

REF

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Dear Mr Harrington:

Energy Wales: Route Map to A Clean, Low-Carbon and More Competitive Energy Future for Wales

I am responding to the above Consultation on behalf of the Renewable Energy Foundation, which is a not-for-profit organisation and a registered charity. The purpose of the Foundation is to commission research and publish data leading to a full and informed debate with regard to the potential for renewable energy, and thus to ensure that deployment of renewables is balanced, effective, and truly sustainable.

AN EFFECTIVE WELSH CLIMATE CHANGE POLICY

The Minister, Andrew Davies, summarises his hope that Wales should become a "showcase for clean energy whilst maintaining [...] international competitiveness". This is laudable, and the emphasis on economic considerations alongside climate change goals suggests a welcome depth and sincerity of engagement with the realities of actually achieving a low-carbon economy. **It is only by engaging with economic practicalities that Wales's energy policy can have any significant effect on the developing world.**

Indeed, we would wish to see this promising theme much more firmly and explicitly stated in the current policy. For example, we suggest that a reality check is necessary with regard to UK emissions in global context.

The UK as a whole emits roughly 550 million tonnes of CO₂ per year, which is roughly 2% of the global total (24,500 million tonnes).¹ If our climate change policy is to be a practical one, this fundamental fact must be borne in mind at all times, and further inflected by the recognition that emissions in the developing world are rising at a remarkable and daunting rate, rendering the UK's proportional contribution to climate change still more marginal. **It must be emphasised in Welsh policy that any lead that the principality hopes to give to the world is not *quantitative*, but *qualitative*.**

The goal of Welsh energy policy is, or should be, to provide an **economically compelling example** to the developing world, one which gives powerful encouragement for widespread emulation and, as a bonus, creates export potential for Wales.

That is to say, even if very large reductions in emissions from Welsh energy use and industry were achieved, these would only be a parochial and hollow gesture if they were achieved at high cost, or achieved in the short term by suppressing technologies capable of longer term contributions.

A policy which has reasonable hopes of being both exemplary and practical will seek to achieve solutions of the highest quality, and privilege such solutions over others which, in spite of lower inferior intrinsic merit, may appear to offer more quantitatively satisfactory results in a set time frame.

With respect to the Assembly's consultation document, we feel that this qualitative dimension is under-emphasised, and in particular that the TAN 8's somewhat dirigiste targets for onshore wind have unfortunately distorted the overall policy in favour of electricity generation, and within that category has created a further imbalance favouring one technology, onshore wind, which, though of low merit as a long term investment for the future of Wales, happens to be available rapidly and in quantity.

As is well known, due to the National Audit Office's incisive report earlier this year, the Renewables Obligation over-supports onshore wind development by at least 33%. Since some 70% of the income for renewable generator comes from the RO, this has created margins so large that remarkable opportunities exist for front-end property developers. Indeed, to our knowledge, in Scotland investors are promised returns of between 100% and 200% within 18 months and consequent on the sale of a successfully obtained planning permission. It appears that such permissions sell for approximately £1 million per installed MW of wind-power. The situation is likely to be similarly overheated in Wales.

It is clear that the the flawed national renewables support mechanism will combine with the needlessly strong policy support for the development of onshore wind in the areas outlined in TAN 8, and will result in a dramatically over-focussed investment.

It is inevitable, therefore, that other objectives set out in the route map, namely the development of biomass, and marine energies, will be further retarded. There is limited capital available for energy development, and 800 MW of onshore wind foreseen by TAN

¹ UK emissions for 2002, according to DEFRA. Global emissions for 2002, from estimates prepared by the US Dept. of Energy.

8 is likely to take precedence over any other significant development, thus engrossing available investment capital, and further retarding the long term future for all other generation technologies, not just renewables.

We believe that this imbalance should be a matter of considerable concern to the Assembly, since it is a distinguishing feature of the policy outlined in the consultation paper that there is an emphasis on the need for realism with regard to the likely role of fossil fuels in meeting Welsh needs for a considerable time to come (para 6). However, if substantial investment is to be drawn in a timely fashion towards cleaner and more efficient fossil conversion processes, there will need to be clear signals that current imbalances towards renewables and towards onshore wind will be corrected.

We emphasise that such local policy correction, mitigating insofar as this is possible, the effects of the flawed RO at UK national level, will be needed if a broad parcel of renewable energy is to come forward, and form part of the long-term portfolio of *firm* generating technologies. The RO is an extremely costly support mechanism, and it is our view that the consumer has every right to insist, and politicians are under an obligation to ensure, that this cost is an investment.

SUSTAINABLE DEVELOPMENT

We note with great pleasure Andrew Davies' remark on sustainable development:

In its fullest meaning, sustainable development is a powerfully humanist concept centred on the needs of individuals, families and communities within the environment they inhabit.

