



Bioregional

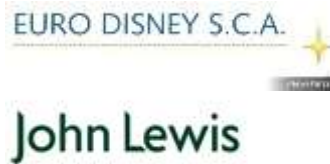


ONE
PLANET
LIVING

Bioregional is...

A leading sustainability charity and social enterprise established in 1994

- We are absolutely environmental and committed to delivering leading, long term sustainability solutions
- Sustainability plans for 100+ organisations & projects including London Olympic Park, B&Q plc, Euro Disney SCA and Crest Nicholson



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One Planet Living

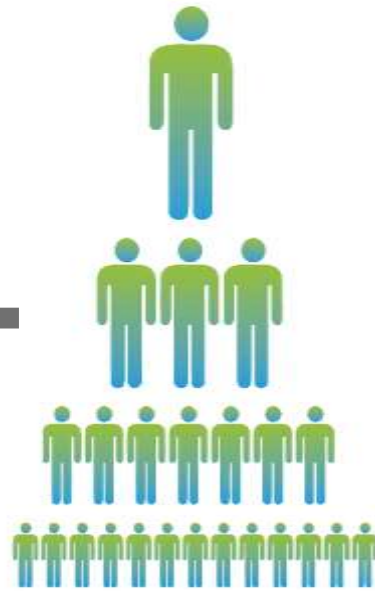
A vision of the world where everyone, everywhere enjoys happy, healthy lives within the limits of the planet.

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Our ecological budget



11.2 billion hectares



7 billion people



1.6
global
hectares
per
person

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If everyone lived like we do in Europe...



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BedZED UK – where One Planet Living was born



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Modelling One Planet Living

64 measures for a 90% reduction in Londoners consumption based carbon emissions.
Led to PAS 2070 for cities

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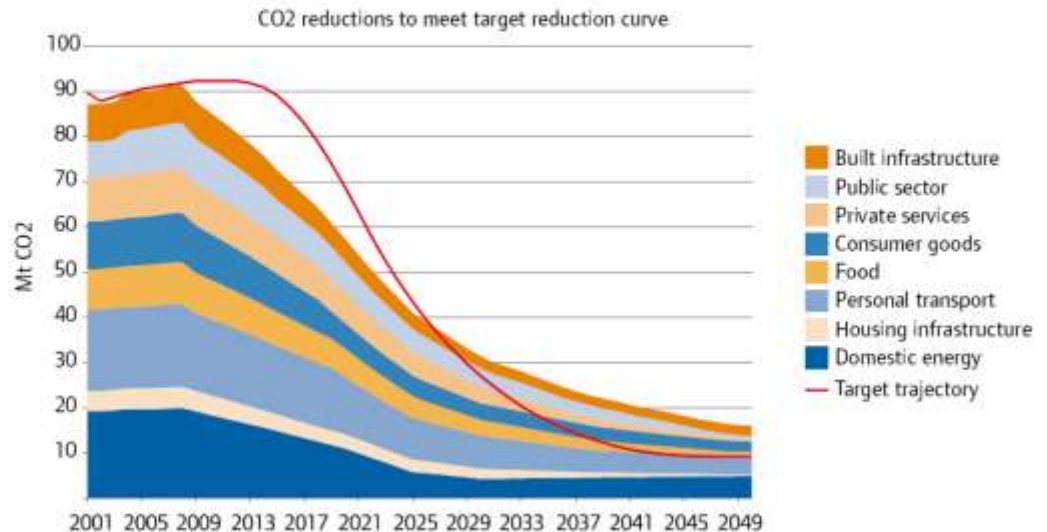
LONDON
Sustainable Consumption

Capital consumption
the transition to sustainable consumption and production in London

