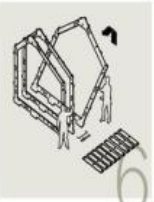
3 The parts are cut by a CNC mill using locally bought materials. This is 18mm plywood, in the standard sheet size of 2440mm x 1220mm (8' x 4').



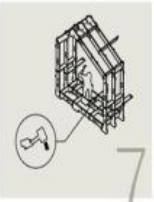
4 Set out the parts for each section onto the ground, assembling it like a jigsaw.



5 Wedge together the two layers to form a single section.



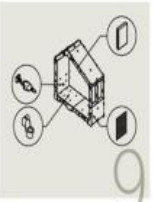
6 Stand the sections up vertically, positioning them approximately at 600mm intervals.



7 Fit the connector pieces into the slots in the section. These should be staggered alternately. Use the mallet provided on the milling sheets to hammer these tightly into place.



8 Fit the internal and external cladding panels onto the structure. Internally these usually need to be screwed into place.



9 The structure is ready for insulation, cladding and services.

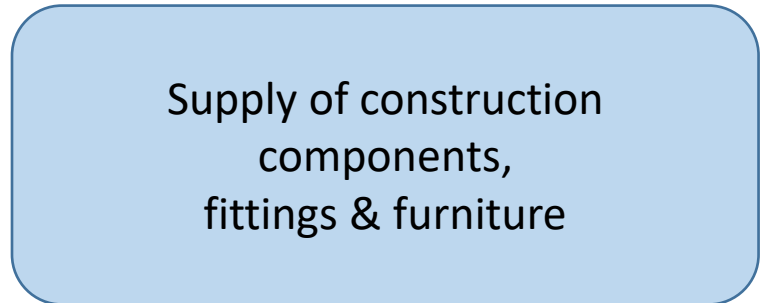
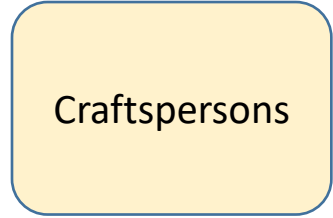
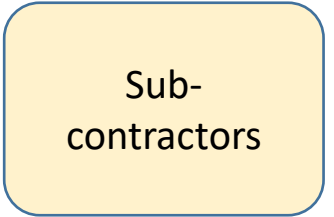
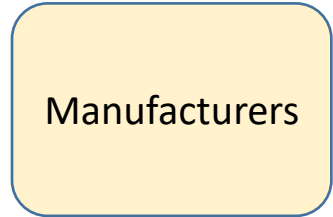
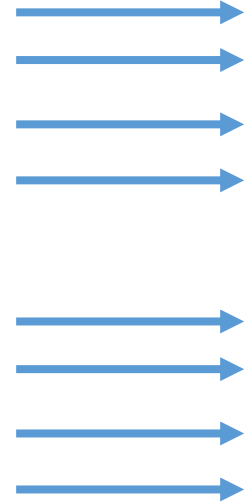
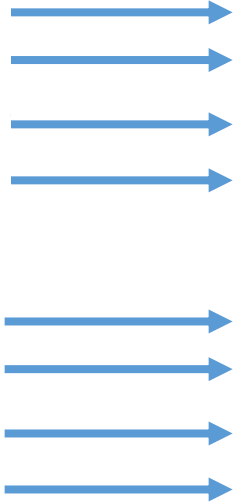
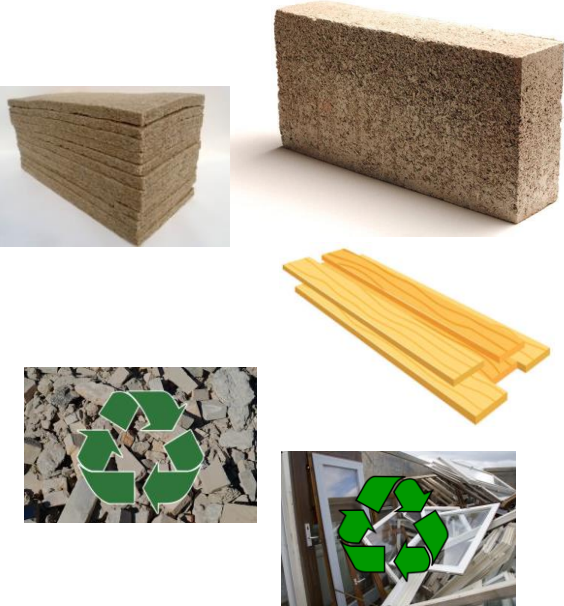


## Question 4:

What platforms are required for procurement and for design?

