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# Chambers Ireland's submission for the Public Consultation on Price Review 5 Electricity Networks

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# Contents

## Chambers Ireland's Perspective on Price Review 5 – Electricity Networks

Chambers Ireland is the State's largest business representative network. We are an all-island organisation with a unique geographical reach; our members are the chambers of commerce in the cities and towns throughout the country – active in every constituency.

Each of our member chambers is central to their local business community and all seek to promote thriving local economies that can support sustainable cities and communities.

**Chambers Ireland Priorities:**

Our network of chambers uses the Sustainable Development Goals to prioritise our policy analysis and recommendations.

We are anxious to see that the incoming Price Review 5 regime supports these aims for the benefit of our members and the wider communities that support the local economies which our chambers are at the heart of nurturing.

We see Price Review 5 as a key element in financing and delivering upon Climate Action (Goal 13) and Affordable Clean Energy (Goal 7).

As carbon tariffs increase, the development of a clean and resilient domestic electricity supply, combined with the efficient use of the power that we use, will be key to supporting Industry, Innovation and Infrastructure (Goal 9).

Failing to manage this transition will ultimately undermine the challenge of creating Decent Work and Economic Growth (Goal 8).

Reforms to our electricity networks which do not deliver, by 2030, the changes in consumption which government, EU policy, and international treaty commitments demand we make, will hurt our economy's capacity to develop Sustainable Cities and Communities (Goal 11).

In terms of mapping them to the Commission for the Regulation of Utilities' Price Review 5 objectives:

1. Facilitating a Secure Low Carbon Future is the single most important outcome, followed by
2. Resolving Local Security of Supply (though our concerns about security of supply at this stage of the process are focused on the Low Voltage network), which ought to be prioritising
3. Increasing Efficiency and Protecting Customers (where we see the early development of smart supply systems being critical to the long-term efficiency of the grid, and the productivity in the wider economy).

We see under-investment in the Low Voltage network as a key threat to Facilitating a Secure Low Carbon Future as it risks undermining social acceptance of the need to invest in new technologies.

We also see that the Low Voltage network is a risk to Resolving Local Security of Supply, beyond the Dublin region in regions which will have may have lower capacity and greater likelihood of demand for Low Carbon Technologies, particularly given the likelihood that most electric vehicles will be based outside of urban environment.

Furthermore, we see that the best way to succeed at Increasing Efficiency and Protecting Customers is to ensure that investments in smart control systems are carried out with alacrity to ensure the investments will over the long run have the minimum present expected value.

Upgrading the existing resources of the grid with smart control technologies will be the best way to ensure that the grid which supports consumers is as efficient as possible. Making the best use of our existing infrastructure is the very first step in supporting energy efficiencies, not only will using smart control technologies maximise the benefit that consumers receive from those assets, it will also ensure that we are using the energy that is on the grid in the best way possible which will also result in reduced use of fossil fuels because the fine degree of control that smart power distribution technologies facilitates ensure that the most can be made of each Watt that is placed on the grid.

**The case for front loading capital investment plans**

In terms of the timing of investments, Chambers Ireland believes that it behoves all state bodies to accelerate their capital investment plans, given the current economic circumstances.

These circumstances have created a unique set of circumstances which amplify the efficiencies of capital investment in the short run relative to longer run scenarios.

With the cost of capital currently much reduced, relative to historic norms[1], it is unlikely that we are ever see capital available, with such a low cost and with such great supply, again.

There is considerable uncertainty regarding how long these circumstances might last, given the wider public health and economic circumstances that we are living through. It is worth recalling that that the present rates which the DSO can gain access to credit at is contingent on the maintenance of these historically low rates.

As a result – and beyond the public service argument which suggests that capital investment plans should be accelerated where possible in order to minimise the impact of the Covid-19 economic slump on the domestic economy – there is an argument for delivering as much investment as possible in the short run while it is possible to lock in the benefits of these historically low rates that we are currently experiencing.

The postponement of such capital investment, as the current Price Review 5 allowable expenses requires, risks the possibility that these necessary works, when they are inevitably carried our (including work such as the smart grid investments, and the Low Voltage network reinforcements where there is minimal existing marginal capacity etc.) will have to be implemented with much higher associated financing costs.

Secondly, as a direct result of the Covid-19 slowdown, we have already seen a marked decrease in demand for construction, something that we expect to see worsen over at least the first few years of the Price Review 5 period.

Therefore, with the existing low cost of capital and the reduction in construction costs, this is the moment when making progress on the implementation of infrastructure will have the lowest economic costs, thereby Increasing Efficiency and Protecting Customers.

