Chambers Ireland submission on the draft Wind Energy Development Guidelines

Summary

Chambers Ireland is a business representative organisation, our members are the chambers of commerce in the cities and towns throughout the country. 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. As Ireland's largest business network, our 40 member chambers are active in every major town and city in the country with a unique geographical range that covers every constituency.

Chambers Ireland is deeply concerned about the proposed Wind Energy Development Guidelines (WEDGs), the process which has developed them, and certain aspects of the regulations.

Our principle concerns relate to the WEDGs being incoherent with the aims of the Climate Action Plan, they will distort the energy supply market on the island, the noise elements are internally inconsistent and will result in it higher costs for both businesses and consumers, they will result in many proposed projects not being continued, they may force parts of the existing fleet to be decommissioned, they will preclude the repowering of much of the existing fleet, and we have further concerns about the setback requirements which will significantly reduce the land area available for erecting wind turbines.

There seems to have been an absence of a regulatory impact analysis for these regulations and given that there is an all-island integrated electricity market, there is an absence of consideration for the territorial impact of having two divergent regulatory regimes on the island.

Our network of chambers use the Sustainable Development Goals to prioritise our policy analysis and recommendations, we are concerned that the WEDGs in their draft form would damage our country's capacity to meet our obligations under Climate Action (Goal 13), Affordable Clean Energy (Goal 7). The draft WEDGs, if implemented, will hurt our economy's capacity to develop Sustainable Cities and Communities (Goal

11), Industry, Innovation and Infrastructure (Goal 9) and will ultimately undermine the challenge of creating Decent Work and Economic Growth (Goal 8).

The Department should consider urgently redrafting the WEDGs keeping in mind the peer-reviewed scientific evidence base, the trade-offs between local nuisance and national interest, and most importantly our obligations under the Paris Accord, and the Climate Action Plan which aims to guide us along the path towards meeting our 2030 greenhouse gas emission targets.

Climate Action Plan Concerns

Under the Climate Action Plan the Irish fleet of onshore wind turbines must double in capacity from 4GW to 8 GW in the coming years, however many of the projects which are in development will be unable to progress on the basis of the department's proposed changes to the Wind Energy Regulations.

Furthermore, there is a risk that parts of the existing fleet will need to be decommissioned and compounding this the repowering of many parts of the existing fleet will be impossible under these proposed regulations.

If we are to meet our 2030 CO_2 emission targets, we will have to reduce our total emissions by 16Mts, the Climate Action Plan aims to see half of that reduction arise through the migration of our electricity supply generation system to renewables. Half of that decline is to come from the increase in electricity generation using onshore wind. To increase this generation capacity, we will need to double the scale of our onshore wind turbine fleet while simultaneously creating an offshore fleet which has as large a capacity as the entirety of our current onshore wind generated electricity supply.

The ambition here is enormous as it requires trebling the size of our wind energy production within ten years, the adaptation of technologies new to the Irish electricity grid, and consequently requires a regulatory regime that supports that ambition.

The reduction in non-electricity-generation CO_2 emissions will come through the electrification of our transport networks and making our heating systems efficient through the use of heat-pumps etc. These reductions are dependent on the electricity generation system having transitioned to clean energy which amplifies the impact of any failure to transition our power supply to renewables.

Concerns regarding the noise elements of the WEDGs

We are concerned that instead of using the Institute of Acoustics', peer-reviewed and evidence-based, Wind Turbine Noise Guidelines[1] the department has chosen to take a piecemeal approach to them. We note that several of the acousticians who are listed in the draft WEDGs have described the approach that the department has taken has resulted in a report that contains "a number of technical errors, ambiguities, and inconsistencies".

While that group of acousticians has suggested that the WEDGs require 'detailed review and amendment' we are suggesting that to create a level playing field, which would best serve domestic energy consumers and businesses, **Ireland should align our regulations regarding noise and wind turbines with the Institute of Acoustic's guidelines**.

This would have three principle benefits: Firstly, these scientific guidelines are under constant review and so as the evidence base changes, so too would our own guidelines. Secondly this approach would avoid the creation of divergent regulatory regimes for wind farm developments which may give developers north of the border a competitive advantage. Finally, such an approach would hasten the pace towards developing certainty on the WEDGs.

