AQUIND Limited

AQUIND INTERCONNECTOR

Needs and Benefits Second Addendum

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CONTENTS

EXECUTIVE SUMMARY

- The Needs and Benefits Report [APP-115] and Needs and Benefits Addendum [REP1-136] identify the substantial socio-economic and environmental benefits of AQUIND Interconnector on a national scale[1] by contributing to energy security, integration of renewables and reductions in emissions, and reducing electricity prices.
- These two reports provided a review of key relevant policy documents and reports which support the consensus for increased GB interconnection. This second addendum addresses further important publications including:
  - The Impact of interconnectors on decarbonisation (October 2020, published December 2020)
  - The Ten Point Plan for a Green Industrial Revolution (November 2020)
  - National Infrastructure Strategy (NIS) (November 2020)
  - Government Response to the National Infrastructure Assessment (November 2020)
  - Ten Year Network Development Plan (TYNDP) (November 2020)
  - The Energy White Paper: Powering our net zero future (December 2020)
- These documents all provide further support for the compelling need for the AQUIND Interconnector. In summary:
  - The National Policy Statement for Energy (EN-1) continues to represent relevant government policy and the urgent need for energy infrastructure set out in the NPS remains.
  - The transition to the 2050 net zero carbon commitments will increase electricity demands (the Energy White Paper predicting demand could double by 2050).
  - Increased demand for electricity will require increased investment in network infrastructure and sources of flexibility.
  - Interconnectors are recognised as a means of delivering this flexibility which can help integrate low carbon generation and limit curtailment of generation from intermittent renewable sources.
  - The importance of interconnectors in the post-Brexit GB energy mix is emphasised in the Energy White Paper, which commits to realise at least 18GW of interconnections by 2030.

- The contribution that higher levels of interconnection can make in delivering decarbonisation is demonstrated by the analysis in The Impact of interconnectors on decarbonisation report published alongside the Energy White Paper. This demonstrates that increased interconnection would be likely substantially to decrease cumulative CO2 emissions compared to current levels of interconnection.
- The assumptions adopted in that report, for the higher levels of interconnection which deliver these benefits, specifically include an increase in interconnector capacity to France to 9GW (which correlates with the analysis presented in the Needs and Benefits Addendum).
- The Government message in the Energy White Paper and Ten Point Plan is clear; delivering net zero commitments must come hand in hand with delivering economic growth and value for consumers. The documents provide further corroboration that interconnection will decrease costs and provide support for investment in energy infrastructure projects as part of the UK's economic recovery.

- In summary, the national scale benefits of the AQUIND Interconnector, as further supported by these important publications, should be afforded very considerable weight in decision making.

[1] Needs and Benefits Report [APP-115] and Needs and Benefits Addendum [REP1-136] also address the wider economic benefits of the AQUIND Interconnector and the local and regional benefits through employment generation, spending and business rate generation.

1. INTRODUCTION

1.1.1.1. This report is the second addendum to the Needs and Benefits Report [APP-115] submitted with the DCO application, supplementing the Needs and Benefits Addendum [REP-136] submitted in October 2020 at Deadline 1.

1.1.1.2. This second addendum provides an update on policy documents and reports published in late 2020[2] which provide further support for the value of electricity interconnection in achieving the Government's 2050 net zero commitments in the post Brexit era.

1.1.1.3. This includes important documents published by Government in November 2020 including the *Ten Point Plan for a Green Industrial Revolution*, the *Government Response to the National Infrastructure Assessment* and *National Infrastructure Strategy* (NIS). These publications preceded the long-awaited publication of the *Energy White Paper: Powering our net zero future* ("the Energy White Paper") in December 2020.

1.1.1.4. The Energy White Paper presents a vision for achieving net zero targets and what that will mean for customers and businesses. At its heart, the strategy involves a shift from fossil fuels to using clean energy and is clear that this will involve an increasing reliance on electricity and strategies which increase flexibility and deliver affordability.

1.1.1.5. The future role of interconnection in achieving these objectives is specifically recognised in the Energy White Paper which outlines a target of realising at least 18GW of interconnector capacity by 2030 – more than a three-fold increase from current levels (5 GW).

1.1.1.6. This recommendation is supported by the report *The impact of interconnectors on decarbonisation* (prepared for BEIS by Aurora Energy Research in October 2020) published alongside the Energy White Paper. This report demonstrates that a higher level of interconnectors could significantly decrease carbon emissions as well as reducing system costs.