[1] Since July 2020 Irish Government bond yields have been negative out to 15 years
http://www.worldgovernmentbonds.com/country/ireland/
https://tradingeconomics.com/ireland/government-bond-yield

## Investing in the Grid

Chambers Ireland has seen that there through Price Review 5 considerable investment will be occurring in our Electricity Supply networks which is to be both commended and welcomed. Many of our submissions to government have been calling for such investments to develop, upgrade, and reinforce our national grid.

We however have two areas of concern regarding the scope of the allowable investment plans as outlined by the Commission.

**Price Review 5 Concerns**

Firstly, there are enormous risks associated with there being insufficient capacity at the Low Voltage level which could seriously hinder Government policies that aim to support the reduction in carbon emissions. Secondly, there is a lack of ambition for the opportunities that smart control systems can have upon the efficient utilisation of existing and planned infrastructure.

Both sets of investments, along with the other planned investments which are already part of the Price Review 5 timelines, are constrained by the time that is available to implement them. The Low Voltage system upgrades will not scale well, as they are labour intensive, and so risk hitting an investment cliff closer to 2030 when labour supply constraints will increase the costs of implementing these many small projects across the geographic expanse of the network.

Conversely, with the smart control systems, the earlier the investment there, the less we will need to invest in the long run. Initially because we will not have to have as much High Voltage Network capacity (because we will be using what we already have better), but also because we will not have to retrospectively return to the investments which we

are currently putting in place in order to integrate technologies which could have been put in place during the currently ongoing construction.

These investments should occur at the earliest opportunity.

**Boosting Low Voltage network capacity**

Both through and beyond the Price Review 5 timelines, the goal must be to use our resources as efficiently and effectively as possible. Our sense, as a network, is that local Low Voltage network capacity must be significantly upgraded if it is to support the technologies which are key to the transition to a low emissions economy.

At the Low Voltage level this will require many small, but labour intensive, pieces of work which would be best spread out more efficiently over a longer timeframe, rather than attempting to crowd them into the last two years of the next Price Review cycle, because that will likely see demand on these Low Voltage systems outstrip their capacity constraints in many locations simultaneously.

This is a particular concern because a huge amount of investment is already needed on the High Voltage networks to support both the landing of 5GW of offshore electricity by 2030 and the expansion of the onshore windfarm fleet by a further 4GW. Significant investments will be needed to create capacity for the relevant projects on the East coast during the Price Review 5 period, and it is our understanding that the capacity development plan for the Southern grid has yet to commence, though that too will need to be delivered upon during the 2025-2030 period.

Crowding further investment into a period which we already know will be congested, in terms of infrastructure development for our electricity networks risks fostering inefficiencies.

Even before much of that work begins in the late 2020s, the Price Review 5 period will also see considerable investment occurring to support the creation of a domestic solar generation industry, the connection of microgeneration systems to the electricity network, and creation of community energy schemes.

Simultaneously, we can expect major changes to consumption patterns. Some, such as working from home should have smoothing effects on demand, but may increase the base demand in areas which would not ordinarily have high levels of demand during the day, meanwhile the integration of new Low Carbon Technologies into our lives, such as heat pump and electric vehicles, will see localised step changes in demand which will have a deleterious effect on local security of supply unless those networks are appropriately reinforced in advance.

Retrofitting will be an important strategy for both commercial and residential properties. The likelihood is that these investments will need to be accompanied by microgeneration technologies (if they are to be viable investments).

This will require that local Low Voltage and Medium Voltage networks which are capable of absorbing excess electricity for these networks, which will have to be matched by commensurate changes at the high voltage supply levels that will require a fine degree of centralised control of the supply network – placing large demands on the IT infrastructure for both the DSO and TSO.

For the wider community, community supply schemes which can spread both the benefits and costs of domestic microgeneration are likely to be an important part of gaining social acceptance and so will need considerable DSO support if they are to succeed.

There is acceptance across our network that investment will be needed to support this transition to a greener energy grid, however these investments must be accompanied by the certainty of security of supply if that acceptance is to be maintained.

Already our member chambers are fielding questions from businesses which are planning investments in electric vehicles that arise from their concerns about the capacity of their local networks to support the high demands that these vehicles will place upon them.

A feature of Price Review 4 to date has been the difficulty of onboarding new onshore wind energy onto the network as a result of capacity restraints. Over the coming years we will see a doubling of the size of the onshore fleet, the creation of an offshore fleet, the creation of a new solar generation industry, and a microgeneration industry. The connection delays that have dogged the Price Review 4 period cannot continue into Price Review 5.

