Response to the Consultation by the
Department of Communications, Energy & Natural Resources
on
Sub-section 4.3 of the National Renewable Energy Action Plan
concerning RES-E Support Schemes

Individual comment by
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Overview

The evidence available to me, as an active participant in the wind industry and in policy formation, is that the terms of the REFIT scheme are quite inadequate for its intended purpose. The rate of development to date (max 250MW per year) has been too slow. The only reason Ireland may achieve its own 2010 RES-E target of 15% (and will achieve its RES-E Directive target of 13.2%) is because of the collapse in electricity demand due to an unprecedented economic downturn. This is not a good way to meet targets and is, hopefully, unlikely to be repeated.

There is a systematic tendency to underestimate future needs, which conveniently reduces the effort required by the authorities. This has been a feature of much of our public planning, and is affecting the renewables sector. A completely top-down approach is being used to try to predict energy use and our requirements for meeting 2020 targets. Assessing the adequacy of the policies against underestimates of future requirements can only lead to under-achievement. The top down approach tends to assume huge energy savings and various other general policies, crudely applied in layers across all sectors, without a clear idea of what actual measures will really achieve those savings and targets. For example, some of those saving measures, such as highly efficient electric cars, while significantly reducing overall transport energy demand, will boost demand for electricity, while making a very modest impact on our RES targets.

A more bottom-up approach to demand assessment, particularly in transport and heating, can examine these matters in sufficient detail to make a more accurate prediction, but Ireland is currently lacking these tools. We even lack the ability to accurately distinguish electricity used for heating for the rest. My crude modelling would suggest a much higher demand profile than is indicated by SEAI's work, but the detail of this will be addressed to the appropriate section of NREAP.

Suffice to say that, to address the overall requirements for 2020, the rate of renewable construction needs to be at least doubled to 500MW per year. Claims that this will already be achieved in 2010 are misguided, given feedback from participants in the wind industry.

To achieve that doubling will require REFIT terms commensurate with the profile of a much wider range of projects, many of which will not be the most efficient, or conveniently located, as well as the increasing planning and grid constraints.

Furthermore, REFIT operates to a degree in isolation, as did AER. Despite being economically viable, projects find it very difficult to have 'all three legs of the stool' in place AT THE SAME TIME - namely planning, REFIT and grid connection, as each of these items operates more or less independently, under separate authorities (respectively: local authorities/Bord Pleanála, DCENR and CER). REFIT does set grid and planning as conditions, but having these two items simultaneously is probably the biggest challenge. Even when that monumental task is finally achieved, it can be happen that, as at present, REFIT is simply not available!

Germany established its scheme by law. The law specifies that any project achieving planning is entitled to a support price and a grid connection. In one simple rule, Germany simultaneously enables 'all three legs of the stool', while Ireland, 20 years later, still hasn't managed to join these dots.

Of course, the insistence of many parties that the REFIT scheme be operated such that it is regarded as state aid is at the heart of this problem. REFIT cannot be continuously available to match planning permissions, if it has a capacity and a time limit imposed by state aid constraints. Germany managed to avoid state aids for what is essentially the same scheme, because the consumers' funds never enter State hands. In my view, it is priority number one for Ireland to design its support system, as discussed below, so that it is agreed by the European Commission that it is not state aid.

Ironically, it is the European institutions that set targets for Ireland to produce green energy and avoid GHG emissions, and then impose unnecessary rulings on it, which have the effect of preventing Ireland meeting those targets. This argument needs to be used to help to get them to agree that our scheme is not state aid.

For REFIT to be of any use, it must be matched by continuous availability of grid connections. The UK has put in place an excellent 'connect and manage' system of connection, which means that projects connect when they are ready, much like the German idea. Were Ireland to adopt these approaches, projects could proceed in an orderly fashion, and REFIT could do what it was designed for.

