Finding the Barriers Preventing Increased Cooperation and Coordination in Central and Eastern Europe

Draft Working Paper

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Abstract

This paper sets out to establish what are three key barriers preventing greater cooperation and coordination in the electricity markets in Central and Eastern Europe. It does this by assessing the opinions of key individuals in the region collected through interviews and a questionnaire. The three barriers identified are: (1) the lack of cross-border capacity; (2) the need for common rules and regulation; and (3) a need for greater political support for regional action. The results presented here are part of a larger regional project assessing market barriers in the region.[1]

Introduction

Since early 2005 there has been a general emphasis on preventing the stalling of the liberalisation of electricity and gas markets. Fighting against this stagnation are at least three projects that have attempted to pin-point those areas of the electricity industry that are the main inhibitors of a competitive European or regional markets. Examined in this paper are the results of Central and Eastern European Energy Market (C3EM) project which sought to determine from market participants the key obstacles preventing greater cooperation and coordination in the region's electricity market.

This study corresponds with the aims of two similar projects which seek to pin-point the barriers between national markets. The most prominent of these studies is the *Energy Sector Inquiry* (2006) carried out by the European Commission, DG Competition, while the second was done by the European Regulators Groups for Electricity and Gas (ERGEG) titled the *Creation of Regional Electricity Markets* (2005). However, the methodology of these studies differs and offers a chance for the C3EM study to provide a regional perspective informed by both interviews and questionnaire perspectives.

The main objective of the interview and questionnaire portion of the C3EM study was to have a cross-section of industry experts express their own opinions on the market and by identifying top market barriers. The outcome has been the identification of three regional barriers which are preventing greater levels of competition and efficient market coordination. These are: (1) lack of cross-border capacity, (2) the need for common rules and regulation, and (3) a need for greater political support for regional action.

The justification of this study was verified by some of the questionnaire responses. For example, the regional perceptive offered by respondents in Central and Eastern Europe, indicates that competition is not being fully realized in the region. As Figure 1 shows a majority of questionnaire respondents still feel that their country's electricity system is more monopolistic than competitive with fully competitive markets being in short supply. However, there is a true desire for a competitive wholesale market in Central and Eastern Europe (Figure 2), and as discussed below, regional and domestic action are perceived to hold the possibility for a more efficient marketplace.

The opinions of participants indicate that if there were fewer barriers in the region the price of electricity would equalize, as Figure 3 indicates. Thus while there is a desire for competition

[1] This research paper would not be possible without the work of Prof. Petér Kaderják, and his role in helping to design and carry out the questionnaires and interviews. The financial sponsors of REKK and the C3EM project must also be thanked for their overall backing of this project. However, it is the author that takes sole responsibility for the content, omissions and conclusions.

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in national markets and regionally, there also appears an equalization of price regionally. However, as discussed below, interviewees and questionnaire respondents see further benefits to be had in reducing barriers between national markets, such as greater transparency and benefits for end-users.

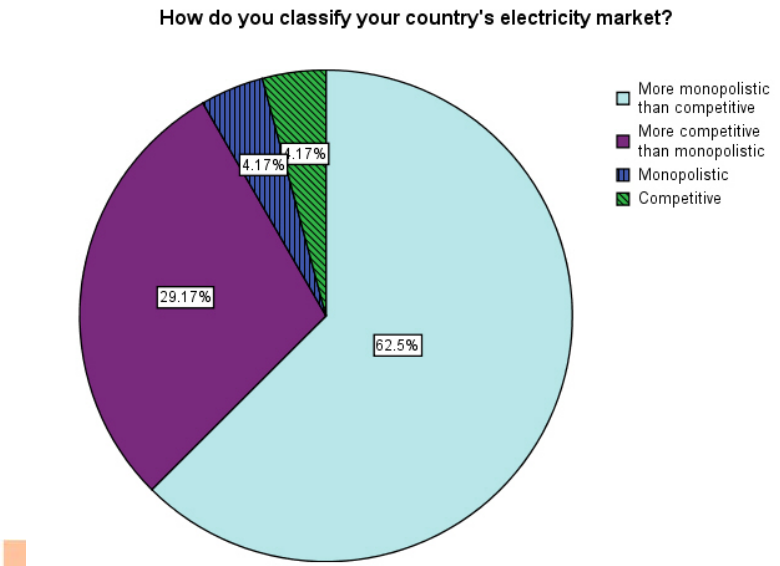

Figure 1 Classification of electricity market

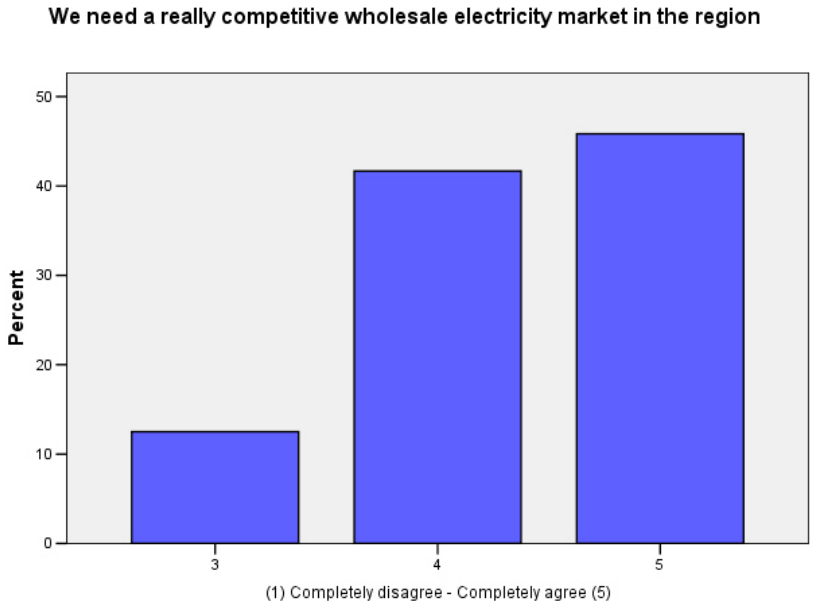

Figure 2 The need for a regional competitive market

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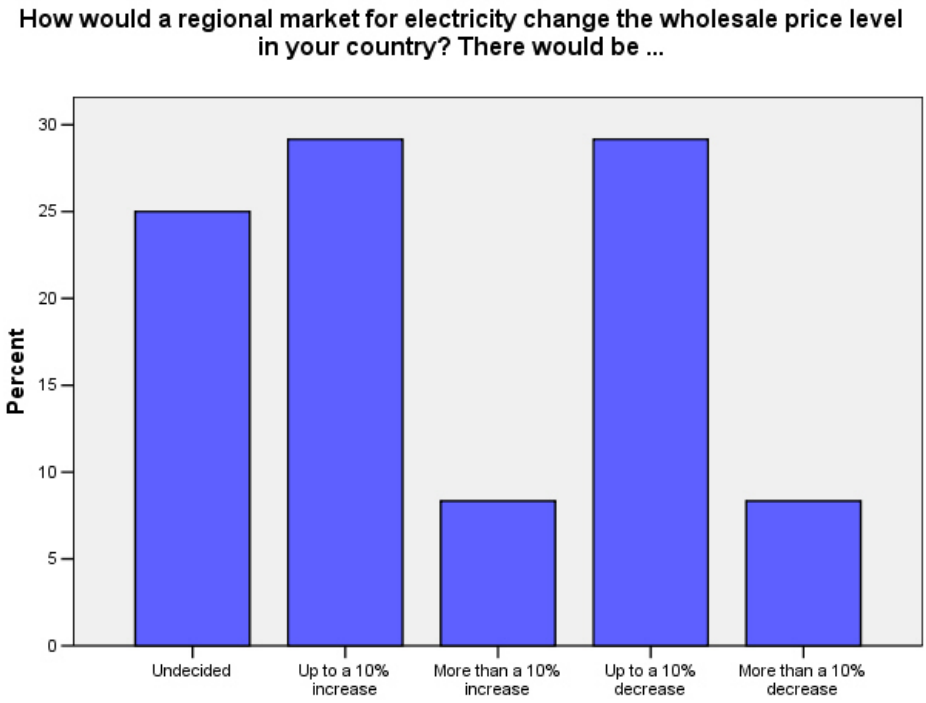

Figure 3 Anticipated price changes in a regional market

The methodology of this study involved carrying out 32 in-depth interviews with electric industry leaders in six Central and Eastern European countries. These were conducted between July and November 2005. In addition there was a questionnaire which was started at the same time, but ended in March 2006. Interviewees were granted anonymity for their open assessment of market and regulatory conditions. The names used here are pseudonym given to interviewees to maintain this anonymity. Secondary sources, like yearly reports, recent academic and market research reports have helped to understand the rapid changes in the industry. All interviewees were asked to fill in a questionnaire before each interview took place. There were 24 questionnaires received back from interviewees and other respondents; part of this low rate can be attributed to joint fillings by colleagues, which have not been counted separately. The results of the questionnaire have been combined with the interview results to give a comprehensive picture of the opinions of participants.