1.1.1.7. This second addendum also addresses the *Ten-Year Network Development Plan* (November 2020). This is the European electricity infrastructure development plan which looks at how power links and storage can be used to make the energy transition to clean electricity in a cost effective and secure way.

1.1.1.8. These publications all further support the compelling need for the AQUIND Interconnector and the national scale benefits of delivering energy security, integration of renewables and contributing to reductions in emissions, and reducing electricity prices.

[2] Responding in part to the Examining Authority's further written question PP2.13.1

2. POLICY AND EVIDENCE UPDATE

2.1. INTRODUCTION

2.1.1.1. The Needs and Benefits Report [APP-115] provided a summary of key policy, guidance and analysis providing support for the delivery of electricity infrastructure and specifically interconnector projects. This included:

- Planning our Electric Future (2011)
- National Policy Statement EN-1 (2011)
- More Interconnection: Improving Energy Security and Lowering Bills (2013)
- Getting More Connection (2014)
- Smart Power (2016)
- 2016 Spring Statement
- National Infrastructure Delivery Plan (2016)
- Overseas Electricity Interconnection (2018)
- 2018 National Infrastructure Assessment (2018)
- Future Energy Scenarios (2019)
- National Energy and Climate Plan (2019)

2.1.1.2. The Needs and Benefits Addendum [REP-136] provided a review of additional analysis and publications in 2020 which provided further support for the role of interconnectors or highlighted the implications of the Covid-19 pandemic on global energy infrastructure investment, including:

- Network Options Assessment (NOA) 2019/20 (January 2020)
- Ofgem Decarbonisation Programme Action Plan (February 2020)
- National Infrastructure Commission's 2020 AMR (February 2020)
- Budget 2020 (March 2020)
- Global Energy Review 2020 (April 2020)
- World Energy Investment (May 2020)
- Future Energy Scenarios (FES) (July 2020)

2.1.1.3. The following sub-sections provide a review of further publications since October 2020 which are relevant to the project and further highlight the urgent national need for electricity infrastructure.

2.2. THE ENERGY WHITE PAPER: POWERING OUR NET ZERO FUTURE (DECEMBER 2020)

2.2.1.1. Following on from various government publications in November 2020 (including the Ten Point Plan, response to the NIA and National Infrastructure Strategy – addressed in brief at sections 2.5 – 2.7), the Energy White Paper sets out the Government's strategy for the UK's energy system that will 'transform energy' towards a greener future, grow the economy and deliver consumer benefits. The emphasis, therefore, is on ensuring that delivering the transition to net zero is affordable and also provides growth and job creation – particularly in light of the effect of the Covid-19 pandemic.

2.2.1.2. The following subsections provide a brief summary of the Energy White Paper where directly relevant to the AQUIND Interconnector project (with cross reference to matters previously addressed in the Needs and Benefits Report and first addendum).

INCREASE IN ELECTRICITY DEMAND

2.2.1.3. The Covid-19 pandemic is currently having an impact on global energy consumption (including reductions in global electricity demand as reported in the IEA's Global Energy Review 2020 - see section 2.6 of the Needs and Benefits Addendum). However even in a scenario where short-term demand continues to contract, the demand for renewables is likely to increase - with fossil fuel demand likely to be most impacted. As explained in the Needs and Benefits Report and Needs and Benefits Addendum, AQUIND Interconnector will help to facilitate a transition to renewable energy. As recognised by the Global Energy Review 2020, the pandemic also highlights the importance of electricity flexibility and security, for which the rise in renewables generation and their inherently intermittent nature, already poses challenges.

2.2.1.4. In the longer term, however, the Energy White Paper is clear that in achieving net zero commitments we will become more reliant on electricity and particularly from clean sources. It predicts (based on BEIS analysis) that overall demand for electricity could double to 2050 because of the electrification of cars and vans and the increased use of clean electricity replacing gas for heating. The Energy White Paper finds that as a result electricity could provide more than half of final energy demand in 2050 compared to 17% in 2019 (page 41). The Energy White Paper predicts this would require a four-fold increase in clean electricity generation, with the decarbonisation of electricity underpinning the delivery of the net zero target (page 42).

2.2.1.5. The Energy White Paper states that Government is not targeting a particular generation mix at this stage and the market should determine the best solutions for low emissions and a reliable supply at low cost to consumers (noting that competition will spur investment in cheaper technologies and innovation will reduce costs of existing options). Whilst the precise generation mix for 2050 is not yet known, illustrative examples (as shown on page 43) show that under all scenarios, renewables generation will significantly increase. The report recognises that measures will be required to enable the integration of high volumes of low-cost intermittent generation. This includes complementing renewables generation with technologies which provide power or reduce demand when conditions are not conducive to wind or solar generation. This includes interconnectors as part of the solution alongside nuclear, gas, storage and short term dispatchable generation (as recognised at page 43).

