Embracing Merchant Transmission Investment

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Executive Summary

The proposed AQUIND high voltage electricity interconnector between France and Great Britain is a case study of the challenges of developing rules and regulations for efficient electricity transmission investment that provide the needed balance between cost-of-service[1] regulated investments and merchant investments facing market risks and returns.

The European Parliament and the Council of the European Union ("EC") Regulation No 714/2009 ("Regulation 714/2009") governing cross-border exchanges of electricity in the European Union ("EU") is premised "*on the principle that the general access regime to electricity infrastructure is regulated third party access*".[2] Importantly, this regulation explicitly recognizes that there are situations in which regulated cross-border interconnectors might not be built and states the rules for determining whether merchant cross-border interconnectors may be exempted from certain requirements in order to enable beneficial cross-border exchanges of electricity that would not otherwise occur. The Agency for the Cooperation of Energy Regulators ("ACER") in some cases[3] evaluates requests by developers of merchant interconnectors for exemption. This evaluation is based on six conditions specified in Article 17(1) of Regulation 714/2009.

On 19 June 2018, ACER issued a decision rejecting the application by AQUIND Limited ("AQUIND") for an exemption requested in order to build a merchant interconnector from France to Great Britain. ACER's decision hinged on evaluation of a key element, Article 17(1)(b), of Regulation 714/2009, requiring that "*the level of risk attached to the [merchant] investment is such that the investment would not take place unless an exemption is granted*".[4] Specifically, ACER rejected AQUIND's request because it was "*not able to identify with the required certainty a level of risk for the AQUIND interconnector such that the investment in the project would not take place unless the requested exemptions are*

[1] Cost of service refers to the bottom-up approach that regulators use to determine the allowed revenue for regulated assets based on the costs associated with the asset.
[2] Decision of the Agency for the Cooperation of Energy Regulators No 05/2018 of 19 June 2018 on the Exemption Request for the AQUIND Interconnector ("ACER Decision"), ¶1.
[3] Regulation 714/2009, Article 17(5) sets out the circumstances in which ACER takes on this role. This is either when National Regulatory Authorities ("NRAs") have not been able to reach a decision or upon a joint request from the regulatory authorities concerned. Regulation 714/2009, Article 17(7), also describes that all exemption requests must be notified to ACER.
[4] Box 3 lists elements (a) through (f) of Article 17(1).

granted".[5] ACER concluded that "*the revenue / market / project competition risks are largely mitigated by the availability of a regulated route to the recovery of investment and operating costs*".[6]

ACER's optimism about the possibility of a regulated alternative to the AQUIND project appears to stem from a conclusion that a past record of "*appetite of investors in new interconnections on the France – Great Britain border*", combined with the possibility of regulated financial support under Article 12 of Regulation (EU) No 247/2013[7], would be sufficient to enable a regulated alternative to the AQUIND project.[8]

This conclusion ignores the differences in risk-return preferences that exist among market investors. It is entirely possible that a risky project with a high expected return would be appealing to a merchant investor but that the same project would not be appealing to other investors who, in other contexts, might accept lower returns in exchange for lower investor risks. Since the risks of a merchant investment fall on the investor, under these circumstances market benefits can best be realized by enabling merchant investment in the absence of a realizable regulated alternative.

ACER's conclusion that there are viable, regulated alternatives to the AQUIND project is not supported by the facts. There is no proposed, regulated alternative to the AQUIND project, which is *de facto* evidence that a financially viable alternative does not exist. In support of its decision concerning Article 17(1)(b), ACER seems to be implicitly relying on a hypothetical and unspecified regulated alternative to the AQUIND project. While the Transmission System Operators ("TSOs") in France (Réseau de Transport d' Électricité or "RTE") and in Great Britain (National Grid) are involved in the construction interconnectors at the France-Great Britain border, these projects are additional to AQUIND and there is no evidence that, if AQUIND were to be halted, another interconnector would be developed to replace it. This means that no regulated interconnector project stands as an alternative to the AQUIND project. Additionally, existing interconnector projects under development have been delayed or suspended: the two projects that are at a broadly similar stage of development

[5] ACER Decision ¶165.
[6] ACER Decision ¶150.
[7] Regulation (EU) No 347/2013 of the European Parliament and of the Council of 17 April 2013 on guidelines for trans-European energy infrastructure and repealing Decision No 1364/2006/EC and amending Regulations (EC) No 713/2009, (EC) No 714/2009 and (EC) No 715/2009
[8] ACER Decision ¶149.

