

# Skills and Training for a Green New Deal



Conclusions and Recommendations  
SEPTEMBER 2010



Comhar  
Sustainable Development Council





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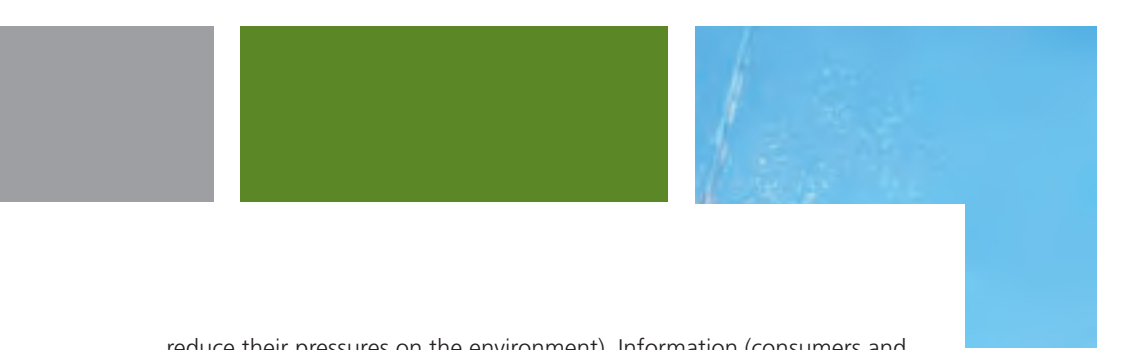


## Foreword

It is one of the paradoxes of economic development that, as economies begin to recover, skill shortages emerge even in the presence of high unemployment. There is a steady stream of stories from Germany and other countries now emerging from recession to the effect that firms in high growth areas are suffering from skill shortages and the inability to meet opportunities because they can't find people with the right skills, aptitudes and ambition to meet their expanding requirements. The market of course will go some way to solving this problem on its own, as firms invest in training to meet their needs, and recruit from other countries where the labour supply better fits their requirements. But they will under invest in training, because often they can't get the return on their investment, as those with the right skills are attracted to other companies. And this problem is especially acute in the case of small companies, whose viability could be threatened if they devote significant resources to training of staff who then move on.

This is the situation we find in the emerging green areas of the economy, where meeting new opportunities require training, but the incentives for the market on its own to provide it are insufficient in certain cases. The analysis and recommendations in this report are designed to address this skills gap, but we propose that it be done in ways that minimise the costs of intervention. This is achieved by recommending that the various initiatives and infrastructures already in place be adapted to address this opportunity, rather than proposing major new schemes.

But meeting the skill needs of this emerging economy is only relevant if policies continue to support the evolution of the Irish economy towards a sustainable future. And this requires that we continue to keep policy focused on the four 'I's'; Investment in supportive infrastructure [the grid, water metering and green infrastructure (nature and ecosystem services) are key]; Incentives (carbon tax and water pricing are essential if there is to be sustainable income for enterprises and individuals who



reduce their pressures on the environment), Information (consumers and producers need the right information at the right time on performance – smart meters for water and power are essential if care and parsimony are to be rewarded and waste penalised) and Innovation (to create and sustain enterprise we need export businesses, and these are only possible with new and better ideas).

I am grateful to Eoin McLoughlin who has led this effort from the staff side, and his steering committee and all the others who provided input and advice. If the recommendations are acted upon, it will simultaneously help us all make the transition to a more productive country with more jobs and a better environment.

**Frank J. Convery**

*Chairperson, Comhar Sustainable Development Council*

## Acknowledgments

Comhar SDC would like to gratefully acknowledge the input of experts and stakeholders that have provided valuable contributions to this report. Firstly we would like to thank Con Gregg of Publica Consulting for undertaking the primary research and also the members of the project steering group, Eoin McLoughlin (Comhar SDC), Cathy Maguire (Comhar SDC), Noel Casserly (Comhar SDC), Ethna Diver (Letterkenny Institute of Technology) and Liam Berney (Irish Congress of Trade Unions).

We also wish to thank and show our appreciation to members of the Comhar Council for their support and feedback and pay particular recognition to all those that attended the project workshop which provided many useful insights and key inputs for the report.



