

Climate Adaptation in UK

Meeting on Climate Change Adaptation in
Nordic Countries, Oslo, 18-19/12/06



Chris West, Director,
UK Climate Impacts Programme
chris.west@ukcip.org.uk
www.ukcip.org.uk

Starting Point

- **Climate change is “owned” by science and greens**
 - ➔ Seen as remote and of academic interest only
 - ➔ Climate assumes victim role of environment
- **Mitigation is the obvious and moral response**
 - ➔ Adaptation comes late to the table
- **Europe has managed a constant climate well**
 - ➔ Potential impacts of climate lost from folk memory
 - ➔ Adaptation needs not yet apparent

Difference between responses

Mitigation

Global deferred benefit

Addresses causes

Reduces **Probability** of Harm

Adaptation

Local immediate benefit

Addresses symptoms

Reduces **Severity** of Harm

Not alternatives!

Competition or co-operation?

1. The climate change we expect in the next 30-40 years will be due to our past greenhouse gas emissions.
2. Climate change later this century is being determined by the emissions we allow now.
3. We need to alter our way of life so that we adapt to the changes that are already in the climate system....
4.as well as limiting our future greenhouse gas emissions.

Not alternatives!

Targets of impacts

Natural Systems

Obvious direct impacts

Clearly vulnerable to impacts

Used to research

Impacts well recognised,
understood, described

Economically insignificant

Agri', Forest, Fish,

Biodiversity = 2-3% GDP?

Human Systems

Subtle indirect impacts

Vulnerability not appreciated

Not used to research

Many impacts not yet even
imagined

Economically critical

Services, Finance,

Manufacturing > 90% GDP?

Global changes → Impacts in Europe

- Patterns of wealth, production and trade will alter
- Disproportionate impacts on developing world
- We can expect climate system “tipping points”: Gulf stream, Amazon forest, monsoon, ice caps..... etc
- What are the “tipping points” in the human system?
- Possibility of armed conflict or mass migration

Four stages

1. Climate impacts the subject of curiosity-led research
2. Climate impacts research co-ordinated into a national assessment (purpose?)
3. National adaptation strategy adopted
4. Research into adaptation process supports implementation of National adaptation strategy

Four stages in UK

1. Curiosity-led impacts research To 1996 CCIRG report; natural resource issues dominate
2. National impacts assessment UKCIP (integration, consistency, application, prioritisation)
3. National adaptation strategy Defra objective (well-adapted UK); Adaptation Policy Framework
4. Adaptation research Change, risk, institutional behaviour; UKCIP learning through doing

UK current climate risks

Temperature

Highs – in summer

Lows – not a major issue

Cold spells have value

Storms

No hurricanes

Precipitation

Adequate rainfall

Supply and demand mismatch

Little snow

Sea Level Rise

Some low-lying coastal areas

“In Britain, the sky is overcast with continual rain and cloud, but the cold is not severe” - **Cornelius Tacitus (Historian, fl 98)**

“Sunshine is delicious, rain is refreshing, wind braces us up, snow is exhilarating; there is really no such thing as bad weather, only different kinds of good weather” - **John Ruskin (Optimist, 1870s)**

21st Century UK climate changes

Temperature

Higher mean (2 - 5°C warmer)

Higher extremes

Greatest effect in SE

Precipitation

Wetter winters (5 – 30% more)

Drier summers (15 – 50% less)

More falls in extreme events

Less falls as snow

Storms

More storm tracks cross UK in winter (to 60% more)

Sea Level Rise

Global/isostatic/surges combined (19 – 79 cm higher)

Figures in red give changes by 2080s for SE England under low emission and high emission scenarios

