

Local Strategic Partnership: Think Tank on Global Changes

Inquiry 1: The Role of Planning – preliminary findings

BACKGROUND

1. In October 2007 the Local Strategic Partnership established a Global Changes Think Tank to consider the twin impacts of climate change and Peak Oil. The Think Tank met for the first time on December 14th to consider the role of land use planning. Evidence was taken from District Council planners. The subsequent report of the Think Tank was considered by the LSP at its February meeting.

INTRODUCTION

2. This report contains the preliminary findings of the LSP and feedback is sought from individuals, communities and organisations with an interest in the future of the District. The consultation period should run until the end of May 08. The LSP will consider any representations received during the summer and publish a final report and recommendations thereafter.

GENERAL APPROACH TO THINK TANK INQUIRIES

3. As a starting point the LSP considered the nature of the global impacts likely to be faced by local people in the future and the key quality of life assets that will be affected.

The Nature of the Impact

4. In terms of climate change the LSP accepted the current UK Climate Impacts Programme (UKCIP) climate scenarios for the South West, although based on 2002 data and therefore limited (a new model will be available in 2009), provide a reasonable description of the future. As such the nature of the change that the LSP will have to help local communities respond and adapt to can be summarised as follows:

- ❑ Overall the region is becoming warmer and by the 2050s average temperatures may be as much as 3.5C warmer in summer;
- ❑ High summer temperatures are becoming more frequent, and very cold winters are becoming increasingly rare;
- ❑ Winters are becoming wetter (a 5 – 20% increase is expected by the 2050's), whilst summers are becoming drier (10-40% decrease by the 2050s);
- ❑ Heavy winter rain could be twice as frequent by the 2080s;
- ❑ The temperature of coastal waters is increasing, whilst relative sea levels continue to rise and could be as much as 80cm higher by the 2080s;
- ❑ By the 2080s extreme sea levels could occur up to 20 times more frequently than they do now.

5. The LSP tried to put this 'apparent certainty' into perspective using recent examples to help illustrate that the real challenge is to find flexible ways of adapting to an uncertain future. The 3 examples discussed were the summer temperatures of 2003, which caused deaths, road melting and other infrastructure damage, (this will be typical by 2030), the summer 2007 floods and water losses and the increasing costs of fuel and the multiplier impacts on energy intensive products like food and manufactured goods.

6. In terms of Peak Oil the LSP was concerned about the future security of energy supply and that this needs to be a major driver for diversifying and de-carbonising supply whilst reducing demand. The Country is confronted by a number of energy challenges:

- ❑ Much of the UK's energy infrastructure will need renewing over the next decade if national supplies are to be maintained;

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- ❑ The supply of fossil fuels is limited and worldwide energy demand continues to increase, with demand in 2030 expected to be 50% higher;
- ❑ It is likely that global oil production has already or is about to peak and production will start to fall from now on;
- ❑ North Sea production of oil and gas has already peaked and the UK has become a net importer for the first time in many years;
- ❑ Nuclear power accounts for 18% of our electricity generation and 7.5% of total UK energy supplies. However, most of the existing stations are due to close within the next 15 years or so.

7. At a local level people will be confronted with an ever more unpredictable supply of energy and energy intensive goods. Access to car fuel, electricity and home heating fuels will be particularly disruptive in a large rural area, as will food scarcity and discontinuous water supply.

The Key Assets

8. The LSP felt that there were a number of key assets that will continue to determine quality of life in the future and that these will need to be made more resilient over time if local communities are to adapt effectively. Initially the key assets are considered to be:

- ❑ Social capital – people as individuals and part of community networks and organisations
- ❑ Rail network
- ❑ Infrastructure associated with public and community transport, cycling and pedestrian access
- ❑ Trunk Roads – M5 / A419 / A46
- ❑ Housing infrastructure – 48,000 existing properties
- ❑ Business infrastructure
- ❑ Biodiversity – particularly the Severn Estuary as a major south – north migration corridor
- ❑ Local food production capacity - agricultural land and infrastructure (including food processing) as well as domestic and community (e.g. allotments) growing space
- ❑ Electricity – distribution network (and a local renewable energy infrastructure as it is developed in the coming years)
- ❑ Gas – distribution network
- ❑ Water – distribution and treatment network

9. Over time the LSP wishes to build up a picture of how the main impacts (wetter winters, warmer winters, drier summers, hotter summers, extreme weather, sea level change and over dependence on ever scarcer carbon based energy) will affect each asset and what action will need to be taken by individuals, communities and organisations to increase resilience. The local community will also have to become more tuned into how key assets outside of the District will be affected by the poor resilience planning of others.

