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TESIS DE MÁSTER

A REGULATORY VISION OF SPAIN-
FRANCE INTERCONNECTION:
ASSESSING EFFICIENCY AND
IMPACT ON SPANISH POWER
PRICES

AUTOR:

ELENA MURCIA DURÁN
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Autorizada la entrega del proyecto al alumno:

Elena María Murcia Durán

EL DIRECTOR DEL PROYECTO

Mariano Ventosa

Fdo:

Fecha:

Vº Bº del Coordinador de Proyectos

Michel Rivier

Fdo:

Fecha:

EXECUTIVE SUMMARY

This master thesis discusses the restrictions imposed by the Spanish legislation to import electricity into the Iberian electricity market to the so-called “dominant operators” recalling the purpose of Regulation EC/1228/2003. Moreover, it assesses the effects of this prohibition on the social welfare created by the interconnection between France and Spain as well as on the Spanish Day-Ahead market price.

The Third Additional Provision of the Royal Decree Law 6/2000 of June 23 (hereinafter RDL 6/2000), on measures to reinforce competition in the markets for the supply of goods and services, introduced the concept of “dominant operators” and defined it as “any company or business group, as defined in Article 4 of Law 24/1988, of July 28 on the stock market, which holds a market share exceeding 10 per cent in any of the following sectors: a) generation and supply of electricity in the Iberian Electricity Market (MIBEL) ...”. This restriction effectively prohibits Endesa, Iberdrola and Unión Fenosa (now Gas Natural) from importing electricity from France into Spain, even if there is substantial unused interconnection capacity between the two countries.

The Spanish government appears to justify its decision to prohibit imports by companies with a market share in excess of 10% by referencing to the exception envisaged in article 2.10 of the Annex to Regulation EC/1228/2003. This article states that:

“In principle, all potential market participants shall be permitted to participate in the allocation process without restriction. To avoid creating or aggravating problems related to the potential use of dominant position of any market player, the relevant Regulatory and/or Competition Authorities, where appropriate, may impose restrictions in general or on an individual company on account of market dominance.”

However, the prohibition foreseen in the Spanish legislation cannot constitute an appropriate use of such exceptional provision. Spanish legislation is not an appropriate application of article 2.10 because (a) it uses a threshold to identify “dominant operator” which is far more restrictive than that laid down by the EU competition rules and (b) the

Spanish wholesale electricity market is already competitive and absent of risk of abusive use of market power. Besides, despite of the fact that Regulation EC/1228/2003 states in section 2.1. of the Guidelines on management and allocation of available transfer capacity of interconnections between national systems (“Guidelines”) that “when there is no congestion, there shall be no restriction of access to the interconnection”, in more than a third (38.4%) of the hours in which it would be efficient to import energy into Spain the interconnection is not fully utilised. Even in these cases, dominant operators are not allowed to import energy from France and, therefore, this prohibition is contradictory with which is stated in the Regulation.

Moreover, prohibiting imports by the largest companies causes serious undesirable side-effects since it imposes a prohibition that is obstructing efficient cross-border trade and it is increasing artificially the Spanish Day-Ahead market price which is supported by the Spanish final consumers.

Firstly, Spanish Legislation provokes a serious loss of efficiency in the use of interconnection between France and Spain (and with Portugal), which artificially preserves price differences and results in an outcome contrary to the objective of the Regulation. In fact, the ban reduces efficiency in the use of the interconnection and in the revenues derived from the auction of the interconnection capacity.

The loss of revenues that arise from insufficient competitive pressure in the interconnection capacity auctions can be estimated by comparing the value of the interconnection vs. the price that results in the interconnection auctions. This analysis shows that auctions for capacity in the France-to-Spain direction capture a much lower share (67% in 2008) of the value of the interconnection than the auctions in the Spain to France direction (where the auction price in 2008 reflected 110% of the value of the interconnection capacity). This result indicates that:

- there is insufficient competitive pressure in the auctions to buy capacity to import electricity into Spain, partly as a direct consequence of the fact that

Spanish companies with shares above 10% are banned from participating in these auctions, which as a result operate less competitively and efficiently, and had there been the same level of competitive pressures in the France-to-Spain direction as that observed in the Spain-to-France direction (i.e. if the price of the auctions in the France-to-Spain direction had been equal to 110% of the value of the interconnection instead of 67%), revenues from the auction would have been 64% higher (24.5 M€) in 2008.

The fact that the Spanish legislation reduces interconnection auction revenues should issue of concern since it negatively impacts the objective of Article 6.6. of Regulation EC/1228/2003. This provision which states that “any revenues resulting from the allocation of interconnection shall be used for one or more of the following purposes: (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 assessing whether tariffs should be modified”. Thus, the fact that the Spanish Legislation reduces the revenues resulting from the allocation of interconnection capacity means that there will be a reduction in the amount of funds available to guarantee the availability of interconnection capacity and/or increase interconnection capacity. The consequence will be less capacity for cross-border trade, in direct contradiction with the Commission's objectives.

It is important to stress that eliminating the prohibition does not imply a total efficient use of the interconnection between France and Spain since there are inefficiencies inherently bound to explicit capacity auctions. Firstly, market participants do not only trade on power exchanges, but also use OTC trades to manage their positions across borders. Secondly, they base their decisions to use capacity across a border on a number of other factors. For example regulations, like the obligation to prove physical flows in order to be able to claim tax benefits from transporting electricity from renewable sources. These and other reasons become far more important when the price spread is very small.

Secondly, this situation artificially preserves price differences between the Spanish and French markets, in direct opposition to the objectives laid out by the European Commission to increase trade and reduce price differentials. In particular, it keeps MIBEL electricity prices artificially higher to the detriment of consumers in Spain and Portugal. An analysis of the impact on the Spanish Day-Ahead price that would have had allowing “dominant operators” importing energy from France in those hours in which spare and economically viable capacity is available in the interconnection, shows that the prohibition has kept electricity prices artificially 0.2 €/MWh higher. This analysis on the Spanish Day Ahead market price is carried out since the ban came into effect until this master thesis has been written. It is noteworthy mention that this so even the assumptions taken in the analysis are very conservative as shown in the list below:

1. In order to determine that the interconnection is not congested in any hour from France to Spain, there has to be at least 100MW of spare capacity
2. Any hour will be considered economically viable when the hourly difference between the prices of the day-ahead markets (OMEL-EPEX) is greater than 1 €/MWh.

In almost 18% of the hours in which spare and economically viable capacity is available in the interconnection and importing energy from France makes sense from an economic point of view (French EPEX Spot day-ahead price was less than Spanish OMEL day-ahead price), the price has been kept more than 2 €/MWh artificially higher. Moreover, the prohibition has entailed a cost of 132 M€ that has been supported by the Spanish consumers. Thus, forbidding some Spanish companies to participate in these auctions acts as a serious obstacle to cross-border trade and to the creation of a single energy market.

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1

INTRODUCTION

1 INTRODUCTION

The reform of the internal energy market in Europe has been an ambitious undertaking involving fundamental structural, regulatory and market change throughout Europe. In little over a decade, substantial progress has been made in liberalising, harmonising and integrating energy markets throughout Europe, in pursuit of the ultimate goal of a single competitive European energy market.

However, market integration can only be brought about, if our markets are properly interconnected and market participants can access them without obstacles. We are not there yet. Our electricity highway is plagued by persistent bottlenecks, congestions are not optimally dealt with and national regulatory measures can prevent us achieving it.

The relationship between regulation and market performance has been widely discussed since the beginning of the liberalization process of the electricity markets. The well-being of an electricity market is directly dependent on regulatory decisions. Today, the powers and independence of national energy regulators across Europe differ considerably. Regrettably, some regulatory measures can undermine confidence in the market and discourage much needed new investments.

This is the case of the Spanish regulation. Royal Decree Law 6/2000⁴ imposes a series of obligations and restrictions on the so-called “dominant operators”, defined as those operators that have a market share exceeding 10%. One of the restrictions consists of a ban on imports of energy from any EU country outside the Iberian Electricity Market (“MIBEL”), which effectively prohibits Endesa, Iberdrola and Unión Fenosa (now Gas Natural) from importing electricity from France into Spain, even if there is substantial unused interconnection capacity between the two countries. Such a ban is an obstacle to the efficient use of the interconnections and it contradicts the main objective pursued by Regulation EC/1228/2003. The main objective of Regulation EC/1228/2003 is to achieve efficient cross-border trade of electricity to reduce price differences between countries as a

precondition for the creation of a real internal market. An efficient use and equal access to interconnections are crucial to achieve this objective.

This master thesis discusses the restrictions imposed by the Spanish legislation to import electricity into the Iberian electricity market to the so-called “dominant operators” recalling the purpose of Regulation EC/1228/2003. Firstly, it outlines the European regulatory framework on electricity markets with special focus on the interconnections. Secondly, it further explains why the Spanish Royal Decree Law 6/2000 of June 23, on measures to reinforce competition in the markets for the supply of goods and services, (the “Spanish Legislation”) is in breach of Regulation EC/1228/2003 on conditions for access to the network for cross border exchanges in electricity (the “Regulation EC/1228/2003”) and, further, why it is unnecessary given the competitive status of the market. Thirdly, it provides specific information showing that the Spanish Legislation provokes a severe loss of efficiency in the use of the interconnection between France and Spain (which also affects trade with Portugal and the level of electricity prices in that country), which effectively results in an outcome contrary to the main objective of the Regulation. Lastly, it assess the impact on the Spanish Day-Ahead market price that this restriction imposed by the Spanish legislation causes by simulating which would have been the Spanish Day-Ahead market price in case that “dominant operators” had been allowed importing energy from France in those hours in which spare and economically viable capacity is available in the interconnection.

2

EUROPEAN UNION LEGISLATION ON INTERCONNECTIONS

2 EUROPEAN UNION LEGISLATION ON INTERCONNECTIONS

Creating a genuine internal market for energy is one of the European Union's (EU's) priority objectives. The existence of a competitive internal energy market is a strategic instrument in terms both of giving European consumers a choice between different companies supplying gas and electricity at reasonable prices, and of making the market accessible for all suppliers, especially the smallest and those investing in renewable forms of energy.

EU legislation can take two main forms, namely Regulations and Directives. A directive is a legislative act of the European Union, which requires member states to achieve a particular result without dictating the means of achieving that result. It can be distinguished from regulations which are self-executing and do not require any implementing measures. Directives normally leave member states with a certain amount of leeway as to the exact rules to be adopted. Directives can be adopted by means of a variety of legislative procedures depending on their subject matter. In a nutshell, a Regulation applies as such while a Directive needs to be transposed in national law.

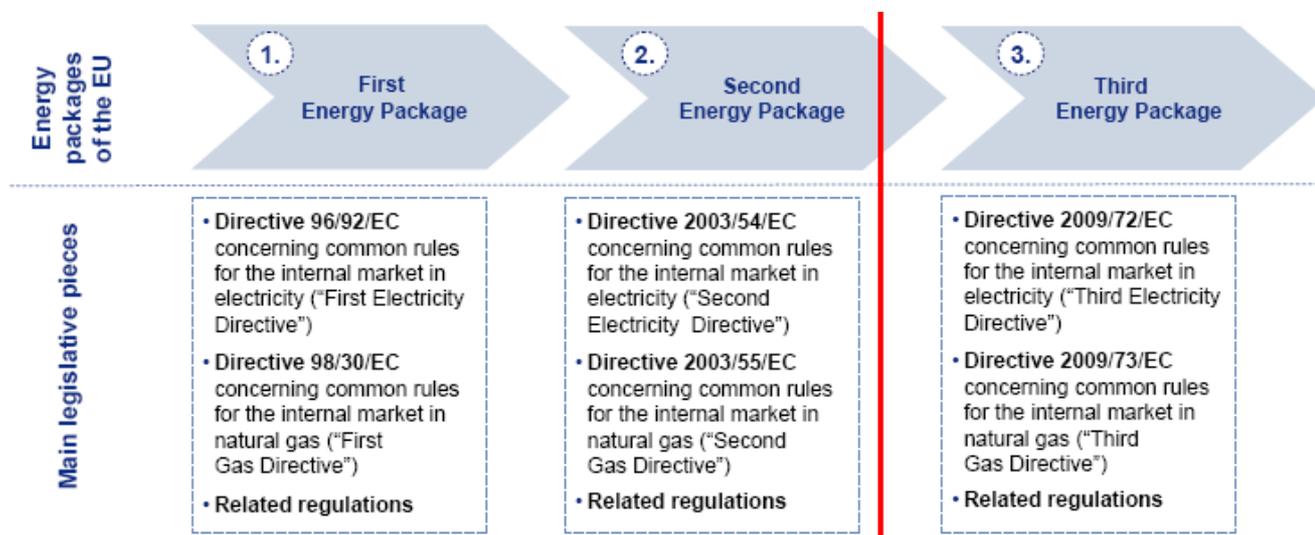
2.1 EUROPEAN DIRECTIVES

The deregulation of the European gas and electricity markets is gaining pace as European Union directives on energy are implemented

Main goals of the European Union energy packages are as follows:

- Create a single European energy market
- Increase competition
- Increase efficiency
- Ensure security of supply

Three Energy Packages have been implemented so far as shown in the illustration below.



