

BGS response to Ayrshire Joint Structure Plan 2025, Consultation Draft

Question 1. Does the Vision Statement set the correct agenda for the future? Yes, recognition of the importance of the natural environment and sustainable development of natural resources, taken in conjunction with economic development and employment, are features of the plan.

Question 2. Future population projections based on recent performance suggest that Ayrshire will face a considerable loss of population. Is this trend acceptable, should there be an attempt to stabilize the population at current levels, and is this realistic?
No response.

Question 3. Are the seven principle aims of the strategy appropriate?
Two of the principle aims address the issues relevant to earth science issues and natural resources in Ayrshire:
Principle 3 to encourage economic development by sustainable exploitation of local natural resources of minerals, aggregates (sand, gravel, rock), coal and building stone;
Principle 7 to safeguard and enhance the quality of the environment would include safeguard and access to world famous geological sites on Arran and geological Sites of Special Scientific Interest (SSSI) in Ayrshire also enhancing the environment for residents and visitors by increased awareness and understanding of recognized geological sites and those of local interest. The latter will include Regionally Important Geological Sites (RIGS) which are as advised by the new Strathclyde RIGS Group within the Glasgow Geological Society.

Question 4. In what way and to what extent should the Gateway Locations be developed to attract investment? Are there other locations that might be considered as gateway opportunities?
No response.

Question 5. Do you agree that the area surrounding Ayr Irvine and Kilmarnock should be the main focus of future development?
No response.

Question 6. Six Investment Corridors have been identified. Is the concept valid, do they cover the correct areas or are there other areas that should be included?
No response.

Question 7. How can the potential of Ayr, Irvine and Kilmarnock be realised?
Use of aggregates is essential for residential, industrial and infrastructure development in any of the three towns and identification of a local source enables these resources to be exploited in a more sustainable and cost-effective way. Ayrshire was not included in the assessment of such resources undertaken for much of Scotland. However, support from Ayrshire planners may enable such an assessment to be undertaken in the area identified in the

spatial development strategy, supported by central or regional government, to the mutual benefit of BGS and the planned development in Ayrshire.

Residential developments proposed for the three towns should not sterilize mineral resources that would enable industrial development. Ayrshire is known for its limestone, bauxitic clay and coal resources and the presence of these resources should be considered during development. BGS currently provides geological information as county mineral maps for local authorities in England and Wales see www.mineralsuk.com for further information. We seek to co-ordinate support from local authorities and structure/mineral plans in Scotland in order to pursue central funding for these activities.

Question 8. A hierarchy of communities has been established in Schedule 1 based on their function: do you agree with the classification?

No response.

Question 9. In what ways can rural areas support the overall aim of developing the economy

No response.

Question 10. Should more housing be built in the countryside?

No response.

Question 11. In addition to the transport proposals identified what other development of the transport system would be appropriate?

No response.

Question 12. In addition to the regeneration proposals identified, are there other opportunities for community regeneration and what are the most appropriate mechanisms for their achievement?

The regeneration initiatives for former industrial sites, such as Ardeer and Glengarnock, should include an assessment of the contaminated land, prioritisation and risk.

Regeneration of communities and improvement of the townscape will probably incorporate 'heritage' properties within town centres. Such buildings contribute substantially to the townscape and establish a local character derived in part from local sourcing of the stonework. Experience in Glasgow and Edinburgh has shown that repairs made with inappropriate materials accelerate degradation of the building being conserved. We recommend that planners stipulate properly matched materials as part of the approvals for redevelopment and conservation and are pleased to advise and undertake stone matching. We can also advise on local sourcing of materials, e.g. review of redundant and existing quarries in the surrounds of Culzean Castle, as a sustainable approach to townscape renovation.

See also response to question 21.

Question 13. How much future housing should be planned for in the future and where should that housing be located to ensure success?

No response.

Question 14. How should strategic policy address variable needs and delivery mechanisms for affordable housing?

No response.

Question 15. Is this a correct assessment of future industrial requirement? Are there other strategic industrial locations that might be considered?

No response.

Question 16. It is the intention to continue to recognise town centres as the main focus for retail development: is this policy correct for Ayrshire?

No response.

Question 17. How can timber resources and the timber industry be promoted?

No response.

Question 18. How can Strategic Policy facilitate renewable energy systems to ensure that they act as an economic and sustainable driver for rural communities?

No response.

Question 19. Two potential areas for commercial wind farm development have been identified, are these areas suitable? Should further areas be identified? What constraining factors do you envisage to future wind farm development?

No response.

