

Development & Construction Sector Forum



12/07/2022 | 12:00 - 1:00 | Online via Zoom

Event Overview:

How can South West Wales lead the way in green construction and the decarbonisation of our buildings?

On Monday 27th June, we held the [Green Recovery Business Conference](#) in the Brangwyn Hall with over 160 businesses joining us to discuss a number of solutions to the challenges we face on the road to becoming a greener city.

This event was organised around 8 Opportunity Areas, which hosted interactive discussions and provided ideas and solutions to key themes. SPECIFIC hosted the Buildings area and provided some insight into this key opportunity area [here](#).

Roundtable Introductions

SPECIFIC IKC

Chris Bailey, Business Development Manager.

Video Timestamp: [01:38](#)



[SPECIFIC](#) is an Innovation and Knowledge Centre (IKC) based in and led by Swansea University. Their mission is to help transition buildings into “Active Buildings” and encourage a design ethos that utilises otherwise forgotten parts of buildings to generate, store and release their own heat and electricity.

SPECIFIC’s demonstrator programme aims to test and prove the ‘Active Buildings’ concept with a range of building uses, including their Active Classroom, Active Office and The SHED, a 1990’s industrial unit that has been retrofitted with solar technology.

SPECIFIC’s funding allows for SMEs across Wales to access their facilities and expertise across different research areas, including Solar PV, building energy systems, battery storage, solar thermal and heat storage, including interseasonal heat storage. SPECIFIC looks at the data from these areas to create visualisations on how to collect and use energy efficiently, enabling for the power of informed decision making to be placed back into the users hands.

RD Group

Dave Kieft, Director

Video Timestamp: [04:17](#)

Raven Delta (RD) Group is an innovative, multi-faceted group of businesses which includes [DRS FM Services](#), [EFT Consult](#) and [RDM Electrical & Manufacturing](#). RD Group looks at innovation technology surrounding the construction sector, advanced materials and the decarbonisation of concrete. A recent collaboration with SPECIFIC and Swansea University has involved integrated energy-saving, sustainable technologies [at the university's Y Twyni building](#).

A big problem lies in value engineering. The sooner local authorities and investors can look at whole life-cycle values and not just the capital expenditure (CapEx) of building it, the better.

Our industry offers lease services over the duration of a lifetime of a building, so you know the operational costs, which takes risks away from the building owner. This allows for buildings to be upgraded when new technology emerges.

The construction sector needs to change completely and the way it's been driven over the past 20-30 years is completely against innovation, with the focus always being on CapEx and cutting costs. Funding is available to assist ensuring in OpEx of the building value, but many construction companies look at how to reduce costs, which is not the way to value our buildings in the future.

Pobl

Elfed Roberts, Head of Sustainability and Innovation

Video Timestamp: [07:28](#)



[Pobl](#) is a large housing association with over 18,000 existing homes, which will need to be retrofitted within the next decade. Pobl and similar organisations are beginning to think about the whole life cost of buildings.

Pobl are currently actively building two schemes in Swansea utilising the innovation housing [programme](#), which include the [Biophilic Living](#) in the city centre and [Gwynfaen](#) near Gorseinon. Both schemes are enormously important to Wales and the rest of the UK as examples of innovation.

Many of Pobl's homes achieve EPC A and are off-gas, with their aims going beyond this to address whole life carbon, as some of these metrics don't let you measure the full benefit of a building performance. Pobl have now adopted a fabric first, low-carbon standard which they will seek to improve over the duration of their zero carbon journey. They recognise the need to invest more into homes at these standards in order to avoid retrofitting new builds down the line.

One of the best ways Swansea can lead the way in greener construction is to talk about its examples, showcase what's happening and demystify what new ways of building involve, inspiring others to follow suit.

Construction Wales Innovation Centre

Gareth Wyn Evans, Head of CWIC

Video Timestamp: [12:32](#)



[CWIC](#) supports the construction industry in Wales by identifying skills gaps and providing innovative solutions. Industry collaboration is critical to see the success of this moving forward. We need to ensure education is set up to embrace the next generation of industry. One of the ways CWIC is doing this is collaborating with Sero to launch a [Green Skills Workshop](#) to upskill students, apprentices, and tradespeople in low carbon technology.

CWIC is also [collaborating](#) with Wood Knowledge Wales to become more resilient with materials by using home-grown timber. We may need to look at innovative practices to achieve this, but that's where academic institutions can come to the forefront, support industry and embed more sustainable and hybrid practices.

Alun Griffiths Contractors

Jane Howells, Community Liaison Officer

Video Timestamp: [15:51](#)



[Griffiths](#) has revisited their sustainability strategy looking forward to 2030 and are looking to release it at the end of the month. Griffiths are part of Tarmac, the UK's leading sustainable building materials business and are at the cutting edge of developments in tarmac, concrete and specialists in the field.

A big challenge faced is hearing the same themes discussed as twenty years ago. What we don't want to do is reinvent the wheel and ultimately, why is there not a one-stop shop for all of these things widely available?

Kier Construction

Nigel Phillips, Operations Manager for South Wales

Video Timestamp: [18:15](#)



[Kier](#) builds everything except spec housing from £2m up to £60m. Value engineering is a term that doesn't describe what it is. Value engineering bears no relation to the operation and purpose of the building and is a commercial exercise to get within a client's perceived budget.

There needs to be more education in professional teams. A lot of what we're building now is the same as twenty years ago. Some consultants are still using old fashioned engineering and a lot of things such as fabric first and integrated technologies don't always hit the real world.