1 Three Energy Packages

2.1.1 First Energy Package

The first phase of European energy reform focused on establishing national regulatory structures and liberalising the energy markets within each Member State in a harmonised manner. This marked a fundamental change for many Member States which had not previously introduced competition in the electricity and gas sectors. The principal Directives which gave effect to these measures were Directive 96/92 of the European Parliament and of the Council of December 1996 concerning common rules for the internal market in electricity (Directive 96/92/EC) and Directive 98/30 of the European Parliament and of the Council of June 1998 concerning common rules for the internal market in natural gas (Directive 98/30/EC).

2.1.2 Second Energy Package

The second phase of European energy reform sought to both address perceived inadequacies and complexities in the first phase, in particular in the context of unbundling

and regulated third party access, as well as establishing the framework for the next phase of reforms by accelerating the implementation of competition in electricity and gas markets and prioritising cross border trade, including through the establishment of regional markets. It was initially proposed that the second phase of European energy reform would be implemented through a single Directive recognising convergence between the electricity and gas sectors which would repeal and replace Directives 96/92/EC and 98/30/EC. However, the process ended up being far more fragmented and was ultimately implemented principally through two Directives and two Regulations, namely Directive 2003/54 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 (Directive 2003/54/EC); Directive 2003/55 of the European Parliament and of the Council of 26 June 2003 concerning common rules for the internal market in natural gas and repealing Directive 98/30/EC (Directive 2003/55/EC); Regulation (EC) 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 (together with 2006/770/EC: Commission Decision 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); and Regulation (EC) No 1775/2005 of the European Parliament and of the Council of 28 September 2005 on conditions for access to the natural gas transmission networks.

2.1.3 Third Energy Package

The Third Package has an increased focus on effecting market liberalisation and transparency across the EU as a whole, rather than in each individual Member State. Key elements of the proposals include:

- ***unbundling of transmission system ownership***: while complete unbundling of system ownership from supply and generation activities is the preferred approach of the Commission, certain Member States favour allowing integrated companies to retain ownership of their network assets with the network managed by an independent system operator. The proposal is to allow Member States to adopt either approach, but to make the latter approach subject to additional regulatory

controls. These would include requirements to legally and functionally unbundled network ownership while requiring the owner to fund investment decisions of the independent system operator. Appointment of the system operator would require Commission approval and a network investment plan by the national regulatory authority. In addition, the unbundling requirements would apply EU-wide, so that supply and generation undertakings would be prohibited from owning (under the first approach) or operating (under both approaches) a transmission system in another Member State. These proposals have significant implications for Ireland given that ownership of the gas and electricity grids has not been unbundled.

- **increased regulatory oversight and cooperation:** the measures aim to ensure national regulatory independence from industry interests and government and propose that regulators' statutory powers and duties be strengthened. Proposals include giving regulators the power to issue binding decisions on companies and to impose penalties on companies that do not comply with such decisions or with their obligations. If implemented this would almost certainly result in increased powers for the Commission for Energy Regulation in Ireland.
- **establishment of a European Agency for Co-operation of Energy Regulators:** it is proposed that the Agency will be competent to issue opinions addressed to transmission system operators, regulatory authorities or the Commission and to take decisions on technical matters. The Agency would be able to establish non-binding guidelines for regulatory authorities and market players to promote best practice and cooperation and, where it deemed binding rules to be appropriate, would make recommendations to the Commission. At the request of a regulator or the Commission, the Agency would also issue opinions on application of or compliance with the Guidelines set out in existing directives and regulations. The Authority would also have decision-making rights regarding regulatory regimes for infrastructure connection between Member States and appointment of independent system operators in circumstances where the national regulator had failed to do so within the required timeframe.
- **establishment of a European Network for Gas and Electricity Transmission System Operators:** transmission system operators would be charged with

developing market and technical codes required for integration of markets, managing and financing research and innovation activities of common interest, and coordinating grid operation, planning of network investments and monitoring the development of transmission network capacities.

- **exemption regime:** the Third Package proposes overhaul of the current rules for exemption from regulated third party access for major new infrastructure, whereby the minimum requirements for the allocation of capacity and congestion management provision for the new infrastructure, currently applied on a case by case basis, would apply generally.
- **transparency and record keeping:** it is proposed to require electricity generators, gas network operators and supply undertakings to keep a record of all data relating to operational decisions and trades. The intention is to enable regulators to effectively investigate allegations of market abuse and to improve the transparency of the European energy markets. Existing transparency requirements would be extended to cover gas stocks, forecasts of demand and supply, costs for balancing the network and trading.
- **access to storage and LNG facilities:** the Commission aims to give market participants greater clarity on the regulatory regime applicable to storage and LNG facilities. Proposals include the establishment of legal and functional unbundling rules applicable to storage system operators who are part of supply undertakings and making the Madrid Forum's Guidelines for Good Third Party Access Practice for Storage System Operators binding on relevant market participants. In addition, it is intended to develop legally binding rules for storage and LNG facilities to cover third party access, capacity allocation and congestion management and to define transparency requirements and measures to enable secondary markets to develop.

2.2 EUROPEAN UNION LEGISLATION ON INTERCONNECTIONS

2.2.1 ENTSO-E

The European Network of Transmission System Operators for Electricity (ENTSO-E) is an association of Europe's transmission system operators (TSOs). It is a successor of

ENTSO, the association of European transmission system operators founded in 1999 in response to the emergence of the internal electricity market within the European Union. Creation of the ENTSO-E was initiated by the adoption of the European Union third legislative package on the gas and electricity markets

Main tasks

- Elaboration and establishment of network codes
- Ensure coordination of network operation by common network operation tools
- Develop a ten-year network development plan
- Publish annual work program, annual report and annual summer and winter generation adequacy outlooks

The ENTSO-E now contains 42 TSOs from 34 countries, which now share a synchronous transmission grid in the EU.

2.2.2 EU Regulation on interconnections

The first Regulation implemented on interconnections was Regulation EC No 1228/2003 of June 2003 on conditions for access to the network for cross-border exchanges in electricity. EU regulation 1228/2003 defines the framework for cross-border transactions within the electricity sector. The regulation reflects the effort of the European Union towards an internal electricity market within the EU.

The European Commission's brochure laying out the provisions contained in the first electricity Directive explained that the single market for electricity was created to reduce both the level of electricity prices and the price differences among countries.

Competition would mean more efficiency and lower overall prices for electricity and would also reduce the price differences that were causing distortions of competitive conditions across the EU.

This first Directive sought to stimulate competition by introducing market concepts in the organization of the national electricity sectors. The application of common rules based on competitive market concepts in the different Member States was expected to facilitate and increase the efficient¹¹ cross-border trade of electricity, reducing both the average cost of electricity and also the differences in electricity prices across the different EU countries.

However, it soon became evident that the mere fact of partially opening the different national markets to competition was not going to eliminate the existing regulatory barriers and allow an efficient cross-border trade of electricity. Several initiatives were then taken to better integrate the different national markets: the creation of ETSO, followed by the creation of CEER and, especially, the constitution of the Electricity Regulatory Forum of Florence. It was in fact this Forum which laid out the three fundamental features that must be respected in order to allow an efficient crossborder trade of electricity: (a) the harmonization of transmission charges (and, in general, of all charges and levies) to generators, (b) the compensation among TSOs for transits or cross-border trade from other TSOs through their networks, and (c) a congestion management mechanism based on market methods to allow the maximum use of the interconnections by those agents that would value them most, and in a manner compatible with security criteria.

The recommendations in this Forum were finally translated into Regulation EC/1228/2003 (on conditions for access to the network for cross-border exchanges in electricity) that has been recently reviewed as part of the new regulations in the Third Package.

The need to increase cross-border trade of electricity in the EU was also recognised by the European Council of Barcelona in 2002, where a target was set for the level of electricity interconnections of each country equivalent to at least 10% of its installed generation capacity by 2005. This objective was later ratified by the European Council held

in spring 2007 (under German presidency) and extended to the gas sector, though postponed to 2010.

Regulation EC/1228/2003 converts into binding regulations the recommendations and agreements that were reached at the Florence Forum meetings with the objective of increasing cross-border trade of electricity.

This Regulation contains the basic principles that must be followed to achieve an efficient cross-border trade of electricity, but it does not develop them. To be effective, these principles must be developed through more concrete Guidelines. In any case, regarding the interpretation of the Regulation, it is obvious that the

Guidelines that develop the Regulation cannot contain provisions that go against the principles laid out in the Regulation itself. In other words, in case of conflict between the Guidelines and the Regulation, the principles laid out in the text of the Regulation must clearly prevail.

2.2.2.1 The principles laid out in Regulation EC/1228/2003

Many parts of the Regulation (either in the Recitals or in the articles themselves) stress that increasing trade is a basic requirement for the development of competition and the creation of a real internal electricity market:

- Recital 3 explains that: “The creation of a real internal electricity market should be promoted through an intensification of trade in electricity, which is currently underdeveloped compared with other sectors of the economy.”
- Recital 6 recalls that: “The European Parliament, in its Resolution of 6 July 2000 on the Commission's second report on the state of liberalisation of energy markets, called for conditions for using networks in Member States that do not hamper cross-border trade in electricity and called on the Commission to submit specific proposals geared to overcoming all the existing barriers to intra- Community trade.”

- Recital 14 establishes that: “The precondition for effective competition in the internal market is non-discriminatory and transparent charges for network use including interconnecting lines in the transmission system. The available capacities of these lines should be set at the maximum levels consistent with the safety standards of secure network operation.”
- In the main text of the Regulation, the same principles are referred to, as in article 6.1: “Network congestion problems shall be addressed with non-discriminatory market based solutions which give efficient economic signals to the market participants and transmission system operators involved”. And in article 6.3: “The maximum capacity of the interconnections and/or the transmission networks affecting cross-border flows shall be made available to market participants, complying with safety standards of secure network operation.”

2.2.2.2 Regulation EC/714/2009

With the Third Energy Market Package Regulation 714/2009 was and will apply from 3 March 2011. Until then the Regulation 1228/2003 continues to apply. However, there are no substantive differences between the two regulations relevant to this question

3

DEFINITION OF DOMINANT OPERATOR

3 DEFINITION OF DOMINANT OPERATOR

3.1 DOMINANT OPERATOR

Regulation EC/1228/2003 on conditions for access to the network for cross border exchanges in electricity (the “Regulation EC/1228/2003”) lays down the basic rules and principles regarding access to networks for cross border transactions, with a view to promoting efficient cross-border trade in electricity between Member States. This Regulation is crucial for the creation of a real internal market in electricity across the European Union.

However, the Third Additional Provision of the Royal Decree Law 6/2000 of June 23 (hereinafter RDL 6/2000), on measures to reinforce competition in the markets for the supply of goods and services, introduced the concept of “dominant operators” and defined it as “any company or business group, as defined in Article 4 of Law 24/1988, of July 28 on the stock market, which holds a market share exceeding 10 per cent in any of the following sectors: a) generation and supply of electricity in the Iberian Electricity Market (MIBEL) ... ”

A company qualified as “dominant operator” under that specific legislation is subject to a number of obligations imposed by various regulations. Currently, there are three main obligations:

- A prohibition to represent facilities subject to the “special regime” that are not being owned or controlled by these “dominant operators”.
- An obligation to offer the supply of energy to the market on the basis of the so called ‘primary energy emissions’ (sort of Virtual Power Plant Auctions) that might take place (although this obligation currently applies to only two of the “dominant operators”: Endesa and Iberdrola).
- A ban on imports of electricity from EU Member States outside of the MIBEL.

This last import prohibition constitutes the issue discussed in this master thesis.

According to Art. 34 of the RDL 6/2000 – as implemented by the RD 1232/2001, of November 12 the CNE must publish, at least on a yearly basis, a list of “dominant operators”. Furthermore, the RDL 5/2005 of March 11, on urgent amendments for the promotion of productivity and amelioration of public procurement (“RDL 5/2005”) requires the CNE to make public this list by telematic means. Finally, the Law 17/2007, of July 4, modifying Law 54/1997 on the Electricity Sector (“Law 17/2007”) requires, prior to the publication of the list, the approval of the Regulatory Council for the MIBEL (“Regulatory Council”). Thus, the National Energy Commission (CNE) is the regulatory body responsible to determine which companies or groups actually exceed the 10% threshold and, therefore, are to be deemed as “dominant operators” for the purposes of such regulation.