Extremes

Central England summer exceedance

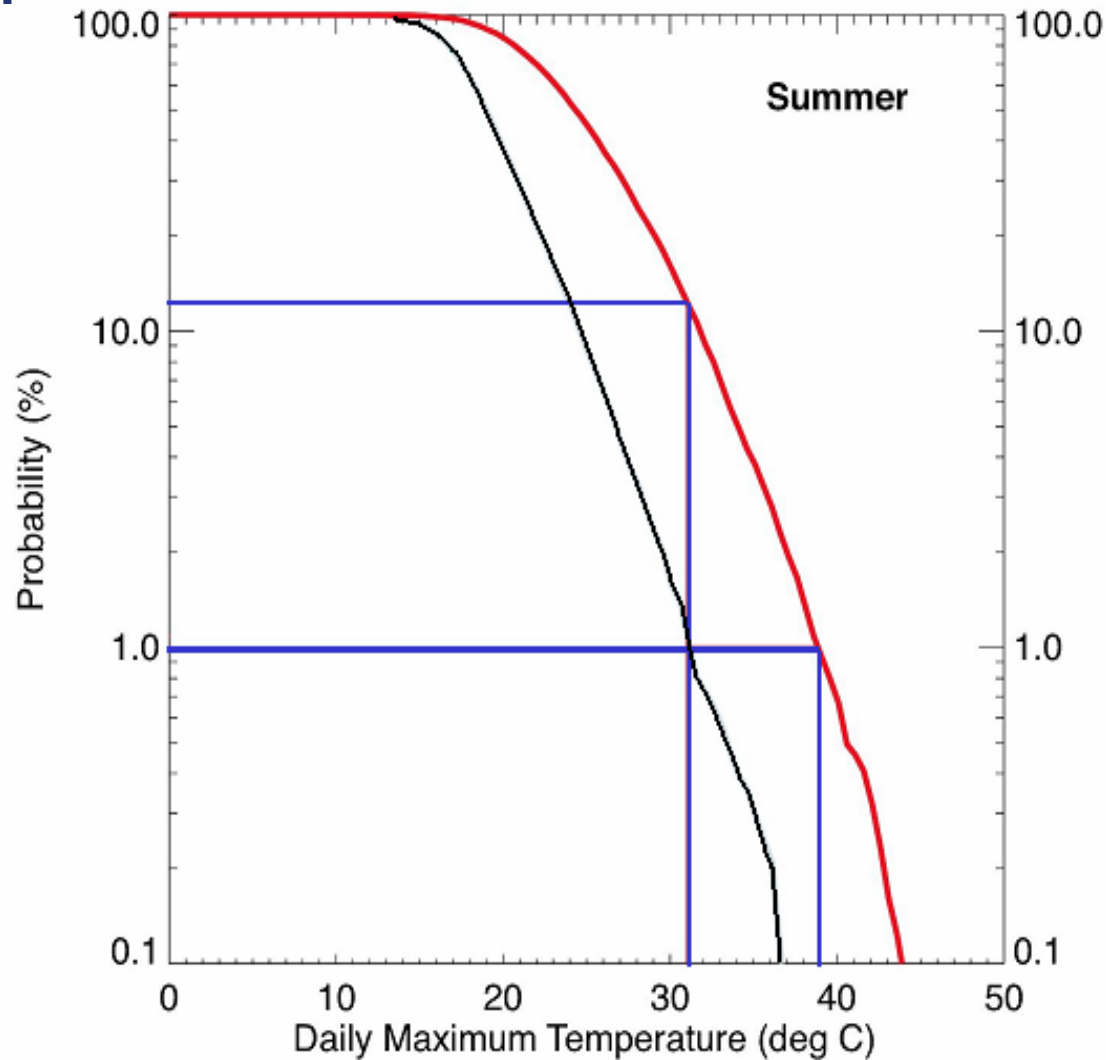
Baseline (1961-90)

31°C has 1% chance
(~1 day per summer)

2006?