We welcome the Commission's recommendations for Price Review 5, insofar as they reduce the likelihood of such problems with connecting these renewables reoccurring over the next five years. However, we must ensure that we do not under-resource other vital elements of the upgrading of the grid, even if they are different elements of the grid to those that were under-resourced in the past. **Chambers Ireland is therefore concerned that the allowable expenses for Reinforcements is 40% below the request from the DSO.**

**Making smarter use of our supply infrastructure**

These investments in the Low Voltage networks will have to be accompanied with a parallel strategy that will upgrade the smart control systems at the High Voltage network level which will make sure that best use is made of the existing grid infrastructure.

Consequently, we were disappointed with the shortfall in allowable operational expenditure on the part of the DSO to cover the changes in the underlying business model.

It is unclear what form microgeneration may take, how many forms it may take, and in which parts of the country it will achieve greatest penetration: For some people it may make sense to for them to allow their PeV generated electricity to spill over only the local network without involving a commercial element; Community schemes may operate to disburse the cost of investment across the community where there is variable availability of renewable resources;  It is not clear how apartment blocks will manage the electricity that can be generated with their buildings. The DSO will be tasked with facilitating a wide variety of such schemes and iteratively improve them as learning develops within the DSO, withing the business community, and within the wider community.

The DSO ought to be able to facilitate the diverse set of likely ways communities and organisations can choose to engage with these novel technologies and arrangements. Without the capacity to experiment across diverse arrangements there is a risk that the DSO will be forced into creating a one size fits all offering which is ultimately sub-optimal as it may not effectively energise communities to engage with microgeneration.

2020 – 2030 will be a time for trial for experimentation, and sometimes for error, and that is to be welcomed. We cannot be certain as to what precise route will be necessary to get ourselves to 500MW of microgeneration and beyond but it is unlikely to be as generous to the generators as the German and British models (given the equity concerns). Therefore, microgeneration is likely to be integrated into the community bundling of the Just Transition projects, a novel process that raises concerns about utility of copying what has been done abroad, and facilitating only what has been put in place elsewhere.

Without allowing communities to discover the solutions that suit them, there is a risk that microgeneration will not gain the foothold it needs if it is to become successful.

This flexibility will not come without a cost, and that is to be accepted, however the counterfactual would be a failed programme to implement microgeneration which would have its own efficiency risks for the grid.

And this is only when we consider microgeneration, the DSO will need to significantly alter many elements of its core business as we come to understand what Facilitating a Secure Low Carbon Future means, and this is going to come with significant demands upon the permitted OpEx.

With smart metering new products will be developed; electric vehicles; data centres: heat pumps; hydrogen electrolysis; biomethane schemes etc. will all have unique elements and interactions that will need significant efforts on the part of the DSO if these products, services and technologies are to be accessible to the public.

It is hard to see how the DSO will be able to achieve these demands that are being placed upon it withing the allowable OpEx constraints that the Commission for Regulation of Utilities is placing upon it.

If these tasks are not delivered upon, then considerable areas of government policy around renewables will not succeed.

**The threat to the social acceptance of these novel Low Carbon Technologies**

The worst-case scenario, in terms of social acceptance, is that individuals or businesses will invest electric vehicles, or deep retrofitting with heat pumps, only to discover that these technologies will make their local electricity supply unstable.

This points towards the need for the immediate upgrading of our Low Voltage and Medium Voltage networks where necessary. Concerns about the capacity of local networks capacity to withstand the integration of high-demand Low Carbon Technologies already exist. It would not take many instances where problems occurred to undermine the government policy is these areas.

As is, between now and 2030 government targets demand that 400,000 heat pumps and 1,000,000 electric vehicles will be adding to the network. A further 500MW of microgeneration is expected to be connected during the same timeframe. This will require an enormous amount of accompanying private investment, with uncertain returns.

If these investments are going to be made, they will need to be de-risked as much as possible. An essential element of de-risking these investments will be ensuring that sufficient local grid capacity exists to ensure that there are no cases where these investments are kept off-grid while the local Low Voltage network needs to be upgraded.

If supply capacity is overwhelmed by the introduction of these new technologies, then this will see the neighbours of those who are making the investment bear extraordinary costs while awaiting the upgrading of their local network. This will create considerable resentment towards the network, towards the investor, and towards the technologies.

Similarly, if businesses or individuals have invested in microgeneration technologies and limitations on their local networks mean that this will not generate the revenues that had been expected for that technology, then they risk undermining the funding and financing of other investments that may be made – either the investors themselves will defer future investments until they can be certain that the microgeneration revenue system is working smoothly, or those financing the investments may deem them unviable because these earlier projects had not generated the expected returns.

