

# Promoting Sustainability Awareness through Energy Engaged Virtual Communities of Construction Stakeholders


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# Background & Motivation

- ▶ The UK targets to cut CO<sub>2</sub> emissions
- ▶ Welsh Assembly Government (WAG) targets
  - 2011 Target of 3% reduction in CO<sub>2</sub> emissions – year on year basis – in Wales
  - 2013 In England a 44% reduction in CO<sub>2</sub> emissions will apply but in Wales the target will be 55%
- ▶ New problems for construction stakeholders
- ▶ Wales Low/Zero Carbon Hub
- ▶ A Knowledge Management issue
  - “Islands of information”
  - Sustainable Building Portal

# Sustainable Building Portal (SBP)











 **Grŵp Carbon Isel/Di-garbon Cymru**  
**Wales Low/Zero Carbon Hub**

## Wales guide to help the design & construction industry minimise the impact of buildings on the environment

### WELCOME TO THE SUSTAINABLE BUILDING PORTAL

The Portal is a 'signpost' to examples of good practice and best practice for low and zero carbon design and construction. It provides the location for useful guidance and documents and contains information on building and infrastructure projects and identifies WAG and UK Government's future requirements.

Mae'r Porthol yn 'arwyddbost' i enghreifftiau o arfer da a gorau ym maes adeiladu di-garbon dylunio ac adeiladu isel ei garbon. Ceir ynddo ganllawiau a dogfennau defnyddiol ac yn cynnwys gwybodaeth am brosiectau adeiladu ac isadeiledd, ac mae'n disgrifio gofynion Llywodraeth y Cynulliad a Llywodraeth San Steffan at y dyfodol.

-  Sustainable Design ▶  
Sustainable Design
-  Costs & Financial Support ▶  
Costs & financial support
-  Legislation & Policy ▶  
Legislation, Policy, Energy & Consultations
-  Guides Codes & Articles ▶  
Guidance Documents, Codes, Strategies & published articles
-  Wales LZC Hub ▶  
Wales Hub activities and workstreams
-  Project Team ▶  
Organisations & procurement process
-  Training & Skills ▶  
Training, Skills & CPD
-  Buildings & Infrastructure ▶  
Studies of Building & Infrastructure projects
-  Materials Products & Services ▶  
Materials-Products-Systems-Waste
-  Research & Development ▶  
Research & Development

### LATEST NEWS

It is hoped that the Portal will be useful in the sharing of relevant information to Clients, Designers, Contractors, Builders, Developers, Manufacturers and Suppliers i.e. all those involved in the Construction Industry in Wales. However, the industry must be involved in the process by sharing information on projects and identifying good and best practice.

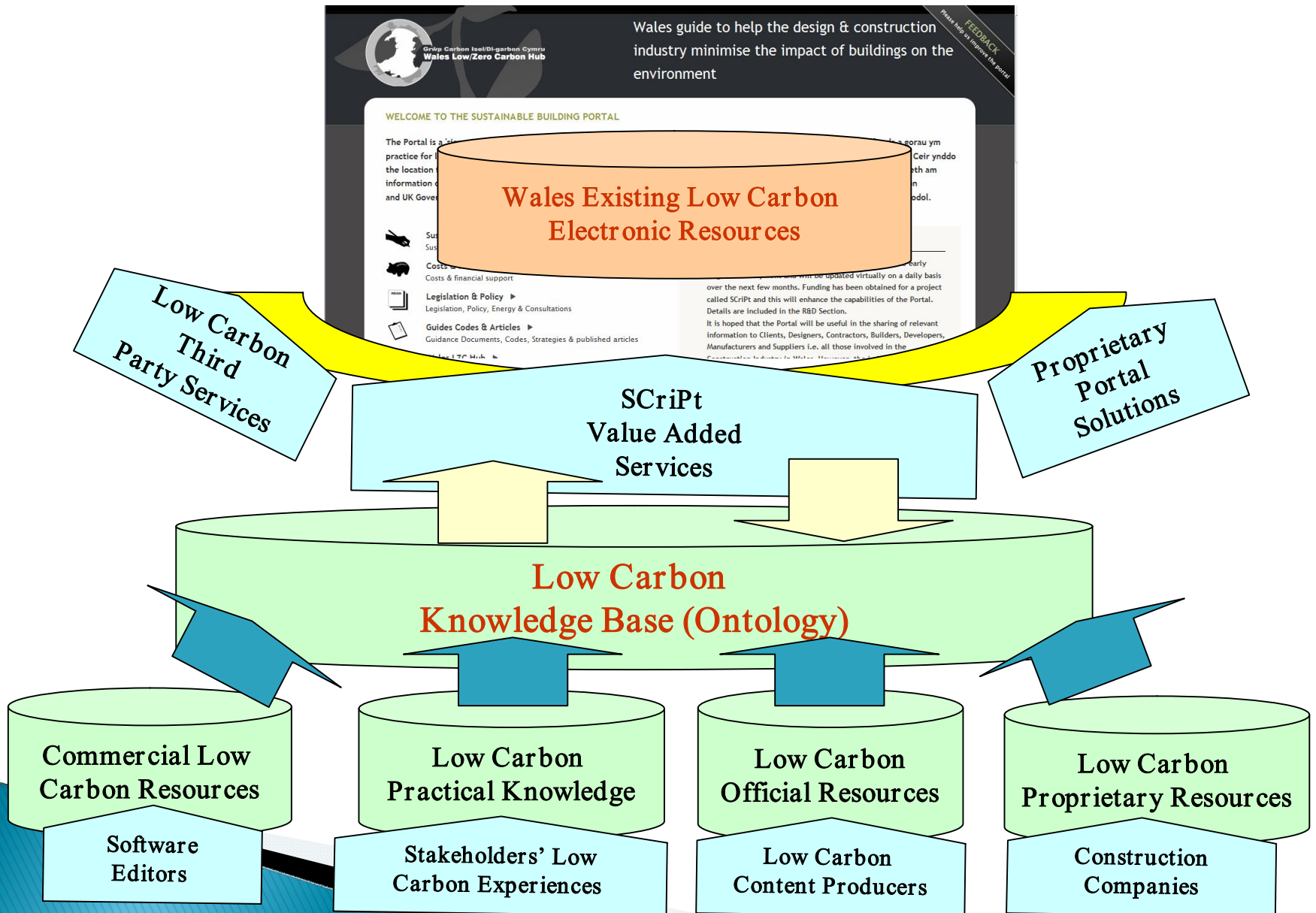
The Welsh Assembly Government has set a 55% improvement over the 2006 Buildings Regulations as the first change to the devolved regulations. Consultation will take place in 2012 with a view to implementation in 2013. Further details on: <http://wales.gov.uk/topics/housingandcommunity/housing/publications/building/1099469763?lang=en>

