

Environmental_

MAIN POINTS

Attitude to obligations

An emerging competitive edge

Funding for innovative companies

The attitude that a company takes to today's climate of increasing environmental obligations could make the difference between winning a new competitive edge and a sense of being regulated out of business, writes

Michael Stevens

CHANGE IS IN THE AIR



Many Irish companies are investing in R&D to make 'environmentally friendly' technologies and, in so doing, are paving the way for 'greener' production and processes.

The Irish Environmental Protection Agency (EPA) concedes that the Irish environment is in a relatively healthy state, in comparison with many other European countries. However, in terms of environmental pressures, trends indicate that, while in other European countries things are getting better, in Ireland things have been declining. Rather than be alarmed about this, however, one should take into account the facts: the relatively recent upturn in the economy and the resultant increase of industrial activity has led to more waste, water pollution, and greenhouse gas emissions. This has in turn led to a new set of pressures on Irish companies. 'Irish industry is subject to a lot of different environmental constraints, all kinds of environmental law and obligations', says Dr. Dorothy Maxwell, Senior Environmental Specialist at Enterprise Ireland's Environment Policy Department.

But, new attitudes towards environmental protection can actually represent an opportunity for companies that are prepared to do research and development. As the law requires better environmental performance (less carbon dioxide, safe effluents, and energy-efficient buildings), companies face a choice: to begrudge and deal with the impositions, or alternatively, to seize the opportunity to develop new materials and methods. For companies of the latter attitudinal leaning, is there a competitive advantage?

The Environmental Technologies Research Theme, part of the Europe-wide Environmental Technologies Action Plan (ETAP), has helped many companies and universities to engage in such research. Maxwell explains, 'The idea behind it is that, on an EU basis, for each member state, we want to get the environmental sector going, to grow and develop and be a really strong sector.'

ATTITUDE AND PUBLIC IMAGE

Of course, the pace at which new public attitudes have transferred to industry varies and depends on individual company drivers, according to Maxwell, but there is no doubt that change is in the air.

'The growth in terms of an interest in the environment by companies has been slowly

growing over the last five to 15 years, but in the last year or two it has become a huge issue for large and small industry, and really that's because the cost of things like waste and now the cost of energy has just gone through the roof. That has made a very strong business case. There's hardly a company now who wouldn't be aware of those kinds of costs in their company, whereas five to 15 years ago it wouldn't have been on the horizon.'

So it would seem that the Environmental Technologies Research Theme, which has supported research and development activities in a range of environment areas for 10 years, is more relevant than ever. Support has been supplied for a wide range of research done in universities, colleges, state research organisations, companies and by individuals. Some €32 million was allocated for the last six years, and this year alone, 15 new projects were provided with funding in order to develop technology-driven solutions to environmental issues.

Much of the research is based in universities, and this research incorporates advanced technologies for environmental protection, analytical monitoring and forecasting, and studies and support to aid national uptake of environmental technologies.

One significant strand of the programme, however, is devoted to R&D in the industrial sector. The *Cleaner Greener Production Programme* (CGPP), which is being co-ordinated by Helen Walsh at the EPA, is concerned with developing systems and technologies to reduce the environmental impact of the industry and service sector through the minimisation of resource usage and waste generation.

Phase 1 of the CGPP which ran from 2001 to 2004, was concerned not only with implementing cleaner, greener practices, but with increased competitiveness and promotion of innovation. In phase 1, which had a budget of €1.7 million, 29 successful projects were completed. Phase 2, which was also allocated a budget of €1.7 million, ran from 2004 to 2006, and in March of this year, 15 new projects were announced as part of the Environmental Technologies programme.

PROJECTS UNDERWAY BY COMPANIES

Crucially, the knowledge and value gained from one project can be transferred to other companies. For example, *FDT*, a project engineering company, performed research into membranes to recover a caustic cleaning chemical, such as sodium

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hydroxide which is used for removing material from stainless surfaces, in brewing equipment, so that it can be reused instead of being disposed of. This technical know-how can now be applied in other Cleaning-in-Place (CIP) applications in other industries, such as dairy.

Companies also experienced some other unprecedented benefits: *Tayto Ireland*, for example, engaged in research into oil recovery, which allowed the recycling of by-product and reduction in corrugated carbon use. Was there a financial benefit? *Tayto* in fact not only experienced an enhanced awareness of environment costs but also gained approximately €40,000 per annum to date. *Tayto's* involvement is ongoing.

