

Ecodesign Centre Wales - continuing the ecodesign agenda

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Abstract

Following a sustained programme of ecodesign activity in the last 10 years the Welsh Assembly Government has provided funding, through the Materials Action Programme, to establish Ecodesign Centre Wales (EDC). EDC is focused on capacity building¹ for ecodesign and the development of environmentally superior products and services in Wales.

The first core activity of EDC is phase II of the Ecodesign Initiative which commenced in September 2006. The initiative promotes creative approaches to resource efficiency through enabling and facilitating the required cultural change in industry, higher education (HE), the business support network and other key stakeholders. The initiative lays the foundations for any future capacity building activities of EDC.

This paper briefly outlines the ecodesign journey to-date in Wales. It presents the basis for a joined up multi-stakeholder approach to establishing the business and policy case for ecodesign. It provides insight into some of the practical considerations involved in establishing an ecodesign support mechanism for Small and Medium Sized Enterprises (SMEs) in a region such as Wales. It concludes with a brief outline of where EDC would like Wales to be by 2020.

Ecodesign Initiative Phase I

After a number of years building the policy and business case for ecodesign in Wales through engaging with key stakeholders (incl. government policy makers, business support organisations, design educators and industry) and

¹ Capacity building aims to develop and enhance institutional and individual capabilities, in this case, to effectively address ecodesign and life cycle thinking.

supporting Welsh SMEs in developing ecodesign-led products² Dr Frank O'Connor, the then ecodesign specialist at Design Wales³, was commissioned by the Welsh Assembly Government and the Welsh Development Agency (WDA)⁴ to undertake a feasibility study into a Welsh Ecodesign Initiative (Phase I) in Autumn 2004.

Simon O'Rafferty an ecodesign researcher joined in February 2005 and the newly formed ecodesign team of two moved from the service approach (offered by Design Wales) to an ecodesign initiative. This proved to be a significant step forward in the stakeholder engagement process. To support this phase a small advisory team made up of members from the Assembly Government and the WDA was established. The input of the panel, in particular Chris Hale and Aled Davies, proved crucial over the next 18 months.

The feasibility study (Phase I) involved a number of key activities between February 2005 and September 2006 including mapping the existing business support network from a product life-cycle perspective and undertaking an international best-practice study of ecodesign programmes. Over the last decade there have been a number of public sector initiatives and regional interventions seeking to encourage the application of ecodesign by SMEs. It is clear by the low levels of long-term application of ecodesign that these forms of interventions failed to filter through to companies outside the initial scope of the initiatives. Through undertaking an international best-practice study the ecodesign team identified reasons for these failures by analysing the initiatives and interventions. It became clear that to overcome previous shortcomings in public sector interventions Wales would have to take a far more integrated approach. Some of the outcomes of the feasibility study were reported upon during ERSCP 2005 (O'Rafferty and O'Connor, 2005). Around this time and in partnership with the Assembly Government, the ecodesign team widened the remit of a public/private partnership⁵ to include all new and impending EEE legislation. This proved to be an excellent platform for stakeholder engagement.

Ecodesign Centre Wales (EDC)

As part of the Assembly Government's commitment to sustainable development (SD) and based on the recommendations outlined in two

2 This included the award winning TinyLab™ developed by Riochem™ Ltd (see www.riochem.com). This case study clearly demonstrates that small companies can rise to the ecodesign challenge.

3 Design Wales is funded by the Welsh Assembly Government to provide free and independent advice on all aspects of design to Welsh industry and to offer strategic design advice (see www.designwales.org).

4 The Welsh Development Agency is now part of the Welsh Assembly Government.

5 To prepare for WEEE and RoHS legislation the Welsh Assembly Government set-up a multi-stakeholder focus group in 2004.

strategy documents⁶ the Assembly Government provided funding, through the Materials Action Programme (MAP)⁷, to establish EDC⁸. This ministerial buy-in was a key milestone for ecodesign in Wales. From the outset the belief has been that funding would have to come directly from the Assembly Government if ecodesign is to really become part of the long-term mainstream agenda.