FLEXIBILITY IN THE ENERGY SYSTEM

2.2.1.6. Chapter 3 of the Energy White Paper addresses the need for the energy system to adapt to support the deployment of clean energy technologies. It reiterates the promotion of competition to drive cost reductions and ensuring the system is flexible and responsive (page 71), recognising that balancing supply and demand becomes more complex because of the inherent intermittency of renewable technologies.

2.2.1.7. The Energy White Paper specifically recognises the role of interconnection in providing this future flexibility as reliance on gas reduces:

"*Gas-fired power stations have traditionally provided the flexibility needed to match supply to demand at peak hours, or when renewables output is low. Increasingly, flexibility will come from new, cleaner sources, such as energy storage in batteries, increased interconnected capacity from neighbouring electricity markets, or from consumers using smart technologies to reduce how much energy they use or shift when they use the energy to different times in the day. New forms of flexibility could lower future costs for consumers, by minimising expensive network reinforcement or reducing the need for additional generation, especially peaking capacity which needs to be deployed quickly to meet spikes in demand"* (our emphasis).

As well as delivering energy security this also recognises the benefits of flexibility in reducing costs for consumers.

ROLE OF INTERCONNECTION AND SUPPORT FOR INCREASED CAPACITY

2.2.1.8. The Energy White Paper states that the transformation of our energy system will require investment in physical infrastructure – including a 'complete step change' in approach and scale of the electricity network to ensure the network can cope with the increasing demand for electricity. The paper outlines measures to promote greater competition to reduce network costs. It specifically recognises the role of interconnectors in enabling integration with other markets – and that this flexibility has specific benefits for decarbonisation and reducing costs:

"Interconnection increases the ability of the GB electricity market to trade with other markets, enhances the flexibility of our energy system and has been shown to have clear benefits for decarbonisation. Alongside this white paper, we are publishing a report into the impact of interconnectors on decarbonisation, which demonstrates how a higher level of interconnector capacity could decrease cumulative emissions in Great Britain by up to 199MtCO2 e by 2050, as well as reducing total system costs" (page 79).

2.2.1.9. That report (*The impact of interconnectors on decarbonisation* – October 2020), which we address in further detail in section 2.6 below, underpins a commitment in the Energy White Paper to significantly increase interconnector capacity:

"*We will work with Ofgem, developers and our European partners to realise at least 18GW of interconnector capacity by 2030. This represents a three-fold increase from current levels and will position us as a potential net exporter of excess green energy, helping to keep wind turbines generating even when GB electricity demand has been met*" (page 80).

2.2.1.10. This corroborates the latest analysis from National Grid ESO as reported in the Needs and Benefits Addendum, which identified an optimal capacity between GB and European markets in the range of 18.1 to 23.1GW by 2032 to provide the maximum benefits to consumers. The current level of operational GB Interconnection remains 5GW.

STATUS OF NATIONAL POLICY STATEMENT EN-1

2.2.1.11. It is also relevant to the AQUIND Interconnector project that the Energy White Paper provides clarity on the status of current government policy for National Infrastructure Projects (NSIPs). It advises that government will complete a review of the existing energy National Policy Statements (NPS), with the aim of designating updated NPSs by the end of 2021. In the meantime, it confirms that the Energy White Paper shows that the need for energy infrastructure set out in the existing NPS remains (other than for coal fired generation) and until this review is undertaken the current suite of NPSs remain relevant government policy and have effect for the purposes of the Planning Act 2008 and the basis for decisions on applications for development consent.

2.2.1.12. Although the AQUIND Interconnector is not an NSIP, the section 35 direction confirms that NPS EN-1 has effect in relation to the application in a manner equivalent to an application for a generating station of a similar generating capacity.

2.3. THE IMPACT OF INTERCONNECTORS ON DECARBONISATION (OCTOBER 2020)

2.3.1.1. The report referred to at page 79 of the Energy White Paper, *The impact of interconnectors on decarbonisation*, was prepared by Aurora Energy Research for BEIS in October 2020 in order to explore the impact of interconnectors on carbon emissions both at a GB and EU level.

