

Green New Deal for Northern Ireland

The Green New Deal for Northern Ireland is a joined up approach to the ‘triple crunch’ of recession, rising energy prices and climate change¹.

The proposal is a simple one: investing in an ambitious programme to cut consumption of fossil fuels can create thousands of new jobs; help secure our energy supply; and build a competitive low-carbon economy.

Around 10% of Northern Ireland’s income is spent on importing fossil fuels on which we are 99% dependent for our energy. Facing a future of rising energy prices we risk serious economic and social failure unless we act swiftly to reduce that dependence.

The Green New Deal vision is to:

- **Refurbish tens of thousands of existing homes** each year with full insulation and renewable energy, including the 137,000 homes that fail to meet the Decent Homes Standard and thus making significant inroads into fuel poverty.
- **Transform the energy performance of public and commercial buildings** through energy efficiency measures and making ‘every building a power station’.
- **‘Decarbonise’, regionalise and localise the supplies of both electricity and heat** through large-scale renewables, micro-generation and using fossil fuels more efficiently.
- **Employ a ‘carbon army’ of high- and lower-skilled workers** to implement this vast systematic reconstruction programme creating around 24,000 new jobs.
- **Transform our transport system** to be fit for purpose in the coming era of high oil and carbon prices by providing a real public transport choice for everyone.
- **Create thousands of ‘green collar’ jobs** in the £3,000 billion world market for Low Carbon Environmental Goods and Services.
- **Develop a wide-ranging package of financial innovations and incentives** to assemble and leverage the very large sums needed to implement such a programme, based on collaboration and partnership between the public sector, the private sector, other stakeholders and the public.

The Green New Deal Group is a cross-sectoral initiative led by CBI, ICTU, NICVA, UFU and Friends of the Earth. A full list of members and advisors is at the end of this document.

Introduction

In common with the rest of the world Northern Ireland is in the grip of a serious recession. Job losses are mounting and many businesses are suffering. There is a squeeze on the public finances as revenue falls and the outcome of the Government's fiscal stimulus and quantitative easing is unknown. At first sight it may appear that the Northern Ireland Executive is constrained in what it can do to arrest rising unemployment, much less restore employment to previous levels. Yet while macro-economic policy is reserved to Westminster, key policy levers—industrial and energy policy, education and training, the environment and social policy—are in devolved hands.

If unemployment is the most immediate threat that Northern Ireland faces, it is not the only one. Last year the price of oil rose to nearly \$150 a barrel. At the time of writing it was \$70 but the consensus in the energy industry is that the future is one of volatile and inexorably rising prices as we emerge from recession and global oil production reaches its historical peak. 99% of Northern Ireland's energy comes from imported fossil fuels, leaving us highly vulnerable to the price and politics of oil with serious implications for security of supply

A third threat comes from climate change and our need to cut emissions in line with global agreements while building a low carbon economy in order to remain internationally competitive. The price of carbon is currently low but will inevitably rise as policy bites: a significant challenge for a region with particularly high carbon emissions.

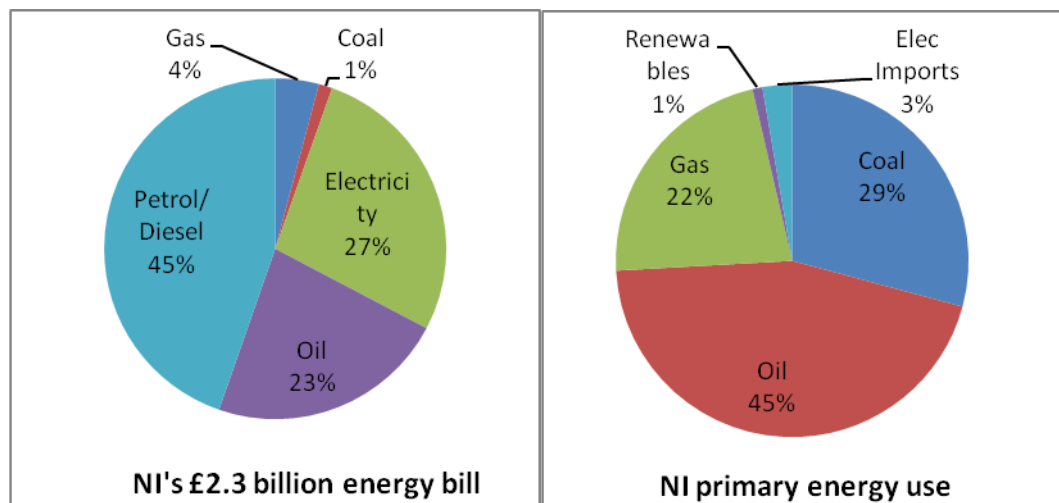
But from threats come opportunities. The Green New Deal Group proposes a transformational policy programme aimed at tackling growing unemployment and declining demand inspired by Franklin D Roosevelt's New Deal of the 1930s. This programme involves policies and novel funding mechanisms to substantially reduce the use of fossil fuels. This in turn will help us tackle climate change and cope with rising and volatile energy prices caused by peak oil.ⁱⁱ

