

Airtricity's response to Northern Ireland Environment Committee Inquiry into Climate Change

Airtricity is the renewable energy development division of Scottish and Southern Energy (SSE). We are the UK and Ireland's second largest utility with over 9 million customers and 10,000 MWs of generation capacity. Importantly, we are the UK and Ireland's leading renewable generator with over 2,000 MWs of renewable generation (both wind and hydro) in operation and a further 1,500 MWs in the course of construction. We take climate change and the need to develop a sustainable future seriously. As proof of this, we have made a public commitment to reduce the carbon emissions from our electricity generation fleet by 50% by 2020.



Renewable portfolio in Operation



Projects in operation	
Wind	653MW
Hydro	1,356MW
Biomass	80MW
Total	2,089MW

SSE Commitment

To reduce carbon emissions from its generated electricity by 50% by 2020.



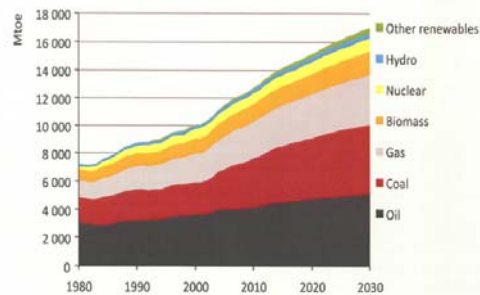
Addressing climate change while at the same time securing our energy supplies represents a huge challenge, and also a huge opportunity for businesses and countries that recognise the issue and are prepared to be part of the solution. Security of energy supply issues are something that all businesses will have to address. Even allowing for the current recession the world energy needs will increase by 45% by 2030 (IEA). While world demand grows, Europe's exposure to fossil fuel shortages will increase. Within 20 years, Europe will be importing 94% of its oil, 84% of its gas and 59% of its coal. The International Energy Agency has just carried out the most comprehensive study of 700 of the world's oil fields (the vast majority) and found that they are depleting at a rate of 8% per annum. This means we will have to find the equivalent of 4 Saudi Arabia's if we are to meet world demand by the middle of the century. The increasing exposure to diminishing fossil fuel supplies will lead to increasingly volatile global prices.

Northern Ireland, being on the periphery of Europe with no natural fossil fuel resources and at the end of a 4,000-mile pipeline from Russia, the nearest source of gas or oil is particularly exposed. We have only to witness the recent events between Russia and the Ukraine to understand how serious that exposure is. If Russia turned the gas tap off completely, it is likely that Northern Ireland would suffer rolling blackouts within 72 hours. No politicians should allow their country to be that exposed.

Climate change represents the biggest threat to humanity today. If the world carries on with business as usual, with energy demand fed by fossil fuels, it will result in atmospheric CO₂ of 1,000 ppm, which will lead to a 6°C temperature increase by the end of the century.

Current Energy Demand is NOT Sustainable

Business as usual = CO² @ 1000ppm = 6° temp increase



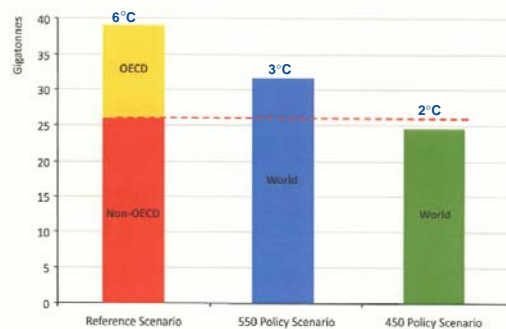
World energy demand expands by 45% between now and 2030 – an average rate of increase of 1.6% per year – with coal accounting for more than a third of the overall rise

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This would have catastrophic implications for our grandchildren as they would be confronted with a world in which there would be mass migration in search of food. There would be upheaval and anarchy as those faced with starvation, drought, and disease fight with those who still had resources. This is not Africa we are talking about; this will be the western world, as we know it particularly central USA and the Mediterranean regions.