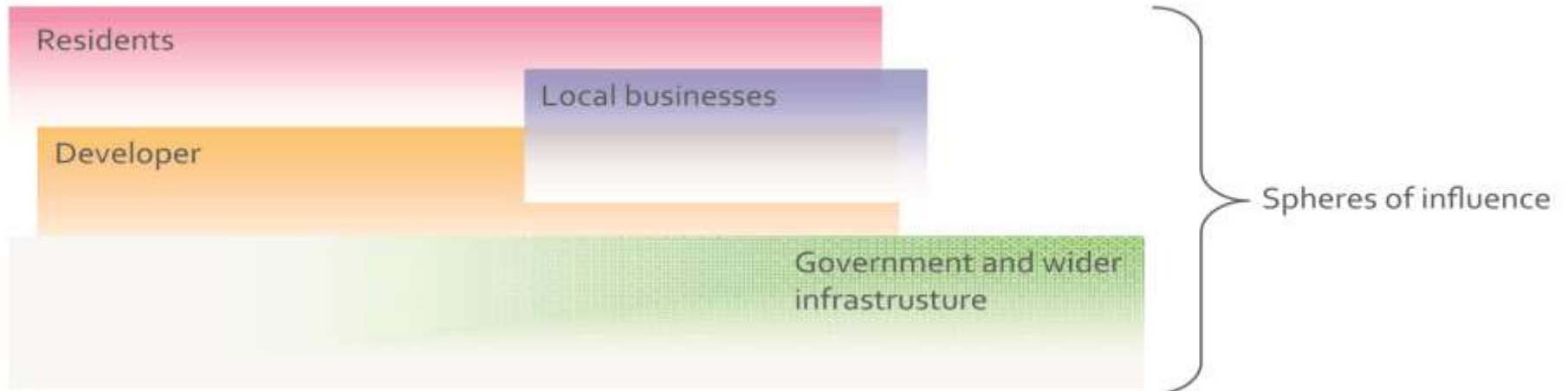
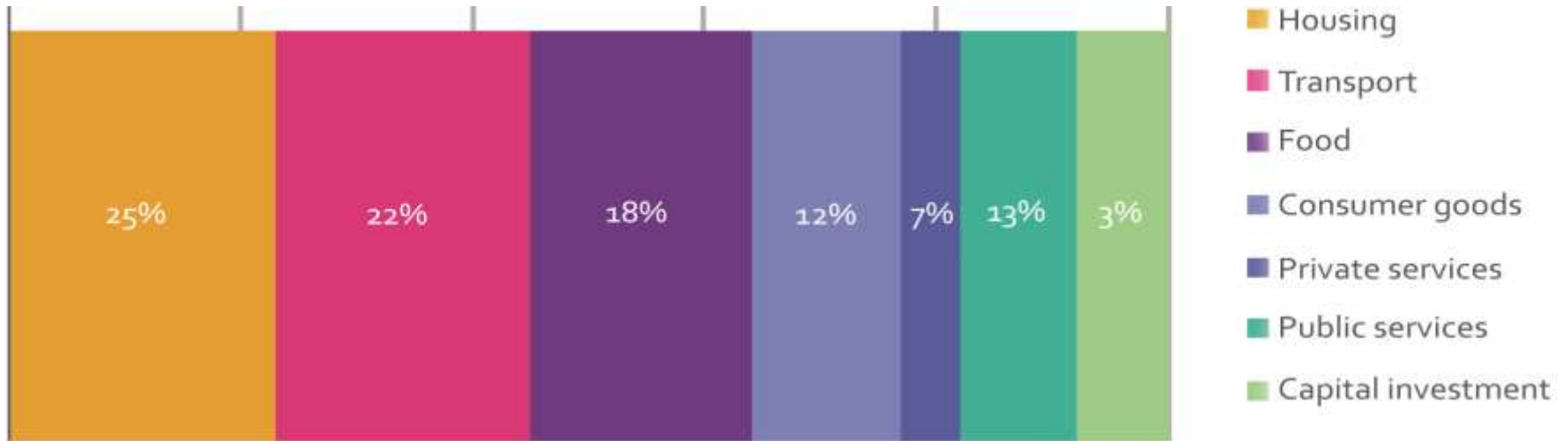


November 2009

Combined carbon emissions reductions needed to meet carbon budget



Modelling One Planet Living



The One Planet Living principles



	Health and happiness
	Equity and local economy
	Culture and community
	Land use and wildlife
	Sustainable water
	Local and sustainable food
	Sustainable materials
	Sustainable transport
	Zero waste
	Zero carbon

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One Planet Principles



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ONE
PLANET
LIVING



A
framework
by **Bioregional**

\$30bn of OPL projects in 20+ countries



North West Bicester, UK
AZ Dominion



Riverside One, UK
Bioregional Quintain



One Planet Middlesbrough, UK
Middlesbrough Council



One Planet Sutton, UK
London Borough of Sutton



One Planet Brighton & Hove, UK
Brighton & Hove Council



BedZED, UK
Peabody / Bioregional



London 2012 Olympic and Paralympic Games, UK



One Brighton, UK
Crest Nicholson Bioregional Quintain



B&Q One Planet Home, UK



Grow Community Bainbridge Island, USA
Asanti



Sonoma Mountain Village, USA
Coding Enterprises



Imbera, Mexico



Mata de Sesimbra Portugal
Pelicano



Cundall, Global



Villages Nature, France
Euro Disney and Groupe Plaine & Valconces Center Parcs



Hollerich Village, Luxembourg
Schuler Group



Jinshan, Guangzhou, China
China Merchants Property Development



Singita Serengeti Reserves, Tanzania
Singita



Ivory Park / Sibaya, South Africa
Johannesburg EcoCity Trust / Tongaat Hulett Developments



Masdar City, Abu Dhabi
Mubadala



WestWyck, Australia
The CDN Building Group



Bangaroo, Australia
Land Lease



Endorsed One Planet Living projects and partners
Partners shown here without the symbol have applied the One Planet Living principles during their development



Cross sector approach – companies, cities and schools

One Planet Living can be used to reach and connect all stakeholders

Schools

California and UK, integrating OPL into curriculum, campus and community

Companies

Largest DIY retailer in the UK; own operations and supporting customers, One person coffee van

Cities and Regions

UK, South Africa, Australia, US, Denmark and Russia. Shared vision with individual plans



London 2012
Sustainability Plan
2nd Edition December 2009



Towards a one planet 2012



Small business – e.g. coffee van using OPL principles



One Planet Living Framework

One Planet Living:

1. Inspiring change through a hearts and minds approach
2. Making it easy to do the right thing
3. Goals and Guidance – not prescriptive standards
4. Focus on actual performance
5. Complementing other frameworks and certification systems

The framework is:

- A process for delivering the best outcome
- Based on transparency
- Offers a system of review and recognition