QUESTION 1: Is the nature of the impacts and assets described by the LSP correct?

QUESTION 2: Are there other impacts or assets that the LSP should consider?

QUESTION 3: Is the approach of considering key assets in terms of the potential

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impacts an appropriate one for the LSP to pursue?

THE ROLE OF PLANNING - GENERAL

10. The LSP were told that at the current time the Council is bound by the Policy framework set out in the existing local Plan and relevant national policy. The policy framework, which was largely developed in the late 1990's, was not constructed with any real reference to climate change mitigation or adaptation. However, over the next 2-years the Council is required to review its planning policies and establish a new Local Development Framework (LDF) that will help deliver the Sustainable Community Strategy. At the heart of the LDF will be a new core strategy and the Council has already resolved that this will have climate change mitigation and adaptation at its heart.

QUESTION 4: The LSP is currently consulting on its new Sustainable Community Strategy (SCS). The consultation document, launched in December 07, has made a strong link to the Council's Environment Strategy and the LSP has indicated its wish that the new SCS has a strong focus on sustainable communities. In terms of global changes would the following outcomes be the appropriate ones to seek and provide an appropriate context for the development of the new Local Development Framework:

- Building a low carbon economy taking account of the economic opportunities and risks;
- Protecting communities from extreme weather events and disruption in energy supply to avoid economic and social disruption which impacts more heavily on the most vulnerable sections of the community;
- Ensuring the resilience of all public services and infrastructure to climate change and Peak Oil?

11. The new approach to planning is designed to provide a framework for others to respond to by creating a spatial vision, objectives and options for future development. The new system is therefore more flexible than the existing one as it concerned not just with land use policies but with policies that influence land use. The Core Strategy will contain policies that are not directly concerned with the allocation of land and this flexibility will be essential if long-term adaptation to global changes is to be achieved effectively.

12. The new Local Development Framework will be made up of a number of layers:

- Sustainable Community Strategy (setting out the what)
- Local Development Documents, including the Core Strategy and Land use allocations for housing and business (confirm the what and the outcomes sought)
- Supplementary Planning Documents (setting out the detail of how the outcomes will be achieved)

13. The development of these layers is informed by a Statement of Community Involvement that sets out the process for engaging local people and interests. The LSP concluded that the planning system is not easy for the lay person to understand and that there will be a general need to keep it simple. This will be particularly important in

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relation to engaging people in discussions concerning global changes where it will be necessary to create a clear past, present and future picture (i.e. a simple 'Stroud Story') of the challenges to be faced locally and what adaptation will be required.

QUESTION 5: How best can local interests be engaged in developing and communicating a simple Stroud Story. One which is designed to engage local people in the debate concerning Global Challenges and ensure that these are appropriately considered through the development of the Sustainable Community Strategy and LDF?

THE ROLE OF PLANNING - SPECIFIC

14. The LSP took each of the impacts identified earlier and thought through what the new Local Development Framework may be able to deliver and influence in terms of adaptation.

Sea level rise and wetter winters

15. The main areas of discussion and those that the LSP felt would need to be considered during the LDF process were:

- ❑ Strategic Flood Risk assessments informing allocations and applications
- ❑ Flood mitigation measures (finding the right mix of on-site Sustainable Urban Drainage Systems (SUDS) and significant off site attenuation)
- ❑ Strategies for relocating un-defendable properties and dealing with the socio economic impacts
- ❑ Is managed retreat of coastal / estuary areas acceptable and what are the economic and social impacts.

16. The LSP felt that the Environment Agency's general approach to catchment management was the right one but that this was complicated by the fact that other local authority boundaries are not organised in a complimentary way. Locally the opportunity has already been taken to develop a Strategic Flood Management Model for the Frome catchment. This dynamic model will help plan and deliver appropriate development in the Stroud Valleys. The model should also be used to enable consideration of land use changes in the wider catchment. The LSP felt that responding to the summers flooding would require a mix of immediate on-site actions (such as clearing and improving flows in the Slad Brook culvert) but that in the long-term much greater thought needs to be given to flood attenuation schemes (small reservoirs, changes in land use) across the entire river catchment. The aim being to slow the time it takes rain water to enter the river systems and contribute to flood flows. The development of allocation policies within the LDF should consider zoning land for flood attenuation purposes. Similarly, their needs to be strong detailed policy around the delivery of developments that have the full range of on-site SUDS. Discussions with the Environment Agency should also consider whether there is a need for other Strategic Flood Management Models covering catchments in the District.