to AQUIND, FAB Link[9] and GridLink[10], have, in their view, been delayed by the French Commission de Régulation de l'Energie ("CRE").[11]

Furthermore, the fact that the AQUIND project has been approved as a Project of Common Interest ("PCI") and consequently is *eligible* for financial assistance[12] as a regulated investment does not establish that the project would be financially viable as a fully or partially regulated undertaking by AQUIND or another developer. There is no guarantee that such regulated financial support would be granted or that the potential for such financial support would provide a risk-return trade-off that would be attractive to investors. Again, ACER is relying on the existence of a hypothetical regulated alternative in concluding that the risk of the AQUIND project is insufficient to support its application for exemptions.

The developers of the AQUIND project are willing to assume the risk of building a merchant interconnector between France and Great Britain. The project investors – not French and Great Britain consumers, as would be the case for a cost-of-service regulated investment – would bear the risk related to the magnitude and timing of the revenue earned by the project.[13]

Given the benefits of additional interconnector transmission capacity between France and Great Britain and with no clarity on a competing regulated proposal[14] for an alternative interconnector, AQUIND meets the requirement of Regulation 714/2009 Article 17(1)(b). The risks and costs of interconnectors to Great Britain at this time justify that an exemption

[9] FAB Link argues that the CRE Deliberation from November 2017 (see FN11) acted as a barrier to the project's development: "*[b]oth RTE and FAB Link were ready to request their final approvals from the regulators but were halted by the CRE notification*". FAB Link (2018) Referral of the exemption request of AQUIND Limited for a new 2000 MW electricity interconnector between France and Great-Britain to the Agency for decision, 20 February 2018.

[10] GridLink argues that *"[d]epending on what clarity CRE are seeking - whether it is sight of the draft withdrawal terms (expected in October 2018) or sight of executed agreements at the end of the proposed Brexit transition period (December 2020) – this would indicate a delay of 1-3 years before CRE would contemplate making a decision on investment requests from other interconnector projects. GridLink is a PCI project and this delay represents a serious regulatory impediment to the implementation of a PCI project*". GridLink (2018) Aquind [sic] Exemption Request, 2 March 2018.

[11] CRE stated in 2017 that the "*potential consequences of Brexit on the energy markets and, in particular, on the rules for access and use of interconnectors between the continent and the United Kingdom cannot be anticipated to this day. The regulatory and economic framework in which new interconnector projects will be developed is therefore highly uncertain, thus questioning the possibility to analyse with sufficient precision the benefits for the community of such projects*". As a result, CRE considered that it was not "*in a position to decide whether any new interconnector project between France and the United Kingdom is beneficial to the European community before the withdrawal conditions of the United Kingdom from the European Union are clarified*". CRE (2017) Deliberation No. 2017-253, 16 November 2017.

[12] The financial assistance would be in the form of (1) efficiently incurred investment costs being paid for using tariffs for network access (to the extent that they are not covered by congestion rents), and (2) in the form of financial aid provided by the Connecting Europe Facility ("CEF"). See Article 12(1) of Regulation (EU) No 247/2013 and https://ec.europa.eu/energy/en/topics/infrastructure/projects-common-interest.

[13] The extent to which consumers are exposed to project risks (if any) from regulated interconnectors varies by jurisdiction. Typically, in a regulated regime, the majority of the project risks are borne by customers in the form of transmission charges that pay for the investment regardless of its profitability, but regulators may choose to include mechanisms, such as risk-sharing factors or availability incentives, that may transfer portions of the project risks from consumers to the developer and/or operator of the interconnector. For example, CRE, for future regulated interconnectors, envisages a portion of the allowed revenue to be linked to interconnector usage. Additionally, Great Britain has a specific regulatory regime in place, known as Cap and Floor, that uses a unique risk-sharing mechanism through which some of the upside and downside project risks are shared between the developer (or owner) and consumers, but other risks are borne by the developer / owner themselves.