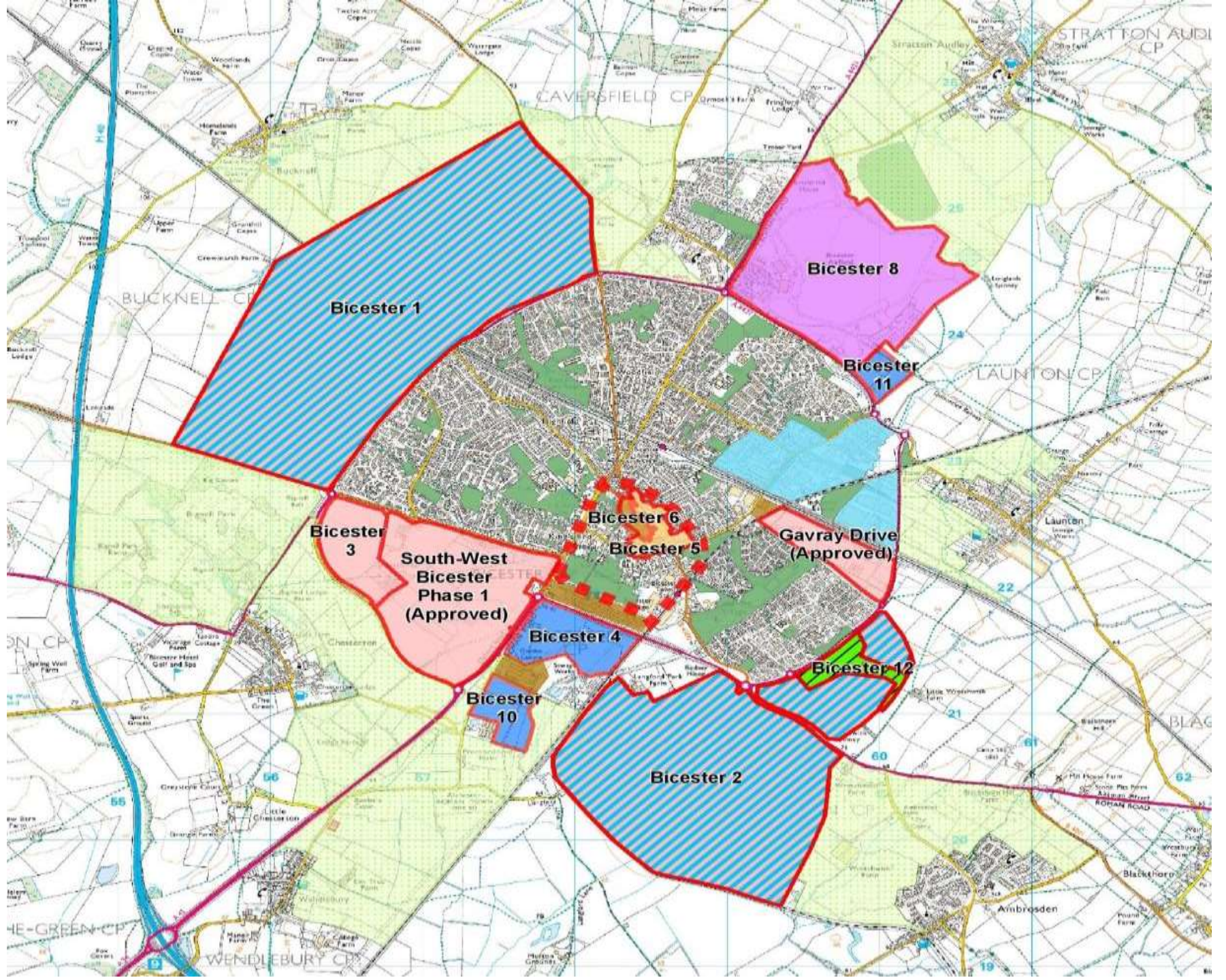
The framework is not:

- A certification system

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Bicester, Bioregional and OPL

- Growth town with large housing targets
- 10 miles from Oxford
- Good rail links
- Extension to existing town
- Vision was to make all of Bicester an eco-town



Eco Town PPS1 standard

- True zero carbon
- Walkable neighbourhoods
- Highest water efficiency (80l/person/day)
- Managing embodied carbon of construction
- Zero waste to landfill
- Climate change adaptation
- Community governance
- Net biodiversity gain
- 40% open space
- 1 new job / household

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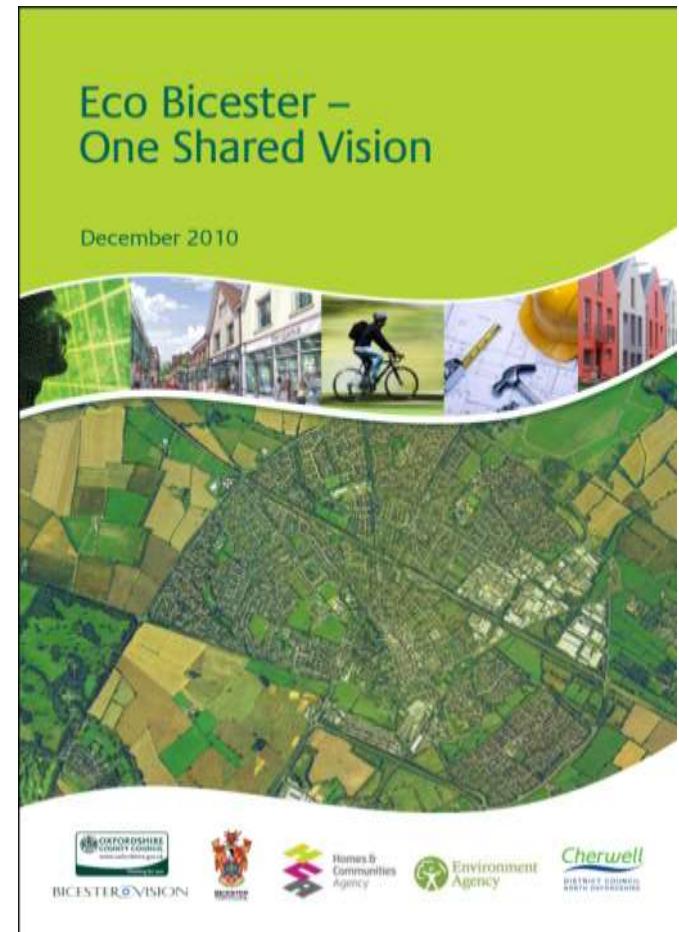
Planning shapes the places where people live and work and the country we live in. It plays a key role in supporting the Government's wider social, environmental and economic objectives and for sustainable communities.