2.3.1.2. The report starts by highlighting the role of interconnector projects – supporting the benefits we have already outlined in the Needs and Benefits Report and Needs and Benefits Addendum - namely that:

- *"Interconnection has the potential to provide transmission-level flexibility which can help integrate low carbon generation at a regional level. It allows all markets to maintain high-levels of generation from intermittent renewables rather than curtailing generation when it is not required to meet domestic demand"*
- *"It is generally understood that increased flexibility, including interconnection, will be important to help integrate renewable energy across the region, and to contribute towards decarbonisation targets…"*

2.3.1.3. The report then presents findings relating to the impact of interconnectors on decarbonisation for GB and the EU calculated for various scenarios based on different permutations of decarbonisation policies in GB and EU and interconnector capacity.

2.3.1.4. GB is currently a net importer of electricity, but future interconnector flows are uncertain and will be influenced by several factors including decarbonisation policies and relative power prices. The report finds, however, that interconnector activity will be an increasingly influential part of the total consumption in the UK. Whether GB is a net importer or exporter, meeting carbon emission targets for the power sector will be increasingly influenced by interconnector activity.

2.3.1.5. Electricity imports are only net zero when they are supplied by renewables or nuclear sources (although the way that carbon emissions are currently calculated, based on the average CO2 intensity of generation, does not take into account CO2 emissions of imported electricity in the destination country). The carbon intensity of different countries therefore provides an understanding of carbon emissions associated with interconnector imports. France for example has a much lower carbon intensity (47kgCO2e/MWh) than Germany (at 520kgCO2e/MWh) where over half of its generation comes from carbon intensive technologies – which is one of the reasons why France is one of the most favourable countries in Europe for interconnection (as we addressed in the Needs and Benefits Addendum). Whilst the carbon intensities of different countries differ greatly the report notes that tracking carbon emissions associated with interconnector flows is difficult, given the average intensity of the source is not exact. For the purpose of assessing the impact of interconnectors on decarbonisation the report therefore measures incremental changes of CO2 across the EU as a whole.

2.3.1.6. The report uses this method to measure the impact that changes in interconnection levels have on emissions in GB and the EU. It does this by modelling 18 different scenarios based on three variables of (1) GB decarbonisation policy (either 'Known Policy' which reflects current policy which is not net zero consistent and 'Net Zero' which is an illustration of a net zero consistent power sector in GB), (2) EU decarbonisation policy (either 'Low', 'Existing' or 'High' – correlating to a decrease in renewables generation, existing EU policy and the latter being equivalent to a net zero scenario) and (3) interconnector capacity, which are either 'Low' (existing GB capacity plus the 4GW in construction), 'Central' (current pipeline of projects) and High (increased capacity) scenarios.

2.3.1.7. The High interconnector scenario is based on assumptions provided by BEIS that include an increase in interconnection capacity to 23GW (i.e. an increase of 18GW over current capacity). This includes an increase in interconnection between GB and France from the current 2GW of capacity in 2020 (i.e. the IFA interconnector) to 9GW by 2030[3]. This 9GW capacity reflects the total operational and planned capacity between GB and France with the AQUIND Interconnector in place[4].

2.3.1.8. The benefits of increased interconnector capacity illustrated in the report can therefore be assumed to include the direct contribution of the AQUIND Interconnector.

2.3.1.9. The analysis in the report presents its findings in terms of the effect of these variables (i.e. decarbonisation policy and levels of interconnection) on emissions in GB and the EU, but also on the impact on thermal generation, renewables curtailment and market costs. In summary it finds that:

- **An increase in interconnector capacity between GB and the EU would likely decrease carbon emissions in both regions**: Under current policy scenarios (i.e. the Known policy scenario in GB and Existing policy scenario in the EU) the report shows that total cumulative CO2 emissions (i.e. over a 30 year period to 2050) would be 199 MtCO2e lower with 'High' interconnection capacity (i.e. the scenario which reflects increased levels of interconnection – which includes AQUIND Interconnector) compared to 'Low' capacity (i.e. current level of interconnection operational or in construction). This would represent a reduction in total cumulative CO2 emissions of 20% as a result of the High interconnector approach (compared to maintaining the current level).

[3] Note that the Central scenario which projects an increase in total interconnector capacity to 18GW also includes an increase in capacity with France to 9GW. The Low scenario, which reflects only existing capacity and in construction, increases capacity with France to 4GW – to reflect the two interconnectors under construction, namely ElecLink and IFA2 which would provide an additional 2GW).

[4] As we reported in the Needs and Benefits Addendum (page 6) the total capacity of interconnection between GB and France, with all current and planned capacity in place would be 8.8GW. This is comprised of the IFA at 2GW (existing), ElecLink and IFA 2 at 2GW combined (in construction) plus FAB Link and GridLink which if constructed would provide 1.4GW each, plus AQUIND Interconnector at 2GW).