## Conclusions and Recommendations<sup>1</sup>

Sustainable development and the need to move towards becoming a low-carbon and resource efficient society is an evolving area of policy and of action by governments, industry, providers of education and training and others. Internationally, while the topic is seen as being of critical importance to future patterns of employment, policy-makers are only starting to get to grips with the skills implications. This can be seen in a profusion of reports from international bodies, from governments and from interested national groups on different aspects of green jobs and green skills.

This report seeks to add to the evidence base by examining the role of the skills and training sector in supporting a Green New Deal for Ireland. This was an area identified as requiring further research in Comhar SDC's original Green New Deal report<sup>2</sup>. The current report makes twenty-one recommendations in total which are grouped under six key category headings ranging from research and education to training for industry. A large part of the requirement which has been identified is for measures to reshape existing provision, or to leverage current resources to provide different courses than at present, and does not inherently require significant additional expenditure.

It is important to bear in mind that the skills and training required to implement the Green New Deal is not just a matter for Central Government. There are a wide range of other parties such as industry, higher and further education institutions, Local Government as well as civil society organisations that all have important roles to play.

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1 The Conclusions and Recommendations on the Skills and Training for a Green New Deal are summarised in this document. The full report is available on the Comhar SDC website at [www.comharsdc.ie](http://www.comharsdc.ie)

2 [http://www.comharsdc.ie/\\_files/2009\\_TowardsGNDIreland\\_rpt.pdf](http://www.comharsdc.ie/_files/2009_TowardsGNDIreland_rpt.pdf)

The current work of Comhar SDC in this area is about developing recommendations as to how to advance each of these different elements to ensure an integrated delivery of a skills and training programme that supports the realisation of a more sustainable Ireland.

Specifically, the research addresses a number of key aspects related to the skills agenda focused across a range of different policy areas. The analysis includes providing a qualitative and quantitative assessment of the type and volume of skills that may be required and the establishment of the baseline situation in Ireland regarding the current provision of courses and institutions involved in delivering skills and training in this area. Based on this assessment an analysis is then carried out identifying possible key skills gaps that may impede progress in our attempts to transition towards becoming a low-carbon and more resource efficient society. The research also considers suitable policy options, financing mechanisms and awareness raising activities for Ireland to develop best practice in this area as well as providing guidance for future work in this field.



# 1. Training for the Unemployed

FÁS is the principal body directly involved in training for the unemployed with some Skillnets being active in the area as well. There are also initiatives in the further and higher education sectors designed to take people who are unemployed back into education. The current Labour Market Activation Programme is intended to bring more providers of education and training into provision for the unemployed.

FÁS provision for the unemployed already targets the skills needed for retrofitting of existing residential property, providing substantial numbers of unemployed people from the construction trades the skills they need to undertake retrofitting work.

**Recommendation 1:** Education and training providers moving into provision targeted on the unemployed should take account of the great variety of skills needs that arise from the Green New Deal. Amongst the areas that deserve attention are:

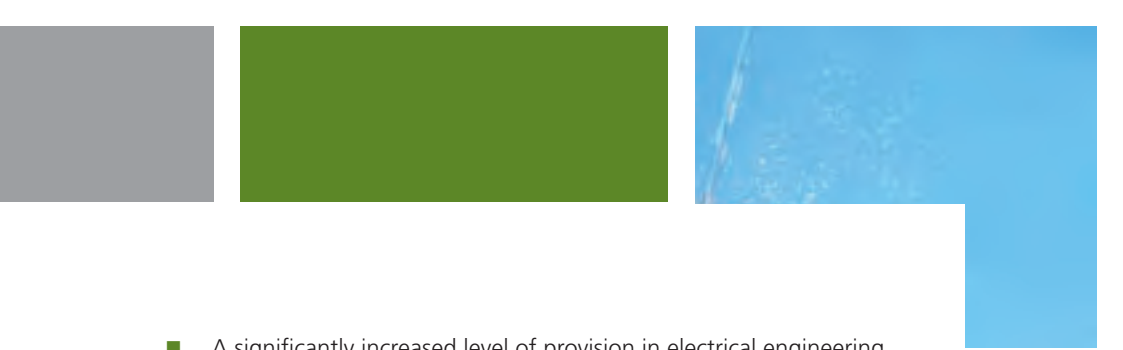
- Energy management for businesses.
- Green procurement, carbon accounting and carbon management.
- Technician and engineering skills for renewable energy.
- Sustainable development.
- Skills for water and waste water infrastructure.
- Biodiversity and Green Infrastructure skills for parks and other public lands.
- Specialist construction skills relevant to infrastructure such as Metro North.