One Shared Vision

Aspirations for the whole town

- Adapting PPS standards
- Adopted by all three levels of local government
- “Effecting a town wide transition to a low carbon community, triggered by the new eco development at NW Bicester”



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10 years on ...

- Designated Eco Town
- Garden Town status
- Healthy new town
- Town wide projects
- Master plan for NW Bicester
- Exemplar first phase
 - Elmsbrook, a One Planet Community
- Eco Bicester Living Lab
- ~£5 million research funding
 - Innovate UK & DECC



ECO BICESTER
living lab

Knowledge • Innovation • Collaboration

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6 The Masterplan Green infrastructure





Elmsbrook at NW Bicester (Oxford, UK):

6,000 new homes. First phase; 393 homes with work space, community facilities and abundant green space. Town-wide initiative

Pioneering:

UK's first eco-town and largest 'true zero carbon' development

Sustainable transport:

Brompton bike loan scheme, community bus service and an electric car club

Eco-education:

The local Primary School Gagle Brook is creating its own One Planet Action Plan

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Gagle Brook Primary School, NW Bicester (Elmsbrook)

One Planet Schools

Zero Carbon School

Zero Carbon
High levels of daylight
Good indoor air quality

Integrating OP into curriculum

Embedded in curriculum and
how the school is marketed

Influencing supply chains

Used to influence decisions
within the schools supply
chain – from food to
stationery

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“True” zero carbon

Net CO₂ emissions from all energy use within buildings are zero or below over a year



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Demand reduction

- Code 5 fabric performance
- Air tightness: $3\text{m}^3/(\text{hr.m}^2)$ @ 50Pa
- 100% low energy lighting (>45 lumens/Watt)
- All private and shared ownership homes issued with
 - Fridge freezers, dishwashers, washing machines A++
 - Ovens A+
 - Induction hobs

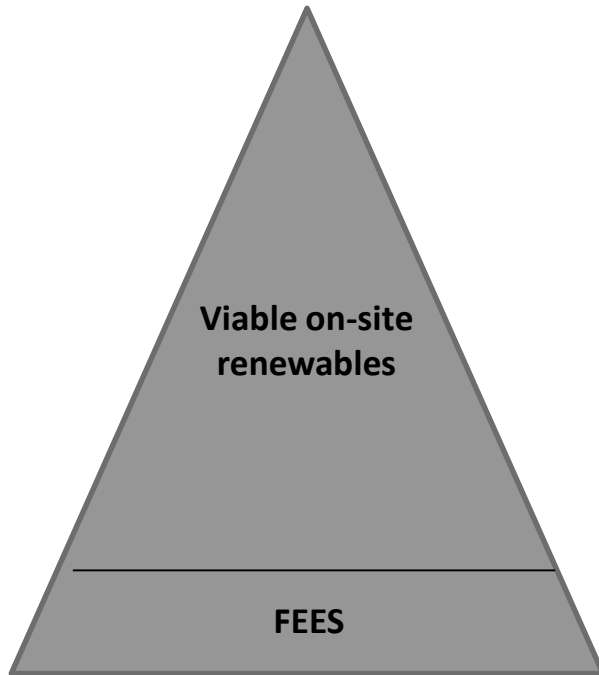
PV solar provision



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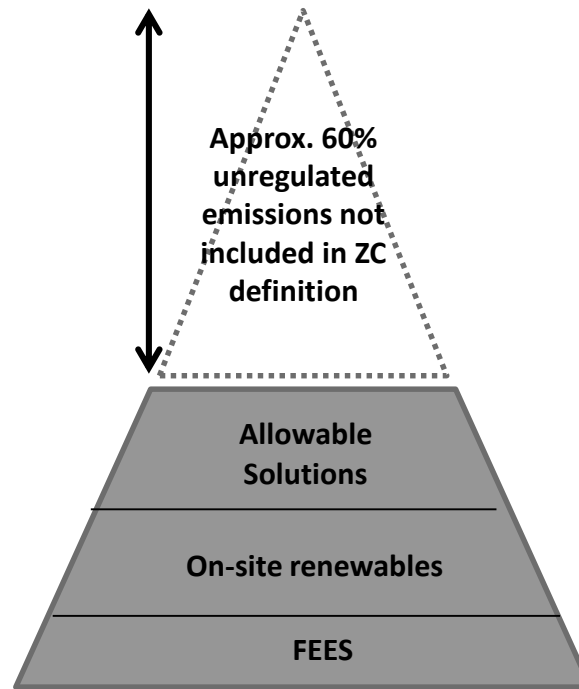
“True” zero carbon