[14] As set out on page 11, there is no evidence that other parties, including RTE and National Grid as the TSOs in the connecting countries, have come forward to propose a regulated alternative to AQUIND.

be granted to AQUIND to construct an interconnector to enable beneficial cross-border exchanges of electricity that would not otherwise occur.[15]

[15] ACER finds that a total Great Britain-France electricity interconnector capacity of 8-9GW (i.e. including AQUIND as well as two other interconnectors currently under development) would lead to total socio-economic welfare benefits of €60.9m/GW/year compared to total costs of €38m-€47m/GW/year and therefore "*it is socially beneficial to build interconnection capacity from 8 to 9 GW*" (ACER Decision Table 7 and ¶119).

1. Introduction

The design of rules for restructured electricity markets, following the separation of a previously vertically integrated supply chain of generation, transmission, distribution and retail functions, faces a number of challenges. The rules for short-term operations to provide electricity to end-use customers from electricity suppliers must address the substantial interactions of power flows on the networked transmission grid. Investments in generation supply and end-use assets can be private choices based on market incentives, including the forecast price of power. By contrast, high voltage transmission grid and lower voltage distribution network investments require a hybrid approach that integrates market incentives and regulatory mandates. Grid infrastructure planning, decision, and cost allocation rules vary across different electricity grids, are poorly understood, and are in flux as a result of the gaps between theory and practice. A point of focus in the debate is the treatment of regulated versus merchant investment in building new transmission infrastructure.

The proposed AQUIND interconnector between France and Great Britain illustrates the challenge of designing this hybrid approach and provides an example of the disconnect between theory and practice. Although the ultimate decision concerning AQUIND's exemption request will depend on an evaluation of the costs, benefits and risks of the proposed investment and its alternatives, the economic and policy evaluation would benefit from framing the broader issues and workable principles that should guide policy. The purpose of this paper is to describe the main elements of an efficient transmission investment framework for restructured electricity markets and its relevance for the case of AQUIND.

2. Merits of Regulated vs. Merchant Transmission Investment: A Policy in Progress

The definitional distinction between regulated and merchant transmission investment is not standardized, but generally centers on cost allocation and operating rules. A key feature of regulated investment is the assurance (albeit with conditions attached) that the investor will have the opportunity to recover all costs, including a regulated return on investment. Given prudent operation (and depending on the nuances of the local regulatory regime), the vast majority of the economic risk (such as, for example, whether the actual congestion revenues earned by the interconnector are greater than the costs of the interconnector) then falls on the regulated customers. For regulated investments, operating rules typically envision some type of open third-party access for the full capacity of the regulated facilities. By contrast, merchant transmission investments rely on private contracts that, in effect, are equivalent to transporting power between regions to capture the difference in the regional prices. Actual returns from this buying-and-selling of power may be more or less than the costs for

a given transmission investment,[16] with the economic risk falling on the investor. Additionally, in contrast to regulated transmission, the operating rules for merchant transmission typically allow substantial discretion in the terms of long-term private contracting for use of the transmission rights. In the case of AQUIND, however, only a limited amount of discretion has been requested.[17]

A large volume of research has considered whether merchant transmission investments can deliver a socially optimal solution to incremental investment in electricity transmission networks. Theoretical models have shown that, under a set of relatively strict conditions, all investments that are profitable for the investor in new transmission capacity equate to efficient investments.[18] However, research has also shown that these conditions are not always met in practice, and that in some cases, notably in the presence of investment 'lumpiness' and externalities, investments that are in the social interest may not be made by merchant developers. Because of the problem of "free-riders" in the case of large scale (i.e. lumpy) transmission investments, "*efficient investment may need regulatory mandates and a regulatory cost allocation*".[19]

Merchant transmission investment, occurring in response to locational differences in the market prices for electricity, can be relied on to provide market-based solutions to many opportunities for incremental transmission improvements, especially when it is relatively straightforward to identify and contract *ex ante* with the beneficiaries. In the case of large, lumpy investments that would cause a significant change in energy prices, it may not be possible for a merchant investor to contractually accrue enough of the benefits, realized by a disperse set of beneficiaries, to undertake the project. When these types of investments are identified, regulators can choose to move forward with these investments and place a share (or all) of the risks and costs on the consumer.[20]

The EU, through Article 17(1) of Regulation 714/2009, chose a policy for investment in cross-border transmission interconnectors that does not align with the view that many transmission investments can be undertaken on a merchant basis, so that private investors assume most of the investment risk, rather than consumers. The basic premise of Article 17(1) is that cost-of-service regulated transmission assets are the 'default' option and merchant investments need to be extensively justified by their sponsors in order to obtain the necessary regulatory exemptions. Under these regulations, given a concrete choice between a regulated and a merchant interconnector proposal, EU authorities would not