QUESTION 6: Does planning policy need to take a strong catchment management approach in order to help mitigate flooding?

17. It is essential that sea level rise and the inundation of coastal areas (Severn Estuary) and localities further inland, as a result of 'backing up rivers, is studied and understood

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early. It is inevitable that some properties (domestic and businesses) will become undefendable or unusable over time. Clearly there are significant socio-economic questions that will need to be addressed in planning the local approach. The LDF process should help stimulate this debate. As a matter of course it will identify how nationally / regionally prescribed housing numbers will be accommodated in the long-term. In addition it should give thought to how and where the additional housing numbers resulting from losses to sea-level rise will be accommodated.

18. In the shorter term it is possible that certain localities will see social decline as a result of flooding 'blight'. Localities subject to frequent flooding may become more transitory in nature. People who can afford to leave are likely to and prices will decline. Properties may be used by more transient populations less able or willing to invest in property improvement (flood mitigation measures, energy efficiency) and their immediate community. Properties in such cases will probably be uninsured and become increasingly uninhabitable following each flooding event. Ultimately, such properties will become unusable and as described above additional land will need to be allocated for new resilient housing.

19. As national policy stands there are conflicts between the numbers of houses to be built, the use of brownfield sites and the avoidance of flood plains / zones. There is also a need for a more coherent national strategy for responding to losses resulting from sea level rise. This seems to be an issue on which the LSP could lobby as greater national coherence will better support the LDF process which will identify likely impacts and find responses that are appropriate for the District.

QUESTION 7: Does the national response to sea-level rise need greater coherence and is this an issue that the LSP should lobby on? And at the local level does the LDF process need to consider the impacts of sea-level rise and frequent flooding on land allocations for housing and business?

20. More generally in terms of sea level rise there were a number of assets that the LSP felt would be affected by sea level rise. These will be revisited in future inquiries:

- The impact on agricultural land and food production.
- The long term viability of Sharpness Docks
- The impacts of a Severn Barrage
- The impact on Tourism – particularly the accessibility of key locations like the Gloucester-Sharpness Canal, Slimbridge, Berkeley Castle.

Hotter and drier summers

21. The main areas of discussion and those that the LSP felt would need to be considered during the LDF process were:

- Impact on living space environment - Layout and location of developments to keep cool.
- Increased demand for water – decentralised supply to support new development.
- Increased energy demand for cooling – new designs, energy assessments and renewable provision.
- Agricultural change and landscape impact – protecting valuable landscapes and biodiversity

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- ❑ Greater opportunity for recreation and tourism
- ❑ Water storage – At a site and community level.
- ❑ Soil shrinkage – structural problems resulting in high redevelopment churn rates.

22. One experience in the summer floods was that centralised utilities whether energy (e.g. Walham) or water related (e.g. Mythe) are very inflexible and make for less resilient communities. The Think Tank felt that the LDF process will need to consider how a more decentralised water supply / sewage treatment network could be developed within the District. This is likely to lead to a greater need for water storage at household and community levels, which will also potentially help with flood alleviation.

23. Soil shrinkage and expansion will impact on the structural integrity of buildings, dependent on soil types, groundwater profiles and foundation design. As described earlier this may lead to the need for additional demolition and reconstruction. As temperatures become hotter and drier habitats will gradually change and wildlife will need to be given the opportunity to migrate. This will require the establishment and protection of wildlife corridors that link pockets of rich biodiversity. Strategically the Severn Vale and in particular its river corridor is likely to be a nationally important south-north migration route for wildlife.

24. The level of holidays being taken in the UK may increase with increasing temperatures. This represents an opportunity but could also put additional strain on key infrastructure during peak times. The design of new buildings will need to be resilient in terms of higher temperatures and this is an issue the LSP has asked the Think Tank to return to during its next inquiry into housing.

QUESTION 8: Has the LSP identified the correct issues for the LDF process to consider in terms of hotter and drier summers?