A significant issue for REFIT is the cost of connection. In summary projects pay for grid connections and then hand them over to the grid owners FOR FREE, because they apparently need them to operate the system (and we can't own the wires anyway, a significant issue in itself, for auto-producers for example). In other words private projects are funding public grid, which is a form of negative state aid - the industry is not only subsidizing the state, but is using very expensive funding

mechanisms to do so (we have roughly twice the cost of capital that the network owners do). At the end of the day, these extra funding costs are paid by the consumer, in one way or another. So this policy is not only costly for projects and consumers, it also subsidises the public authorities, but worse still, it acts as a barrier to market entry. Worst of all, by virtue of all of the complication involved in attributing costs due to this charging policy, it makes the grid connection process a tortuous nightmare. That, more than anything, is what is holding up the development of our renewable energy resources.

Rather than simply delegating all of these issues, separately, to disparate arms of the State, Government should take upon itself to adopt legislation (primary or secondary) to set rules for the above matters, as Germany has done. That would put them beyond the reach of authorities that have sought and continue to seek to undermine Government policy in this area.

Specific comments

(d) The measures to collect funds from private consumers and reallocate them to private renewable generators need to be reviewed. The current system passes these private funds through the hands of State owned bodies, which is the ONLY reason they can be regarded as state aid, and a very weak one at that. Germany has private TSOs, and so its very similar support scheme is not state aid. Ireland could legislate for the PSO to firstly direct that the payments be handled by a private payment service, and secondly by setting very clear rules, would minimize the discretion of CER over those funds, thus removing any argument from the European Commission that REFIT is state aid. A clear legislative basis would take care of any concerns existing projects and their funders would have as regards the continuance of existing payments through the PSO.

This has to be Ireland's first priority as regards REFIT; see for example the next two points, and (n).

The current annual payment arrangements for PSO funds are inadequate, as these lead to wild variations in cashflow for projects. A more 'live' approach to these payments, similar to the SEM payments, would be beneficial to projects, and would indeed reduce the argument that these payments are state aid.

(e) State aids controls constrain start and end dates for REFIT programmes, and for the PPAs they offer. Indeed, some Gate 1 projects that still aren't built, due to ongoing grid difficulties, compounded by consequent planning changes, have REFIT entitlements, but these expire in 2024. Should these projects start generating in 2012, they would only have 12 year PPAs and not 15 year ones, undermining their viability.

Thus state aids obstruct the proper functioning of the REFIT scheme, and Ireland really must exit this completely unnecessary control system.

(f) Because REFIT is regarded as state aid, it cannot be reviewed either adequately or regularly enough, to ensure it is sufficient, without over-compensating. If it were not state aid, we could have an independent review panel carrying out regular rolling reviews to ensure correct pricing, while providing assurance on continuity. Such a panel would only review offer prices in REFIT, and not the prices in a PPA once it had started. We would thus have to adjust our thinking to the idea that here is a distinction between these two types of price, something we have not been used to under AER or REFIT, but which is normal in the likes of Germany.

(g) REFIT, as it existed up to recently, was based on payments to suppliers, not generators, something which now needs to be reviewed, since generators have direct access to the pool. The fact that suppliers may wish to purchase green energy is welcome and indeed beneficial. There is nothing to prevent private commercial arrangements between generators and green suppliers, to enable them to act as conduits for renewable power on its way to the pool.

It is highly unlikely that any of the prices quoted would, on their own, build projects. They are supplemented by the REFIT 15% 'balancing payment', which was designed to assist suppliers with balancing costs under the previous bilateral market. Under 'supplier lite', these payments are available to generator/suppliers, to enable the viability of their projects. These payments ought now to be built into the REFIT prices.

Capacity payments are an additional payment in the SEM pool to encourage capacity and availability. However, when the CER decided on the treatment of the PSO, it insisted that the REFIT would only be triggered when average pool price plus capacity went below the REFIT price, thus denying projects the capacity payments in that situation. This ought to be reviewed. If not, the REFIT prices ought to be further raised to compensate.

The difference between the small and large onshore prices is too low to encourage the smaller projects, as these face tremendous hurdles such as higher grid costs, and a general lack of economies of scale. Their contribution to local economies and the fact that their power is more likely to be consumed locally provides a justification. The fact that they provide local communities an opportunity, should they so wish, to participate in the industry gives people a sense of ownership, and would reduce opposition to power-lines otherwise designed to carry the power of others through their areas, even from projects on their own land which they are effectively prevented from building. The price differential needs to be of the order of 1 cent.

