

**Energy Greenpaper Submissions,  
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**Submission to Irish Government, Department of Marine, Communications and Natural Resources Greenpaper on sustainable energy on behalf of;**



gluaiseacht

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# Answers to questions for consultation process

## ENSURING THE SECURITY OF ENERGY SUPPLY

### **1) In addition to enhancing the contribution of renewable energy, what actions could be taken to further diversify the fuel mix for electricity generation and reduce dependence on oil and gas?**

*Carbon Capture & Storage:* Set policy targets for mandatory incorporation of carbon & sulphur, capture and storage technology (CCS) in future >500MW power plants. Begin promotion of technology at Moneypoint. Government approved €368 million retrofit of Moneypoint (point 2.1.20) could better contribute towards the €500 million cost of retrofitting the plant with post-combustion capture technology as calculated in the relevant SEI report in November 2005<sup>1</sup>. In the Moneypoint case both carbon and sulphur capture should be performed by same "capture" unit.

The use of CCS technology would obviously allow for the use of coal to generate electricity, thus reducing dependency on oil and gas. The state must decide what role the ESB plays in the promotion of such technologies. In Germany Vattenfall is in the construction phase of a pilot 30MW CCS plant<sup>2</sup>. The ESB should follow progress with this development closely and proceed to retrofit Moneypoint as suggested above.

*District Heating & Cooling:* The use of waste heat from existing power stations whether through new built CHP plants or older boiler units should be harnessed and used to provide a portion of domestic and industrial heating and cooling needs through district heating and cooling systems. Heat can be utilised for cooling through the use of absorption chillers. Greater use of existing waste heat would lead to a reduction in demand for primary oil and gas supply.

*Co Firing Waste:* Point 2.1.22 mentions the possibilities with the use of biomass for co-firing with peat. This would be a welcome method of mitigating the impact of our two peat fired power stations on the bogland habitat. At the same time another solid fuel co firing possibility would be the inclusion of municipal waste and agricultural waste. In fact it would seem to be a waste of resources to build new incineration plants all over the country when the waste could be "incinerated" using existing plants. The calorific value of plastic or rubber tyres for example would be higher than that of either peat or biomass. While Gluaiseacht are opposed to incineration of waste in principle we would consider the construction of new waste incineration plants to be misguided and an utter waste of taxpayers' money in terms of what ever moneys are paid to the incineration companies to carry out their work. In fact the co firing of waste in existing power plants would mean that any decrease in supply of waste due to enhanced recycling rates would not affect the supply of fuel for combustion as power stations would not be solely dependant on waste for fuel. Admittedly our peat and coal power plant boilers have not been constructed to cope with dioxins and fly ash. A cost benefit analysis of retrofitting these boilers versus construction of new incinerators could, however, be carried out by the DMCNR through the ESB if they were interested in acquiring the waste resource. At the very least the co firing of agricultural wastes and paper should be considered.

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<sup>1</sup> Emerging Energy Technologies in Ireland: A Focus on Carbon Capture and Hydrogen, SEI, 2005.

<sup>2</sup> [http://www.vattenfall.com/www/vf\\_com/vf\\_com/365787ourxc/366203opera/366779resea/366811co2-f/index.jsp](http://www.vattenfall.com/www/vf_com/vf_com/365787ourxc/366203opera/366779resea/366811co2-f/index.jsp)

This issue of transport of waste to and from power plants should be ignored given that it obviously has not been considered an impediment to the construction of municipal incinerators.

An ideal method of reducing consumption of petrol and diesel by automobiles would be to change the toll road charges to reflect the fuel economy of a vehicle. Although such a measure is beyond the scope of the state given tolls are a product of public private partnerships the concept should be kept in mind as a means of reducing vehicle miles driven by inefficient cars. Such a measure would have inequitable connotations, same as with London's congestion tax, given that better off people would pay the toll regardless of price for the added time and comfort it would bring. At the same time the measure would have a desired effect of reducing transport fuel consumed and as such lessening dependence.

We consider that the above suggestions can contribute as backstop/bridging technologies in the transformation to a 100% renewable energy system.

## **2) How can generation and transmission adequacy in the electricity sector be improved?**

*Generation Adequacy:* A reduction in demand for electricity would contribute towards current installed capacity being able to supply near term expected growth. As is well documented,<sup>3</sup> from 1973 on the USA experienced a reduction in electricity demand without a corresponding reduction in economic growth. The same can happen now. Admittedly price increases were the driving force of this demand stabilisation. We can expect increased demand for electricity for appliances, lighting and industrial processes as population and affluence increases. However, there need not be a corresponding increase in aggregate demand for heat for space heating, water heating and cooking. A reasonable attempt at reducing electricity use in these sectors would provide a prolonged period for the current electricity generating system to meet demand. As such efficiencies and demand reduction must be the first item in any energy policy.