Question 20. An area has been identified for the large-scale coppicing of wood for fuel and forest brash utilisation linked to a possible biomass or co-fired power station. Is this concept valid and how can community benefit be gained? Are there other areas that can be identified?

No response.

Question 21. Should tourism be developed to promote the natural and cultural resources in Ayrshire? Are there other opportunities besides those identified in the plan?

Exposures of rocks on Arran are a key teaching resource as part of residential university geology courses and, to a lesser extent, school parties. Access to the key exposures is essential to maintain this earth science resource and appropriate accommodation to facilitate teaching parties.

A consideration for the regeneration of coalfield communities is to enhance the residential environment by recognising and drawing on the industrial heritage of coal exploitation. For example, Muirkirk Uplands are known for their bird habitat but, unusually for the Central Belt of Scotland, the sequence of coal-bearing rocks that were once mined there are also exposed locally in stream beds. This would be an appropriate candidate for a Regionally Important Geological Site. Raising public awareness and presentation of the geological history, including the evidence of former tropical conditions in which the coal-forming plants thrived, taken together with the bird habitats and

the mining archaeology, would enhance the environment and encourage visitors.

Coastal exposures in south Ayrshire contain several SSSI's that may contribute to the interest of visitors by increasing awareness of the evidence of past landscapes and volcanic activity in the ground beneath their feet by more interpretation boards and displays.

Question 22. How should Integrated Coastal Zone Management be taken forward? What development opportunities can be identified on the coast?

No response.

Question 23. Apart from a recognition of the importance of the urban edge of the major towns it is not proposed to introduce landscape designations into the plan other than required by European and national legislation. Is this proposed policy stance correct?

No response.

Question 24. What should be the extent and type of landscape designation necessary to protect the urban edge from inappropriate development?

No response.

Question 25. What issues or opportunities does new legislation on environmental appraisal, design awareness, biodiversity, water quality and flooding bring to the development of strategic policy? Does the plan cover the options adequately?

Environmental appraisal should consider the interaction of minerals and coals, as resources, but also as habitat for increased biodiversity. For example, sand dunes may support a heath habitat but they are also commercial sand deposits. Abstraction of natural resources reduces the geological variety within an area, termed 'geodiversity'. Because biological communities are dependant on the underlying soils, deposits and bedrock, reduced geodiversity will generate reduced biodiversity. Where abstraction of natural resources takes place by quarrying, exposures of the rocks or deposits should be left to create a conservation area at the end of quarry life. This needs to be planned, from the start of planning of the abstraction activities and not left as an after thought.

New methods of abstraction of resources can also be used to minimize environmental impact, such as the use of mine water as a 'heat pump' carrying warmer water to the surface for space heating.

The Water Framework Directive emphasizes the management of groundwater and surface water resources. In particular, protecting surface and groundwater quality and quantity. Groundwater in Ayrshire is under threat from contaminated land, the mining legacy and farming (particularly dairy farming). The structure plan will need to reflect these issues. Groundwater resources are also used in Ayrshire for industrial and private use. There is

more scope for sustainable groundwater use and BGS has been working with Scottish Water and industrial water users to help identify and develop water supplies.

BGS have been working with SEPA to help implement the Water Framework Directive. In particular, BGS has helped to define groundwater bodies, develop maps of aquifer productivity and vulnerability, and assess threats from mining and farming.

An appraisal of the extent and character of surface and soil water contamination will be covered by future surveys, as planned by BGS. These are intended to include areas where discharge of mine water is noted and the results will contribute to the recognition and remediation of water contamination. Additionally, sources of potential pollutants of known aquifers, such as around Mauchline might also be considered.

Question 26. How can mineral resources be managed in a sustainable way? Abstraction of mineral resources can never be entirely sustainable, once dug out they cannot be replaced. However, abstraction can be managed in a more sustainable way by use of the appropriate quality of mineral resource for task (not using high quality resource for a low grade job), recycling of aggregates and avoiding excessive transport (preferably by train or boat).

3D computer modelling of the Ayrshire Coalfield rocks and surface deposits has been a high profile output from the BGS scientific research programme over the last four years. Techniques established as part of this research programme can be applied to the preferred areas of search for opencast coal identified in the structure plan. The models can be used to identify where coal-bearing strata are close to rockhead, where superficial deposits are sufficiently thin and coal quality is high enough to enable economic abstraction of coal by open casting.

Methods of mineral abstraction are developing that have less impact on the environment. Instead of mining, coal resources can be exploited by collection of coal bed methane; also in the future coal may be gasified in place by underground burning.

Question 27. Is there any other issues not covered by the questions that you think it is important to raise?

No response.