

## **EU policy on merchant transmission investments: desperate for new interconnectors?**

Patrik Buijs

[Patrik.buijs@esat.kuleuven.be](mailto:Patrik.buijs@esat.kuleuven.be) , Tel: +32 16 32 17 22

Dr. Leonardo Meeus

[Leonardo.meeus@esat.kuleuven.be](mailto:Leonardo.meeus@esat.kuleuven.be) , Tel: +32 16 32 10 25

Prof. Dr. ir. habil. Ronnie Belmans

[Ronnie.belmans@esat.kuleuven.be](mailto:Ronnie.belmans@esat.kuleuven.be) , Tel: +32 16 32 10 20

Katholieke Universiteit Leuven – ESAT/Electa  
Kasteelpark Arenberg 10 (PB 02445)  
3001 Heverlee  
Belgium  
Fax: +32 16 32 19 85

### **Abstract**

The European Union (EU) wants to introduce competition in the electric energy sector. Meanwhile a more sustainable and secure energy future is aimed for. Transmission system investments are needed to make this a reality. After 10 years of liberalization, with already two waves of EU legislation in place and a third coming up, there is however a lack of investments, especially in interconnectors. This can be, at least partly, explained by a failing regulatory framework.

It is our observation that in this context, EU policy should become and is becoming more favourable towards merchant transmission investment as an alternative for lacking regulated investment. National regulatory authorities and the Commission have a powerful tool to tackle the lack of investment in interconnectors. Investors are attracted by congestion revenues and also by priority access and protection against regulatory risk.

Priority access allows an investor to earn revenues in an early stage of the project, thereby decreasing the payback period and the project risk. Protection against the regulatory authorities also decreases the project risk as regulatory context remains constant and revenues are better protected. Both elements provide extra investment incentives.

**Keywords:** power systems, investments, regulation, merchant

**JEL-code:** L94, L43, L5, R42

### **1. INTRODUCTION**

The European Union (EU) has introduced legislation to organize competition on a European scale in the electricity sector and to make this sector more sustainable by for instance supportive measures for renewable technologies, while maintaining or even increasing its reliability, which implies that there is a high need for infrastructure investments, especially for interconnectors. At the Barcelona European Council in 2002, a 10% interconnection benchmark is put forward by the Heads of State, regardless of the level of congestion. [23] On most borders this benchmark has not been reached yet. The Commission's

Sector Inquiry [6] revealed that today the relevant markets have still to be considered national. The in January 2007 proposed 20% renewable energy target (leading to about 33 % electricity generation for renewables) emphasizes the call for grid investments. [20] After 10 years of liberalization, there is however a lack of transmission investments, especially in interconnectors. Looking at TEN-E<sup>1</sup> reveals most bottlenecks identified at its start in 1996 still exist today. [22][37] A study commissioned by the Commission [4] evaluates infrastructure investments in the period 1996-2004. The amount of investments in cross-border interconnectors is low, only 4% of all (regulated and other) transmission investments, or an amount of 1.1 billion € in the period 1996-2004.<sup>2</sup> Recently a new priority interconnection plan [18] is proposed by the Commission identifying 41 ‘priority projects’ for gas and electricity. It states that before 2013 6 billion € is needed only for electricity infrastructure projects in order to comply with the priorities outlined in the TEN-E guidelines.<sup>3</sup> The total investment need is even greater.

To a large extent the poor investment result can be explained by a failing regulatory framework, taking away incentives to invest in interconnectors. It is our observation that in this context, EU policy should become and is becoming more favourable towards merchant transmission investment. In Europe, merchant investors need approval from the national regulators and the European Commission. Even though this procedure has clearly been envisaged to be the exception, it is now a powerful tool to tackle the lack of regulated investments in interconnectors. The reason is twofold. Firstly, priority access to the interconnectors can be granted to the merchant investors, which provides them with an extra investment incentive. Private investors do not have to follow the rules on capacity allocation on interconnectors stating that non-discriminatory and market-based allocation mechanisms should be applied. As enforcing these rules is one of the achievements of the European liberalization process, ex-ante and ex-post competition issues need to be carefully balanced when exceptions are allowed. Otherwise granting priority access to merchant investors would mean no more than a return to historical practices where large incumbent

---

<sup>1</sup> TEN-E (Trans-European Energy Networks) is a European framework supporting ‘priority projects’ and projects of ‘common European interest’ for both gas and electricity.

<sup>2</sup> Note that the largest part of this 1.1 billion € is consumed by only three HVDC sea cables (Moyle Interconnector, SwePol and the Italy-Greece interconnector).

<sup>3</sup> It is uncertain whether all projects could be finished by 2013 as several projects still are still in the authorization phase. Furthermore, the cost can increase if undergrounding of cables will be used instead of overhead lines. The latter face more public opposition.

utilities had priority access on interconnectors (as e.g. EDF on the IFA interconnector). Secondly, merchant investors can receive protection against regulatory risk. Again, as authorities will have fewer grips on competition in such a situation, a careful trade-off is necessary.

In Section 2 is analyzed why merchant investments are considered a relevant option for new investments. In sections 3 and 4 is argued why the European exemption procedure is a powerful tool for national and European authorities. By referring to theory and practice section 3 explains how allowing priority access as an allocation mechanism can help merchant investors. Section 4 concentrates on the protection against regulatory risk. Finally, section 5 concludes the paper.

## **2. WHY MERCHANT?**

In general, a 'regulatory gap' between national legislation and European policy causes the lack of regulated investments in interconnectors. National legislation promotes national interests, whereas European policy requires European interests to prevail in decision-making, but legislation enforcing such a view is missing. A lack of vertical unbundling and both political and public pressure explain the poor investment results. Furthermore, both countries involved in an interconnector have to be convinced of its benefits in order to move forward. Additionally, although there is a European policy there are insufficient financial means to realize it independently of national funding. These four elements are discussed in the next subsections.