[16] Importantly, both regulated and merchant interconnectors would be exposed to the same market risks in France and GB and therefore would be expected to earn the same congestion revenues.
[17] AQUIND has not requested a full exemption from the relevant regulations, but rather only more limited exemption. The limitations included, for example, the share of the interconnector capacity held by 'dominant' players, and the rules around agreeing capacity contracts only via auction mechanisms (see Box 2).
[18] Joskow and Tirole (2005) Merchant Transmission Investment, The Journal of Industrial Economics, 0022-1821, Volume LIII, June 2005, No. 2.
[19] Hogan (2018) A Primer on Transmission Benefits and Cost Allocation, Economics of Energy & Environmental Policy, Vol. 6, No. 2.
[20] Hogan and Pope (2007) Comments on Wholesale Competition in Regions with Organized Electric Markets, pp 20 - 26.

grant a merchant interconnector the requested exemption, and instead would give priority to the regulated option.

Regulation 714/2009 allows for private investment in transmission infrastructure, but applies rules (principally in Article 16(6), set out in Box 1), that govern the way revenues earned by interconnectors may be used. These rules appear to allow the owner to repay efficiently incurred debt (including interest) and earn a regulated rate of return.[21] However, the owner would be limited in its ability to retain and use the revenues to distribute any incremental returns above the regulated return to equity providers. Hence under Regulation 714/2009, a merchant investor such as AQUIND, would only be able to earn a regulated return.

Box 1: Article 16(6) of Regulation 714/2009

Article 16(6) of Regulation 714/2009 governs the rules for use of revenues earned by interconnectors:

"*Any revenues resulting from the allocation of interconnection shall be used for the following purposes:*

(a) guaranteeing the actual availability of the allocated capacity; and/or

(b) maintaining or increasing interconnection capacities through network investments, in particular in new interconnectors.

If the revenues cannot be efficiently used for the purposes set out in points (a) and/or (b) of the first subparagraph, they may be used, subject to approval by the regulatory authorities of the Member States concerned, up to a maximum amount to be decided by those regulatory authorities, as income to be taken into account by the regulatory authorities when approving the methodology for calculating network tariffs and/or fixing network tariffs.

The rest of revenues shall be placed on a separate internal account line until such time as it can be spent on the purposes set out in points (a) and/or (b) of the first subparagraph. The regulatory authority shall inform the Agency of the approval referred to in the second subparagraph."

While regulated investments may be needed to supplement merchant electricity transmission investments in specific circumstances, it is inconsistent with the design of efficient electricity markets for regulatory policy to start from the premise

[21] We note that NRAs have had some difficulty in interpreting the exact intent of the wording of Article 16(6). For example, Ofgem noted that "*The meaning of these categories may not be completely self-evident. We assume that the first two categories cover the costs of operating the interconnector or maintenance and refurbishment…. We also assume that they allow for return on investment…* " Ofgem Electricity Interconnector Policy, January 2010. See https://www.ofgem.gov.uk/sites/default/files/docs/2010/01/interconnector_policy_consultation_0.pdf

that all transmission investments should be regulated. Rather, an approach supporting efficiency in the context of competitive electricity markets would be for merchant investments to be the 'default' option[22] supplemented with regulated investments for specific cases where there is a market imperfection forestalling investments that are shown to improve social welfare.

Article 17(1) of Regulation 714/2009 (which ACER is required to apply in evaluating exemption requests) is not consistent with the principles of efficient transmission investment, and specifically with regard to the logic of achieving a balance between merchant and cost-of-service investments. Furthermore, even when considered from the perspective of the EU regulation as it is currently written, ACER's application of the Article 17(1) exemption rules and its decision regarding AQUIND's exemption request are not consistent with the principles stated in the rules.

ACER's evaluation of the proposed AQUIND exemption, considered from within the confines of EU regulation as it is currently written, illustrates a further gap in the development of the theory and practice of rules for efficient transmission investment. The application of Article 17(1)(b) in the ACER Decision illustrates that if a regulated interconnector has not been proposed by any party, regulators are not choosing between alternatives. ACER must decide whether to grant the regulatory exemption that would enable the building of the AQUIND interconnector as a merchant interconnector in the absence of a regulated alternative.