Due to the breadth and focus of this study there are three limitations to this study. The first limitation of this project deals with the geographic grouping involved. Austria, Croatia, Czech Republic, Hungary, Romania, Slovakia and Slovenia are considered to be interconnected enough, or with the greatest possibility to be interconnected, so that they may affect directly or indirectly each other's markets. However, it is apparent that some countries are tied to other national and regional markets not involved in the study. For example, Austria and the Czech Republic are heavily tied to the German market while Slovenia and Romania are also tied to the South East Market. In addition, Poland was viewed by participants as an important country that was not included in the study's geographic remit. Despite these additional geographic connections, the countries chosen did prove to be interlinked and dependent to different degrees on each other. Thus supporting the initial assessment of the geographic scope of this project.

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The second limitation in this stage of the project is on the heavy reliance of interviews and questionnaires. Because the purpose is to solicit opinions on the state of the electricity markets in the CEE countries much of the data emanates from interviews and questionnaires. Other sources are used in a limited secondary position. A possible solution to this would be to conduct a comparative analysis between similar studies, such as the EU Competition DG report and the ERGEG study.

The final limitation of this study concerns the size of the participant group. Because of the multiple study sites (countries), the pool of participants for each country was limited to 5 to 8 for each country. This allowed a manageable amount of interviews to be conducted in each country within the time frame and within the resources of the study. The limited interviewee group was partially off-set by selecting individuals of high quality who are informed and actively participate in their country's electrical systems. Because of this selection criterion the data value from these individuals is considered high and often reflects some common agreement about the countries physical, market and regulatory environment.

Barrier 1: Restrictions in Cross-Border Capacity

The first barrier identified by interviewees and questionnaire respondents is the problem with the physical integration between the different countries' separate transmission system. This mainly involves the physical capacity and trading allocation of interconnection capacity between countries. Many respondents found problems either with the existing physical capacity of international transmission lines or the amount of capacity allocated to cross border auctions. As Figure 4 demonstrates there is a majority opinion that there are barriers between national electricity markets in the interconnectors. As will be discussed further below, the establishment of the Cross-Border Capacity Auction Office means many of these sub-issues, like restricted interconnectors, may become more exposed as the regional system becomes more transparent in its operations and capacities.

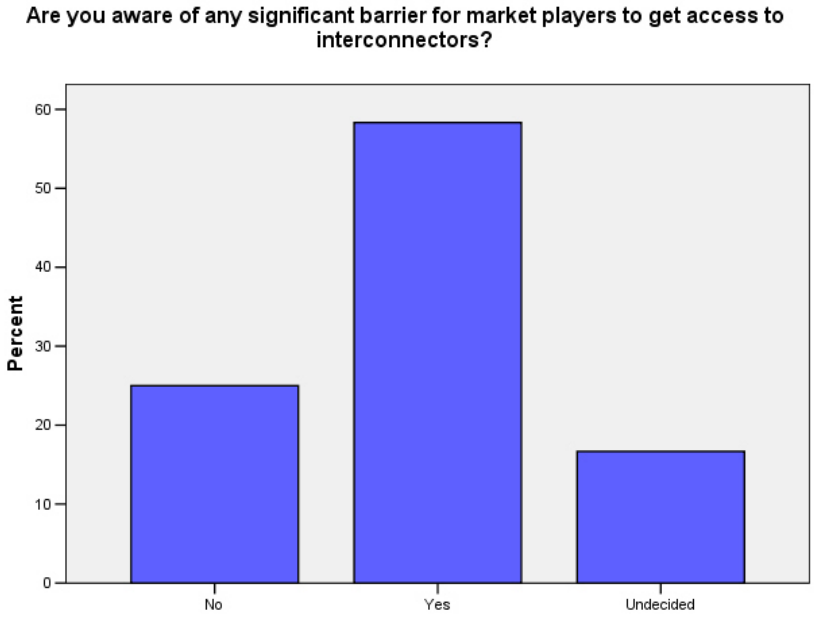

Figure 4 Access to interconnectors

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A main complaint of interviewees was the allocation of cross-border capacity to fulfil long-term private purchase agreements (PPAs). These were viewed by some as preventing the full capacity to be open to competitive bidding. Generally, it is viewed the existence of these international PPAs is anti-competitive. They reflect the characteristics of a traditional monopolistic market system where line capacity is centrally controlled, and not open to competitive bidding. However, in a competitive environment, where competition for line capacity is important for liquidity in the market, traders and other electricity companies (who were not around for these PPAs), rely heavily on access to external markets. They can use this access to either buy cheaper electricity or put pressure on domestic suppliers to reduce their prices.

In the interview stage, interviewees in each country sighted the need for this transparent allocation of cross-border capacity. For example a CEO of a large Hungarian distribution company pointed out the differences between the rules on paper and their actual use.

> We have relatively proper rules of cross-border auctions. [However], we are not able to make joint auctions with the neighbours. It is a part of the problem. But still more than 60 percent of the imported energy comes into the country without any auction and without any cross-border fees. Theoretically it is in the public market but de facto through different channels it reaches the free market players in an 'intransparent' (sic) way (interview Kovacs 2005).

Long-term PPAs were viewed as being partially at fault for this arrangement. Regionally, the opinions of questionnaire respondents agree with Kovacs's statement. Figure 4, indicates that 60 percent of respondents believe there are barriers to interconnectors, but as expressed in Figure 5 almost 60 percent also perceive current rules for cross border trading are fair. This may indicate that while the rules are established for cross-border trading, the actual operation of these interconnectors differs from their intended use.

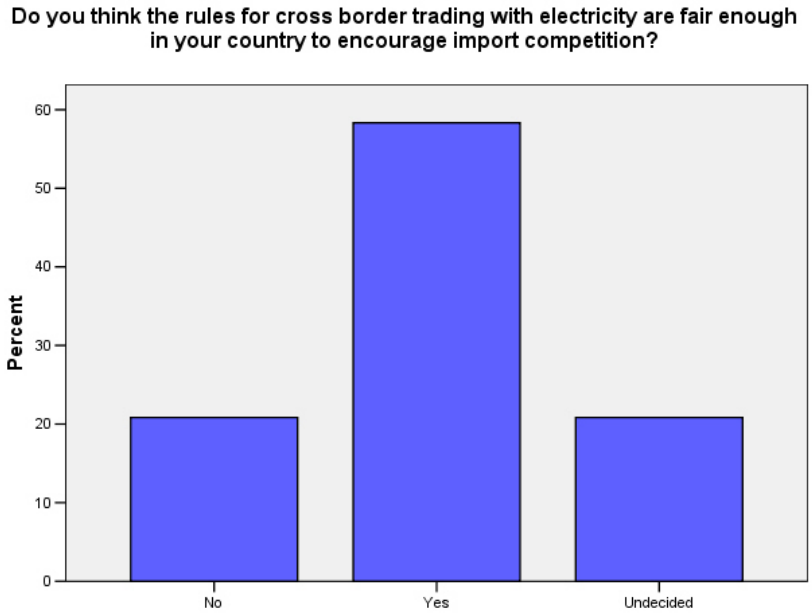

Figure 5 Rules encouraging import competition

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Hungary, in particular MVM, was singled out as negatively retaining long-term PPAs which distorted the market. As a Hungarian interviewee remarked about MVM's long-term contracts, "I don't have a problem with the long-term contracts with those which have a competitive price" (interview Pál 2005). However, these long-term PPAs, and those with international connections were viewed as having an unfair market advantage because the price level is below that offered in Hungary particularly since it was not attached with cross-border fees (interview Kovacs 2005). These practices of retaining long-term PPAs, which had an unfair advantage in cross-border capacity and fees, were viewed as preventing a greater regional competitive electricity market from developing. (Quantifying market operations through a quantitative market model minus PPAs is also a part of the C3EM project).

The scarcity in interconnection capacity and subsequent access to and from national markets is seen by participants as inhibiting the operations of market traders and larger international electricity companies. These two actors are symbolic of the new market structure in the EU where market efficiencies are had by greater cross-border cooperation and access to interconnectors. The long-term PPAs are preventing this, as a Vice-President for an international firm stated, "Traders have limited chance getting the capacity because 80 percent is gone before the trading actually starts. These [long-term PPAs] contracts are no more valid according to EU rules and they should be stopped because they block free trade" (interview Lazarova 2005). Figure 6 supports the opinions of market players. Long-term PPAs come into play again when look at the top constraints on where generators can sell their electricity. The top two are based on long-term PPAs and a missing liquid wholesale market, which the blocking of interconnectors may play a part (see Figure 4). This assumption is also supported by the small number of wholesale traders present. Possibly a more liquid regional market would be able to support more traders. Regulations, like the rules in Figure 5, are not viewed by interviewees or respondents as a major constraint.

