



Wales Low/Zero Carbon Hub

Workstream Workshop
Friday 9th September 2011

Coalition of the Willing

Director Sally Sudworth



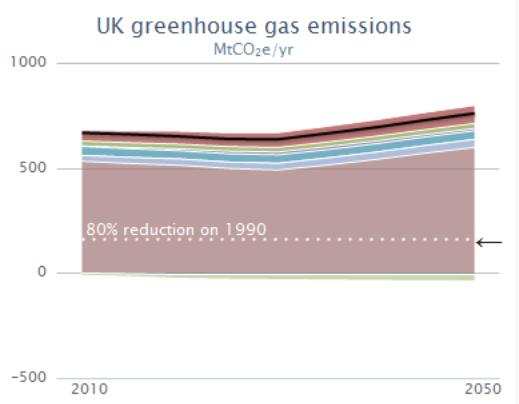
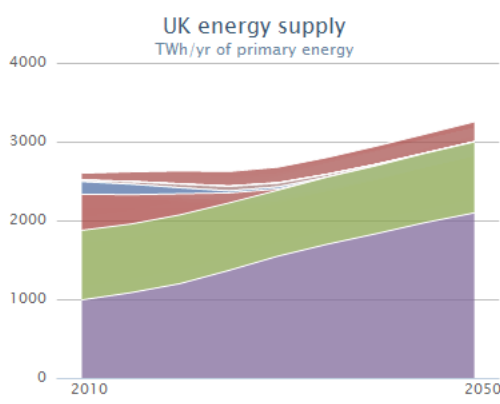
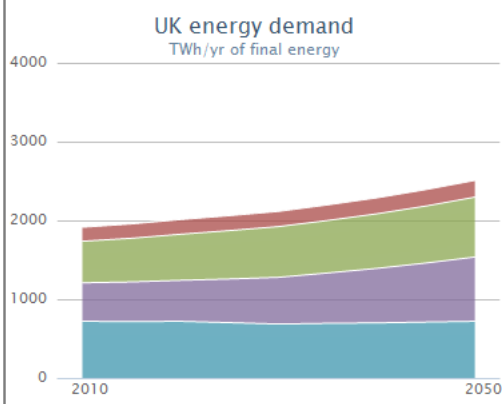
Chris Jofeh

Chair

Wales Low/Zero Carbon Hub



The strategic aim of the hub is to:
‘act as a dissemination mechanism to stakeholders and a source of advice to Welsh Ministers over activities and actions needed to achieve the aspiration of zero carbon new build and the contribution to be made by buildings that will help to deliver the 3% annual target to cut greenhouse gas emissions’



- Domestic transport behaviour 1 2 3 4 i
- Domestic transport electrification 1 2 3 4 i
- Domestic freight 1 2 3 4 i
- International aviation 1 2 3 4 i
- International shipping A B C D i

- Average temperature of homes 1 2 3 4 i
- Home insulation 1 2 3 4 i
- Home heating electrification A B C D i
- Home heating that isn't electric A B C D i
- Home lighting & appliances 1 2 3 4 i
- Electrification of home cooking A B i

- Growth in industry A B C i
- Energy intensity of industry 1 2 3 i
- Commercial demand for heating and cooling 1 2 3 4 i
- Commercial heating electrification A B C D i
- Commercial heating that isn't electric A B C D i
- Commercial lighting & appliances 1 2 3 4 i
- Electrification of commercial cooking A B i

- Nuclear power stations 1 2 3 4 i
- CCS power stations 1 2 3 4 i
- CCS power station fuel mix A B C D i

- Offshore wind 1 2 3 4 i
- Onshore wind 1 2 3 4 i
- Tidal and wave 1 2 3 4 i
- Biomass power stations 1 2 3 4 i
- Solar panels for electricity 1 2 3 4 i
- Solar panels for hot water 1 2 3 4 i
- Geothermal electricity 1 2 3 4 i
- Hydroelectric power stations 1 2 3 4 i
- Small-scale wind 1 2 3 4 i
- Electricity imports 1 2 3 4 i

- Land dedicated to bioenergy 1 2 3 4 i
- Livestock and their management 1 2 3 4 i
- Volume of waste and recycling A B C i
- Marine algae 1 2 3 4 i
- Type of fuels from biomass A B C D i
- Bioenergy imports 1 2 3 4 i

Geosequestration 1 2 3 4 i

2050 emissions will be 1% below 1990 levels.

International aviation and shipping emissions are not included in the UK's 2050 target but are included here to enable emissions from all sectors to be considered.

Energy security

Storage, demand shifting & interconnection 1 2 3 4 i

No backup generation would be required in 2050, even if there were five cold, almost windless, winter days. [i](#)

In 2050, 85% of primary energy will be imported.

Conventional power stations are built automatically to fill any shortfall in electricity supply. Coal, Oil and Natural Gas are automatically imported to fill any shortfall in bioenergy.

Save or share this pathway



Targets

Zero Carbon Emissions from new buildings from 2011
Reduce Greenhouse Gas emissions by 3% a year from 2011

Climate Change Commission in Wales

Land Use and
Climate Change

Wales Low Zero
Carbon Hub

The Adaptation Task
and Finish Group

Business and
Transport

Devolved areas of competence

Transport | Residential | Business | Agriculture and Land Use | Waste | Public

Wales Low Zero Carbon Hub



Strategic Actions

- Advise Welsh Ministers
- Raise awareness amongst stakeholders
- Disseminate best practice
- Work with existing knowledge networks and organisations
- Identify, propose and promote practical actions
- Identify gaps in current policies
- Support implementation of Building Regs



Workstreams

1. Residential New Build
2. Residential Existing Buildings
3. Non Domestic Buildings
4. Sustainable Living
5. Skills and Training