- In a Net Zero GB scenario, the difference in emissions as a result of increasing interconnector capacity decreases in real terms (as the proportions of low carbon generation would already be higher and emissions would be reduced by 40% compared to the Known Policy scenario) but the effect of a High interconnector capacity would still be positive (reducing cumulative GB emissions by 7.5% compared to Low levels of interconnection) - and these benefits would be evident in the short – medium term up to 2030 at which point they would include the AQUIND Interconnector. The overall benefit to the EU as a whole (including GB for the purposes of the analysis presented) would also be greater under this scenario (as shown at page 27).
- The report also considers scenarios where GB policy does not change (i.e. Known Policy) and the EU moves to High decarbonisation. This finds that High interconnector capacity would reduce cumulative CO2 emissions in GB by 262 MtCO2e compared to Low interconnector capacity (which is greater compared to GB Known / EU Existing scenario i.e. the scenario outlined above and referred to in the Energy White Paper that would lead to the 199MtCO2e reduction). This scenario, however, seems unlikely given the UK's commitment to net zero by 2050.
- A scenario where both GB and EU adopt ambitious decarbonisation policies (i.e. GB Net Zero and EU High) unsurprisingly accelerates the reduction in total CO2 emissions in GB. The gains from more interconnection in this scenario are again less in quantitative terms given emissions are already much lower, but the effect of high interconnector capacity in this scenario would still be highly beneficial, reducing cumulative emissions by 69 MtCO2e (or 13%) compared to the Low interconnection scenario.

- **Increased interconnector capacity would lead to the requirement for less thermal power generation:** This is one of the drivers for the decreases in carbon emissions. In the status quo policy scenario, with GB continuing to import electricity, higher interconnection enables greater utilisation of renewable and nuclear generation and reduces the need for GB thermal generation - as imports push carbon intensive thermal generation out of the merit order which in turn reduces GB carbon emissions (page 27). In the Net Zero scenario the reverse is true where EU imports from GB increase reducing thermal generation across the EU – again reducing emissions. The report also finds that increasing interconnector capacity reduces thermal generation in GB across different scenarios of EU decarbonisation policy.

- **Increased interconnection capacity would help reduce renewable curtailment**: Increased interconnector capacity will help to spread excess renewable generation across interconnected countries. By way of example the data at page 35 demonstrates that, adopting the GB Known policy and EU Existing policy scenarios again, curtailment levels in both GB and France would be substantially higher (by around 65% on average) under a low interconnector level scenario compared to a high interconnection level. A similar conclusion is reached for a Net Zero scenario suggesting interconnection allows renewable generation to be transferred through interconnectors to undersupplied countries (page 43).
- **The impact of interconnection on baseload prices will depend on the relative levels of decarbonisation between GB and the EU** – high interconnection capacity and ambitious decarbonisation policies in both regions would reduce baseload price. With high interconnection capacity and a scenario with lower decarbonisation ambitions in GB compared to the EU, baseload prices would decrease as imports from France increase.
- **Total system costs decrease marginally with higher interconnection levels, as wholesale prices in GB decrease -** a more decarbonised EU leads to lower total system costs in GB.

2.3.1.10. In summary, all scenarios which involve an increase in interconnection under the Central or High interconnector level (which both assume an increase in interconnection between GB and France by 2030 of 9GW – which includes the contribution of the AQUIND Interconnector) would result in a decrease in carbon emissions in both regions. The effect of greater interconnection would vary depending on decarbonisation policies (the effect of interconnection in real terms reducing under more ambitious policies) but in all scenarios the effect of increased interconnection is beneficial.

2.3.1.11. Increasing interconnection also has beneficial impacts on reducing thermal power generation (either in GB, the EU or both depending on the scenario), reducing curtailment of renewable energy production and reducing overall costs of energy transition to consumers. This is consistent with findings of FTI in its 2020 report "Reducing the Cost of Transition to "Net Zero" for GB Consumers", discussed in the Needs and Benefits Addendum.

2.4. TEN YEAR NETWORK DEVELOPMENT PLAN (NOVEMBER 2020)

2.4.1.1. The European Organisation of Network Transmission System Operators - Electricity (ENTSO-E) for short - published in November 2020 for consultation the results of a new Ten-Year Network Development Plan assessment, conducted in accordance with Regulation (EU) 347/2013 (the TEN-E Regulation).