**Recommendation 2:** The Department of the Environment, Heritage and Local Government and Comhar SDC should work with IBEC and other business representative organisations to develop a programme of graduate placements focused on sustainability and environmental management. The programme should include a system of mentoring for participants and might possibly lead to the award of a Masters level qualification analogous to that available to participants in the Export Orientation Programme supported by the Department of Enterprise, Trade and Innovation. Where there are already existing graduate schemes in place in the field of sustainability it is important that these be maintained and strengthened.

## 2. Research and Education

One of the emerging and positive findings from this research is that the Irish education sector is already responding on many different fronts to the skills demands posed by the Green New Deal. Key among the developments already underway are:

- Adapting existing courses in areas including civil engineering, building services engineering, construction studies, architecture, mechanical and production engineering to place a greater emphasis on energy efficiency and (in some cases) on deployment of renewable energy technologies.
- New courses, at levels from 6 to 9 in the National Framework of Qualifications, in areas including wind energy, broader renewable energy technologies, energy management and environmental management, with some of these courses being ab-initio courses designed for students first entering college, and others being add-on or masters qualifications designed to enable students with an existing higher education qualification to specialise.

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- A significantly increased level of provision in electrical engineering.
  - Research in electricity generation and distribution.
  - Research in ocean energy.
  - Cross-disciplinary research in transport studies.

**Recommendation 3:** Research funding bodies should continue to grow the volume of research currently taking place in Green New Deal related areas, most notably in the energy field, as a means to drive the availability of people with very high levels of skill and knowledge in these domains.

A number of higher education institutions are using sustainability and renewable energy as guiding themes for future development. Comhar SDC welcomes this and encourages other institutions to focus on sustainability in their future planning.

**Recommendation 4:** The following specific areas have been identified under this research where additional new provision should be developed in higher education. These include:

- Transport studies (cross-disciplinary - engineering/economics/social sciences).
- Environmental management.
- Economics of sustainability.
- Options in computing degrees to specialise in IT systems for renewable energy, electricity network management and environmental management.
- Courses integrating biodiversity with horticulture/agriculture/forestry to provide professional level skills to implement the Green Infrastructure agenda.

- Integrating carbon accounting and carbon management into business, engineering and applied science qualifications where this fits with the theme of the qualification.

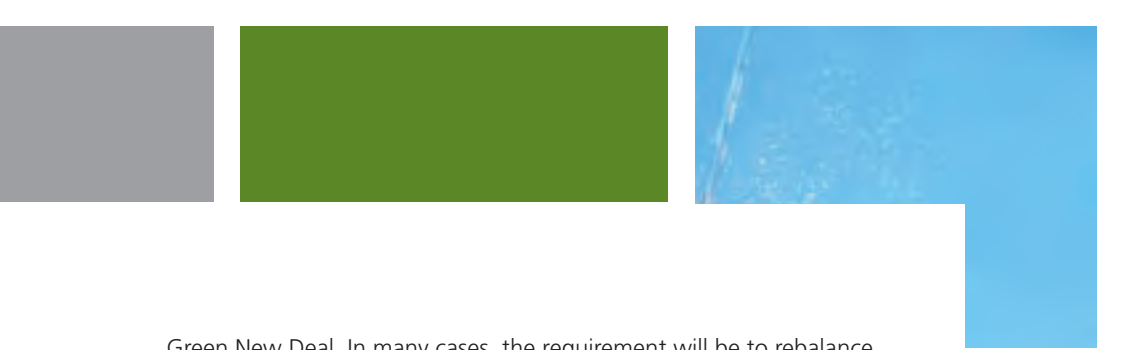
New provision in these areas should be achieved through a combination of modifications to existing courses, new undergraduate qualifications, specialist add-on qualifications at Institutes of Technology, and taught masters and postgraduate diploma courses.

There is a need to integrate sustainability throughout the education system, including at primary and secondary level. In Ireland, the Department for Education and Skills has responsibility for developing a national strategy for Education for Sustainable Development. While a consultation has been held around a draft, the National Strategy has not yet been published.

In the UK, the Higher Education Academy is running an Education for Sustainable Development (ESD) Project, to help institutions and subject communities develop curricula and pedagogy that will give students the skills and knowledge to live and work sustainably. There is a need for a similar initiative in Ireland.