CNE determines which corporate groups are to be qualified as “dominant operators” based exclusively on whether their respective market shares meet the 10 % threshold, calculated in terms of physical units sold (volume) in generation and/or retailing. CNE makes such determination on the basis of the information provided by the companies themselves, as well as the information available to the CNE on the energy sectors.

The list of “dominant operators” currently in force – published in “*Resolución de la Comisión Nacional de Energía por la que se establecen y hacen públicas, a los efectos de lo dispuesto en el artículo 34 y en la disposición adicional tercera del Real Decreto-Ley 6/2000, de 23 de junio, las relaciones de operadores principales y dominantes en los sectores energéticos*”(approved by CNE on 25th of April 2007), includes the following groups:

DOMINANT OPERATOR	
GENERATION	RETAILING
ACCIONA/ENDESA/ENEL	ACCIONA/ENDESA/ENEL
GRUPO IBERDROLA	GRUPO IBERDROLA
GRUPO EDP/HIDROCANTÁBRICO	GRUPO EDP/HIDROCANTÁBRICO
ACS/UNIÓN FENOSA	ACS/UNIÓN FENOSA

Tabla 1 Dominant Operators

This is so even though no competition authority has considered any of them as "dominant" in the relevant markets (that is, the markets for the generation and the supply of electricity).

4

COMPETITION IN THE SPANISH ELECTRICITY MARKET

4 COMPETITION IN THE SPANISH ELECTRICITY MARKET

4.1 INTRODUCTION

The Spanish government appears to be justifying its decision to prohibit on imports by companies with a market share in excess of 10% by reference to article 2.10 of the current Annex to the Regulation EC/1228/2003, which contains the Guidelines on management and allocation of available transfer capacity on interconnections. This article states that:

In principle, all potential market participants shall be permitted to participate in the allocation process without restriction. To avoid creating or aggravating problems related to the potential use of dominant position of any market player, the relevant Regulatory and/or Competition Authorities, where appropriate, may impose restrictions in general or on an individual company on account of market dominance.

This restriction envisaged in article 2.10 of the Guidelines, which comes as an exception to the free access and non-discrimination principle, is exceptional and should be interpreted restrictively. This restrictive interpretation results from the logic of the Regulation and from the actual wording of article 2.10, which starts by reminding that “In principle all market participants shall be permitted to participate in the allocation process of interconnection capacity, without restriction”. Since restrictions involve a selection between operators and discrimination, it should be applied only when absolutely needed and with due respect of the principle of proportionality, which requires that the restriction is limited to what would be strictly necessary to achieve the goal of avoiding abusive use of market power. The fact that among all Member States, so far only Spain has made use of this section also illustrates its exceptional nature.

The Regulation on conditions for access to electricity networks neither define nor specify what should be deemed to constitute a “dominant position” in that context. However, the document “Definition of the dominant operator concept: Methodology and applications”, jointly published by the Spanish and Portuguese energy and stock market

regulators in January 2008 and which tries to justify ex-post (the concept and the threshold had been previously and arbitrarily introduced by the government) the creation of the “dominant operator” concept, as well as the use of a 10% market share threshold to identify such operators, provides a useful guide for interpretation:

“The main purpose for establishing a Dominant Operator concept, and thus, to establish obligations and special limits for this kind of agent, derives from the need to reduce the risks of abuse of market power by agents able to influence price formation for the final consumer, which includes the wholesale and retail markets.”

Therefore, we consider that the term “dominant position” stated in the regulation on conditions for access to electricity networks refers to the concept of “dominant position” as defined in EU Horizontal Merger Guidelines and developed in the decisions of the Commission and the case law. EU competition rules (and, particularly, Article 82 EC Treaty) prohibit the abuse of dominant position. Article 82 does not define the concept of “dominant position”.

However, EU case law has defined it as “a position of economic strength enjoyed by an undertaking which enables it to prevent effective competition being maintained on the relevant market by affording it the power to behave to an appreciable extent independently of its competitors, its customers and ultimately, of the consumers”.

According to the decisional practice of the Commission and case law, the existence of “dominant position” must be assessed in the light of several factors and circumstances, such as the market position of the dominant undertaking and its competitors (reflected, inter alia, in their respective market shares), the existence of barriers to entry preventing the expansion of existing competitors or entry by new competitors, and the countervailing buyer power which might mitigate the market power of the companies.

It follows from the above that market shares are not, by themselves, a sufficient condition to declare the existence of a dominant position. Actually, it is important to

underline that only where an undertaking has very high or low market shares, can such a market share be regarded as a sufficient indicator to, by itself, assert or reject the existence of dominance. For instance, market shares above 70% have led to a presumption of dominance. On the other hand, market shares below 25% (a de minimis threshold often used as a safe harbour) allow a presumption of absence of dominance.

The Horizontal Merger Guidelines summarise case law as follows:

“According to well-established case law, very large market shares – 50 % or more – may in themselves be evidence of the existence of a dominant market position. However, smaller competitors may act as a sufficient constraining influence if, for example, they have the ability and incentive to increase their supplies. A merger involving a firm whose market share will remain below 50 % after the merger may also raise competition concerns in view of other factors such as the strength and number of competitors, the presence of capacity constraints or the extent to which the products of the merging parties are close substitutes. The Commission has thus in several cases considered mergers resulting in firms holding market shares between 40 % and 50 %⁴¹, and in some cases below 40 %⁴², to lead to the creation or the strengthening of a dominant position.”

“Concentrations which, by reason of the limited market share of the undertakings concerned, are not liable to impede effective competition may be presumed to be compatible with the common market. Without prejudice to Articles 81 and 82 of the Treaty, an indication to this effect exists, in particular, where the market share of the undertakings concerned does not exceed 25 % either in the common market or in a substantial part of it.”

Further, the Commission has expressly rejected the existence of dominance where a company has a 10% market share. Indeed, even the CNE (Spanish Energy Regulator) itself has recently acknowledged that the 10% criterion is not appropriate to identify situations of risk of abuse of dominance position. In a recent report, the CNE has pointed that “the designation of a low market share threshold of 10%, or even 20%, as compared to the market shares that are generally taken into consideration within the framework of the defence of competition, **cannot fulfil the objective of pointing out operators with a**

dominant position, given that it is generally accepted that such low market shares do not lead undertakings to enjoy an individual dominant position.”

Given the above, it is clear that it is inconsistent both with European case law (as summarised by the Horizontal Merger Guidelines) and with the opinion of the Spanish Energy Regulator to consider that the reference to “dominant operators” in article 2.10 of Guidelines on congestion management was ever intended (or justifies) the Spanish government’s decision to impose constraints on the use of interconnection capacity on companies that have a mere 10% market share (a threshold which, as already indicated, has been expressly been categorised as inconsistent with a position of dominance).

4.2 THE LEVEL OF CONCENTRATION IN THE SPANISH/IBERIAN ELECTRICITY MARKET

This section gives some indication of the level of concentration in the Spanish and Iberian wholesale electricity markets to determine whether there is any basis to consider that the level of concentration is such that it would be justified to apply article 2.10 to ban imports of electricity to these operators having a market share larger than 10%.

4.2.1 Analysis of HHI and market shares

According to the DG TREN’s “Report on Progress in Creating the Internal Gas and Electricity Market: Technical Annex to the Communication from the Commission to the Council and the European Parliament” the HHI in Spain increased from 1843 in 2006 to 2269 in 2007.

According to the same report, this would place Spain in an intermediate position within the EU with regards to the level of concentration, as shown in the table below. Thus, the decision to impose such a restriction on Spanish companies when none of its European competitors (even in markets with much larger concentration) are faced with similar restrictions results in an uneven playing field that distorts competition across Europe.

	Electricity (generation capacity)
Very highly concentrated [HHI ABOVE 5000]	BE, DK, EE, FR, GR, IE, LV, LX, ML, PT, SK, SL
Highly concentrated [HHI 1800-5000]	CZ, DE, ES, IT, LT
Moderately concentrated [HHI 750-1800]	AT, CY, FI, HU, PL, UK, NL, SW

Tabla 2 HHI European Countries

The Horizontal Merger Guidelines also make reference to the HHI as an indicator of the risk of abuse of market power.

Regarding the use of HHIs as an indicator of the risk of abuse of market power, the Horizontal Merger Guidelines summarise the practice of the Commission as follows:

“The Commission is unlikely to identify horizontal competition concerns in a market with a post-merger HHI below 1000. Such markets normally do not require extensive analysis.

The Commission is also unlikely to identify horizontal competition concerns in a merger with a post-merger HHI between 1000 and 2000 and a delta below 250, or a merger with a post-merger HHI above 2000 and a delta below 150, except where special circumstances [...] are present [...].

Each of these HHI levels, in combination with the relevant deltas, may be used as an initial indicator of the absence of competition concerns. However, they do not give rise to a presumption of either the existence or the absence of such concerns.”

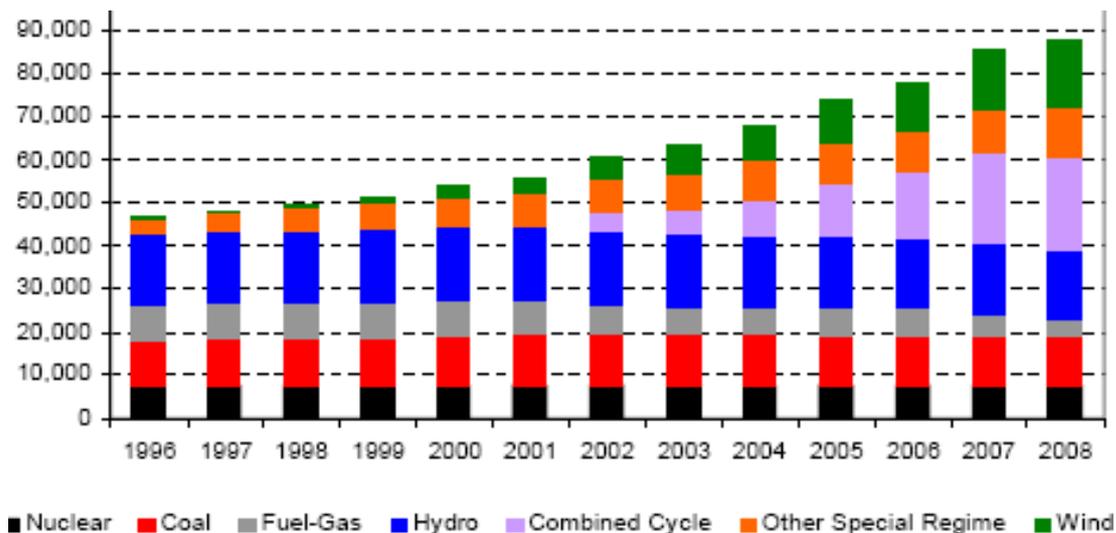
The usual practice has been to consider that a market with an HHI below 2000 is not a market in which market power problems are likely to exist.

4.2.2 Analysis of barriers to entry

The reduction in the level of concentration (to the point where no generator has a market share above 25%) and in pivotality (to the point where no generator is pivotal) is a

consequence of the fact that there are no barriers to entry in Spain. As the CNE has also highlighted “62% of new plants have been built or will be built by operators different from those who have the largest market shares, Endesa and Iberdrola”. And this high percentage figure is not driven by the fact that very little capacity has been built: since 2001, over 25.000 MW of new CCGTs have been built in Spain, and over 15.000 MW of new renewable plants have also been built. These are in themselves extraordinary figures for a system with a peak demand of about 44.000 MW, but especially noteworthy when one considers that over the same period peak demand has grown by only 9.000 MW.