Chris Jofeh, Chairman

Sally Sudworth, Director

François Samuel, WG Observer

Sarah-Jane Davies, WG Observer

Milica Kitson, CE Wales

Paul Wong, Industry rep

Andy Sutton, Industry rep

X 5 Workstream Leaders

**Steering
group**

Steering group – workstream leaders



Colin King, Residential New Build

Nick Tune, Residential Existing Buildings

Gordon Brown, Non Domestic Buildings

Chris Tweed, Sustainable Living

Wyn Prichard/ Chris Hughes, Skills and Training





Llywodraeth Cymru
Welsh Government

www.cymru.gov.uk

Welsh Government

Arbed phase 1 project summary

dilys.burrell@wales.gsi.gov.uk

Energy Efficiency and Fuel Poverty Evidence

ADEILADU
ARBENIGRWYDD
YNG NGYMRU

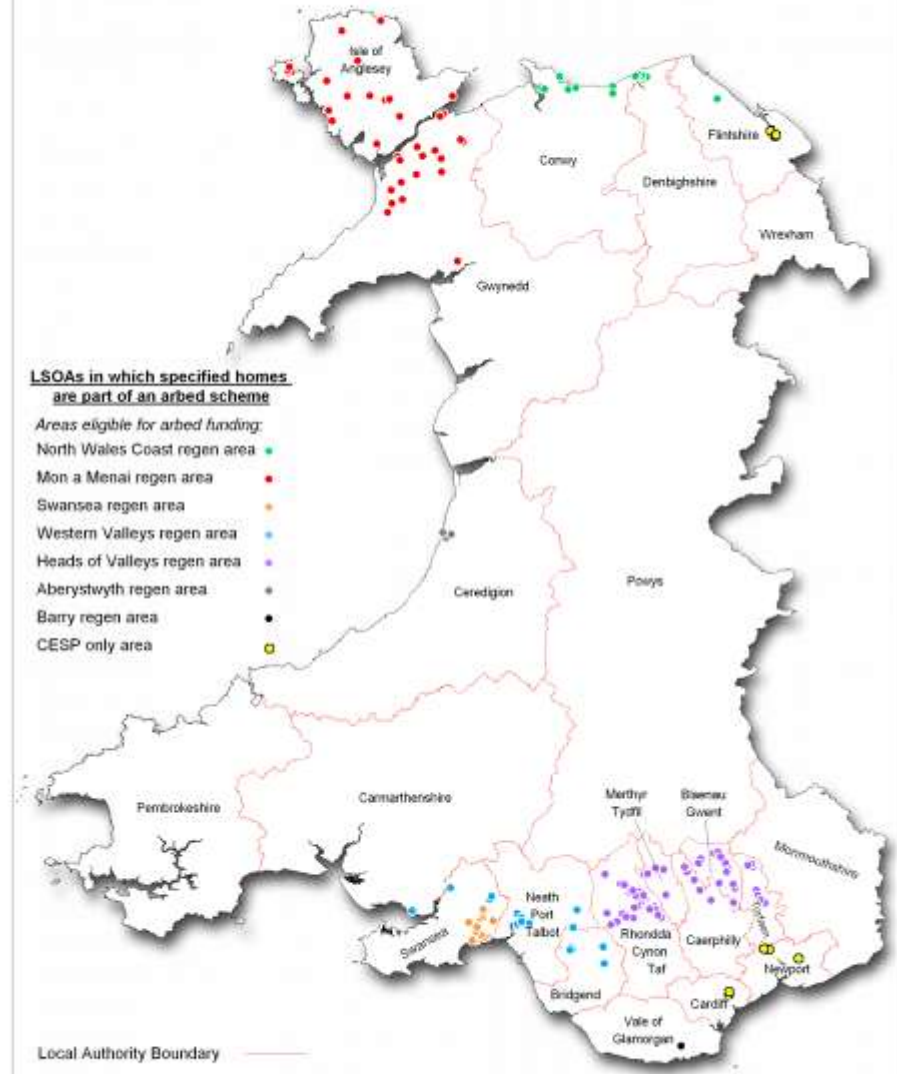
CONSTRUCTING
EXCELLENCE
IN WALES



Outline

- What happened?
- What was learnt?

arbed schemes (2010/11 SCIF-funded portfolio)



Arbed phase 1 outline



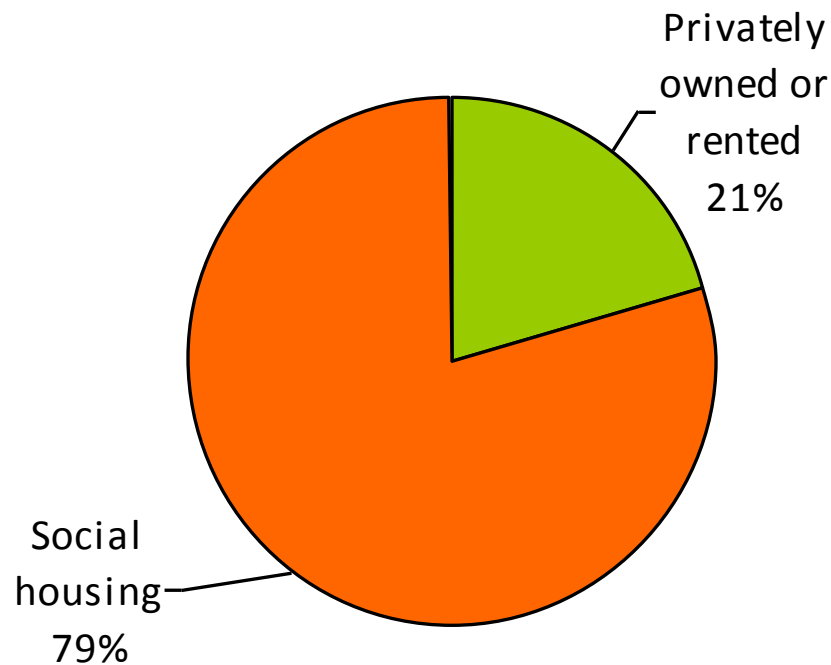
- £30m Welsh Government capital funding
- Additional funding from energy companies and social housing providers
- Delivered to tight timescales by social housing providers
- 6000 homes



Key facts - tenure



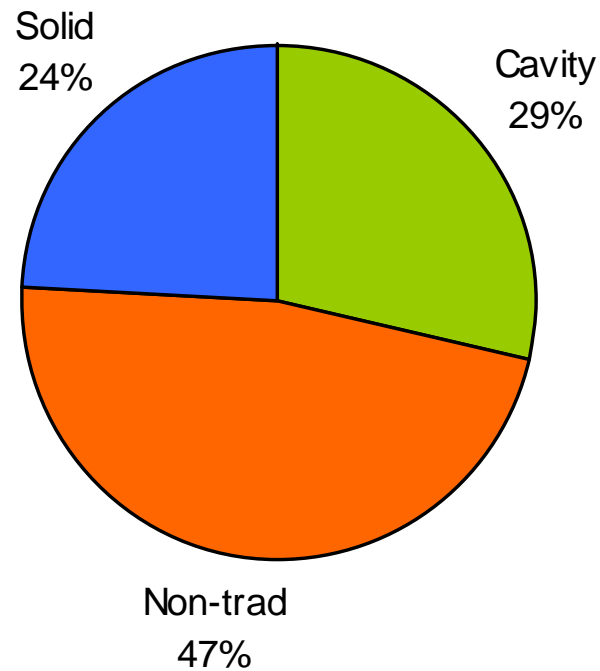
Tenure of properties improved
(Information available for 79% of properties improved)



Key facts – construction type



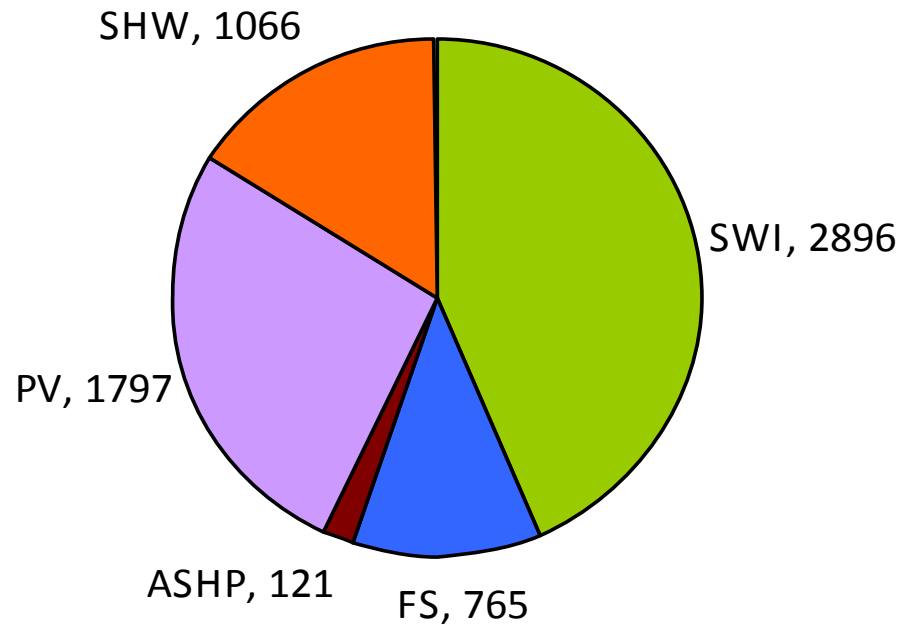
Construction type of properties
(information available for 56% of properties improved)



Key facts – measures installed



Measures installed as part of arbed phase 1



Impact



- £98 million energy bill savings (modelled)
- 12,000 tonnes CO₂/yr (modelled)
- Evaluation of on-the-ground energy impact this winter (focusing on SHW, ASHP and solid wall insulation)
- Accreditation of companies
- Most products manufactured and/or companies located in Wales
- Training provided to unemployed people

Lessons learnt



- Engagement
- Advice
- Planning and programming
- Maintenance and risk
- Building control and planning permission
- Measuring impact
- Costs
- (further input from evaluation and CSkills learning project to follow)

Engagement

- Time
- Strategy
- Trust



Advice

- Clear, simple
- Verbal and written
- Follow up



Planning and programming



- Preparation, briefing, up-skilling
- Data, data, data!!!
- Assessment – cost vs. benefit



Maintenance and risk

- Planned maintenance schedule
- Reactive maintenance capacity
- Settings / operational?



Planning and building control



- Early consideration, engagement and costing
- Test installations
- Sensible approach



Measuring and maximising impact



- Energy consumption or billing data
- Wellbeing
- Longer term training pathways



Costs



- 20-50% reduction cf. individual home costs
- £12k-£15k for full package for property requiring solid wall insulation
- Data, data, data!