Extreme Weather Events

25. The main areas of discussion and those that the LSP felt would need to be considered during the LDF process were:

- ❑ Disruption to transport – minimising the need to travel through the location of development.
- ❑ Disruption to services – decentralised provision of energy and water supplies.
- ❑ Flooding (river) – location of development and development type
- ❑ Flooding (surface) – SUDS

26. Most of the issues raised have been discussed previously, with perhaps the exception of transport. This is a big issue and the LSP will return to this separately in the future although it did want to flag at this stage that public transport, cycling and walking infrastructure are important assets that exist within the District and their development will be a crucial element of adaptation.

27. More generally the LSP was struck by the fact that the land use planning process is an important long term mechanism for ensuring that the emergency services are able to cope in the future with the impacts of extreme weather events and climate change. For example, if climate change had been a key consideration when Walham electricity station and Mythe Water Treatment Plant were designed then they may have been

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located in more resilient locations, avoiding some of the disruption caused in the summer. The LDF process needs to make sure that future spatial strategy does not build in problems that will cause the emergency services unnecessary problems in the future.

28. It was also clear in the summer that more needs to be done to engage Parish and Town Councils and communities in emergency and resilience planning. There are many public inquiries running at the moment designed to take the learning from the summer floods and the LSP hopes that these will be successful in moving this agenda forward.

QUESTION 9: Do the links between land use and emergency planning need to be better integrated to allow long term resilience to be designed into future communities? How best can this be achieved?

QUESTION 10: Are the findings of the various public inquiries into the summer floods helping to better engage local communities in emergency and resilience planning?

Peak Oil and resilience

29. The main areas of discussion and those that the LSP felt would need to be considered during the LDF process were:

- ❑ Energy – decentralised renewable provision, assess needs and how to accommodate
- ❑ Water - decentralised provision, assess needs and how to accommodate.
- ❑ Food – Local production and consumption, the protection of agricultural land for food production and encouraging domestic and community growing
- ❑ Sustainable communities, balancing homes and houses, minimising the need to travel, travel plans, live work developments.
- ❑ Peak Oil – provision of carbon efficient transport infrastructure – transport interchange, rail, cycling/walking, shipping.

30. What really came through in the LSPs deliberations is that the UK is currently characterised by centralisation. A centralisation that is based on a definition of efficiency developed soon after the Second World War. This has served us well in the past but economies of scale, whether played out through centralised utilities, waste management processes, food supply chains or Government Departments, will do little to help local communities adapt flexibly to the challenges of climate change and peak oil. The new 'economies of adaptation' will be derived from creating resilient and flexible communities, businesses and public agencies. If communities are to adapt to a decarbonised future then finding this new balance will be essential if demands for basic services are to be increasingly supplied by local producers.

31. The LSP believes that the development of the LDF should in part be based on comprehensive energy and water audits. These should be designed to assess long term need and define how this is to be accommodated in a way that better balances central and local supply. Ultimately, sustainable communities in the long-term are likely to be those that are flexible and this will require them to be increasingly resilient and self-sufficient. In addition to the LDF this should become a key plank of the Council's new Economic Development and Regeneration Strategy that will be developed during 2008.

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32. The same logic probably applies to food production and this is an issue the LSP has asked the Think Tank to consider in due course.

QUESTION 11: Does there need to be a shift towards more local production and consumption of basic services, particularly utilities and food?

QUESTION 12: Should enabling this shift to local production and consumption be a key consideration for the LDF and the Council's new Economic Development and Regeneration Strategy being developed during 2008?

CONCLUSIONS

33. The LSP was conscious that ours is the first generation of humans to be confronted by changes of this magnitude. At this stage the paper poses more questions than it provides answers. It is hoped that the consultation exercise will help to frame the Sustainable Community Strategy and the LDF, which will be central to delivering long-term flexibility.

33. However, it has become clearer through the first inquiry that adapting to future changes is much wider than just the Council's LDF. Everyone has a role to play and whilst wider consultations continue on the role of planning the Think Tank will begin work on its second area – Housing – with its initial deliberations taking place in February.

34. As more issues are explored the LSP hopes that it will be able to make better linkages between issues. This should help identify what issues are within the control of the LSP and its members to deliver and what will require lobbying and awareness raising. Also as time goes by the LSP is clear that the larger issues are boiled down into practical actions that organisations and individuals can take.

FURTHER INFORMATION

35. If you want further information on the work of the Think Tank or wish to offer feedback on this paper please contact:

Nigel Riglar
Strategic Director
Stroud District Council
Ebley Mill
Stroud
GL5 4UB
01453 754300
nigel.riglar@stroud.gov.uk