The graph below shows the evolution of installed capacity in Spain from 1996 to 2008



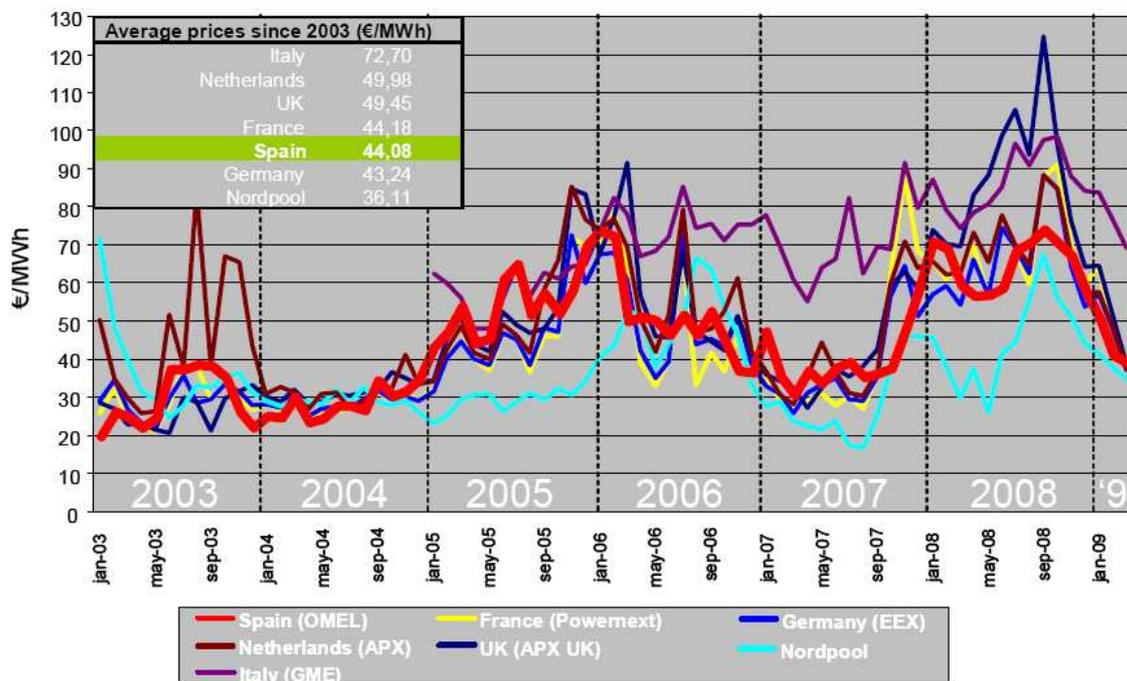
2 Evolution Installed Capacity in Spain

Source: REE

4.2.3. Analysis of market prices

Given the above (i.e. low concentration, no barriers to entry), it is not surprising to find that other analyses also confirm that there is no basis for concern over market power abuse in Spain that might justify the imposition of a restriction. For example, as the CNE has highlighted, Spanish prices have a level and behaviour that is similar to that of other

European countries. If there had been attempts to manipulate the Spanish market price, one would expect to observe prices that are higher than in other countries (e.g. than in countries with lower concentration) and an evolution of prices that showed “jumps” or “dips” where the supposedly dominant agents decided to change their strategy. Instead, not only do Spanish prices exhibit a similar behaviour to that in other countries, but its average level is lower than that in most other electricity markets and lower even than the UK price, a market where there is no presumption of market power abuse.



Source: NERA Economic Consulting

3 Evolution of European Average Prices since 2003

4.2.4. Analysis of generator bidding behaviour in interconnection auctions

Finally, it is important to note here that the imposition of an import ban by the Spanish legislator did not happen because it found evidence of anti-competitive behaviour in the interconnection auctions. In fact, during the period of time when interconnection capacity was allocated using auctions and when there was no ban placed on the “dominant operators” (i.e. between January 1 and March 6, 2006), the combined market shares of those operators in these auctions barely reached 30%.

5

INNEFICIENT USE OF THE FRANCE TO SPAIN INTERCONNECTION

5 INNEFICIENT USE OF THE FRANCE TO SPAIN INTERCONNECTION

5.1 REPORTS FROM THE COMMISSION AND ERGEG ABOUT ELECTRICITY INTERCONNECTORS

The importance of the efficient use of the electric interconnectors and the increase in trade has been repeatedly highlighted in many different reports published about the gas and electricity markets issued by the European Commission and ERGEG. The following list represents the nature of these concerns:

- The Commission's **"First benchmarking report on the implementation of the internal electricity and gas market"** explained that:

"Congestion is clearly an obstacle to the creation of an integrated EU electricity market. Most interconnectors are already used intensively without significantly affecting the spread of prices in the Community. However although progress has been made, there remain regulatory obstacles to efficient cross border exchanges and a lack of co-ordination of capacity allocation and tarification mechanisms. This continues to be addressed in the context of the Florence Forum and, when appropriate, in the context of the Regulation proposed by the Commission."

The same document contained an analysis of the different methods of congestion management in electricity transmission networks, as well as a table reporting each country's compliance with the congestion management Guidelines. One of the questions used to evaluate the degree of compliance was the following:

"Is the current network used at the maximum capacity that complies with the safety standards of secure network operation?"

- The importance of integration and cross-border trade was also stressed in the **"Report on progress in creating the internal gas and electricity market"**:
"The most important persisting shortcoming is the lack of integration between national markets. Key indicators in this respect are the absence of price convergence across the EU and the low level of cross-border trade. This is generally due to the existence of barriers to

entry, inadequate use of existing infrastructure and - in the case of electricity - insufficient interconnection between many Member States, leading to congestion.”

“It must be recalled that the objective of opening the market is to create a single electricity and gas market, not a juxtaposition of 25 national markets.

This is a challenging task and integration of all national markets will not happen overnight.

At the moment the degree of market integration remains insufficient.

Two key indicators point to this conclusion:

- the significant price differences prevailing in the internal market*
- the low level of cross-border trade.*

[...] Cross-border trade increases competitive pressure on prices. In the internal energy market, trade is currently underdeveloped.”

“A key issue of importance is the necessity to encourage cross border flows of electricity. As already noted, concentration is high on an individual Member

State basis and, although some projects have recently been realised, there is still limited prospect for increasing physical cross border capacity. Until recently arrangements were largely ad-hoc and discriminatory. The regulation was supposed to change this and market based mechanisms were to apply from 1

July 2004. This has not happened in all cases.

In particular during 2005 it was expected that all congested interconnectors would have introduced non-discriminatory market based mechanisms for the allocation of capacity. Many delays have been recorded and not all Member States complied with this deadline. However significant improvement is expected for 2006 and all EU interconnectors are expected to have compliant mechanisms by this date.”

- The document “Prospects for the internal gas and electricity market” identifies areas where progress is still needed, and includes the following:
 - Ensuring non-discriminatory access to well developed networks,
 - Improving regulation of network access at national and EU level.
- The “Report on the experience gained in the application of the Regulation (EC) No 1228/2003 ‘Regulation on Cross-Border Exchanges in Electricity’ explains that:

“It seems evident from the current exchange patterns between regions, and from the underlying interconnection capacities, that there is scope for further integration of the regions towards a European market. This will lead to a higher price convergence between regions with similar generation mixes, and to a better use of arbitrage possibilities between regions with different generation mixes, such as between the CWE and the Northern European market.

Overall, cross-border trade opportunities are far from being fully utilised. This has been confirmed by the results of the sector inquiry into the electricity and gas markets.”

The “Progress in creating the gas and electricity markets”²⁵ mentions that:

“Market integration has still not developed to a sufficient extent. This is demonstrated by price differences, regional monopolies and persistent crossborder congestion between Member States, for example.

In a well-integrated market, competition will keep prices similar among adjacent Member States or regions. Energy prices for industrial electricity customers in the EU are starting to converge in the Central and North Western EU areas but still differ by almost 100% in some cases. More efficient use of infrastructure has led to some improvement in electricity price correlation, particularly between the region of the Netherlands/Belgium/Austria/France/Germany and the Nordic market.

Cross-border trade is a key source of competitive pressure on prices. Sufficient network capacities being a prerequisite for such trade, the persistent bottlenecks in gas and electricity infrastructure need to be removed.”

- The “Report on progress on creating the internal gas and electricity market” explains that:

“A key prerequisite for an integrated European electricity and gas market is that those markets should be adequately connected, and that those interconnections are efficiently used. The resulting increase in cross-border trade will help moderate market power and, as markets become more competitive, consumers will benefit from competitive prices and services.”
- The “Regulation (EC) 1228/2003 Compliance Monitoring. Second Report” analyses the compliance with the provisions on the Congestion Management Guideline, as follows:

“According to Point 2.10 of the CM (Congestion Management) Guidelines all potential market participants shall, in principle, be permitted to participate in the allocation process without restriction. To avoid creating or aggravating problems related to the potential use of a dominant position of any market player, the relevant Regulatory and/or Competition Authorities, where appropriate, may impose restrictions in general or on an individual company on account of market dominance.

The replies confirm compliance of 95% for procedures and rules to monitor potential use of dominant position of market participants and to set restrictions in place. Among answers received, such a restriction exists only in Spain, providing for the so-called “dominant participants” not being able to import electricity into Iberian market; this restriction has been explained as a way to favour new entrants and foster competition.”

- The “Inquiry pursuant to Article 17 of Regulation (EC) No 1/2003 into the European gas and electricity sectors (Final Report)” carried out by DGCOMP, also identified the low utilization of the existing capacity as one of the problems that should be solved, noting that:

“Further changes are needed regarding the method for allocating limited interconnector capacity. For electricity, implicit day-ahead auctions or equivalent measures should be promoted as much as possible to ensure that interconnectors are used to their maximum extent. TSOs should also have incentives to maximise the amount of cross border capacity made available to the market.”

- The “DG Competition Report on the Energy Sector Enquiry”, identified the inefficient use of existing capacities as one of the causes of lack of market integration:

“The Sector Inquiry leads to the preliminary findings that the lack of electricity market integration mainly results from:

- *Insufficient interconnecting infrastructure between national electricity systems,*
- *Insufficient incentives to improve cross border infrastructure,*
- *Inefficient allocation of existing capacities, and*
- *Incompatible market designs (e.g. differences between balancing regimes, nomination procedures, and differences in opening hours of power exchanges) between TSOs and/or spot market operators.”*

5.2. EFFICIENCY LOSS IN THE USE OF THE FRANCE TO SPAIN INTERCONNECTION

The magnitude of the efficiency loss in the use of the interconnection can be assessed by reference to the percentage of time where it would reasonable to expect a full use of the interconnection due to a difference of prices between France and Spain (i.e. the price in Spain is higher than in France) and, yet, the interconnection is not fully used and congested (i.e. there is idle capacity in the interconnection that could be used to bring cheap electricity from France into Spain).

The following table shows the percent of hours when importing more electricity from France to Spain would be both efficient (because the price in Spain exceeds that in France) and possible (because there is unused interconnection capacity), and yet such imports do not occur.

The first column shows the percentage of hours when the interconnection is not fully utilised even though it should, as a percentage of total hours. This shows that there are unexploited opportunities for trade in over a quarter (28.8%) of total hours. The second column shows the percentage of hours when the interconnection is not fully utilised even though it should, as a percentage of the hours when the price in Spain exceeds that in France. This shows that in more than a half (52.0%) of the hours in which it would be efficient to import energy into Spain, the interconnection is not fully utilised.

	As a percent of total hours in the year (8760)	As a percent of hours when the price in Spain exceeds that in France
2006	44.1%	74.7%
2007	23.6%	36.7%
2008	18.7%	44.8%
Average	28.8%	52.0%

Tabla 3 Usage of the interconnection between France and Spain

Another relevant consideration is the fact that the underutilization of interconnection capacity between France and Spain is keeping Spanish prices artificially high (or, at least, higher than they would otherwise be) and this, in turn, affects the price differential between Spain and Portugal. In particular, it may be noted that in many of the hours in which interconnection capacity for imports from France into Spain is not being fully utilised even though prices in Spain are higher than in France, there is also idle interconnection capacity for exports from Spain to Portugal.

The following table shows:

- In column A, the number of hours in which interconnection capacity for imports from France into Spain is not being fully utilised even though prices in Spain are higher than in France
- In column B, the number of hours in which interconnection capacity for imports from France into Spain is not being fully utilised even though prices in Spain are higher than in France, and there is also idle interconnection capacity for exports from Spain to Portugal.
- In column C, the percentage of hours in which a better use of interconnection capacity between Spain and France could lead to lower prices in Portugal.

	A	B	C=(B/A)
2006	1,718	1,267	74%
2007	1,707	1,090	64%
2008	1,916	705	37%

The above analysis implies that:

1. The interconnection capacity is being infra-utilised. This keeps prices of electricity artificially high not only in Spain but also in Portugal when cheap electricity could be brought from France (i.e. prices could be lower than they currently are), to the detriment of consumers, and also artificially preserves price differences between the Spanish and French markets, in direct opposition to the

objectives laid out by the European Commission to increase trade and reduce price differentials.

2. Forbidding some Spanish companies to participate in these auctions (out of misplaced concerns about the risk of market power abuse), acts as an obstacle to cross-border trade and the creation of a single energy market.