-20 kgCO₂/m²/year



NW Bicester Eco Town - True Zero Carbon *(both regulated and unregulated emissions)*

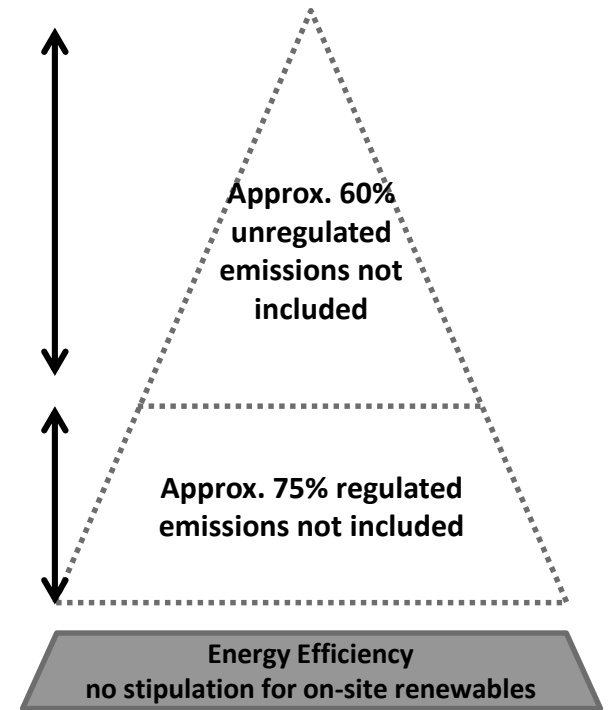
0 kgCO₂/m²/year



Zero carbon definition promoted by Zero Carbon Hub – *(100% of regulated emissions only)*

Approx. equivalent Code 3

20 kgCO₂/m²/year



2010 Building Regs– 25% reduction on 2006 baseline

Design for future climate

- Balancing good daylighting with overheating risk
- ZCH recommendation: design for 90th percentile of medium emissions scenario
- CIBSE guidance on <1% of occupied hours overheating

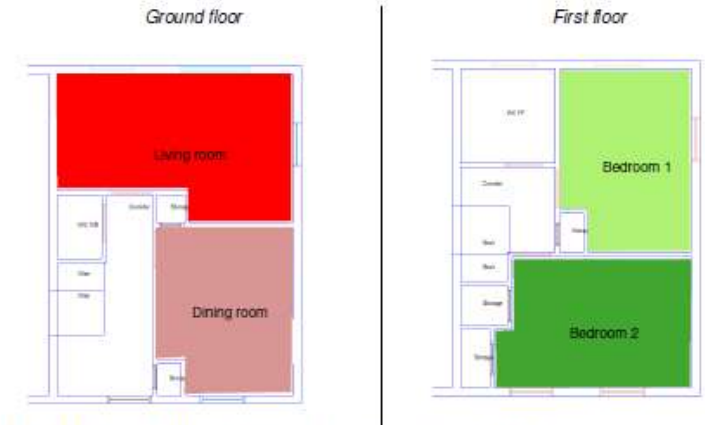


Figure 2 Floor plans of house 357 (Type 3). Rooms analysed are highlighted

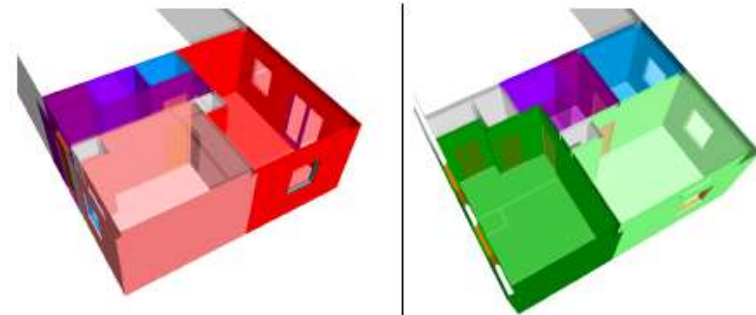


Figure 3 Type 3 - Unit 357 (End terrace). South West view: Zones Displayed

OPAP Headlines

- True zero carbon at scale
- Code 5 at scale
- 30% reduction in embodied CO2
- Modelled and adapted for future climate
- Zero waste to landfill during construction
- Net biodiversity gain
- Reducing car usage to 50% from 65%
- 40% open space



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Greenspace / Public realm

- 40% greensapce
- Walking and cycling routes
- 2 community orchards and allotments
- Wildlife habitats
- Fruit trees



