

## DARD Draft Evidence and Innovation Strategy

### CONSULTATION QUESTIONNAIRE

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In responding to this consultation please consider the following questions and use the space below each question to record your comments/response.

#### Scope of the Strategy

**Q.1** Does the DARD Draft Evidence and Innovation Strategy identify the right priorities for DARD-funded research over the next 5 – 10 years?

Northern Ireland Environment Link (NIEL) welcomes the consultation on the draft Evidence and Innovation Strategy. We fully agree that sound science, coupled with the precautionary principle, should be at the centre of policy making and implementation. The addition of a Departmental Scientific Adviser should help DARD realise this goal and would encourage the Department to ensure that the Adviser has a wide and respected scientific knowledge, including of climate change science.

Sustainable development is rightly identified as the key driver for the Department. It is important that the Department has a clear understanding of the guiding principles of sustainable development as identified in *First Steps towards Sustainability*. In particular, NIEL believes that much greater regard must be given to living within environmental limits. It is estimated that if everyone in the world lived as we do in Northern Ireland it would take three planets to support us. A sound environmental foundation is required not just for biodiversity but to support a healthy economy and society. DARD research and innovation effort should be monitored to ensure it is helping deliver this strong foundation.

*Response to Climate Change* being recognised as a cross-cutting research theme is essential. The science of climate change is now well established and the evidence to suggest that urgent action is needed is overwhelming. For example:

- The Intergovernmental Panel on Climate Change (IPCC), a group containing over 2500 scientists, reported (AR4) that 'warming of the climate is unequivocal' and that 'most of the observed increase in temperature is very likely (90%) due to human activity'. The findings of the IPCC are also

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supported by the Academies of Science of the 11 largest countries in the world, including the Royal Society of London.

- The Stern Review calculated that the dangers of unabated climate change would be equivalent to at least 5% of GDP each year. However, when more recent scientific evidence is included in the models, the Review estimates that the dangers could be equivalent to 20% of GDP or more. In contrast, the costs of action to reduce greenhouse gas emissions to avoid the worst impacts of climate change can be limited to around 1% of global GDP each year. The central message is that reducing emissions today will make us better off in the future: one model predicts benefits of up to \$2.5 trillion each year if the world shifts to a low carbon path.
- The recent SNIFFER report on the impacts of climate change on Northern Ireland identified a number of direct effects, mostly negative, on human health, the economy, natural habitats and water resources.
- John Sweeney's research and modelling in Maynooth identify the significant changes in agriculture that will particularly affect the eastern side of Northern Ireland. Climate Change will affect the agricultural practices and the crops that are grown through differing climatic conditions both in summer and winter. Many of these impacts are inevitable given the temperature rises that are already assured for the future, but it is clearly in Northern Ireland's self interest to do its utmost, along with others, to minimise temperature rise. [JS Climate Change and Agriculture](#)

The Department must take a holistic approach to the climate change theme. Research into adaptation as well as mitigation measures should be commissioned and policy decisions should be climate change proofed - the assessments should detail the impacts of programmes and projects on mitigation targets and ensure that all policies take into account the ability of agricultural and natural systems to adapt to climate change - the research agenda should enable this.

It is important to recognise the strategic importance of international and national climate change policy. Discussions on an international agreement on greenhouse gas emissions to replace the Kyoto Protocol are progressing and may result in stronger emissions reductions targets and carbon pricing which would change the economics of agriculture and other rural businesses. The Northern Ireland Assembly has also agreed in principle to the UK Climate Change Bill which will for the first time introduce legally binding emissions reduction targets. The EU Energy package has also set very demanding renewable energy targets that DARD should be investigating to ascertain Northern Ireland's responsibilities and opportunities and how best to contribute to them.

A key element in making businesses more competitive is lowering the costs base. With this in mind DARD should be exploring options for reducing farm and rural businesses' (and householders') dependency on fossil fuels. The trend in increasing fuel prices over time puts Northern Ireland at a disadvantage and security of supply is also an issue. Furthermore, carbon cost may be added to these fuels in the future

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making them even more expensive. By developing systems now, Northern Ireland may be able to gain a significant economic advantage. Similar thought should be given to weaning our production methods away from high cost and high embedded energy products such as fertilisers. Alternative production measures which use the raw materials much more efficiently should be developed and encouraged. The opportunities for farmers to use renewable energy, including waste products, to provide both on-farm energy and export energy should be a major research theme; the work of the AFBI Renewable Energy Centre of Excellence at Hillsborough should be expanded to support this.

The key research interests identified are important and will provide useful data for evidence based decision making. The Department must ensure that the research is of a consistently high quality and that the data are interpreted and used in a robust manner. The importance of fundamental research to making long term decisions and policy development is vital. Ensuring that the quality and quantity of research and reputation of the Department for delivering high quality, internationally respected research is maintained and enhanced is fundamental to the ability of the Department to attract and keep qualified scientists.