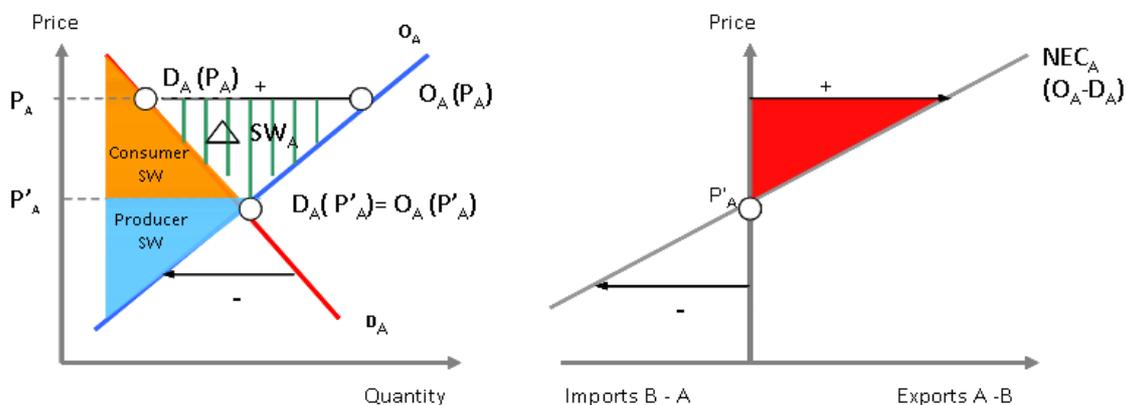
5.3. SOCIAL WELFARE CREATED BY THE EFFICIENT USE OF INTERCONNECTORS

The purpose of this part of the thesis is to discuss how the interconnections create Social Welfare (SW) in the wholesale markets both in the import and export country.

In particular, throughout this section we will prove that the relative competition in the Spain-France direction is greater than in the France-Spain direction, that there is a reduction in the Total Social Welfare in both countries and that the interconnection is not congested in the 27% of the hours since the prohibition came into effect. However, Dominant Players still cannot access France-Spain capacity.

5.3.1. Benefits of interconnected markets

Firstly, we will analyze the behaviour of a single market (country A). As the basis of economics states, the marginal price of the market stands where offer and demand match each other (P'_A).



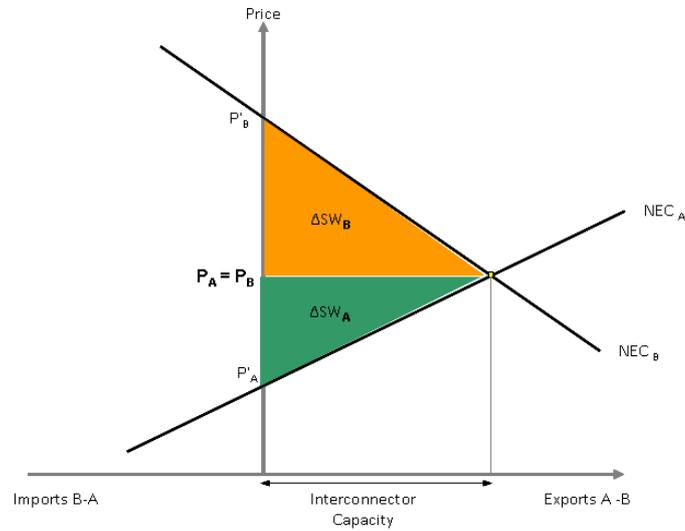
4 Interconnected markets single country

On the left part of equilibrium point (P'_A), the producers will be overpaid compared with what they requested (blue area). Analogous, suppliers will pay less than what they were willing to (orange area). These two areas are known as the Producer Social Welfare and the Consumer Social Welfare, respectively. In case this market has the possibility of exporting energy to a neighbour country (country B), this will trigger to an increase of the price (from $P_{A'}$ to P_A), a rise in the production (from $O_A(P'_A)$ to $O_A(P_A)$) and a reduction in the consumption (from $D_A(P_{A'})$ to $D_A(P_A)$). As a result of all of this, the social welfare in country A will be increased by ΔSW_A (striped green area).

The Net Export Curve (NEC) is defined as the difference between the offer and the demand, as shown in the illustration 1 on the right side. The NEC is positive when energy is carried from country A to country B and negative when energy is carried from country B to country A.

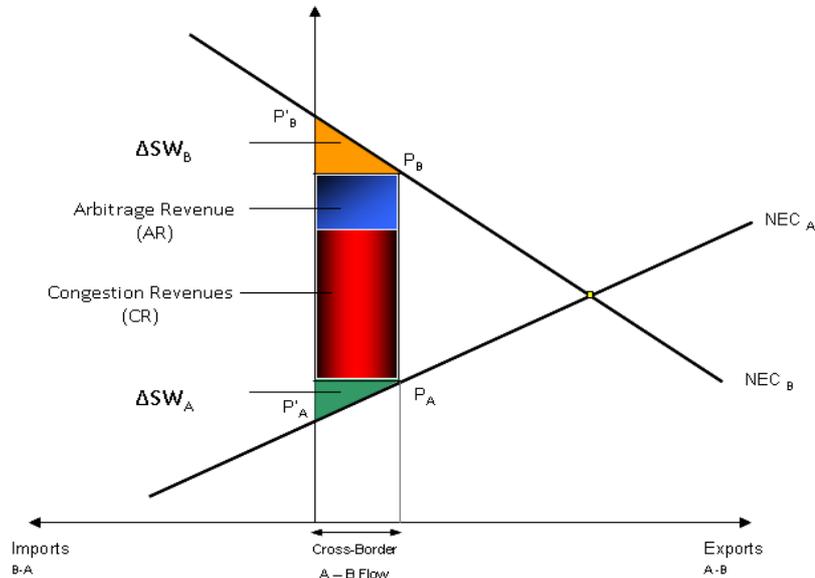
Secondly, we will analyze which is the situation with the two interconnected countries, country A and country B (illustration 2). As shown in the Illustration below, the right side of the horizontal axis corresponds to the "quantity exported from A to B", while the left side illustrates the "quantity exported from B to A". Thus, the NEC of country A (NEC_A) will be an increasing function, whereas the NEC of country B (NEC_B) will result in a decreasing function.

In case there would be no congestions in the interconnection, both markets would have the same price ($P_A=P_B$). As it is illustrated on the illustration below, this will lead to an increase of the Social Welfare in both countries. In particular, the increase of Social Welfare of country A (ΔSW_A) will be received entire by the producers of this country, whereas the increase of Social Welfare of country B (ΔSW_B) will be received fully by the consumers of the latter country.



5 Interconnected countries without congestion

However, in most cases the available capacity is limited to a value that does not lead to an equality of prices in both countries ($P_A \neq P_B$). This case is shown in the following illustration.



6 Interconnected countries with limited capacity

In countries in which cross border capacity is allocated through an explicit auction, market players place bid based on a competitive mechanism. According to EC/1228/2008 we assume the congestion revenues generated by these auctions, will serve to increase the

Social Welfare generated in both countries. In this case, the Total Increase of Social Welfare can be determined by the following equation:

$$\text{Total Increase of Social Welfare} = \Delta SW_A + \Delta SW_B + \text{Congestion Revenues (CR)}$$

Ecuación 1 Total Increase of Social Welfare

Given the fact that market players place bids for the Interconnection Wholesale Value (IWV), which is the difference between P_A and P_B multiplied by the cross-border capacity, the IWC can be divided into:

$$\text{Interconnection Wholesale Value (IWV)} = \text{Congestion Revenue (CR)} + \text{Arbitrage Revenue (AR)}$$

Ecuación 2 Interconnection Wholesale Value

The greater the Congestion Revenue (CR) is in comparison with Interconnection Wholesale Value (IWV) the less arbitrage revenue (AR) is obtained by players in the interconnection and the higher Total Increase in Social Welfare in both countries. This can be achieved through a transparent, non-discriminatory and competitive auction process.

5.3.2 Efficient of the Spain and France interconnection

In this part of the document, we will analyze which are the effects that the ban on dominant operator is creating on the Total Increase of Social Welfare both in France and Spain.

1. The Arbitrage Margin in the France to Spain direction is greater than in the Spain to France direction

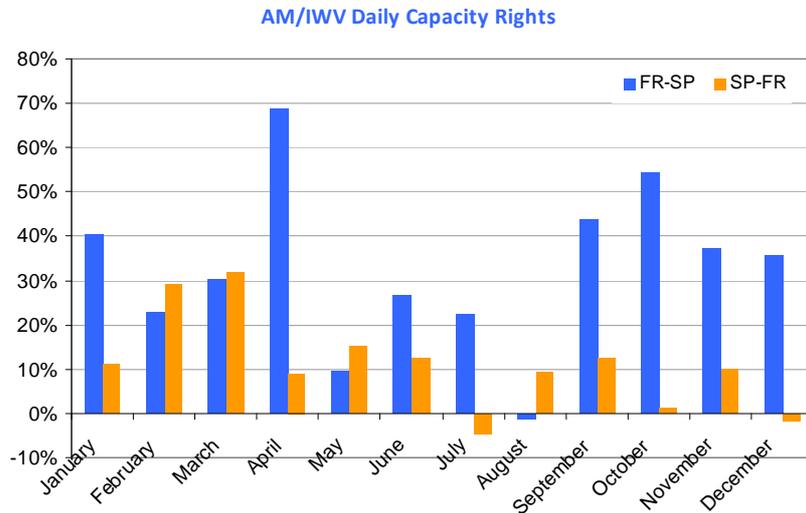
The following tables show in columns the Congestion Revenue (CR), the Arbitrage Margin (AM), the Interconnection Wholesale Value (IWV= CR+AM) and the ratio between Arbitrage Revenue and Interconnection Wholesale Value (AR/IWC). We will perform this analysis for the annual, monthly and daily capacity rights during the year 2008 in both directions. Figures are shown in Euros ⁽¹⁾.

a. Daily Capacity Rights 2008

2008	Fr-Es				Es-Fr			
	CR	AM	IWV	AM/IWC	CR	AM	IWV	AM/IWC
January	3.273.950	2.220.050	5.494.001	40%	234.217	29.416	263.634	11%
February	2.498.914	740.768	3.239.682	23%	90.625	37.288	127.913	29%
March	1.691.858	728.015	2.419.873	30%	614.422	285.337	899.759	32%
April	530.073	1.173.152	1.703.226	69%	1.203.177	118.935	1.322.112	9%
May	3.080.969	323.587	3.404.556	10%	558.778	99.589	658.367	15%
June	2.038.805	734.525	2.773.329	26%	2.126.046	305.750	2.431.796	13%
July	2.819.765	822.801	3.642.566	23%	823.594	-35.007	788.587	-4%
August	4.266.028	-53.002	4.213.026	-1%	227.898	23.133	251.030	9%
September	852.549	661.446	1.513.995	44%	613.526	86.806	700.332	12%
October	445.400	531.112	976.511	54%	2.447.839	31.771	2.479.610	1%
November	2.480.155	1.481.116	3.961.271	37%	1.126.777	123.943	1.250.720	10%
December	2.294.475	1.263.517	3.557.991	36%	586.267	-9.255	577.012	-2%
Total	26.272.940	10.627.087	36.900.026	29%	10.653.166	1.097.707	11.750.873	9%

Tabla 4 Daily Capacity Rights Arbitrage Margin

(1) We would like to clarify that in the studies performed, when no export capacity was available, the considered value of the interconnection was the compensation for the Long Term Capacity.