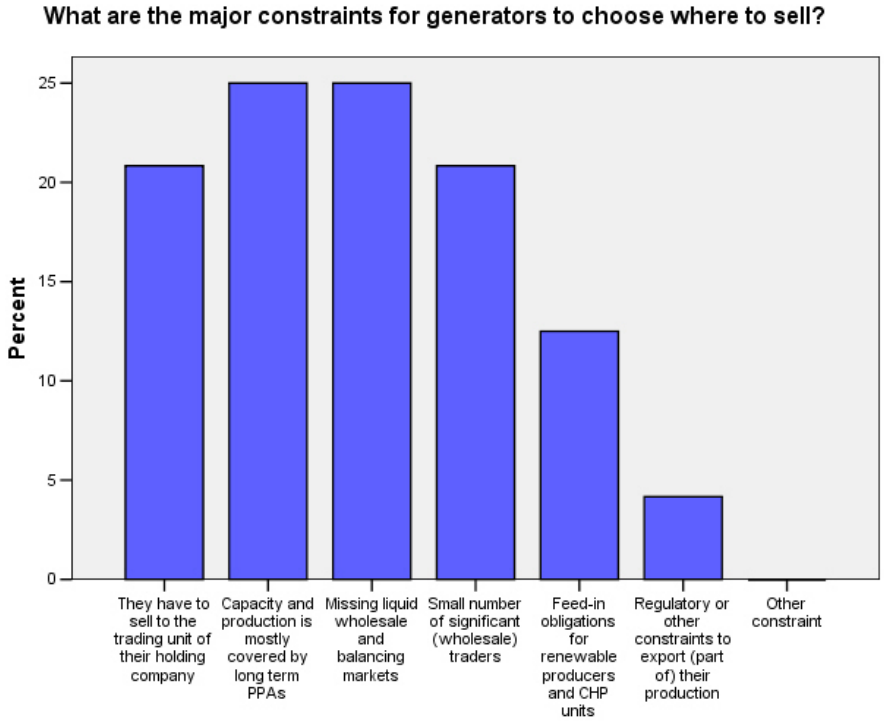

Figure 6 Constraints for generators

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Importantly, distribution and production companies along with regulators and TSO managers are calling for the elimination of these long term PPAs to increase market liquidity. One utility regulator went as far to state that as many market traders as possible should start legal proceedings against national TSOs, alleging unfair discrimination (Interview Regulator B 2005). An example of this is the complaint filed by CEZ to both the Austrian and Czech regulators concerning a long-term PPA between Poland and Austria, which flows through the Czech Republic. Part of the line capacity is taken up by this PPA which prevents the full capacity from being openly bid on by all interested parties. If the complaint is not successfully resolved at this national level it can be appealed to the European Court of Justice, which in the past has found these agreements illegal.

This frustration by some market participants reflects the new dynamic operational structure of electricity markets. There is a greater reliance now on market liquidity and national differences in electricity prices which long-term PPAs prevent. "You need to have liquidity so that this works, because this means that traders rely more on spot trading, rather then buying out capacities for long-term [PPAs]" (interview Lazarova 2005). This view was reflected by a national regulator, who also saw greater regional market liquidity essential for market development, "We have to be able to import a sizable amount of electricity, otherwise we do not create any pressure on the market unless you have 7 to 10 [big regional] companies" (interview Regulator C 2005). Currently, for this regulator this liquidity or market structure does not exist.

The interviews have established that large regional and European wide companies have a greater interest in seeing barriers between national markets reduced. Within national markets, Figure 7 and Figure 8 demonstrate that the international energy companies are pushing for more competitive markets than domestic companies, although the extent is not widely agreed on. One way that these international energy companies can play in moving forward a regionally competitive electricity market is in their ability to link the different national markets together. Or as one Vice-president of a multi-national energy firm remarked, the precondition [to market liquidity] to this happening in Central Europe is that you first bring markets together, and liquidity [will be] expanded to the whole region" (interview Lazarova 2005).

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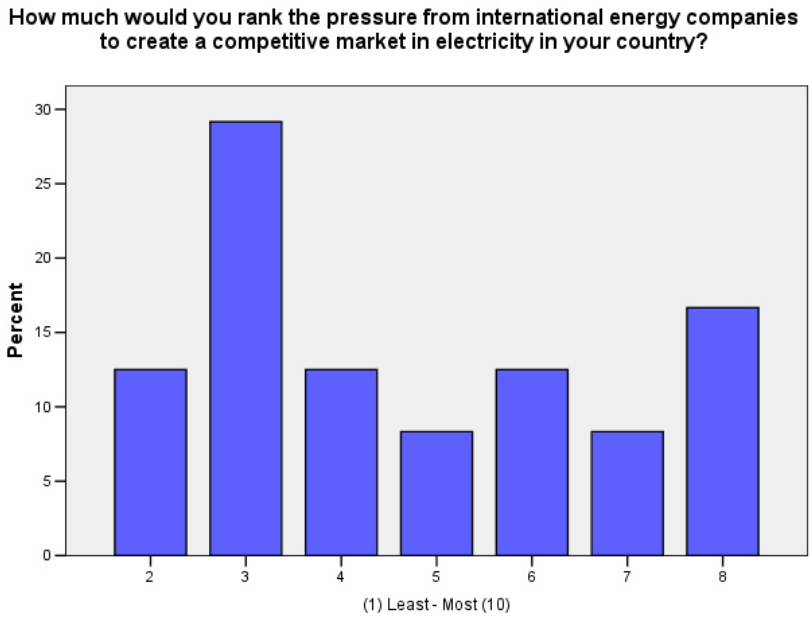

Figure 7 Pressure from international energy firms for competition

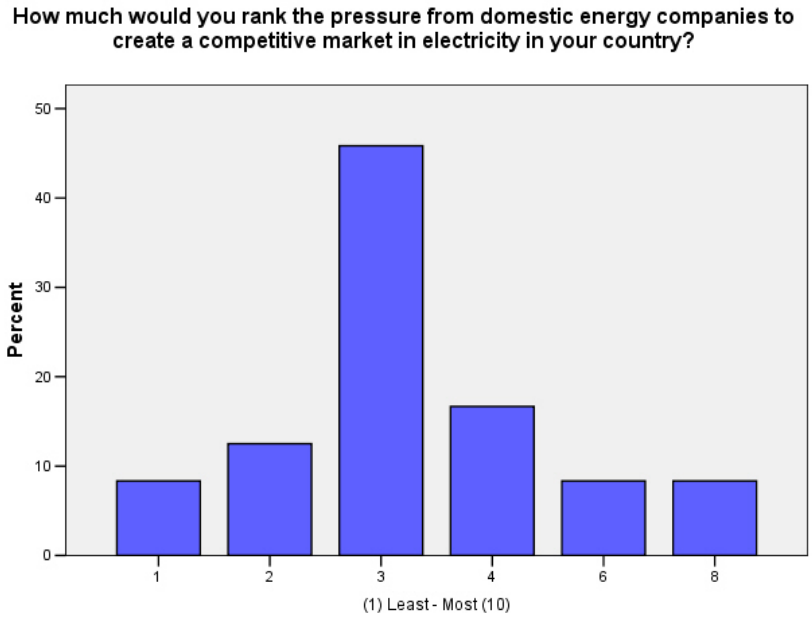

Figure 8 Pressure from domestic energy firms for competition

Another draw back concerning limited interconnection capacity, cited by participants, is that the market power of an incumbent utility. Respondents ranked the market power of their incumbent utilities as fairly high with an average of 7.17 on a 1 to 10 scale. (Figure 9). In all the countries studied, the former or current state owned generator held a significant amount of national generation capacity. This dominant position of the utility may be reinforced by the inability of non-dominant suppliers, within each national market, to purchase a significant amount of electricity from alternative sources. This was viewed by interviewees as reducing market flexibility and weakening the bargaining position of distribution companies and energy traders. For a national regulator there existed two possibilities to reduce the market

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power of the incumbent utility, “The one is to increase cross-border capacities, a second one is to divide” the national companies up (interview Regulator A 2005).

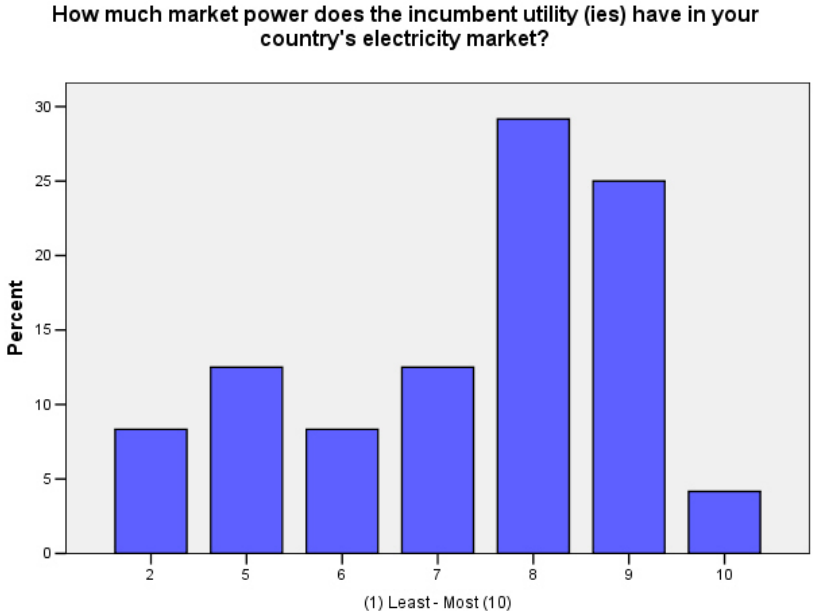

Figure 9 Market power of incumbent

This idea of exposing the former or current national utility to competition through cross-border competition was supported by the Vice-President of a multi-national energy firm that also has a significant market presence in the same country as Regulator A.