**Recommendation 5:** Ireland should implement the United Nations Education for Sustainable Development agenda through a National Education Strategy for Sustainable Development. This should be led by the Department of Education and Skills and carried out in partnership with key stakeholders such as Comhar SDC, the Higher Education Authority, the Irish Universities Association, the Institutes of Technology Ireland and the Higher Education Training Awards Council.

There is a need to re-examine the suite of apprenticeships currently available in the context of the skills requirements associated with the



Green New Deal. In many cases, the requirement will be to rebalance existing programmes to place a greater emphasis on areas that are growing in importance. These include:

- Wall insulation (new build and retrofitting) for blocklayers and plasterers.
- Heating controls and renewable energy technologies for electricians and plumbers.
- Skills in energy management and possibly even some business skills relevant to retrofitting for craftspeople likely to get involved in domestic retrofitting.
- Electric vehicles for mechanics.
- Energy efficiency for fitters.

As many Green New Deal construction jobs can be delivered most efficiently by people whose skills cut across traditional craft boundaries, the possibility of introducing new multidisciplinary apprenticeships should be considered.

**Recommendation 6:** FÁS should take account of the changing skills needs in a range of craft occupations that arise from developments in the Green New Deal when updating apprenticeships. FÁS should consider the possibility of introducing new multidisciplinary apprenticeships.

At further education level, there is a need to bring the principles of biodiversity into horticulture and related qualifications, and into relevant community employment initiatives, in order to build the hands-on skills needed to implement the Green Infrastructure agenda in parks and on other publicly-owned lands, and in order to equip those working in horticulture in the private sector to take proper account of biodiversity in their work.

**Recommendation 7:** A sustainable development initiative should be pursued jointly by Comhar SDC, as the body taking the lead on the Green Infrastructure Agenda, FETAC and the main Further Education providers active in areas relevant to the Green New Deal agenda, to bring a sustainability perspective and biodiversity content into the descriptors behind relevant further education and training qualifications, and in order to implement these in course delivery.

Under current economic and funding conditions, it will be difficult for higher education institutions to fund investment in resources, including equipment and software licenses, required to establish and expand provision relevant to areas of the Green New Deal.

**Recommendation 8:** The Department of Education and Skills should provide a modest fund to assist higher education and further education institutions in financing equipment and software licenses needed to introduce or expand educational provision in disciplines relevant to the Green New Deal. The fund should be allocated on a competitive basis and part should be ring-fenced for further education, to balance the greater experience of higher education institutions in competitions for funding.

The education sector should be a major provider of courses for those in employment, whether for people studying part time on their own initiative, or for businesses, business groups and others commissioning courses for industry.

**Recommendation 9:** Education institutions should provide part time and flexible learning study options in courses relevant to the Green New Deal where feasible.

### 3. Training for Industry

The main responsibility for continuing education and training for people in employment lies with their employers. The proper role of the State is limited to offsetting market failures in areas where this is important for policy reasons. In the case of industries in which small and medium enterprises (SMEs) have a significant presence, this can be to help overcome the tendency of smaller companies to under-train. In the case of fast-emerging industries, it can be to speed the creation of the education and training services that these industries need.

Both of these justifications for intervention are relevant to substantial segments of private businesses that will be involved in delivering the Green New Deal. This is why it is reasonable that the State should assist private businesses through mechanisms such as financial support for training networks. However, the logic for public intervention in continuing education and training is much less compelling where the main players are large, well resourced and/or already highly capable. Such businesses are typically capable of identifying their own skills and training needs accurately, and of sourcing the education and training interventions they require reasonably efficiently.

**Recommendation 10:** It is important that businesses active in Green New Deal related areas should place a high priority on providing the training and education their people need to optimally meet their skills needs. This may involve making use of any of a wide range of learning strategies, including:

- Provision of classroom-based training.
- Provision of hands-on and on-the-job training.
- Support for participation in part-time education.
- Use of e-learning and blended learning services.

- Participation in less formal approaches to learning, including conferences, business networks, mentoring, site visits and other such strategies.

Where available and relevant, businesses should participate actively in industry training networks.


The Department of Enterprise, Trade and Innovation should take a lead in ensuring that there is a structure in place to provide training for each industry sector that will play a substantial role in the delivery of the Green New Deal.

Since the establishment of Skillnets, industry training networks have proven to be a practical and successful mechanism for enabling Irish industry sectors (and business groups organised along other lines too) to meet their own training needs. It is particularly useful in sectors with significant numbers of small and medium enterprises that have difficulty in identifying and sourcing all the training they need independently at an affordable cost. The Wind Skillnet has proven the worth of this approach in building the capability of one major industry on which the Green New Deal relies.