3. The AQUIND Project and ACER Proceedings

AQUIND is a developer of a proposed new High Voltage Direct Current ("HVDC") electricity interconnector between France and Great Britain. As a private third party developer, AQUIND is independent of the national TSOs of France (RTE) and Great Britain (National Grid) who typically develop, or participate in the development of, interconnectors between the two countries.[23]

Unlike cost-of-service regulated interconnectors, the AQUIND developers do not seek a rate of return approved by regulators and underwritten by consumers through the collection of transmission charges from end use consumers in the connecting regions. Rather, the returns to debt providers (i.e. lending rates), as well as the outturn returns provided to equity providers, will be determined by the outcomes in the GB and French energy markets over the lifetime of the interconnector. AQUIND will be funded by investors who will earn revenue from contracting with other parties for the provision of transmission capacity between Great Britain and France, and will earn a rate of return determined by the

[22] Merchant interconnectors also have strong economic incentives to minimize costs, build the asset on time and maximize the availability of the link (e.g. restoring the asset in the event of an unexpected outage). The benefits of competition are well known from the power generation sector where the introduction of competition increases the efficiency of both investment and operation of generation.
[23] In Great Britain, the developer is National Grid Ventures, which is a separate entity from National Grid as the TSO. Other developers are, for example, ElecLink, which is currently owned by Getlink, a non-TSO entity.

profitability of the services provided. In order to execute these transmission contracts to provide a revenue stream for the project, AQUIND applied for exemptions from some of the EU regulations applicable to cross-border energy transmission. Box 2 provides a summary of AQUIND's exemption requests.

Box 2: Exemptions sought by AQUIND

AQUIND, as a privately owned developer of an HVDC interconnector, independent of national TSOs, is allowed, under Article 17(1) of Regulation 714/2009, to apply for certain exemptions from EU regulations. Article 17(1) states that under certain conditions "*[n]ew direct current interconnectors may, upon request, be exempted, for a limited period of time, from the provisions of Article 16(6) of this Regulation and Articles 9, 32 and Article 37(6) and (10) of Directive 2009/72/EC*".

As such, AQUIND applied for the following exemptions from EU regulations:[24]

- **Use of revenue**: A partial exemption from Article 16(6) of Regulation 714/2009, for a limited period of time, which would enable AQUIND to recover their investment costs and make an adequate return on their investment. AQUIND has offered to supplement this with a profit-sharing mechanism whereby a share of profits above a certain rate of return threshold is distributed to consumers in GB and France.
- **Unbundling**: A partial exemption from Article 9 of Directive 2009/72/EC[25], for a limited period of time, which would enable AQUIND to be partly financed by equity providers who may, concurrently, hold an interest in generation or supply activities (which would otherwise be prohibited).
- **Third Party Access**: A partial exemption from Article 32 of Directive 2009/72/EC, for a limited period of time, which would enable AQUIND to allocate a certain share of annual capacity through multi-year contracts, and thereby increase AQUIND's ability to develop a sufficiently secure and stable revenue stream to make the investment sufficiently attractive to debt providers.
- **Access rules and approval of tariffs**: A partial exemption from Articles 37(6) and 37(10) of Directive 2009/72/EC, for a limited period of time, which would enable AQUIND to determine the length, profile, size and timing of multi-year contracts within the share of capacity included in the Third Party Access exemption (see point immediately above).

On 17 May 2017, AQUIND submitted its exemption requests to the relevant NRAs in Great Britain and France. These authorities decided to refer the decision to ACER, which is permitted under Article 17(5) of Regulation 714/2009.

[24] AQUIND (2017) Application for new interconnector exemption for the AQUIND Interconnector, section 6.3.
[25] Directive 2009/72/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in electricity and repealing Directive 2003/54/EC.

In deciding whether or not to grant the requested exemptions ACER considered whether AQUIND had met all six relevant conditions under which such exemptions may be granted, which are summarized in Box 3.

Box 3: Article 17(1) of Regulation 714/2009

Article 17(1) of Regulation 714/2009 sets out the rules that the NRAs must follow in order to assess individual exemption applications.

