



Pre-course Reading

Safeguarding the Future

sustainable development training
for the professional business



Agricultural Manufacturing for the Future

sustainable development
training for the Agricultural
Manufacturing sector

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Agricultural Manufacturing for the Future

A training programme for use in workshops to help small and medium-sized businesses integrate sustainable development principles into their business practice¹.

Pre-course reading

Sustainable development is often seen as an environmental issue but it is just as much about wealth creation and tackling poverty and injustice¹.

Purpose of the workshop

Thank you for signing up to find out more about sustainable development and ways in which your business might respond to the challenges it presents. The Welsh Assembly Government is obliged to promote sustainable development, and is planning actions that will affect everyone in Wales, including large and small businesses. Working towards sustainability presents many business opportunities and can improve profit margins, but businesses may also find it necessary to change the way they operate to meet more exacting government requirements.

The workshop will help you to integrate sustainable development principles into your business practice. You will be able to keep ahead of the increasing demands to operate in more sustainable ways. In particular you will be more competent to:

- Explain the terms 'sustainable development' and 'sustainability' to your colleagues and customers
- Assess how challenges from government, employers and customers for sustainable development might impact on your business
- Apply 'joined-up' thinking to working out solutions to business and sustainability issues
- Apply techniques that help you integrate sustainable development principles into your business planning
- Prepare a sustainable development action plan
- Obtain further advice and support.

Context of the workshop

The Government of Wales Act 1998 placed a duty on the Welsh Assembly Government to promote sustainable development. The Assembly published its Sustainable Development Scheme *Learning to Live Differently* in November 2000, and this was followed by an Action Plan to implement the Scheme in March 2001. Since then annual reports monitoring performance have been published.

Starting to Live Differently (2006) states, "the principles and vision of the Sustainable Development Scheme will drive everything we do. We will integrate these into our work and actively require or influence others, for example local authorities, public bodies, business, the voluntary sector and communities, to do the same to deliver change. We will seek to enable them to do so".

The Assembly has an ambitious vision of a sustainable Wales that will require all people to take part if it is to succeed. The Assembly states its plans will be based on:

- promoting a diverse, competitive, high added-value economy, with high-level skills and education, that responds to sustainable development opportunities, minimises demands on the environment and maximises the distribution of the benefits;
- action on social justice that tackles poverty, poor health, and consequences of disadvantage and provides people and their communities with the means to help themselves break out of the poverty trap;
- action in our built and natural environment that enhances pride in the community, promotes biodiversity, promotes local employment and minimises waste generation, energy, water and transport demands;
- strengthening Wales' cultural identity and helping to create a bilingual country, while looking confidently outwards and welcoming new cultural influences;
- creating a place which values its children and where young people want to live, work and enjoy a high quality of life, and where future generations enjoy better prospects in life and are not landed with a legacy of problems bequeathed by us;
- supporting people to live healthy and independent lives,

¹ <http://new.wales.gov.uk/topics/sustainabledevelopment/?lang=en>

irrespective of income, location or disability;

- valuing everyone in society and promoting equality of opportunity;
- promoting openness, partnership and participation, so that people can play a part in taking decisions that affect them;
- contributing to sustainable development at a global level as well as locally and taking account of the global impacts of decisions made in Wales.

The Assembly has stated the sustainable development principles it will follow, and sees businesses as necessary partners in achieving a sustainable Wales. It will work with business by:

- influencing their activities through the goods and services bought by the public sector in Wales;
- consulting on new policies, including working closely with business representative bodies;
- promoting ways businesses can contribute to sustainability objectives, for example resource efficiency (eco-efficiency);
- being clearer and more open on matters that affect businesses;
- providing support to help Welsh businesses adapt to new challenges e.g. through the Assembly's Business Environment Campaign;
- ensuring sustainable development objectives are central to business support and advice programmes.