Arbed phase 2



- Contract notice advertised
- Selection of first round of project areas – Autumn 2011
- Assessment – Winter 2011/12
- First round of installations – Summer 2012
- Further evaluation and opportunities to learn and share lessons



Low Carbon Buildings

- Carbon Trust Wales Activity

Karen Griffiths

Low / Zero Carbon Hub Workshop

9th September 2011

Agenda



- Carbon Trust overview
- The bigger picture
- Activity – Nationally and Locally
- Sharing our experience
- Carbon saving services



**Our mission
is to accelerate
the move to
a low carbon
economy**

We cut carbon now by

- ▶ **Providing specialist advice and finance to help organisations cut carbon**
- ▶ **Setting standards for carbon reduction**

We cut future carbon emissions by

- ▶ **Opening markets for low carbon technologies**
- ▶ **Leading industry collaborations to commercialise technologies**
- ▶ **Investing in early stage low carbon companies**

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Building The Future, Today

Transforming the carbon and economic performance of the buildings we work in

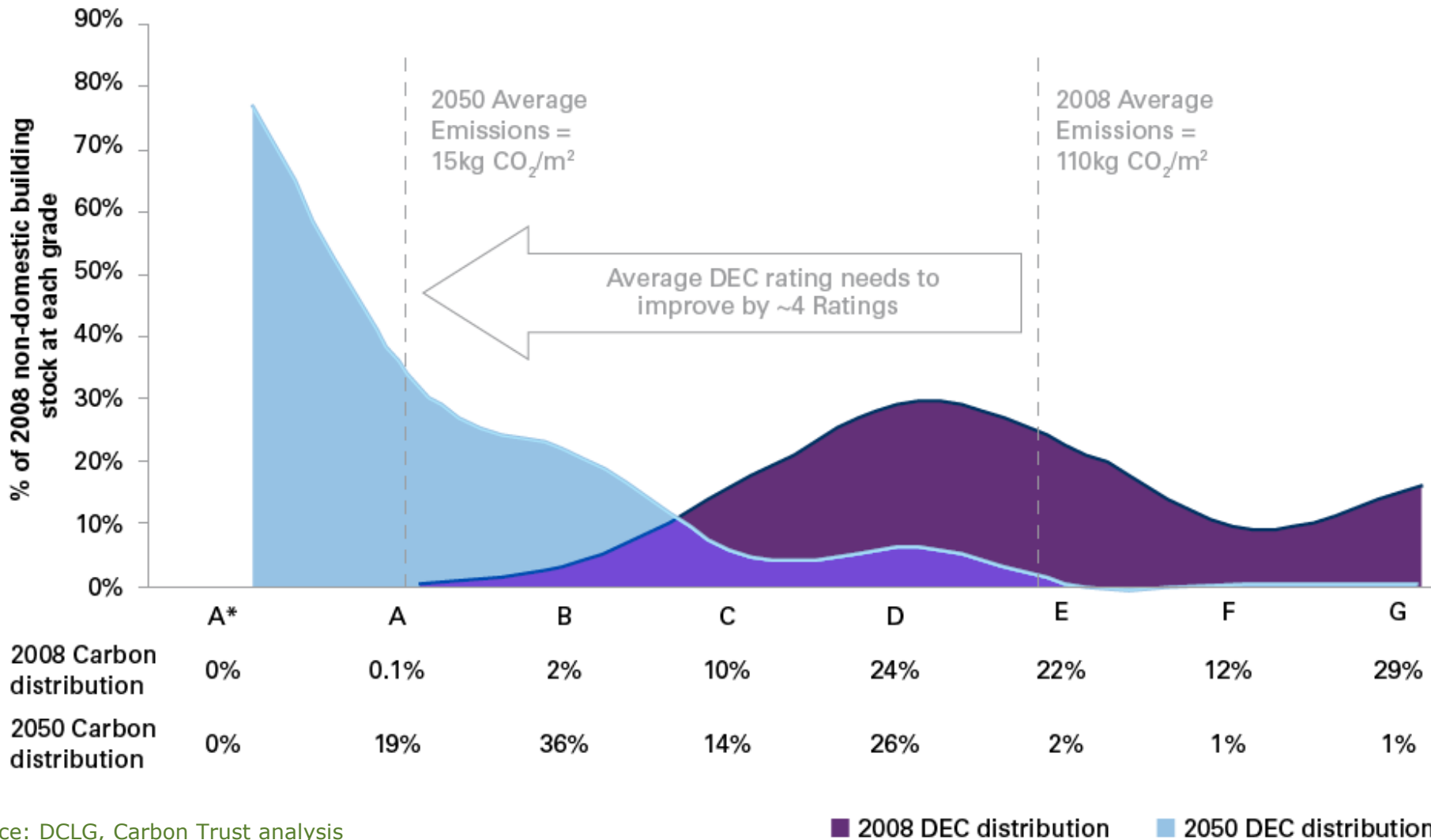


Building the future, today



“What would a carbon reduction target of at least 80% mean for non-domestic buildings in the UK?”

The average building in 2050 needs to be 4 DEC ratings better than today



Source: DCLG, Carbon Trust analysis

Agenda

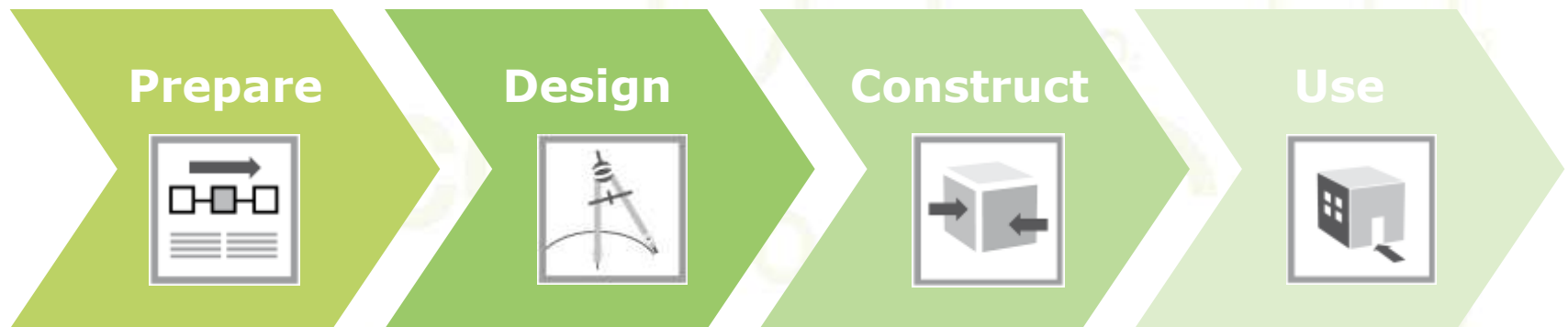


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Low Carbon Building Accelerators



- New & refurbished demonstrator building projects



- Demonstrate the **business case**
- Identify **barriers** & present **solutions**
- Reduce the **data gap** in research & policy

Our accelerator work provides insights from 28 real projects



Low Carbon Buildings: Refurbishment



- 10 typical refurbishment projects across the UK:
 - Four retail
 - Two restaurants
 - Two Government Offices
 - One Leisure Centre
 - One MOD Site
- The aim was to understand how carbon reductions can be reduced through building refurbishment
- Monitoring throughout the projects

Decarbonising our existing buildings – Why?