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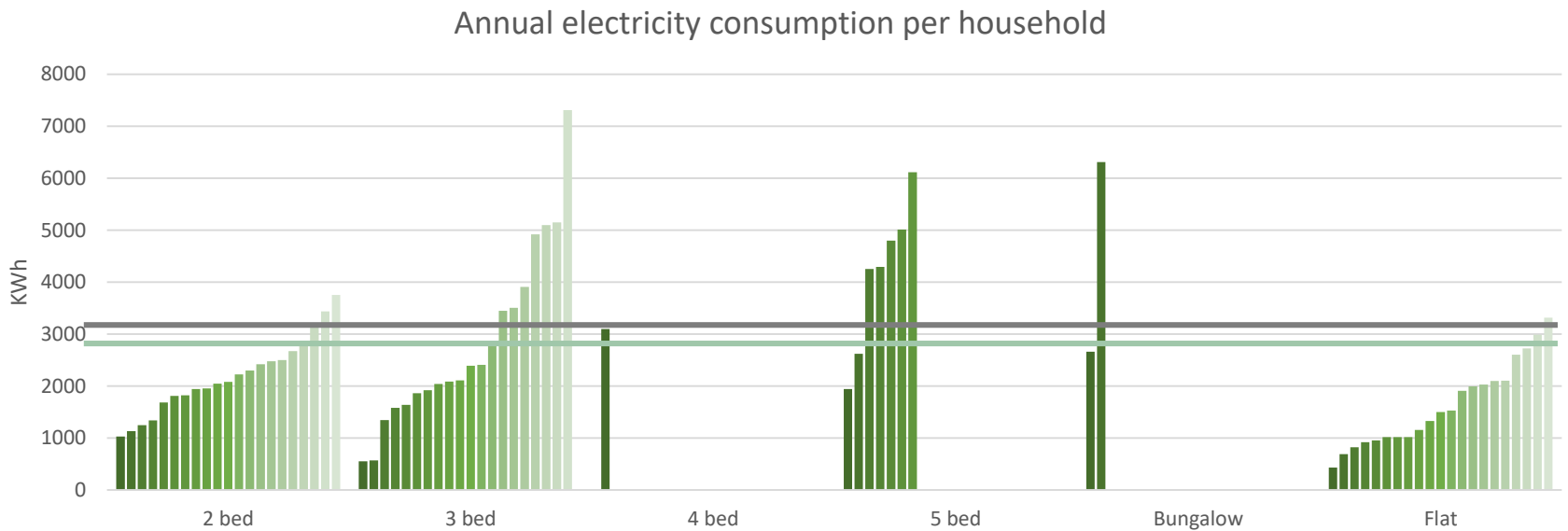
Transport

- Semi-rural car club and community bus service
- Electric vehicle charging points
- Proximity to bus stops
- Proximity to facilities and school
- Real time public transport information



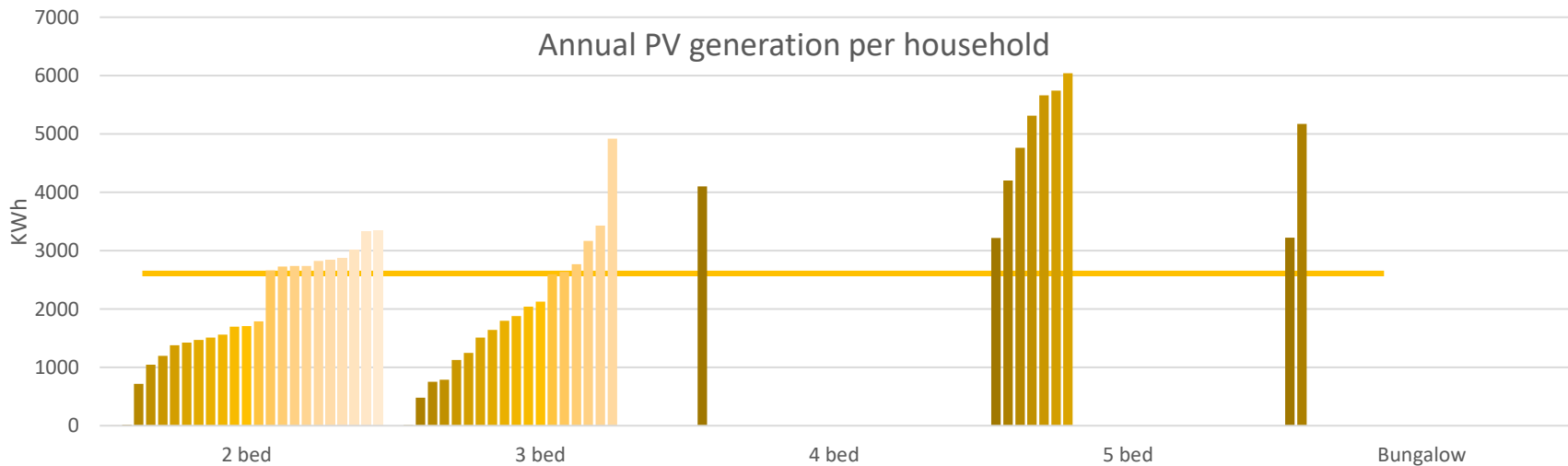
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Yearly average electricity consumption at Elmsbrook by house type