# Platform 1: linking suppliers and fabricators

## Suppliers

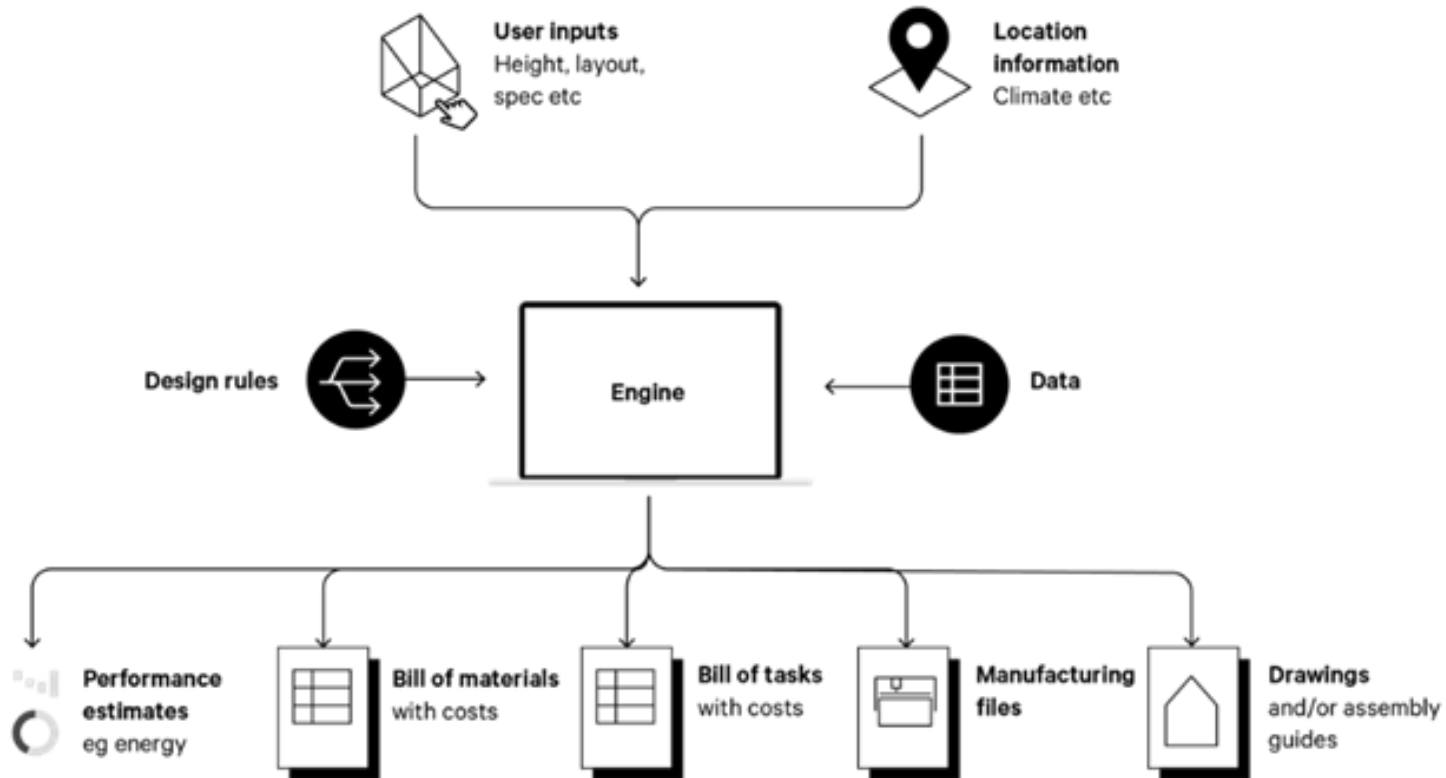
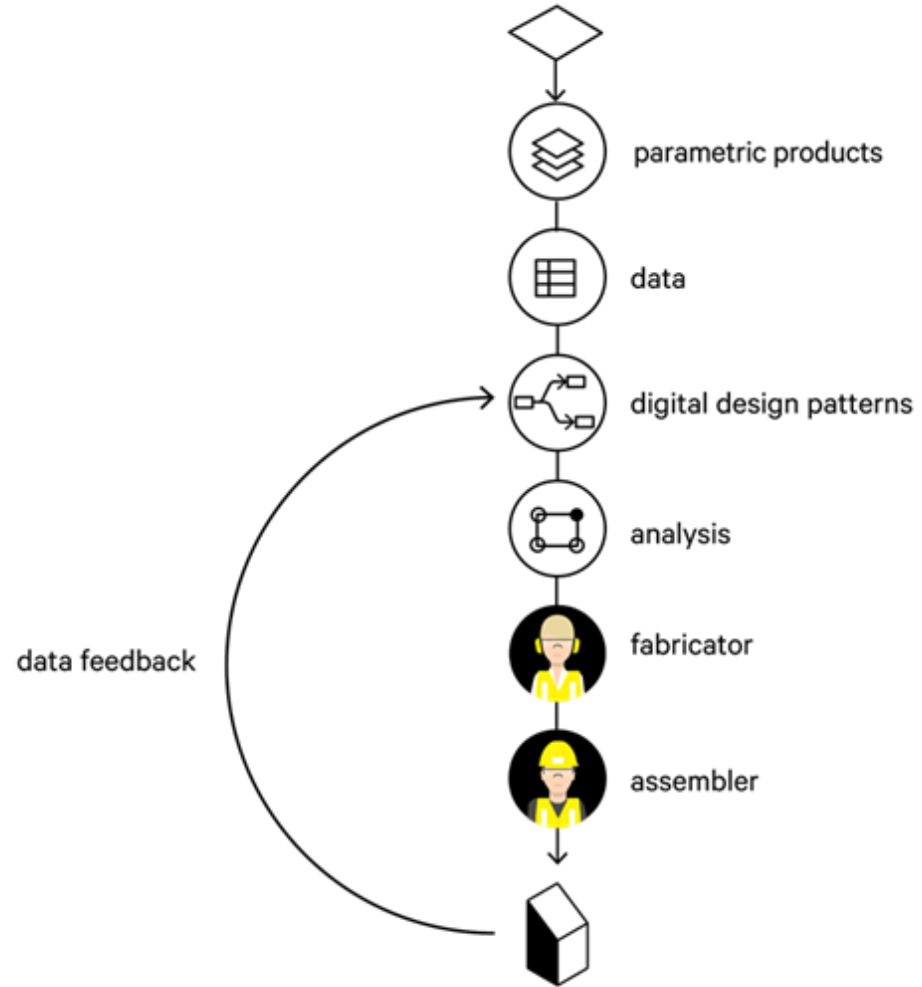