For three key reasons:

1. Nearly **50%** of the UK's **total** carbon emissions come from buildings
2. **60%** of the buildings that we work, live and play in now, **will still be here in 2050**
3. **40%** of the 2050 buildings will have been built **pre-1985**

North Wales Police, Colwyn Bay



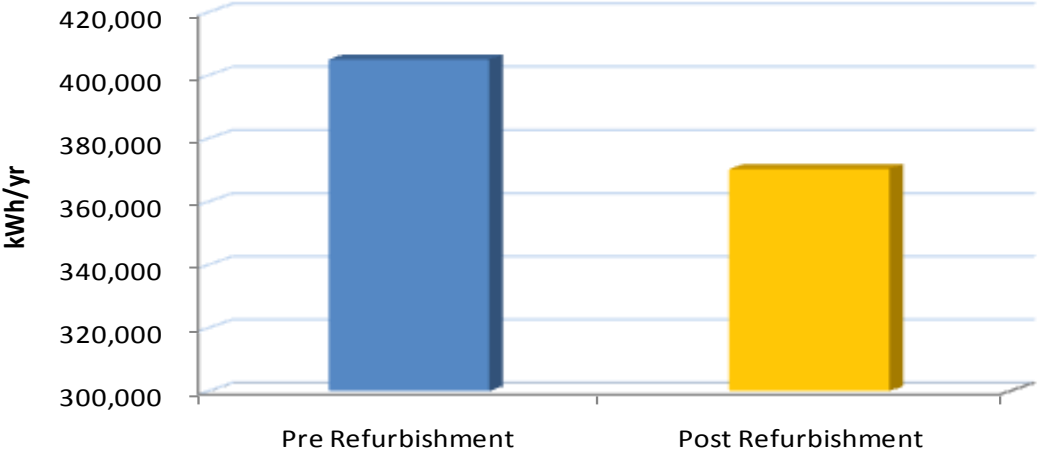
- Goal: Improve thermal comfort, whilst reducing energy consumption and CO2 emissions



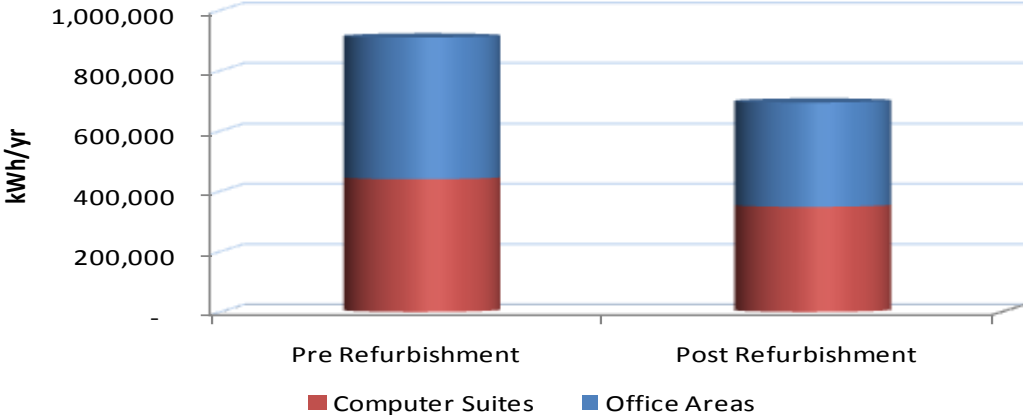
Positive results - overall CO₂ down 22%



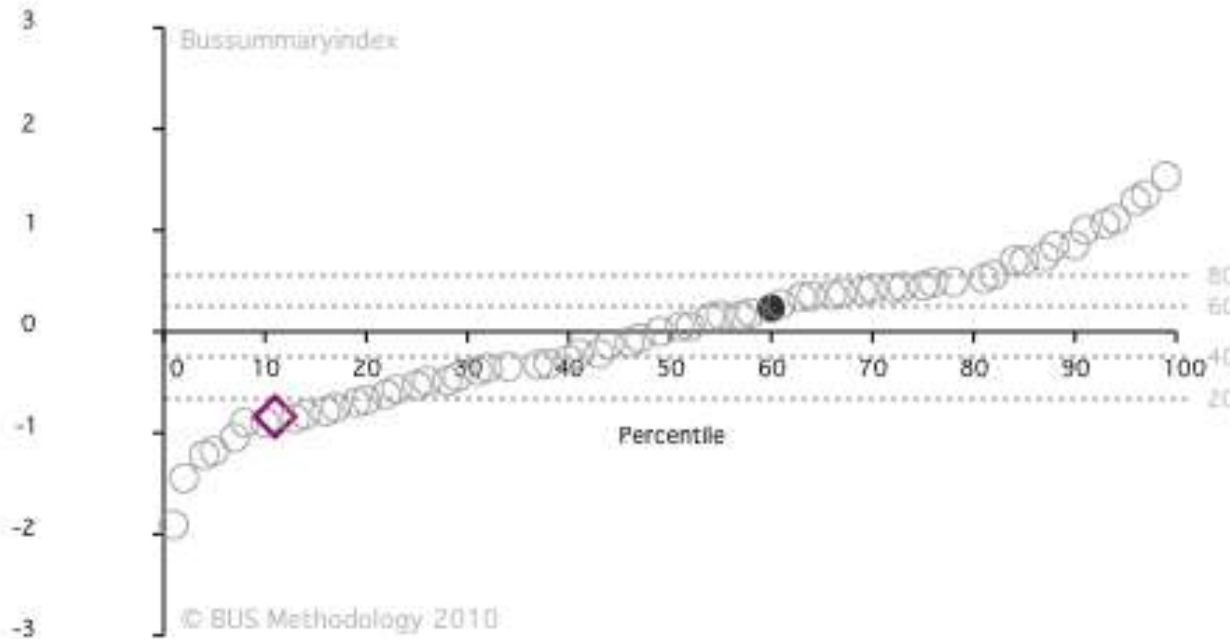
Comparison of Gas Use Pre & Post Refurbishment



Comparison of Electricity Use Pre & Post Refurbishment



Significant increase in occupant satisfaction



Study mean: 0.26 | Study building percentile: 60 | Quintile: 3
Building code: 1141
Web content © BUS Methodology 2010

Low Carbon Buildings: New Build



- Developers committed to significant CO₂ reductions
- Good mix of building types:
 - Residential – housing
 - Community centre
 - HE & FE
 - Schools
 - Offices
 - Residential - apartments
- Monitoring finished December 2010
- Carbon Trust holds archive of project reports and data (including monitored energy data)

Canolfan Rheidol, Aberystwyth



- 7200m² , 3/4 storeys with exposed thermal mass
- Nat vent with displacement vent back-up
- Toplights & BMS controlled central atrium louvres
- Brise soleil to South façade



Key project facts



- Relatively few defects (maybe 12 major ones)
- Active FM team
- Retained controls specialist
- Biomass oversized ready for future phases
- Terminated fuel supply contract for ~4 months
- Significant electrical baseload
- Underperforming wind turbine
- Metering strategy needs improvement

On the road to low carbon



Display Energy Certificate

How efficiently is this building being used?

Cardigan County Council Offices
 Parc-Y-Llyn
 ABERYDARVEITH
 SYD 3JE

Certificate Reference Number:
 0270-4957-0128-7450-1070

The certificate indicates how much energy is being used to operate the building. The operational rating is based on meter readings of all the energy actually used in the building. It is compared to a benchmark that represents performance indicative of all buildings of this type. This is more advice on how to interpret this information on the Government's website www.communities.gov.uk/ebcd.

Energy Performance Operational Rating

This tells you how efficiently energy has been used in the building. The numbers do not represent actual units of energy consumed, they represent comparative energy efficiency. 100 would be typical for this kind of building.

More energy efficient

A 0-25

B 26-50

C 51-75

D 76-100

E 101-125

F 126-150

G Over 150

Less energy efficient

Total CO₂ Emissions

This tells you how much carbon dioxide the building emits. It shows tonnes per year of CO₂.

Previous Operational Ratings

This tells you how efficiently energy has been used in this building over the last three accounting periods.

Technical Information

This tells you technical information related to the energy is used in this building. Comparison data based on actual meter readings.

Main heating fuel: Solid fuel
Building Environment: Part G and Mechanical Ventilation
Total useful floor area (m²): 680.3
Asset Rating: Not available

	Rating	Efficiency
Annual Energy Use (kWh/m ² /year)	123	87
Typical Energy Use (kWh/m ² /year)	141	119
Energy from renewables	0%	0.0%

Administrative Information

This is a Display Energy Certificate as defined in BS 2007:001, as amended.