Wales and SMEs ²

- Small and Medium-Sized Enterprises, or SMEs, are defined as employing between 0 and 249 employees. In the UK there are 3.75 million active businesses, 85% of them in England. In all the regions of the UK, SMEs make up over 99% of businesses.
- In the UK as a whole, 55% of the workforce are employed in SMEs, and SMEs account for 51% of turnover.
- In Wales, 67.1% of the workforce are employed in SMEs and they account for 61.4% of turnover. Agricultural businesses are highly represented. This is to be expected, as 79% of Wales is agricultural land, 14% forestry and only 8% urban land.
- SMEs providing goods and services to the public and private sectors are likely to find their operations will be required to meet certain sustainability criteria before they can tender for contracts. This workshop will place businesses in a better position to integrate sustainable development principles into their activities and hence meet these requirements.

Land-based Engineering (including Agricultural Manufacturing)

Land-based engineering solves problems in the agricultural industry using scientific, technical and engineering knowledge.

There are approximately 5,800 land-based engineering businesses in the UK, employing an estimated 23,000 people. The land-based engineering industry includes the following groups:

- Agricultural machinery (includes tractors, combine harvesters, cultivation and crop protection machinery)
- Ground care machinery (includes garden, sports turf and local grounds maintenance machinery, sometimes called 'outdoor power equipment')
- Forestry machinery (includes chainsaws, chippers and harvesters)
- Fixed machinery (includes grain/crop processing and milking equipment)
- Construction machinery (there is some cross-over between agricultural and construction machinery such as lift trucks and mini diggers).

² SME statistics from Small Business Service of the Department of Trade and Industry

Companies that work in land-based engineering include manufacturers, dealerships, golf course and sports field managers, grounds maintenance contractors, farms, mobile engineers, machinery hire companies and independent mechanics.

<http://www.lantra.co.uk/young-people-and-parents/industries/land-based-engineering/>

The industry in Wales

The land-based sector in Wales is dominated by livestock farming, accounting for over 55% of the workforce. Environmental conservation, the landscape industry, and trees and timber are the only other industries employing over 5% of the sector's workforce. Statistics for industries within the sector sometimes conflict, partly because of different methods used to allocate workers and businesses, and partly because of the difficulty of tracking numbers of self-employed individuals.

A brief summary of each industry is shown below and where available, business numbers are included.

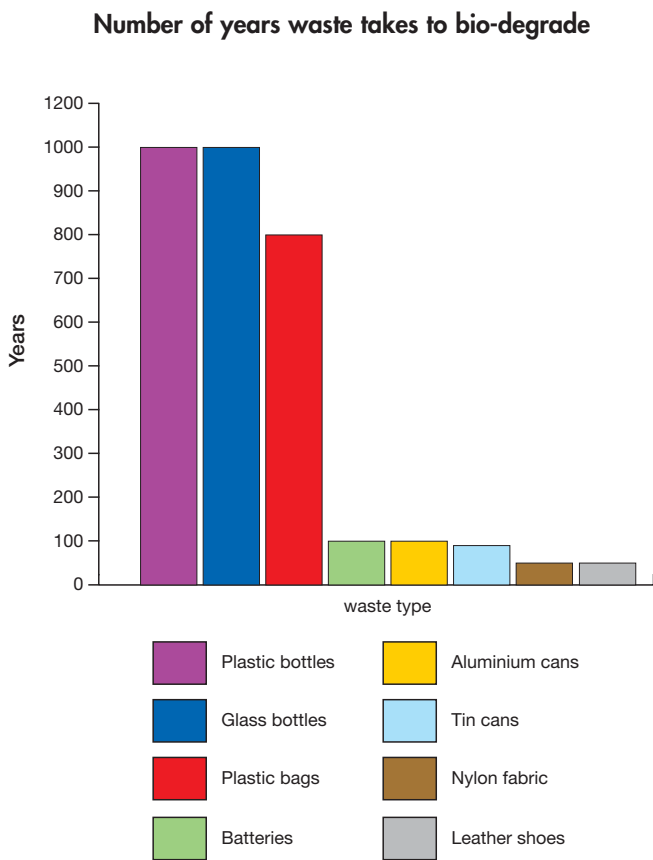
Land-based industry structure

Industry	Businesses	Workforce	Notes
Agriculture and production	28,850	56,400	42,864 self-employed / directors, horticulture 50% part-time; 27,600 livestock enterprises, 750 crops and 500 horticulture
Landscape		5,600	
Environmental conservation		5,000	
Trees and timber	1,300	4,200	
Aquaculture		150	
Fisheries management			No figures available
Game & wildlife management		450	c. 540 farms etc involved
Fencing	700	1,750	
Equine industry	265	2,000	
Farriery		120	
Animal care and technology	920	1,400	
Veterinary nursing		185	Low estimate
Floristry	400	1,300	
Land-based engineering	375	750	

