



Remit of the Inquiry

- How can we bridge the gap between the policies needed for a low-carbon society and those the public accept?
- Can we identify the opportunities arising and the barriers to change?
- **RSE Team**
 - Prof. David Sugden, Geography Edinburgh, Chair
 - Prof. Alan Werritty, Geography, Dundee, Vice Chair
 - Mrs Erica Caldwell, President S.A.G.T.
 - Prof. Colin Campbell, (Macaulay) Hutton Institute
 - Dr. Andrew Dlugolecki, Director Aviva
 - Prof. Nicholas Hanley, Economics, Stirling
 - Dr. Andrew Kerr, Director ECCI
 - Prof Janette Webb, Sociology, Edinburgh



Inquiry Activities

- Evidence from 110 organisations and 40 individuals
- 6 public meetings involving ~400 people
- 7 visits to exemplar case studies
- 30 seminars/conferences
- Schools' competition
- Short film
- Supporting lectures (eg. Stern, Krebs, Lawton, Watson, McGlade)

Conclusion

- Scotland has ambitious goals – good!
- Implementation is poor
- Preventable barriers prevent progress and lead to disillusionment.

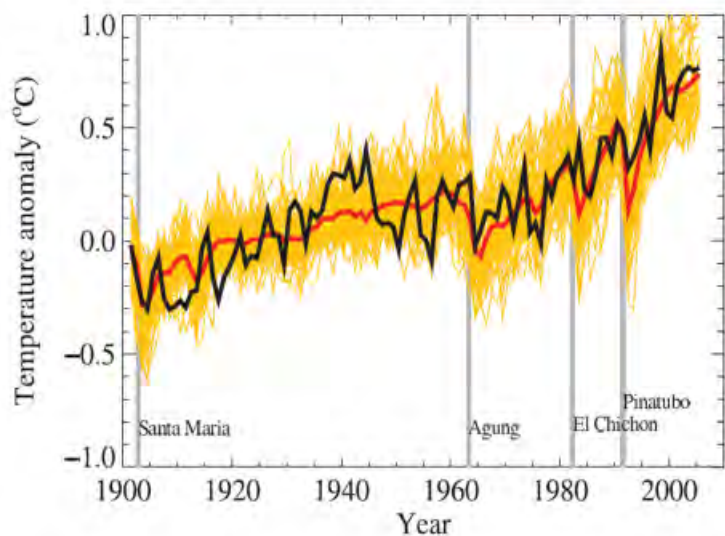


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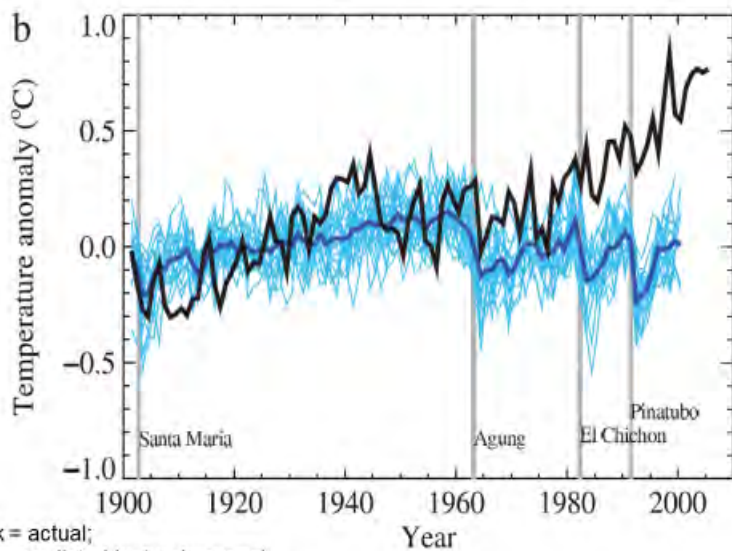
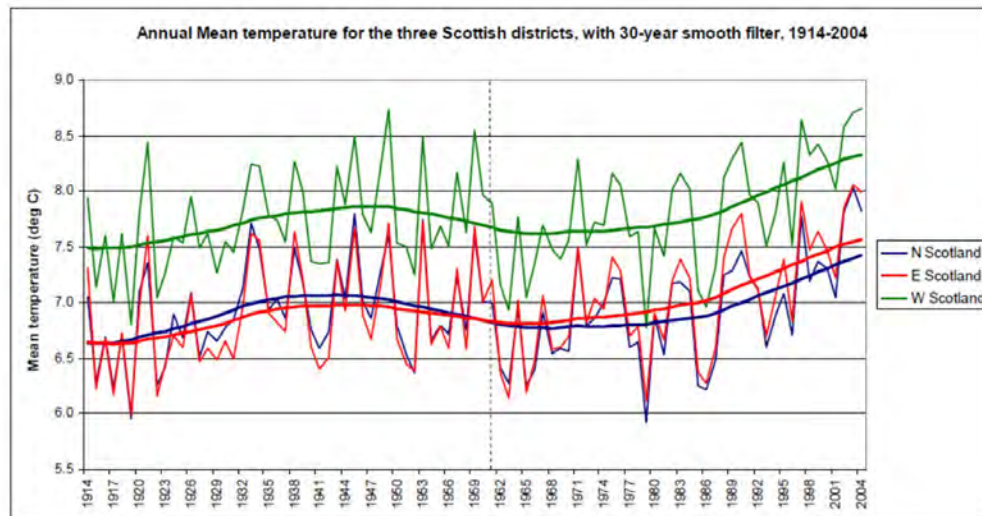
1. The vision.