- The Planning Regulations require new buildings to achieve Code 3 or BREEAM 'very good' plus energy credits. Details are in the Guides, Codes & Articles section. TECHNICAL ADVICE NOTE 22 PLANNING FOR SUSTAINABLE BUILDINGS (TAN 22) has now been issued. This advice note provides guidance for local planning authorities and developers. <http://wales.gov.uk/topics/planning/policy/tans/?lang=en>
- The consultation on the UK proposals for Feed in Tariffs for small scale renewable electrical energy systems is shown in

# SBP → SCriPt project

- ▶ SBP Limitations
  - Top-down approach
  - Information 'push'
  - Limited commitment from stakeholders
- ▶ Low take up of advanced ICT solutions for KM and information sharing in construction
  - Overlooked the social dimension of KM
  - Lack of awareness about value in sharing
  - Could not make sense of much of the data and information produced and managed by legacy software applications


# Sustainable Construction Service Platform – SCriPt



# Methodology

- ▶ Project funded via WAG following successful 3 months' feasibility study
- ▶ Industry (stakeholder) involvement throughout
- ▶ Regular workshops
- ▶ One-to-one consultations
- ▶ “One-stop-shop”
  - Iterative and incremental development
  - Service oriented framework
  - Low Carbon (Sustainability) Ontology
- ▶ Commercialisation of results

# Initial Prototype



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Research & Development
Training & Skills
Wales LZC Hub

### Quick Links

- [News](#)
- [Events Calendar](#)
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## Welcome to the Sustainable Construction Service Platform



The platform has been conceived and designed as an advanced "one-stop-shop" for sustainable construction resources and services. The platform is currently still under construction, and functionality will be increased as the work progresses.

At this stage the information available reflects that of the *Sustainable Building Portal*, which was designed as a 'signpost' to examples of good practice and best practice for low and zero carbon design and construction. It provides the location for useful guidance and documents and contains information on building and infrastructure projects and identifies WAG and UK Government's future requirements.

### Upcoming Events

- [Energy Performance of Historic Buildings](#)  
13/10/2010
- [The Welsh Energy Debate - the Future and its Consequences](#)  
01/11/2010

### Events at a Glance

*Underlined dates have events occurring on them.*  
*Click on a day to view its events.*

←	October						2010	→
S	M	T	W	T	F	S		
26	27	28	29	<u>30</u>	1	2		
3	4	5	<u>6</u>	7	8	9		
10	11	12	<u>13</u>	14	15	16		
17	18	19	20	21	22	23		
24	25	26	27	28	29	30		
31	<u>1</u>	2	3	4	5	6		

13 October 2010

#### Energy Performance of Historic Buildings

Venue: RSAW, 4 Cathedral Road, Cardiff CF11 9LJ  
 Time: 14:00 - 17:00

### Latest News

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[In pictures: Latest progress on Renzo Piano's Shard](#) [08/10/2010 18:47]

These images show the lower level glazing in place on Renzo Piano's £350 million Shard building at London Bridge, central London

Source: [Architects Journal](#).