2080s, medium-high emissions

31°C has 11% chance
(10 x risk increase)
39°C has 1% chance
(>10 x risk increase)



Extremes

Central England summer exceedance

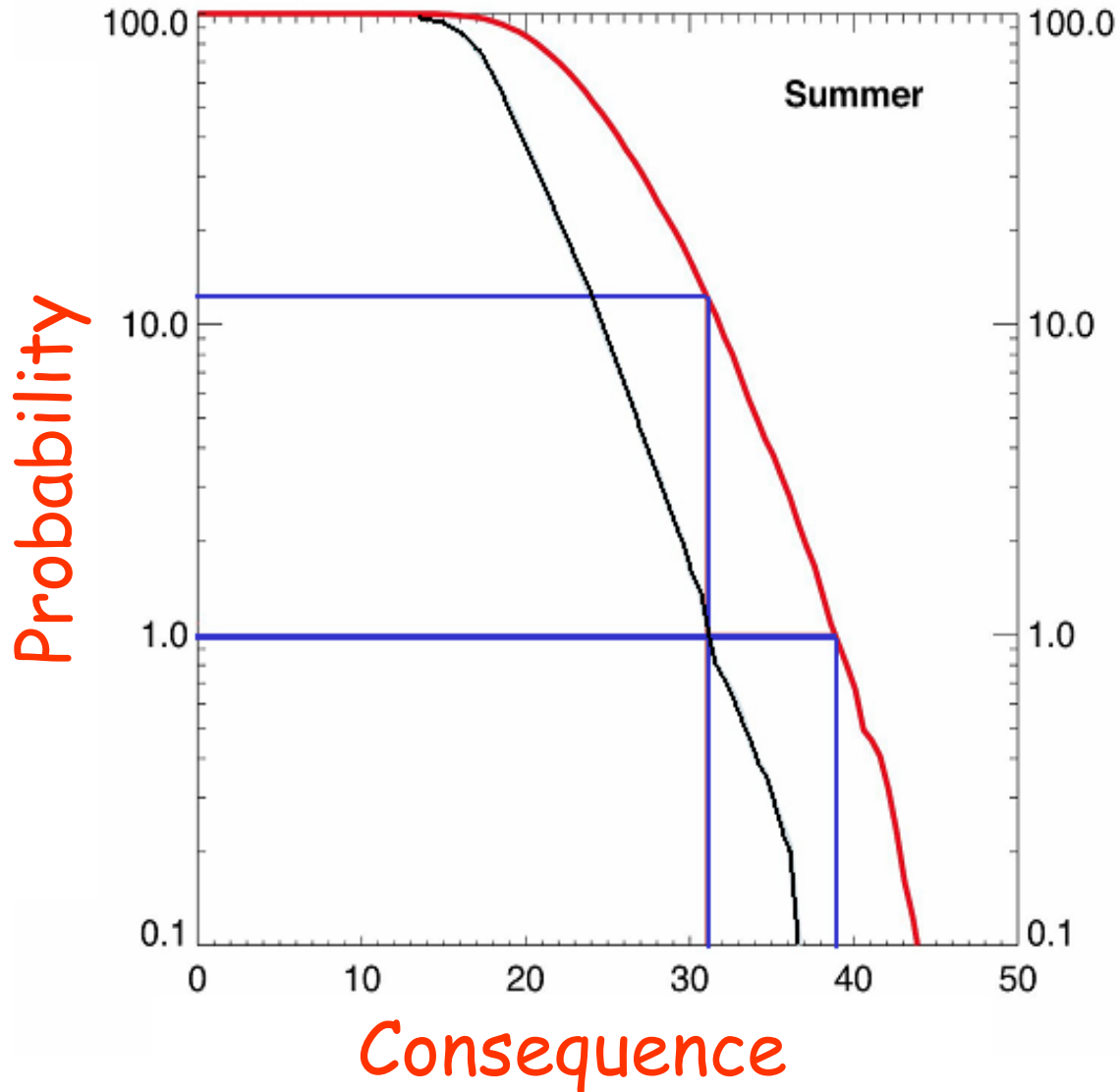
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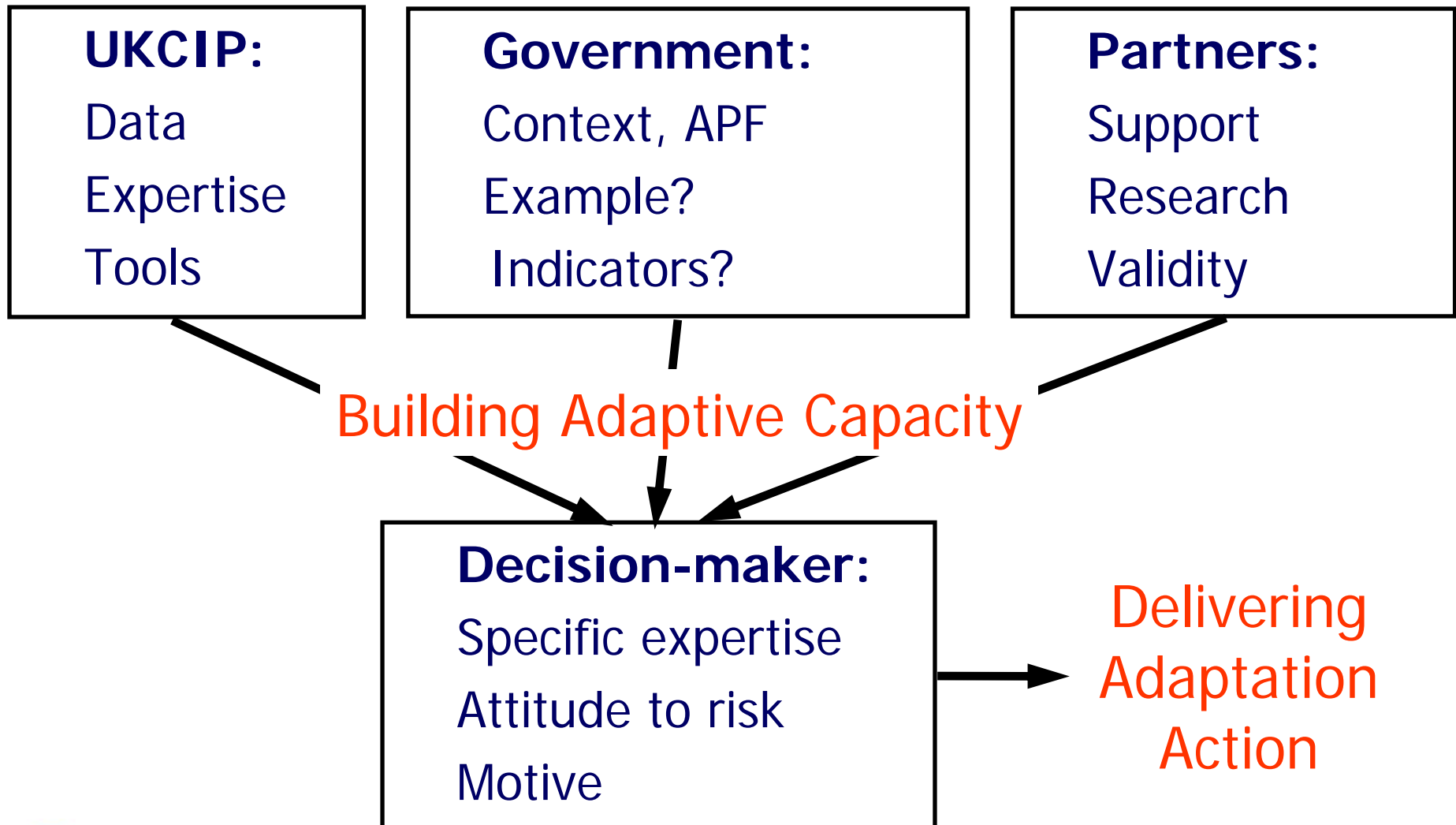
2006?