### **2.1. Lack of vertical unbundling**

One of the main requirements of the liberalization process in Europe is the vertical unbundling of traditional utilities controlling the entire electricity supply chain, i.e. generation, transmission, distribution and retail. Competitive markets have to be created in generation and retail, whereas network activities remain regulated monopolies. Directive 2003/54/EC [8] requires network activities to be at least legally unbundled from generation and retail in order to guarantee non-discriminatory network access for all market parties. Although progress can be noted, the Commission concludes in its energy package of January 2007 [17] that functional and legal unbundling insufficiently enforce independent transmission services. Legal unbundling does not prevent conflicts of interest entirely. Based on its Sector Inquiry and

country reviews, the Commission mentions access to information, third party access and investments as possible problems. Dobbeni [10] recognizes this problem and mentions for some players the lack of unbundling as the main reason for the lack of investments in transmission.

Legally unbundled TSOs have few incentives to invest in market opening, e.g. by increasing cross-border capacity. Facilitating new entry is obviously disadvantageous for existing companies. As long as generation is involved in transmission, investment decisions will be biased against market opening. Some countries already have ownership unbundled TSOs<sup>4</sup>, although for the majority of the TSOs it is unlikely this will happen in the short-term. Although the Commission proposed to take further steps in the direction of full ownership unbundling, it seems not to become the standard throughout Europe in the near future.

## **2.2. Political and public pressure**

Even if TSOs would be fully ownership unbundled, it is unlikely that massive cross-border investments would emerge. TSOs suffer from serious political and public pressure. They are responsible for keeping the system working, although they do not control everything. This burden gives them more incentives to invest in security than in facilitating the internal market. Besides public opposition against investments (NIMBY) and problems in obtaining permits (NIMTO), the regulatory framework inherently discourages cross-border investments.

The public desires lower electricity prices and tends to keep (at least partly) politicians responsible for this. However, politicians are no longer in full control of the entire supply chain. Only network activities remain regulated and provide the sole opportunity to influence directly the final electricity bill. As mainly short-term reductions of the tariff are envisaged by politicians, TSOs are pushed to invest less in expensive long-term investments as this would raise the asset base on which most tariffs are calculated, even if these investments would yield greater benefits in the long-run. Furthermore, TSOs face a regulatory risk. In an attempt to lower tariffs even further the regulator can be tempted to ‘clawback’ revenues resulting from

---

<sup>4</sup> At the end of December 2005: Czech Republic, Denmark (partly), Great Britain, Portugal, Slovakia, Spain, the Netherlands and Sweden. [24] Although not mentioned in [24], Belgium has to be added to this list.

new investments. These revenues are however necessary to pay off the investment. Additionally, regulating authorities sometimes have a certain degree of power to change regulation and thereby change the rules applying on the investment. This is a considerable risk, not only for a TSO, but for every party involved and, unless they are protected against it, also for merchant investors. Clearly, the short-term vision of politics, driven by election terms, is not compatible with long-run socially optimal investments.

With the same purpose of lowering transmission tariffs, Regulation 1228/2003 [21] (hereafter: the Regulation) can be ‘abused’. Art. 6(6) of the Regulation states that congestion revenues can only be used for:

- (a) *guaranteeing the actual availability of the allocated capacity*
- (b) *network investments maintaining or increasing interconnection capacities*
- (c) *as an income to be taken into account by regulatory authorities when approving the methodology for calculating network tariffs, and/or in assessing whether tariffs should be modified.*

The Regulation aims at improving market opening by reinvesting the congestion revenues earned on cross-border interconnectors. Option (c) makes it possible to lower transmission tariffs in the short-term. Even stronger, if congestion revenues are reinvested in cross-border capacity, borders are less congested and yield less congestion revenues. This decreases the potential to lower transmission tariffs. Although this is a rather perverse reasoning from a societal point of view, as less congestion most of the times increases welfare<sup>5</sup>. Note that art. 6(6) does not give a ranking order of options. However, interpreting the current order as a priority list would help to solve the investment problem.

The Commission’s Sector Inquiry [6] revealed that instead of reinvesting, option (c) of art. 6(6) is mostly applied. Table 1 illustrates that only ¼ of all congestion revenues earned in the period 2001-2005 are reinvested in interconnectors. For instance the German TSOs only reinvested 20-30 million € of 400-500 million € of revenues. Note however that the Inquiry puts all the blame on the TSOs and neglects the role of the regulators in determining the use of congestion revenues. Dobbeni [10] recognizes TSOs are part of the problem, but he also mentions the regulators as an important factor.

---

<sup>5</sup> Stoft et al. [36] explains that a zero-congestion level is not optimal, marginal revenue of alleviating congestion has to equal the marginal cost of increasing capacity.

Congestion revenues and total investments in interconnectors during 2001 - 2005 in mln-euro		
TSO	Congestion Revenues (2001 - 06/2005)	Interconnection Investments (2001 - 06/2005)
A	200-300	25-35
B	0-20	0-10
C	80-150	0-10
D	200-300	0-10
E	200-300	50-100
F	80-150	0-10
G	20-80	0-10
H	80-150	80-150
J	0-20	10-40
K	0-20	10-40
<b>Total</b>	<b>1000-1300</b>	<b>200-300</b>

Source: Energy Sector Inquiry 2005/2006.

Note: Excluding spending on congestion relief.