2.4.1.2. TYNDP 2020 includes AQUIND Interconnector and provides very positive results in all core scenarios – National Trends (NT), Distributed Energy (DE) and Global Ambition (GA). The NT is a main scenario, but ENTSO-E acknowledges that, while being very ambitious, it does not reach Net Zero targets by 2050 as it was formulated based on the national and European plans made before the commitment of the Paris Agreement to stop the global warming at 1.5C. However, DE and GA scenarios are Net Zero scenarios, based on different strategies of achieving Net Zero targets in energy by 2040 and across all sectors - by 2050. DE assumes transition to more decentralised energy systems, including the increasing role of the prosumer and circular economy, while GA follows a more centralised plan, relying on large power generation plants, of phasing out carbon energy sources in various industries. Further information regarding TYNDP 2020 scenarios can be found in TYNDP 2020 – Scenario Report.[5]

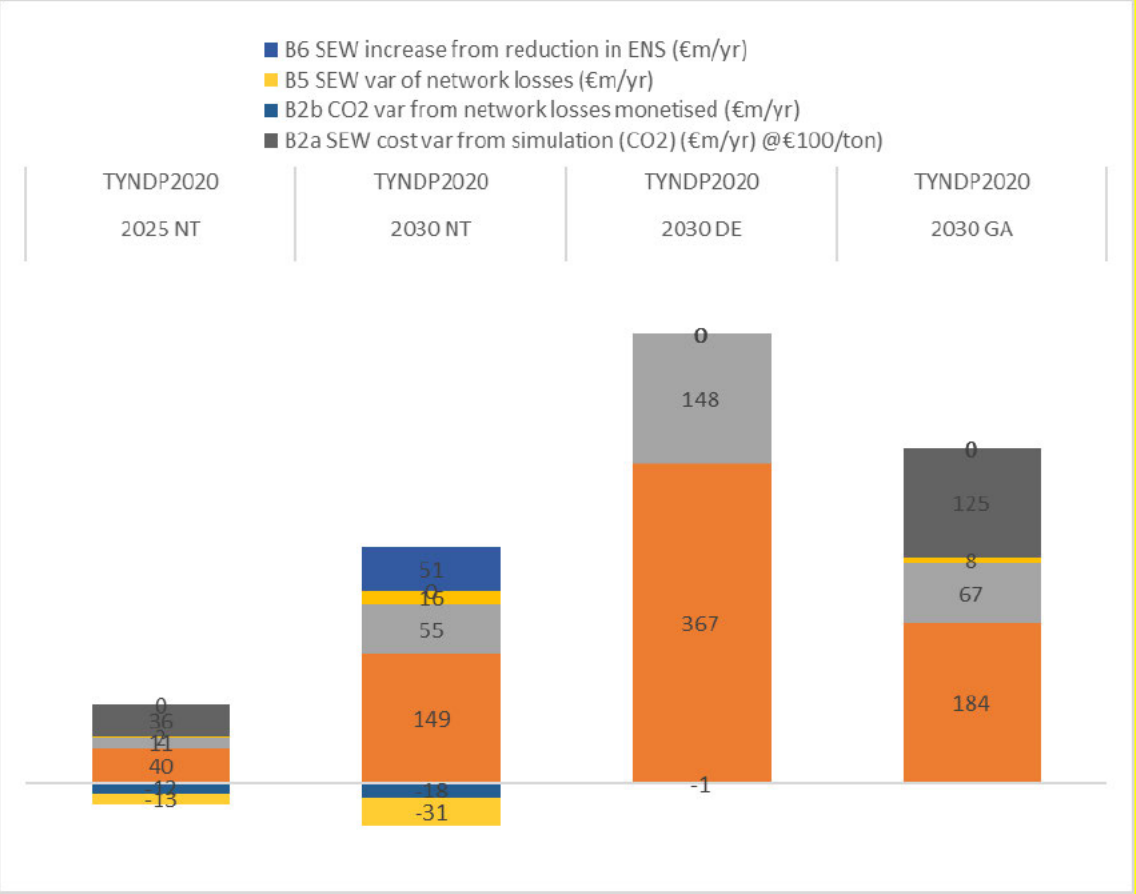
2.4.1.3. All scenarios feature a significant increase in electricity consumption, as many sectors of economy rapidly decarbonise, especially the DE scenario, including the decarbonisation of the energy supply itself. That also results in the increased peak demand. Phasing out of large-scale thermal power generation plants and the significant increase of the share of supply from intermittent renewables, also means the reduced flexibility of addressing such peaks requires new infrastructure, including significant interconnection capacity to address such trends.