To avoid these scenarios, it may be necessary for those investing in these technologies to assess whether their local network may be able to absorb the extra supply or demand that these Low Carbon Technologies place upon the Low Voltage network. This will put the DSO in the invidious position of becoming the gate keeper, or at least bottleneck, that controls the integration of these new technologies – with huge reputational risks attached.

This also risks that government targets may not be met because the upgrading of local capacity has been delayed.

## Responses to the specific concerns of the Commission for the Regulation of Utilities

**1. The CRU is seeking stakeholders' views on the proposed cost challenge and the proposed use of uncertainty mechanisms.**

While the role of the CRU in determining the direct cost that consumers will face is important, far more concerning is indirect costs associated with both climate change, and the potential for Ireland to miss our new revised EU 2030 targets arising from either a failure to adopt, or the slow adoption of, Low Carbon Technologies. It is the Chambers Ireland network's fear that deficiencies within the existing networks, and particularly the Low Voltage networks, have the potential to slow the pace of the adoption of the new Low Carbon Technologies that will be needed if we are to meet our emissions targets. In the worst case scenario, the lack of capacity with the Low Voltage networks my prevent our decarbonisation from succeeding.

Within the framework of the Commissions for the Regulation of Utilities' Price Review 5 objectives, Chambers Ireland believes that Facilitating a Secure Low Carbon Future is paramount, second to this is Ensuring Local Security of Supply, and we are less focused on the Delivering Continual Efficiency Improvements – given the pace of technological change and investment that is needed by the network.

The emphasis on continual efficiency improvements is limiting as it inhibits the range of action by the DSO to those technologies which are already present within the Grid already. The technologies that are needed to facilitate the step change transformation needed if we are to be living in an Ireland that has reduced its carbon emissions by 55%, come 2030, will not be incremental in nature.

**2. The CRU is seeking stakeholders' views on the DSO's PR4 operational expenditure and the CRU's proposed decision to allow the DSO recover it's outturn PR4 expenditure.**

The Chambers Ireland support for the investment in the national grid infrastructure is driven largely by our commitment to climate action. It is critical that our country move towards a means of living and doing business that is sustainable. Part of the reason why we have taken the decision to support the Sustainable Development Goals is because the damage which carbon-dioxide emissions are doing to the environment has become apparent. The most obvious damage to our environment has been in the altered systems, and extremities of weather that we are now experiencing all too frequently.

The Commission's analysis makes clear that the outturn in PR4 OpEx spending was driven by extreme weather events. As the DSO is tasked with carrying out part of the works that will be needed to secure our transition to a low carbon economy, punishing them for not accounting for uncontrollable events like Storm Ophelia would be counter-productive, and indeed would argue for greater flexibility within OpEx across Price Review 5.

Consequently, Chambers Ireland agrees with the Commission that it is reasonable to allow the DSO's outturn costs.

**3. The CRU is seeking stakeholders' views on the CRU's proposed decision on the DSO's PR5 operational expenditure, including but not limited to:**

**a. the cost challenged applied to the DSO's PR5 operational expenditure.**

As we have made clear throughout this document Chambers Ireland is concerned that the Commission is not allowing sufficient OpEx for the DSO to meet the challenges that are placed upon it and that the allowable

expenses which the Commission has permitted ought to be increased in order to facilitate the increased complexity that the grid will require if it is to be able to support the decarbonisation of our electricity supply.

The DSO will be tasked with supporting the implementation of a wide variety of public policies that aim to either boost the amount of renewable energy which is supplied to our electricity networks, or facilitate changes in behaviour or consumption practices which will result in less reliance on fossil fuels.

This will be require considerable innovation across every level of our electricity supply networks and Chambers Ireland is concerned that the OpEx constraints which Price Review 5 places upon the DSO presently will inhibit the potential range of novel products that will be available to consumers, producers, and prosumers.

Another area where we have concerns is around the new business allowance as housing remains an area where there is considerable uncertainty. As we know, over the Price Review 4 period considerable amounts of capital which ought to have been used for reinforcing the grid was assigned instead to connecting new houses, with non-scheme houses accounting for two thirds of the spending on residential connections. The Commission foresees that spending on non-scheme houses is set to decline over the coming five years, however the absolute value of non-scheme houses has been stable for a decade, and while government policy has been pushing in the to reduce the number of once-off houses built, it hasn't been successful and non-scheme housing is likely to remain a considerable proportion of housing that is built for the foreseeable future, indeed, with the likely slow down in construction over the next 2-3 years, the proportion of once off houses built is likely to rise.