Assessment Software: i4Systems Energy Services, digitalenergy, Ltd
Property Reference: 402674510000
Assessor Name: Richard Wiggins
Assessor Number: 1603888849
Accreditation Reference: Multiple Information Solutions
Employer/Trading Name: i4Systems Energy Services
Employer/Trading Address: i4Systems Energy Services, Coventry University Technology Park,
Issue Date: 16.04.2011
Revision Date: 20.03.2011
Valid Until: 20.03.2012
Notified Party Disclosure: Not related to the occupier

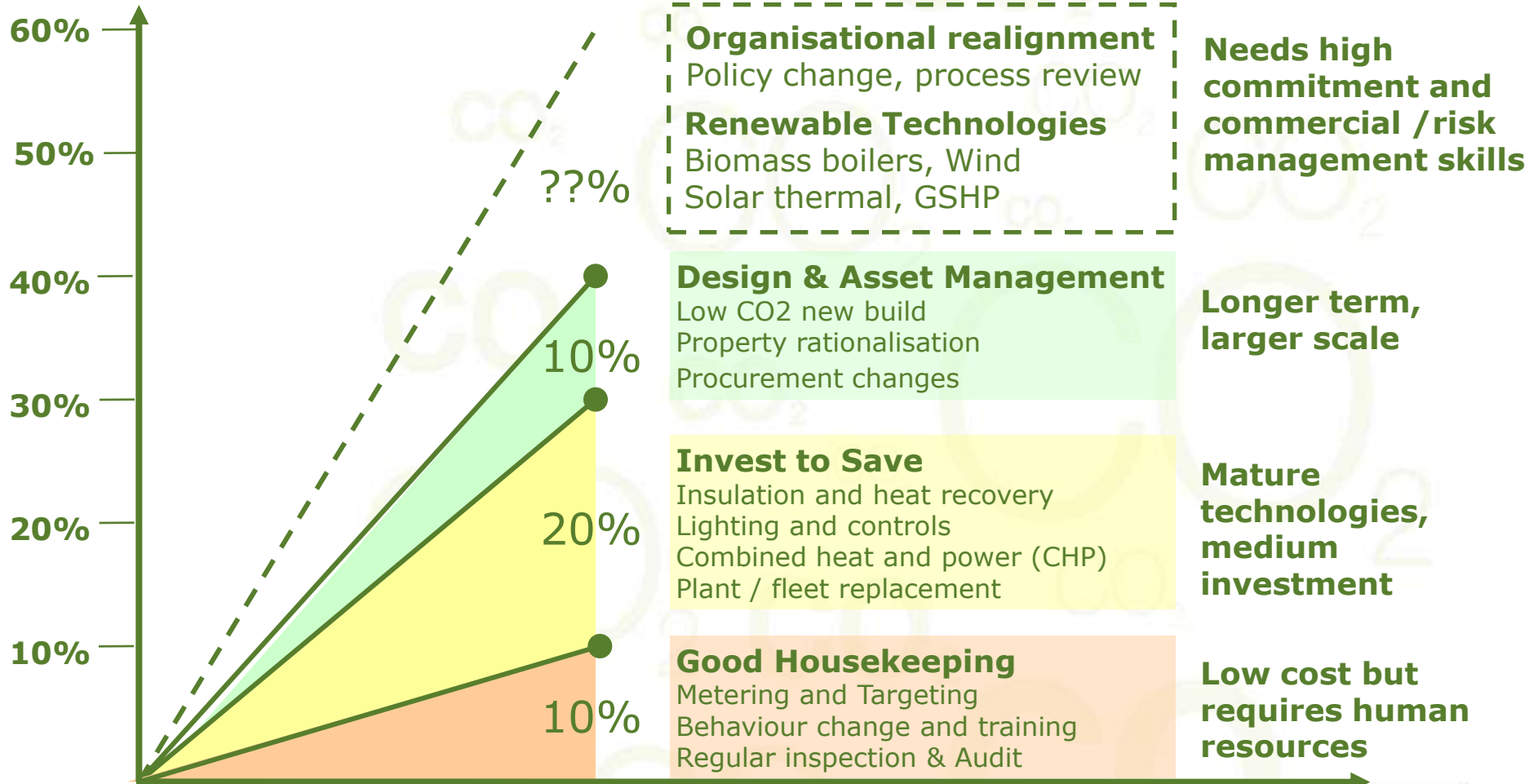
Recommendations for improving the energy efficiency of the building are contained in the accompanying Advisory Report.

Public Sector in Wales



- 10 year partnership with CLAW
- Focus on key strategic issues working with a host Authority / cluster group
- 17/22 Local Authorities committed to challenging Carbon Reduction targets – directly or via LSBs
- Cost reduction is now a key driver for carbon reduction
- Major project for the current year is a Local Government Carbon Management Review

how can the targets be met?



Organisational realignment
Policy change, process review

Renewable Technologies
Biomass boilers, Wind
Solar thermal, GSHP

Design & Asset Management
Low CO2 new build
Property rationalisation
Procurement changes

Invest to Save
Insulation and heat recovery
Lighting and controls
Combined heat and power (CHP)
Plant / fleet replacement

Good Housekeeping
Metering and Targeting
Behaviour change and training
Regular inspection & Audit

Needs high commitment and commercial / risk management skills

Longer term, larger scale

Mature technologies, medium investment

Low cost but requires human resources

Agenda



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Sharing our experience: LCBA-Case studies & lessons learned



• Key issues

- Closing the design performance gap
- Commissioning
- Metering & monitoring
- BMS & controls
- Managing risk
- Light refurbishment
- Deep refurbishment

• Technologies

- Retrofitting renewables
- Ground source heat pumps
- Photovoltaics
- Biomass & community heating
- Natural ventilation

www.carbontrust.co.uk/buildings

Sharing our experience: Video Case Studies



New Build

- Pembrokeshire College
- Edge Hill University
- Fairglem Eco Community
- Royal Horticultural Society
- Stoke Local Council
- Woodbrook Housing

Refurbishment

- Hampshire County Council
- MOD
- Whitbread Ltd. - Hogsmill Tavern

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Carbon saving services



- Website
- Publications
- Face to Face
- Sector Specific
- Events and Workshops

Carbon Trust Wales Achievements 2010 /2011



- Cut annual carbon emissions by **145,000T**
- Cut lifetime carbon emissions by **1,270,000T**
- Helped organisations save **£20 million** annually
- Helped organisations save over **£140 million** over the lifetime of the installed equipment
- Allocated **£3 million** in interest-free Energy Efficiency Loans to businesses
- Allocated **£2.9million** in interest-free Energy Efficiency Loans to public sector
- Workshops and seminars for over **1,200 delegates** throughout Wales

Figures audited and covered by limited assurance

Questions?





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Peter Davies
Chair
Climate Change Commission



Wales Low Zero Carbon Hub

Workshop 9th September 2011

Workstream : Residential Existing

Residential Existing Buildings Workstream Group



Workstream Leader: Nick Tune, BRE

Helen Northmore, Energy Savings Trust Wales

Catrin Maby, Severn Wye Energy Agency

Sarah Beynon, Atom Architecture Ltd

Rob Panell, Zero Carbon Hub

Emma Cottrell, CEW

Nicholas Beddoe, BRE Wales

David Clague, CEW



These are the obstacles we face working in our part of industry ...

The user/person (80% effect)

Cost

Quality

Quick fix measures

Tools - Weak SAP/Models

Lack of evidence/monitoring

No post occupancy re: behaviour

Building individuality/difference

Retrofitting the retrofit?? (the next asbestos)

Possible mitigation we could take ...

Retrofit hierarchy

Up-skilling the people making decisions in what is being installed etc

Carrot

Stick

Building regs

These are the opportunities we have identified



Quality (design/inspection/installation)

Minimum installation standards

Usage/user – behaviour change

Finance – links to council tax, mortgages

Whole life costing – 10 year retrofit or 100 year retrofit?

Building Regulations (establish a baseline)

- 1. Use of current building regs in relation to refurbishment - numbers*
- 2. How can it be increased*
- 3. What is the scope/threshold for consequential improvements (e.g. more than x% need to improve entire building)*
- 4. How is the consequential improvement undertaken - e.g. elemental, or EPC rating*

Existing evidence and information (ways of improving the energy performance of older homes – leakage, insulation, ventilation, damp)

Evidence needs for Wales – applicability for Wales – data hub?

Merit in self monitoring programme?

Consequential improvement monitoring of house type fabric (dummy modelling)

Code for Sustainable refurbishment

Evidence modelling and monitoring



Key projects/studies and research we should do

1) The use of Building Regulations in reducing CO2

Determine how many referbs actually use building control ie meet building regs, what is potential if we used buildings regs to improve Welsh housing stock

What point would improvements be mandatory in retrofit ie is it extensions major renovations etc

What should be the targets sequential elemental improvements, and or whole house ie EPC improvements

What should be carrot to assist access to NEST ARBED etc, Council tax reductions, green mortgages

2 evidence – monitoring modelling



- Undertake review of current knowledge re key issues such as solid wall insulation, ventilation, and then investigate whether this info can be used in Welsh context.
- Develop repository of monitoring/knowledge information
- Develop self monitoring programme for Wales that links to private householders
- Undertake consequential improvement analysis on different houses types using real life measures

2 - continued



- Develop Code for retrofit for Wales and trial (tie up to building regs?)