The industry network model enables businesses to cooperate in securing the training they need by part-funding the administrative costs and the direct costs of provision. While this imposes a cost on the public purse, this cost is often minor relative to the scale of the public interest in developing the industry.

There are proposals from participants in existing networks involving industry and civil society organisations to establish regional bases for sustainability training. A Sustainability Training Network Scheme could support one or more such bases on a pilot basis. If the results were sufficiently positive, they could seek more permanent funding from another source.





**Recommendation 11:** In each industry sector where developing employee and management skills is important to implementing the Green New Deal, where the industry is well equipped to take a lead in its own development, and where other suitable mechanisms for provision are not already available, the Department of Enterprise, Trade and Innovation should ensure that resources are available to establish and operate an industry training network.

The decision to provide resources to a network should be based on the need for training in the industry sector to progress the transition to sustainability in Ireland and on the capability of the proposed network to deliver on meeting this need. It should not depend on the outcome of competition with industry networks pursuing other goals. To allow this, a new Sustainability Industries training network scheme should be established, analogous to the Finuas financial services industries training network scheme. Networks funded under the new scheme would continue to operate independently of each other, in keeping with arrangements under existing training network schemes, although under policy guidelines set by the Department of Enterprise, Trade and Innovation. Value for money considerations suggest that, as with the Finuas scheme which funds four networks, the Sustainability Industries training network scheme should be managed by Skillnets.

Sustainability industry sectors in which networks are required include, but are not necessarily limited to:


- Wind and ocean energy (currently covered by the Wind Skillnet)
- Biomass energy (existing application to Skillnets) and possibly:
- Sustainable supply chain (carbon accounting, carbon management, developing, marketing and selling sustainable products and services)
- Smart transport
- Residential energy efficiency

- Industrial and commercial energy efficiency
- Microgeneration and small scale renewables
- Water and waste water management and technologies
- Electric vehicles
- One or more of a range of export-oriented green enterprise areas such as ocean energy technologies, or sustainable information technologies

Industry training networks are suited to arranging for the delivery of a wide variety of forms of training, from seminars and short courses up to major qualifications accredited by HETAC or FETAC.

Where there is an important gap in provision in a fast-developing Green New Deal activity, where an interested State Agency (such as SEAI or FÁS) is substantially better positioned than the industry itself or an education or training provider to develop and promote training to bridge the gap, it is desirable that the Agency should do this.

In many cases, the requirement will be limited to developing the training, and getting involved in approving and quality assuring providers, with the ongoing costs of provision being paid by businesses participating in the training. In cases where the training forms part of a strategy to improve capabilities rapidly, there may be a case for a part of the cost of training to be covered by the Agency.



**Recommendation 12:** There is an identified training need for entrepreneurs and managers of companies involved in residential retrofitting for energy efficiency to raise the standard of management, so as to ensure that all businesses registered to undertake work of this nature are capable of:

- Providing sound and comprehensive advice to householders.
- Delivering projects to a consistently high standard, both in technical terms and in terms of customer satisfaction.
- Operating efficiently with a minimum of rework.
- Marketing and selling energy efficiency services to householders.

As the Sustainable Energy Authority of Ireland (SEAI) plays a central role in developing the residential energy efficiency retrofitting industry, it should have responsibility for ensuring that this gap in provision is bridged.

**Recommendation 13:** SEAI also has a central role in promoting micro-generation and residential and commercial renewable heat and CHP, so it should also have responsibility for ensuring that any gaps in provision for the sector are bridged.

FÁS has a history of bridging gaps in training provision for industry in the environmental skills area, by developing courses for which the costs of direct provision are covered by participants. This has arisen partly because many of the skills required are related to construction, and FÁS has a long history of involvement in construction industry training. Amongst other areas, FÁS is a key provider of training in skills relevant to water and waste water.

**Recommendation 14:** The existing stock of FÁS environmental courses for industry should continue to be kept available and FÁS should continue to respond when it identifies gaps in environmental training provision that it is the best equipped to bridge.