We have already missed our deadlines for both the Strategic Environmental Assessment on the Wind Energy Guidelines, and this WEDGs process was due to be competed by the end of 2019, thus we are already not meeting our Climate Action Plan targets (in these cases, specifically Action 21).

Chambers Ireland notes with surprise that the WEDGs has been completed independent of the Strategic Environmental Assessment, as that would have given a scientific basis for the proposed regulatory framework.

Concerns regarding a chilling effect on developments in the pipeline

We also note that the delay in bringing these regulations forward has had a chilling effect on the industry. Had there been clarity at an earlier date regarding these regulations the developments that have stalled as a result of this regulatory uncertainty would be in the ground and that consequently we would be that much closer to meeting our 2020 CO_2 emission targets.

[1] https://www.ioa.org.uk/sites/default/files/AMWG%20Final%20Report-09-08-2016_1.pdf

Just as we saw with the department's apartment height planning regulations – the Urban Development and Building Height Guidelines for Planning Authorities[2] – regulatory uncertainty has a very large opportunity cost as it delays and stalls projects which are in the development pipeline.

Maintaining regulatory uncertainty by reviewing the parts of the WEDGs that relate to noise which lack clarity and are internally inconsistent will delay this process further, while simultaneously it will also repeat discussions that experts in the field (The Institute of Acoustics) have already formed a consensus around.

The chilling effect that was introduced by the proposed changes in regulation will continue under the draft WEDGs as the ambiguity which they introduce around noise will require testing in the courts to determine their interpretation; developers will not want to take onboard the legal risks associated with an uncertain legal environment.

Those who move first in this environment will bear the legal burden, while their competitors will accrue the benefits once the judicial process brings clarity. This will fundamentally alter the balance of the market, impeding smaller operators which cannot bear the organisational risk, and consequently result in slower construction, at fewer sites.

Concerns regarding the enforced decommissioning of existing fleet

Unless there is provision for grandfathering the existing fleet of wind turbines which were built with reference to the 2006 Wind Energy Guidelines, then where those windfarms which have been granted time-limited planning permissions seek to have their permissions extended, they will fall foul of the new regulatory regime. Furthermore, there are many instances nationally where local authorities have granted permissions to build new residences in areas which are within the 2006 set-back guidelines, the presence of these new residences could make the continued utility of existing windfarms impossible.

Concerns regarding the repowering of existing fleet

In tandem with the precluding the continued use of existing wind turbines, these proposed regulations may prevent the repowering of existing windfarms which will have a direct impact on customers. The grid infrastructure which supports our economy is built with a 50-year

[2] https://www.housing.gov.ie/sites/default/files/publications/files/urban_development_and_building_height_guidelines_for_planning_authorities_december_2018_0.pdf

lifespan and the depreciation of that capital investment is spread across that wide horizon. Where these regulations require the decommissioning of existing windfarms or prevent their continued use through repowering this will leave semi-state industries like EirGrid and the ESB with fixed capital that is stranded because of this shift in regulation. This lost capital will result in a less efficient electricity gird and consequently will require an increase in the PSO levy, damaging the domestic economy through a reduction in consumer spending, and hurting our competitiveness through increased costs of doing business.

Concerns regarding setback requirements

Increasing setback requirements reduces the available area for introducing windfarms, it also incentivises the development of less efficient, and noisier, shorter turbines. Reducing the land area available for windfarms will make it harder to meet our 2030 CO_2 emission targets. Increased set back will require that more, shorter, turbines will be necessary to reach the 4GWs of proposed increase to the fleet capacity. It should also be noted that almost 1.3GW of the capacity of the existing fleet will need to be decommissioned if this set of draft WEDGs become operational. This will require that at least 5.3GW of capacity will need to be added to the existing fleet of wind turbines to meet the 8GW target for national capacity.

Conclusions:

There seems to have been a misunderstanding regarding the purposes of the World Health Organisation's (WHO) noise guidelines and how they relate to wind turbines. More generally there are problems with how the department has interpreted the technical advice of experts on the physics of sound, and the WHO's determinations on how sound impacts the health of individuals.