Scotland's iconic rural landscape, compact cities, universities, offshore skills and rich renewable resources close to the European core, offer an opportunity of using a new Industrial revolution to power our future. Economic and social well being, sustainability and strengthened local communities are within our grasp.

Two chapters on the evidence for global climate change and the impact on Scotland



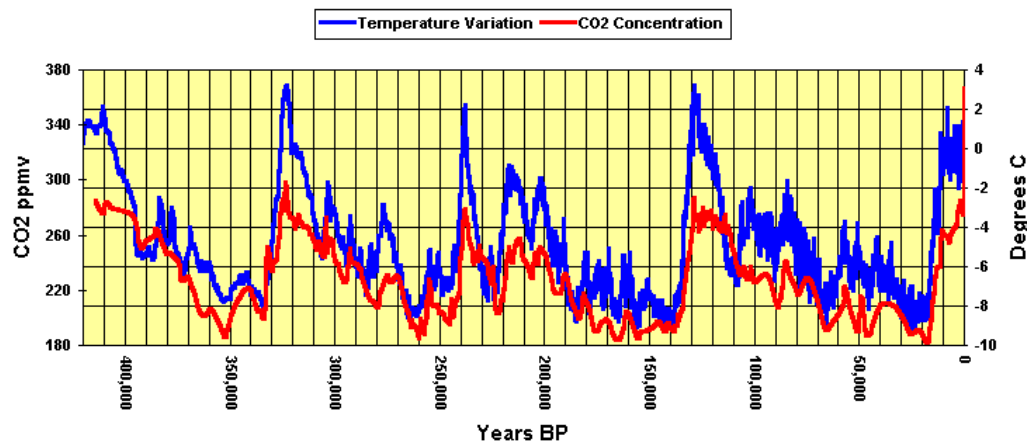
Observed temperature changes (black) and predicted changes (red) due to natural **and** human causes, Hegerl (IPCC, 2007)



Black = actual;
Blue = predicted (natural causes),
Hegerl, 2007

Predicted and observed temperature change, 1900-2010

Antarctic Ice Core Data 1





Wider context (Three chapters)

Economics

- Importance of the carbon price and certainty
- Vital savings through energy efficiency

Society

- Limitations of nudging individual behaviour
- Change best achieved through collaboration between civil society, state and market

Land use

- effective and efficient way of abating emissions
- All mitigation brings a better environment



Ten Primary recommendations

Scottish Government/local authorities

3. The Scottish Government should work with local authorities and business to align and sharpen regulation in order to achieve a step change in energy efficiency in building and transport.

Good for early cuts in emissions, jobs and communities.