2080s, medium-high emissions

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Roles in UK Adaptation



Adaptation Policy Framework (APF)

- The UK APF aims to provide a consistent approach to building adaptation into policies, a coherent way to identify crosscutting risks and opportunities and is intended to assist in defining priorities for action across government.
- Focus on Central Government Departments
- Three phases:
 1. What is being done now
 2. Where are the gaps?
 3. What needs to be done about the gaps?
- Phase 1 initial design, consultation, partial completion done
- Matrix of actors x sectors x BAC/DAA

Measuring adaptation

- Defra Objective: “UK well-adapted to unavoidable impacts of climate change”
- How will we recognise it or progress towards it?
 - Is organisation X better than Y?
 - Is organisation X better than acceptable?
 - Is organisation X better than it was a year ago?
- Objectives, targets & indicators are life blood of civil service
- Audit Commission sets targets for Local Authorities
- Important area for research

Asset adaptation – whose job?

- UK public non-financial assets valued at £800 Billion
- For 100 year lifetime, must spend £8 Billion/year to replace
- Lifetime of new assets will see significant climate change

- How many will be fit for purpose throughout their lifetime?
- Who ensures they are built to be so?
- Who bears the risk that they may not be?

What is UKCIP?

- The UK Climate Impacts Programme helps organisations assess how they might be affected by climate change, so they can prepare for its impacts.
- Set up 1997; Defra-funded (1.2M€/year)
- 12.8 WTE funded by Defra; 2.2 funded by others
- Oxford University Centre for the Environment
- **Stakeholder-led**
- Roots in 1996 CCIRG report – UK impacts research not integrated, not well used

UKCIP Aims

- To improve knowledge and understanding of the impacts of climate change among stakeholders;
- To help stakeholders to be better equipped to undertake adaptation to climate change.

UKCIP Stakeholders

Who are our stakeholders?

- Government Departments
- Agencies and Utilities
- Devolved Administrations and Regions
- Local Government
- Business

(Decision-Makers, Planners, Adapters)

• Value of this approach?

- Shared View of Issues
- Common Language
- Involvement in Process
- Ownership of Solutions
- Application of Results
- Trust in Partners
- Further Joint Action

UKCIP Evolution, 1997 - 2006

- Studies → Partnership action
- Impact research → Adaptation too
- Climate change → Climate risks
- Integrated assessment → Well-adapted UK

UKCIP toolkit

Scenarios

Socio-economic scenarios for UK (2001)

UKCIP02 Climate change scenarios (2002)

UKCIP Extras Climate change scenario add-ons (2006)

UKCIP08 Data Resource (2008)

Guidance

Climate change & local communities (2003)

Risk, uncertainty & decision-making" (2003)

"Costing the impacts of climate change" (2004)

A Changing Climate for Business (2005)