> A more efficient solution would be to speed up the creation of internal markets so the competition goes across borders and that national players are exposed to competition from abroad and therefore their market power gets limited. I think that should be a priority (interview Lazarova 2005).

The failure to more actively tie the different national markets together may actually be unbeneficial for important local generators. A significant majority of questionnaire respondents viewed more intensive regional integration as *benefiting* important local generators (Figure 10). Holding back on boosting interconnectors and market liquidity may be preventing economic benefits from reaching even large generating companies which may be still relying on long-term PPA’s and thus preventing a more regionally integrated market from developing.

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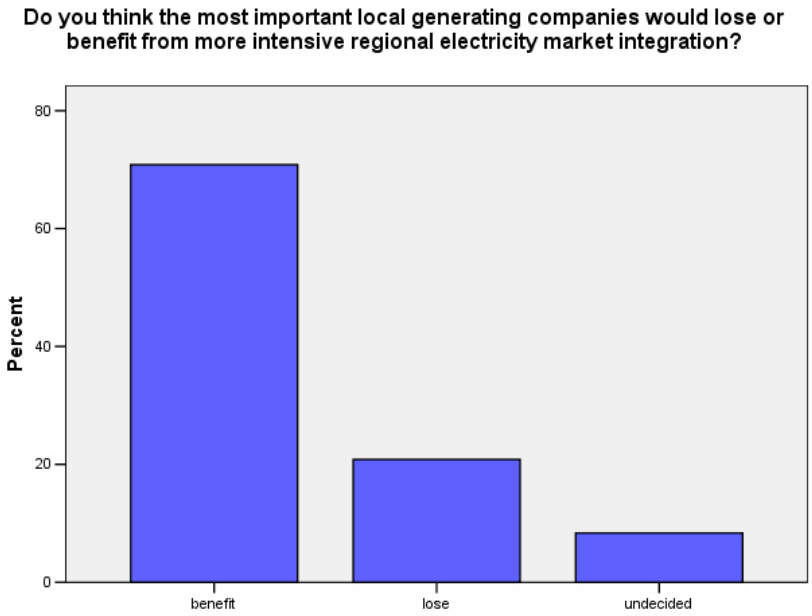

Figure 10 Regional benefits for local generators

The future role of expanded interconnection capacity was also deemed important by many participants due to shrinking generation capacity in some countries. In particular, the available generation load in the national markets of Slovenia and Slovakia will be reduced as power plants are closed. Generally it was viewed by one TSO manager that "any excess capacity will be diminished within the next 3 years" in Central and Eastern Europe (interview Hasek 2005). Having sufficient linkages with surrounding markets to import electricity and to act as an impetus to competitive generation pricing and building is viewed by participants in these markets as essential for an open and competitive market.

In addition to adding to a competitive environment and security of supply, building more interconnectors with other national markets in Central and Eastern Europe was deemed by all interviewees as important in meeting EU obligations and their own national power strategies. One significant finding from some countries was the failure of some TSOs to reinvest their profits into infrastructure improvements.

> We have to think of a system that makes it more economically interesting for TSOs to build a line and integrate markets. They are not doing so. So I think we should take all congestion revenues from TSOs and put that into a fund… [use it] only for a reserve for upgrading interconnecting capacity…. Because now a national TSO has much more incentive to have bottlenecks and congestion ranked, because it's an easy way of making more money…. If you put that into a fund and they don't give access to it, maybe even say you have to pay penalties if the congestion remains over a longer period of time (interview Regulator C 2005).

The downfall of the failure to reinvest is obvious. By not reinvesting into the grid, which supports both national and regional supply, the security of supply is jeopardized. In addition projects that can reinforce internal lines and regional interconnectors are prevented from

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going forward. The perspective of a Vice-President from one of the larger regional utilities was also animate about re-investing into the grid.

> There is a huge amount of money collected from the [cross-border capacity] auctions. This money according to the directive should be put back to strengthen the grid… but the TSOs are not moving fast, they put the blame on each other, they say it is a problem across the border, and they basically sit on the money. So there is a need for some actions reinforcing the directives that are already in place. Making sure that TSOs are required to publish their bottlenecks, publish how they want to use their money and there is some public control of the progress of the projects (interview Lazarova 2005).

Greater interconnection capacity between Central and Eastern Europe and the South East European market is seen as affecting the price level in both regions. "South Eastern Europe will be driven by prices of Central-Eastern Europe, because it is the only place which has sufficient interconnection to the South Eastern Europe" (interview Lazarova 2005). Figure 11 demonstrates the modest views on the competitive benefits that stronger market integration between Central and South Eastern economies can bring to the regions.

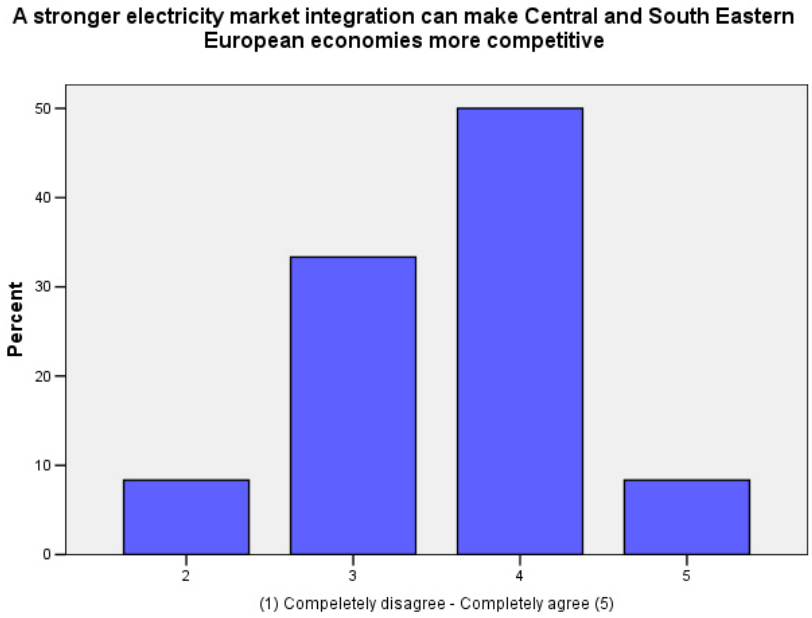

Figure 11 Competition for Central and South Eastern Europe

On a wider scale, countries in the region, particularly Romania and Slovenia stand to benefit from market and regulatory developments within the South East European Energy market. They view this region as an area where greater cooperation and trade could occur. The signing of the EU/South East Europe Energy Community Treaty on October 25, 2005, is viewed as positive for both regions. The geographic position of Slovenia in particular is viewed as advantageous for exporting electricity to the Italian and (South) Austrian markets, where prices are higher and there is a shortage of generation. Figure 12 demonstrates that all countries in the Central and Eastern European market and those in the South East European market would benefit by more intensive market integration. Only a small number of respondents felt that some countries would lose out on closer integration.

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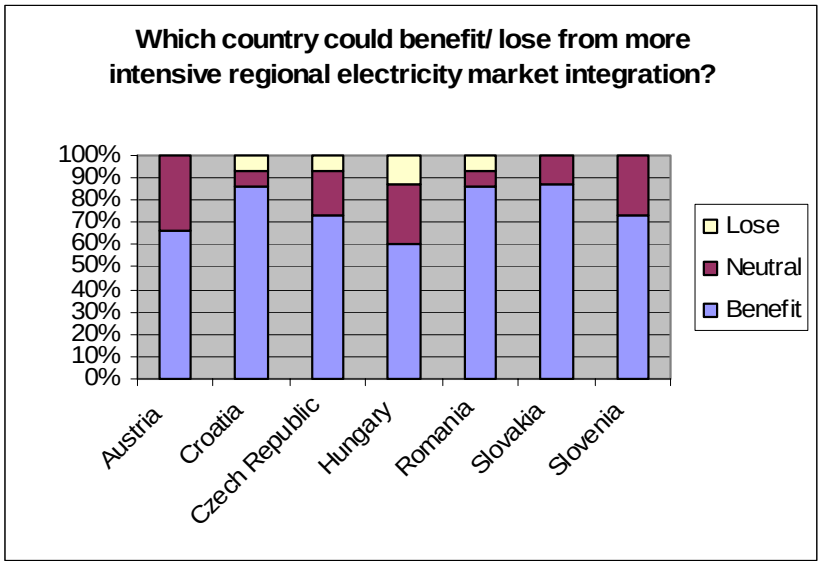

Figure 12 Countries benefit/lose from regional integration

However, current interconnection capacity is limited and to realize the benefits taking place in the South East requires greater cooperation for building not just the interconnections, but increasing the size of internal transmission networks.