3 - Quality/Skills

- All WAG funded programmes should have requirements that specific design and installation standards are met for fabric improvements – need to determine what?



Wales Low Zero Carbon Hub

Workshop 9th September 2011

Workstream : Skills & Learning

Skills & Learning

Workstream Group



Workstream Leaders: Wyn Prichard & Chris Hughes

Ceri Williams, British Gas Community Energy

George Martin, Willmott Dixon

John Martin, Morgan Sindall plc

Kathryn Hopkins Morgan, Summit Skills

Michael Parker, Davis Langdon LLP

Paul Jennings, CEW



These are the obstacles we face working in our part of industry ...

1. Return On External/Internal Investment

- What's In It For Me – time invested, cash invested*

2. Standards & Accreditation

- Knowledge within the education sector*
- Evidence of learning*
- New Entrant & CPD*

3. Coordination & Communication

- Have we got the right programme ? – Industry needs to be clear.*

Possible mitigation we could take ...

1. Measurement – provision of robust data on competence

2. Identification of Cost Benefits – Green Clients

*3. PR – Knowledge Leaders – learn from Demos
Good and Bad*



These are the opportunities we have identified

- Opportunity to be UK and European Lead
- Devolution of Building Regs to Wales – no need for speculative learning programmes
- WG position and welsh demographics gives the chance for joined up solution.
- Climate change check-back assured via TZW through Eco – Footprint.
- ARBED 2
- Learn from world wide examples e.g Australia



Key projects/studies and research;

Existing

SCRIPT

Cut the Carbon

*SPF Project***

*ARBED ***

*BEST ***

CREW

Low Carbon Skills Research

New Projects

LRCI – Unfinished Mapping

Follow up for CREW – Professional Skills

Integration of workstream requirement and their impact on skills gap



Wales Low Zero Carbon Hub

Workshop 9th September 2011

Workstream : Non Domestic Buildings

Non Domestic Buildings Workstream Group



Workstream Leader: Gordon Brown

Lucy Hoggins, The Carbon Trust

Karen Griffiths, The Carbon Trust

Andrew Hole, Pentan Partnership

Simon Hartley, AECOM

Viki Stevenson, Welsh School of Architecture

Milica Kitson, CEW

These are the obstacles we face working in our part of industry ...

- Education
- 3% not on anyone's horizon
- Wrong technologies/implementation
- Design gap
- Client buy in

Possible mitigation we could take ...

- Procurement – how we procure buildings
- Examples/case studies/ data
- Develop a League table – teams/buildings



These are the opportunities we have identified

• League Table/Metrics/Client Targets

- Whole life costing
- DECS
- Soft Handovers (CIBSE Soft Landing)
- Accident figures
- Materials procurement
- CCS
- Procurement process
- Building Users Guide
- Air tightness/U Values
- Detailed presentation of schemes
- KPI's from CEW...



These are the opportunities we have identified

- **Procurement**
 - Change how buildings are procured...
- **Education**
 - Simple précis of Policy, requirements
 - Site Carbon Manager – training and accreditation

Key projects/studies and research:



- *Metrics and weightings that would lead to a good project*
- *Examples from Existing projects completed and monitored*
- *Provision of simple guide to*

Existing

Current reports from existing parties including case studies:

- *Mott Macdonald Renewable energy guide for Refurb*
- *Carbon Trust Reports*
- *Others...*

New Projects

- *Development of a league table and teams/ projects to populate*
- *Site Carbon Manager implementation*



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Workstream : Sustainable Living

Sustainable Living

Workstream Group



Workstream Leader: Chris Tweed

Jennifer Pride, Welsh Government

Dilys Burrell, Energy Saving Trust & Welsh Government

Richard Snaith, North Wales Housing

Sarah Jane Davies, Welsh Government

Andy Sutton, BRE

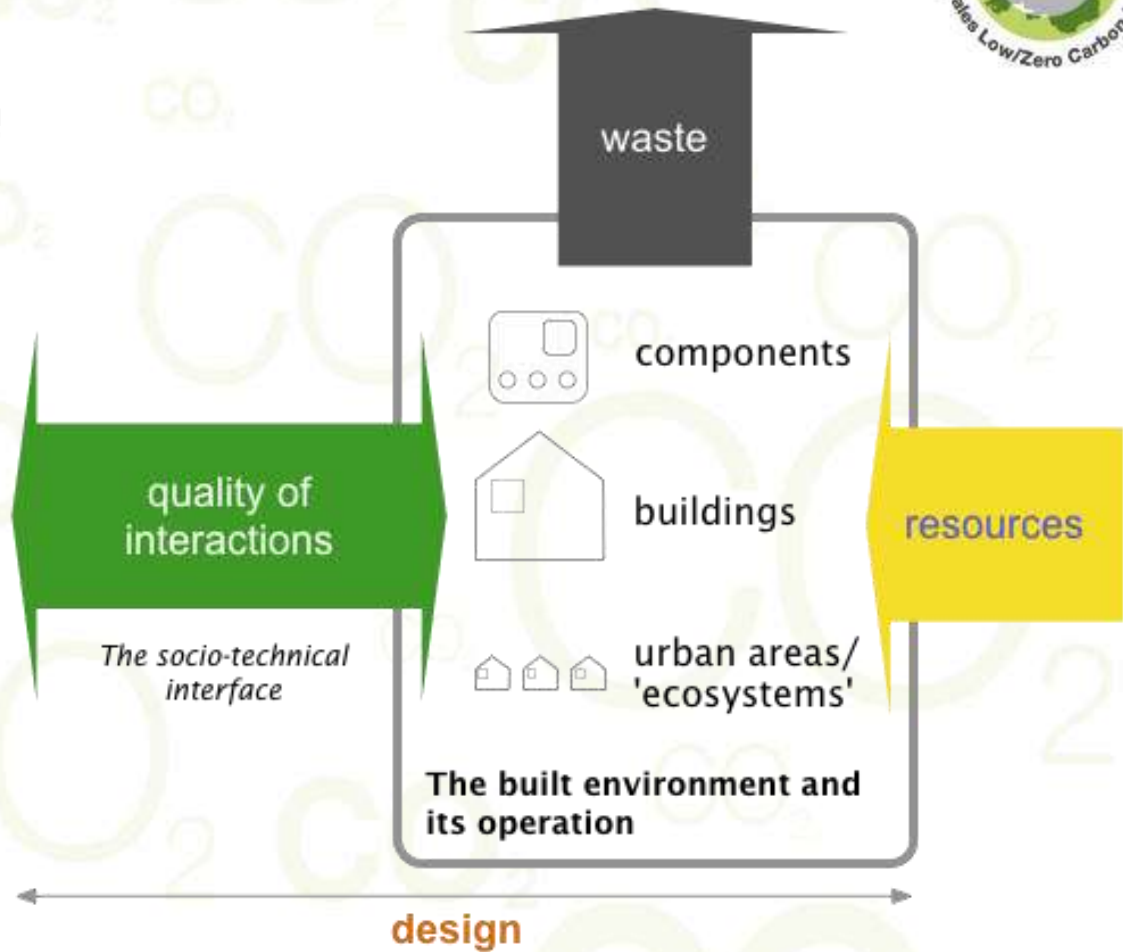
Jelena Kiselova, BRE Wales

Chris Jofeh, Arup

LZCH Wales Sustainable Living



People—their needs and wants



● *These are the obstacles we face working in our part of industry ...*



- Others must change their behaviours, not us
- No willingness to pay more for 'greener' properties (rent or purchase), even if they have lower utility bills
- Media and peer pressure to consume—business as usual
- Conflicting information leads to confusion
- Sustainable living needs to 'feel' better, not just be right
- Green has negative connotations— I'm required to give up things that are important to me, and anyway it's too difficult
- Lack of understanding of how people actually live – they know better than experts what would really work—curse of knowledge