**Table 1: Congestion revenues and total investments in interconnectors during 2001-2005 (in M€) [6]**

In contrast, if the revenues resulting from an investment are “untouchable” for the regulator, the regulatory authorities have less reason to be opposed against an investment as there is no potential for lowering the transmission tariffs. Note that protection of congestion revenue is foreseen in the European exemption procedure.

### 2.3. Approval from the ‘losing side’

As investments in cross-border interconnectors involves two countries, the regulatory process is often more difficult. Two (mostly not harmonized) procedures have to be followed. But more important, the two sides of the border have to be convinced of the benefits of the investment. As congestion is often driven by price differences, alleviating congestion may increase the price in the low-price region. Regulators at this ‘losing side’ of the interconnector might oppose such an investment. Once again, national interests interfere with European interests.

### 2.4. Lack of European funding

Realizing European goals would be easier if there were European funds to support investment projects especially as national funding is difficult to get taking into account the above considerations. Unfortunately, there are not sufficient European funds available to make these projects possible without national funding. TEN-E only has a limited yearly budget of 25 M€ which is mainly intended to give

financial support in the study phase. [5] Although this does boost a project while making access to other financial resources easier, this is not sufficient. The European Investment Bank, the European Bank for Reconstruction and Development, the Neighbourhood Investment Fund and the African Infrastructure Facility can, under conditions, provide additional funding for some projects. [18] Based on reactions of 11 TSOs and looking at forecasted investments, it is noted in [4] that 15.4 % of the needed funds comes from the mentioned EU funds. However, the same study reveals that EU funding is not seen as critical for these projects and they would go ahead even without EU funding.

### **3. WHY PRIORITY ACCESS?**

Whereas section 3.1 discusses the issue of priority access in merchant investments from a theoretical point of view, section 3.2 is about the European practices on this field.

#### **3.1. In theory**

In general, merchant investments can be described as ‘market driven’ investments. In the case of transmission investments, this can be interpreted as driven by locational price differences, i.e. by congestion revenue. The investment incentive is congestion revenue resulting from scarce interconnector capacity. The investments attracted by the exemption procedure will therefore always need an exemption from art. 6(6) of the Regulation on the use of congestion revenue as this is the main income source and therefore the main investment incentive.

The above view on merchant investments corresponds with literature. In market design literature a merchant investment model is often considered as an alternative of (performance-based) regulation or central planning. (e.g. [31],[36]) In the merchant model congestion revenue is the relevant investment incentive for different private investors. Especially in a liberalized context the merchant model seems attractive as it would require less regulation and the market can decide itself. Under strong assumptions, e.g. perfect competition, the merchant model is very attractive, but Joskow et al. [29] argue that in a realistic setting a merchant model would not work properly. Too many issues undermine the underlying assumptions, e.g. imperfect competition in energy markets that are coupled and lumpiness (e.g. a 380 kV

line has a capacity of more than 1000 MW) in investments lead to a suboptimal outcome. According to them the regulated option has more chances in bringing optimal investments, leaving the door open for merchant projects within such a regulated scheme. In his survey on transmission expansion Rosellón [34] comes to a similar conclusion.

The European exemption procedure seems to be neither extraordinary nor innovative, but just an implementation of what literature proposes, i.e. a mixture of regulated and merchant investments. This is however not entirely true. Although the price difference remains necessary, Europe provides an extra investment incentive. Long-term contracts and priority access, even own use, is possible. This solves the problem of a long payback period cited by Stoft [36]. Allowing a deviation from default market-based non-discriminatory capacity allocation mechanisms, i.e. granting priority access, is an extra characteristic of the European merchant model. When only relying on congestion revenues a merchant investor receives revenues through the yearly, monthly and daily allocation of scarce cross-border capacity. This results in a long payback period. When priority access is allowed, long-term (e.g. 20 years) allocation of the interconnector capacity is possible. By selling long-term contracts, an investor has the opportunity to have more revenues in an early stage of the project. This reduces the payback period, which decreases the project risk and therefore also the capital cost. Allowing investors to build an interconnector for own use reduces the project risk in a similar way. Clearly, priority access can help to attract investors.

### **3.2. In European practice**

Firstly, capacity allocation on regulated interconnectors will be discussed. Next, the possibility of priority access as allocation mechanism on merchant interconnectors is explained together with a brief description of the exemption procedure in order to get a view on the context.

#### **3.2.1. Standard capacity allocation in Europe**

Liberalization in electricity markets took off with the launch of the first electricity Directive [9] in 1996. One of the fundamentals of the liberalized electricity market is the non-discriminatory access to the transmission and distribution networks, originally part of vertically integrated utilities. Competition can only be realized if network access is arranged in an equal way for all parties. Non-discriminatory access in



the allocation of interconnector capacity is a part of this. However, in the pre-liberalization era cross-border contracts typically included energy with a cross-border capacity reservation. These priority contracts often implied that the holder of these contracts maintained a priority access to the interconnector. These historical contracts are fading but still exist. Furthermore, non market-based were often applied for the remaining interconnector capacity that in principle was equally available for everybody. The first Directive however was too vague and did not result in fully market conform capacity allocation mechanisms. Therefore the second Directive [8] and the Regulation, both issued in 2003, defined more stringent rules. The Commission issued guidelines clarifying the conditions for access to the network for cross-border exchanges in electricity. [19] They impose the use of non-discriminatory market-based mechanism as the default method to allocate interconnector capacity thereby rightfully giving competition more chances and enabling the European single market. Coming from a situation where priority access on interconnectors was not uncommon and where non market-based mechanisms are applied to allocate capacity, allocation on most interconnectors now complies with the Regulation. Explicit or implicit auctions are commonly used and the Regulation worked successfully on this point. The comparison of Figure 1, where the situation of September 2007 is given, with Figures 2 and 3, depicting the situation of May 2006, illustrates this extremely fast evolution.

