

## The Hughes Energy Initiative

### Saving Ireland Billions via Deep Building Retrofits.

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The EU has rightly stated that the energy that buildings consume represents the greatest potential for saving energy. In its Energy Efficiency Directive (EED) it has set two targets for energy reduction in buildings - 40% by 2030 and 80% by 2050.

In absolute terms the new EED will reduce the 40% of all energy that buildings consume to 24% by 2030 and 8% by 2050. These are substantial reductions and while nobody would argue with the intent behind this initiative, the 'elephant in the room' of course is how are we going to pay for this? However in Ireland we may have an opportunity which has come from perhaps an unlikely quarter, namely the controversy over Pylons and Industrial Scale Wind Farms.

Over the last few months the issues of Pylons, High Voltage Power lines and Wind Farms have become headline news.

Over 35,000 submissions were made to EirGrid on their Grid Link project alone. While cynics may characterise any submissions as 'NIMBYism' - it does pay to stay objective and to look behind the reasons why we are building the Grid Link project and its related National Renewable Energy Action Plan (NREAP) projects consisting of Grid25, Windfarms, Interconnectors, Sub Stations and Fast Response Gas Power Stations.

Some of you may know that NREAP seeks to provide 40% of Ireland's electricity via wind energy but how many know the cost of this both financially and also the unintended consequences of loss of visual amenity and social divisiveness in areas where these pylons and wind turbines will be located?

To date most commentators have said that while these projects do have negative effects they ask 'what is the alternative?'

Well the alternative is we can divert investment from the remainder of the NREAP projects into the new EED 2030 and 2050 targets and achieve all three project objectives including NREAP in one step.

Put very simply and in very round numbers the following is the choice on offer.

#### Option 1 Continue with NREAP

- To provide for 40% of electricity from wind energy a spend in the order of €30 Billion+ is planned
- This will provide an additional 1500MW of wind on the grid – however it will also nearly double the cost of electricity and will not save a single kWh of electrical demand – just increase the supply.

#### Option 2 Cancel remaining NREAP projects and Divert these Funds into EED

- Buildings account for 40% of energy usage nationally, both electrical and non electrical.
- Investing the same €30 Billion+ in retrofitting buildings will save 75% or more reducing the energy demand of buildings from 40% to 10% of the current national demand. This will free up 30% of the energy consumed. This equates with 1500MW of peak electrical power and €2 Billion per annum off our annual Energy Imports bill which currently costs €6.5 Billion.
- Reducing electrical demand by 1500MW has the same benefit as adding 1500MW of electrical Wind Power – including all of the CO<sub>2</sub> reductions - but - not one more wind turbine or pylon needs to be built to achieve this benefit.
- In addition instead of increasing electricity prices it will lower energy bills including electricity by 75%.

- The net result is for every €100 spent on energy today for buildings this will drop to €25.
- Furthermore as the demand for energy will have dropped the existing wind will automatically 'grow' to 33% very closely matching the original NREAP objective of 40%. The remaining 7% incidentally can easily be provided for from renewable biomass from Coillte Woodlands.

So which would you choose?

- Option 1 – Spend €30 Billion+ increasing electrical supply by 1500MW and doubling electricity costs ...or
- Option 2 – Redirect that €30 Billion+ into retrofitting and reduce energy demand for buildings by 75% saving €2 Billion per annum of energy imports and reducing electrical demand by 1500MW.

Some might argue we can do both but this is folly. There isn't an unlimited pool of capital available, we need to compete for funds and of course we have to pay them back. If we spend the €30 Billion+ increasing electrical supply and doubling electricity costs and then another €30 Billion+ retrofitting the building stock any future cost benefit of retrofitting the building stock will be wiped out.

In effect we will have spent €60 Billion only to bring electricity bills back to the level that they are at today.

If we just 'leap frog' straight to option 2 we will get a return on our money from day one, reduce our energy consumption and achieve our NREAP commitments. We also create jobs, improve our market competitiveness, improve our energy security, avoid blighting the landscape and avoid burdening ourselves with a debt of €60 Billion.

One hesitates to use the phrase 'no brainer' but the option 2 choice clearly falls into this category.

So there is a clear financial reason to pick option 2 but not everything can or should be reduced to pure monetary terms.

Let's not forget the 35,000 people who made submissions. Their public participation brought about this alternative. However to complete the process they started this idea needs to be supported by as many as possible and adopted by the Department of Energy and the Government and presented this April to the EU as Ireland's EED 'roadmap'.

**David Hughes B. Arch. MRIAI RIBA**