

Adapting to Climate Change

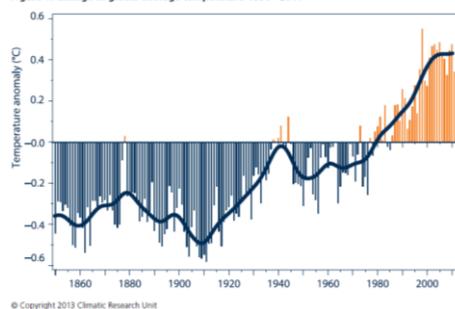


Scotland's Adaptation Conference – Our Dynamic Earth – 9 September 2013

This article provides a summary of **Scotland's Adaptation Conference** on 'showcasing – engaging – inspiring' which was held at Our Dynamic Earth on 9 September 2013. The event was organised by Adaptation Scotland and Sniffer, and sponsored by SEPA, SNH and The Scottish Government.

The morning session, chaired by **Ruth Wolstenholme of Sniffer** featured a series of presentations, which started with **Joseph Hagg of Adaptation Scotland / Sniffer** demonstrating how climate is changing through illustrating a range of variables such as temperature rise and increased rainfall. In adapting for the future we need to consider not only new development but also what we already have, as the majority of what will exist in the future already exists today. We need to be asking how impacts of climate change will affect lives. In looking to 2020 and beyond we need to recognise and learn from the rate of change society has experienced over similar timescales in the recent past that has had a profound effect on peoples' lives, e.g. the evolution of mobile phone technology, etc.

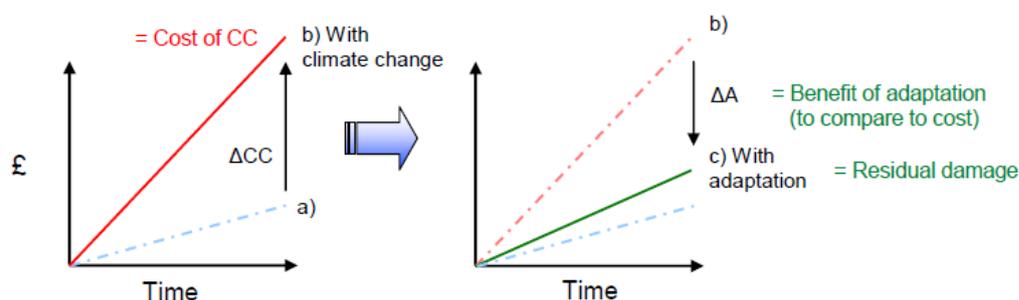
Figure 1: Change in global average temperature 1850 - 2011



In speaking about adaptation economics **Paul Watkiss of University of Oxford** noted that social and environmental systems are as important as market effects. There will be decisions, choices, trade-offs and residual damage; we need to be clear about what we are prepared to accept.

Due to systemic issues climate change factors are 'locked in' till 2040. Whilst costs may initially be relatively modest with some short term benefits (e.g. extended growing season), costs will be distributed with some areas and sectors affected more than others. We need to adapt, and this may mean doing a little, or a lot! There is no 'answer'; merely a range of choices and options, with costs varying according to the frameworks and objectives. How much we spend should not be based on simple economic issues, but also includes social, ethical and moral judgements.

Paul described concerns about working with uncertainty: should we spend money on something that might not happen? It's possible to do modelling; but it's harder in reality. It is important to recognise what must be done over the short, medium and long term. An iterative approach allows for adaptive management; identifying what must be done now and what can be done later. Whilst climate change has been described as presenting an opportunity for growth, Paul suggested this misses the point - we need to focus on what must be done. Economics helps to inform decisions and choices.



Source: Adapted from Boyd R. and A. Hunt (2006)

Economic costs of climate change and costs & benefits of adaptation (IA)



The keynote address was provided by **Paul Wheelhouse MSP, Minister for Environment and Climate Change**, who noted evidence that climate is changing and that key challenges lie ahead. Climate change is having an impact on our people, communities, and the most vulnerable in society.