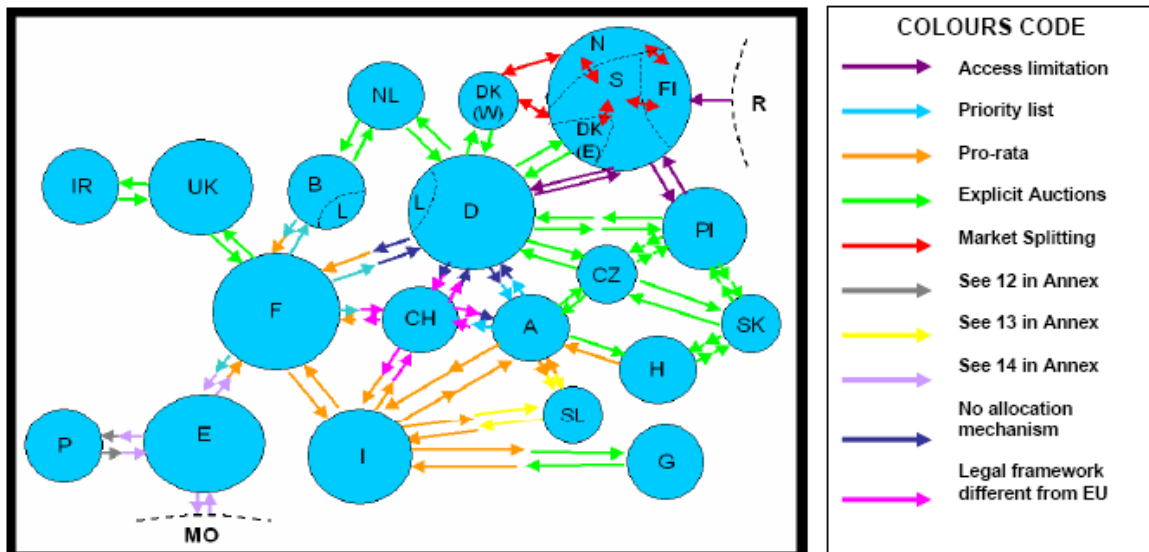


Figure 1: Capacity allocation on interconnectors: September 2004 [14]

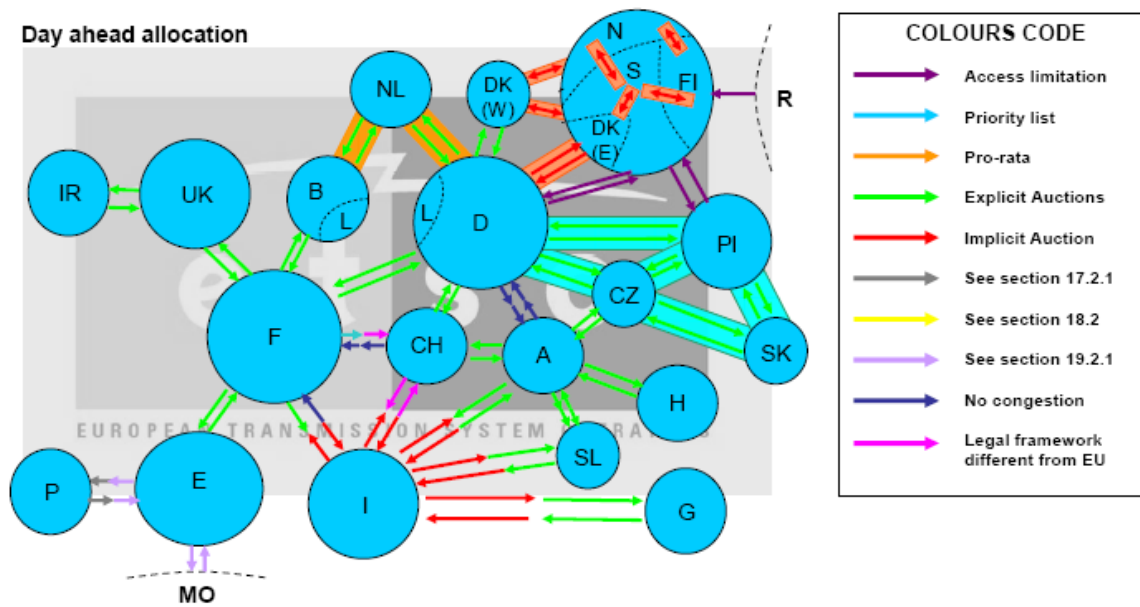


Figure 2: Day-ahead capacity allocation on interconnectors: May 2006 [15]