**Q.2** Are any important research areas missing from the draft Strategy?  
If so, what are they?

We believe that research should be conducted around the following themes:

- Changing risk analysis (of, for example, weather events) to reflect climate models
- Preparing Northern Ireland farming and rural business for a carbon limited future
- Sustaining rural communities in a low carbon economy
- Capturing public goods (for example, environmental quality) within Departmental policy making and cost analysis
- Maximising slurry as a resource - for example utilising anaerobic digestion for energy production, using the 'sludge' as a fertiliser
- Assessing whole cycle carbon budget of biofuel options for Northern Ireland
- Developing localised grid systems (for heat and electricity)
- Reducing emissions from livestock - feeding regimes, etc
- Viability of new crops in a changing climate
- Estimating carbon sequestration in land use scenarios in Northern Ireland
- Estimating the value of ecosystem services from woodland and other land use types - how could landscape scale management further the value of these services
- The importance of Marine Protected Areas (including closed areas) to fishery stocks
- Minimising the ecological impact of fishing
- The role of the rural champion as an environmental champion

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**Q.3** Should something be left out?

If so, what?

No

**Barriers to Innovation**

**Q.4** What are the key barriers to innovation for rural business?

Business must receive a consistent message from government in terms of regulation, strategies and funding opportunities. Consistency will help deliver a level playing field that should allow the most innovative companies to prosper. Short term thinking and reactionary policies will make investment in innovation impossible for business. Government must ensure that all departments and strategic policies reflect the overarching goal of sustainable development. Funding and specialist assistance should be available to businesses that are developing new concepts and products. Knowledge of and connection to emerging research agendas is also poor among many businesses.

DARD already has good research facilities available to them through AFBI. DARD should ensure that funding is available and that adequate expertise is maintained in DARD itself. If DARD lacks staff with the appropriate expertise in scientific matters it will be difficult for the Department to interpret the scientific results (even with advice from scientists) and make informed policy making difficult.

**Q.5** How do you think we could overcome some of these barriers?

The development of this strategy and the associated measures (research challenge fund, knowledge and technology transfer, research digest and the stakeholder group) will begin to address many of the issues. However, government must continue to improve the consistency of its policies and strategies. This should not mean an aversion to new policies, regulation, etc but instead a more coherent and long term vision for Northern Ireland. NIEL believes that a consistent and robust message on climate change is particularly important. The introduction of a Northern Ireland Climate Change Bill with legally binding targets and associated funding packages would provide businesses with the regulatory certainty to allow long term business planning and, as a result, much greater innovation.

Policy must be underpinned by adequate funding resources for scientific research. The important research topics are already known. Most developed countries face the same challenges and require local research effort on similar topics tailored to suit local conditions.

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#### Funding

**Q.6** Do you agree that the industry should at least part fund and direct research with a commercial potential?

Yes

**Q.7** What are your views on DARD's proposal for a research challenge fund?

NIEL agrees in principle to the creation of a research challenge fund and looks forward to considering the proposals when they are released.

**Q.8** Have you any views on how the fund should work?

#### Research Digest and Technology Transfer

**Q.9** What are your views on DARD's proposal for a research digest? (By research digest we mean gathering together relevant research findings on a particular topic and presenting the key finding in a way that is accessible and easy to understand).

We agree that this is a good idea. The Global Research Unit at AFBI Hillsborough has been reviewing research relevant to renewable energy and other environmental issues for several years in relation to Northern Ireland agriculture and has produced a number of interesting reports. This work could be expanded to produce a research digest for wider dissemination.

**Q.10** Have you any views on how to achieve maximum impact and benefit from such a digest?

Firstly, it is important that all DARD staff and other departments' staff are aware of the research work being undertaken. The digest could be published on the DARD website and the Rural NI website in addition to the AFBI website and publicised across the Civil Service and in the regional and farming press.

**Q.11** What do you think are the most effective methods for knowledge and technology transfer? (By knowledge and technology transfer we mean ensuring that research findings are shared with and acted upon by those people who can put them to use.)

The findings should be available via the Department's website through clearly signposted links, but should also be sent directly (primarily through electronic medium but hard copies may also be made available to stakeholders who have expressed an interest in the research. Publication of new research could also be accompanied by media involvement and wider dissemination events. Publication in scientific journals is also essential to validate the results through the scientific peer-review process.

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#### Stakeholder Involvement

**Q.12** What do you think of DARD's proposal to introduce a stakeholder group on research and development?

NIEL believes that a well balanced and knowledgeable stakeholder group would be of benefit to the Department. In particular, we believe the knowledge and foresight of non-government organisations could be tapped to help deliver and review the strategy.

**Q.13** What are your views on structure, membership and working methods of the group?

The membership should reflect the Department's key stakeholders and work areas but also the key principles of sustainable development. Members should have a sound knowledge of the Department's research agenda but also be given a role in horizon scanning (at different levels of society) for issues that the Department should consider for investigation. A good scientific knowledge and understanding of basic scientific principles and working methods are required.

#### Equality Issues

**Q.14** Do you think that the draft Strategy has any impact on equality and human rights?  
If yes, what impacts?

No

#### Other Issues

**Q.15** Have you any other comments on the draft Strategy?

No

Signed \_\_\_\_\_

I consent to the information stated above being disclosed Yes

Disclosure of information



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In line with DARD's policy of openness, at the end of the consultation period copies of the responses we receive will be made publicly available. The information the responses contain will also be published in a summary.

If you do not consent to this, you must clearly request that your response is treated confidentially. You should also be aware that there might be circumstances in which the Department will be required to communicate information to third parties on request, in order to comply with its obligations under the Freedom of Information Act and the Environmental Information Regulations.

Please send your completed questionnaire to the following address by **Thursday 4 September 2008**.

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**Thank you for taking the time to give us your views**