



**The Scottish Government**

**Riaghaltas na h-Alba**

**Curriculum for Excellence:  
Equipping Young People for a  
Low Carbon World**

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# Low Carbon Scotland

- World leading targets of at least 42% emissions cuts by 2020 and at least 80% cuts by 2050.
- Almost two thirds of the way to achieving 2020 target
- Scotland as green energy powerhouse and at forefront of global low carbon economy.
- Opportunities from transition to a low carbon economy
- 130,000 jobs in Scotland by 2020 (over 5% of the Scottish workforce), and be worth £12 billion by 2015-16. Estimated 60,000 new jobs in sector.
- Public Engagement Strategy and climate change duty on public bodies
- Junior Climate Challenge Fund
- 'Go Greener Together' campaign - launched January 2012 – [www.greenerscotland.org](http://www.greenerscotland.org)



# A few dates...

- National Debate on Education 2002
- UN Decade of Education for Sustainable Development (2005-2014)
- Learning for our Future – Scotland's First Action Plan for UNDESD – Summer 2006
- Scottish Government purpose - 2007 and 2011
- Curriculum for Excellence experiences and outcomes – April 2009
- Climate Change (Scotland) Act 2009
- Learning for Change – 2<sup>nd</sup> UNDESD plan - 2010
- CfE implementation – August 2010



# Learning for Change

- Action plan for second half of UNDESD - May 2010
- Aim is that by 2014 people in Scotland will have developed the knowledge, understanding, skills and values to live more sustainable lives.
- Partnership working to promote whole sector approach in schools, colleges and universities, community learning and development
- Wide range of schools actions (ITE, CPD, transport, inspections, achievement, accreditation, estates etc)
- Sustainable Development Commission assessments
- Step change



# Curriculum for Excellence

- More flexible and coherent curriculum from 3 to 18 to raise ambition and attainment for all
- Deeper, more relevant and connected learning
- Enabling development of skills, knowledge, understanding and values for rapidly changing world.
- Successful learners, confident individuals, responsible citizens and effective contributors
- 4 contexts for learning
- Curriculum design and entitlements



# SDE and Global Citizenship

- Important themes across curriculum
- Embedded within experiences and outcomes
- Whole school approach - ethos and culture, management, learning and teaching and school estate
- Informed, ethical choices and decisions on complex issues
- Participate responsibly in political, economic, social and cultural life – not just environment
- New assessment and qualification frameworks



# Connected learning

- Wide variety of contexts
- Expertise, resources and support
- Learning about Scotland
- Food education
- STEM, Health and Wellbeing, enterprise
- Outdoor learning, play and school grounds
- Games Legacy



# Support for Schools

- CPD and professional learning communities inc peer support and collaboration funding
- DGC through Science, Social Studies and Technologies, Open Days, Leadership
- Glow and resources e.g. CfE/John Muir
- Collaborative approach involving range of partners nationally and locally
- Accreditation for teachers





# Eco Schools



- Almost 4,000 schools participating in the programme.
- Over 500,000 pupils and almost 40,000 teachers estimated to be involved
- 42% of all local authority schools hold Green Flag status.
- Over 1,400 schools awarded Green Flag.
- Resources and support connected with CfE, including new topic on food and environment



# Working in the energy sector

A guide for teachers and those who provide careers advice

www.education.scotland.nhs.gov.uk/globalcitizenship

The energy sector is set to become a key driver in the Scottish economy, offering exciting job opportunities for people at every career stage.

It is estimated that between 52,000 to 95,000 energy-related jobs will be created in the coming decade as Scotland realises its ambitions to become a world leader in wind, wave and tidal renewable technologies. In total, the transformation to a low carbon economy could generate an estimated 130,000 jobs.

The oil and gas sector continues to grow too with companies in this industry looking to recruit 10,000 employees over the next 5 years.



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## What skills will be in demand?

The energy sector offers excellent career opportunities across a diverse range of roles. Skills in science, technology, engineering, maths (STEM subjects) and business disciplines will be in greatest demand including:

- Civil, marine, structural, mechanical and electrical engineering
- Leadership and management including project management
- Geologists and geoscientists
- Turbine technicians, welders and divers.

There will also be a need for installers, insulators, electricians, joiners, plumbers and fabricators to support energy-related construction work in domestic and commercial settings.