> [Slovenia is] a bridge between this Central European market and Southeastern European market, it's the geographical position. It is an opportunity [to transmit electricity], but also a curse. I see it as an opportunity… our market is small and therefore also heavily influenced by these cross-border transactions. Not only in terms of a price formation, but also in terms of operations of the network because there are quite strong loop flows (interview Fredricks 2005).

A significant first step to coordinate the regions cross-border capacity is taking the shape of the regional Coordinated Auction Office. This office began operation at the end of November 2005, and is based at CEPS (the Czech Republic's TSO) in Prague. It is envisioned that this will be a one-stop shop for traders and other market participants to buy their interconnection capacity for eight different countries. However, there are disputes concerning the draft auction rules and allocated capacity by regulators; Slovenia and Hungary for example have chosen not to participate in the first year (the future prospects of the office and the issues it raises are discussed further below). Despite these disputes, the Czech Republic, Germany, Poland and Slovakia are participating in this explicit auction. Overall, with an increase of interconnector capacity and more market liquidity with more inter-linked actors greater benefits can be had by the end customers if there was more integration between the region's electricity markets (Figure 13).

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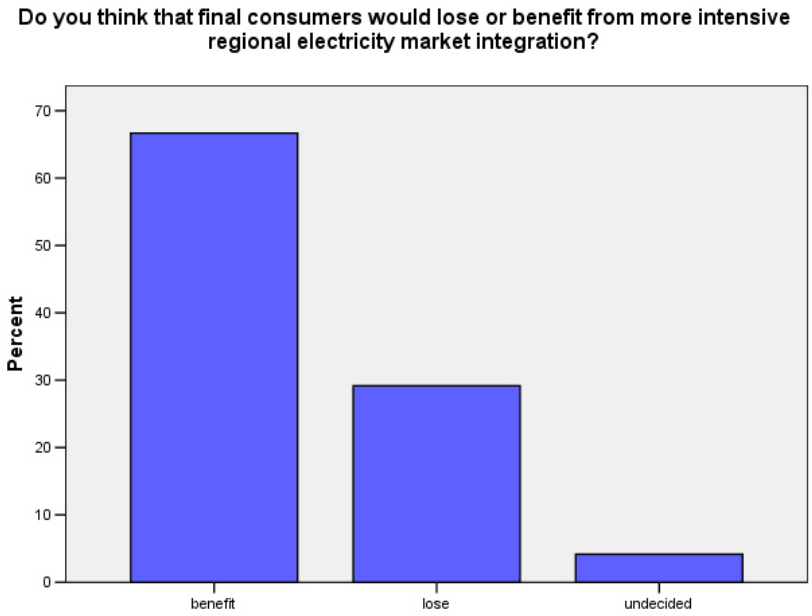

Figure 13 Final consumers in a regional market

Barrier 2: Common Rules/Regulations

The second barrier discerned from interviewees concerns the regulations, legislations and rules that support the regions liberalized markets. Common rules and regulations do exist in each country which conform to EU expectations, and which a legal study in the C3EM study has shown to be fairly consistent (Eastern European Energy Kft. 2005). However the interviews uncovered a range of concern in a number of areas, including: the application of laws, where authority lies, information collection, political support for enforcement of national rules and EU directives, and greater regional cooperation. These issues are classified under rules and regulations but they also inhibit solutions in areas like greater regional cooperation and increased market access for new participants.

The creation of new government institutions to support a more active electricity market, such as the separation of TSOs and the building of regulatory institutions, has not been done uniformly across the region. This means different authority and information reporting lies within different government institutions. For example in Slovakia, the enforcement of security of supply is held by the Economics Ministry, while the Regulatory Office for Network Industries only has monitoring authority. This is in contrast to Austria where the Austrian Energy Regulation Authority (E-Control) has authority over security of supply.

Interviewees expressed a desire to have commonality between government institutions in the region. “The first step must be that every regulator in the region… has at least the same power, the same competencies, the same framework of competition” (interview Schultz 2005). This would further benefit the market by placing more power in regulatory offices, “with the competencies of the regulatory authorities you could a little bit alleviate this short-term perspective” held by politicians as a result of elections (interview Schultz 2005). While long-term planning would benefit by greater coordination between regulators, day-to-day trading activity, as described by a regulator, would also benefit by greater uniformity.

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> Electricity market rules, there are different rules in each country. [For example] if you want to sell electricity from the Czech Republic to Germany, you have to fulfil rules in the Czech Republic and also in Germany. If there are different closing times, because you cannot make a contract, because you have to fulfil different rules… it is a problem, because of timing in balancing market mechanisms and so on (interview Regulator D 2005).

On another level it was viewed that some authority, depending on where it lies, may create a conflict of interest, which may not serve for the effective monitoring or promotion of a market forces. Implicit favouring or subsidies may occur if effective independence of institutions and market actors does not exist. Movement away from state owned utilities was seen as a good way to reduce some subsidies. "When you start to privatize, either when you start to privatise one company, this cross-subsidization issue is history. Because you cannot sell a production company to a private owner and with the assumption that they will subsidize one big consumer" (interview Fredricks 2005). To alleviate this subsidization it was also viewed as essential to have clear rules. "First what you need are clear rules. Forget it if there is only one company or there are ten companies. Important to have really transparent, clear rules for everyone that should be the starting point" (interview Fredricks 2005).

Following on clear rules is also the availability of information which ensures the rules are openly enforced and adhered to by market participants. Mainly this could centre on the type and amount of information that is collected by state institutions. According to interviewees there exist different reporting requirements in each country and different amounts of information that is publicly, and even privately available to other state institutions, like TSOs. For example, the physical characteristics of the interconnectors are not publicly available while for some national regulators information from generators is also unavailable. Or as two TSO staff members remarked:

> **Alexander:** There is one [European] electricity system, but it is divided into several states and in each there is a different approach. For example, the information exchange is very important to capacity calculation. Not each system has possibility to receive complete information from … generators.
>
> **Hasek:** [this is something created] by national market rules and national legislation, which means what kind of information is public and should be publicly accessible (interview 2005).

This information could be deemed important to help greater cooperation to ensure system stability. Problems with loop flows in the region, which are increased by wind power, have resulted at times, in excess generation in the system (interview Alexander and Hasek 2005). In addition, for the balancing market there are national legal issues of where a TSO can buy electricity from, such as in Slovakia. There are mandatory requirements that direct TSOs to buy electricity from incumbent (former) state owned generators. This could be considered an indirect subsidy to these utilities. However, regionally there does not appear a major problem of direct or indirect subsidies, but 30 percent of respondents still listed being aware of some (Figure 14).

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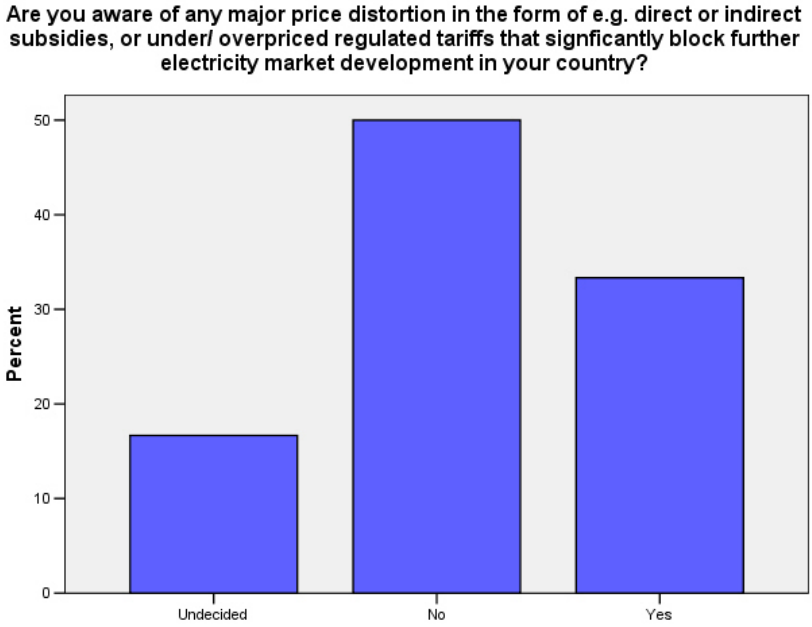

Figure 14 Major price distortions

The physical presence needed for energy traders, or the '1 to 1 rule', which requires a single trading partner to exist in another country to transfer electricity, were seen by some market participants as barriers to market efficiency. The additional cost of setting up another office or having a partner, were viewed as unnecessary and adding to the end cost for users. "So what you can make is either you create some kind of partnership with somebody, who should be actually your competitor and not your partner, or you put your daughter company there as your partner" (interview Lazarova 2005).

It was not only this utility executive that had problems with how trading is being conducted currently in the region, a regulator also felt the current system was less than satisfactory. "Something goes wrong [with a trade] and the customer does not receive what he wants or thinks he did not receive what he [paid for]… [So] he comes to us, to regulator C, [but] we have no jurisdiction whatsoever in country D, nor in country A, nor at country B" (interview Regulator E 2005).