Chambers Ireland's concern is that if there is error in accounting for the number of new dwelling to be connected, or the associated costs, then yet again capital will be withdrawn from much needed areas of investment, such as reinforcement, and again be used to connect houses to the grid.

**b. the appropriateness of uncertainty mechanism for meter reading activities**

Chambers Ireland does not have a view on the appropriateness of an uncertainty mechanism for meter reading activities, though we do note that it is an area which will require considerable social acceptance, we do not want the arena of smart meters to become an area of controversy in the way that water metering became a problem.

There will be resistance to this scheme, just as there is resistance to all new technologies, and given that risk there ought to be considerable flexibility shown by the regulator regarding how much OpEx will be needed if the DSO is to be able to ensure that social acceptance is maintained throughout the process.

**4. The CRU is seeking stakeholders' views on the CRU's proposed decision on the DSO's PR5 capital expenditure, including but not limited to:**

**a. the cost challenged applied to the DSO's PR5 capital expenditure; and**

The underfunding of the reinforcement of the Low Voltage network is not to be welcomed,

As outlined throughout this document, Chambers Ireland is concerned that the adoption of Low Carbon Technologies is already being inhibited because of concerns about the inadequate investment in these local networks.

We believe that inadequately resourcing the reinforcement of these networks will create bottlenecks that will inhibit the decisions that consumers will be able to make if they want to Ensure Local Security of Supply.

This will create reputational risk for the DSO as they will be seen to be inhibiting the transition to Low Carbon Technologies.

This is likely to result in damaging the social acceptance of Low Carbon Technologies, either because the DSO will have to be reactive and so create waiting lists to allow investments in Low Voltage networks to go ahead, or individuals will make these investments in Low Carbon Technologies and precipitate unstable local supply where the Low Voltage network is strained beyond it's intended capacity.

This could also create the perception that their lack of action during the Price Review 5 period was counteracting government policy as laid out in the Programme for Government.

We ought to learn from the Price Review 4 experience where some windfarm developers have claimed that insufficient resourcing of the DSO and TSO resulted in delays with getting their windfarms connected to the grid.

Such restrictions on allowable expenditure ensures that investments that have been made are underutilised. It is to be hoped that this does not occur again under Price Review 5 though the Commissions has cost challenged the DSO in this, which raises our concerns too.

For consumers and businesses, the onboarding of Low Carbon Technologies needs to be frictionless as we need to have the entire

country working together to ensure our transition to a low carbon economy.

Underpreparing the grid is a false economy as it will make this transition more difficult.

**b. the appropriate balance in regard to the proposed uncertainty mechanism**

Chambers Ireland does not have a view on the proposed uncertainty mechanism

**c. the level of revenues relating to LCT take-up that should be provided in the PR5 base allowances and the level that should be provided for through uncertainty mechanisms**

CapEx should be increased to facilitate the reinforcement of vulnerable parts of the Low Voltage network to ensure that Low Carbon Technologies, if adopted, will not overburden the existing networks.

This may result in there being a certain amount of overinvestment in some parts of the country, however it is possible to prioritise these investments to that they can target those areas which are most vulnerable at present and so are most likely to need upgrading of their Low Voltage network regardless.

In their analysis of this the Commission ought to consider that there will be multiple equilibria for the trade-offs between under investment and over investment in the network, and that for the business community having an unstable electricity supply is far more concerning and costly than marginal changed to the PSO levy.

**d. alternative technical solutions that can be used to facilitate LCT take-up.**

Chambers Ireland does not have a view on such technical solutions

**5. The CRU is seeking views on the treatment of secondary assets.**

Chambers Ireland view on the treatment of secondary assets is that care would need to be taken to consider the characteristics of the assets involved.

Many newer technologies will not have the lifespans of the primary transmission assets, electronic components will need to be regularly upgraded, if only for security purposes.

In the commercial world many intangible investments are written off within three years, even for physical products the support for these items rarely continues for more than ten years, as a result such investments will need to be retired or risk failure at that point.

Consequently, the regime that allows for the capital depreciation of secondary assets should be flexible enough to accept that there will be a wide range of timescales across all assets, and that the DSO and the Commission should work together to assess which timescale is appropriate for these asset classes on an individual level.

**6. The CRU is seeking the views of respondents on the proposed WACC figure of 3.8%.**

Chambers Ireland does not have a view on the proposed WACC figure itself, but we believe that due regard must be had for the DSO's ability to raise funds in the

Capital Markets. A strong credit rating is essential to achieve this, as well as impacting on the cost of funds.

**7. The CRU seeks views on whether a 10-year economic life is an appropriate average value to assume as the life for smart metering assets.**

Chambers Ireland believes that a 10-year asset life for smart meters seems reasonable.