The obvious untapped energy resource for Ireland is offshore wind energy. Due to its intermittence wind turbines can only guarantee about a fifth of their installed capacity to the grid at any time. Thus to provide a regular 10GW supply to Ireland, 50GW of Wind turbines would need to be installed. Considering that this amounts to 5,000 5MW wind turbines it is difficult to see there being enough islands and sea banks to support such an amount given the need for optimal spacing between turbines. Otherwise the wind turbine installed capacity must be supported by onshore dispatchable top load capacity in the form of fossil fuel or biomass fired generation plants. This requirement for top loaded plants would actually preclude the need or usefulness of coal fired power plants given their long start up time. Thus the single biggest challenge of Irish Energy Supply Policy over the coming decades is:

- How to harness the offshore wind energy potential given its intermittence.

A solution would be offshore wind energy supported by lignocellulosic biofuel power plants. However given the limitations with domestic biofuel supply there will be a role for CCS Coal fired Power plants. The following fictional calculation shows the potential energy recoverable from biomass if a high yield crop used and all possible land in Ireland is used.

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<sup>3</sup> Marlay, Robert C., 1984. Trends in Industrial Energy Use. Science, Vol 226, No. 4680. pp. 1277-1283.

Miscanthus Yield <sup>4</sup>	= 340 GJ/ha/year	
Republic of Ireland Agricultural land <sup>5</sup>	= 4,443,970 ha	
- Cropland	= 1,110,940 ha	
- Permanent mead./pastures =	= 3,333,030 ha	
- Wood / forest land	= 103,760 ha	
Miscanthus potential in Ireland if all cropland used		= 377,719,600 GJ/Year
Miscanthus potential in Ireland if all agricultural land used		= 1,510,949,800 GJ/Year

Ireland Energy Primary Energy Supply 2004 = 15MToe<sup>6</sup> = 628,020,000 GJ

Possible contribution of biofuel to Irish Energy in 2004 supply if all Irish cropland used for growing Miscanthus = 60%.

Possible contribution of biofuel to Irish Energy in 2004 supply if all Irish agricultural land used for growing Miscanthus = 240%

*Transmission Adequacy:* Ultimately the national grid operator will have to consider how to connect large scale intermittent generation off the west coast to the national grid. Diffusion of embedded generation may lessen the pressure on the national grid too.

### **3) What actions should be taken to create strategic storage capacity in the gas sector?**

The recently opened Marathon Oil gas storage facility is encouraging. At the same time if use of the three gas/oil fields which will be emptied in the next twenty years - Kinsale, Corrib and Spanish Point, are reserved for gas storage, they then cannot be used for the storage of captured CO<sub>2</sub> as suggested in the SEI<sup>7</sup>. The state must assess its needs for Carbon Dioxide storage and then dictate how the emptied offshore fields should be utilised. Offshore fields certainly have the storage capacity to store reserves that cover annual or multi annual gas demand.

### **4) What are the challenges to greater participation by new players in the development and operation of power generation plant - and how should they be addressed?**

As stated in the Greenpaper the challenge is ESB control of the facilities which would be utilised in providing marginal electricity supply and thus determining price. This prevents prospective entrants from correctly calculating the potential return on their investment due to their inability to assess possible unmanipulated price development.

### **5) How, and over what timeframe, should Ireland pursue greater electricity interconnection with Europe?**

Greater electricity interconnection with Europe is only necessary in the case of two scenarios;

<sup>4</sup> <http://www.inforse.dk/europe/dieret/Biomass/biomass.html>

<sup>5</sup> Ireland – FAO Agricultural Census 2000 Main Results

<sup>6</sup> Page 29, Towards a Sustainable Energy Future for Ireland, Energy Green Paper, 2006.

<sup>7</sup> Emerging Energy Technologies in Ireland: A Focus on Carbon Capture and Hydrogen, SEI, 2005.

- There is a large expansion in the installed offshore wind generation capacity, which in turn provides intermittent excessive supply of electricity to the national grid, which in turn makes Irish generated electricity available for export. This scenario could be mitigated against if adequate pumped storage sites were found to store intermittent excess supply though it is doubtful that such sites could be constructed without harm to habitats and communities.
- A regular cheap supply of Solar PV generated electricity exported to Europe from the Sahara Desert becomes available. Such electricity would be DC and would present a drastic shift in energy infrastructure as we know it and should thus only be assessed if and when it happens.

Other than this we would suggest funding earmarked for grid interconnection be redirected.