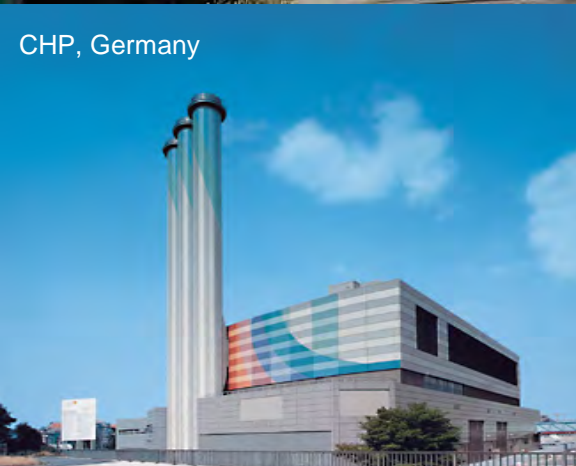
Issues: adding value, insulation of rented property, building standards, accreditation, quality versus quantity (housing, schools).

4. The Scottish Government and local authorities should jointly introduce truly integrated policies in order to achieve effective emission reductions at a regional level.

Conflict between national and regional goals, eg. commuter stations, trunk roads, airports, postcode heating schemes, road building.

8. Local authorities should integrate and embed their low-carbon policies across all their various functions.

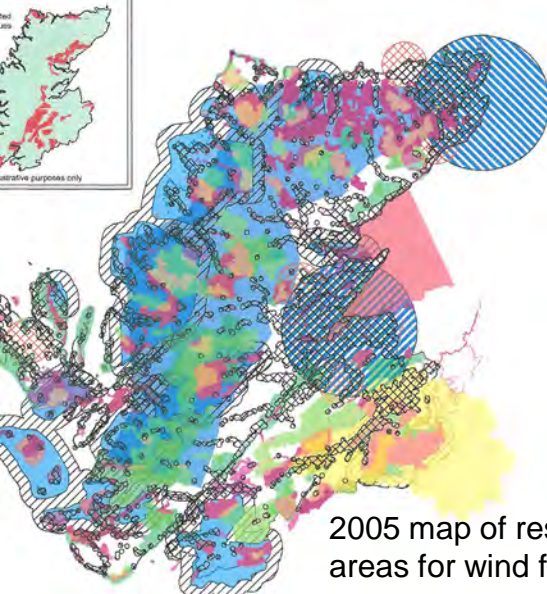
Lack of joined-up action, eg. fringe effects. Role of strategic planning? Ownership/leadership of low-carbon agenda?



CHP, Germany



Fife



2005 map of restricted areas for wind farms

Ten Primary Recommendations

Other national bodies

5. The Scottish Government should develop a spatially-referenced national land use plan integrated with regional strategic plans in order to optimise carbon sequestration.

Forest v. beef. How to value peat? Use ecosystem services to create indicative land-use plans?

6. The finance industry should take a lead and work with government to create the business environment that will mobilise private finance in support of a low-carbon society

The main need is for financial instruments for (a) small-scale house improvements and (b) renewable initiatives which can take a decade to bring financial returns.

7. All organisations should appraise their goals and practices in the light of the urgency to achieve a low-carbon economy.

Unintentional discouragement by public sector and voluntary organisations? Balance between wilderness and locals. Professions (1/20 responded)



Ten Primary Recommendations. Communities

9. The Scottish Government and local authorities should actively assist local communities to introduce low-carbon initiatives.

BANANA!

We are missing community opportunities in local turbines (wind, wave, tidal), housing, local transport, schools, micro-hydro, bio-fuels, local food, woodlands.