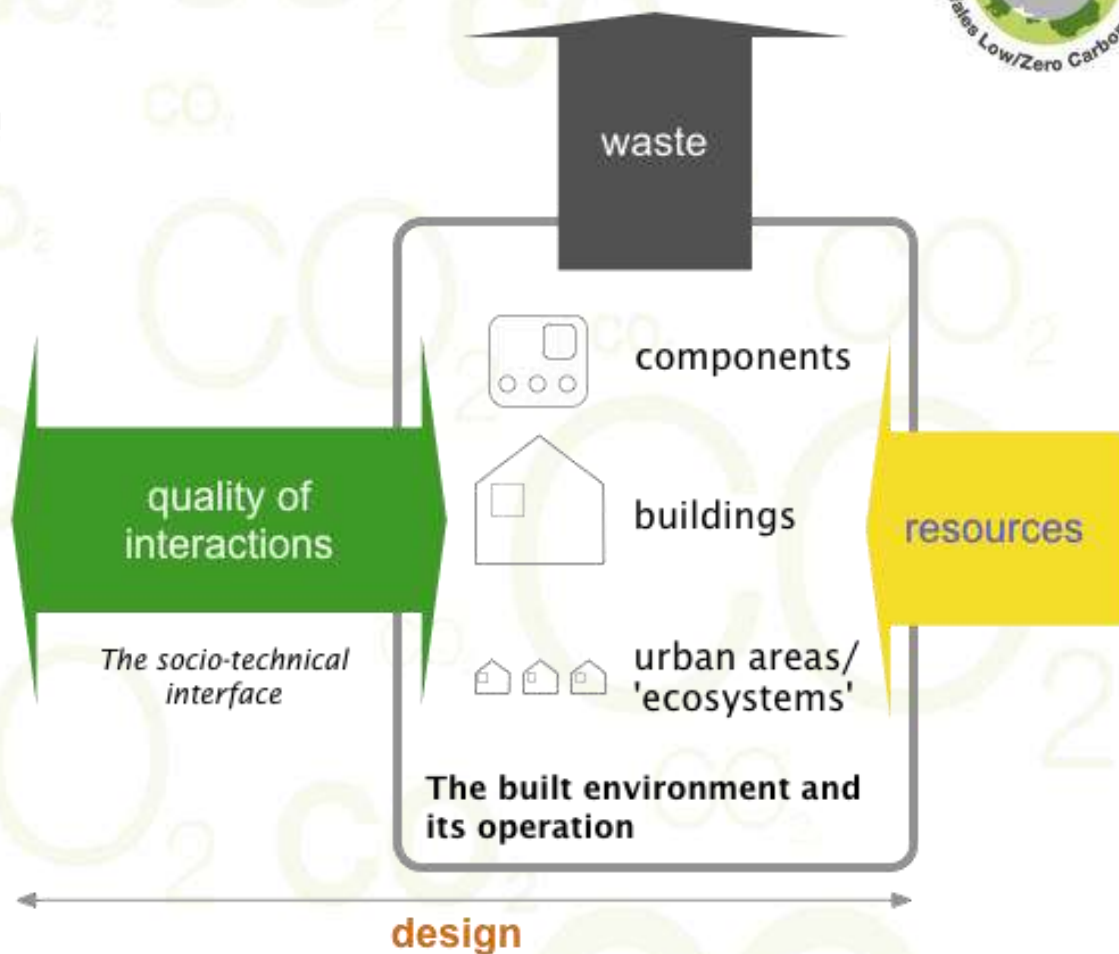
Possible mitigation we could take ...

- Better information about different groups, e.g. older people
- Learn lessons from successes, e.g., recycling: make it easy and visible
- Work with other workstreams
- Other routes to dissemination of information, e.g. supermarkets

