

e-learning - a green issue?

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Have you ever wondered how e-learning can help support your organisation's strategy on reducing environmental impact, whilst making significant cost savings during tight economic conditions? If so this Epic Insight provides all the information you need to put forward a compelling and environmentally friendly case for e-learning.

Carbon Reduction Commitment

In the last few years thinking has moved from denying climate change is happening to working out how to move to a low carbon worldwide economy. The Carbon Reduction Commitment is a key part of the UK's strategy to encourage all of us to do more with less. Using energy more efficiently isn't just about saving money, it requires a complete shift in how organisations use energy and our current attitudes to energy intensive activities.

The CRC (now known as the CRC Energy Efficiency Scheme) has been designed to generate a shift in behaviour and infrastructure

within large organisations, driving down energy use and thereby reducing the amount of carbon released into the atmosphere.

Around 5,000 of the UK's biggest organisations must track and report on their energy usage, and take steps to reduce it. These include supermarket chains, large retailers, water companies, banks, large groups of companies, NHS trusts, local authorities and universities. There are financial rewards and penalties through a system of allowances, and a league table raising public awareness of companies' track records. In simple terms, high performers, receive back more than they put in and low performers less than they put in

Money out of the window?

The Carbon Trust estimates that UK Businesses waste 10-20% of the energy they buy.

As the cost of carbon allowances rises, so energy savings which might once have been dismissed as too expensive or too difficult, become more attractive. Put simply, all large organisations will have a major incentive to reduce carbon emissions. This, in turn, will affect smaller supplier organisations who must tighten up their approach to carbon emissions in order to remain in the supply chain.

e-learning and CRC

The focus on energy efficiency means that organisations will be scrutinising all areas of their business, and the Learning and Development function will not be exempt. Unfortunately, for many, the picture isn't too good at present!

Consider for a moment the likely energy use of a traditional trainer-led, classroom model for a major UK corporate:

- Delegates travel by car to regional training centres (one person per car!)
- Others fly in from offices overseas
- Expert trainers criss-cross the country from speaking slot to speaking slot
- Training rooms use large amounts of heat and light
- Course notes comes as multiple page handouts, in non-recyclable plastic binders
- Delegates stay overnight in rooms using heat, light etc

In environmental terms, this is clearly inefficient. CRC provides the impetus for looking again at the methods by which training is delivered and the opportunities that e-learning and Web 2.0 technologies offer for promoting and sharing learning, whilst helping to reduce organisational carbon emissions and individual carbon footprints.

Each ream of paper used contributes 0.002 tonnes of CO₂.

A worked example of carbon emissions

Let's say a UK based organisation with 5,000 staff commits to 2 days of face-to-face training for every staff member annually, for compliance and continuing professional development purposes. This entails:

- A total of 1,000 training sessions are delivered annually
- 40% of delegates travel by car to a regional training centre each year and 10% fly
- Regional trainers mostly travel by car, with occasional short haul flights to the more distant regions
- Every trainee receives a printed handout for each session
- Overnight accommodation is required for delegates on 2 day courses

Sound familiar? It's not an untypical scenario for the thousands of large organisations likely to be affected by the CRC.

Now, let's assume the organisation is fully aware of the potential environmental (and cost) implications of the current training strategy, and in line with wider environmental goals has set a strategic objective of delivering 80% of training by e-learning and other technology based solutions by 2013.

How will this approach affect carbon emissions, and will it help the organisation meet its CRC obligations? As we can see in the table below, the effect is staggering, and don't forget, we haven't worked out the cost savings, just the CO₂ reductions - 202 tonnes a year!

2010: Traditional training (2 days training per employee)	CO2 (tonnes)	2013: A combination of 20% face-to-face and 80% e-learning	CO2 (tonnes)
		Running 5,000 computers for 6 hours (30,000 hours in total)	1.32
Printing of 10,000 handouts each of 30 pages = 300,000 sheets of paper)	2.48	Printing of 2,000 handouts each of 30 pages = 60,000 sheets of paper)	0.49
Heating and lighting of classroom for 1000 x 1 day sessions	4.8	Heating and lighting of classroom for 200 sessions	0.96
Trainees car travel (2,000 staff travelling 50 miles = 100,000 miles)	35.08	20% of this figure	7.01
Trainees air travel (500 staff travelling 500 miles = 250,000 air miles) 0.24 tonnes x 500	120	20% of this figure	24
Trainer car travel (990 sessions x 50 miles = 49,500 miles)	17.54	20% of this figure	3.508
Trainer air travel (10 x 500 miles = 5,000 air miles)	2.4	20% of this figure	0.48
Hotel/training centre accommodation (2,000 overnight stays)	59.06	All need for hotel/ training centre accommodation is removed due to shortened length of face to face training	0
Less energy savings from not switching on computers for a day on each day's training	-1.76		N/A
Total	240	Total	38

So how green is e-learning?

E-learning and technology based solutions can significantly reduce carbon emissions, training costs and employee 'downtime'. There's no need for travel/accommodation and handouts are redundant. The only carbon cost of an e-learning/technology based solution is that of running a computer for the duration of the training. In fact, the larger the audience, the greater the carbon reductions to be derived from e-learning instead of traditional classroom methods.

As shown below, converting a half day workshop for 5,000 staff to 2 hours of e-learning reduces the carbon footprint by 57.5 tonnes, from 58 tonnes to just 0.5 – a reduction of over 99%! Imagine the potential reductions for audiences over 5,000. We've recently developed a programme for over 250,000 employees - the carbon reductions are astronomical!

Half day face-to-face workshop	CO2 (tonnes)	2013: A combination of 20% face-to-face and 80% e-learning	CO2 (tonnes)
		Running 5,000 computers for 2 hours (10,000 hours in total)	0.44
Printing of 5,000 handouts, each of 20 pages = 100,000 sheets of paper)	0.82		0
Heating and lighting of classroom for 500 x 0.5 day sessions	1.2		0
Trainees car travel (2,000 staff travelling 50 miles = 100,000 miles)	35.08		0
Trainees air travel (50 staff travelling 500 miles = 25,000 air miles)	12		0
Trainer car travel (500 sessions x 50 miles = 25,000 miles)	8.77		0
Trainer air travel (5 x 500 miles = 2,500 air miles)	1.2		0
Less energy savings from not switching on computers for half a day on each day's training	- 0.88		N/A
Total	58		0.5

Conclusion

The conclusion is clear: E-learning is very green!

In today's society, where organisations are looking to develop and enhance their green credentials, e-learning can play a key part in driving the environmental agenda, delivering real, auditable reductions in carbon emissions, and helping organisations meet their carbon reduction commitments in a cost effective manner.

For a full exploration of how to achieve reductions in carbon emissions with e-learning, please see our 'Carbon reduction and e-learning' White Paper.

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For her full White Paper, 'Carbon reduction and e-learning', please visit www.epic.co.uk.