EDC focuses on building capacity and capabilities in industry, public sector organisations and HE so that effective ecodesign can happen in Wales. EDC encourages the development of environmentally superior products and services in Wales. The core message is:

'ecodesign is simply good design and good business practice'

The first central activity of EDC is Phase II of the Welsh Ecodesign Initiative which commenced in September 2006 and which builds on previous international experiences of running ecodesign support programmes. The initiative promotes creative approaches to resource efficiency through enabling and facilitating the required cultural change in industry, HE, the business support network and other key stakeholders. This cross-cutting initiative is a key assistive measure in meeting the statutory obligations of Wales in relation to SD while it lays the foundations for any future capacity building activities of EDC. It was crucial that EDC took into account the distinct economic, political and institutional characteristics of Wales. Thus the proposed initiative is 'fit' for Wales in terms of the primary economic, innovation and environmental objectives of the Assembly Government.

With a core team of four (Iain Cox and Bibiana Estrada Bonilla joined in autumn 2006) and initial funding for 2 years, EDC is now separate from Design Wales and the other key stakeholders⁹. The activities of EDC are separate but complementary to business support programmes. Boundaries have been outlined through a transparent brand and communication strategy. EDC retains a clear affiliation to 'Team Wales'¹⁰ to establish ecodesign-led resource efficiency principles in Welsh businesses.

EDC vision:

Wales will be an internationally renowned ecodesign led nation within the next 15 years with ecodesign embedded as a sustainable competitive core value within all relevant

⁶ These strategy documents were drafted at the conclusion of the feasibility study. The two documents built on previous ecodesign research and practice activity in Wales over a 10 year period.

⁷ MAP funds are derived from the landfill tax scheme for businesses.

⁸ EDC staff are employees of the University of Wales Institute, Cardiff (UWIC) who manage and administer the MAP funding.

⁹ Research has indicated that the success of EDC relies on it being perceived as independent by those stakeholders it seeks to work alongside.

¹⁰ "Team Wales" seeks to involve the public, private, academic and voluntary sectors in economic development activities.

government strategies and business support services, industry, the design community and higher education.

EDC believe that an ecodesign led nation would have a number of characteristics including:

- internationally recognised ecodesign exemplars
- clusters of design led 'growth' companies
- 'sustainable' public/private partnerships
- sustainable public procurement
- up-skilled business support network and design community
- sustainable industry-based 'business to business' support network
- graduates "literate" in sustainability and ecodesign

By building upon existing strengths and encouraging growth and innovation in competitive, added value sectors, EDC firmly believe that Wales can become a world leader in markets for ecodesign products and services. EDC believe that a joined up multi-stakeholder approach is crucial in establishing the business and policy case for ecodesign. Success depends on forging partnerships and capacity building with 5 key stakeholder groups:

- government
- business support
- industry
- education & research
- NGOs and general public

EDC mission:

EDC actively inspires and leads the Welsh Assembly Government, public sector organisations and higher education to enable effective ecodesign in Welsh Industry. EDC facilitate the open sharing of knowledge and experience with fresh thinking and integrity.

To achieve this aim EDC must perform the following functions:

- Continue to establish the business and policy case for ecodesign
- Continue to build a shared vision and framework
- Continue to create platforms for sharing knowledge and experience
- Support the development of environmentally superior products and services
- Continue to work with key stakeholders to deliver the ecodesign initiative
- Generate research to inspire wider industry, educational establishments and influence future government policy.
- Offer new creative approaches to intervention and resource efficiency
- Offer new holistic ways of project tracking that include both quantitative and qualitative measures
- Communicate and promote the benefits of ecodesign

To establish the business case EDC believe that you need to start on a small scale, understand your market, build the right team and develop relevant sector specific approaches. EDC recognise that it will be a slow and challenging journey. EDC firmly believe that an inclusive, partnership approach can achieve the desired cultural change and are confident that Wales can become a lead market for ecodesign products and services.

To support these activities EDC set up an advisory panel of representatives from government, industry, HE and business support. The panel role includes:

- sharing ideas, knowledge and experience
- providing informal feedback and general recommendations on alternative approaches and potential solutions
- providing support to EDC to raise and promote the ecodesign agenda

Ecodesign Initiative Phase II

The ecodesign initiative focuses on 4 core elements:

1) Industry: enabling ecodesign

- encouraging the development of environmentally conscious products and services.

2) Education: embedding ecodesign

- providing specialist support to Welsh Universities currently offering product design degrees.