The Minister spoke of a need to become more resilient through forming new partnerships and collaborations. He described a need for a shared vision, and referred to examples of work being done by 'Climate Ready Clyde' and Tayplan, and also noted the Scottish government support for Climate Xchange: a partnership that shares ideas across areas of common interest to help increase the resilience of Scotland's people, environment and economy.

The Minister announced an extension of criteria for the £10.3m climate Challenge Fund to take account of climate adaptation and resilience, along with carbon reduction, lasting legacy and community led.

An overview of the Scottish Climate Change Adaptation Programme (SCCAP) was provided **by Susan Wallace from the Scottish Government**. The Climate Change (S) Act 2009 requires the production of a SCCAP which will place a duty on all public bodies. The consultation on the draft SCCAP was launched in June and closes on 27 September. The final programme is anticipated to be published at the end of 2013 and will include a requirement for annual reporting on progress.

A number of case studies were described by **Anna Beswick from Adaptation Scotland / Sniffer** to illustrate how climate change issues are being tackled in Scotland, and how flexible adaptation is being built into long term investment decisions. This was evident in the 2014 Commonwealth Games Village that has built in green/blue networks and SUDS; and in the 2020 Group's forging of alliances across the public and private sectors (e.g. First, Scotrail and the Royal Mail) to share knowledge and develop business awareness in tackling risk.

Anna noted the Climate Challenge Fund recognises that different responses are required at a local level, and that that community led adaptation is being mainstreamed as part of wider community engagement through e.g. Friends of Hazelhead, and Greenspace Scotland.

An open **Q+A session** raised discussions concerning:

- Food security, and how price spikes affect the most vulnerable; we need to become more resilient in terms of food production
- Spatial mapping of vulnerability and disadvantage e.g. areas of low income, frequency and severity of flooding, high insurance premiums, targeted support to protect property, SIMD, etc.
- It isn't possible to do everything; we need to prioritise decisions and funding
- Economics is one factor amongst other qualitative and social considerations. We should be doing things already, and considering how to create an enabling environment to make things happen.
- We must avoid using uncertainty as an excuse for backsliding and doing nothing. We should invest in 'low regret' options, develop awareness, make available guidance, understand exposure and highlight options and/or trade-offs that are needed.



Business as usual is not an option; the cost of inaction is greater than action

Delegates were invited to join **parallel workshop sessions** that included a series of presentations.

A: Strategic Partnerships - Chair: George Eckton, COSLA

The opening presentation in this workshop was by **Alex Nickson from Greater London Authority** on 'Managing Climate Risks & Increasing Resilience in London'. This started by describing the benefits of planning for early action and opportunities to make savings in the longer term. If we demonstrate that we are good at solving problems then we can create commercial opportunities as a leading source of knowledge about how to fund, construct and monitor.

Alex suggested we are currently adapted to a narrow weather window and may tend to struggle with one inch of snow! Major challenges are faced in relation to floods, droughts and heatwaves; 15% of London is built on river flood plains, and the city has antiquated Victorian sewers. In future London will likely be water stressed and an urban heat island, susceptible to overheating.

Alex described a series of headline actions that London has initiated that included:

1. Identify who is at risk today and tomorrow?
2. Prioritise and decide what is strategically important (infrastructure and vulnerable communities)
3. Raise awareness and build capacity for others to act
4. Ensure new development is fit for the future – do not make a new round of retrofit
5. Optimise synergies with energy efficiency programmes
6. Undertake a green infrastructure programme; e.g. 2m trees by 2025; 5% greenshade by 2050

Several case studies were referred to:

A] 'greening the BIDS' - Funded Green Infrastructure through identifying opportunities for 300 rain gardens, 200 green walls and 100 ha of green roofs; provided £100k to catalyse priority projects.

B] Purley Community Flood Plan - Worked with local community to develop a flood plan, and raised awareness of what communities can do to help in recognition that there was no affordable short term solution to prevent flooding.

C] Thames Water for sch2Ools - Working with pupils and teachers to retrofit schools to reduce water usage e.g. by raising awareness of water leaks, and through interschool competitions.