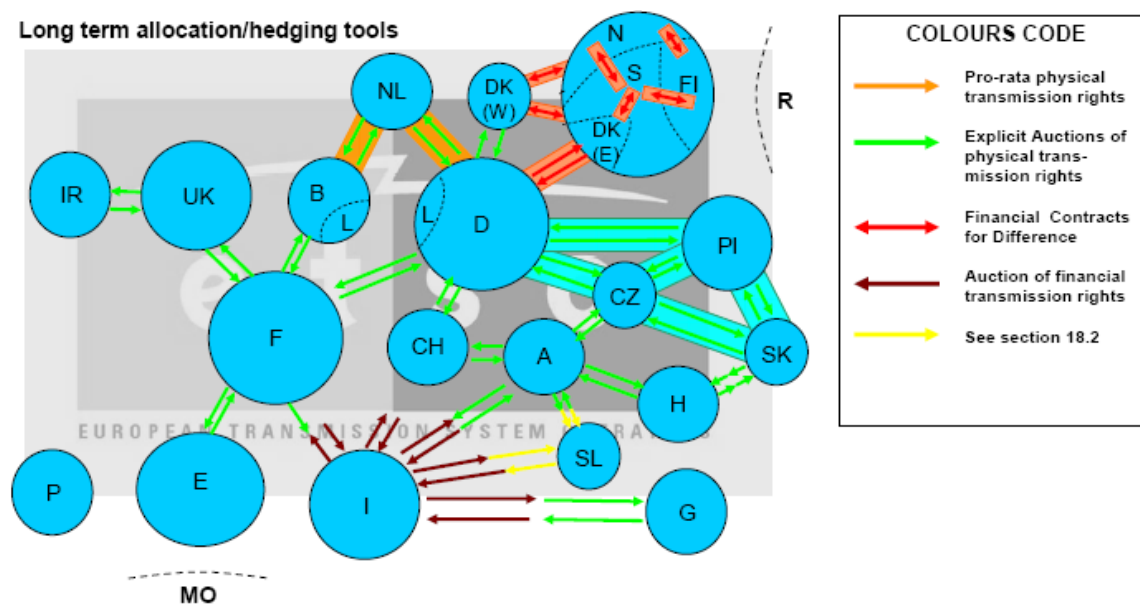


Figure 3: Long term capacity allocation on interconnectors: May 2006 [15]

Historical priority access arrangements are successfully being transformed to market conform mechanisms. On several interconnectors priority access is replaced by non-discriminatory market-based mechanisms. For instance, EDF used to have priority access on the IFA interconnector, an HVDC link connecting France and England. After 15 years, the allocation on IFA changed in 2001 when it was opened to third parties via an explicit auction. [26][30] On the Moyle Interconnector, linking the Scottish power grid with Northern Ireland, Northern Ireland Electricity PLC, a part of the original owner Viridian Group PLC, has a priority

access contract on 125 MW of the 450 MW available. [32] This contract expires in 2007. In the Nordic region priority access can be found on the Baltic and the Kontek cable, both having a merchant nature. On the latter Vattenfall AB, one of the owners, has priority access on 1/3 of the capacity. [28][40] The capacity on the Baltic cable, jointly owned by E.ON Sverige AB (1/3) and Statkraft AS (2/3) [11][35], is also allocated in a discriminatory way. Vattenfall AB certainly was meant to be the primary user with priority access on SwePol, linking Sweden and Poland. [1] However, under auspices of ERGEG, a working group is established to optimize the use of merchant interconnectors in the Nordic market. [13] Note also that priority contracts on regulated interconnectors are facing opposition since the European Court of Justice ruled that the priority access of the Dutch generator SEP on the Belgium-France and the Belgium-Netherlands interconnector was not in line with current legislation. [33]

### **3.2.2. Capacity allocation under the merchant procedure**

The Regulation specifies rules for new interconnectors seeking exemption from the rules on the use of congestion revenues and possibly also on the rules on capacity allocation and regulatory oversight. Three cases will be referred to: Estlink, BritNed and East-West<sup>6</sup>.

#### *What can be exempted?*

The exemption procedure is open to new DC cross-border interconnectors. Exceptionally investments in new AC interconnectors or a significant increase of the capacity of an existing interconnector can also seek an exemption. Note that it is possible to request an exemption for only a part of the capacity of the interconnector. All three existing cases are about DC interconnectors and requested an exemption for the entire capacity.

---

<sup>6</sup> Estlink is an operational link between Finland and Estonia and today is the only project that received exemption. BritNed, connecting the Netherlands and England, and East-West, linking the Republic of Ireland and Wales, are still in the process possibly leading to exemption. In the gas sector a similar exemption arrangement exists. Several gas projects (interconnectors and LNG-terminals) received exemptions.

*Exempted from what?*

Firstly, the Regulation states that new interconnectors can be exempted from the rules arranging how congestion revenues should be used, i.e. art. 6 (6) of the Regulation. Exemption from art. 6(6) guarantees a revenue income which is necessary to pay off the investment and to earn a profit, which is the reason for the exemption in all three cases. Secondly, the procedure gives the possibility to be exempted from the rules on third party access defined in art. 20 of EU Directive 2003/54/EC. This exempts the investor from the rules on capacity allocation on the interconnector. Thirdly, an exemption from art. 23 (2),(3) and (4) of EU Directive 2003/54/EC regulating the power of the regulatory authorities can be granted. Exemption is granted on a case-by-case basis and only if certain conditions are met (cfr. infra). Note it is not necessary to request an exemption from all these articles. However, in all three cases the developers requested to be exempted from the entire package, but their incentives to do so are partly different.

More in particular, they behave differently when an exemption for the capacity allocation rules is considered. They all request to be exempted from the relevant articles, but the resulting interconnector capacity allocation mechanisms are completely different and related to the type of investor (Table 2). Two projects install a system of priority access, i.e. East-West and Estlink.