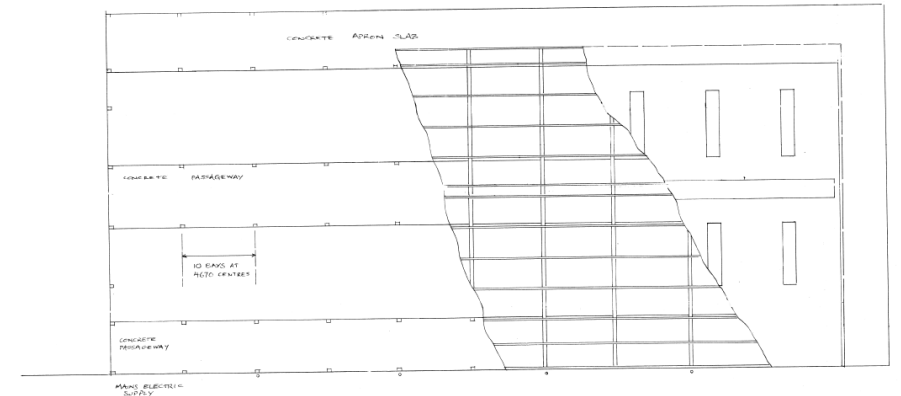
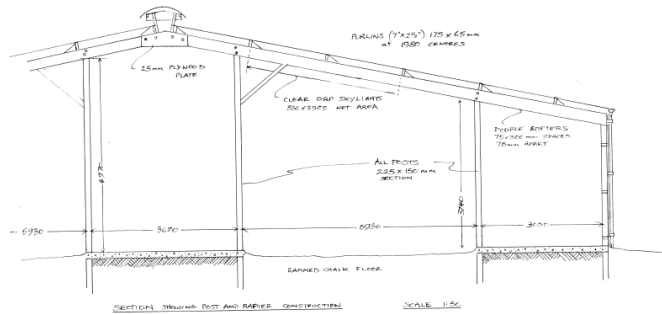
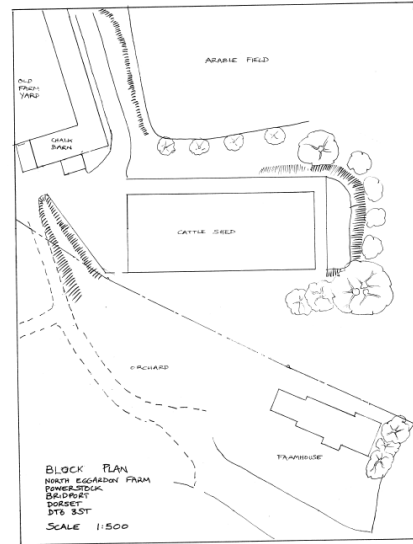
## **Platform 2:**