## **6) What measures could be taken to encourage the exploration and production of indigenous energy resources?**

Change the terms for exploration such that:

- Corporation Tax for exploration firms is reduced to the 12.5% levied on regular industry
- 50% portion of all finds default to State ownership.

The reduction in corporation tax should be adequate to encourage increased exploration while the provision that the state should retain half of all finds would be a basic method of controlling the price at which natural gas is supplied to the domestic and industrial market and guaranteeing a return for citizens from their "indigenous" resources. The extraction of state owned gas could be subcontracted to private exploration firms presuming the state is not going to emulate the Norwegian model where their state company Statoil learned "the business" from working with private exploration firms. The dissolution of the Irish National Petroleum Corporation in 2001 has effectively ended the chances of the state mimicking the Norwegian model. One would presume that cost to the state of paying private exploration firms to extract and deliver refined "indigenous" gas would be minimised through a "sealed bid" type competitive tendering process

## **7) Given the existing level of dependence on imported fossil fuels, what needs to be done to enhance contingency measures?**

On this matter of the Whiddy terminal and dissolution of the INPO were retrograde steps and leave the state relying on NORA to organise contingency measures. One hopes that the international treaties governing the transfer of stocks of fossil fuels now held by NORA are honoured in time of need...

## **8) Does the Greenpaper generally set out the right policy directions for security of energy supply?**

Yes except that there is no mention of district heating, utilisation of waste heat or Solar PV and there is not enough emphasis on energy efficiency.

## **PROMOTING THE SUSTAINABILITY OF ENERGY SUPPLY**

### **9) What can be done to improve the pace and range of development of renewable energy resources for electricity generation on a sustainable basis?**

- Provide a specific REFIT rate for Offshore Wind Technology.
- Introduce a pilot Solar PV rooftop programme<sup>8</sup>.
- Provide grants for secondary schools to conduct energy audits and have the results linked to a grant aided retrofit scheme. If organised correctly a generation of people could be educated on energy issues while one set of public buildings would be using less energy. We acknowledge that a lot of retrofitting is only economic in the renovation cycle. However there are non tangible benefits in terms of education, diffusion of ideas and flagship promotion associated with a national school retrofit scheme.
- Provide grants and technical experience to enable communities in the towns and villages to organise locally produced renewable energy. Such a step would allow a diverse range of socio economic groups to participate in the changeover towards a renewable energy system.

### **10) In addition to electricity generation, what actions should be taken to develop renewable energy usage in the transport and heat sectors?**

- *Transport:* The first action is to reduce demand for transport fuels. If the state considers that such a policy is not compatible with the continued growth of the Celtic Tiger economy then we are at cross purposes. Obviously demand can be reduced by honestly enabling people to go about their business by walking or cycling in a safe manner. Any deviation from a genuine cycling and pedestrian infrastructure is an indication of the cross purposes with which state policy is acting.
- A pilot hydrogen scheme should be undertaken such as the Norwegian Hynor project<sup>9</sup>. Steam reforming of natural gas would be the easiest way to provide hydrogen for such a project.
- A pilot project with electric cars could also be undertaken. It is difficult to see any long term solution to transport that does not revolve around hydrogen or electricity or both. Perhaps Irelands abundant offshore wind potential could eventually be used to charge car batteries for electric cars or to produce hydrogen. The former would be preferable given the storage and distribution issues with hydrogen that remain to be resolved. The question for the green paper is if Ireland wants to participate in the development of electric car batteries or not.
- An obvious approach is to impose fuel taxes on the use of petrol and diesel for driving. The use of fossil fuels for transport in Ireland has increased at a phenomenal rate since 1990<sup>10</sup>.

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<sup>8</sup> <http://www.100000daecher.de/>

<sup>9</sup> <http://www.hynor.no/>.

- *Heating*: Provide grants and an awareness campaign of the potentials of using Solar Thermal panels. DIY kits for such residential installations would not be very difficult to provide and install.

**11) What significant new initiatives could be taken to increase energy efficiency across the economy and in particular in households, businesses, the public sector, the transport sector and the built environment?**

- *Households* – a building directive which aims to have all new build houses built as passive houses by 2020 should be adopted. No technical barriers exist to this<sup>11</sup>.

For space and water heating in new build houses, District Heating or micro CHP systems should be installed. However, the study prepared for SEI by WS Atkins Consultants Ltd.,<sup>12</sup> indicates that institutional barriers exist to the deployment of waste heat in Ireland which must be addressed to allow such heating systems to take off.