It would be welcome, therefore, if the policy were clearer in its emphasis on the need to ensure that renewable energy development delivered secure and certain local benefits. Too often, in our view, the sustainability of a development is justified in terms of its action at a distance. In the case of renewable energy this is usually described in terms of its mitigation of climate change. However, this is too simplistic a measure of sustainability, and to fulfil the spirit of Mr Davies' admirable description should encompass and substantiate benefits for the local community. The benefit of such a subtilisation of the concept is that it enables the necessary discrimination between proposals which are locally damaging, though with benefits at a global level, and developments which are beneficial at every level.

Restating this: we may think of this problem in terms of three nested benefits.

- Rural contributions to Welsh energy needs
- Welsh contributions to the UK's energy needs
- The UK's contribution to global climate change policy

As an axiom, or a Golden Rule, we may state that the **Contributor at each level must benefit at that level.** Thus, rural areas which host renewable energy developments must benefit at the rural, local, level. Wales will necessarily make a contribution to UK

needs, but must benefit at its own level in addition to benefiting indirectly from the higher levels.

This evaluation method would help to ensure that sustainable development is, in fact, "centred on the needs of individuals, families and communities". With this in mind we recommend that the policy and the route map are revised to place community benefit at the centre of renewable energy development.

PORTFOLIO THEORY

We note with great interest the emphasis on "highly efficient gas and coal stations and renewables in the energy mix", and applaud its realism. However, we find that the policy and the route map pays insufficient attention to the compatibility of technologies as team-workers. Although wind energy, as has been noted above, has the virtue of rapid deployment, it is not, as the experience of Denmark and Germany shows conclusively, a good team worker with the inevitable fossil fuel component.² Other renewable technologies, such as tidal and biomass systems, are preferable in this regard, and we recommend that the Assembly needs to give clear signals that Wales will favour despatchable generation technologies that are able to co-operate with minimal difficulty.

It must be noted that this attention to the quality of the overall portfolio of electricity generation, and inter-technological compatibility, is essential if investors are to be incentivised to develop the Coal Mine Methane, Underground Coal Gasification, Carbon Capture and Storage, and high efficiency combustion plant that the route map quite properly recognises as forming the backbone of Welsh energy provision. **There will be little investor interest in owning conventional plant which is forced to run sub-optimally because of a poorly designed portfolio.**

TARGET MILESTONES

We note that the route map is strongly target driven, and would suggest that while targets may be superficially attractive as an incentive and measure of progress, they are arbitrary and may render policy inflexible in an area where supply responsiveness is essential.

As noted above, the quantitative aspects of the climate change program, and the renewable energy program, are in many respects much less significant than its qualitative aspects. It is of course true that accurate assessment of quality is less readily intersubjective than the measurement of simple quantities, but this problem should not be made an excuse for evading the fundamental issue, which is that Wales will only have a meaningful international role if it finds a high quality solution to the need for a secure, economic, and clean national energy supply.

² We refer you, in particular, to the information provided by the German grid distributor, E.ON-Netz, and in particular to material released this summer, including a major speech by Martin Fuchs, CEO, which we believe you may not have seen. We attach this document as an appendix.

ENERGY INTENSIVENESS AND WELSH MANUFACTURING

The difficulty in reducing energy intensiveness in a region with substantial manufacturing economy is well-known. Wales therefore faces considerable difficulties in this regard, but there are also opportunities. It is therefore somewhat disappointing that Combined Heat and Power is not more prominent in the route map. Similarly, waste heat from industrial process is, with some technologies, recoverable for electricity generation or for district heating.

CONCLUSION: TECHNOLOGICAL INNOVATION

While in general plan we welcome the Minister's vision of a Wales which is independent and a global leader, we are not convinced that the quantitatively formulated and target driven policy will in fact deliver the compelling economic example which alone will induce emulation in the developing world. The scale of the challenge should not be underestimated. The UK's technological advantages are fast being eroded by rapid growth in other countries. **We are therefore particularly concerned that the policy and the route map may not have given sufficient attention to providing conditions in which Wales can foster technological innovation in all fields.** Indeed, at present we believe that the Renewables Obligation is quite unexpectedly stunting innovation by encouraging the import of off-the-shelf technology to fulfil targets.

We recognize that much of the above commentary is critical, and less than sympathetic to certain major planks in the consultation document. However, we very much trust that these comments will be regarded as a genuine attempt to offer help towards amending what is, we fear, in many places a policy that is not satisfactorily designed to bring about unquestionably laudable ends.

Yours sincerely,

John Constable,
Policy and Research Director,
Renewable Energy Foundation.