LZCH Wales Sustainable Living



People—their needs and wants

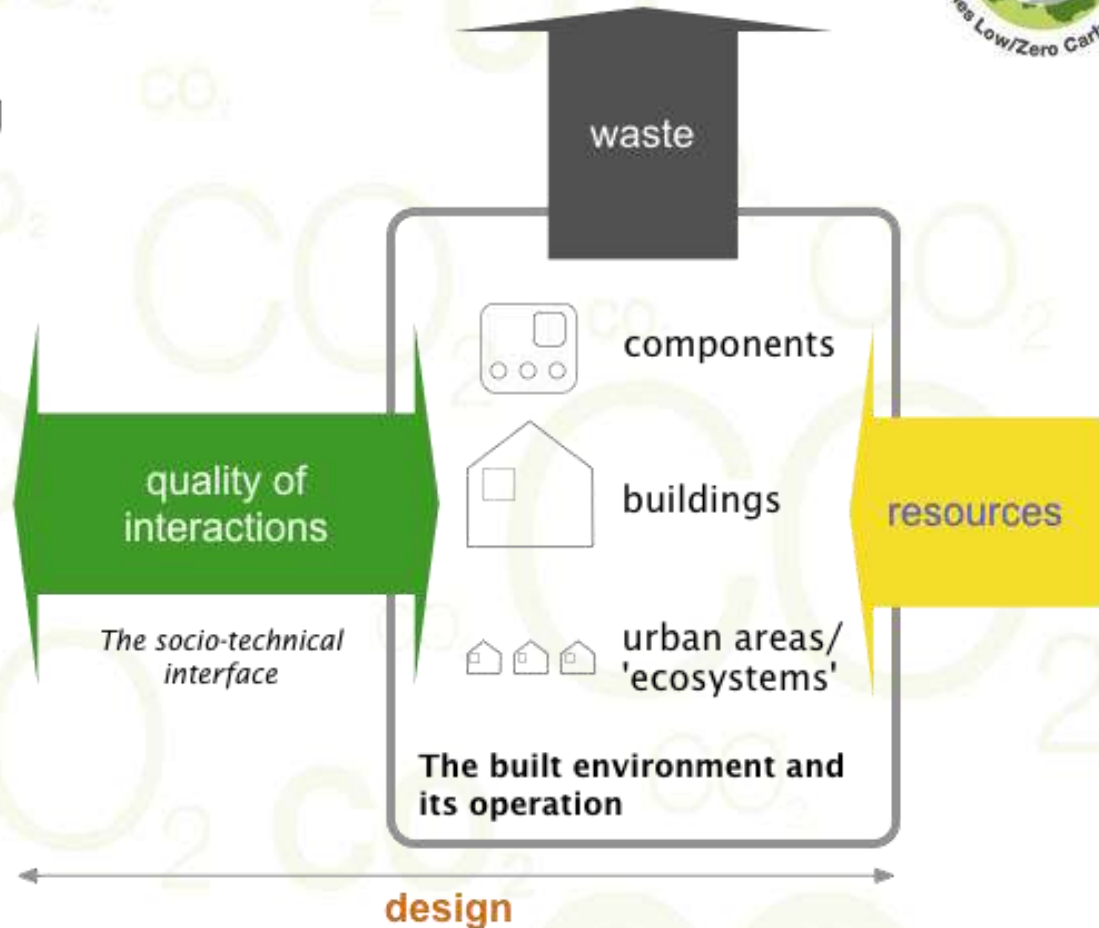


LZCH Wales Sustainable Living

1. Identify the issues in lifestyle and behaviour across different users, e.g. energy visibility

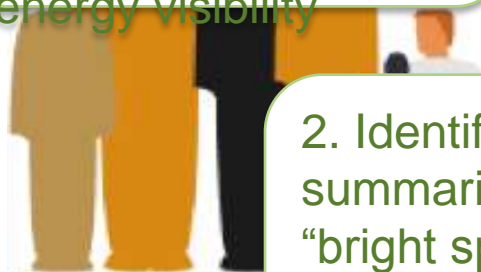


People—their needs and wants



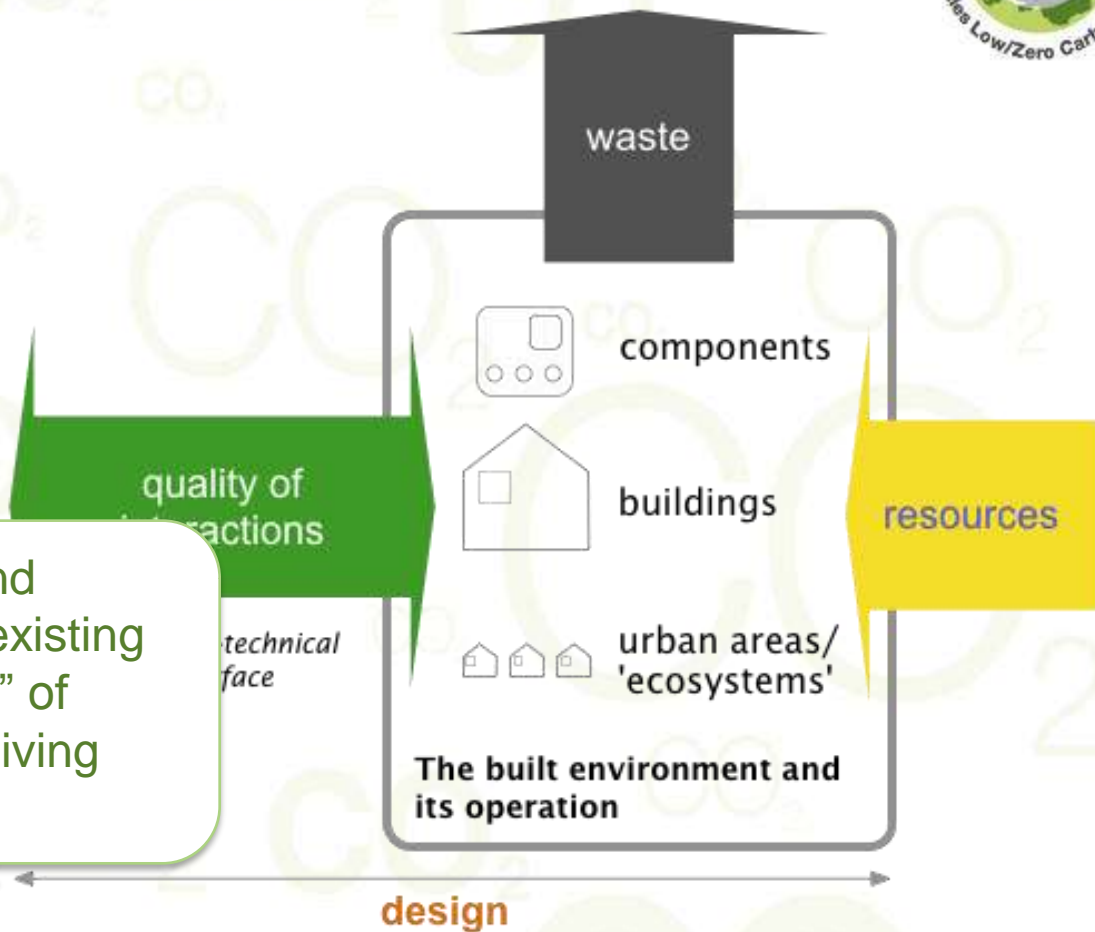
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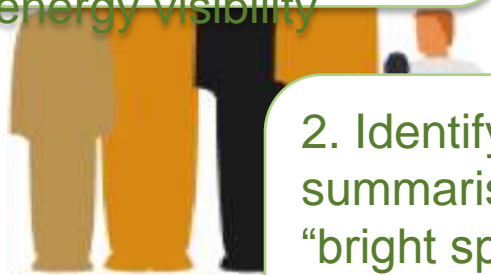
People—their n

2. Identify and summarise existing “bright spots” of sustainable living and the built environment



LZCH Wales Sustainable Living

1. Identify the issues in lifestyle and behaviour across different users, e.g. energy visibility



People—their n

2. Identify and summarise existing “bright spots” of sustainable living and the built environment

quality of interaction

technical face

3. Develop scenarios that will enhance quality of living and increase sustainability in the built environment



urban areas/ 'ecosystems'

The built environment and its operation

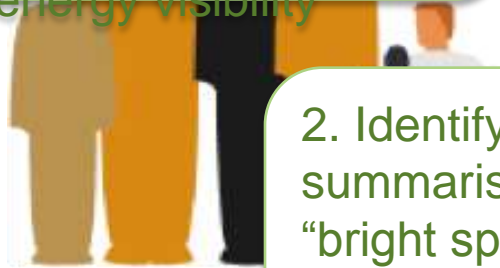
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LZCH Wales Sustainable Living

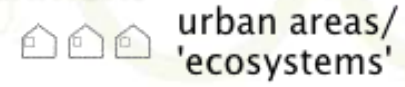
1. Identify the issues in lifestyle and behaviour across different users, e.g. energy visibility



People—their n

2. Identify and summarise existing “bright spots” of sustainable living and the built environment

3. Develop scenarios that will enhance quality of living and increase sustainability in the built environment



4. Develop proposals for some key, small scale interventions to promote selected scenarios

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Wales Low Zero Carbon Hub

Workshop 9th September 2011

***Workstream* : Residential New Build**

Residential New Build

Workstream Group



Workstream Leader: Colin King, BRE

Matthew Grey, Llanmoor Homes

Cindy Harris, Design Commission for Wales

Colin Blick, Welsh Government

Stuart Jones, Leadbitter

Gareth Davies, United Welsh Housing Association

Danielle Symmons, CEW

Ed Evans, CEW

These are the obstacles we face working in our part of industry ...

- *Planning and Building Control Process*
- *Availability of Skills*
- *Worth put on Low Carbon – Value of properties, running costs, Green Mortgages*
- *Does this or should this limit how far the standards are improved.*

Possible mitigation we could take ...

- *Research into the potential for Green Mortgages*
- *Construction Skills already looking into skills shortage analysis*





Short Term Activities

- Look at the levels of carbon reduction that should be considered in the first change – 55% announced, what else should be considered.
- Impact of the Planning Policy in Wales – England removing conditions, we have TAN 22 does this affect numbers of buildings constructed.



- Fabric Energy efficiency key to delivering low carbon buildings, the standard should not rely on any specific technology to deliver it.
- The standard set should reflect the limitations of the built form.
- Consider the compliance methods on offer
 - Energy Metric
 - FEES
 - Backstops / Elemental compliance on small developments.
- Impact of the Planning Policy in Wales – England removing conditions, we have TAN 22 does this affect numbers of buildings constructed.

- Medium Term
 - valuation of Design vs As Built, monitoring and evaluation of the difference.
 - Where should the next change to Part L be pitched.
 - What level of On Site Carbon Compliance should be considered in 2016
 - How do people effect the performance of the buildings and are smarter controls the way forward.

Final Thoughts



- An understanding in the Welsh Government that sustainable development is more than environmental standards
- Understand the challenges that will be faced by the SME and wider House Building sector if the standard relies on limited technologies and useful orientation to deliver.

- Should WG look at alternative methods of compliance ?
 - Small site elemental or concurrent building standards ?
 - Medium large sites using performance standards, or should both be allowed ?
 - Use of Building Notices on new dwelling construction.

- **Portfolio of projects**
 - Refurb of non domestic buildings
 - Industrial and commercial EPC analysis
 - Arbed Phase 1
 - Green Mortgages – Andy Sutton
- **Script portal – demo Ian Wilson**

Progress Report



Green Mortgages – Existing known factors

Housebuilders report that home buyers will not pay more for “green” features in homes; the market does not currently ‘value’ them

The emerging Green Deal is looking to encourage “green” refurbishment in existing properties to reduce carbon

“Green” features typically reduce carbon emissions through reduction of off-site energy use, either improving fabric or systems efficiency

Mortgage lending is based on affordability against other known overheads

Home buyers tend to borrow what they can afford to buy their houses

Green Mortgages – How they might work

The energy costs can be approximated from the EPC certificate score

Lending ratios can be adjusted based on approximate fuel/utility costs to increase total mortgage offer

Customer is given a graded mortgage offer, perhaps:

£200,000 for EPC “A”

£195,000 for EPC “C”

£190,000 for EPC “E”

and so on...





Green Mortgages – What might be achieved

EPC score becomes a serious consideration for home buyers for both new build and existing houses

Higher EPC rated homes may initially be valued the same, but likely to sell faster

Over time, higher EPC rated homes values likely to inflate to match additional lending capacity of home buyers

Over time, existing home owners realise their house may sell quicker/for more if they take measures to improve the EPC rating prior to sale

Concerns over reduced running costs of high EPC homes leading to increased disposable income/consumerism (and resultant emissions) reduced



Wales Low/Zero Carbon Hub

The way forward:

Coalition of the Willing – your role



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Chris Jofeh – Closing remarks