- *Businesses* – Appliance and lighting usage must be the focus in this sector as well as road miles travelled by staff.
- *Public Sector* – Begin retrofitting program beginning with second level schools. Continue with hospitals. Surely some of the Celtic Tiger Tax windfall can be channelled to our education and health institutes. The retrofitting of local authority or government buildings would not have the same impact as retrofitting schools and hospitals when one considers the footfall approximating to each. For ideas see programme on retrofitting of EREC Renewable Energy House in Brussels<sup>13</sup>.
- *Transport Sector* – Although it is often stated that the transportation of freight by rail is only economic when distances are greater than 500KM some studies have shown<sup>14</sup> that when including the full life cycle for both options that rail freight can be competitive. Regardless, some industry wide coordinated optimisation modelling could be considered to reduce the amount of freight traffic on the roads.
- *Built Environment* – Policy focus should be on space and water heating and how to minimise the use of fossil fuels and fossil fuel generated electricity for fulfilling this purpose.

**12) What additional policy measures should be introduced to significantly expand energy RTDI and what are the priority areas of research, which need to be targeted?**

*Priority Areas for Irish research:*

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<sup>10</sup> SEI, Energy in Transport - Trends and Influencing Factors, 2006. Report.

<sup>11</sup> <http://www.40percent.org.uk/>

<sup>12</sup> Assessment of the Barriers and Opportunities Facing the Deployment of District Heating in Ireland, September 2002, SEI.

<sup>13</sup> <http://www.managenergy.tv>

<sup>14</sup> Forkenbrock, David J., Comparison of external costs of rail and truck freight transportation. Transportation Research Part A 35 (2001) 321±337.

- Increasing the capacity of the electricity system to accommodate intermittent wind sources through developing a portfolio of renewable backup generation capacity.
- Carbon & Sulphur Capture & Storage possibilities in Ireland.
- The potential of Solar PV use in Ireland.
- Barriers to diffusion of energy efficiency measures in the built environment.

**13) In light of the Government’s Science, Technology and Innovation Strategy, what needs to be done to radically expand the national energy research capacity?**

- Introduce modules on Energy physics in all Engineering streams in third level institutions with follow up optional modules in energy efficiency and renewable technology.
- Give funding to the recently formed Irish Energy Research Council. At the very least make them a website...
- If it has not been done so already invite Dr. Partick Waterfield<sup>15</sup> and Dr. Eoin Lees<sup>16</sup> to be members of the I.E.R.C.

**14) What are the key supply and demand questions to be addressed to underpin a fully cohesive National BioEnergy Strategy?**

- What crops in the Irish climate give the greatest calorific (fuel) value from the least amount of land?
- Should the market dictate whether land is used to grow food or fuel?
- What is the full life cycle impact of both the production and use of bioenergy and biofuels in Ireland?
- Can biofuels be produced in the Irish climate which are usable in vehicles and which embody less energy than their calorific value?
- What are the biodiversity impacts of monoculture fuel crops Ireland. Can multi-culture crops be grown?
- Will the biofuel crops being considered be adaptable to changes in Irish climate due to global warming?

Point 2.2.19 states

- A sustained afforestation effort is an important component of securing supply of raw material for biomass initiatives.

This point begs the question as to what Coillte’s role is such a policy goal could be? Regardless of the quality of the trees Coillte have prioritised up until now, the fact that they sit on a "landbank" of lignocellulosic crops and are the largest landowner in the state has to be significant in terms of biofuel development. Lignocellulosic crops have the "low input high yield<sup>17</sup>" feature which holds the best long term promise for biomass.

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<sup>15</sup> Author of "The Energy Efficient Home - A Complete Guide", 2006, The Crowood Press.

<sup>16</sup> CEO UK Energy Saving Trust, 1993 – 2003. <http://www.eoinleesenergy.com/>

<sup>17</sup> Biofuels in the European Union - A Vision for 2030 and beyond, 2006, ISBN 92-79-01748-9.

**15) Do we need to choose between mandatory targets and better incentives for renewable energy and energy efficiency - or is a mix of both the best way forward?**

A mix is appropriate with the targets setting minimum requirements and with the incentives rewarding those who make an extra effort. Current minimum standards do not go far enough to reduce demand. For example there are no technical barriers to passive heated houses being built<sup>18</sup> on a large scale. One could also ask if such a requirement would have much of an impact on house prices given the bulk of the costs are associated with location? Yet the standards are still not improved...

**16) Does the Greenpaper generally set the right policy directions for energy sustainability?**

Yes except that there is no mention of district heating and the potential pitfalls of biofuels are not explicit.