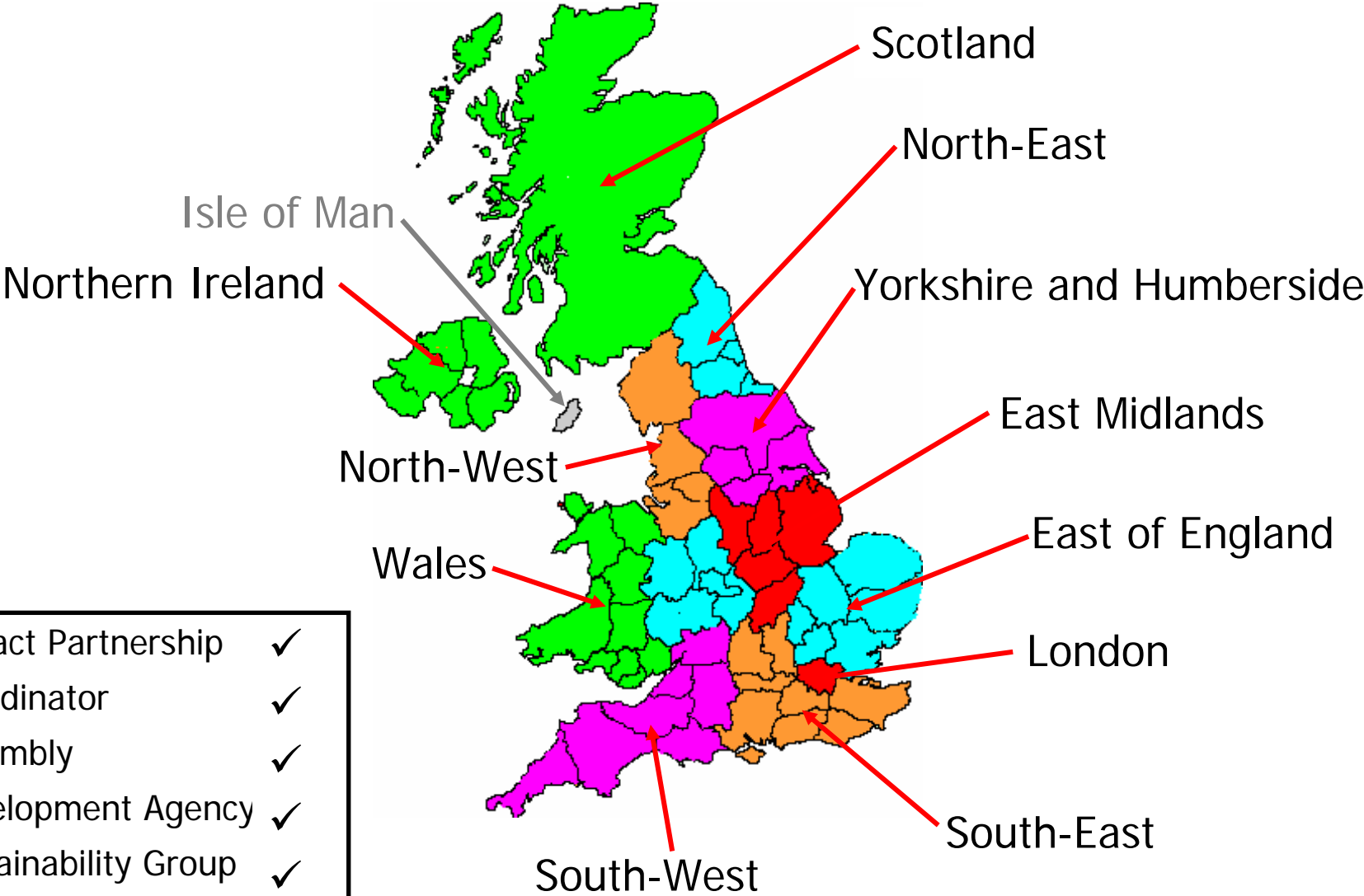
Web-based tools

Adaptation Wizard: Using UKCIP to plan for adaptation

Adaptation Action: examples of real adaptations

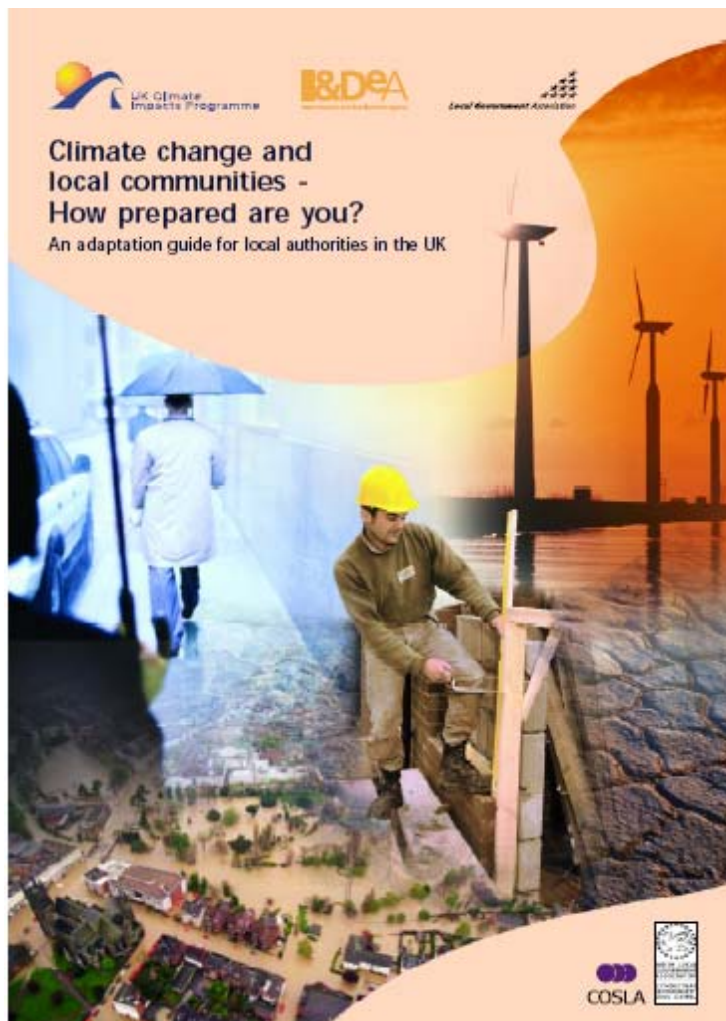
Nottingham Declaration Action Pack