The six conditions of Article 17(1) are:

"*a) the investment must enhance competition in electricity supply;*

b) the level of risk attached to the investment is such that the investment would not take place unless an exemption is granted;

(c) the interconnector must be owned by a natural or legal person which is separate at least in terms of its legal form from the system operators in whose systems that interconnector will be built;

(d) charges are levied on users of that interconnector;

(e) since the partial market opening referred to in Article 19 of Directive 96/92/EC of the European Parliament and of the Council of 19 December 1996 concerning common rules for the internal market in electricity, no part of the capital or operating costs of the interconnector has been recovered from any component of charges made for the use of transmission or distribution systems linked by the interconnector; and

(f) the exemption must not be to the detriment of competition or the effective functioning of the internal market in electricity, or the efficient functioning of the regulated system to which the interconnector is linked."

In February 2018, ACER invited interested parties to submit their observations on AQUIND's exemption application, and subsequently performed an assessment of the application. ACER concluded that:

- condition (a) of Article 17(1) could be met in principle by imposing appropriate limitations on the allocation of capacity to dominant market player(s); [26]
- condition (b) of Article 17(1) is currently not fulfilled for AQUIND and therefore the requested exemptions "*should not be granted under the current circumstances*";[27] and
- conditions (c), (d), (e) and (f) of Article 17(1) 09 are met by AQUIND.[28]

[26] ACER Decision ¶130.
[27] ACER Decision ¶189.

On the basis of the above, ACER issued an adverse decision regarding AQUIND's exemption application on 19 June 2018. AQUIND disagreed with ACER's conclusions and appealed on 17 August 2018, via a submission to ACER's Board of Appeal.

4. ACER Application of Risk and Benefits Assessment

ACER's main argument in rejecting AQUIND's exemption application is that AQUIND does not face such risks that the investment would not proceed in the absence of an exemption. ACER states that "*cost recovery under the regulated regime […] will manage the large majority of AQUIND interconnector's risks*" and that "*the Agency is not able to identify with the required certainty a level of risk for the AQUIND interconnector such that the investment in this project would not take place unless the requested exemptions are granted*".[29]

There are at least two underlying conceptual issues to address with regard to the ACER's arguments in support of its decision. First, there is a question of ACER's definition of risks and of its assumptions about who bears the associated costs of those risks. Second, there are questions about the logic of applying a standard that presumes that the project will proceed without the exemption requested.

A. Difference between project and investor risk

ACER's thinking appears to be premised on the assumption that by regulating an interconnector investment, the risks associated with that investment disappear or are materially reduced. However, in this discussion, ACER seems to be conflating two different types of risk:

- Project risk, which is the inherent uncertainty about the total costs of the project and future congestion revenues that can be earned from the capacity. The project risk remains the same whether or not the interconnector is regulated.
- Investor risk, which is whether or not the owner of the interconnector recoups the initial cost of the investment and the ongoing operating costs. The investor risk varies depending on whether the interconnector is regulated or not.

Critically, the project risk would not disappear if AQUIND were to become a regulated investment, as the ACER decision seems to imply. By offering a regulated rate of return to a developer under a regulated regime, the investor risk is to a significant extent transferred to consumers,[30] who pay for the transmission charges to enable the costs of the investment to be recovered.

[28] ACER Decision ¶170, 173, 176,187.
[29] ACER Decision ¶149 and ¶165.
[30] Some risk-sharing mechanisms may remain in place under a regulated regime.

Under a regulated regime, most of the project risk would fall on consumers, and, in so doing, would transfer the investor risk from investors to consumers. Conversely, under a merchant investment the project risks (and the investor risks) would fall on the investors.

ACER does not appear to recognize the distinction between these two types of risks and, as a result, fails to consider that material project risk remains attached to the project if it were to proceed on a regulated basis. Under a regulated approach, this significant project risk would fall on consumers in Great Britain and France.

Furthermore, the ACER decision does not address the case where a project would be unappealing to the usual investors in cost-of-service regulated infrastructure, but could be part of the investment portfolio of an entity with a higher tolerance for risk when coupled with a higher expected return.

B. Counterfactual

ACER's decision is based on the premise that if AQUIND did not proceed as a merchant interconnector, this outcome would be preferable to granting the requested exemptions. ACER's assumption appears to be either that AQUIND would proceed as a quasi-merchant investor earning revenues based on the regulated cost-of-service (i.e. not being able to earn full[31] merchant revenues as a result of the application of Article 16(6)), or that AQUIND or some other entity would come forward and propose the project as a fully cost-of-service regulated investment.