**ENHANCING THE COMPETITIVENESS OF ENERGY SUPPLY**

**17) In the context of liberalisation of the Irish energy market, what further actions should be taken to develop more fully competitive electricity and gas markets and what specific barriers need to be overcome?**

- *Electricity Market:* Break the ESB power generation into smaller state companies dedicated to a fuel dependant method of generating electricity. For example ESB Coal Electricity Ltd., ESB Gas Electricity Ltd., and ESB Oil Electricity Ltd. Although ESB Gas Electricity Ltd., would still maintain a large share of the market these new utilities would be then be of a scale closer to that of prospective new firms in the market. Such a break up would also encourage a focus in these new utilities on their own respective unique environmental deficiencies.
- *Gas Market:* No adjustment necessary.

**18) What policy measures and targets should be introduced to reform institutional arrangements and market structure, particularly in the electricity and gas sectors?**

Same answer as for 17.

**19) While a significant proportion of our energy prices are determined by international oil and gas prices, what actions should be taken domestically to reduce the cost of electricity and gas to consumers?**

None. The price of electricity should reflect the cost of its generation and transmission and the external environmental costs of the same generation. As such the price of electricity should

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<sup>18</sup> <http://www.40percent.org.uk/>

not be lowered at all. The same is true for gas except given that the Irish state does not own any gas of its own (even the gas found in Irish waters) it is in no position to dictate gas prices to consumers.

If the true life cycle of electricity cost were to be levied prices would in fact have to be raised. Only time will tell if such a mechanism is necessary to reduce greenhouse gas emissions by a sufficient amount to stop climate change.

**20) State-owned enterprises (e.g. ESB, BGE, Bord na Mona) have played a central role in the development of the energy sector. How should the role of State- owned energy enterprises respond to the challenges of meeting our energy needs in the future?**

- *ESB*: The ESB is the only company operating in Ireland at the moment that can conceivably undertake a pilot Carbon & Sulphur Capture and Storage project.
- *BGE* - No comment.
- *BNM* - BNM could ensure that no short sighted environmentally catastrophic decisions are taken to further utilise Irish bogs to provide electricity for inefficient end uses.

**21) What further action should be taken to alleviate fuel poverty?**

- Employ full time energy officers to visit households afflicted with fuel poverty to discuss options.
- Provide 50% of grant costs for audit and retrofit.
- Investigate suitability of clusters of houses afflicted with fuel poverty for inclusion in a district heating system.

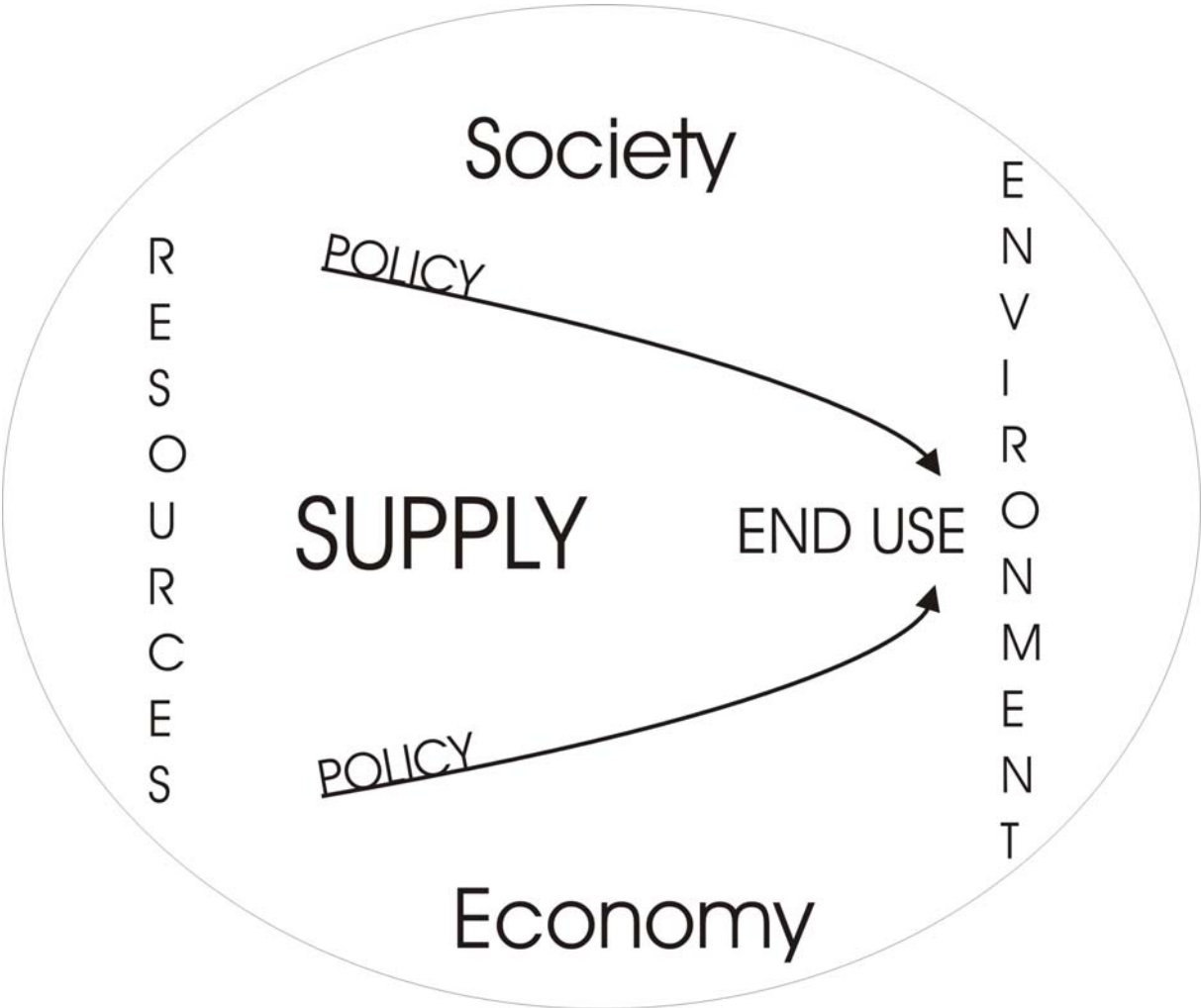
**22) Does the Greenpaper generally set the right policy directions for enhancing the competitiveness of the Irish energy sector?**