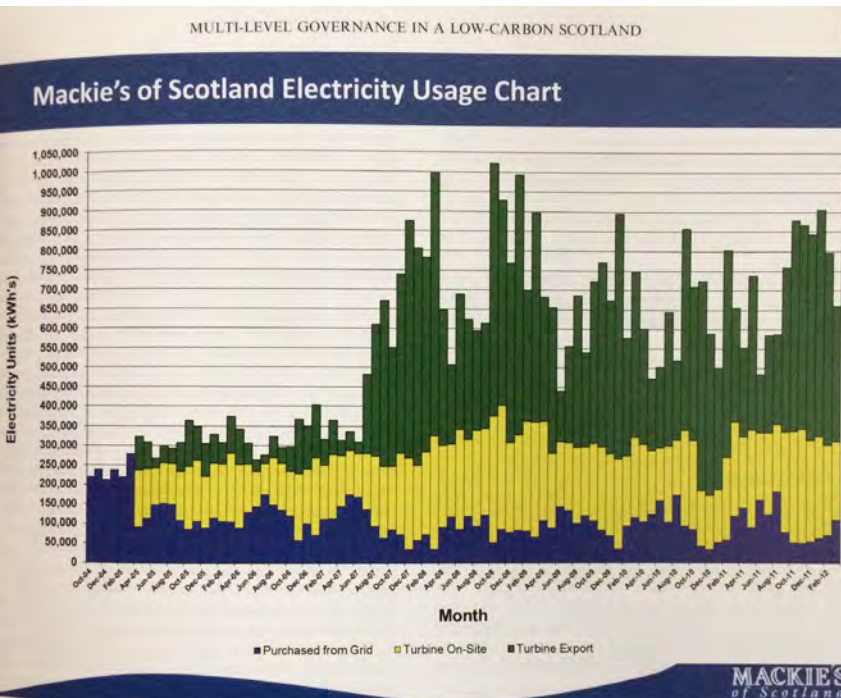


Figure 2 An example of the economic value of community-based renewable energy. Three Vesta V52 turbines, operating from August 2007 on Mackie's of Scotland dairy farm, provide a total generation capacity of 2.5 MW. The business uses around 40% of the energy generated, allowing it to reduce energy purchased from the grid, and sells the remainder to Good Energy. Source: Courtesy of Maitland Mackie, 2012.



Ten Primary Recommendations Society

10. Closer engagement is needed between people, civil society, market and state in the pursuit of Scotland's low-carbon vision.

- Education. Every activity affects our carbon footprint in drive for sustainable Scotland
- Need for open and mature debate (TV news & documentaries, newspapers).
- Bring together environmental, faith and social NGOs
- Invest in infrastructure, not behaviour.
 - energy efficiency, decentralised supply,
 - active travel in urban centres,
 - reduce and reuse,
 - land use.
- Build community partnerships with access to local finance.
- Courageous political leadership.



Royal Society of Edinburgh National Schools Competition
 Overall Primary School Winner Saint Mary's Primary School
 (Michael Hamilton, Amy McDowell, Lyall Patton, Cameron Stewart, Monica McCarter)



Reflections

Impact of report diffused.

- Japanese tsunami !
- Media's obsession with balance (Scotsman and BBC)
- My innocence and that of the Royal Society of Edinburgh

Smarter responses by academics?

- We amateurs tried:
 1. Targeted post report meetings.
Good impact with policy makers and city councilors.
 2. Publication.
Facing up to climate change. 2012 Special Issue, Earth & Env. Sci. Trans. R.S.E 103, (2), 23-186.
Value? Papers 71-131 reads, max. 6 citations, 1 x Clim.Ch.
Abstract = 578 views.
 3. Youtube film clip ?
(<https://www.youtube.com/watch?v=wWr66hFatE8>)
Only 2,800 views but used in schools

Issues for discussion

- Evidence-based versus emotional argument (Climate change v. low carbon).
- Sceptics' hostility at meetings and in blogs. Bruising.
- Bringing together green, church and socio-economic groups. (J.Muir, RSPB, Patrick Harvie, MSP)
- Voluntary v. legal action. Finance, car seat belts, Infrastructure v behaviour
- 40 years and counting!





Prime Minister Margaret Thatcher

Speech by a political leader to the United Nations,
8th November, 1989



- “What we are now doing to the world, by degrading the land surfaces, by polluting the waters and by adding greenhouse gases to the atmosphere at an unprecedented rate – all this is new in the experience of the earth. It is mankind and his activities that are changing the environment of our planet in damaging and dangerous ways....The evidence is there. The damage is being done.”
- “Every country will be affected and no one can opt out. Those countries who are industrialised must contribute more to help those who are not.”