CELtrak A very recent participant in the CGPP initiative has been *CELtrak*, a company based in Tuam, County Galway, a provider of vehicle tracking services for various industries that applied successfully to the EPA for funding under the CGPP in October of 2005, in order to incorporate sustainable design concepts into the tracking system hardware that resides on vehicles, such as trucks. *CELtrak* used the service of Shane Mooney of *SPeco Services* for assistance with the management of the project.

It is a reduction in the actual weight and volume of the product that will make the difference, thereby reducing fuel consumption, according to Mooney, who describes the project as 'producing a product with 15% less raw materials by weight and also achieving 5% reduction in energy consumption during the life of the product.' It is expected that cost savings will be made on raw materials. He feels that an investment in environmental technology R&D is an enlightened move: 'We felt that it was a vital area of knowledge that product designers must learn, internalise and apply when designing the products of tomorrow.' Pragmatism, however, is at the heart of the decision to embrace such developments: 'There are many other external drivers starting with the price of energy, onerous regulations emanating from Europe, cost savings on raw materials and competitiveness in the marketplace which make these initiatives worthwhile and indeed necessary,' he says.

Of course, it's still at an early stage, but all indications are that it's going well. Says Mooney: 'The project is progressing well to date. As *CELtrak* is only six months into the project it is too early to report tangible savings at this stage, but we are making progress in the right direction.'

JFC Manufacturing Another company that has recently taken part in the CGPP is *JFC Manufacturing Ltd*, a producer of plastic products also located in Tuam. According to Sales and Marketing Manager Cathal Fitzpatrick, an investment in environmental technologies is a natural choice for modern Irish technology companies looking to the future: 'The company invests heavily in R&D, and we have our own R&D department. [Environmental awareness] is an issue that affects people every day, not alone in industry but in the general public as well.'

JFC's most recent involvement in the CGPP has been the sustainable design, manufacture, use and recycling of plastic mussel floats. Fitzpatrick also points out that, for many companies, it's often not only competitive benefits that are the drivers in towing the environmental line. EU directives also play a major part: 'It's not just that it makes more sense; it's that there are regulations. If you don't comply there are repercussions for it in one way or another.'

A Macroom-based manufacturer of small and medium volume Printed Circuit Boards (PCBs) for the electronics industry, **Ship Company Ltd**, has also taken part recently. Its project, funded by the CGPP, involves looking into a vapour pressure distillation combining innovative components for highly energy-efficient water purification and recovery – they are researching a system that has zero waste transport and zero rinse water emission and is, therefore, more energy efficient.

Cratlon Ltd, a manufacturer low-power wireless sensor market based in Cratloe, Co. Clare, has meanwhile been developing a wireless sensor with potential for highly energy efficient buildings. Environmental law now requires larger buildings to have energy control sensors in order to monitor temperature and lighting and thereby increase energy efficiency. And, with energy costs rising all the time, this also makes sense financially.

For companies that have embraced new, environmentally friendly ways of doing things, the benefits are quite tangible. For example, **Atlantfish Ltd**, a Donegal-based producer of cooked shellfish and value added seafood products, engaged in a research project that piloted the use of a membrane process to purify the wastewater from a crab cooking process. They found that the reduction in water usage reduced charges, thereby enhancing profits.

'Pragmatism is at the heart of the decision to embrace such developments'

But these are just a few of many examples. Across Ireland, environmental issues are more and more a concern for companies, from a financial point of view – and now, increasingly, from an image point of view. 'It's definitely a factor', says Dorothy Maxwell, 'and it hits some sectors more than others. If you have a bad environmental performance, it's hugely bad for your corporate reputation.'

Maxwell stresses that whatever environmental issues companies have, Enterprise Ireland's Environmental Policy Department is there to support them, and can be contacted at any time. The website, www.envirocentre.ie provides many easy-to-read guides to environmental law and environmental practice, some case studies and many other resources.

The department also engages in pro-active supports for companies, to encourage them and make them aware of the importance of environmental awareness to business. Half-day events known as 'regional environmental business clubs' take place about every six months in various locations around Ireland. These events allow representatives to hear other companies' experiences and meet people from the Environmental Policy Department, Sustainable Energy Ireland, the EPA and other groups to find out about new trends and possibilities with regard to the environment. ■