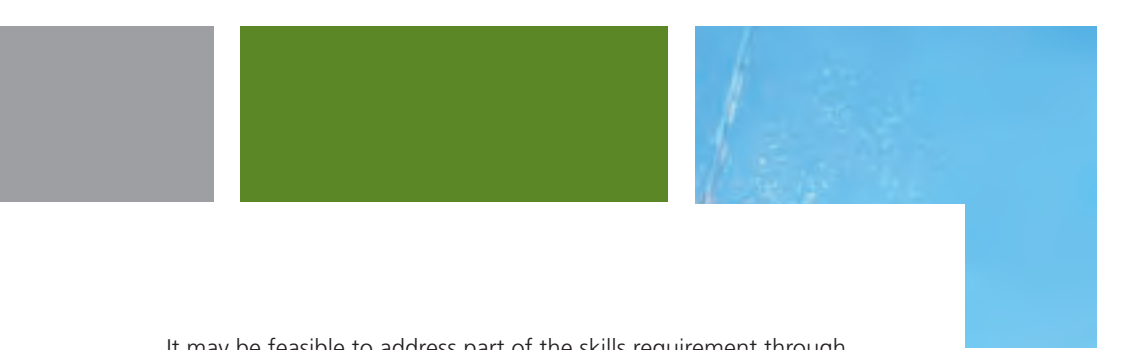
Heavy investment in new transport infrastructure involving tunnelling, notably Metro North, will lead to a requirement for significant numbers of construction workers with relevant skills.

**Recommendation 15:** FÁS and the Rail Procurement Agency should cooperate on identifying the tunnelling-related construction skills that will be required for Metro North, and on devising and delivering courses to enable Irish construction workers to take these jobs.

## 4. Education and Training for the Public Service

Some of the major skill development requirements that arise from the Green New Deal relate to the public service. Key areas include:

- Cross-disciplinary skills in transport policy
- Green procurement
- Carbon accounting
- Carbon management
- Energy management
- Economics of sustainability
- Green infrastructure environmental management



It may be feasible to address part of the skills requirement through recruiting suitably skilled and qualified people from outside the public service, but it will be necessary to develop most of the skills through education and training for people already employed in the sector.

It is usual for education and training interventions for public servants to be funded by their employer. While public servants use a wide range of providers of education and training services, the Institute of Public Administration and the Civil Service Training and Development Centre are centrally important in this area.

The following are the main areas of education and training required:

- Green procurement for public servants involved in specifying goods, infrastructure and services to be procured, and for those involved in procurement.
- Carbon accounting for public servants who will work in carbon accounting.
- Carbon management for senior managers, and for those involved in specifying goods, infrastructure and services.
- Economics of sustainability for those in a wide range of policy-making roles
- Green infrastructure environmental management for those involved in the management of public lands, in planning and in areas of policy relevant to Green Infrastructure including, inter alia, agriculture, forestry, waterways, transport, environmental management and enforcement.
- Economics and social sciences of transport for local authority engineers and transport planners.

Most of the skills requirement should be addressed through training courses designed specifically for public service employees and delivered either through internal training resources or through contracted education or training providers. As much of the training required will be similar across different Government Departments, Local Authorities, agencies and other bodies, it is desirable that similar training be delivered to all these groups. Individual training courses should accommodate employees of different parts of the public sector where feasible, as diversity among participants is likely to improve learning.

**Recommendation 16:** The Department of the Environment, Heritage and Local Government should take a lead in consulting with other Government Departments as to how the skills requirement relating to the Green New Deal and the public sector should be achieved and what bodies should take the lead in specifying, designing and organising the delivery of appropriate training.

**Recommendation 17:** Education and training courses designed specifically for public sector employees, including those provided by the Institute for Public Administration (IPA) and the Civil Service Training and Development Centre, should be adapted to include modules on Green Procurement, Carbon Accounting, Carbon Management, the Economics of Sustainability and/or the Management of Green Infrastructure where these topics fit with the theme of the course.

**Recommendation 18:** Part of the skills requirement should be addressed through external sources of education and training, accessible also to businesses and to individuals working in the private sector, including, inter alia:

- Masters level courses.

- Courses provided by professional bodies such as Engineers Ireland, the Irish Institute for Purchasing and Materials Management (IIPMM) or the Marketing Institute of Ireland.
- Further education courses in areas such as Landscape Horticulture.
- Courses provided by FÁS and other State Agencies in topics such as Energy Management.
- Courses provided by vendors of relevant technology.