Given that the state has decided that the market is the ultimate arbitrator of energy developments, yes...

# Points not adequately addressed in Greenpaper

## Lack of focus on efficiency

Although the “Power of One” advertising campaign seems promising in terms of impact on “low hanging fruit” the overall emphasis on energy efficiency emanating from the Greenpaper is inadequate. The first policy goal of any energy policy should be efficiency. As stated elsewhere in the paper efficiency improvements can prolong the adequacy of the current electricity generation plant stock. We hope that the government Energy Efficiency Action Plan required under EU Directive 2006/32/EC<sup>19</sup> is sufficiently ambitious and adequate to save the stated 20% target. The diagram presented in the Greenpaper, as encapsulating the direction the DCMNR suggests steering policy, is inadequate to capture the importance of energy efficiency. As such we would suggest that the following diagram is more intuitive:



**Figure 1:** Graphic depiction of policy increasing supply and decreasing demand within the fixed confines of society.

An information campaign such as the ‘Power of One’ in isolation is not sufficient though to achieve the required energy savings. While it is useful in bringing the ‘question’ of energy

<sup>19</sup> <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32006L0032:EN:HTML>

efficiency on to the airwaves it is, for instance, impossible to assess its impact on energy use or to assess any return on its investment cost. On the other hand tax credits and subsidies are very straightforward to measure in terms of their implementation costs, their costs to the public purse and their technological potential from installed technologies. Thus the information campaign should be accompanied by tangible schemes in a package of measures aimed at overall reduction in energy use. Energy information Centres in main urban centres can also play a role but again only if part of a package of measures.

Furthermore, any tackling of energy efficiency whether through advertising campaigns or legislation must address the potential impact of the rebound effect<sup>20</sup>. In terms of domestic energy use the rebound effect refers to when households choose to spend the money they save from energy efficiency measures in the home on other energy intensive activities outside the home or on increased levels of comfort in the home thus resulting in no net overall reduction in energy use. Any attempt to tackle efficiency while not addressing overall energy use vectors or shifting use patterns is vacuous to say the least. Again a full package of measures should be constructed that are focused on an overall reduction of energy use while mindful of the possible interactions between measures.

### **No mention of Energy use in food production and distribution.**

The energy use involved in cultivation, production, packaging, transportation, storage, preparation and disposal of food is significant.

An EU sponsored report<sup>21</sup> published in 2005 reaches the conclusion that food accounts for 31% of global warming potential. Proportionally there is a larger contribution from non CO2 greenhouses gases to emissions from the food sector than in other sectors such as transport or industry. This necessitates the use of the GWP metric to aggregate the contributions from the various gases.

It might be an interesting study to see if the life cycle impact of meat and dairy production and consumption in Ireland is as severe as for other countries without the same quality of grazing grass.

### **No mention of District heating**

Conversion losses from existing peat, coal, oil and to a lesser extent gas power plants are not being utilised to fulfil any useful purpose. IEA figures<sup>22</sup> for Ireland for 2003 indicate significant conversion losses between Primary and Final Energy supply.