Digital design of construction components and assembly processes

# Open source platforms: The example of Wikihouse

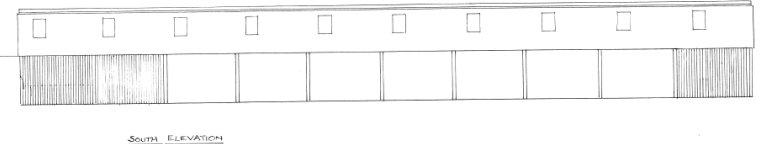


# Next steps 1: Woodhub@Eggardon



PLAN - FORMER SHEEP LAMING SHED. N. BAY 1 of 4. E7N (10) BUILT c. 1951

**POTENTIAL DEVELOPMENTS**  
 A ROOF MOUNTED SOLAR PV ARRAY - REPOSITIONING OF  
 DOWNLIGHTS AND REINFORCING OF PURLINS.  
 A RAINWATER GUTTER WOULD BE REQUIRED TO LEVEL  
 OFF THE 2 CHALK FLOORED AREAS. SOME BAYS COULD  
 BE ISOLATED USING 25x25x100mm TRIMS.  
 A FINISHING VENEER RIDGE ROOFER TO FINISH PURLINS  
 EXPOSED ON THE ROOF. CONSIDER ALL OVERHEAD LANTERNS  
 AND/OR CELEBRATORY ABOVE CENTRAL PASSAGEWAY  
 A SOLAR WIND TUNNELL FLOWMETER INSTALLED TO  
 SOUTHERN SIDE OF BARN. OTHER POTENTIAL SPACE  
 A PASSAGEWAY LEVEL PROPOSED.



# Woodhub@Eggardon

## Cultivation, processing & manufacture

timber and woody fibres  
(hemp and flax)  
Into  
Construction materials

## Skills training

woodland mgt, sustainable  
construction, green  
woodworking, furniture making

## Workspace

for building contractors,  
carpenters & designer-makers

Shared workshop  
With  
machinery

Training space

Workshop

Workshop

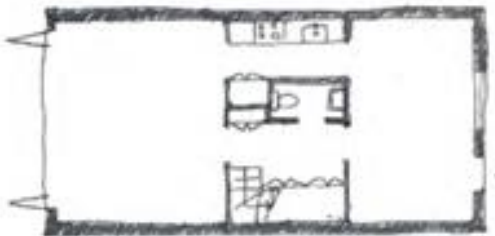
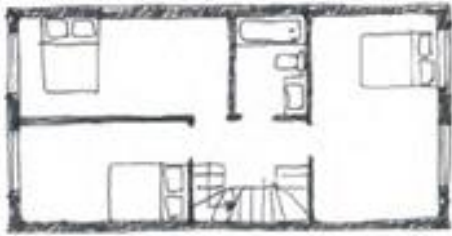
Workshop