The results of the UN's Intergovernmental Panel on Climate Change (IPCC) suggest a 450 ppm scenario is necessary to prevent any major tipping points being reached. This would have a corresponding 2 °C temperature increase but would require political leadership, a global approach and rapid deployment of low-carbon technologies. 2 °C could not be achieved by OECD countries alone; it needs to include developing countries especially China and India. The IPCC have produced 2 scenarios, the optimum 2 °C or 450 ppm scenario or the most likely 3 °C or 550 ppm.

World energy-related CO² emissions in 2030 by scenario



OECD countries alone cannot put the world onto a 450-ppm trajectory, even if they were to reduce their emissions to zero

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To put these climate change scenarios into perspective, the 550 ppm scenario will result in a 3 °C temperature increase which will lead to 4 billion people suffering water shortages, 500 million going hungry and 170 million impacted upon by coastal flooding, including many in Belfast and Dublin. All leaders across the globe be they in business, politics, science, whatever their field must unite to stop this. Northern Ireland must play its part.



Key results of the post-2012 climate-policy analysis

550 Policy Scenario

- Corresponds to a c.3°C global temperature rise
- Energy demand continues to expand, but fuel mix is markedly different
- CO₂ price in OECD countries reaches \$90/tonne in 2030
- Additional investment equal to 0.25% of GDP

450 Policy Scenario

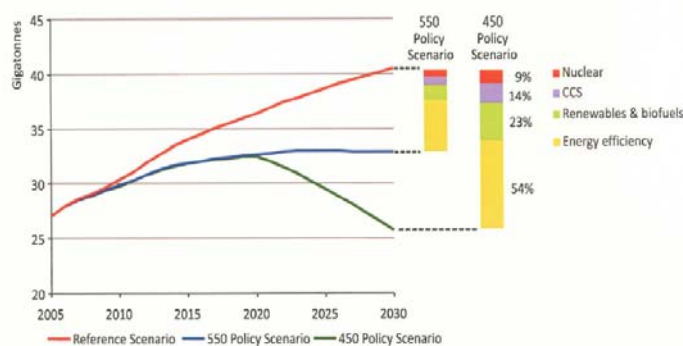
- Corresponds to a c.2°C global temperature rise - **EU on track**
- Energy demand grows, but half as fast as in Reference Scenario
- Rapid deployment of low-carbon technologies – particularly CCS
- Big fall in non-OECD emissions
- CO₂ price in 2030 reaches \$180/tonne
- Additional investment equal to 0.6% of GDP

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Both scenarios require significant investment in renewable energy and energy efficiency technologies



Reductions in energy-related CO₂ emissions in the climate-policy scenarios



While technological progress is needed to achieve some emissions reductions, efficiency gains and deployment of existing low-carbon energy accounts for most of the savings

Those countries that respond to these challenges quickly will not only contribute to resolving the world's climate change and security of energy supply problems but they will create positions of technological leadership that will create new businesses and wealth which will create employment and improved living standards.

At Airtricity, we see climate change as a business opportunity not a business hindrance! Opportunities will be created in many sectors including energy procurement, waste management, efficient building and insulation technologies, and innovations in transport and engine efficiencies.

 Airtricity

Changing Behaviour = Business Opportunity for Northern Ireland

Waste

- Alternatives to Landfill and incineration
- Waste to energy
- Recycling Household waste
- Bio Fuels



35% ORGANIC
30% PAPER
12% CONSTRUCTION
9% PLASTICS
6% METAL
5% OTHER
3% GLASS



Northern Ireland needs to embrace a sustainable future by utilising the skill sets of our bright young people, having industry led research in our universities and exploiting our natural resources for a competitive advantage, i.e.: wind and tidal power. By taking a leadership role we can also benefit from the financial support available from Europe for such activities.

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Grasp the initiative for NI



- Utilise the skill sets of our bright young people
- Industry led research in our universities and colleges
- Exploit our natural resources for competitive advantage

Embrace a SUSTAINABLE future