Key lessons were:

- Partnership is key – understand problems and hold to account
- Adapt language to your audience – avoid the 'c' word!
- Set ambitious but realistic targets
- Save costs by piggy backing other projects; e.g. a road upgrade scheme included a street tree planting scheme that supported water retention
- Build in flexibility – requires bespoke solutions



The second presentation by **Pam Ewen of Tayplan** noted that planning's focus has been on mitigation, e.g. reducing the need to travel. In looking ahead and planning strategically for the future we need to understand what impacts there could be and to develop research. Tayplan has been working in partnership to share learning and knowledge, and a review of Tayplan is focussing on:

- Green network strategy
- Placeshaping (quality of place / quality of life) and a move towards resilient places
- Energy spatial strategy
- Further research on how the region's activities contribute to climate change and who/what are most vulnerable and at risk? E.g. more competition for land as result of climate change generates tension between development pressures and food security.

Following on, **Graham Esson of Perth and Kinross Council** spoke about partnership working with communities across the Carse of Gowrie to share information and learn from local knowledge. Communities have been asked what they value about their area; what climate change means to them; what local implications are; and what local choices and trade-offs are needed. A major factor has been recognising social impacts of community resilience, and the impact on cultural identity.

Different tools are being developed to help build resilient communities: free open source mapping can map problems and issues; whilst a 'crowd map' is being developed to provide information on e.g. extreme weather events, or services disruption.

Graham described that not all impacts require immediate responses, but may be tackled in an incremental way. Key considerations are: strong partnership working, knowledge transfer, methods to support adaptation by communities themselves, and developing methods and structures that can be replicated.

The final presentation in this workshop was by **Julia Robertson of Climate Ready Clyde** who described how conversations have been initiated to consider the impacts of climate change. Starting small and simple they had evolved to be incorporated in wider work duties. Julia spoke of a need for a regional strategy and action plan, and how they had learned from London and Manchester in their efforts to drive forward innovation; e.g. evident in developing the 2014 Athletes Village as a climate resilient neighbourhood. In creating healthy, sustainable neighbourhoods we need to address health and wellbeing as there is a link between where we live and how we feel.

Topics in the **Q+A discussion** included:

- Language should be used that connects with communities.
- Use an asset based approach that identifies what we like, and what we want to see happen; interactive visual aids are important to communicate and stimulate shared understanding.
- Communities should be empowered to better understand their place; through understanding questions rather than applying answers; provide information to allow others to make decisions.
- Too many strategies can lead to complexity, and there should maybe be efforts to rationalise them. However, incorporating them into one plan can lead to complications as it may be a slow process to update a plan; whereas it may be possible to go further faster with separate strategies which can then be brought to the mainstream.

B: Natural Environment - Chair: Joseph Hagg, Adaptation Scotland / Sniffer

C: Climate Risk – Chair: Karen Miller, Adaptation Scotland / Sniffer



D: Community - Chair: Julian Holbrook, Keep Scotland Beautiful

This workshop considered how communities can work with others to develop capacity on adaptation, what help is needed, and what role different organisations can play.

The opening presentation showed how **Colintraive & Glenardnel Development Trust** in Argyle and Bute are looking after isolated and vulnerable communities at a time of declining services, through a 'can-do attitude' that looks after their own. An early 'are you ready' meeting was intended to address short term actions to ensure the elderly and vulnerable were able to survive the winter. Longer term projects have included action to address flooding, purchasing forestry to provide a fuel supply, and developing a social enterprise to support a locally resilient economy. At the heart of the presentation was a sense of empowerment, with the community designing and implementing its own programme and action plan.

The second presentation by **Ralph Throp, Head of Community Resilience at the Scottish Government** noted that climate change issues are increasingly complex, interdependent, challenging and unpredictable, and that they affect the most vulnerable in our society. Ralph spoke about how emergency planning guidance and support can help communities to help themselves. Being prepared and helping individuals to take personal responsibility can breed a sense of confidence where people are better able to take action.

This theme was developed in the following presentation by **Jim Fraser, Emergency Planning Officer, Scottish Border Council** who described work to develop a resilient communities plan. This exercise mapped risk at a time of services reduction and removal, and invited communities to look out for each other, and to 'be a good neighbour' in responding to an event.