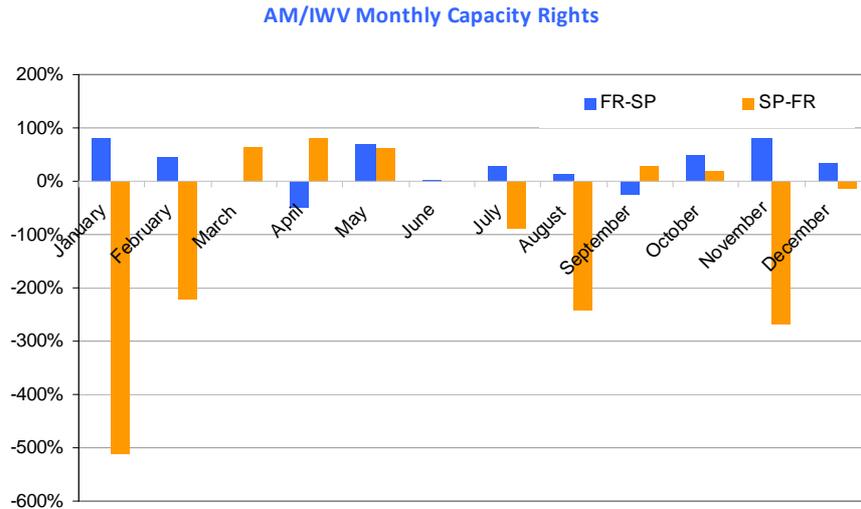


7 Evolution Daily Capacity Rights AM/IWV

b. Monthly Capacity Rights 2008

2008	Fr-Es				Es-Fr			
	CR	AM	IWV	AM/IWC	CR	AM	IWV	AM/IWC
January	323.417	1.415.985	1.739.402	81%	1.673.330	-1.398.936	274.394	-510%
February	584.640	499.021	1.083.661	46%	160.080	-110.482	49.598	-223%
March	463.460	-2.047	461.413	0%	108.713	209.137	317.850	66%
April	246.024	-81.724	164.300	-50%	417.024	1.796.536	2.213.560	81%
May	777.816	1.849.847	2.627.663	70%	179.280	286.529	465.809	62%
June	308.160	5.044	313.204	2%				
July	960.541	432.659	1.393.200	31%	482.890	-227.622	255.268	-89%
August	463.680	78.190	541.870	14%	487.368	-345.317	142.051	-243%
September	994.006	-186.767	807.239	-23%	630.240	253.065	883.305	29%
October	349.085	321.908	670.993	48%	2.114.112	475.339	2.589.451	18%
November	190.000	865.794	1.055.794	82%	2.532.240	-1.843.610	688.631	-268%
December	363.648	187.455	551.103	34%	1.266.170	-149.342	1.116.828	-13%
Total	6.024.476	5.385.366	11.409.842	47%	10.051.447	-1.054.702	8.996.745	-12%

Tabla 5 Monthly Capacity Rights Arbitrage Margin



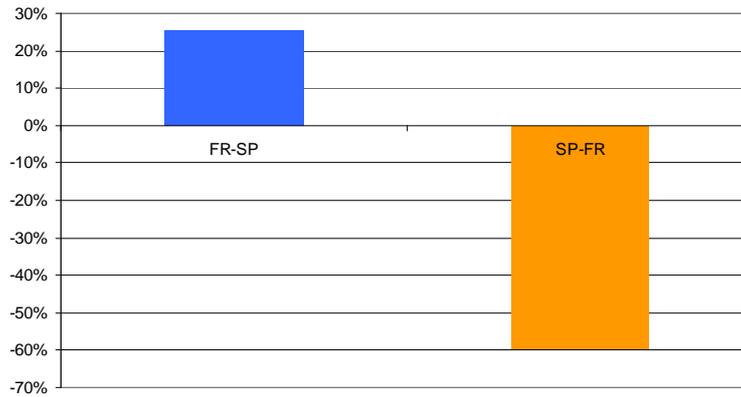
8 Evolution Monthly Capacity Rights AM/IWV

c. Annual Capacity Rights 2008

2008	Fr-Es				Es-Fr			
	CR	AM	IWV	AM/IWC	CR	AM	IWV	AM/IWC
	5.965.306	2.031.812	7.997.118	25%	7.463.677	-2.785.906	4.677.771	-60%

Tabla 6 Yearly Capacity Rights Arbitrage Margin

AM/IWV Yearly Capacity Rights



9 Evolution Yearly Capacity Rights AM/IWV

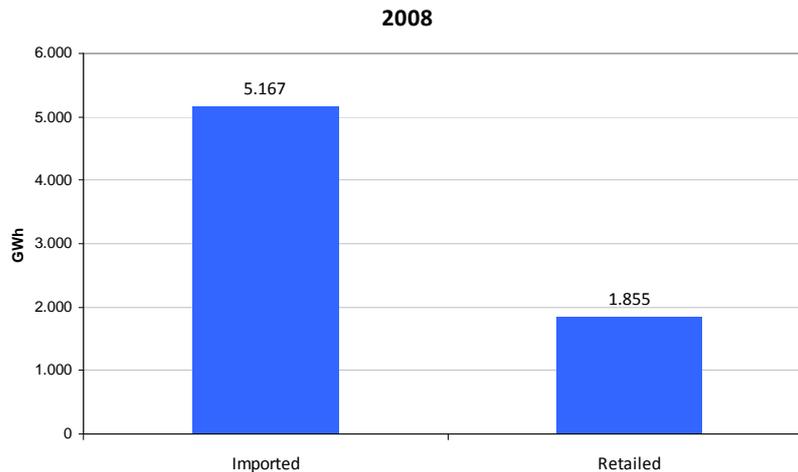
d. Conclusions

The following conclusions are drawn

1. Arbitrary Margin is significantly greater in the France-Spain direction than in the Spain-France direction.
2. Should we have the same degree of competition in the France-Spain direction than in the Spain-France direction, the increase of the Social Welfare in both countries will be equal to 20.697.631 M€ in 2008 (7.180.074 M€ from the daily capacity rights, 6.722.959 M€ from the monthly capacity rights, and 6.794.597 M€ from the yearly capacity rights).

2. End consumers are not taking advantage of the arbitrage margins kept by players

As shown in the graph below, players obtaining high Arbitrage Margin are not using the energy to supply end consumers.



10 Retailed energy versus imported energy

Despite the huge advances taken in the Spanish Retail Business during 2008, the supply to end-customers by active players importing from France was considerably lower than the volume imported by them. In fact, the total volume imported in 2008 accounted for 5,1 TWh, while the total Retail Business of these players was only 1,8 TWh.

3. The interconnection is not congested a significant percentage of hours in which importing energy from France to Spain is economically viable (Pownext<OMEL).

There is spare and economically viable capacity in the interconnection. Even in these hours, importing energy from France to Spain is forbidden to the *Dominant Agents*. Since the prohibition came into effect, 43% of the hours in which importing was economically viable have not been congested.

In the following table, percentages of non-congested hours during the year are shown:

	2006	2007	2008	2009
Percentage of non-congested hours in which importing energy is economically viable	67%	31%	39%	36%

Tabla 7 Percentage of non-congested hours in which importing is viable

5.4 EFFECTS ON THE INEFFICIENT USE OF FRANCE TO SPAIN INTERCONNECTION

We consider that the fact that the Spanish legislation reduces interconnection auction revenues should be a concern for the European Commission. As indicated in Regulation EC/1228/2003 (art. 6.6):

“Any revenues resulting from the allocation of interconnection shall be used for one of more of the following purposes:

- (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 assessing whether tariffs should be modified.”*

Thus, to the extent that the value of the congestion is being captured by traders rather than by the system operators, the amount of funds available to ensure the above purposes will be reduced and the attainment of the Commissions objectives will be threatened.

As shown above, the ban on imports by certain operators implies

- higher prices both in Spain and in Portugal,
- higher price differentials between Spain and France,
- a distortion of cross-border trade in electricity between Spain and France and between Spain and Portugal,
- a reduction in the revenues available for (a) guaranteeing the actual availability of the allocated capacity, (b) maintaining or increasing interconnection capacities

through network investments, in particular in new interconnectors, or (c) lowering network tariffs.

In all cases, both the Spanish consumers (but also Portuguese ones) and the pursuit of a European single market are hampered by the ban imposed by the Spanish government, in direct contradiction with the Commission's objectives. In addition, the ban on certain operators implies a distortion to the competitive process, to the benefit of players who may be dominant in certain parts of the European markets.

It is important to stress that eliminating the prohibition does not imply a total efficient use of the interconnection between France and Spain since there are inefficiencies inherently bound to explicit capacity auctions. Firstly, market participants do not only trade on power exchanges, but also use OTC trades to manage their positions across borders. Secondly, they base their decisions to use capacity across a border on a number of other factors. For example regulations, like the obligation to prove physical flows in order to be able to claim tax benefits from transporting electricity from renewable sources. These and other reasons become far more important when the price spread is very small.

6

IMPACT OF THE PROHIBITION ON THE SPANISH DAY- AHEAD PRICE

6 IMPACT OF THE PROHIBITION ON THE SPANISH DAY-AHEAD PRICE

6.1 OBJECTIVE OF THE SIMULATION

The objective of this part of the thesis is analyzing the impact on the Spanish Day-Ahead price that would have allowing “dominant operators” importing energy from France in those hours in which spare and economically viable capacity is available in the interconnection.

For this purpose a simulation of the Spanish Day-Ahead price is carried out. Only public data, disclosed by OMEL, REE, EPEX Spot and RTE are used in the simulation. Simulation is done through Visual Basic for Applications (VBA) language with results coming out in excel format.

This section is outlined as follows

- Firstly, it briefly describes the Spanish-Day Ahead market operation since it is the reality we are simulating in our model. A detailed description of the market algorithm and the functioning of the Spanish-Day Ahead market are out of the scope of this master thesis.
- Secondly, it outlines the hypothesis considered in our model as well a description of the simulation process.
- Lastly, it analyses the results obtained in the simulation.

Throughout this section we will prove that since the prohibition came into effect, allowing “dominant operators” importing energy from France to Spain in those hours in which spare and economically viable capacity is available in the interconnection would have supposed 132 M€ of money saving to the Spanish consumers. We will demonstrate that the prohibition has kept electricity prices artificially 0.2 €/MWh greater to the

detriment of consumers not only in Spain but also in Portugal when cheap electricity could be brought from France.

It should be stressed that an analogous analysis of the impact of the prohibition on the French Day-Ahead price should be performed in order to have the overall picture that this prohibition is causing in both Spanish and French electricity prices.

6.2 SPANISH DAILY DAY-AHEAD MARKET

The daily market is structured in one single session for each daily scheduling horizon that takes place at 10.00 am in the day-ahead. It is run by the Spanish Market Operator OMEL.

The purpose of the daily market, as an integral part of the electric power production market, is the execution of electric power transactions for the following day through the submittal of electric power sale and purchase bids by market agents. These bids are submitted to the market operator, OMEL, and are included in a matching procedure effective for the daily scheduling horizon, corresponding to the day following the market session. Scheduling periods are hourly, and the daily horizon is made up by 24 scheduling periods (23 or 25 periods on days when clocks are changed to go on or off Daylight Savings Time).

6.2.1 Bids on the daily market

Sales bids can be simple or complex, depending on their content. Purchase bids can only be simple without the incorporation of complex conditions being possible.

6.2.1.1 Simple bids

Simple bids are defined as those electric power sale bids which sellers submit for each hourly scheduling period and production unit they own, with the expression of a price and an amount of power.

For each hourly scheduling period within the same daily scheduling horizon, there can be as many as 25 power blocks for the same production unit, with a different price for each of the said blocks, with the prices increasing for sales bids, or decreasing for purchase bids.

Simple bids may not include any additional terms to be considered in the matching process.

For sales units corresponding to production units with more than one owner for settlement effects, as well as the sales bid of the agent which represents it, the amount of energy associated to each of the owners committed to a bilateral contract will also be received for its consideration in the settlement of energies in the resulting daily market schedule.

6.2.1.2 Complex bids

Complex bids are defined as those electric power sale bids which, while complying with the requirements governing simple bids, include all, some or any one of the conditions which are listed and described below. These conditions will be incorporated by the Market Operator in bid matching in the terms established in the rule which describes the matching algorithm. The following are the conditions that can be included in complex bids:

1. Condition of indivisibility

The condition of indivisibility is the condition by virtue of which the market operator's acceptance of the electric power sale bid generates, for the benefit of the production unit owner, the right to be assured that, if the indivisible block of its bid is matched, it will be matched in its entirety - that is - for all the electric power bid and never for a fraction of that power, apart from the provisions on sharing, or unless the load gradient condition is applied

Sellers shall only be allowed to include the condition of indivisibility in an electric power sale bid for the lowest-priced block of the 25 possible power blocks in each hourly scheduling period.

2. Minimum income condition

Sellers may include, as a condition governing the electric power sale bids they submit for each production unit, that the bid in question is only to be considered submitted for matching purposes if the seller obtains a minimum income, which shall be expressed as a fixed amount in pesetas or in hundredths of a Euro, without decimal places, and as a variable amount expressed in pesetas or hundredths of a Euro per kWh, with as many as three decimal places.

When bids are submitted for each production unit with more than twelve blocks priced at zero, the minimum income condition shall not be allowed.

The minimum income condition shall not be allowed if the income requested exceeds the income resulting from the complete acceptance of the bid at the price bid by more than 100%.

3. Scheduled stop condition

This is the condition that sellers may include in the electric power sale bids they submit for each production unit so that, in the event that these bids are not matched due to the application of the minimum income condition, they can be treated as simple bids in the first block of the first three hourly scheduling periods of the daily scheduling horizon. The electric power bid which includes the scheduled stop condition shall be decreasing during the above-cited three hourly scheduling periods, and the production capacity variation condition shall not be applied to electric power sale bids in these three periods.

In any case, bids rejected due to the minimum income condition that include the scheduled stop condition are also indivisible, except as provided in the splitting rules. No other indivisible production block can exist in the same scheduling period.