The energy sector offers both graduate and technician-level (SVQ Level 3) opportunities – some of these could be supported through modern apprenticeships and others will require a university degree. Recruiting sufficient numbers of skilled people to fill these posts will be a challenge for the industry.



## What is the energy sector?

The energy sector comprises a number of different areas including:

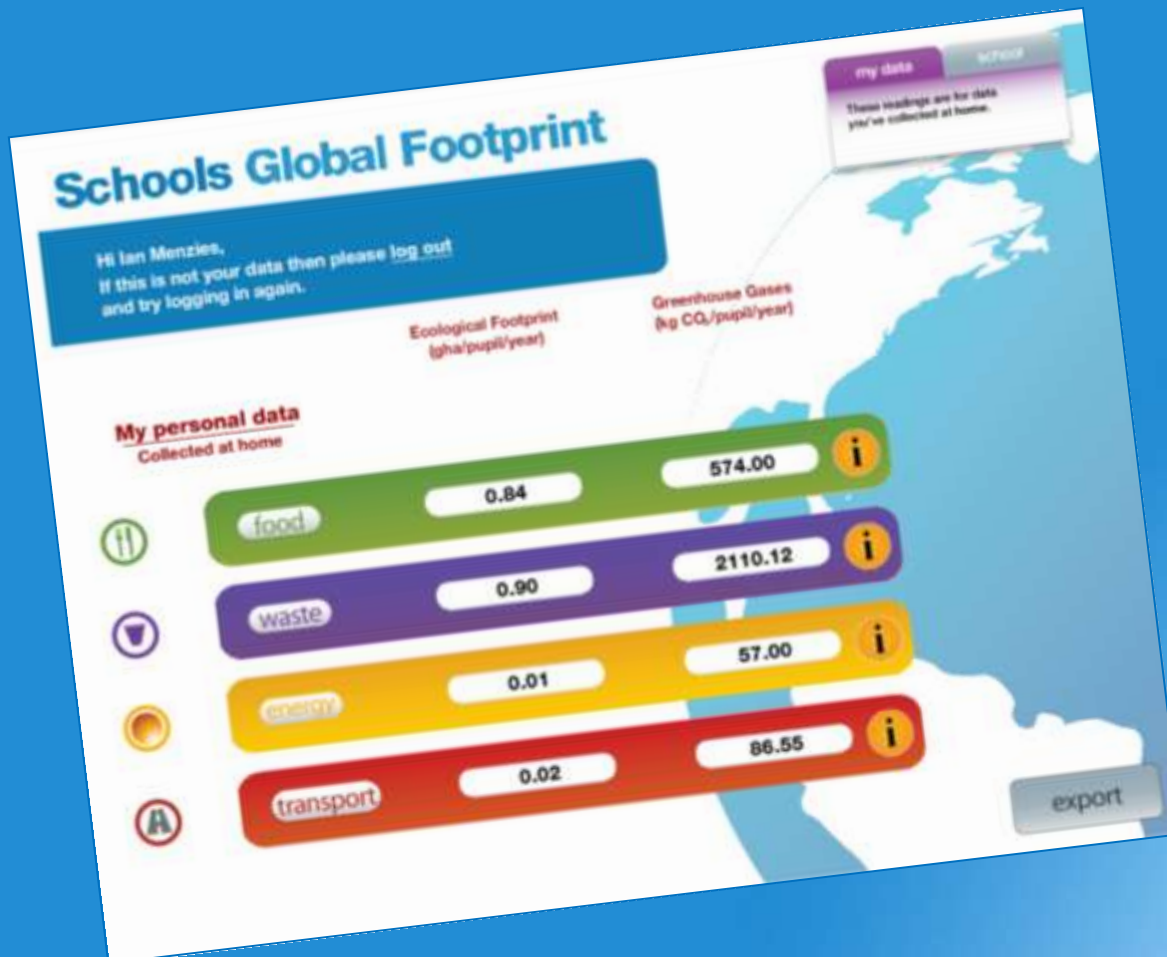
- Oil and gas
- Coal
- Nuclear
- Biofuels and biomass
- Electricity transmission and distribution
- Carbon capture and storage technologies
- Wind, wave, tidal, solar
- Electrical energy storage
- Energy policy
- Fuel cells
- Geothermal energy
- Hydropower
- Energy efficiency and carbon auditing
- Construction – insulators, installers, plumbers, joiners, electricians
- Combined heat and power plants
- Hydrogen production
- Waste to energy
- Microgeneration
- Energy companies and providers
- Supply chains to all of the above.