Approaches similar to this are being taken by many Governments around the world: from South Korea and China to Australia and the USA. Centred on moving power and transport infrastructures away from their dependence on fossil fuels, it has become known as the Green New Dealⁱⁱⁱ.

The proposals in this paper show that by focussing on reducing Northern Ireland's vast imported energy bill we can create in the region of 24,000 (see appendix A) high and low skilled jobs in the short term; substantially reduce our dependence on imported energy; make significant inroads into tackling fuel poverty; comply with international agreements to cut CO₂ emissions; and lay the foundations of an internationally competitive low-carbon economy, thus securing employment and business success for the long term.

Northern Ireland's Fuel Bill

Northern Ireland energy users in the domestic, commercial, industrial, transport and public sectors spend a total of £2.3 billion^{iv} a year on energy, 99% of which is derived from imported fossil fuels. This constitutes between 9% and 11% of GVA^v and represents a very significant leakage from the Northern Ireland economy.



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As primary energy and carbon prices rise these figures can only get worse. Economic modelling shows that a sustained oil price of \$150 per barrel would reduce energy demand but the proportion of GVA spent on imported fossil fuels would increase to between 11% and 14%^{vii}. We would be paying significantly more money for a great deal less energy.

An oil price of \$250 per barrel is regarded by some experts as entirely plausible but is beyond the range of most economic models. It is clear however, that the trend would be an ever higher proportion of GVA being spent on ever decreasing amounts of energy.

Carbon prices are currently very low but there is a growing international commitment to cutting emissions through increasing the cost of carbon. It has been estimated that in order not to exceed the 450ppm CO₂ threshold that the price of carbon will need to rise to \$100 a tonne by 2010.^{viii} Climate science is telling us that global temperature rises above 2 degrees C are now inevitable. The expected costs of climate change are rising fast, and so should our willingness to spend money so as to mitigate global warming and avoid those costs.

These scenarios are clearly economically worrying but also socially disastrous, pushing many more households into fuel poverty unless their dependence on fossil fuel is reduced.

The challenge is to construct a glide path to an attainable lower level of consumption quantifying the value of the saving in fossil fuel expenditure and carbon together with the cost of the measures required. Short, medium and long term targets should be

identified and achieved through a series of five-year programmes based on a range of oil and carbon price scenarios.

Such an approach can progressively eliminate the extraordinary amounts of waste in the system: wasted energy; wasted money; and wasted human potential.

Housing

There are some 705,000 dwellings in Northern Ireland. Despite improvements over the past decade, over 90% of houses still fall some way short of the best energy performance standards. Domestic space and water heating is responsible for over 40% of energy consumed in Northern Ireland along with associated emissions.

We envisage a systematic programme to retrofit the entire housing stock¹ to the best energy performance standards over as quick a period as is feasible and ultimately reducing energy use in homes by 80%^{ix}.

This is a huge challenge but it is important to focus on what can be done immediately. The Green New Deal Group proposes an initial £230 million per annum programme, including £75 million assembled from government and other sources, creating 10,000 to 15,000 direct and indirect jobs. Around 1.3 million measures are foreseen over 10 years cutting out (during the measures' lifetime) around £3 billion in wasted fuel costs, and saving over 6 million tonnes of carbon. The measures range from basic insulation and double glazing to solid wall insulation, solar water heating and fuel switching. (see separate 'Housing Package' paper).

If the 137,000 houses that fail to meet the Decent Homes standard were targeted at an early stage, progress on tackling fuel poverty could be significantly accelerated.

A Community: Following a popular anti-nuclear protest in the early 70s the city of Freiburg found itself with an energy problem. The solution was found in renewables, energy efficiency and innovative design. Working closely with residents, the University and business the city has transformed itself into a model of sustainability. A typical house uses about 30% less energy than the national average while innovative passive homes manage to reduce energy costs by 90%. Over 12,000m² of solar panels have been installed along with 500km of cycle lanes and an extensive tram network. The renewables and environmental services sector employs around 10,000 people, about 25% higher than the German average.