A significant factor in pricing is the return. The risks in this industry currently mean that only the best projects succeed, so that the returns on projects need to be higher than normal, as long as the current disorder and delay, primarily imposed by the State and its organs, continues. Having introduced order into the process, we could envisage a review that examined the necessary rates of return. A minimum of 12% is currently

required, and higher risk projects, like wave and offshore wind, probably need even higher rates initially.

Indexation has been a key factor in the success of AER and REFIT. It provides a hedge against inflation risk, which is attractive to banks and pension funds. Where a price is not indexed, it has to be higher to begin with, to generate enough funds to repay the loans etc. A higher non-indexed price produces higher cashflow in the short term, which may indeed be of benefit to projects. But it adds additional cost to the consumer in the short term. An indexed price starting from a lower base is thus better for the consumer. And experience with AER shows that the latter part of the PPA usually involves prices below the increased pool price (due to rising energy costs), so that there is then no cost to the consumer at all when the PPA price is at its highest.

It might also be noted that if Ireland were to make a distinction between REFIT offer prices and REFIT PPA prices, either or both of these could be indexed separately.

The fact that the REFIT prices are floor prices is simpler and also helpful, as this adds an additional incentive to projects to build and remain in place, with a view to long-term benefit. The level of benefit is unsure, as wind in particular tends to drop the pool price once it is on. That lowering of the price, known as the 'merit order effect', is a considerable benefit to the consumer, which should offset any extra cost associated with any possible 'upside'.

While the REFIT prices are guaranteed, the output on which they are based is not. Indeed, the most recent developments in the SEM suggest that the quantity of power to be produced by renewable projects could be unilaterally reduced by non-dispatch, constraint and curtailment, without adequate compensation. So either proper compensation from the market is required, or REFIT prices need to be adjusted to allow for whatever loss is incurred, or both, to maintain the incentive to build and maintain these projects. Another approach is to pay the REFIT on 'available output' rather than 'metered output', and ensure that where the energy and capacity payments are not paid to projects that the REFIT covers the loss. Projects would thus be kept 'whole', maximizing the efficiency of REFIT. However, the correct signal would be provided where any loss of normal pool payments was paid from pool revenue and not REFIT, to incentivize correction of the causes of the reduced output, rather than suggesting that supports were excessive via REFIT.

Another related matter is transmission charges and loss factors. These vary wildly, also after projects are built, even though the point of TLAFs in particular is to act as a locational signal. It seems daft to try to give a locational signal to a project once it has already located! Either the market needs to dampen this volatility and eliminate locational signals for existing projects, or this will have to be compensated for in the REFIT scheme to maintain its effectiveness.

(h) as stated above, Ireland is consistently underestimating what is required to meet the 2020 targets.

(l) as with point (e), time periods are in fact constrained by state aids. Assuming that all projects to benefit from the new REFIT will be built by 2019 is not wise, and not reflective of experience to date, as discussed under point (e). A further 2 years minimum should be sought, or ideally, we should not have to seek state aids clearance in the first place.

(n) This answer provides a further argument for getting REFIT out of state aids. The state aid guidelines provide means for accumulating state aid, and limiting the overall amount, which has been a problem in particular for biogas projects, but could also affect the wider renewables sector going forward. It seems unwise in these circumstances to continue, quite unnecessarily, to design the REFIT support scheme, where the supports that do not emanate from the State are to be treated as state aid. Tax reliefs and grants are state aid, and must be treated as such. REFIT should not be a state aid.

Response to the Consultation by the
Department of Communications, Energy & Natural Resources
on
Sub-section 4.5 of the National Renewable Energy Action Plan
concerning RES-T Support Schemes

Individual comment by
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4th May 2010

There is a systematic tendency to underestimate future needs, which conveniently reduces the effort required by the authorities. This has been a feature of much of our public planning, and is affecting the renewables sector. A completely top-down approach is being used to try to predict energy use and our requirements for meeting 2020 targets. Assessing the adequacy of the policies against underestimates of future requirements can only lead to under-achievement. The top down approach tends to assume huge energy savings and various other general policies, crudely applied in layers across all sectors, without a clear idea of what actual measures will really achieve those savings and targets. For example, some of those saving measures, such as highly efficient electric cars, while significantly reducing overall transport energy demand, will boost demand for electricity, while making a very modest impact on our RES targets.