<http://bit.ly/mUccx4>



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# Schools Global Footprint



[www.educationscotland.gov.org.uk/schoolsglobalfootprint](http://www.educationscotland.gov.org.uk/schoolsglobalfootprint)



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# Weather & Climate Change

The screenshot shows the homepage of the 'Weather & Climate Change' website. At the top, there is a search bar with the text 'Enter search' and a 'Search' button. The main title 'Weather & Climate Change' is prominently displayed. On the left side, there is a navigation menu with several categories: 'Climate Change home', 'About this resource', 'Weather', 'Climate', 'Energy', 'Climate change' (highlighted in green), 'Global warming', 'Climate change in Scotland', 'Climate change around the world', 'Mitigation', 'Adaptation', 'Make a difference', 'News updates', 'Resource bank', 'Contact Us', 'Sustainable Development', and 'Glow Group'. The main content area features a large image of water droplets on a green leaf, with the heading 'Climate change' and a sub-heading 'Climate change\*'. Below the image, there is a paragraph stating: 'Climate change offers an ideal context for learning within Curriculum for Excellence, providing many opportunities to develop children and young people as global citizens and deliver experiences and outcomes across many curriculum areas.' This is followed by another paragraph: 'Since the start of the Industrial Revolution in the late 1800s, enormous quantities of manmade greenhouse gases have been pumped into the atmosphere. Experts believe that the carbon dioxide released when fossil fuels burn has caused our world to heat up and has caused our climate to change.' Below this, there is a section titled 'Impact' which discusses the challenges facing the global community, such as melting glaciers and rising sea levels. At the bottom of the page, there is a 'Related links' section with several links: 'Causes of climate change', 'Visit the Learning - Good pages of the BBC website', 'United Nations', 'UN Environment Programme website', 'Climate change', 'News pages of the BBC weather website', 'Climate scepticism', 'BBC news pages about climate scepticism', 'Climate change', 'Climate change pages of the Royal Meteorological Society website', 'The Stern Report - Key Points', 'Education news website about the Stern Report', and 'Low carbon partnership'. There is also a link for 'Learn more about climate change and renewable energy'.

[www.educationscotland.gov.uk/weatherandclimatechange](http://www.educationscotland.gov.uk/weatherandclimatechange)



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# Exploring Climate Change

The screenshot shows the website's navigation menu on the left, with the 'Impacts' section highlighted. The main content area features a large image of cracked, dry earth under a bright sky, with the word 'Impacts' written above it. Below the image, there is a paragraph of text discussing the effects of climate change, including extreme weather events, droughts, and flooding.

**Exploring Climate Change**

Enter search  Search

- Climate Change home
- The basics
- Evidence
- Impacts**
  - Changing weather
  - Scottish seabirds
  - Droughts and flooding
  - Tropical storms
- Predictions
- The response
- Controversy
- Take action
- Communicate

## Impacts



The impacts of climate change are already being seen around the world. In Scotland and across the UK, **extreme weather events** have led to landslides and flooding. Climate change is having an impact on **Scottish seabirds** and the marine environment around our coasts. **Droughts and flooding** have claimed tens of thousands of lives and put millions of lives at risk. Tropical storms are increasing in intensity. **Hurricanes, cyclones and typhoons** have caused billions of dollars worth of damage. The link between recent changes in storm patterns and climate change is one of the most complex areas. Find out more about the UK Climate Impacts Programme.

[www.educationscotland.gov.uk/exploringclimatechange](http://www.educationscotland.gov.uk/exploringclimatechange)



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# Citizen Science

To engage young people in measuring environmental data

To develop understanding about flooding and adaptation to climate change

To use local rivers as a focus to promote interdisciplinary learning and skills development



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# One Planet Schools

- Manifesto commitment and Working Group
- Bringing together sustainable development, global citizenship education and outdoor learning in context of CfE
- Whole school approach to building pupils' capacity to successfully contribute to a sustainable future
- Focus on professional standards, leadership and teacher education
- Group will report to Ministers in Autumn 2012.



# UNDESD and beyond

- Curriculum for Excellence implementation
- Transition to Low Carbon Scotland
- Progress on UNDESD, legacy and focus
- Considerable stakeholder expertise and strong collaborative approach – networks, sharing expertise etc
- One Planet Schools - embedding change
- Generation of young people contributing to successful low carbon, sustainable economy and society.