¹ This paper does not address the important issue of energy efficiency and renewables for 'new build' properties. We intend to do so in future work.

Public and commercial buildings²

Northern Ireland's public sector organisations (including local authorities, healthcare trusts and universities) account for over 5% of NI's total energy use and around 700,000 tonnes of carbon dioxide annually. Total annual expenditure on energy from imported fossil fuels is around £130 million.^x

With an EU Directive requiring that the public sector leads by example in improving energy efficiency, we estimate that 20% of its energy use could be saved by an investment of £120-180 million on basic measures with a payback of 4-6 years giving recurring cost savings of £30 million per annum.^{xi}

Beyond this, there is considerable scope for self generated renewable energy. Early findings from a study by the Sustainable Development Commission suggest that wind, photovoltaics and biomass are the most appropriate technologies.^{xii}

Buildings in the commercial sector account for a similar scale of energy use and potential for energy efficiency and renewable technologies.^{xiii}

A Country: Concentrating on energy efficiency and technological solutions to energy security Japanese industry has managed to keep its overall energy consumption unchanged since the early 1970s despite increases in output. Japanese companies are leading the field in technologies such as PV, fuel cells and hybrid cars. Well known names like Sharp, Kyocera, Mitsubishi and Sanyo, produce about half the world's photovoltaic solar panels, a market worth \$10 billion a year. Renewables and energy saving devices are common place in Japanese homes. Japan has a well developed public transport system with the highest per capita rail patronage, with 8.8b passengers per annum, and nearly 24,000km of track.

Scaling up Renewable Energy Supply

Just 6% of our electricity supply and 1% of our total energy comes from indigenous renewable sources. By 2020 at least 15% of total UK energy must be renewable in order to meet EU targets; this implies that for Northern Ireland we will need to generate up to the grid limit for wind of 42%.^{xiv}

Renewable heat is underdeveloped here but the economic conditions are good and we already have both agricultural expertise and a supply of marginal agricultural land as the raw materials to enable delivery. There is no obvious reason why we should not meet or exceed 14% of our heat needs from this source by 2020 in line with the rest of the UK.^{xv} A Renewable Heat Incentive together with a proper legal and regulatory framework would help expand this market

Very considerable investment is therefore needed in renewable energy at a time when the industry is suffering from difficulties with access to capital; falling oil prices; and

² As note 1.

the collapse of the price of carbon. A credible and ambitious target of 40% of electricity from indigenous renewable sources by 2020 would be an important signal for private sector investment.

Overcoming these difficulties could deliver an 11% reduction in CO₂ emissions and the creation of between 8,000 and 33,000 jobs depending on how successful we are at capturing the supply chain opportunities in the global market.^{xvi}

Vital to achieving these outcomes are a fully supportive planning system and an electricity grid designed to allow contributions from distributed generation.

Sustainable mobility

Transport is responsible for at least 45% of expenditure on imported fossil fuels, equivalent to at least 4% of GVA, and for 28% of total energy use. Transport emissions are rising faster than any other sector and the sector is perilously dependent on imported petroleum products.

Real challenges lie ahead in ensuring that our transport system is a sustainable one and central to this will be the availability of a real public transport choice for most people.

Increasing fuel costs are likely to be a key driver for achieving a modal shift towards low carbon options. The challenge is to avoid the pain of such price rises by planning for that shift to take place in advance.

A Company: In 2007 Marks and Spencer launched the Plan A initiative. The plan covers “100 commitments over 5 years to address the key social and environmental challenges facing M&S today and in the future”. The aims of Plan A are that by 2012 the company will: be carbon neutral; send no waste to landfill; extend sustainable sourcing; help improve the lives of people in its supply chain; and help customers and employees live a healthier lifestyle. The company has stuck to Plan A despite the recent downturn in profits. M&S purchases about 2.6TWh of renewable energy, enough for all its shops and offices in England and Wales.

Sustainable industries

A recent report from the Department of Business, Enterprise and Regulatory Reform^{xvii} estimated the global market value of Low Carbon Environmental Goods and Services to be over £3,000 billion with the UK sector worth £106 billion. This is somewhere between the healthcare and construction sectors in size.

In Northern Ireland the BERR report estimated the market value of the sector at £3.3 billion with 1,620 companies employing 30,600 people.