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[Ex-Viñoly star joins Pringle Brandon to form new practice](#) [08/10/2010 18:08]

Ex-Rafael Viñoly director and former Foster + Partners Partner John Drew has joined forces with Pringle Brandon to form a new 'end user focused' practice

Source: [Architects Journal](#).

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Advertisement:

# Profiling

narrower pre-text      In pictures: Latest progress on Renzo Piano's Shard (24/10/2011 14:47)

## Edit Profile

Personal Details   Change Password   Menu Items   Areas of Interest   Settings

First name:

Last name:

Email address:

**Discipline:**

Architectural firm: <input type="checkbox"/>	Building authority: <input type="checkbox"/>	Building operator: <input type="checkbox"/>
Building owner or real estate: <input checked="" type="checkbox"/>	Certification body: <input type="checkbox"/>	Contractor: <input type="checkbox"/>
Educational body: <input checked="" type="checkbox"/>	Engineering firm: <input type="checkbox"/>	Information supplier: <input type="checkbox"/>
Other: <input type="checkbox"/>	Product supplier: <input type="checkbox"/>	Professional or trade association: <input type="checkbox"/>
Regulator: <input type="checkbox"/>	Research organisation: <input type="checkbox"/>	Service supplier: <input type="checkbox"/>
Standardisation body / technical committee: <input type="checkbox"/>	Testing Laboratory: <input type="checkbox"/>	

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# Profiling

Source: Architects Journal

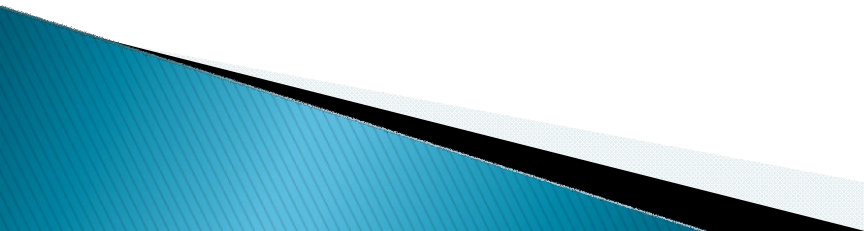
## Edit Profile

Personal Details | Change Password | Menu Items | **Areas of Interest** | Settings

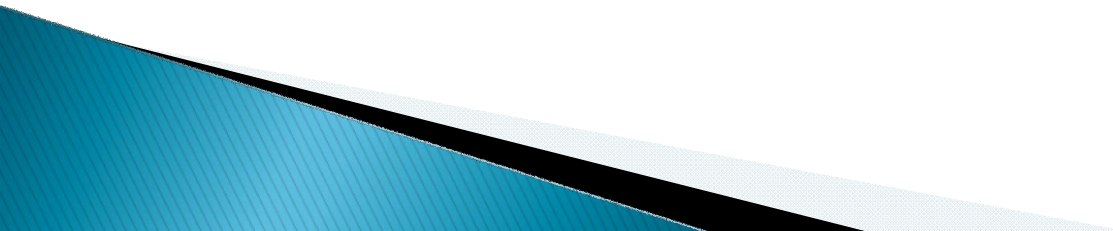
Carbon: <input type="checkbox"/>	Education: <input checked="" type="checkbox"/>	Energy: <input checked="" type="checkbox"/>
Environmental / Sustainability: <input checked="" type="checkbox"/>	Flooding: <input type="checkbox"/>	Health & Safety: <input checked="" type="checkbox"/>
Procurement: <input type="checkbox"/>	Regeneration: <input type="checkbox"/>	Transport: <input type="checkbox"/>
Waste: <input type="checkbox"/>		

• Glenn Howells wins top BCO award (23/10/2012 11:48) Architects Journal  
• Church Project wins planning for St Anne's Oxford library (22/10/2012 11:34) Architects Journal

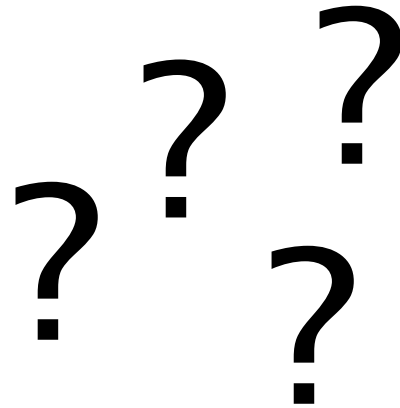
# Future Work

- ▶ 30 months' duration – 01 / 01 / 10 start
  - ▶ Ontology development
  - ▶ Imperative for Virtual Community Building
  - ▶ Continuous stakeholder engagement and awareness raising
  - ▶ Behaviour change
  - ▶ Quantitative research
  - ▶ Continuous testing and validation
  - ▶ Dissemination of results!
- 

# Conclusion

- ▶ Sustainability requires the engagement of every single constituent of the supply chain, from concept design to operation
  - ▶ The research explores ways of creating circles of impacts that bind professionals, government authorities, official institutions, and citizens through virtual communities with shared visions
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# Thank you!



<http://script.engineering.cf.ac.uk>

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