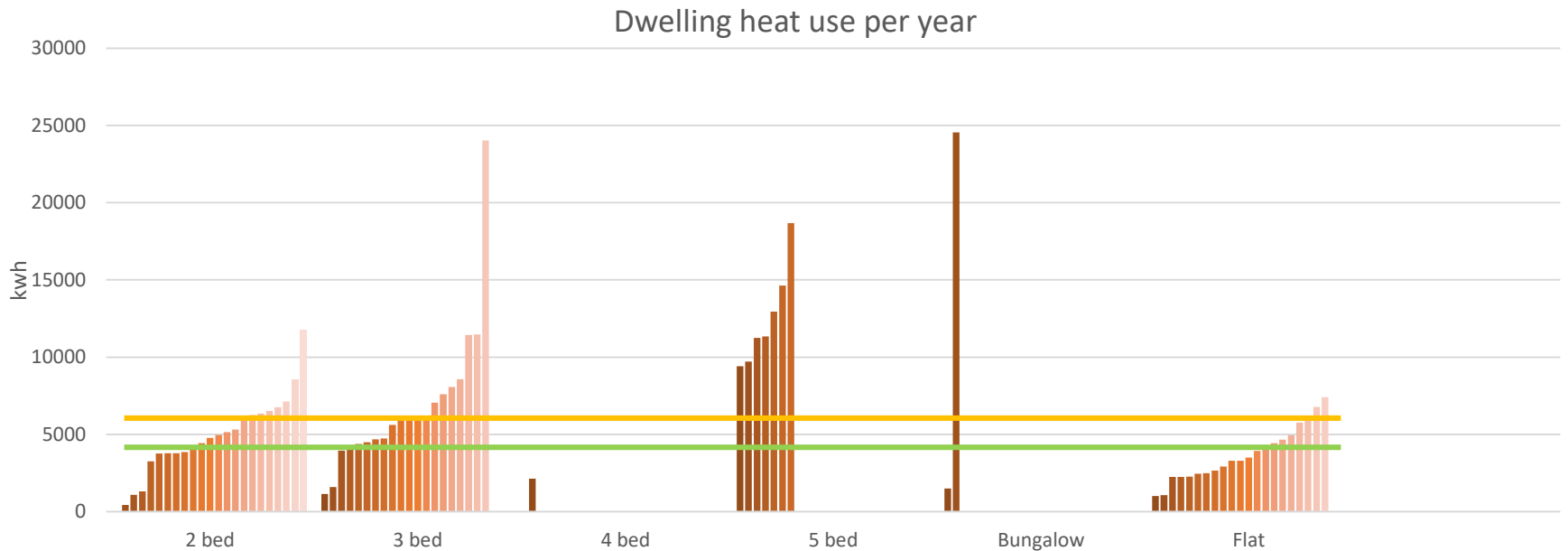
Source: In house monitoring April 2017 to March 2018 – 62 households
No data on flats (NB: Green horizontal line = target, orange = average)

Yearly average household PV generation at Elmsbrook by house type



Source: In house monitoring April 2017 to March 2018 – 62 households (NB: orange horizontal line = average)

Yearly average household heat consumption at Elmsbrook by house type



Source: In house monitoring April 2017 to March 2018 – 86 households (NB: Green horizontal line = target, orange = average)

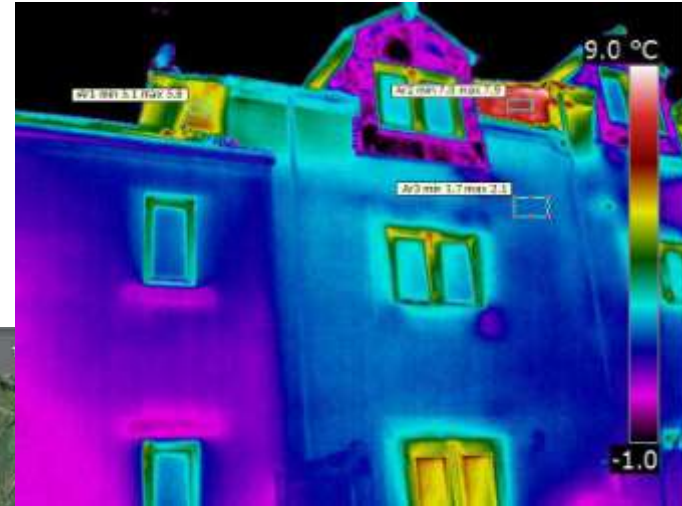
2. Addressing the 'Performance Gap'

BEPIT – Building Environment Performance Improvement Toolkit

- Process focused
- Testing and site observations
- Collaborative
- Stimulating discussion and focus



Town wide programme



- Bio-based materials lock up CO₂
- Plants absorb CO₂ and turn it into cellulose
- It takes 1.8kg of CO₂ to make 1kg of cellulose
- The more bio-based materials we incorporate in buildings, the more carbon we lock up
- The construction of an average house produces 50T of CO₂ emissions
- We can build houses with zero emissions

Biond Panel Construction



Kings Farm Close, Longcot – 15 houses



Kings Farm Close, Longcot – 15 houses



Kings Farm Close, Longcot – 15 houses



ONE PLANET
COMMUNITY 2018



Springfield Farm, Southmoor – 25 houses

We are targeting the following:-

- Zero carbon footprint
- Passivhaus performance
- Net-zero energy
 - Shared-loop GSHP
 - Photo-voltaic panels (average of 4kWp/house)
- Electric car club and car sharing
- One Planet Living – Global Leadership

Springfield Farm, Southmoor – 25 houses



Springfield Farm, Southmoor – 25 houses



Springfield Farm, Southmoor – 25 houses



Bioregional Homes

- Property development company
- Wholly owned subsidiary of Bioregional, the charity
- Community-led projects, via Community Land Trusts
- Genuinely affordable, linked to local earnings
- One Planet Communities