3) Research: international best-practice

- sharing ecodesign knowledge and experience through a programme of continuous research and international scanning.

4) Communication: positioning and promoting ecodesign

- raising the profile of ecodesign. This is supported by a clear brand strategy for EDC.

To contribute towards the Assembly Government's economic, innovation and environmental objectives EDC is developing Key Performance Indicators (KPIs) to track the various elements and activities. The project tracking will include a mix of qualitative and quantitative measures and longitudinal analysis. For industry the quantitative measures will reflect the sector specific priorities, for example legislative requirements. The qualitative measures will reflect "soft" issues in terms of growth potential and managerial attitudes to design-led environmental best practice. This tracking will inform policy and resource allocation requirements and make recommendations for an ecodesign policy and intervention agenda beyond 2008.

The process was supported by a unique 'Design for Growth' survey undertaken in partnership with Mrs Sally O'Connor of the LEED (Leadership, Enterprise and Economic Development) Unit of Cardiff Business School. Through a combination of quantitative and qualitative data this survey identified Welsh SMEs whose growth potential could be enhanced through implementing ecodesign and thus would be most likely to reap the rewards of the ecodesign initiative. This study assisted the process of setting KPIs to link ecodesign activity to growth potential.

Industry: enabling ecodesign

A key objective of EDC is to work with Welsh SMEs from priority sectors identified by research undertaken by EDC and the Assembly Government. These sectors include electronics and electrical equipment, general manufacturing, food and drink and energy using products. EDC's vast experience of working with SMEs in the design and support sectors and expert knowledge of business and environmental issues has been fully utilised to create a novel three-phase process to enable effective ecodesign in Welsh industry, Figure 1. This approach addresses the practical implementation of ecodesign whilst refining tools and methodologies for the Welsh business environment. It will provide a platform for wider implementation in the following years.

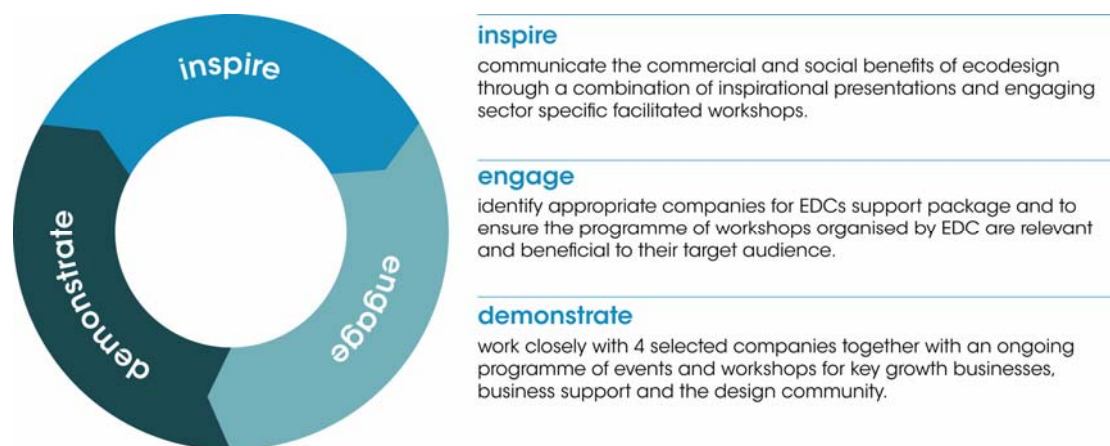


Figure 1: Enabling Ecodesign; a 3 phase continuous learning cycle

A central part of EDCs strategy is to offer 4 SMEs the opportunity to access the unique Ecodesign Support Package through a competitive process. This bespoke multi-level support offers the companies up to 12 months access to:

- Ecodesign Centre Wales in-house team. To provide specialist guidance, facilitation, monitoring and promotional opportunities.
- A commercial support partner. An industry based expert to provide relevant technical and commercial know-how.

- Up to £20K in financial support assigned to specific ecodesign aspects of projects before work begins¹¹.

The application process is now complete and the EDC team are currently in the final stages of selecting the 4 SMEs who will start on their own ecodesign journeys with EDC in August 2007.