2.4.1.4. The results for AQUIND Interconnector reflect those trends very well and also show further increase in benefits of the Project in the Net Zero scenarios.[6] While assumptions may differ, this is conceptually consistent with the Aurora 2020 decarbonisation study, FTI report 2020 on the role of AQUIND Interconnector in reducing costs of Net Zero to GB consumers and the National Grid FES scenarios.

[5] Available here - [redacted]

[6] The AQUIND Interconnector project sheet (number 247) is available at https://tyndp2020-project-platform.azurewebsites.net/projectsheets/transmission/247

Figure 1 - Total Monetised Benefits of AQUIND Interconnector, TYNDP 2020 (€m/yr)[7]



[7] ENTSO-E, 28 January 2020, 3rd ENTSO-E Guideline for Cost Benefit Analysis of Grid Development Projects, available at [redacted]

Notes: ENTSO-E did not estimate Security of Supply benefits for NT2025, GA2030 or DE2030.

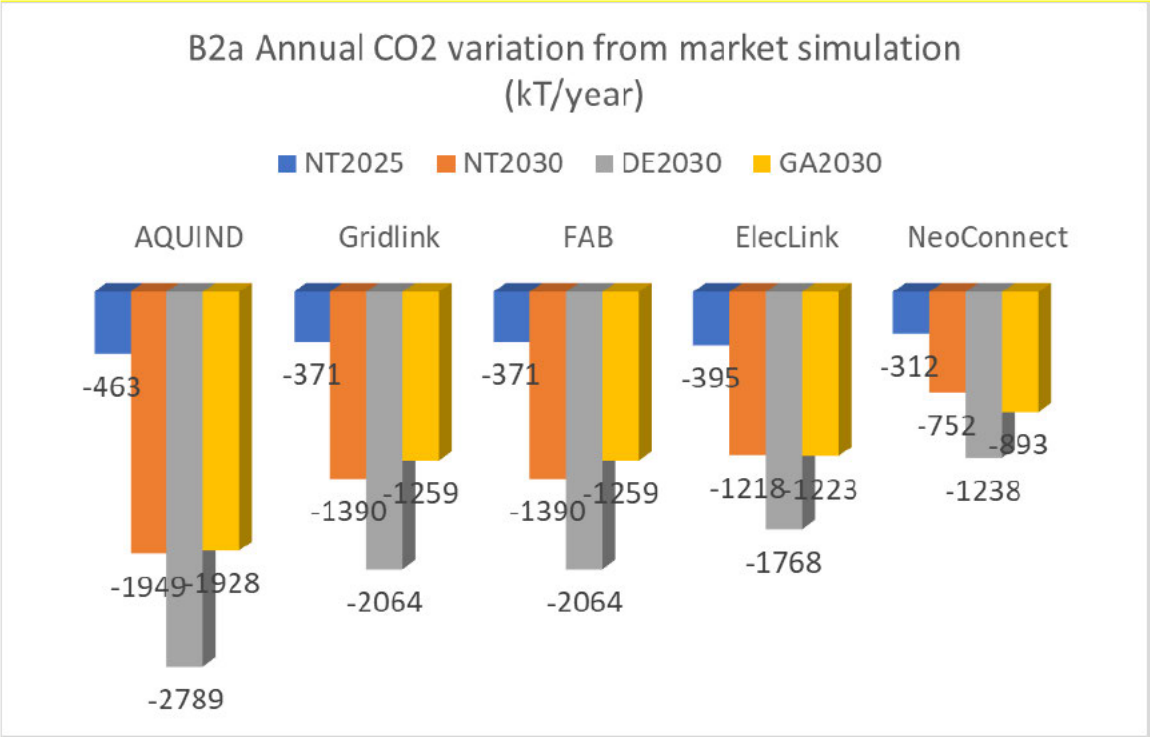
B1 SEW – Social economic welfare – a sum of consumer, supplier and interconnector surpluses, arising from market integration. B1 SEW from CO2 reduction – an additional metric, showing specific economic benefits arising from the reduction of CO2 emissions. B1 SEW from RES Integration – an additional metric, showing specific economic benefits arising for integration of more renewable energy sources.

The reduction of the social economic welfare from associated grid losses and additional social economic welfare benefits from the reductions of Energy not Served (avoided need in power generation that is met by interconnectors instead) are added to the total result.

