A COORDINATED AGENDA FOR MARINE, ENVIRONMENT AND RURAL AFFAIRS SCIENCE (CAMERAS) (2011-2016)

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Consultation Questions

Question 1: Do you agree that the two broad categories of 'Local Responses to Global Change' and 'Optimising the Potential of Scotland's Natural Assets' are helpful in providing an overlying structure to the Co-ordinated Agenda?	Yes, I think there needs to be greater clarity about "sustainable economic growth" or indeed "sustainable growth". A modest growth rate of 2% would over the next hundred years bring about a sevenfold increase in the economy and this at a time when the poorer countries in the world will continue to expand their economies at a phenomenal rate. The question arises where will the resources, both material and energy, come from to fuel this sort of increase in the economy in Scotland. "Efficiency savings" is not the answer, increases in efficiency of this order are not practicable. Continued growth may have been possible in 1900 because the damage to the planet being done then was a relatively minor: this is no longer the case.
Question 2: Are the descriptions of these set out in Section 3 (and Annex 3) comprehensive?	Yes,
Question 3: Do these cover the major policy challenges where science can contribute as you see them?	No, I think this question is naive. There is a vast number of possible policy challenges, those identified in the paperwork are a priority for Scotland.
Question 4: Are they likely to remain broadly relevant over the longer time horizon (well beyond the 2016 focus of this Coordinated Agenda)?	Yes, Certainly the challenges posed by climate change will continue well beyond 2016. However that is not to say that new unforeseen challenges might arise in the meantime and that resources will need to be diverted to address these new challenges.
Question 5: Do you agree with the description of support for the	I believe there is a need to be careful here about making commitments. The

National Capability Theme set out in Section 3 (and Annex 3)?	statement at page 11 of the consultation document could be seen as a recipe for maintaining the status quo. I think that there needs to be a quid pro quo, "we, the government, will guarantee you funding and you, the supplier, will guarantee flexibility in the face of changing needs and priorities". Government may not wish to maintain the expertise as it currently is, it may well wish to divert funds to new areas of expertise, in particular social science, which is currently not well funded in Scotland.
Question 6: What facilities, resources and data do you think are important for Scotland to maintain?	Long-term datasets on the quality of the marine environment, the lochs and waterways, soils (particularly in eastern Scotland), and air quality will continue to be important. I would question the need for government to continue to support animal breeding and crop breeding. I would also question the need for continued support on diet and health, enough is known already but putting the knowledge into practice so as to improve health is more challenging. Continued expertise in animal health and Plant health will continue to be of great importance especially given the new challenges, comcomitant with climate change.
Question 7: Are there other resources that Scotland needs to acquire to support future policy development?	Yes, Assuming that Scotland does not wish to purchase freely from the rest of the UK there will need to be substantially more investment in social sciences.
Question 8: Have we correctly identified the key policy issues and the associated scientific opportunities in Section 3?	Yes, I believe the issues are correctly identified. That said government and the scientific community will need to find a new way of working together. Whilst policymakers when asked will always say "science is important", how many policymakers regularly visit relevant scientific institutions. My observation over the last 20 years is that these visits are very few and far

	between, similarly scientists do not regularly visit their policy opposites. There will need to be a major culture change in Scotland if CAMERAS is to have any chance of success.
Question 9: Are there additional issues that should be included?	No,
Question 10: What do you think will be the most important influences on Scotland's future in the Marine, Environment, Rural Affairs and related areas?	One of the prime influences will be how well both policy and science people are able to adapt to work together, without this it really does not matter how good the science is. There is also a continuing need for Scotland to decide where it is going to focus, it most certainly cannot address the agenda identified in the consultation document on its own, and where it will rely on other parts of the UK and the international community for its science needs.
Question 11: Why do you think these are important?	Having seen how policy and science interact at first hand both in England and in Scotland, I understand well the need for better communication between the two groups. Similarly there continues to be an attitude that "we" can develop the skills to address all the problems facing us when these skills already exist elsewhere.
Question 12: Are there other scientific opportunities which should be highlighted?	
Question 13: What existing areas of Scottish based scientific expertise should be maintained to contribute evidence to key policy issues?	Expertise in animal health and plant health will be essential. Expert knowledge on fish stocks, fish health, the marine environment will continue to be important. Soil science, a somewhat neglected area, will need to be revitalised.
Question 14: How clear is the relationship between the scientific areas and the key policy issues?	It isn"t. Policy customers for science have been and continue to be overloaded. There needs to be a radical rethink about how policy and science should interact in Scotland. I wonder whether there should be a