This limited authority was cited by other regulators who viewed their authority as limited in a regional context. National regulators felt their authority could not extend beyond their borders, thus offering limited redress to affected buyers. Thus some common agreement needs to be found that allows traders to operate with less 'end-seller' requirements but gives regulators a way to address grievances of a third party. Regulator E suggested increased greater cooperation over this issue. "The solution may be that we regulators from the region form in close cooperation among us come to a common position on each case and say, 'ok, in this case you Regulator B have to enforce and implement this decision" (interview Regulator E 2005). However, to get to this point, political support may be needed. However domestically, as indicated in Figure 15, regulators are exerting pressure to create competitive markets in their respective countries. The will within these regulatory institutions may exist for greater cross-border cooperation to aid in the creation of a regional competitive electricity market. Establishing common rules and regulations, particularly between regulators, may offer a solution to overcome common barriers to greater regional cooperation.

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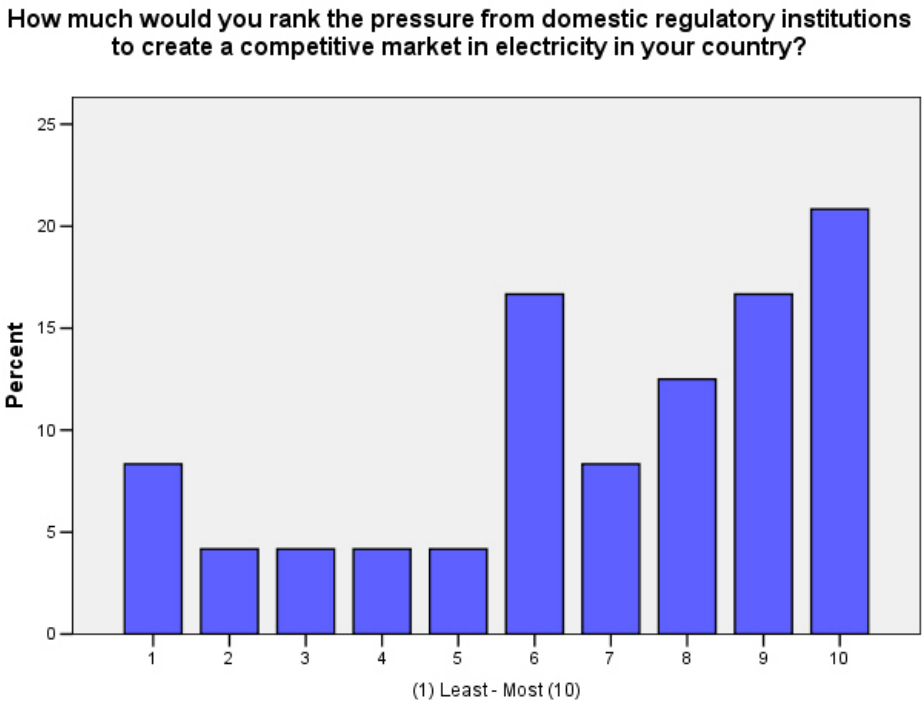

Figure 15 Pressure from regulatory institutions for a competitive market

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Barrier 3: Political Support for Neighbourhood Cooperation

The final category identified involves issues of how to increase regional coordination in electricity issues in the East Central 'neighbourhood'. The authority of some technical workings groups may now have been reached, and for greater cooperation to occur politicians need to become involved.

The need for greater regional cooperation was remarked on by interviewees in all areas of the electricity sector, from regulators, TSO managers to incumbent utilities. The nature of electricity and the natural forces that propel the electrons through the system dictate that cooperation has to occur. How deep this cooperation extends is the issue at hand here. One TSO manager remarked that in his experience in discussions for setting up the Common Auction Office, it was apparent that regional and national interests were colliding. For him, the difficult behaviour of regulators showed that they were working more closely in line with national interests and not in the interest of the region (interview Hasek 2005). Figure 16 demonstrates the perspective of respondents of the institutions and actors that support or oppose more intensive regional market integration. Regulators, as discussed above, along with EU institutions are seen as very supportive, while generators, TSOs, distribution companies and households are less supportive of this effort.

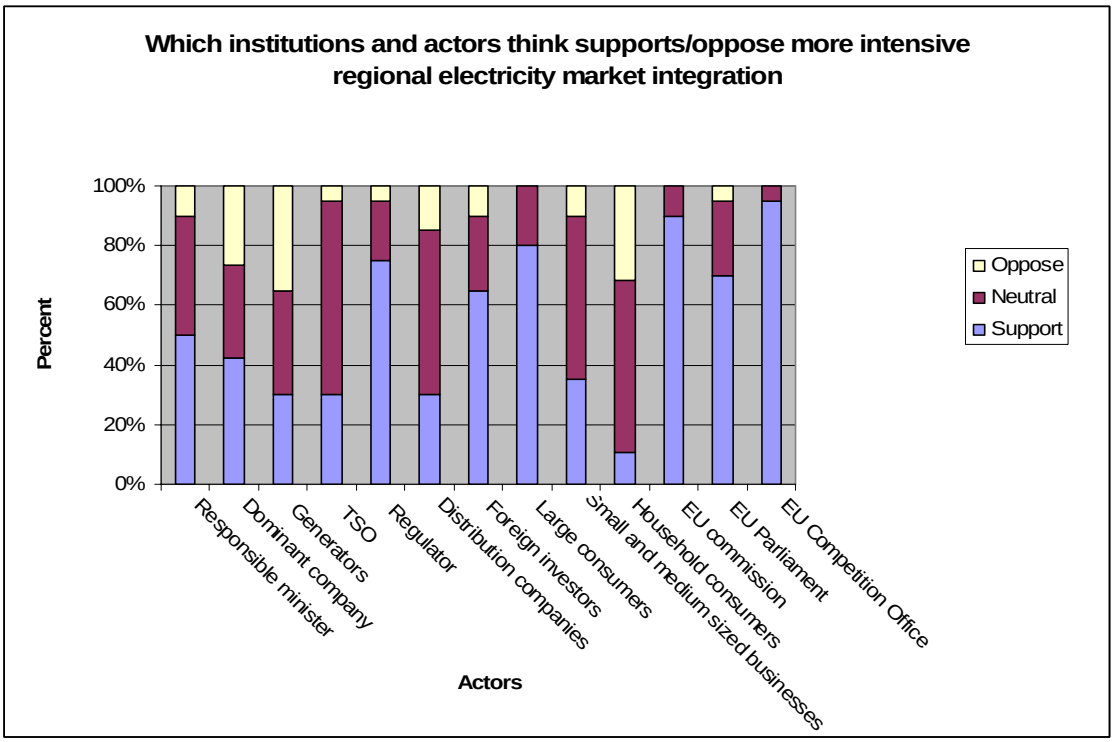

Figure 16 Institutions support/ oppose regional integration

However, a different perspective comes from an exchange manager, his belief in the role of regulators was they are more focused on national markets, "I think that the regulators are not interested in integration of different markets… are the regulators those stakeholders that actually support or push forward the market development? Yes or no? And probably no." (interview Fredricks 2005). In remarking why regulators are not more assertive in regional efforts, a regulator, in the same country stated, "We follow the [EU] directives, we implement the directives but not more than this at this time" (interview Regulator E).

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Supporting this national approach, a TSO manager remarked that it was in the description of his and other national institutions that they are required to operate solely in the national interest and not in the regional interest. “There is not a single word in the directives about the regions…. The directive is still about the internal electricity market and member states” not a regional market (interview Hasek 2005). For example in the case of building more infrastructure, there is no national or EU requirement to work in the interest of the region. “They [regulators] have to decide only on the national basis. So if the benefits of the projects are for the neighbouring country, they are not allowed to put it into the national asset base, it’s not constructed” (interview Regulator C 2005). While this position was not supported by this participant, he felt bound to respect the remit of his office. Pressure for internal competitive reforms was viewed as high from EU institutions (Figure 17) in addition to their high support for regional integration (Figure 16).