It is clear that no entity would propose the quasi-merchant route if it could obtain approval for a cost-of-service regulated investment. Other things being equal, with the same revenue and technical risks, the cost-of-service investment returns dominate the quasi-merchant investment. Hence, the only logical alternative to an exempt merchant investment is a fully regulated cost-of-service investment.

Since ACER concluded that the interconnector is socially beneficial, ACER's decision not to grant the exemption request either prevents the social benefits from being materialized, or ACER must be implicitly assuming that an alternative project would move forward with a proposal for a regulated interconnector of 2,000 MW as an alternative to the AQUIND project. Neither of these possible interpretations is logical:

- In the first option, ACER would be acting against the interest of European social welfare, which is at odds with conventional regulatory objectives; and
- In the second option, if ACER believed that the risk of the project was low enough to attract an alternative regulated project to replace AQUIND, this position would not be consistent with ACER's own findings that there is a need for three projects at the GB-

[31] As set out in Box 2, AQUIND has proposed a profit-sharing mechanism whereby a share of profits above a certain threshold is distributed to consumers in GB and France. Therefore, even under the exemptions sought by AQUIND, the developer would not earn the "full" quantum of merchant revenues.

France border (FAB Link, GridLink and AQUIND) and that there are no other projects currently being developed.[32] This second option is discussed in more detail in the following paragraphs.

It is likely that no interconnector would be built at all without the exemption for AQUIND to become a merchant project. There is no evidence that other parties, including RTE and National Grid as the TSOs in the connecting countries, have come forward to propose a regulated alternative to AQUIND. Moreover, ACER's own analysis presented in its decision argues that it would be socially beneficial to have interconnector capacity at the French-Great Britain border of up to 8-9 GW.

A key question is whether or not AQUIND would be part of this 'socially beneficial' volume of interconnector capacity. There are currently 4 GW of 'committed' interconnector capacity at the French-Great Britain border, consisting of:

- Existing capacity of IFA interconnector (2 GW); and
- Capacity under development: ElecLink (1 GW) and IFA2 (1 GW), which are both under construction.

In addition to these 4 GW, FAB Link and Grid Link (1.4 GW each) are at a broadly similar stage of development to AQUIND. However, they are being developed as regulated interconnectors and their progress was, in their view, halted in 2017 by CRE (see FN11) primarily due to regulatory uncertainty.

Up to 6.8 GW of capacity at the France-GB border (excluding AQUIND, calculated as the sum of the capacities noted immediately above) is currently in the pipeline, but there are no other interconnectors at the France-Great Britain border being developed by National Grid, RTE or other developers.[33] The fact that there are three regulated (and one merchant) interconnectors at different stages of development does not mean that additional regulated interconnectors are likely to be proposed in the near future as a substitute for AQUIND.

The 2 GW of capacity that could be provided by AQUIND (for a total of 8.8GW capacity, assuming that GridLink and FAB Link do in fact progress), would, based on ACER's own analysis, appear to be socially beneficial.[34]

In principle, ACER could be assumed to be expecting AQUIND to develop and await approval of the project as a regulated investment, since this is the only assumption consistent with ACER's decision not to grant an exemption to a beneficial project. It appears that ACER

[32] Moreover, if ACER considered that there was another, fourth, regulated interconnector that could replace AQUIND, then ACER would have needed to consider whether Condition (f) of Article 17(1) of Regulation 714/2009 is met by AQUIND – i.e. whether AQUIND might be distorting competition in the EU. However, on ACER's current interpretation of Article 17(1) Condition (b) and Condition (f), it does not appear that AQUIND could simultaneously demonstrate that is it sufficiently risky (for Condition (b)), while at the same time not distorting competition in the EU (Condition (f)).

[33] As ACER notes, ANAI and Britib are not considered to be under active development: "*Due to the early stage of development and the uncertainties of the project progress, as well as indications by Ofgem [the GB NRA] during the hearings that they do not consider the two Great Britain-France -Spain projects to be under active development, ANAI and Britib are not further considered by the Agency in its assessment of the need for capacity on the France - Great Britain border and in the present Decision*." (ACER Decision ¶60).

[34] ACER Decision ¶119.

would not consider an exemption unless it was certain that AQUIND would not proceed as a regulated investment.