Kier helped to construct the Active Classroom with SPECIFIC and was hopeful that it would springboard the technology into everyday construction. Integrated technology works and is more efficient, but it's all led from the consultants and the cost plan agreed with the client. We need more forward thinking in terms of CapEx, OpEx and all of the cutting and value engineering is primarily around the former.

There are still barriers in organisations internally in terms of project department and operations department in that the two cannot mix budgets that would save them a larger amount of money in a 25 year timescale.

"I build what other people give me to build and I'd like people to give me the opportunity to build new innovative buildings using local materials based on new technology."

Glanmor Chartered Surveyors

Dom Garner, Managing Director

Video Timestamp: [23:48](#)



Glanmor Chartered Surveyors are a commercial property consultant based in Swansea. They are focused on the start of the process by identifying sites and commercial occupiers.

End occupiers are becoming more educated in this area, with key interest and decision making being based on carbon, energy and building performance making it more important for developers to take this on board.

It's important for surveyors to understand what the clients may want and to have more knowledge of what they may require. We need to know more about the processes of construction as well.

Open Comments

Video Timestamp: [26:49](#)

DK: Many private developers are buying into the well-being of future generations, as it brings the energy saving, decarbonisation and performance into a holistic approach rather than isolated.

In Wales, there's a very disjointed way of working and people aren't sharing what they're doing. I don't see this elsewhere I work.

We've recently had a project where, in the early stages, the client asked for opportunities in innovation and technology. We explained that the only way we could bring that is to be involved with the construction design stage. We need to be involved with the architects at the stages of construction.

It is important to get clients on board, understanding values and taking the brave step to spend extra in order to save in the future. As an industry, someone needs to break that mould of cost savings now, rather than later.

ER: I would say the way we work on a new project is completely different than 5 years ago. We have set our ambitions regarding carbon and fuel poverty as extremely important.

Traditional procurement regulations generally mean that you end up working with a contractor at a later stage than you need. We are trying to transform the way we build in a challenging environment where market economy, materials and pricing are going through the roof. We're also facing a lack of skills due to Brexit and the pandemic.

On the knowledge sharing side, the [Welsh HWB](#) will provide a one-stop shop of information on the Sustainability Supply Chain via a Portal.

ZA: Getting people involved in development processes from the start has been something we've been hearing for years. If we understand our local supply chain and what everyone is able to provide from the early stages would be key for sustainability.

We need to understand and showcase the value of projects and initiatives: Where do we hear about these things?

GWE: It is enlightening to hear contractors around the room sharing the same challenges, especially client knowledge. I've seen it in a recent project, where there's a big conversation around Capex vs Opex.

Scotland has embedded the methodology of 'where there's public funding, there's innovation'. Tracking the data allows for learning and seeing how buildings are performing. Welsh Government has done well with [Optimised RetroFit](#)

Clients need to be involved from the outset. High quality buildings are generally higher performing. Part of our carbon consideration needs to consider the whole-life of the building. We need to put a plan in now for

recycling materials at later stages of a building's life. We haven't seen support and funding put into the professional levels where the decisions are made.

DK: In terms of value we need to be careful, because engineers that are capable of doing these innovative things are more expensive. The values of these skills are not being recognised.

A new British standard is coming out next month and we will see a great change in the buildings and environments we work in. If we don't do something now it will cost us dearly in the long run.

CB: Some things we need to address are the expectations of buildings: Why are we building, what is the purpose and what are we trying to achieve? When you consider the opportunity for a building to pay itself back and consider that as part of the value, it changes when you say it's fundamental. In my mind, those items are essential and should not be value engineered out, but should be value engineered around in order to meet a budget

NP: Welsh Government is driving zero carbon in operation very hard. Clients often want to be able to do it, but don't quite know how to do it and are reliant on consultants. It would be a step forward if someone could identify the must-haves around the fabric first element and ensure the building can perform the best it can. With the Wellbeing of Future Generations Act, wellbeing being built into the buildings can take away a lot of issues with wasted energy.

DG: A key part of any net-zero carbon target is in new builds and existing buildings, whether people want to or are forced to. For example, in 2027, EPC targets will be E to a C commercially. What's happening to existing buildings? What will be the most effective way of bringing 1950s buildings to a 21st century standard?

ER: Pobl are currently working with a specialist trainer designing a 5 day course for our site inspectors on achieving Fabric First and integrated renewables on site. This sort of thing can be shared with others, who have exactly the same training needs.

Key Themes

Education & Skills

- We need more education and understanding of new technology.
- The value of highly skilled engineers is not being recognised.
- Identify skill gaps and collaborate with academia.
- We need a one-stop shop to host useful information.
- Data tracking is a key to track innovation so we can learn what works well.

Awareness

- Raising awareness and showcasing innovative projects is key.
- Wales doesn't shout about its successful projects enough.
- We need to be able to share what we've learnt.

Wellbeing

- Wellbeing principles are increasingly being integrated into buildings.
- Wellbeing being considered in buildings can remove issues with wasted energy.

Business & Procurement

- Businesses want to change but are unsure on where to start.
- We need more forward thinking in terms of CapEx, OpEx
- Sustainable ambitions need to involve engineers and architects from the concept stage.
- Integrated teams would increase understanding of goals.
- Higher building performance can lead to an uplift in value.
- It may be worth it to spend more at first in order to save expenditure in the future. (E.g. Avoiding needing to retrofit in 10 years)
- Traditional procurement regulations generally mean that you work with a contractor at a later stage than you need.
- Whole life-cycle values of a building need to be placed above CapEx
- What will be the most effective way of bringing old buildings to a 21st century standard?