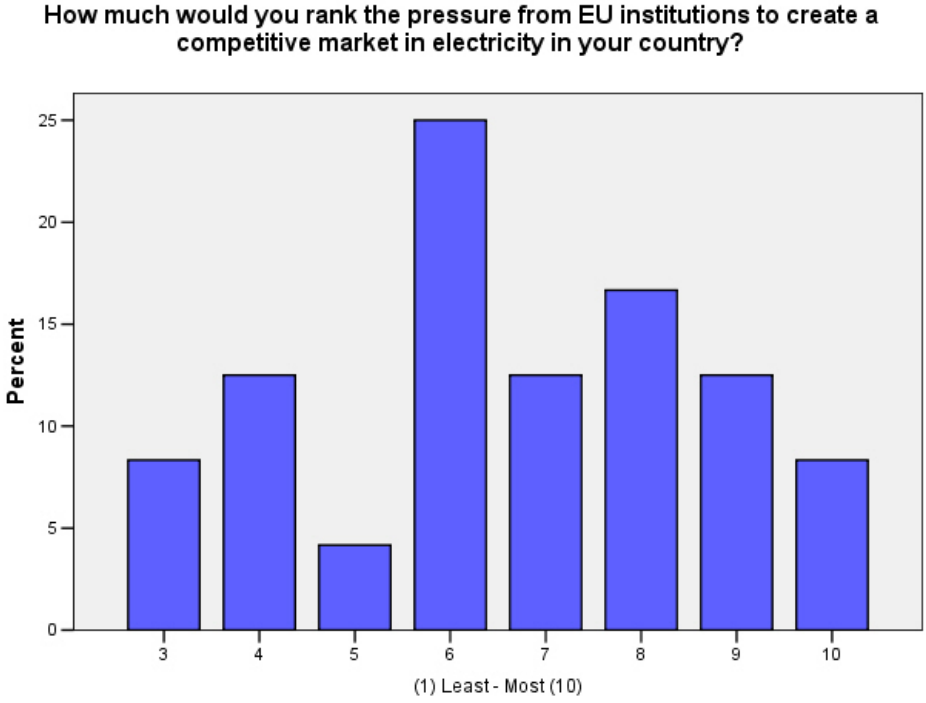

Figure 17 Pressure for competition from EU institutions

Following this need for greater regional cooperation in setting rules and regulations it was asked whether a regional institutions could solve both the physical flows and help alleviate some of the discrepancies in rules and regulations. The response was mixed. In general terms from the interviews, it was felt those participants who supported a regional institution for market coordination, were in countries, or companies, that are currently involved heavily in regional cooperation. A regional institution in the eyes of some respondents offers the momentum needed to continue towards a more competitive regional electricity market. However, the questionnaire responses indicate that a regional trans-national institute is not a precondition for greater market integration (Figure 18). Although it is interesting to note the varied responses by country (Figure 19).

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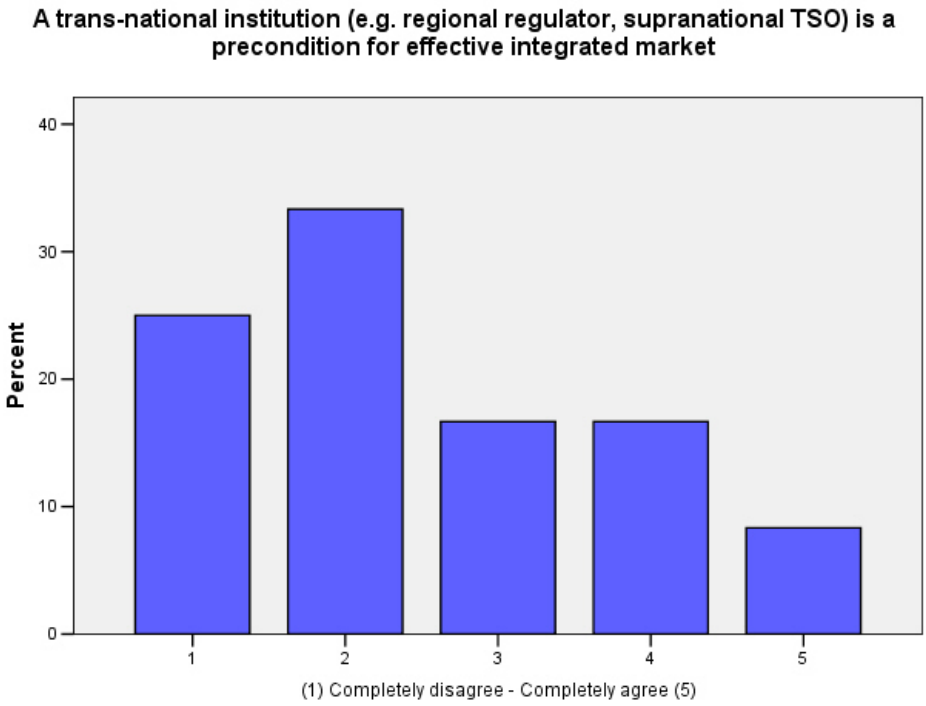

Figure 18 Institutional pre-condition for integrated markets

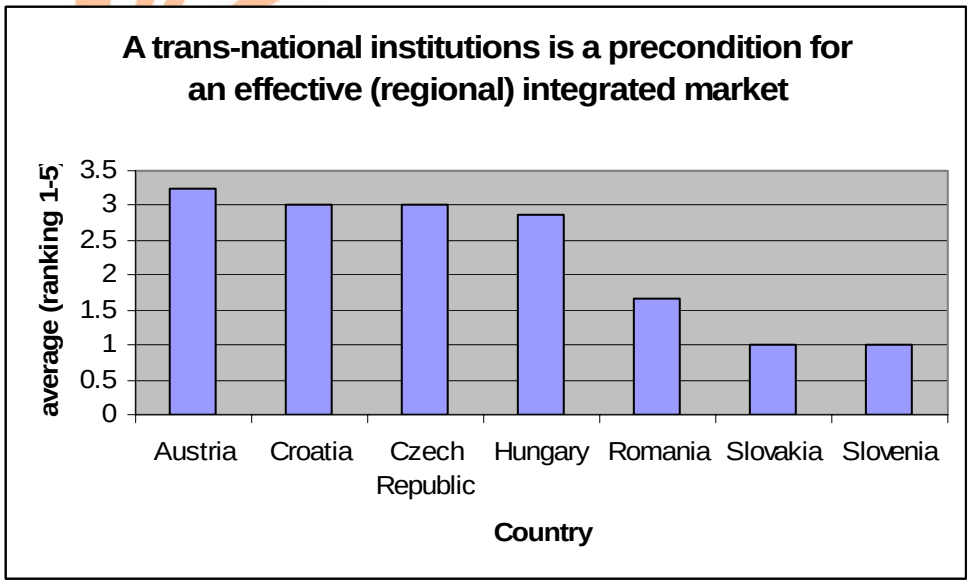

Figure 19 Answers by country: Trans-national institution pre-condition for regional market

Some respondents favoured greater cooperation with existing national institutions. For them, regulatory authority did not need to be transferred to a higher institution to continue market reforms. "Cooperation, common positions, whatever, other partners, yes. But a regional regulator as one body? No." While on the other side, the benefits were felt to lie in the transparency that a body would offer. "Definitely, if the regional body is transparent…. It becomes absolutely independent and any national body [or] government regulator can control the process only via market rules" (interview Hasek 2005).

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Overall, in the interviews, despite pockets of support, there was little consensus to establish a regional institution with powers to coordinate and enforce current market rules. However, Figure 20 does show that most interviewees supported a regional TSO to be the strongest leader in pushing for regional integration. This is followed strongly by national regulators who are viewed as key to making regional cooperation work. EU institutions as well as ministries were viewed as important, thus a mix between supranational institutions and national institutions are perceived to be essential for pushing countries in Central and Eastern Europe closer together.

Which institution(s) should be the strongest leaders for integrating the regions electricity systems? (listed from most important to least important)	
1	**Regional Transmission System Operator**
2	**National Regulatory Agencies**
3	**EU Institutions**
4	**Energy Ministries**
5	**Consumer Groups**
6	**Transmission System Operator**
7	**National Parliaments**
8	**Sub-national government units**
9	**Regional Electricity Exchange**

Figure 20 Regional opinion of institutions which should lead market integration

There was common agreement by many participants that there needed to be greater involvement by politicians in both national and regional market issues. It was viewed that politicians should be involved to address the issue of greater regional cooperation and to move national institutions to consider their position regionally. Nearly 50 percent of respondents stated that responsible ministers do support greater market integration (Figure 16). Politicians are perceived, by interviewees as having the power to advance beyond the technical remit of regulators, TSOs or other market participants and create legal consensus on a regional scale. One of the interviewed regulators drew on the Scandinavian example of what could be done in Central and Eastern Europe.

> The Finnish regulator is leading a project of how to integrate the retail market in Scandinavia…But it is only because of the political support, which was at the beginning of it [that allowed it to begin]. I also think in this region without political support it will not work" (interview Regulator B 2005).

The movement to greater regional cooperation and coordination may be viewed as undermining current national players, however as shown in Figure 10, local generators will benefit through regional cooperation. In addition, regional opinion also demonstrates that domestic companies should not be favoured (Figure 21). For the politicians, allowing greater interconnection and trust in other countries' institutions can exist. Drawing from the view of regional regulators, one regulatory participant remarked, many regulators respect the opinions of their peers in other countries (interview Regulator E 2005). This respect and not mistrust should be built upon by individuals in *all* government institutions. This trust may help establish greater regional coordination in areas of infrastructure, legislations and regulations.