However, in AQUIND's case, there is no appetite to develop a regulated interconnector, because, *inter alia*:

- The regulated rate of return on investment that may be granted pursuant to Article 12 of Regulation (EU) No 347/2013 may not be sufficient to support a non-recourse independent financing of the project; and
- Under the current French legislation, non-RTE parties may develop interconnectors in France only if they pursue the exemption route.[35]

This means that the path forward to obtain an exemption would require AQUIND to develop a regulated alternative (which, in turn, AQUIND may not be willing to develop even if it were approved by the relevant regulators). This illogical sequence would only add unnecessary costs and delay to the process.

The counterfactual for ACER to consider is not, as its decision implies, a hypothetical regulated 2 GW link that no entity envisions. Rather, the logical application of Article 17(1)(b) should pertain to a comparison with the risks and returns of actual, realistic regulated proposals. Otherwise, criterion (b) has no meaning other than to present an insurmountable barrier to merchant investment.

ACER should consider the harm to the socio-economic welfare that could be caused if AQUIND did not proceed and no other regulated interconnector stepped in to substitute. By preventing AQUIND from being developed as an exempted interconnector, ACER chooses to forgo the benefits (including, for example, further market integration) that would otherwise be delivered by the additional volume of AQUIND's exempted capacity. Doing so does not appear to be in the interest of aggregate welfare in Europe.

C. Distribution of congestion rents

Without initiating a discussion about the merits of the theoretical conclusion, ACER appears to have invoked a new criterion for the assessment of the merits of an exemption, namely that the distribution of the welfare impact of a new interconnector has a bearing on whether or not an exemption should be granted.

ACER does this by emphasizing that the project risks and benefits should, as a matter of priority, be allocated primarily to consumers (rather than developers); and that developing interconnectors under a regulated regime is the 'default' option. As explained above in

[35] "*The French energy code entrusts the operator of the public electricity transmission system, by application of I of its article L.321-6, with the development, construction and operation of interconnectors. The construction and operation of an interconnector by a private investor is therefore only possible within the context of an exemption, as provided for in article 17 of Regulation 714/2009.*" CRE (2012) Communication of the French Energy Regulatory Commission of 29 March 2012 on the application of article 17 of Regulation (EC) No 714/2009 of 13 July 2009.

Section 4-A, ACER appears to conflate project and investor risks. ACER therefore disregards the fact that under a regulated investment most of the project risks are allocated to consumers. This leads ACER to the erroneous conclusion that it is in consumers' interest for interconnectors to be developed as regulated investments.

ACER's assessment of the trade-off between risks and benefits is incomplete: ACER's emphasis is on the allocation of net profits that are implicitly assumed to be positive, and ACER also implicitly assumes that the project risks are better borne by consumers rather than investors. Since the transfer of project risk is ignored, ACER's comparison between the regulated and exempt interconnectors is inherently biased. ACER appears to be only assessing an outcome where the net profits are positive, i.e., the congestion rents exceed the costs of the project, by comparing a situation where consumers receive a potential upside from a regulated interconnector's congestion revenues to a situation where the upside accrues to the investor. ACER fails to consider the potential downside risks borne by consumers under a regulated investment, and the corresponding benefits to consumers of an exempted interconnector where the developer bears the vast majority of the project risks. In the absence of this consideration, ACER concludes that regulated interconnectors are preferable, but this finding is flawed because of the incorrect assessment of the risks borne by consumers under the alternatives.

More generally, if distributional impacts are to be part of an exemption evaluation, as ACER seems to imply, then there is a need for a thorough review of what these standards are, as well as a review of theoretical conclusions concerning distributional impacts and the conditions under which such conclusions would be valid. In addition, this would require an assessment of whether and why these conditions apply in the case of AQUIND. We are not aware of such analysis being undertaken by ACER and/or relevant EU authorities.

5. Conclusion

The nature of transmission infrastructure investment dictates the need for a hybrid system that accommodates both merchant investment and cost-of-service regulated investment. There is a clear argument for giving deference to merchant investment and pursuing cost-of-service regulation only in the case where the projects are so large that they suffer from free-rider effects that preclude relying solely on ex-post market revenues. Although this welfare maximizing perspective has not been embraced in the EU regulations, it provides an important background for examining the current rules. Within these existing rules, logic dictates that the evaluation of an exemption request from a merchant investor should be made in comparison to an actual cost-of-service regulated project proposal that might otherwise be developed. Absent such a project proposal, as in the AQUIND case, the current rules imply that the merchant exemption should be approved.

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