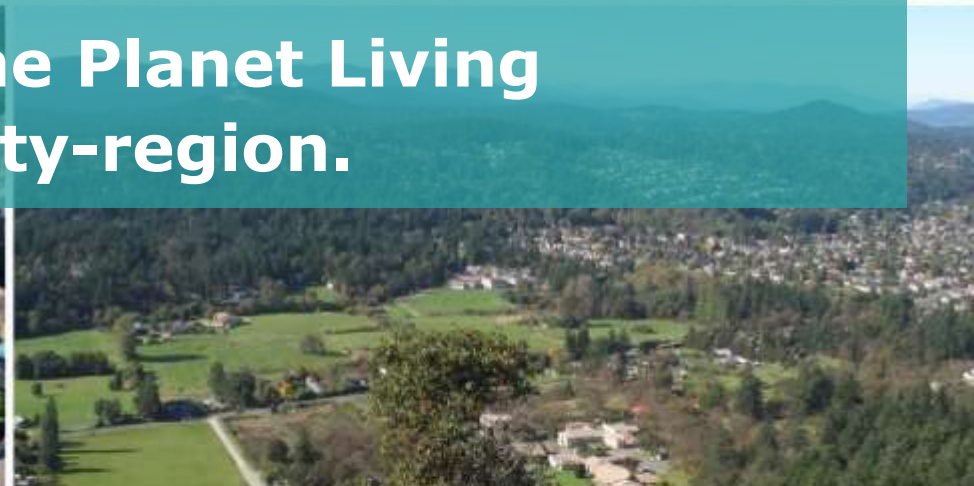


• Durban, South Africa

• Elsinore, Denmark

One Planet Cities Pilot

Scaling up One Planet Living
to the city-region.



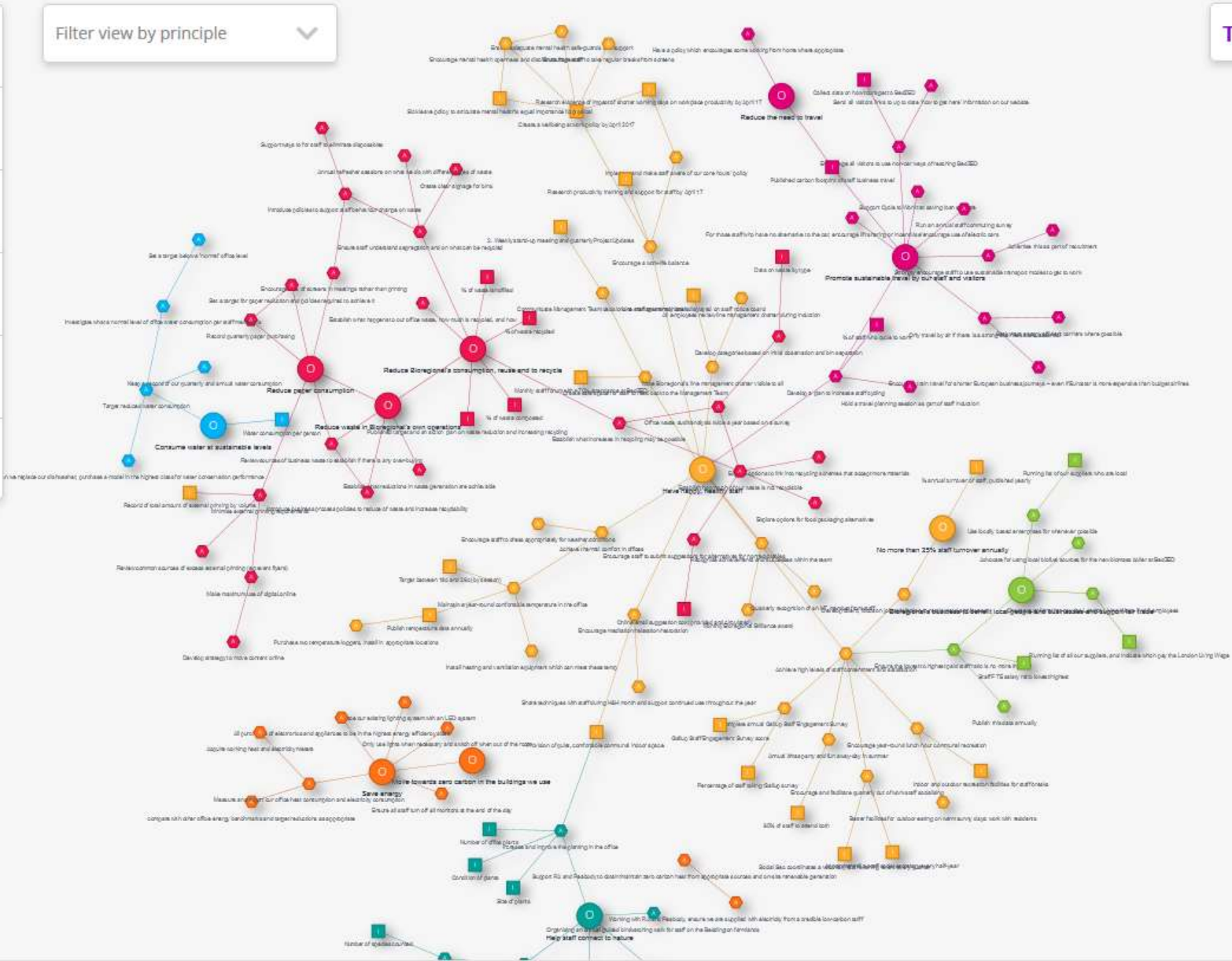
• Oxfordshire, UK

• Saanich, Canada

OUTCOME
ACTION
INDICATOR
LINK
VIEW ALL
FULLSCREEN

Filter view by principle

Tool Tips



The One Planet Living principles



	Health and happiness
	Equity and local economy
	Culture and community
	Land use and wildlife
	Sustainable water
	Local and sustainable food
	Sustainable materials
	Sustainable transport
	Zero waste
	Zero carbon

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One Planet Integrator Training



Bioregional
Australia

Liv Apartments Fremantle

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Championing a
better way to live

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