UKCIP sub-UK partnerships



Impact Partnership	✓
Coordinator	✓
Assembly	✓
Development Agency	✓
Sustainability Group	✓
EA Region	✓

UKCIP and local authorities

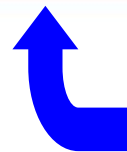
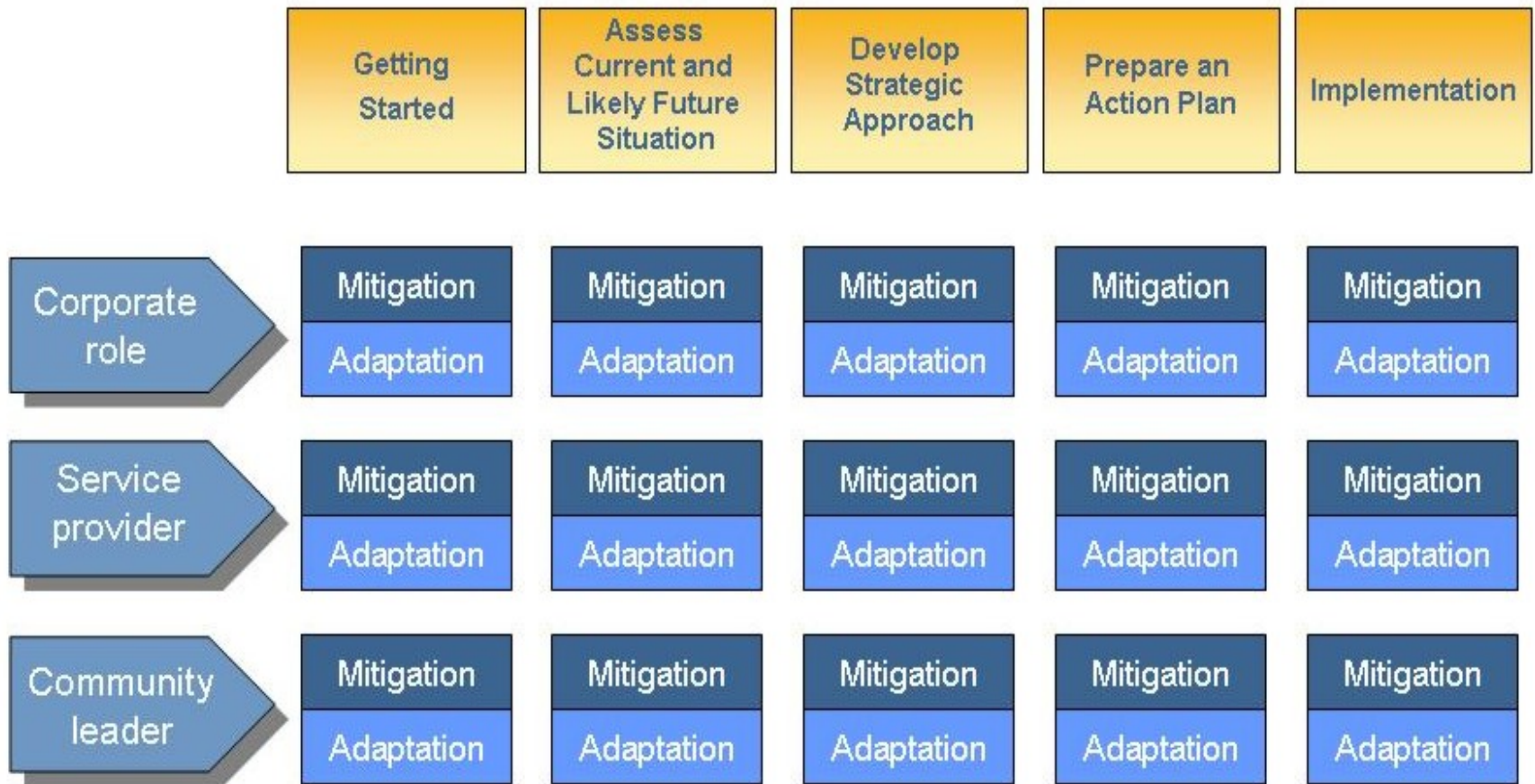