2.4.1.5. There is also a strong direct effect on the reduction of CO^2 emission in volume terms. Under the NT2025 and NT2030 scenarios, the cumulative effect of AQUIND Interconnector over 25 years of its operation is the reduction of emissions by 40.4 $MtCO^2$. In the combination of NT2025 and DE2030 scenarios – 67.8 $MtCO^2$ and in NT2025 and GA2030 combination – 47.2 $MtCO^2$.

2.4.1.6. The Project's results also show the positive impact of the Project on grid stability, even though TYNDP methodology does not precisely quantify such benefits.

Figure 2 - Comparative impact of interconnectors on the reduction of CO2 emissions, TYNDP 2020 (kT/yr)



2.5. THE TEN POINT PLAN FOR A GREEN INDUSTRIAL REVOLUTION (NOVEMBER 2020)

2.5.1.1. The Ten Point Plan sets out the Government's initial plans for cutting emissions towards achieving net zero carbon emissions by 2050 - through the mobilisation of £12 billion of Government investment in green technology.

2.5.1.2. The plan does not make specific reference to electricity interconnectors but emphasises that achieving green targets goes hand in hand with economic growth and the role of energy investment in repairing the economic damage of the Covid-19 pandemic.

2.5.1.3. This supports an even greater role for infrastructure investment to support the UK economy in light of the pandemic than that which was identified in the Needs and Benefits Addendum. AQUIND Interconnector represents a large-scale infrastructure project that is ready to start construction as soon as 2021 and can help to drive this recovery.

2.6. GOVERNMENT RESPONSE TO THE NATIONAL INFRASTRUCTURE ASSESSMENT (NOVEMBER 2020)

2.6.1.1. In November 2020, the Government also issued a report in response to the National Infrastructure Commission's 2018 National Infrastructure Assessment (NIA), which presented an assessment of the UK's infrastructure needs up to 2050. The report provides a direct response to each of the NIA recommendations including in relation to 'low carbon, low cost' electricity, heat and waste.

2.6.1.2. The Government response noted that since the NIA, the UK has committed to the net zero target by 2050 and sets the response in that context. Again, this document does not refer to interconnector schemes specifically, but highlights issues that increasing interconnection will help to address.

3. CONCLUSION

3.1.1.1. The National Policy Statement for Energy Infrastructure (NPS EN-1) published a decade ago outlined the need to ensure energy security, affordability, achieve carbon emissions reductions, replace fossil fuel energy generating capacity, support increased supply from renewables and cater for future increases in electricity demand. Given the urgent need for new energy infrastructure, the NPS requires the decision maker to start with a presumption in favour of granting consent for all applications for energy NSIPs[8]. The recently published Energy White Paper confirms that the need for energy infrastructure set out in the NPS remains and NPS EN-1 continues to represent current Government policy.

3.1.1.2. The need for new electricity infrastructure has further increased since the publication on NPS EN-1. The suite of recent publications by Government highlights the measures that are required to achieve net zero emissions targets as well as delivering economic growth and consumer benefits.

3.1.1.3. The benefits of increasing interconnection are again specifically recognised (supporting the evidence presented in the Needs and Benefits Report and first addendum) by facilitating flexibility in the energy system, integration of renewables and reducing costs – as our reliance on electricity continues to increase.

3.1.1.4. The impact of interconnectors on decarbonisation is demonstrated through research prepared for BEIS[9], which finds that an increase in interconnector capacity would substantially decrease cumulative carbon emissions compared to the retention of existing levels of interconnection. The scenarios tested for higher interconnector capacity, which deliver these benefits, assume an increase in GB interconnection of 18GW. This includes an increase in interconnection between GB and France to 9GW by 2030 (which reflects the level of capacity that would be delivered through existing, in construction and proposed projects – including AQUIND Interconnector). The Energy White Paper refers to these findings and states that Government will work with Ofgem, developers and European partners to deliver at least 18GW of interconnector capacity by 2030.

3.1.1.5. These findings, whilst the methodologies may differ, are conceptually consistent with the TYNDP (addressed at section 2.4 of this report) and the FTI report 2020 on the role of AQUIND Interconnector in reducing costs of Net Zero to GB consumers and the National Grid FES scenarios (as we addressed in the Needs and Benefits Addendum).

[8] The AQUIND Interconnector project does not meet the definitions of an NSIP set in the 2008 Planning Act but the s35 direction states that the project is nationally significant and that NPS EN-1 should apply to the application as it would to a generating station of a similar capacity.
[9] *The impact of interconnectors on decarbonisation* – October 2020

3.1.1.6. In summary, the additional publications since October 2020 further highlight and emphasise the benefits of AQUIND Interconnector on a national level, which should be afforded substantial weight in the planning balance.