This sector of the economy is expected to grow by an average of 5% per annum despite the recession with much of the growth generated by renewable energy activities. Thus policies and investment to scale up renewable energy supply (see above) will help underpin the development of businesses able to take advantage of new opportunities in the low carbon technology market.

Employment and skills

Retrofitting the entire building stock with energy efficiency measures; scaling up renewable electricity to 40% of the total; and installing renewable heat networks will require a ‘carbon army’ of high and lower skilled workers.

The Sustainable Development Commission estimates that 800,000 new jobs could be created and sustained in the UK by a green stimulus package of £30 billion a year. In Northern Ireland terms this could mean 24,000 jobs (albeit we recognise there will be a modest reduction in jobs in traditional coal and oil distribution businesses). See appendix A for further detail.

The recession is biting hard and there is an urgent need to implement the measures described in this paper with a minimum of delay. That means moving swiftly to ensure that the necessary upskilling and reskilling takes place and this in turn means close collaboration between the relevant public bodies and the private sector together with the necessary investment. A clear signal from Government that it shares the kind of vision set out in this paper would help both students and colleges to make important decisions about the future.

Sources of funding

The total cost of a full green recovery package for Northern Ireland is likely to be in the region of £900 million per annum or 3% of GVA^{xviii}. This is clearly a very large amount of money that is not obviously available from within the Northern Ireland block. Nevertheless, given the economic, social and environmental benefits that will flow from such spending, a significant contribution from public funds is warranted, and will have the ability to leverage significant additional investment.

Funding from within currently planned public expenditure could include:

- The Barnett consequential of the recent UK economic stimulus package;
- Maximising the potential of the Investment Strategy for Northern Ireland for new energy investments and associated training;
- Reallocating expenditure saved by tackling the inefficiencies arising from sectarian segregation and associated service duplication;
- Focusing existing economic support programmes on the Green New Deal.

Much of the required investment is capable of showing an economic return at today’s prices and will therefore be attractive to the private sector but a clear policy and financial framework is needed to enable those investments to be accelerated. It is likely that the most effective means of securing this investment will be innovative mechanisms that combine public and private sources of funding. Possibilities include:

- **Bond finance:** capital is raised through the bond markets for investment in energy saving measures and a revenue stream is created through a ‘pay as you save’ scheme whereby the cost of the measures is recovered through energy bills.
- **A surcharge on the regional rate** serving as a revenue stream for a bond issue via a non-government body – such a cast iron revenue stream would secure the lowest interest rates.
- **A more substantial restructuring of the rating system** to incentivise investment in low carbon technologies and energy efficiency, while penalising those properties that continue to waste energy.
- **Housing equity unlock:** a charge on a property serves as security for the capital investment in energy saving measures and is paid for through a ‘pay as you save’ scheme.
- **European Investment Bank** loans made available through the local banks; a mutualised body; and/or other agencies.
- **Salix Finance:** the use of an enhanced Carbon Trust Salix fund to finance investment in the public sector.
- **Local authority bonds:** local councils could issue bonds securitised against the rates base to carry out energy efficiency measures on their own buildings
- **Northern Ireland Green Energy Bond** issued by government if Treasury rules were relaxed, or by local banks or a mutual institution to attract savings from individuals and pension funds.

While one of the ways out of recession is to persuade people to spend more, not surprisingly people’s instinct is to save rather than spend. Worse, they are saving in a banking system that is reluctant to lend thus locking up a valuable resource. But the economy needs investment at least as much as consumption so the trick is to make ‘savers into saviours’ and offer trustworthy savings opportunities that will invest people’s savings in the Green New Deal, offering them a better return than current very low interest rates and an opportunity to invest in their own community.

Conclusion

Northern Ireland needs a ‘big idea’ to cope with recession and to plan for a sustainable future. The Green New Deal is that big idea.

Our unusually high dependence on imported fossil fuels makes this particularly compelling as does our relatively high levels of carbon dioxide emissions.

It builds on our traditional strengths in manufacturing, construction and agriculture and offers the prospect of a sustainable future for those industries, as well as providing Northern Ireland with a distinctive competitive advantage as it achieves low carbon status.

It is also a project on which it should be easy to achieve political consensus and popular support, building a sense of common purpose in dealing with some of the biggest challenges facing Northern Ireland.

The Green New Deal Group will produce a series of papers setting out a package of measures for housing; public buildings; commercial buildings; renewable energy; sustainable industries; employment and skills; and finance mechanisms.

A series of working groups have been formed to take this work forward.