A more bottom-up approach to demand assessment, particularly in transport and heating, can examine these matters in sufficient detail to make a more accurate prediction, but Ireland is currently lacking these tools. We even lack the ability to accurately distinguish electricity used for heating for the rest. My crude modelling would suggest a much higher demand profile than is indicated by SEAI's work, but the detail of this will be addressed to the appropriate section of NREAP.

Suffice to say that, to address the specific 10% transport target in 2020 in the RES Directive we will need to do a lot more than has been proposed to date. In particular cancellation of the biofuel excise relief seems to be a mistake.

Ireland has unfortunately decided to avoid double counting of electricity generated from renewable sources, or RES-E (as required by Article 5.1 of the RES Directive) by counting electricity generated from renewables used in transport and heat under the RES-E heading. We will in any case have to add the RES-E in transport (suitably weighted, as per Article 3.4 (c) of the RES Directive) to biofuel use, to address the specific RES-T target of 10% by 2020. We need to be sure that the weighting (by 2.5 times) is applied both above and below the line (as per subsections (b) & (c) of Article 3.4).

I have attempted to do some simple bottom-up modelling of the transport sector. Electric cars are as much as four times more efficient as normal cars. So while their use noticeably reduces energy use, they also contribute very little to renewable consumption, especially when only half of our electricity is due to be from renewables in 2020. This is the reason that the Directive includes a weighting factor for this particular item.

My simple modelling suggests that, to have any chance of meeting the 10% RES transport target, even allowing for the weighting, it appears that we will need 10% biofuel in all non-electric road transport giving 5% of transport consumption) AND 30-35% electric cars! (giving the other 5% required).

And to get 10% biofuel in a situation where car manufacturers are limiting fuel mixing to 5% (E5 & B5) for technical reasons, we will need to extend the biofuel excise relief to encourage high RES fuels (like E85), used in specially made or modified cars, to make up the other 5%.

It is more difficult to monitor progress carefully, and adjust schemes as necessary, when electricity used in transport is treated under the RES-E heading and not RES-T. So, as a general principle, Ireland ought to consider instead accounting for RES-E used in transport under the transport heading.

Response to the Consultation by the
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on
Sub-section 4.4 of the National Renewable Energy Action Plan
concerning RES-H Support Schemes

Individual comment by
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4th May 2010

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Heating & cooling is the most difficult aspect of RES to assess, because we lack the ability to accurately distinguish electricity used for heating and cooling from the other uses of electricity. We simply lack the statistics for this, and have not yet implemented a smart metering technology that could provide this information. Our information is generally based on estimates and profiles rather than hard data.

This seems to be the main reason that Ireland has, unfortunately, decided to avoid double counting of electricity generated from renewable sources, or RES-E (as required by Article 5.1 of the RES Directive) by counting electricity generated from renewables used in heat under the RES-E heading. We thus don't see the electrical side of heating and cooling clearly, and will find it very difficult to manage programmes in this area. And yet the energy involved is very substantial, one of the largest uses here, and with one of the greatest potentials for efficiency.

This would suggest that Ireland ought to consider instead accounting for RES-E used in heating and cooling under the RES-H heading. However, to enable that to happen, we would need much better statistics, and that in turn would require a program of suitable smart metering that could provide suitable data for statistical use.

With such an approach, we would be better able to introduce implement and monitor progress of electric heating programs. It would also provide a stronger base from which to develop a smart grid, which could take advantage of the demand management opportunities presented by electric heating.

We are entering a much more electric world, because we will be sourcing a much greater share of our energy needs from wind, wave and such forms of energy. These generate electricity directly from wind and wave energy, and do not suffer the huge waste currently associated with fossil and nuclear plants (that waste over half of their input energy as heat).

We can expect to see considerable growth in electric heating and cooling, if only to help achieve our renewable targets. It is likely that most if not all of such growth will have to come from RES-E to get anywhere near meeting overall targets. Major RES heating support schemes will be required to encourage the change back to storage heating and the wider use of electrical heating and cooling, in particular from green sources.