- Supporting regional climate change partnerships
- Developing the Nottingham Declaration Action Pack (NDAP)
- Support and capacity building with Oxfordshire County Council and Oxford City Council
- Local Climate Impacts Profile

Second Nottingham Declaration

- 100 Councils have signed the First Nottingham Declaration on Climate Change since its launch in 2000
- Conference on Climate Change December 2005 to launch new version of the Nottingham Declaration
- Target to sign up 200 councils by end of 2006
- The Nottingham Declaration Action Pack (NDAP) released 18th July 2006
- UKCIP contributed to the adaptation strand

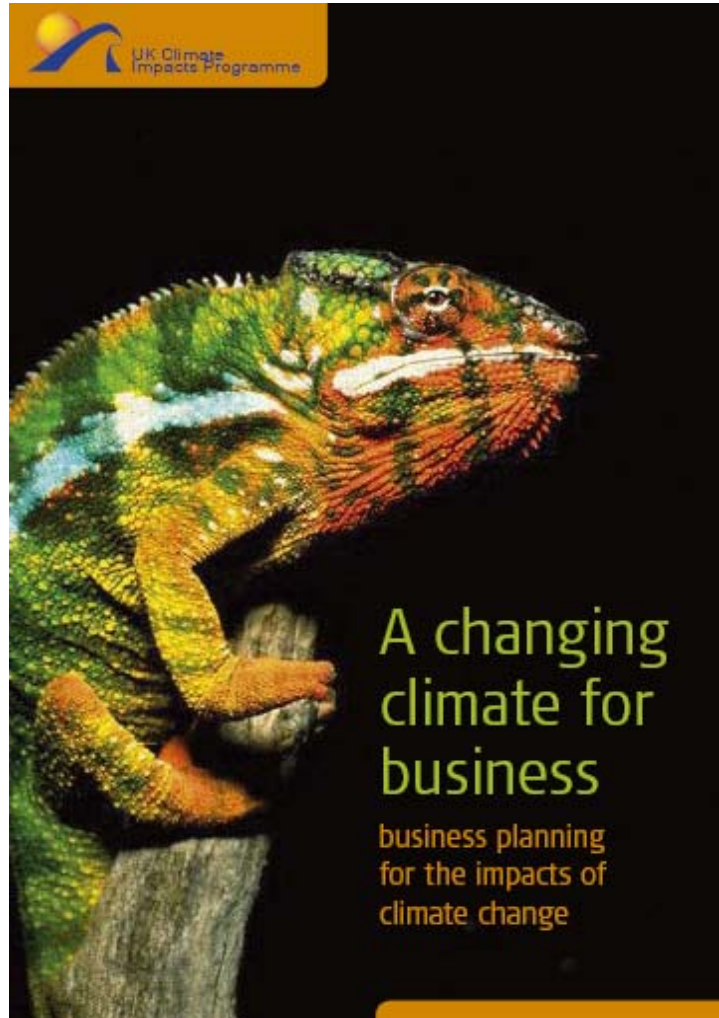
Notts Declaration Action Pack (NDAP)



Local Climate and Impacts Profile

Business impacts

- “Do you speak Risk?”
- Trade Associations
- Professional Standards
- “Sectors” useful?
- Business continuity
- Generic Business Areas



Logistics

Finance

Markets

Process

People

Premises

Management
Implications

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