

Wales and its steps towards zero carbon buildings

Wales is a world leader in sustainable development and reducing carbon emissions. Other regions and nations can learn from the various initiatives outlined in this briefing

The Welsh Assembly Government (WAG) as an executive body of the National Assembly for Wales takes responsibility for the day-to-day issues of the populace of Wales which includes, of course, the economy and the environment. The role of WAG includes making, developing and implementing policy, making sub-ordinate regulations and proposing Welsh laws.

WAG has set very clear goals to enhance the economic, social and environmental well-being of people and communities within Wales and in doing so it recognises the important contribution that sustainable development makes to achieving their goal.

In May 2009 the WAG set sustainable development as a cornerstone principle for its work by publishing its document *One Wales; One Planet*¹ which outlines its Sustainable Development Scheme and it has supported this strategy by firm commitments to sustainability that are more advanced than other UK and European governments.

The contribution that construction can make in achieving its goals has been acknowledged by the Assembly Government and has resulted in it setting challenging standards to reduce carbon emissions and for the diversion of waste from landfill. These efforts include commitments to set standards for the environmental performance and resource efficiency standards for new buildings.

The Welsh Assembly Government's aspiration is for all the construction projects it directly procures, provides financial support to, or is in collaboration with to be 'zero carbon' by 2011. The same can also be said for projects that are built on land owned or leased by the WAG. However it appreciates that a supportive and collaborative 'step by step' approach must be undertaken in order to achieve its goals. WAG is also committed to reduce greenhouse gases in Wales by 3% a year from 2011 in areas of its devolved competence.

Working in partnership with the Design Commission for Wales (the Welsh equivalent of the Commission for Architecture and the Built Environment) and the Sustainable Development Commission for Wales, WAG has assembled a working group, the Hub, consisting of key members of the building industry and housing and voluntary sectors to lead Wales as a nation in reaching its carbon emissions reduction target.

'The Hub' provides leadership to:

- deliver a cut in emissions from all buildings;
- promote commercial opportunities from low carbon building;
- investigate the skills and training needed in the construction industry to achieve the goals.

A Green Building Charter² has been drafted and currently 53 organisations from across Wales have signed up to the Charter.

At present the Assembly Government requires the environmental impact of developments where it has an influence to be considered and reduced as much as possible.

The WAG has currently set foundation standards from which it will continue to develop more stringent and well publicised guidelines. Currently all new buildings promoted or supported by the Welsh Assembly Government in the manner described

previously are to comply with the following:

- Residential developments to achieve as a minimum the Code for Sustainable Homes³ Level 3;
- Non-residential developments to achieve British Research Establishment Environmental Assessment Method (BREEAM) or equivalent 'Excellent'; and
- A minimum of 10% (by value) of recycled materials to be used in all new buildings.
- The CEEQUAL⁴ scheme which is the assessment and awards scheme for improving sustainability in civil engineering and public realm projects is committed to for site development and infrastructure projects.
- The Waste and Resources Action Programme⁵ (WRAP) is funded in Wales by the Assembly Government. The WRAP tools are currently being used on Assembly Government projects.

The definition of 'zero carbon' for new non-domestic buildings is being developed and WAG has confirmed that Wales will adopt the definition put forward in England following completion of the consultation over the document issued by the CLG.

WAG is currently using the attainment of the UK's Code of Sustainable Homes³ Level 5 as the indicator of the achievement of 'zero carbon' on domestic projects.

WAG is consolidating its efforts to realise its 'zero carbon' aspirations by 2011 by encouraging the minimisation of energy demand, the optimum use of on and near-site renewables whilst recognising that there needs to be a level playing-field for small and large developers.

WAG and its partners through the 'Hub' are continuing to support the industry by developing web-based guidance in the form of standard details suitable for use on housing, grade A office, industrial, retail and education projects.

A number of pilot projects are currently being undertaken to demonstrate how the requirements can be achieved and to obtain information on buildability, costs and issues which can be shared across the industry.

In order to share information across the construction industry a web portal will be created which will be hosted by Constructing Excellence Wales providing a single point of reference for clients, designers, builders, suppliers and manufacturers. This will provide the direction and guidance required to respond to queries.

Legislation has been passed which will transfer Building Regulations powers to Wales on 31 December 2011 and WAG has committed to implement changes to the Building Regulations to move towards zero carbon, the first step of which will be a 55% improvement over the 2006 Building Regulations. The Assembly Government also aims to bring forward detailed proposals for consultation during 2012 with a view to implementation in 2013.

How does this affect me as a structural engineer?

Those structural engineers working in Wales on public sector projects need to be aware of these initiatives and embrace them and be involved in the process led by the Hub and WAG.

Although the attainment of the standards set by WAG's policies can be achieved with little or no change in the approach to structural design that we have been used to over the last decade there is no reason why we shouldn't as a profession embrace the philosophy behind the WAG's initiatives and make more effort to design more sustainable structural solutions.

References

- 1 *One Wales: One Planet*, a new Sustainable Development Scheme for Wales, available at: <http://wales.gov.uk/topics/sustainabledevelopment/publications/onewalesoneplanet/?lang=en>
- 2 Green Building Charter, available at: <http://wales.gov.uk/docs/carbonfootprint/policy/090206greencharter.pdf>

- 3 Communities and Local Government, Code for Sustainable Homes: A step-change in sustainable home building practice, 2006, available at: http://www.planningportal.gov.uk/uploads/code_for_sust_homes.pdf
- 4 The assessment and awards scheme for improving sustainability in civil engineering and the public realm, available at: <http://www.ceequal.com/>
- 5 Waste & Resources Action Programme, available at: <http://www.wrap.org.uk/>

Further information

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Issue No: 14

The Institution of Structural Engineers

To: VOTING MEMBERS

COUNCIL ELECTION 2011

Nominations are sought for candidates for election as:

- Vice-President 2012 (two vacancies)
- Ordinary member of Council 2012-14 (ten vacancies)

Information about the role and operation of the Council may be found at: http://www.istructe.org/about_institution/running_institution/Pages/governance.aspx

The electoral regions in the UK and the Republic of Ireland are based on Institution branches – a map of which is on the website at: http://www.istructe.org/about_institution/documents/Branches_map.pdf

The regions are:

1	Lancashire and Cheshire
2	Scottish, Northern Ireland and Republic of Ireland
3	Yorkshire and Northern counties
4	Bedfordshire and adjoining counties, East Anglian and East Midlands
5	Midland counties and Wales
6	Devon and Cornwall, Western counties and Southern
7	Thames Valley and Surrey
8	North Thames
9	South-Eastern counties
10	Rest of Europe, Middle East, Africa and the Americas
11	Hong Kong
12	Asia and Pacific

The minimum number of ordinary members (continuing in office in 2012 and to be elected) from any electoral region is one (apart from region 11, where because of the size of the electorate, it is two). To fulfil this requirement, at least one ordinary member of Council from region 10 must be elected.

Provided that you have submitted a current Institution Continuing Professional Development return you are invited to consider standing for election as an ordinary member of the Council 2012-14, or (if you are a Fellow) as a Vice-President 2012. Nomination papers are obtainable from me and completed by you and ten other Voting Members, must reach me by Monday 28 February 2011. Candidates must also complete a candidate information form and supply a photograph. Completed nomination documents can be returned by e-mail to sue.doran@istructe.org or by post.

In due course, voting documents will be issued and you will be able to vote either electronically or postally. The results will subsequently be published in *The Structural Engineer*, in the e-newsletter and on the website.

Dr S M Doran
Company Secretary and
Director of Regulations

18 January 2011