Ecodesign industry launch

Held in May 2007 in the Millennium Stadium, Cardiff this event delivered a clear message to Welsh industry regarding the commercial advantages of taking an environmentally considered approach to doing business and ways to implement ecodesign practices in their companies. This event was a central requirement of EDC's marketing strategy to inspire Welsh industry to engage with ecodesign and EDC and to encourage applications for the Ecodesign Support Package.

The event was well attended and turned out to be an excellent benchmark for future EDC events. EDC have received extremely positive feedback, leading to several endorsements whilst enabling EDC to build new commercial partnerships. Along with a keynote presentation by Herman Miller and a chat show format involving four leading ecodesign-led companies based in Wales, several workshops were held for Welsh SMEs and other stakeholders. Facilitated by the EDC team these workshops provided an invaluable insight into the perspectives held by Welsh business and their requirements and competencies in relation to ecodesign. This information enables the ongoing workshop programme to continue to focus efforts on 'actual' rather than 'perceived' SME and sector needs. The workshops provided an ideal platform for some excellent networking over lunch.

One clear output from the workshops was that most delegates demonstrated a clear understanding of the commercial benefits of ecodesign. Namely: cost saving, reduced waste, regulatory compliance, market competitiveness and differentiation, brand value, feeling of well-being, improved workforce morale, good publicity, more sales, added value (link to quality), improved communication (with customers and suppliers), eco-thinking is just common sense and good business practice.

As part of its social responsibility EDC ensured that the event was organised in the most environmentally friendly and sustainability conscious way. The venue was chosen specifically due to its location being close to public transport links and within easy reach of the majority of the target audience, delegates were actively encouraged to use public transport to travel to the event. Efforts were made to minimise the amount of literature produced for the event. A high quality menu was created using only locally produced and sourced ingredients, a first for the Millennium Stadium and an important aspect of EDC's role to influence Wales main internationally recognised venue, whilst contributing to the local economy.

¹¹ Normal state aid rules apply.

EDC are now recognised by Welsh SMEs as an invaluable resource in assisting them in enabling ecodesign to happen in their respective businesses. Organising further workshops and developing a practical case study based web resource were seen as effective ways to provide continual support.

EDC created a platform for sharing knowledge and experience between companies. The invite only event targeted industry, excluding support services, HE and other stakeholders. This was a crucial reason for its success. Business responds better to advice from business while the quality of networking also benefits from this approach.

Education: embedding ecodesign

Providing ecodesign support to the HE institutions is a key component of long-term capacity building for ecodesign. A priority for EDC is to begin the groundwork for embedding of ecodesign and life-cycle thinking in mainstream design degree courses. This is to ensure that in the medium to long-term all design graduates in Wales are "literate" in the issues of sustainability and ecodesign. These activities are complementary to the Assembly Government's strategies and vision for HE, innovation and SD.

A clear set of actions, key learning objectives and measurement criteria have been developed. These activities will be designed to be transferable to other disciplines in all Welsh HE institutions; therefore strengthening the position of Wales in the international debate on educational reform.

Ecodesign education launch

An 'Ecodesign in education' seminar with the course directors and senior lecturers from the 4 universities in Wales that offer product design degrees was held in the Millennium Stadium, Cardiff in June 2007. The full day seminar involved;

- o Introduction of the draft EDC teaching resources to the universities (with planning options for upcoming training sessions)
- o Workshops on embedding ecodesign in the curriculum

This seminar continued the ongoing engagement process along with further identifying the scope of opportunity and the needs of the individual institutions. It is accepted that in the context of evolving curriculum, continuous professional development and accreditation requirements support for ecodesign in education is both timely and welcome.

Feedback from the seminar has been very positive with all of the 4 universities clearly inspired with the approach that EDC are proposing. They are all now sufficiently engaged to go on and begin demonstrating how ecodesign can be embedded in mainstream design education over the next 12 months, with ongoing support from EDC.

Research: international best-practice

To inspire wider industry, educational establishments and influence future policy a programme of continuous research has been embedded in all activities. These activities are diverse and span the range from basic, strategic and applied research. The basic and strategic research facilitates knowledge transfer activities and should contribute to a responsive research base that is commercially exploitable and directly relevant to public policy in Wales. The applied research provides support to the capacity building activities of EDC through tracking and measurement. This will assist with the development of an "evidence base" on which to make recommendations and future enhancements. This will include workshop evaluations, longitudinal analysis and a "Thematic KPI Framework" providing valuable baseline data against which performance and attitudes can be measured over time. The latter provides a toolbox of qualitative and quantitative KPIs that can be selected depending on the company and sectoral requirements. The framework is subdivided into three primary themes; Sustainability, Innovation and Growth.