Workshop

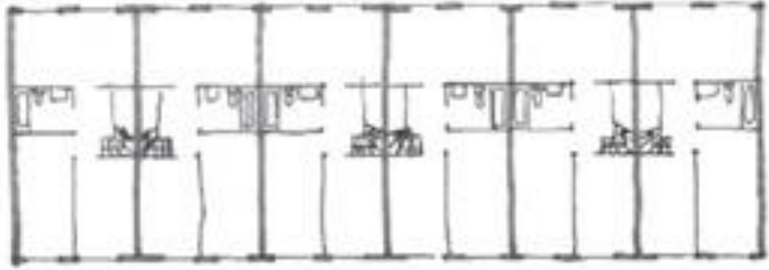
Workshop

Reception,  
kitchen, toilets

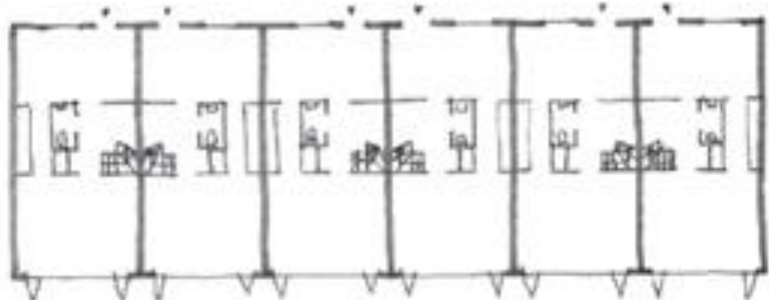
# Next steps 2: Self-finish terrace of 5 houses



38 House, Ground Floor Plan, 1:100



Five House Plan, 1:200



Ground Floor Plan, 1:200

# Next steps 3: Vearse Farm



	The challenges we are addressing	The outcomes we are seeking
<b>Affordable sustainable housing</b>	<p>The housing crisis:</p> <ul style="list-style-type: none"> <li>– Lack of affordability</li> <li>– Disparity between house prices and average wages</li> <li>– Lack of security</li> <li>– Lack of sustainability</li> </ul>	<p>New models to address the housing crisis, providing a greater range of options for community led housing groups, and leading to higher % of affordable &amp; sustainable housing.</p>
<b>Local enterprise infrastructure</b>	<p>The crisis of livelihoods:</p> <ul style="list-style-type: none"> <li>– Fragile local economies</li> <li>– Job insecurity</li> <li>– Lack of skills &amp; facilities to create regenerative &amp; resilient local economies</li> </ul>	<p>Providing infrastructure and employment opportunities to link together regenerative land management &amp; sustainable construction materials with community led housing initiatives.</p>
<b>Regenerative land management</b>	<p>The ecological crisis:</p> <ul style="list-style-type: none"> <li>– Climate change</li> <li>– Biodiversity loss</li> <li>– Pollution, including from intensive agriculture</li> <li>– Resource depletion</li> </ul>	<p>New models of regenerative land management that can address the interlocking challenges we are facing.</p> <p>Increased awareness, new approaches to land management, and a new supply of appropriate raw materials.</p>



# Question:

What *outcomes* would you like to see, to address the concerns you identified?

	<b>The activities to be delivered by our eco-social enterprise</b>
<b>Affordable sustainable housing</b>	We will work with Assemble and local community-led housing groups to develop new designs for housing, and create a new co-operative to co-ordinate suppliers, contractors and the off-site construction process.
<b>Local enterprise infrastructure</b>	We will develop workspace to process timber, hemp and flax into the key elements of sustainable construction materials, including panels, frames, furniture and other fittings.
<b>Regenerative land management</b>	We will work with partners to support the improved management of woodlands and the cultivation of “woody fibres” such as hemp and flax, linking this to a network of farmers and an on-line platform for co-ordinating the supply of sustainable materials.

**Local processing  
& manufacturing  
infrastructure**



**Regenerative  
agriculture &  
forestry**

**Sustainable &  
affordable housing**

# Question:

What is the main activity of your eco-social enterprise?