Given adequate concentration of dwelling densities and sufficient number of heating degree day's, district heating should be economic especially if installed as part of new build projects.

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<sup>20</sup> Greening, Lorna A., Greene, David L., Difiglio, Carmen. Energy efficiency and consumption - the rebound effect - a survey. Energy Policy 28 (2000) 389-401.

<sup>21</sup> Environmental impact of products (EIPRO): Analysis of the life cycle environmental impacts related to the total final consumption of the EU25, European Science and Technology Observatory and Institute for Prospective Technological studies, full draft report, April 2005.

<sup>22</sup> <http://www.iea.org/Textbase/stats/index.asp>

The fact that there is no suggestion in the entire Greenpaper of the possibilities of exploring waste heat utilisation is astounding.

If Irelands population is to increase to pre famine levels in the next decades there will have to be a significant change in the ratio of households that dwell in houses compared to those who dwell in apartments. An increase in construction of apartment blocks complexes would increase the viability of district heating. Any adverse reputation associated with district heating in Ireland would have to be balanced against its obvious contribution to increased energy efficiency and the 5,000+ functioning district heating systems in Europe<sup>23</sup>.

### **No mention of Solar PV**

Although one would not associate Ireland with having possibilities of harnessing solar light photons to produce electricity one would have to say that its complete omission from govt. policy is remarkable. Solar PV requires diffused light to operate as opposed to the direct light needed by solar thermal panels. Thus Ireland's regular cloudy days need not impede solar PV electricity generation. While the potential is still limited there may be possibilities for distributed generation.

The 100,000 rooftop program<sup>24</sup> initiated in Germany in 1999 was a necessary step taken by the state to encourage the development of a solar sector complete with manufacturing, customer service and research branches and ultimately a lowering of the cost of solar PV panels.

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<sup>23</sup> <http://www.euroheat.org/>

<sup>24</sup> <http://www.100000daecher.de/>

## **General Comments**

### **Fuel Poverty not defined**

It would be important to give a definition of what fuel poverty is from the DMCNR's point of view to allow a point of reference for deciding what level of spending on fuel qualifies. The department has not outlined a clear reason for either defining the term or not defining it although some possible definitions are listed on the DMCNR homepage.

### **Nuclear Energy Policy - "does no mean no forever?"**

Although such a decision is beyond the remit of the DMCNR, and without wanting to sound like Dr. Paisley, we would ask if the following line is strong enough:

- The Government intends to maintain the statutory prohibition on nuclear generation in Ireland.

The words unconditional, permanent and total should be incorporated into policy concerning nuclear fission. A further point states

- Most of these trends are expected to continue through to 2020, as is the Government's legal ban on the use of nuclear fuel for electricity generation in Ireland.

Does this suggest an alteration of attitudes after 2020?

### **Spatial Strategy**

Citing the national spatial strategy as having a particular role in point 2.2.40 is ridiculous. Even the dogs in the street know that the spatial strategy holds about as much weight as a wet paper bag. The amount of housing developments constructed outside of the designated spatial strategy zones in the last few years, for example Rochfordbridge, leaves the spatial strategy "dead in the water" as any criteria or development reference.

### **Terminology**

We would be of the opinion that the intention expressed with the use of terms such as "run down urban housing estates" could be addressed in a more discrete manner. We would presume that none of the Greenpaper's authors reside in "run down urban housing estates".

### **Dating**

Though the DMCNR website states that the Greenpaper was published on October 1<sup>st</sup>, the paper itself is not dated. Neither is the minister's introductory note. This is not a problem as long as the Greenpaper rests at its current website though could be a problem after the process when the document is archived.

## **Positive aspects worth highlighting in Greenpaper**

- Proposal to improve quality of its future scenario-casting ability.
- Ideas for stimulating the development of renewable energy sources by providing incentives mentioned are excellent.
- All island energy market.
- Co Firing Peat with Biomass.
- Review of licensing regime for exploration of energy resources.
- Formation Irish Energy Research council.

## Corrib Gas

Given Gluaiseacht's active support of the Shelltosea campaign we now address some of the relating to Corrib Gas raised in the Greenpaper.

### Pipeline Safety

Point 2.1.38 states:

- A number of actions relating to the oversight and regulation of such projects require progression by the Department as a result, most notably the development of a risk based approvals framework for decision making on this type of infrastructure in the future. Other actions include the establishment of an independent inspection regime and the development of a clear framework for developers of hydrocarbon resources encompassing technical standards, safety requirements and approvals procedures and the drafting of a Commercial Handbook for prospective developers.

While on the face of it this point has merit and is very welcome there are some historical problems which give cause for concern.

