

SCCIP
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**SMALL TOWN AND
RURAL DEVELOPMENT GROUP**
**LAND USE
CONSULTANTS**



Carse of Gowrie Climate Change Panel

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Session 3: Priorities for action

8 March 2011

Welcome

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Tonight

Feedback from the previous two sessions

Priorities for action

Discussion

Next steps

Feedback

Raffle (real and virtual)

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Previously . . .

During the first meeting we identified the area's **strengths** and **weaknesses** under the headings of:

- natural environment
- built environment
- local economy
- social and community
- culture and heritage

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We also discussed past climate trends and future climate projections for the area.

These suggest we will see:

- Summers getting warmer and drier
- Winters getting milder and wetter
- Spring even earlier, autumn even later
- More extreme or unpredictable

weather

- Rising sea levels (up to 74cm at Dundee by 2100)

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Last week we explored what these changes could mean for the Carse of Gowrie:

An increase in the risk of **flooding**

- surface water, along rivers and burns and as a result of sea level rise
- closely linked to maintenance of the Pows, patterns of land management, location and design of development
- concern that future climate change could make the situation worse

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Changes affecting **farming**

- Some opportunities, new crops, expansion into more marginal areas, increase in productivity
- Apparent longer growing season affected by risk of frost damage and practical issues of getting machinery onto wetter fields
- Increased risk of pests and diseases
- Impacts of flooding – surface, river and coastal

- *The agricultural importance of areas like the Carse of Gowrie will probably increase as other areas are worse hit by climate change*

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Changes affecting **historic environment and biodiversity**

- Impacts of rainfall, flooding, erosion and sea level rise on historic buildings and archaeological sites
- Stress, pests and diseases affecting historic orchards and local fruit species
- Historic designed landscapes being affected by tree loss
- Further impacts on habitats including along the Firth of Tay
- Combined impact on the special identity and character of the area

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Changes affecting **communities**

- Flooding of homes
- Flood risk, insurance implications
- Impact on community facilities
- Disruption of transport
- Isolation, especially for more vulnerable people
- Gradual shift north, from the Carse onto the Braes

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Changes affecting **recreation and tourism**

- Opportunities for outdoor recreation in summer – paths, historic sites, bird watching etc
- Poorer conditions in winter
- Increase in seasonality of tourism sector
- Loss of paths to flooding and sea level rise

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Take all these issues together – big questions about the future of the Carse as we see it today:

- Agricultural change
- Location and extent of development
- Deterioration or loss of the historic environment
- Deterioration or loss of biodiversity
- Coping with more frequent flooding and possible loss of land to the Tay
- Weakening of communities
- Loss of character and identity

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Tonight ... choices, priorities and action

What should we do about these impacts ... and opportunities?

Partly about making **choices and trade-offs**

Partly about our current **ability to adapt** to these impacts, and whether there are things we can do to make it easier to adapt

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Sea level rise

Reinforce flood defences around the coast

- Protection for villages, roads, historic sites
- Cost
- Landscape and visual impacts
- Unknown effects on coastal processes – erosion and deposition
- ‘squeeze’ on coastal habitats - saltmarshes

Allow some areas to flood

- Loss of farmland and other areas
- Maintains coastal habitats
- Maintains coastal landscapes
- Provides some natural flood protection
- Needs co-ordination – along the coast and within the Tay catchment

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Flooding along rivers and burns

Reinforce river flood defences

- Protection for villages, roads, historic sites
- Cost
- Landscape and visual impacts

Wider management of river catchments

- Management of peat and mosses to hold rainfall
- More woodland to intercept rainfall and slow runoff
- Restoring natural floodplains to store flood water
- New development to include measures to absorb water
- Locating developments away from areas at risk
- Managing and adapting existing drainage infrastructure

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Agriculture

Help farmers to respond to climate change

- Different crops
- Arable expansion
- Bigger fields
- New buildings
- Changing patterns of woodland

Encourage farmers to increase yields while

- Maintaining, improving and linking habitats
- Conserving distinctive woodlands, hedges etc
- Designing and siting farm buildings to fit the landscape

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Habitats

Fragmentation and loss of habitats including:

- Possible loss of farmland habitats
- Loss of coastal and estuarine habitats
- Impacts on peatland and mosses
- Woodland impacts

Habitat management and conservation

- Development of habitat networks
- Sacrifice of some areas of land to the Firth
- Management and restoration of peatland and mosses
- Expansion of woodland, and use of different species

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Recreation and tourism

‘Business as usual’

- Possible overcrowding during summer
- Reduction in winter activity
- Changes in the area’s attractiveness due to other climate related landscape changes

‘Proactive approach’

- Promote the area as a visitor destination
- Plan for visitor and recreation infrastructure – paths, car parking, signage, accommodation, management of historic and nature conservation sites
- Influence other ‘sectors’ to ensure that the ‘special qualities’ of the area are taken into account

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Historic environment

Protect coastal sites – at what cost?

Manage historic parklands to maintain their character?

Other archaeological sites

Historic buildings

Do we let some sites go?

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Forests and woodlands

Expand orchards, woodlands and forests?

- Flood protection
- Source of low carbon fuel
- Habitat networks
- Shelter and shade

- Start replacing trees now, or wait until stress and damage is evident?

- How much and where?

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Discussion

Five groups

- Agriculture
- Housing and flooding
- Natural and cultural heritage
- Tourism and recreation
- Community facilities, infrastructure and transport

For each:

- A summary of the key climate change impacts
- A table to record actions
- At the end each group will think about priorities based on scale of impact and current/potential ability to adapt
- Report back at the end

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and finally ...

What happens next

Wash up session – feedback on the process

Raffle

Close – **thank you** for taking part

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