The role of Government in achieving the benefits of the Green New Deal is clearly critical: offering strong leadership; providing funding which can leverage substantial investment; developing the necessary policy framework; and working in partnership with a range of stakeholders.

The prize is a considerable one: a way out of recession; significant job opportunities; escape from almost total dependence on imported fossil fuels; significant reductions in fuel poverty; cuts in our carbon emissions in line with international obligations; and the foundations of a competitive low carbon economy of the future.

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Appendix A: Estimated jobs impact of stimulus spending

The table below is reproduced from the Sustainable Development Commission's *A Sustainable New Deal*. It shows the job creation possibilities from a UK green stimulus package based on a number of international studies. The commission concludes "Although there are some outliers, there is a reasonable consensus from these estimates that a [UK] stimulus package of up to £30 billion a year could create at least 800,000 jobs."

The final column has been added to the table and shows what this would mean for Northern Ireland on a pro rata basis.

| Programme | Jobs created or saved | Investment billion £ | Investment cost per job £k/job | Job creation potential from £30b | NI Job creation potential £900m |
|--|-----------------------|----------------------|--------------------------------|----------------------------------|---------------------------------|
| Renewables and energy efficiency (PERI/CAP study) | 2,000,000 | 69.0 | 34 | 870,000 | 26,000 |
| Renewables, grid, energy efficiency, public transport (ARRA) | 2,500,000 | 77.4 | 31 | 968,000 | 29,000 |
| Energy efficiency (Apollo Institute, US) | 21,500 | 1.0 | 32 | 935,000 | 28,000 |
| Renewables, energy efficiency, public transport, water and waste (South Korea) | 950,000 | 21.4 | 23 | 1,333,000 | 40,000 |
| Renewables, energy efficiency, public transport, ecosystems (UNEP) | 30,000 | 0.7 | 23 | 1,305,000 | 40,000 |
| Infrastructure fund to build low carbon homes (EIC) | 160,000 | 6.0 | 38 | 800,000 | 24,000 |
| Retrofit energy efficiency in low income homes (EIC) | 145,000 | 1.5 | 10 | 2,900,000 | 88,000 |
| Retrofit energy efficiency in schools and hospitals (EIC) | 21,500 | 1.0 | 47 | 645,000 | 20,000 |

Endnotes

ⁱ *A Green New Deal*, New Economics Forum, London, July 2008

ⁱⁱ The International Energy Agency's 2008 World Energy Outlook has acknowledged that conventional oil production will 'level off' by 2030, and the recently established UK Industry Task Force on Peak Oil's first report, *The Oil Crunch*, <http://peakoiltaskforce.net/> also acknowledges peak oil as a major economic and political concern in terms of energy security for the UK.

ⁱⁱⁱ See for example, HSBC's Global Research report *A Climate for Recovery*, Feb. 2009, http://globaldashboard.org/wp-content/uploads/2009/HSBC_Green_New_Deal.pdf; the UNEP's *Green Jobs: Towards Sustainable Work in a Low Carbon World*, Oct 2008, http://www.unep.org/publications/search/title_search.asp?search=Green+Jobs&image.x=6&image.y=9

^{iv} From DETI and DBERR data.

^v Ibid

^{vi} From data in *Northern Ireland Vision Study*, Carbon Trust, 2005

^{vii} Modelling by University of Ulster

^{viii} *An elaborate proposal for global climate policy architecture: specific formulas and emissions targets for all countries in all decades* by Prof Jeffrey Frankel of the Harvard Project on International Climate Agreements.

^{ix} *A Sustainable New Deal*, Sustainable Development Commission, London, April 2009

^x *Northern Ireland Vision Study*, Carbon Trust, 2005

^{xi} Carbon Trust

^{xii} *A Sustainable New Deal*, Sustainable Development Commission, London, April 2009

^{xiii} *Northern Ireland Vision Study*, Carbon Trust, 2005

^{xiv} *Northern Ireland Strategic Energy Framework 2009: pre-consultation scoping paper*, DETI, November 2008

^{xv} Ibid

^{xvi} *Northern Ireland Renewable Energy Supply Chain*, Carbon Trust, June 2008

^{xvii} *Low Carbon and Environmental Goods and Services: an industry analysis*, Innovas Solutions Ltd, commissioned by BERR, March 2009

^{xviii} £900 million is pro-rata to the SDC's recommended £30 billion package for the UK in *A Sustainable New Deal*, Sustainable Development Commission, London, April 2009