

## **Guidance on energy research priority selection**

### **A response to energy green paper**

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This short document is a response to the Energy Green paper that addresses the issue of research priorities. It is not proposing any particular research priorities but rather a set of guiding principles on which these priorities are chosen.

Research is an important topic in the Energy Green paper as it is necessary to underpin many aspects of energy policy in Ireland. Research in Ireland is now on top of the political agenda as it is recognised that in order for our economy to grow and thrive in the future we need to go up the value chain and participate more fully in the “knowledge economy”. Traditionally Ireland has not had a strong research ethos and therefore the relatively small and weak research capacity is having great difficulty in absorbing all the recent rapid increases in research funding. There is a real danger that much of our research spend will not deliver in the long term.

Ireland as a small country needs to be realistic about what it can achieve in a highly competitive research arena. Ireland must choose the areas where it can succeed – these will typically be characterised in areas where we have a distinct advantage over our international competitors. A particularly strong research group may be a distinct advantage another advantage may be a natural resource that is unique to Ireland a combination of the two should make the topic and group a very credible area for research investment. Areas and topics that are unique to Ireland and require research that will not be done by others is an obvious area where research needs to be done. The idea that Ireland can compete on its own in major scientific/technological without a distinct advantage is not a credible proposition. Ireland can participate in very large research activities in partnership with other countries e.g. EU projects. Ireland needs to carve out small niche areas where we have an advantage which will add to our chances of success.

Globally energy research is attracting a lot of attention and resources in particular in big research questions surrounding areas such as Nuclear Fusion, Clean Coal and Carbon sequestration etc. These are areas where Ireland would find it difficult to compete due to the scale of our competitors' activities and their superior infrastructure. In these and similar areas Ireland should collaborate in large EU projects.

Ireland's energy research capacity is extremely small and the quality is extremely varied. There is a real danger that funding will be given to weak research groups that will not make good use of the resources. An objective benchmarking exercise that will identify the strengths and weaknesses of all energy research groups needs to be done in order to

ensure that resources are targeted appropriately. Proper rigorous peer review is required when allocating research funding. Building capacity in important areas where there is no existing capacity may be necessary, however this should not be done by investing in a weak group on the assumption that they will hire in good people, typically B rated people tend not to hire or attract A rated individuals.

The most important aspect of successful research is to ask the correct question. This is a difficult and challenging task. There are many dead ends in the research business and it is important that these are identified and resources are diverted to more fruitful research questions. One way of increasing the chances that the correct questions are asked is to include industry in the selection of energy research priorities. Industry, where appropriate should also be included in the research and in the exploitation phase.

### Summary

- We should invest in niche areas where we have a clear advantage or in areas that are unique to Ireland.
- We should avoid big research questions except where we partner with other countries in particular through EU projects.
- We should only fund the very highest quality groups – funding weak groups is wasteful of resources.
- Asking the correct question with input from industry is fundamental to energy research.