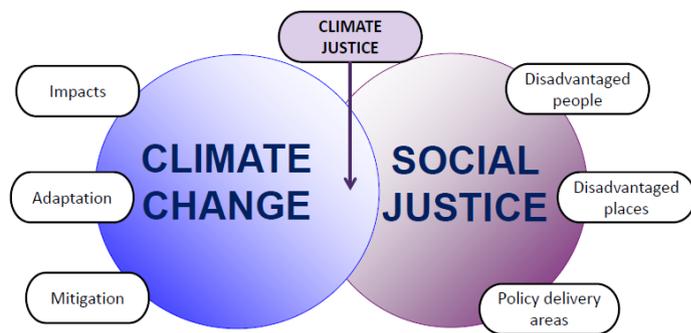
The final presentation in this section was by **David McAllister from Planning Aid for Scotland** who talked out the charretteplus initiative that worked with the communities in Levenmouth in Fife to consider their future. David discussed the need for civic engagement, building social capital to tackle local issues, and the opportunity to piggy back other initiatives e.g. working with community planning to help develop a climate ready society. It is important to support social structures around which people engage; imposed ideas don't help.

The afternoon session, Chaired by **John Rowan, University of Dundee**, included final presentations and an opportunity to reflect on lessons gained throughout the event.

A presentation on 'Strategic partnerships and European Adaptation' by **Paul McAleavey, European Environment Agency** described how the EEA is not a regulator, but an information provider to help decision making. Paul agreed with previous speakers who stressed the importance of facilitating partnerships.



The EU has developed a collective strategy as problems are cross border, and there are economies of scale when dealing with issues to promote a climate resilient Europe. Across Europe 16 countries have adaptation strategies, and the EEA helps action by member states, supports better informed decision making, and promotes adaptation in key vulnerable sectors. Paul spoke of a need to overcome silo thinking, to 'learn by doing', to avoid being over analytical, and to apply the precautionary principle. Political leadership and championing is key.



Fairness, equity, considering needs, capabilities, capacity, resources

JRF | JRHT

The final presentation of the day on 'social justice and climate change' was given by **Katharine Knox, Joseph Rowntree Foundation**, and asked who is most vulnerable, what is an appropriate response, and how are costs and benefits shared in an equitable manner?

Impacts of climate change are differentiated across society and have potential to increase poverty and disadvantage; e.g. through knock on implications of flooding on housing and employment. Who has a voice in governance and decision making and where is the consensus to act? Katharine also spoke of intergenerational justice and the future implications of choices, or inaction, taken now.

Long term social issues identified included: community impact of climate change; effect on residential mobility and housing markets; food and energy price increases; fuel and water poverty – supply demand deficit; and environmental migration that displaces internally or across boundaries. Katharine advocated policy in relation to e.g. managing new infrastructure demands; choice over location of homes; public services; managing transitions; supporting social support networks; supporting at risk communities and ensuring safety nets for vulnerable.

'Key listeners comments' that reflected on major messages from the event were provided by **Councillor Hagen of COSLA Development & Economic Sustainability**, and also from **James Curran CEO of SEPA**, and included:

- The importance of partnership working
- Involving communities
- Speaking in a language that everyone understands
- Learning from remote areas that already experience extreme weather – e.g. Outer Isles / Orkney
- Training for councillors on consequences of development / planning issues
- Linking and working with CPP and the voluntary sector
- Promoting good practice case studies and undertaking site visits – e.g. 2014 Athletes Village
- The importance of innovation
- Noting that degrees of risk are exposed to the broader economy
- The widening of CCF to resilience bids
- A need to seek low regret options and exploit multiple benefits: e.g. the Christie Commission describes preventative spend; SUDS improve house prices; Green networks can integrate cycle / walkways, promote bio-diversity, deal with heat, and offer an attractive environment
- Mostly public sector emphasis but a need to engage with private sector e.g. trade associations
- Scotland is well placed to be at the forefront of addressing Climate Change adaptation



Image credits: Adaptation Scotland, or as part of publicly available [presentations](#)