<http://new.wales.gov.uk/docrepos/40371/403823/617504/1833033/nlsa-insight-21477-environm1.doc?lang=en>

Pause for thought

This chart illustrates how long some waste materials take to break down. Some detrimental effects of waste include contamination of water, soil and air, for example by leachate.



Recycling - is it worth it?

Why bother recycling?

Isn't it just making our lives over-complicated?

I mean, how much energy is really saved by recycling – am I really helping to save resources?

Well, the answer is that recycling is an excellent way of saving energy and conserving the environment. Did you know that:



So the more you recycle the more you reduce your own personal impact on the Planet's resources. Have a look at this website: www.RecycleNow.com It gives you lots of great information. Plus you can type in your UK postcode and find out what recycling facilities are available near you. It also gives you information on how to dispose of difficult things like batteries.

Source: www.silvey.co.uk

Oil prices, 2004-2006

NYMEX Light Sweet



Source: www.nymex.com

Five options for sustainable manufacturing:

- 1 Use less material and energy
- 2 Substitute input materials: non-toxic for toxic, renewable for non-renewable
- 3 Reduce unwanted outputs: Cleaner production, Industrial symbiosis
- 4 Convert outputs to inputs: recycling and all its variants
- 5 Changed structures of ownership and production: product service systems, supply chain structure

More sustainable manufacturing is...

Developing technologies to transform materials with reduced emission of greenhouse gases, reduced use of non-renewable or toxic materials and reduced generation of waste. www.ifm.cam.uk

Points to ponder before the workshop

Please think about these questions before you arrive. Your answers will help you to participate more effectively in the discussions that follow the activities during the workshop sessions.

What are the sustainability issues with which your business already engages?	
Are there any sustainability issues with which you still need to engage?	
What is the biggest challenge for your business to become more sustainable?	
What is the cause of it being such a challenge?	
What external developments would make it easier for your business to become more sustainable? For example, education, legislation, grants?	

About the project

This initiative being delivered by a team of academics based in Swansea University's School of the Environment and Society, aims to benefit SMEs.

Professional Practice for Sustainable Development – PP4SD for short – is a national project that has designed and published training materials, and runs training courses for professionals in sustainable development.

The Swansea project has targeted four business sectors over a one-year project: (Aquaculture, Environmental Management, Fisheries Management and Agricultural Manufacturing) and can be adapted to any SME in the land-based sector.

As part of the Higher Education sector's commitment to working with industry and the wider community, the aim of the PP4SD project at Swansea is to assist Small and Medium-sized Enterprises (SMEs) in Wales to become more confident in putting sustainable development principles into their working practice.

Project Director, Dr Jane Claricoates, said:

“PP4SD can help SMEs to move towards complying with increasingly stringent legislation about employment, health and safety, and the environment, as well as with increasing demands from customers and consumers for environmentally-friendly practices and products. Sustainable approaches to business planning and reporting can help small businesses to become more efficient, cost-effective and competitive.

The PP4SD project was another mark of Swansea University's commitment to sustainable development, and is just one of a number of initiatives taking place on campus.”

The PP4SD project was supported by the Welsh Assembly Government's Knowledge Exploitation Fund (KEF) and the European Social Fund under Objectives 1 & 3.

In addition, the Swansea-based project worked closely with Lantra, the Sector Skills Council advising the government on training for environmental and land-based industries.

For further information on PP4SD and the Swansea University project, please visit <http://www.pp4sd.org.uk/>