4. Production capacity variation or load gradient condition

Sellers may also include this condition in their electric power sale bids. The production capacity variation condition consists of establishing, for each production unit, a maximum upward or downward difference in production capacity variation, between two consecutive hourly scheduling periods. Variations due to starting up and stopping the production unit in question can also be included. This condition shall be expressed in MW/minute, to one decimal place, and the result of applying it shall be, in any case, limited by the sales unit's maximum production capacity. This condition must at all time respect the continuous linear variation of the production unit in the hourly scheduling period for which the seller submitted the electric power sale bid.

6.3 SPANISH DAY-AHEAD HOURLY PRICE SIMULATION

The objective of this part of the thesis is analyzing the impact on the Spanish Day-Ahead price that would have had allowing "dominant operators" importing energy from France in those hours in which spare and economically viable capacity is available in the interconnection.

The final outcome of the simulation is the marginal price for each one of the hourly period on the time horizon studied, considering that the aggregated demand curve is equal to that matched by the Spanish Market Operator in the given day whereas the aggregated supply curve is that also matched by the Spanish Market Operator in the specific day modified with a new offer.

This new offer is the bid that would be submitted by the dominant operators in case they were allowed to do so .It is assumed that the quantity is equal to the spare capacity available in the interconnection whereas the price is equal to the one that came out in the French EPEX Spot in the specific hour of the given day.

It is worth noting that the simulation is just carried out in those hours in which importing energy from France to Spain made sense from an economic point of view

(French EPEX Spot day-ahead price was less than Spanish OMEL day-ahead price) and, even so, there was spare and available capacity in the interconnection.

Finally, it is also noteworthy mention that only Spanish supply and demand curve and considered in our simulation. Therefore, market splitting between Spain and Portugal is not taken into account in our model.

6.3.1 Assumptions of the model

The following assumptions have been taken into consideration in the simulation

1. In order to determine that the interconnection is not congested in any hour from France to Spain, there has to be at least 100MW of spare capacity
2. Any hour will be considered economically viable when the hourly difference between the prices of the day-ahead markets (OMEL-EPEX) is greater than 1 €/MWh.
3. A *ceteris paribus* situation is considered in the simulation. Apart from the modification on the hourly aggregated supply curve, the rest of the factors that influences on the Spanish Day-Ahead market price are held constant during the simulation.

It is noteworthy mention that these assumptions are very conservative. Besides, participants do not only trade on power exchanges but also use OTC trades to manage their positions across borders.

6.3.2 Simulation process

The simulation process entails determining the crossing point of the simulation supply and demand curves and calculating the marginal price for each hourly scheduling period in the corresponding daily horizon. The marginal simulated price corresponds to the priced sale bid made by the last production unit whose entry into the system was required to satisfy the demand for electric power.

The characteristics of the supply and demand curve used in the simulation are outlined as follows.

6.3.2 Simulation supply curve

For each hourly scheduling period in a particular daily horizon, the supply curve is built up with the real aggregate supply curve published by the Spanish Market Operator in the given hour of the specific day and a new simple offer bid.

The real aggregate supply curve used in the simulation is that published by Spanish Market Operator OMEL who discloses this information on the $d+1$. It is worth noting that this is the curve that was really matched in the Spanish day-ahead market run by OMEL in the given hour of the specific day. Therefore all simple bids submitted to the market are included in this curve whereas not all complex bids submitted to OMEL are considered in the simulation demand curve. In particular, those complex bids that were ruled out by OMEL, since they did not fulfil their requirements in the real OMEL matching process, are also rejected in our simulation supply curve.

The characteristics of the new sale bid are described as follows

1. The quantity is equal to the spare capacity available in the interconnection from France to Spain after the sixth Spanish intraday market has taken place.
2. The price is equal to the French day-ahead EPEX Spot price that came out in the corresponding hour of the given day.

The simulation aggregate electric power supply curve is made up adding this new bid to the real aggregate supply curve published by OMEL. This new sale is placed in such a way that all the bids in the simulation aggregate supply curve are put in ascending price order.

6.3.3 Simulation demand curve

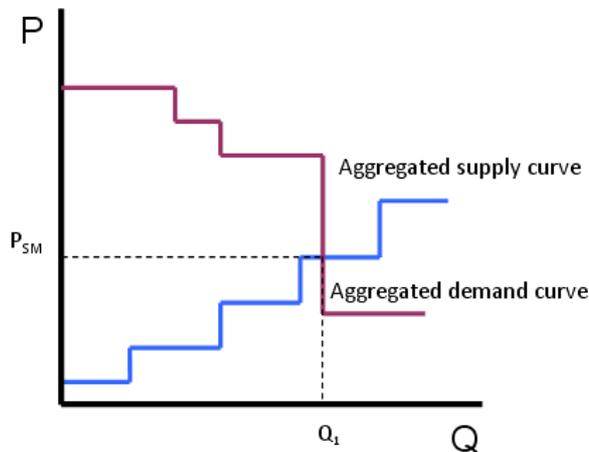
For each hourly scheduling period in a particular daily horizon, the simulation demand curve is the real aggregate electric power demand curve published by Spanish Market Operator OMEL in the given hour of the specific day.

The real aggregate demand curve used in the simulation is that published by Spanish Market Operator OMEL who discloses this information on the $d+1$.

6.3.4 Matching process

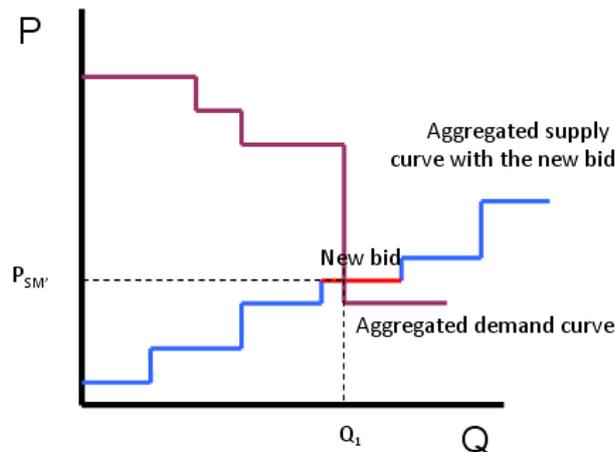
The matching method entails determining the crossing point of the simulation supply and demand curves and calculating the marginal price for each hourly scheduling period in the corresponding daily horizon.

Our starting point is the real aggregated supply and demand curve. As the basis of economics states, the marginal price of the market stands where offer and demand meet each other (P_{SM}). This P_{SM} corresponds to the real Spanish Day-Ahead market price.



11 Simulation Starting Point

Secondly, we will simulate the price $P_{SM'}$ resulting from allowing “dominant operators” importing energy from France in those hours in which spare and economically viable capacity is available in the interconnection. As shown in the Illustration below, the crossing point of the simulation supply and real demand curves will determine $P_{SM'}$



12 Simulation Process

In the event that indeterminacy arises in the setting of the marginal price of electric power for an hourly scheduling period corresponding to the same daily scheduling horizon, which causes the aggregate electric power supply and demand curves to coincide or cross in a vertical section of the supply curve, the price shall correspond to the price of the last block of electric power supply offered for sale submitted by the last production unit whose acceptance was necessary to satisfy the matched demand.

Simulation is done through Visual Basic for Applications (VBA) language with results coming out in excel format. All the data required to feed in the model are described in the following section.

6.3.5 Data used in the simulation

A data retrieving process is needed in order to carry out the simulation. It is worth noting that huge amount of data has been extracted since the simulation is done on an hourly basis. Only public data, published by OMEL, REE, RTE and EPEX Spot, have been used in the simulation.

The data required have been downloaded from their corresponding websites, duly processed under the assumptions of the model and stored in excel spreadsheets.

The data required in order to feed in the model are outlined as follows:

1. Historic supply aggregated curves of the Spanish Day-Ahead market OMEL without specifying the units.
2. Historic demand aggregated curves of the Spanish Day-Ahead market OMEL without specifying the units.
3. Marginal Spanish Day-Ahead market price.
4. Marginal French Day-Ahead market price.
5. Available spare capacity in the interconnector from France to Spain after the sixth Spanish intraday market.
6. Historic hourly volume negotiated in the Spanish Day-Ahead market OMEL

6.4. SIMULATION RESULTS

The simulation is carried out on an hourly basis from 01/01/2007 to 31/12/2009, which is the time horizon that has gone by since the Spanish Royal Decree Law 6/2000 came into force until this thesis has been written.

A total of 4.298 simulations were done corresponding to the total number of hours in which importing energy from France to Spain is economically viable and, even so, spare capacity is available in the interconnection in the abovementioned period.

6.4.1 Number of hours affected

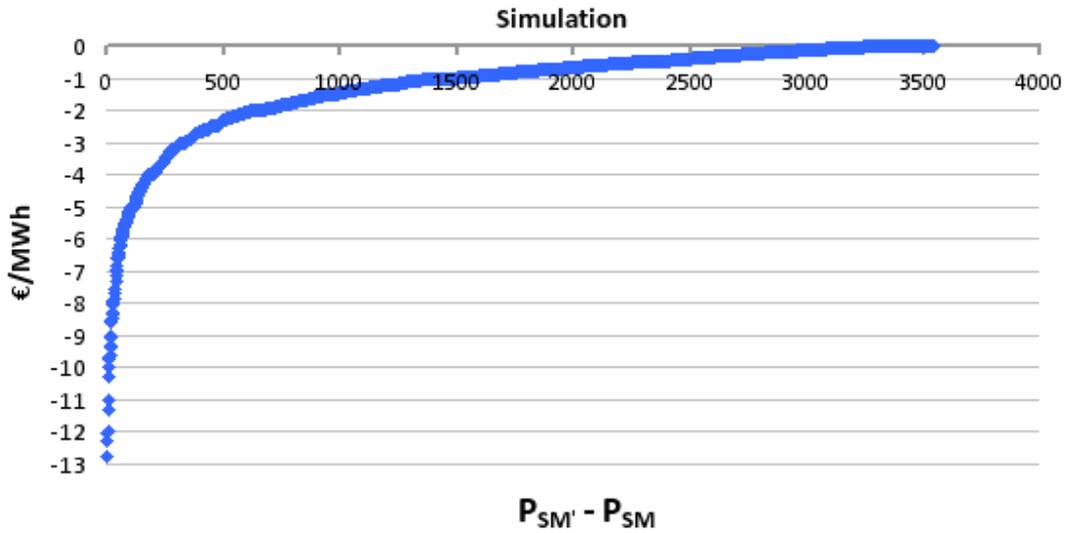
In the 82% of the hours simulated, the simulated hourly price P_{SM} is less than the actual hourly day-ahead price P_{SM}

	Hours economically viable and spare capacity	Hours economically viable and spare capacity with $P_{SM}' < P_{SM}$
2007	1.680	1.209
2008	1.362	1.236
2009	1.256	1.099
Total	4.298	3.544

Tabla 8 Number of hours affected

6.4.2. Distribution of the differences between P_{SM} and $P_{SM'}$

In the following graph, the distribution of the differences between P_{SM} and $P_{SM'}$ is shown.



13 Distribution of the differences between P_{SM} and $P_{SM'}$

In particular in almost 60% of the hours simulated the difference between P_{SM} and $P_{SM'}$ is less than 1€/MWh. Just in 18% of the hours simulated this difference is greater than 2€/MWh.

	Number of hours	Percentage of hours
[-13,-3]	325	9%
[-3,-2]	316	9%
[-2,-1]	837	24%
[-1,0]	2.066	58%
Total	3.544	100%

Tabla 9 Percentage of hours $P_{SM'} < P_{SM}$

6.4.3. Impact of the prohibition on the Spanish Day-Ahead market price

Our model comes to the conclusion that, under the assumptions made in the simulation, allowing “dominant operators” importing energy from France to Spain in

those hours in which spare and economically viable capacity is available in the interconnection would **have supposed 132 M€ of money saving to the Spanish consumers** from 01/01/2007 to 31/12/2009.

This money saving has been calculated hourly as the difference between actual hourly day-ahead price P_{SM} and the simulated hourly price $P_{SM'}$ times the quantity negotiated in the Spanish pool in the corresponding hour of the day. In particular, for each hour of each day the saving has been calculated according to the following formula:

$$Q_1 * (P_{SM} - P_{SM'})$$

Ecuación 3 Total Money Saving

Logically, the total saving is calculated as the addition of the hourly savings.