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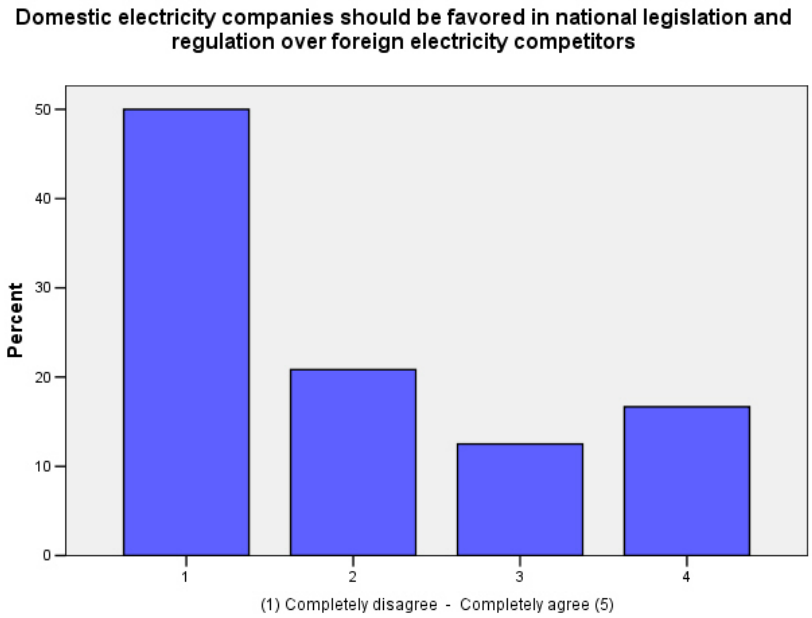

Figure 21 Favouring domestic electricity companies

A final issue that emerged from the interviews was the need by neighbours to invest more in their internal infrastructure. This is deemed important for those countries where extra capacity and increased cross-border trade could be increased. Particularly cited for its restricted infrastructure was Austria. Both Slovenia and the Czech Republic are interested in Austria building a North-South transmission line. This would facilitate trade between and through all countries. Austrian interviewees were aware of this internal barrier and said this line was still planned for the Austrian market. Figure 22 demonstrates the surplus in the north of Austria and the generation shortfall in the south of the country. Figure 23, shows that just under half of respondents need to strengthen their internal networks to participate in a regional market.

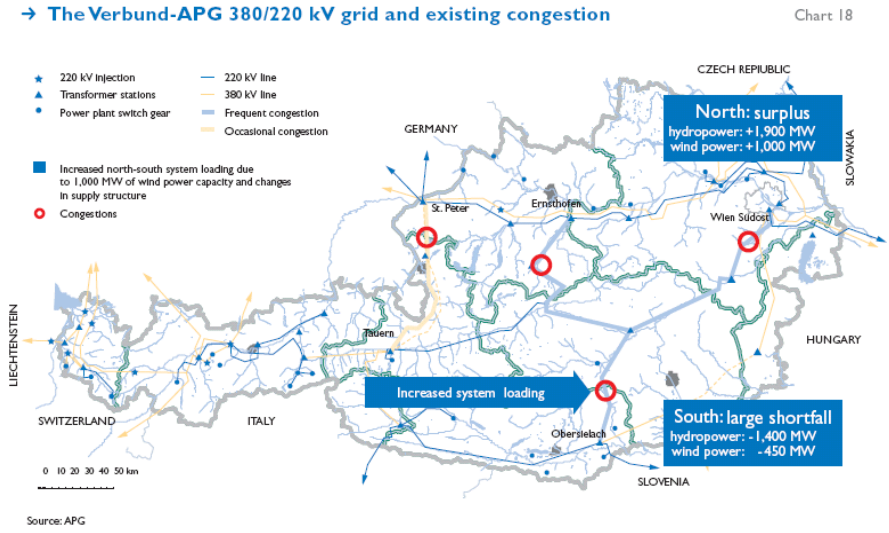

Figure 22 Electricity surplus and shortages in Austria(E-Control 2004: 45)

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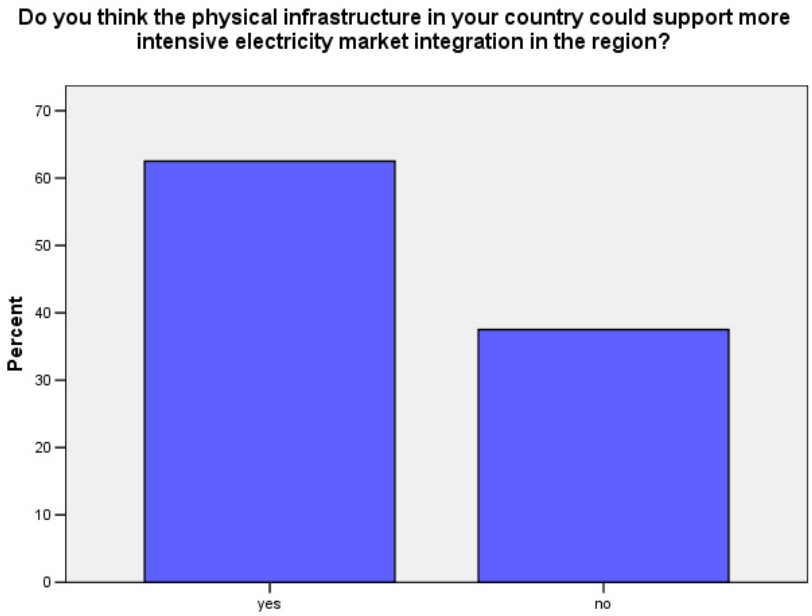

Figure 23 Ability of physical infrastructure

The beefing up of internal transmission systems would not only serve to strengthen each countries internal market but also serve as a basis for a more robust regional electricity exchange, including more actively in a cross-border capacity auction. This was viewed as a favourable development by many interviewees in all the countries. But again, current national rules and regulations may collide with regional flexibility. "There is a question of regional versus national rules. Because once the TSOs cross the border and create something regional the regulators should also behave regionally…. Some of the rights and responsibilities of TSOs should be moved to the regional level" (interview Hasek 2005).

In particular, Slovakia and Slovenia cited the need to reinforce their internal networks before participating more actively in a regional exchange. A regional exchange was viewed in every country as holding great possibility in providing the liquidity and transparency that is not available in each country because of their small size. Collectively, it was felt a regional electricity exchange could be supported in the region. But there needed to be encouragement from governments and industry. According to a Hungarian ministry official, the market players will push for an exchange along with the governments (interview Dávid 2005). "The countries of the region will join... because of the benefits to consumer. And trading companies … will expand their activity and this way they can get more and more profit, and they will push the operation of this exchange" (interview Dávid 2005).

For an electric company CEO, the creation of an exchange is a way to shift the market away from long-term PPAs. By auctioning off these contracts, "it can lead to the creation of an exchange" But government should be involved in the early stages to help create a market. "An exchange is a private institution which needs some infrastructure investment that nobody is willing to make" (interview Kovacs). The benefits are clear for a TSO manager, "We need a power exchange in [my country], because it gives at least price signals. I think that is the main problem. We do not have any pricing" signals (interview Ferenc 2005). However, to reach this point there does need to be a common regional perspective which includes political involvement and agreement over what physical investment needs to occur.

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Conclusion to the Barriers

There is a strong coherency between the issues in each of the categories and between the three categories themselves. Any attempt to solve one of the three categories also requires addressing the other two. For example, to increase cooperation in the building of cross-border capacity, also calls for the involvement of politicians. The objective of the first phase of the C3EM project was to determine the barriers to greater cooperation and coordination which could lead to a more efficient allocation of electrical resources. This was done by asking the opinion of key individuals active in the region's electricity sector.

The identification of interconnectors constraining both the different domestic markets and the region's market demonstrates the need for TSOs to act on interconnector capacity. For interviewees and questionnaire respondents the constraints were a result of both the physical capacity and amount available for open bidding. In turn this reduced the liquidity of both national and regional electricity markets. This key constraint to the market was viewed as adding to the market power of incumbent utilities. The impetus for infrastructure improvement, both physically and through greater market transparency was viewed as falling on the TSOs. Reinvestment of their profits from network tariffs was a chief concern for many participants. Whether this was through fines or legal cases, movement on interconnector capacity was viewed as key to reduce regional barriers for an efficient market in Central and Eastern Europe.

Interconnectors could improve the physical connections between countries, but common rules and regulations were viewed as essential in creating a regional policy environment open to effective market transparency. The reduction of conflict of interest between ministries, regulators, TSOs and utilities was viewed as possible through regional agreement of best practices. The establishment of clear rules and regulations could, according to interviews, provide an effective and fair enforcement of market standards. Part of this could be achieved by greater availability of information for all market participants.

Creating regional cooperation in the electricity sector raises important questions of how national institutions can act also in the regional interest. Reducing national barriers to encourage regional cooperation and coordination calls for the involvement of politicians to establish how national interests correspond with regional interests. Among national actors, regulators are viewed as leading cooperation with other countries, however ministers are only viewed 50 percent of the time pushing for more intensive regional integration. It is the politicians that have the ultimate authority to help break down national barriers and increase regional coordination. Their involvement is essential for moving forward in attempts to reduce market barriers. This includes authorizing building more infrastructure, participation in capacity auctions, fostering greater transparency and accepting common rules and regulations. The Central and Eastern European neighbourhood can benefit by establishing a definable regional interest accepted by all national institutions.

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