	requirement for regular meetings between scientists and policy people. This would not be for the sake of holding a meeting but rather to give the scientists an opportunity to say what they can deliver and what they are doing and for policy to say what it needs.
Question 15: In which areas of science can we continue to make use of expertise supported elsewhere e.g. at the UK, EU and international levels?	This is rather a broad question. My answer would be Scotland must continue to use as much non-national science as it can. The resources and the expertise are simply not available to address all the challenges identified in the consultation document. In my view Scotland should not even attempt to address all the challenges. There is a huge resource elsewhere in the UK and in Europe being devoted to addressing many of the issues in the consultation paper. What needs to be done is to identify where the Scottish effort should be focused. This of course may result in some awkward answers- namely Scotland has expertise that it doesn''t need or the resources for which could be better used elsewhere.
Question 16: In the time frame for CAMERAS (2011-2016) what new emerging areas of science are likely to mature and become available for more general use or application?	I am not really competent to address this question. Rather I would say to what extent is Scotland already making use of existing science and technology.
Question 17: Do we have the expertise available to be able to use these new opportunities?	
Question 18: In which areas does Scotland need to be self reliant?	Probably the only area is the marine environment and fish stocks. All the other science and technology could, if necessary, be bought elsewhere.
Question 19: Knowledge Exchange is essential for scientific activity to achieve impact. Do you agree that KE should be an explicit and	Yes, The statement is fine, it would be difficult to disagree with it. What Scotland needs are the mechanisms to ensure that knowledge exchange

integral aspect of the delivery of this Coordinated Agenda?	takes place: these are sadly lacking. What is also needed he is a change in attitude. The recipients of scientific advice need to have KE as part of their job objectives coupled with quantitative measures of how well they participate. Similarly the senior scientists should be required to demonstrate how they have interacted with their policy customers.
Question 20: How can we continue to improve the integration of evidence from a diverse range of sources into forms that are accessible to end users?	The implication in this question is that there has already been an improvement. Presumably the officials concerned know how they have achieved this improvement and they should be encouraged to continue doing so. For my part I would look at best practice elsewhere in the UK and abroad and incorporate that into Scottish government practice.
Question 21: How can we reconcile the requirement for science to be responsive and flexible to short term demands while at the same time ensuring that longer term strategic research continues to progress our knowledge and understanding?	Next week how to nail jelly to the ceiling. There needs to be a commitment, both by officials and politicians, to maintaining the funding for the long-term strategic research needs. Coupled to this there needs to be a guaranteed ring fenced fund for short-term research projects. Science managers would need to understand that the strategic fund is safe but money from the short-term research fund can come and go. This requires a science manager who is skilful at managing resources and a willingness on the part of the funder to fund redundancies where necessary.
Question 22: How can we ensure that the 2 way flow of knowledge from science to policy and from policy to the academic community is optimised?	See my answers to question 19.
Question 23: Are there alternative structures/systems or new approaches/organisations that could enhance these flows?	
Question 24: Are there science	

delivery models which could provide examples of good practice for Scotland to follow?	
Question 25: We would also welcome any other general comments you may have on any of the issues raised in this document.	Scotland has at least put forward a strategy for the future. However there will need to be significant shifts in resources unless there is a substantial amount of new funding which I doubt. Rather than make piecemeal changes and rapid shifts/cuts in funding as has happened in England, it would be much better if the painful changes were planned and introduced gradually. This requires a clear sense of purpose and commitment from senior officials and from the politicians.