A risk based approvals framework for decision making is already in place and is called An Bórd Pleanála (ABP). ABP refused planning permission for the Corrib Gas Terminal after the then longest oral hearing in the history of the state. Just two days after this refusal to uphold Mayo County Councils grant of Planning Permission, two Ministers, Frank Fahey & Eamon O'Cuiv, publicly and grovelingly called on Shell to re-apply. They then called the 27 Oireachtas representatives from the BMW region to a meeting in Leinster House where all bizarrely gave unqualified support for the Fianna Fáil call to re-apply. Subsequently, over several weeks, a campaign of intimidation was carried on in the media against ABP whereby they were threatened with having all but domestic planning matters removed from their remit and 'fast-tracking' became the buzz-word. ABP succumbed from the top down with by their board refusing the inspector assigned to the Corrib Gas case permission to conduct necessary enquiries and facilitating the by-passing of issues deemed to have been mediated upon in the previous appeal - which was entirely contrary to the statutorily correct practice.

We can only conclude that interference from elected representatives occurred in the planning process at the behest of the Shell Oil Company in order to have ABP overturn their original legitimate decision. There is no sense in having a planning appeals board if the state is going to interfere with its processes. In a functioning democracy ABP's initial decision would have forced Shell to explore an offshore, an island or a coastline refinery site. The point relevant to the Greenpaper is the question as to what the DMCNR thinks is inadequate about ABP that makes you suggest a new board?

- ABP did not have an opportunity to adjudicate on the Corrib gas pipeline as no planning permission was necessary for it. The permission granted by Frank Fahey was

subsequently proven by the DMCNR's Advantica report to be unsafe. From the point of the Greenpaper what proposals are there to stop such ministers' orders being granted in the future? Would the DMCNR propose to end the practise of minister's orders? Unfortunately the underlying problem in this case is elected representatives interfering in due process and undoing the good work of civil servants.

- On the safety issue we would above all encourage the DMCNR to `stand up on their own two feet` and ensure international best practise with regard to the development of hydrocarbon resources. As it stands the DMCNR, via its respective ministers, seems to be in a situation whereby it is being dictated to by a multinational corporation whose revenues were nearly twice that of the Republic of Ireland in 2005.

### **Security of gas supplies**

Point 2.1.12 states that the Corrib Gas field will bring significant volumes of gas into the Irish system. This statement must be qualified by the fact that the gas from Corrib will be at the same price to the end user as gas imported from Britain or elsewhere. If they had the means Shell and partners could in fact export the refined Corrib Gas by pipeline or by LNG ships. Would the DMCNR then instruct BGE to turn off the pipeline to ensure the gas stayed in this country? In a market economy the gas will be sold to the highest bidder. It is perhaps lucky for DMCNR's security of supply efforts that there is a glut of gas imports expected in Britain in the next few years which diminishes the opportunities to export Corrib Gas.

Point 2.1.17 and point 2.1.41 are very important in terms of an EU wide effort to ensure security of supply. It would be interesting to hear what dynamic is proposed between the conflicting interests of some countries having more gas indigenous supplies than others, some multinational corporations owning European gas fields and the overriding problem that indigenous European supply will only cover 30% of needs by 2020. Again we would state that there has to be a difficulty with the DMCNR stating that the Corrib Gas field is good for security of supply purposes when they don't own any of it. Have any of the 3 operators contractually agreed to supply BGE or the likes of Tynagh Energy?

### **Investment in hydrocarbons**

There appears to be a contradiction between the last sentence in point 2.1.34 which states that the government has put in place a number of incentives... the introduction of appropriate licensing terms and point 2.1.36 which states that fiscal terms will be reviewed. What new incentives have already been put in place? A review of the fiscal terms is certainly most welcome though, without a stipulation that the state retains a share of resources discovered, is inadequate. The Fianna Fáil/PD cannot escape the fact that the minister who negotiated the current fiscal terms was subsequently found guilty of corruption. The fact that the state continues to stand over the terms arranged by Ray Burke is perhaps the most sickening part of the web of deceit associated with this issue. Our proposals for how the fiscal review is outlined in the answer to question 6 above.

## **Monitoring of hydrocarbon production**

Point 2.1.37 states that the DMCNR monitors all petroleum exploration and production operations to ensure that the State is fully informed and fully benefits from these activities. This point needs further clarification with regard to how this monitoring occurs. Are exploration companies obliged to inform the state of the magnitude of their finds? Why should they? After all it is their oil and gas. Once again this seems to be the state trying to paper over the inadequacies of its licensing terms which in effect freeze it out of a role in the development of the hydrocarbon resources and the over the fact that no full time inspectorate is employed to monitor rigs.