## 5. Role of Civil Society Organisations and Professional Bodies

Civil society organisations, including professional bodies and business organisations, are well positioned to provide for a significant part of the education and training requirements of the Green New Deal. Professional bodies have an important role in the continuing professional development of their members, both in terms of setting standards, and in providing a part of the education and training required to meet those standards.

Ireland's main business representative bodies are active in training, both directly and in some cases through sponsoring industry training networks. Civil society organisations concerned with sustainability and the environment are also active in delivering training and other learning opportunities, some of which are relevant to the Green New Deal.

**Recommendation 19:** Professional and business bodies should continue to develop and deliver education and training for their members (and where appropriate for others) in areas relevant to the Green New Deal, in areas including the following:

- Energy efficiency, renewable energy and energy management.
- Green procurement, carbon accounting and carbon management.
- Environmental management for Green Infrastructure.
- Legislation and regulations.

Much of this provision will involve short courses. As cost of provision will often be a barrier, State Agencies interested in promoting training for businesses in these areas, and in a position to support a part of the costs, should consider partnering with professional and business bodies as a part of their strategies.

**Recommendation 20:** Civil society organisations concerned with sustainability and the environment should continue to be active in education, training and informing the public on aspects of the Green New Deal relevant to their missions. They have a particularly important role to play in contributing to awareness raising and in organising integrated initiatives in community areas or regions. This includes working with groups such as resident associations to advance various sustainable development schemes. Such efforts should be supported, including the provision of resources where appropriate. To the extent that their role extends into operating as training networks for environmental businesses, they should be eligible to sponsor Sustainability Industry Training Networks.



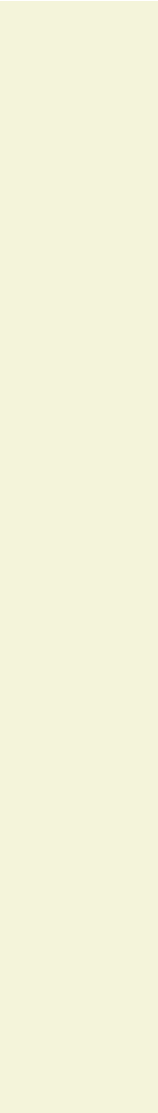


## 6. Awareness Raising

Awareness has a critically important role to play in the successful delivery of the Green New Deal. For example, awareness among householders, farmers and other individuals will impact on the rate at which existing homes are retrofitted for energy efficiency, on the adoption of microgeneration and domestic/commercial renewable heat technologies, on the behavioural aspects of the delivery of sustainable mobility and on the implementation of parts of the Green Infrastructure agenda. Awareness among public servants and businesses is equally as crucial and deserving of the same amount of attention.

There is a good case for co-ordination on awareness raising between bodies involved in delivering the Green New Deal. This includes making various actors aware of existing tools that are available and how to make best use of them. Comhar SDC is well positioned to take a lead in mapping out how this should be achieved in consultation with its stakeholders.

**Recommendation 21:** Comhar SDC, in consultation with its stakeholders, should take a lead in developing a strategy for awareness raising in relation to the Green New Deal. The objective is not so much to increase the volume of awareness raising activity, as to highlight key messages, and to identify cost efficient ways of delivering these messages largely within existing resource constraints, and taking advantage of the high level of connection between the Comhar SDC stakeholder group and the wider population of individuals, businesses and public service employees.



## About Comhar Sustainable Development Council

Comhar Sustainable Development Council<sup>3</sup> (Comhar SDC) was established in 1999 as the forum for national consultation and dialogue on all issues relating to sustainable development. Its terms of reference are to:

- Advance the national agenda for sustainable development
- Assist in devising suitable mechanisms for sustainable development
- Advise on the implementation of these mechanisms
- Contribute to the formation of a national consensus in these regards

Comhar SDC works in three-year cycles and began its fourth term in January 1st 2009 under the Chairmanship of Professor Frank Convery.

Comhar SDC is comprised of 25 council members who are drawn from five pillars: the state sector, the economic sector, environmental NGOs, social/community NGOs and the professional/academic sector. The broad representation allows Comhar SDC to arrive at informed and balanced conclusions.

Comhar SDC is supported by a full-time secretariat, which undertakes evidenced based policy analysis and research, and is based in the Irish Life Centre, Lower Abbey Street, Dublin 1. Comhar SDC publishes its reports, opinions, and other products, using a range of relevant means for their dissemination, including electronic media.

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3 Previously the National Sustainable Development Partnership; the name was changed in 2006.



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