Communication: positioning and promoting ecodesign

EDC has developed a strong and clear identity and position in the market. This has led to being short-listed and subsequently receiving a special commendation for the 'Best Welsh Brand' at the Welsh Bilingual Design Awards. To achieve maximum impact and understanding of ecodesign EDC have developed a strategy focusing on the key aspects of the industry, education and research elements while raising ecodesign awareness at a national and international level. The core aim is to provide clear, relevant and robust information to all of the key stakeholders. A key objective is to promote the benefits of ecodesign rather than to promote EDC. A practical case study based website will support all of EDC activities and will provide an ideal platform for sharing knowledge and experience. Response to the work of the centre and the initiative at a national and international level continues to be extremely positive with several endorsements from leading international companies including Panasonic.

"Panasonic is pleased to be associated with, and to have the opportunity to work with Ecodesign Centre Wales (EDC). EDC are clearly working hard to raise the profile of environmental issues within Wales. EDC provide an excellent resource for environmental issues in the Principality - especially for the smaller manufacturers, who may not have the time or the funding to allocate to devising ecodesign and sustainable development strategies. EDC have the experience, the knowledge, and most importantly, the passion, to ensure that manufacturers have all the support necessary to be able to develop green and sustainable products, before being forced into doing so by customer demand, or legislation."

Supplied by Bill Nolan, David Jones and Greg Davies - PANASONIC - June 2007

The immediate future

EDC are confident that ecodesign thinking will continue to be embedded in the next phase of Assembly Government strategy documents.

"We aim to encourage ecodesign and sustainable production and consumption in Wales."

Environment Strategy for Wales 2026 (Welsh Assembly Government, 2006).

EDC are also confident that other policy documents such as the Assembly Government waste strategy will begin to take a more holistic life cycle perspective. EDC recognise that while our vision is a mix of idealism and passion we firmly believe that it can be achieved if a partnership approach is taken, from policy through to developing practical sustainable solutions. Everyone must take individual responsibility to achieve the desired change. Phase II of the ecodesign initiative is clearly about putting the initial foundations in place for embedding ecodesign as a sustainable competitive core value. EDC believe that we have the right internal and external team to do this. EDC recognise that whilst it is a huge challenge the opportunities are vast. Through working in partnership EDC believe Wales can lead the way.

Conclusion

Ecodesign has a critical role to play in Wales' long-term vision for sustainability. The Assembly Government and all other key stakeholders need to take a long-term approach if we are to achieve this vision.

Whilst many environmental initiatives continue to focus on waste minimisation and recycling, EDC has been established to enhance the competitiveness of Welsh business through developing more environmentally conscious products and services.

Practical design-led case studies particularly from small companies are required to clearly demonstrate the business case and to inspire a wider uptake of ecodesign.

Whilst there is no "silver bullet" for engagement in ecodesign, appropriate intervention is required that is fit for purpose and focuses on qualitative as well as quantitative indicators. Pre-testing and ongoing tracking is crucial.

Creating a platform for sharing knowledge and experience between stakeholders is vital. With the right platform stakeholders can take ownership and fully embrace ecodesign thinking and practice.

By September 2008 EDC is committed to forging partnerships and capacity building to put the foundations in place for enabling effective ecodesign in Welsh industry.

With the appropriate joined-up approach EDC believe that Wales can be an internationally renowned ecodesign led nation by 2020 with ecodesign embedded as a sustainable competitive core value within all relevant government strategies and support services, industry, the design community and HE.

Acknowledgement

The people and organisations we should acknowledge are numerous, some are mentioned already, but we are especially grateful to the Welsh Assembly Government for their ongoing support and belief in our novel complimentary approaches to intervention and capacity building.

References

1. O'Rafferty, S. and O'Connor, F., "Developing a national ecodesign initiative in Wales", proceedings 10th European Roundtable on Sustainable Consumption and Production (ERSCP), 5-7 October, Antwerp, Belgium, 2005.
2. Environment Strategy for Wales 2026, Welsh Assembly Government, Cardiff, 2006.