In the WHO's Environmental Noise Guidelines for the European Region (2018)[3] the only "[p]riority health outcome" concern, for which there was an evidence base that met the WHO research standards criteria related to "prevalence of highly annoyed population" and even then the quality of that evidence is "Low". Regarding sleep disturbance, "[n]o statistically significant evidence was available for sleep disturbance related to exposure from wind turbine noise at night." Ultimately, the WHO concludes "that evidence on health effects from wind turbine noise (apart from annoyance) is either absent or rated low/very low quality… [and that] the burden on health from exposure to wind

[3] http://www.euro.who.int/__data/assets/pdf_file/0008/383921/noise-guidelines-eng.pdf

turbine noise at the population level to be low, concluding that any benefit from specifically reducing population exposure to wind turbine noise in all situations remains unclear."

While the recommendations of the WHO are that people should not have to experience **a yearly average** noise exposure to wind turbine noise which is in excess of 45 dB, this is a precautionary measure which has to be balanced against the "importance of wind energy for the development of renewable energy policies".

There is an added complication regarding these noise limits, namely that wind turbine noise is associated with windier weather conditions, and so a higher relative level of background noise. Restricting the use of wind turbines under conditions where they are quieter than the absolute level of background noise is nonsensical.

Finally, there is the issue of night-time noise. Noise levels which are sufficient to disturb sleep are a known health hazard, they are however not abnormal. Routinely, ambient traffic noise is sufficiently loud to disturb sleep, but we tend not to sleep out of doors. As the WHO argues "Noise levels from outdoor sources are generally lower indoors because of noise attenuation from the building structure, closing of windows and similar. Nevertheless, noise exposure is generally estimated outside, at the most exposed façade. As levels of wind turbine noise are generally much lower than those of transportation noise, the audibility of wind turbines in bedrooms, particularly when windows are closed, is unknown."

Industry has estimated that should the draft WEDGs become operational they will result in extra costs to the consumer, ultimately making the power generation transition to 70% renewables which we will need to make to achieve our 2030 targets of 8GW of wind energy will cost an extra €2.7 Billion. In this form, the WEDGs will likely result in significantly higher electricity supply costs for consumers and businesses, resulting in a smaller and less competitive national economy.

Even if the draft WEDGs were not as damaging to our national competitiveness as they are, we would need to consider amending them as if they were to be implemented in this form the WEDGs would likely see Ireland missing our 2030 CO_2 emission targets, and so risk undermining the Climate Action Plan.

Recommendations:

- Align the elements of the WREGs that pertain to noise with the Institute of Acoustics Good Practice Guide on Wind Turbine Noise

- If there is a decision to not align our WEDGs with the British regime, then a territorial impact assessment must be carried out to determine how the two regulatory regimes existing within a common electricity market will impact upon the generation, transmission, and consumption of electricity.

- Conduct a regulatory impact analysis to determine the impact of the WEDGs on our Climate Action targets, and to ascertain the balance between the public benefits of the WREGs regime versus the public costs (through increased charges, more expensive electricity and stranded assets).

- Allow Local Authorities discretion over the extension of planning permissions for existing windfarms, it is the local authorities which would have been receiving noise complaints, they are easily able to determine whether there is a noise issue with an existing windfarm, if there hasn't been a persistent problem with noise from a windfarm then the new regulatory regime shouldn't prevent its continuation and repowering.

- Ensure that setback is measured from the building which may be affected and not from curtailments associated with that building, as the definition of 'curtailment' remains ambiguous. Further, the WHO's night noise guidelines for Europe[4] which recommend the yearly average 40dB limit are appropriate to the sleeping environment, not necessarily the edge of the property associated with a residence, which in a rural area can be considerably distant from a residence. As the WHO notes even with a window open the internal noise level is expected to be 15dB lower than the external level.

- There is the need for Local Authorities to be able to apply discretion on the ground, just as the acoustics of a lake or geological formation may result in sound carrying further than is typical from a turbine, so too may the local environment mitigate the noise and flicker effects of a turbine. Where there is no noise impact, or problems regarding flicker from existing, or proposed developments, these should be allowed permission for development.

[4] http://www.euro.who.int/__data/assets/pdf_file/0017/43316/E92845.pdf