	<b>Investor</b>	<b>Allocation mechanism</b>	<b>Duration</b>
BritNed	TSOs	No priority access	25 years
East-West	Project Developer	20% No priority access 80% priority access (long-term contracts)	25 years
Estlink	Generators	100% priority access (own use)	4 - 8 years

**Table 2: Electricity exemption cases: investors, access regimes and duration**

The East-West case [25] is set up by an independent Irish project developer, Imera Power Ltd. The project developer itself does not intend to use the interconnector. 20% of the capacity will be made available through short-term explicit auctions (yearly/monthly/daily) which resemble the regulated allocation

mechanisms<sup>7</sup>. 80% will be sold as long-term contracts; it can be seen as a form of negotiated TPA. The auction of the long-term contracts is open to everyone, but there are limitations on the share one can acquire<sup>8</sup>. They are related to the exemption conditions. The holders of such a contract will have priority access on the interconnector. An open season will take place in the East-West case, in line with the Notes of the Commission. They refer to an open season procedure as an allocating mechanism for such long-term contracts. In relation to investments in the gas sector, ERGEG conducted a public consultation and published its view on open season procedures. [12] ERGEG sees it as an appropriate tool to gauge the market for new needs and to allocate new capacity. The advantage of an open season, besides being very flexible, lies in the fact it allows a non-discriminatory and market-based allocation. Note that this is an important difference with the historical priority access which was neither market-based nor non-discriminatory. The balance between competition and investments is clearly illustrated in the East-West case. The open season and the limitations on the share a party can acquire ensure competition, but at the same time the sale of long-term contracts with priority access allows the investor to have revenues in an early stage of the project and give him an extra incentive to make the investment.

The investors in the Estlink case [39] are generators on both sides of the link. They have priority access to the interconnector. The investment and the exemption application is driven by the potential to exploit the cable for their own use. Estlink therefore has the most severe restrictions on TPA of all exemption cases, only a 'Use-it-or-loose-it' mechanism is in place to ensure anti-hoarding. The Estlink case resembles most the historical priority access, although here a group of generators benefits from priority access, whereas typically large incumbents profited from historical priority access. But even here, exemption conditions are met and the priority access expires after a (rather short) period (cfr. *infra*).

#### *Conditions on an exemption*

An exemption can only be given if the six conditions listed in art. 7 (1) of the Regulation are fulfilled. Firstly, two conditions deal with the competitive effect of the new interconnector. It should enhance

---

<sup>7</sup> Note however that the 20% interconnector capacity is not regulated and part of the exempted capacity and that the access regime does not necessarily is the same as the one used on regulated interconnectors.

<sup>8</sup> The share of the long-term contracts the Irish incumbent ESB can acquire is limited to 40%. Any other party can acquire up to 70%.

competition in electricity supply (condition a) and should not be to the detriment of the effective functioning of the internal electricity market or the regulated systems to which the interconnector is linked (condition f). A competition analysis is often used to assess the influence of the interconnector. These conditions are very important in making the difference between granting priority access through an exemption and the historical priority access. For instance in the case of East-West limitations are set on the maximum capacity a party can acquire. By doing so, priority access can be granted without being detrimental to competition. Although no limitations on TPA would of course be better, a good trade-off can ensure both competition and the investment can be realized. Secondly, the level of risk should be such that without an exemption the project would not take place (condition b). In its Notes<sup>9</sup> [7] the Commission defines risky as ‘major’ or ‘high cost’ combined with the sunk nature of the investment and with benefits that could vary within a range.<sup>10</sup> This condition also implies that the investment would not take place under the regulated framework. Thirdly, the investment should at least be legally unbundled of system operators of the systems linked by the new interconnector (condition c). For instance, in the case of BritNed a legal subsidiary of both involved TSOs was created. Fourthly, charges must be levied on the users of the interconnector (condition d). Finally, the investment cannot be recovered by using any regulated charges from network activities in the systems linked by the interconnector (condition e).

#### *Duration of the exemption*

Priority access expires after a predefined period (Table 2) and the investment then becomes regulated. The Notes link the duration of the exemption to the risks of the project. The exemption duration should allow the investor to ‘break even’. This is a difference with the historical priority access where the duration of the arrangements was not linked to the financials of the project.

---

<sup>9</sup> The Notes of the Commission provide a non-binding clarification of the Regulation. It consists of useful guidelines for interpreting the exemption procedure.

<sup>10</sup> As a rule of thumb, major pieces of infrastructure as investments resulting in a tariff increase of 10 €/per connected customer. As discussed by Vandezande et al. [39], such a situation occurred in the Estlink case where a regulated development of the project would result in a considerable increase of the transmission tariff (>90 €/customer) and the project would only take place in later stage. A rough estimation<sup>10</sup> shows that also the East-West investment would result in considerable burden on the tariffs (>67€/customer) a ‘risky’ project. (Assuming 4.5 million inhabitants in the Republic of Ireland and an estimated value of the cables of 300 M€results in an increase of the tariff with about 67 €/inhabitant)

BritNed and East-West request an exemption for 25 years. According to BritNed this reflects the forecasted discounted payback period. Additionally, they argue this period is in line with the perceived risk of the project. The high degree of revenue uncertainty also requires an exemption duration that resembles the life of the investment. BritNed earns revenues through yearly and monthly explicit and daily implicit auctions. There are no long-term commitments and therefore no long-term guaranteed income. East-West refers to the financing of the project to justify 25 year exemption duration. A shorter duration would result in the project not being viable anymore. Estlink has considerable shorter exemption duration, 4 to 8 years. The actual duration depends on the Estonian and Finnish TSOs. They will take over the cable at the latest in 2013. The duration is very short compared to BritNed and East-West. This is compensated by a predefined sum being paid by the TSOs when they take over the cable. This sum will allow the investors to break-even. Note that for East-West and BritNed such an arrangement is not agreed in advance. Presumably this implies that no sum will be paid at the end of the duration, although the procedure does not explicitly mention this.

*Who has to approve an exemption?*

The national regulatory authorities at both sides of the interconnector first have to approve the exemption. However, they have to notify the Commission, who has during two months the right to request national regulatory authorities to amend or withdraw the exemption. If they do not comply, the Commission will take a decision after advice of Comitology. The Commission can ensure European interests are taken care of and that not only national or private interests prevail when merchant projects are assessed.