In the table below, total savings in € on a monthly basis are illustrated

SAVINGS (€)			
Month	2007	2008	2009
1	6.222.229	8.429.528	5.090.248
2	4.074.241	7.235.000	3.596.934
3	8.629.163	4.438.801	2.591.241
4	3.345.986	3.714.626	1.076.042
5	2.600.592	941.442	1.030.087
6	4.192.867	2.093.248	2.101.846
7	2.377.382	1.978.194	759.043
8	401.056	2.790.653	1.250.750
9	1.991.541	2.285.097	591.436
10	4.862.332	2.769.646	1.033.668
11	6.324.011	2.907.332	3.723.743
12	17.070.251	4.624.860	3.461.628
Total	62.091.650	44.208.427	26.306.667

Tabla 10 Money Savings

Moreover since the prohibition came into effect, it has **kept electricity prices artificially 0.2 €/MWh greater** to the detriment of consumers not only in Spain but also in Portugal when cheap electricity could be brought from France (i.e. prices could be lower than they currently are). In the tables below, the mean difference between hourly PMS and hourly simulated price is shown.

During **year 2007** allowing “dominant operators” importing energy from France in those hours in which spare and economically viable capacity is available in the interconnection would have supposed a Spanish day-ahead market price **lower 0.2 €/MWh** than the one came out.

Month	2007		
	P_{SM}	P_{SM}'	Difference
1	45,86	45,62	-0,24
2	35,96	35,78	-0,17
3	29,68	29,28	-0,40
4	36,66	36,51	-0,15
5	33,13	33,01	-0,12
6	37,40	37,23	-0,17
7	38,48	38,50	0,02
8	35,05	35,05	0,00
9	35,80	35,74	-0,07
10	38,38	38,27	-0,11
11	47,30	47,10	-0,20
12	58,11	57,59	-0,52
Average price	39,32	39,14	-0,18

Tabla 11 Monthly difference between P_{SM} y P_{SM}' in 2007

During **year 2008** allowing “dominant operators” importing energy from France in those hours in which spare and economically viable capacity is available in the interconnection would have supposed a Spanish day-ahead market price **lower 0.2 €/MWh** than the one came out.

Month	2008		
	P _{SM}	P _{SM'}	Difference
1	70,22	69,85	-0,37
2	68,53	68,18	-0,34
3	59,00	58,71	-0,29
4	56,18	55,97	-0,20
5	56,28	56,23	-0,05
6	58,34	58,22	-0,12
7	68,21	68,11	-0,10
8	70,10	69,96	-0,14
9	73,03	72,90	-0,13
10	69,75	69,57	-0,18
11	66,53	66,37	-0,17
12	57,11	56,86	-0,24
Average price	64,43	64,24	-0,19

Tabla 12 Monthly difference between PSM y PSM' in 2008

During year 2009 allowing “dominant operators” importing energy from France in those hours in which spare and economically viable capacity is available in the interconnection would have supposed a Spanish day-ahead market price lower 0.1 €/MWh than the one came out.

Month	2009		
	P _{SM}	P _{SM'}	Difference
1	49,93	49,67	-0,26
2	40,71	40,51	-0,20
3	38,26	38,10	-0,16
4	37,20	37,13	-0,07
5	36,97	36,91	-0,06
6	36,82	36,74	-0,09
7	34,62	34,58	-0,04
8	34,68	34,59	-0,08
9	35,87	35,83	-0,04
10	35,76	35,68	-0,07
11	32,39	32,17	-0,22
12	30,43	30,25	-0,18
Average price	64,43	36,85	-0,12

Tabla 13 Monthly difference between PSM y PSM' in 2009

7

PARTICIPANTS IN THE SPAIN- FRANCE INTERCONNECTION

7 PARTICIPANTS IN THE SPAIN-FRANCE INTERCONNECTION

7.1. PARTICIPANTS

The following table shows the list of operators who are allowed to participate in the allocation of available capacity in the French-Spanish interconnection:



SUJETOS HABILITADOS¹ PARA PARTICIPAR EN EL SISTEMA CONJUNTO DE ASIGNACIÓN DE CAPACIDAD DE INTERCAMBIO FRANCIA-ESPAÑA

(Información a fecha 01/01/2010)

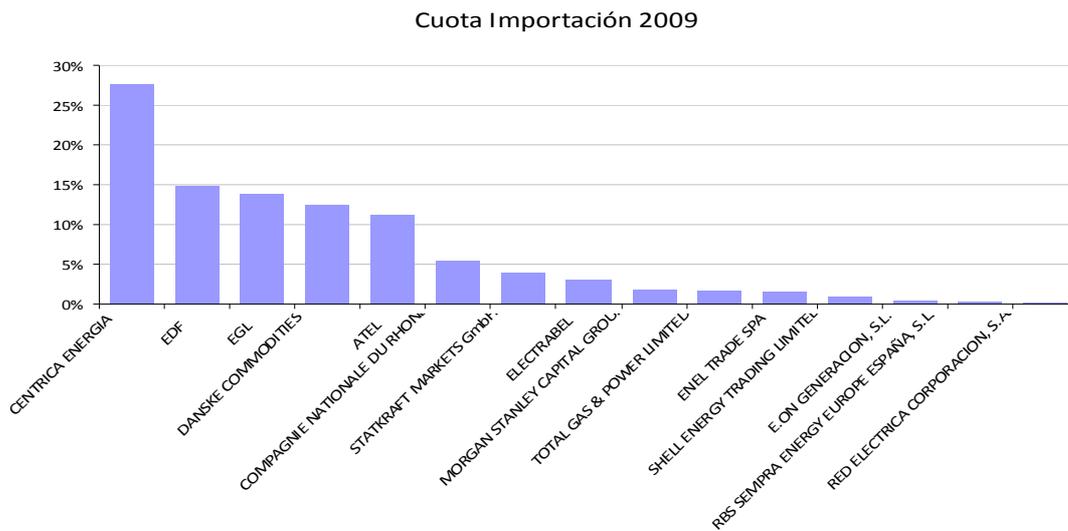
EMPRESA HABILITADA A PARTICIPAR EN LAS SUBASTAS	SENTIDO FR - ESP	SENTIDO ESP - FR
ATEL (AARE-TESSIN LTD. FOR ELECTRICITY)	X	X
ATEL ENERGÍA, S.A.	X	-
BARCLAYS BANK PLC	X	X
CENTRICA ENERGÍA S.L.	X	X
COMPAGNIE NATIONAL DU RHONE	X	X
DANSKE COMMODITIES	X	X
DEUTSCHE BANK ENERGY COMMODITIES LIMITED	X	X
EDF	X	-
EDF TRADING	X	X
EDP - ENERGIAS DE PORTUGAL, S.A.	-	X
ELECTRABEL S.A.	X	X
ELEKTRIZITATS-GESELLSCHAFT LAUFENBURG - EGL AG	X	X
SNET	X	X
ENDESA GENERACIÓN, S.A.	-	X
ENEL TRADE, SPA.	X	X
E.ON ENERGY TRADING AG	X	X
GAS NATURAL SDG	X	X
GAZPROM M&T LIMITED	X	X
IBERDROLA GENERACION S.A.U.	-	X
J. ARON & COMPANY	X	X
KALIBRA XE	X	X
MERRILL LYNCH COMMODITIES EUROPE	X	X
MORGAN STANLEY CAPITAL GROUP INC.	X	X
SEMPRA ENERGY EUROPE ESPAÑA, SL	X	X
SHELL ENERGY TRADING LIMITED	X	X
STATKRAFT MARKETS GMBH	X	X
TOTAL GAS & POWER LIMITED	X	X

¹ Por diversas razones, tal y como se establece en las Reglas IFE, algunos participantes podrían ser temporal o definitivamente deshabilitados para participar en alguna subasta en un determinado sentido u horizonte.

This information is disclosed in the website <http://www.esios.ree.es/web-publica/>

7.1.1 Agent's quota in the interconnection from France to Spain in 2009

It is worth noting that the two largest importers are Centrica Energia (i.e. the old gas monopolist, British Gas, in the United Kingdom) and EDF (the former electricity monopolist in France).

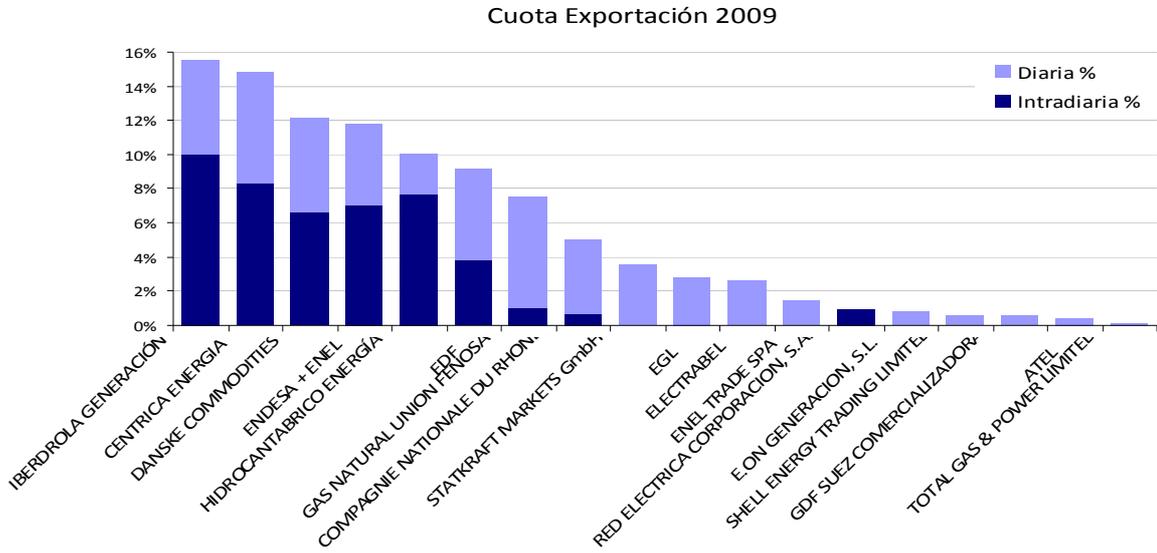


15 Importing agents share

7.1.2 Agent's quota in the interconnection from Spain to France in 2009

It is also noteworthy mention that if in the import one company has the largest share and is quite far of its competitors, in the export five companies enjoy practically a similar

quote.



16 Exporting agents share

8

CONCLUSIONS

8 CONCLUSIONS

Non-discriminatory access to infrastructure and the possibility to transport energy across borders is fundamental for creating a competitive and integrated European energy market. Nevertheless, regulatory measures such as the ban on imports to dominant operators in the Iberian Electricity Market can undermine confidence in the market and therefore discourage new investments.

Regulation EC/1228/2003 on conditions for access to the network for cross border exchanges in electricity (the “Regulation EC/1228/2003”) lays down the basic rules and principles regarding access to networks for cross border transactions, with a view to promoting efficient cross-border trade in electricity between Member States. This Regulation is crucial for the creation of a real internal market in electricity across the European Union. Throughout this master thesis we have shown that such a ban is an obstacle to the efficient use of the interconnections. Therefore, it contradicts the main objective pursued by this Regulation.

It is important to stress that eliminating the prohibition does not imply a total efficient use of the interconnection between France and Spain since there are inefficiencies inherently bound to explicit capacity auctions. On the other hand, what it is proved is that the relative competition in the Spain-France direction is greater than in the France-Spain direction and that there is a reduction in the Total Social Welfare in both countries. This triggers a reduction in the revenues available (in Spain and France) for:

- guaranteeing the actual availability of the allocated capacity,
- network investments maintaining or increasing interconnection capacities
- lowering network tariffs.

Moreover, the interconnection is not congested in the 27% of the hours since the prohibition came into effect and even so dominant players still cannot access France-Spain capacity. This contradicts section 2.1. of the Guidelines on management and allocation of

available transfer capacity of interconnections between national systems (“Guidelines”) that states that “when there is no congestion, there shall be no restriction of access to the interconnection”,

Besides, the analysis of the available data and precedents indicates that the Spanish electricity market is sufficiently competitive, and that there is no basis for imposing a ban on imports of electricity by the players with national market shares in excess of 10%.

In addition, the analysis has shown that the ban on imports to certain operators implies MIBEL electricity prices artificially higher to the detriment of consumers in Spain and Portugal. Since the prohibition came into effect, it has kept electricity prices artificially 0.2 €/MWh higher and it has entailed a cost of 132 M€ that has been supported by the Spanish and Portuguese consumers.

It is important to note that the ban to import electricity is unnecessary and disproportionate since there are other and more appropriate measures already in place to foster greater competition in Spain (e.g. sale of virtual power plants, cap on the market price, unbundling of regulated and competitive activities, preservation of tariffs of last resort, etc.).

In all cases, Spanish consumers (but also Portuguese ones) and the pursuit of a European single market are hampered by the ban imposed by the Spanish government, in direct contradiction with the objectives in Regulation EC/1228/2003.

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