#### **4. PROTECTION AGAINST REGULATORY RISK**

An investment project faces several risks such as operational risks, risk of a competing project, ... An important factor is often the regulatory risk. An investment is always done within a certain regulatory context. However, this context does not necessarily remain constant throughout the entire project's life time. Regulatory authorities can change the rules and thereby change the viability of a project. For instance, regulation can be changed with the purpose of 'clawing back' the revenues of a beneficial project. The regulatory risk can be decreased when protection against regulatory changes can be given. In Australia a

‘regulation holiday’ is considered an option to protect investments projects. [2] The European exemption procedure foresees to be exempted from certain rules within the power of the regulatory authorities (art. 23 (2), (3) and (4) of EU Directive 2003/54/EC).

In case of BritNed [3] the owner of the link will be BritNed Development Limited, a 50/50 joint venture between National Grid International Ltd. and Nlink International B.V. The latter is a 100% subsidiary of TenneT Holding B.V. National Grid and TenneT are the TSOs of respectively Great Britain and the Netherlands, which makes a merchant link at first sight an illogical option. On the one hand it is necessary for BritNed to pursue an exemption as according to British law National Grid as a regulated monopolist cannot be directly involved in the development of an interconnector with the UK.[38] On the other hand, in its application for an exemption BritNed identifies the regulatory risk as the most important reason for developing BritNed through an exemption. BritNed is mostly interested in protection of the congestion revenues, i.e. an exemption from art. 6(6). It fears the national regulators clawing back the revenues once the project is profitable. BritNed intends to implement an allocation mechanism comparable to the one used on regulated lines. However, they request to be exempted from the relevant articles on third party access and the regulatory oversight as the regulatory risk on this issues is too high to continue without an exemption. For instance, by being exempted they can freely decide how the capacity is split over the yearly, monthly and daily auctions, without interference of the regulators.

A similar reasoning can be found in the East-West case. [25] The applicant identifies regulatory risk as an important risk factor. Changes in legislation, another interpretation of existing legislation, changing market arrangements all threaten the viability of the project. Protection against regulatory risk helps to ensure the revenue adequacy of the project.

## **5. CONCLUSION: IS EU REALLY DESPERATE?**

A competitive, sustainable and secure single electric energy market needs a highly reinforced transmission grid as a backbone. Without new transmission investments policy goals won’t be reached. Since liberalization took off, a great effort has been done to optimize the use of the existing infrastructures.



Electricity Directive 200/54/EC and Regulation 1228/2003 successfully and rightfully imposed non-discriminatory and market-based access to the transmission grid. On most interconnectors third party access now is guaranteed through explicit or implicit auctions. Historical priority access are facing opposition and disappearing.

However, with respect to new interconnectors the regulatory framework is failing. A lack of ownership unbundling, political and public pressure to keep tariffs low, prevailing national interest and insufficient European funding explain why regulated transmission investments are not brought to the market. National interests do not always match European policy, thereby making investments in interconnectors unpopular. Moreover, although changes are being considered it is uncertain whether they will be sufficient to solve the problem.

Merchant investments are therefore an interesting option. Merchant investments do not suffer from all fallacies of the regulatory framework. National authorities might be less opposed against such investments because there is no option to use the same money to lower tariffs. The EU even seems so desperate for investments that it is willing to sacrifice third party access by allowing discriminating allocation mechanisms in order to attract investors and to decrease the regulatory power. The exemption procedure decreases the risk of an investment. However, a closer look at the possibility to be exempted from third party access rules reveals that it is not a come-back of historical priority access. Priority access now is granted, but only on a case by case basis and if certain conditions are met. Priority access helps an investor to decrease the project risk as now long-term commitments and own use of the investment are possible resulting in a decrease of the payback period. Although clearly envisaged as being exceptional<sup>11</sup>, Europe seems more and more willing to grant priority access as an option to attract investments in interconnectors. This is not done at all costs: competition issues are closely monitored and a new investment cannot be to the detriment of competition. Estlink, BritNed and East-West (of which East-West has not received the

---

<sup>11</sup> The Commission stated in 2004 that: “In some exceptional cases, as set out in the Regulation, it might be envisaged that interconnectors could be constructed on a merchant basis...” [16] In the Notes of the Commission on the exemption regulation [7] it is stated: “The possibility for such exemptions is clearly an exception to the general rule of third party access which is the basis of the new competitive market for electricity and gas.”

exemption yet) all include a trade-off between investments and competition. However, a situation with new interconnectors with some priority access seems better than no new interconnectors at all. Furthermore, the priority access and the limited power of the regulatory authorities expire after a predefined exemption duration, thereby making in the long run the investment regulated anyway. The EU exemption procedure is going further than “standard” merchant models only relying on congestion revenues. The extra incentives offered by the possibility of priority access and protection against regulatory authorities make out a powerful tool for national regulatory authorities and the Commission.

## References

- [1] Abrahamsson B. (ABB Sweden) (2001) SwePol HVDC Link, AC-DC Power Transmission, 28-30 November 2001, Conference publication No. 485, IEE
- [2] Shogren R. (2001) “What is the Regulatory Policy Agenda for 2001 and Beyond?”, Energy regulation and the role of regulators 30 April 2001
- [3] BritNed Development Ltd, Application for EU exemption, 12 June 2006
- [4] CESI spa, ITT, ME, RAMBØLL A/S (2005) TEN-Energy-Invest – Energy Infrastructure Costs and Investments between 1996 and 2013 (medium-term) and further to 2023 (long-term) on the Trans-European Energy Network and Connection to Neighbouring Regions with emphasis on investments on renewable energy sources and their integration into Trans-European energy networks, including an Inventory of the Technical status of the European Energy-Network for the Year 2003 (Contract n. TREN/04/ADM/S07.38533/ETU/B2-CESI)
- [5] Decision No 1364/2006/EC of the European Parliament and of the Council of 6 September 2006 laying down guidelines for trans-European energy networks and repealing Decision 96/391/EC and Decision No 1229/2003/EC
- [6] DG Competition report on energy sector inquiry (SEC(2006)1724, 10 January 2007) – Part 2
- [7] DG TREN, Note of DG Energy & Transport on Directives 2003/54-55 and Regulation 1228/03 in the Electricity and Gas Internal Market, Exemptions from certain provisions of the third party access regime, 30 January 2004
- [8] Directive 2003/54/EC of the European Parliament and of the Council of 26 June 2003 concerning common rules for the internal market in electricity and repealing Directive 96/92/EC
- [9] Directive 96/92/EC of the European Parliament and of the Council of 19 December 1996 concerning common rules of the internal market in electricity
- [10] Dobbeni D. (2007) Regulatory and technical challenges for the European electricity market, European Review of Energy Markets, 2007, Issue 4, p77-107
- [11] E.ON Sweden, website: <http://www.eon.se> (27/7/2007)
- [12] ERGEG Guidelines for Good Practice on Open Season Procedures (Ref: C06-GWG-GWG-29-05c), 21 May 2007, ERGEG's Guidelines following an ERGEG public consultation process, held in 2007
- [13] ERGEG, Northern Europe Regional Initiative, Implementation Groups Terms of Reference, Implementation Group ‘Optimizing the use of interconnectors – SwePol and Baltic Cable’ – Draft terms of reference, TOR after 4<sup>th</sup> RCC, 16 January 2007.
- [14] ETSO (2004) An overview of current cross-border management methods in Europe – September 2004
- [15] ETSO (2006) An overview of current cross-border management methods in Europe – May 2006
- [16] European Commission (2004) DG TREN Working Paper, Strategy Paper, Medium Term vision for the Internal Electricity Market
- [17] European Commission, COM(2006) 841 final, Communication from the Commission to the Council and the European Parliament – Prospects for the internal gas and electricity market
- [18] European Commission, COM(2006) 846 final, Communication from the Commission to the Council and the European Parliament - Priority Interconnection Plan

- [19] European Commission (2006) Commission Decision 2006/770/EC of 9 November 2006 amending the Annex to Regulation (EC) No 1228/2003 on conditions for access to the network for cross-border exchanges in electricity
- [20] European Commission, SEC(2007) 12, Communication from the Commission to the European Council and the European Parliament - An energy policy for Europe
- [21] European Commission, Regulation No. 1228/2003 of the European parliament and of the council of 26 June 2003 on conditions for access to the network for cross-border exchanges in electricity, Official Journal of the European Union, 2003, L 176/1
- [22] European Commission, SEC (2006) 1715, Commission Staff Working Document accompanying the Communication from the Commission Inquiry pursuant to Article 17 of Regulation (EC) No 1/2003 into the European gas and electricity sectors (Final Report) - Priority Interconnection Plan
- [23] European Council (2002) Presidency Conclusions, Barcelona European Council, 15-16 March 2002
- [24] Gómez-Acebo & Pombo Abogados, S.L. and Charles Russell LLP (2005) Unbundling of electricity and gas transmission and distribution system operators – Final Common report, 1 December 2005
- [25] Imera Power Ltd, Imera Power East-West interconnector ONE & TWO, Request for an EU exemption, 20 February 2007
- [26] Inderst R., Ottaviani M. (2004) Cross-border Electricity trading and market design: the England-France Interconnector, London Business School, CS-04-008
- [27] International Energy Agency (2006) World Energy Outlook 2006
- [28] Jansson B., Torben F., Støvring-Hallsson S. (1996) Kontek HVDC Interconnection, AC and DC Power Transmission, 29 April – 3 May 1996, Conference publication No. 423, IEE
- [29] Joskow P., Tirole J. (2005) Merchant transmission investment, The Journal of industrial economics, Vol. 53, No. 2, June 2005
- [30] Kroes N., European Commissioner for Competition Policy, 20th anniversary of the UK-France electricity interconnector – introductory remarks, Calais, 30 November 2006
- [31] Nasser T.-O. (1998) Congestion Pricing and network expansion, Policy Research Working Paper 1896, The World Bank
- [32] Northern Ireland Energy Holding, website: <http://www.nienergyholdings.com/> (26/7/2007)
- [33] Press release No 53/05, 7 June 2005, Judgment of the Court of Justice in Case C-17/03
- [34] Rosellón J. (2003) “ Different Approaches Towards Electricity Transmission Expansion, “Review of Network Economics, Vol.2, Issue 3, September 2003
- [35] Statkraft, Annual Report 2006
- [36] Stoft S. (2006) Chapter 4: Transmission investment in a deregulated power market, from: Competitive electricity markets and sustainability, edited by Francois Lévêque, Edward Elgar Publishing
- [37] Trans-European Energy Networks (1997) Trans-European Energy Networks: Policy and Actions of the European Community, Information Brochure
- [38] UK Law: Energy Act 2004, Chapter 2, Interconnectors for electricity and gas, electricity interconnectors
- [39] Vandezande L., Meeus L., Belmans R. (2007) "Estlink: A First of Many Merchant Transmission Investments in Europe?," Transmission & Distribution Europe 2007, Prague, Czech Republic, March 6-8, 2007
- [40] Vattenfall AB, Annual Report 1997