

**Consultation Document on Mergers
on the Energy Markets in the Netherlands
and a Possible North-West European Market**

Netherlands Competition Authority

The Hague, June 2006

Only the Dutch version of this document is authentic.

Project number: 5209

Project team:

Merger Control

Jan de Maa

Martijn van Gemert

Annemieke Karel

Gerard la Bastide

Office of Energy Regulation (DTe)

Paul Giesbertz

Frank Buijs

Marcel Vermeulen

Antitrust Department

Petra Beusmans

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Summary

1. The energy markets in Europe are changing. Mergers and acquisitions, which often also have a cross-border dimension, are the topic of the day. In addition, the energy sectors are attracting considerable interest from national and supranational authorities. In the light of the various developments, NMa has investigated how the various relevant markets are developing and the extent to which far-reaching national and cross-border mergers can be approved in the light of increasing internationalisation.
2. The aim of this consultation document, 'Mergers in Energy Markets', is to consult all those involved and interested parties in the Netherlands and beyond, and then to inform them of NMa's insights into the consequences for competition law and the developments expected to occur in the foreseeable future on the Dutch electricity markets. With regard to mergers which are conceivable in the short term, these markets seem to be the most relevant to the Netherlands. Furthermore the consultation document aims to contribute to policy formulation. The Minister of Economic Affairs has stated that he attaches considerable value to and wishes to play an active role in the creation of a larger North-West European market.¹
3. The consultation document therefore focuses on (1) the separate relevant markets in the electricity sector and the definition of these markets and (2) the way in which NMa intends to deal with future mergers and acquisitions, and the possible remedies which may be applied in these cases. The latter are discussed on the basis of three hypothetical merger scenarios. The perspective of this document is primarily that of competition law.²
4. Parts of this document are substantiated in the accompanying research report drawn up for NMa by The Brattle Group, a specialised research bureau, in close cooperation with Prof. David Newbery, Professor and Director of Applied Economics at the University of Cambridge.
5. Each analysis in relation to competition law starts by determining the relevant product markets. In this consultation document, the relevant geographical market is defined on the basis of the various product markets. In doing so, an analysis is made of the products which are relevant in terms of competition law and the geographical area in which competition occurs on these product markets.
6. In this consultation document, NMa makes a preliminary distinction between (i) the production and wholesale market for electricity (ii) the balancing market, (iii) the market for the transmission of electricity and (iv) the market for the distribution of electricity to end users (the retail market).
7. On the production and wholesale market for electricity, a preliminary distinction is made between the production and wholesale market for electricity during peak hours and the production and wholesale market

¹ See also the letter from the Minister of Economic Affairs to the Lower House of the Dutch Parliament of 31 October 2005 (28 982, No. 46)

² There are, of course, numerous perspectives on this topic which are of interest. Factors such as security of supply, safety and the environment are on the policy agenda. For NMa, as the regulator of the energy markets and as the guardian of effective competition between companies operating in the Netherlands, the development of competition on the energy markets, however, is the dominant perspective on this topic.

for electricity during off-peak hours. A further market for super-peak hours can possibly also be distinguished. No further subdivision of the production and wholesale markets for electricity has been made in this document on the basis of, for instance, the type of marketplace (spot market or forward market), the type of end user (large or small consumer) or the contractual term.

8. With regard to the transmission market for electricity, a separate investigation was not carried out into the effects of mergers in terms of competition law. By definition, grid companies operate on separate geographical markets. The effects on competition of any mergers between grid companies are therefore limited.

9. With regard to the retail market, this consultation document discusses the retail market for the distribution of electricity to small consumers (including households).

10. With regard to the geographical dimensions of the product markets mentioned above, statistical analyses of price differences between the Dutch, German and Belgian production and wholesale markets for electricity show that the price differences between these markets are considerable, in particular during peak hours. The market expects the price differences to be sustained, as appears from a comparison of forward prices. Competition from imports from neighbouring countries has not led to sufficiently lower prices during peak hours in the Netherlands. This is an initial indication that the production and wholesale market for electricity during peak hours is a national market.

11. In addition to the analysis of price differences, a so-called SSNIP test is also carried out in this document.³ An investigation was carried out to establish whether a hypothetical monopolist could permanently and appreciably increase its prices in the Netherlands on the production and wholesale markets for electricity, taking into account all the opportunities for import and substitution. This test was applied to the production and wholesale markets for electricity in the Netherlands during peak and off-peak hours. The analysis is based on the capacity situation applicable in 2008, if all the planned additional import and production capacity is actually realised and deployed.

12. The results of the SNIPP test on the above-mentioned markets support the preliminary conclusions that can be drawn from the statistical analyses, namely that the production and wholesale market for electricity during peak hours in the Netherlands is a separate market and that for the time being the market is a national market. The calculations show that a considerable expansion of available import capacity is required (to approximately 6,500 MW) to discipline a hypothetical Dutch monopolist. This applies *a fortiori* to the so-called super-peak hours. During off-peak hours, the market appears to be larger and comprises at least the Netherlands and Germany.

13. No SSNIP tests were carried out for the retail market and the electricity balancing market. On the basis of quantitative and qualitative analyses, NMa proposes that these are also national geographical markets.

14. Consideration was then given to the conditions under which it would be possible in the future to refer to a larger, possibly North-West European, market comprising in any event the Netherlands, but also

³ This is a method commonly used to define markets in the general practice of competition law. However, it is a method which requires considerable specialised knowledge, work and data on (amongst others) the energy markets and which is therefore not often used in European practice. NMa considers this method important in assessing concrete mergers.

countries such as Germany and Belgium. In this regard, a distinction can be made between (i) factors relating to the fuel mix in the various countries and (ii) factors which directly increase the available capacity of the cross-border connections. Furthermore, a number of other factors are discussed which perhaps make trade more efficient, but which, it is argued, do not affect the geographical size of the relevant markets.

15. The Netherlands has relatively more gas-fired production units and Germany and Belgium have relatively many more coal-fired power stations. A change in the price of gas compared to the price of coal could result in an increase or decrease in the price differences relative to other countries. If CO₂ emission rights become more expensive, prices may converge more. Brattle states that it is not plausible that gas prices will change to such an extent that the relative market will become larger or smaller than the Netherlands during peak hours. Changes in production facilities will also not play a role. In the Netherlands, companies are planning to invest in new production capacity, but this is not expected to affect the relevant geographical market in the short term.

16. The consultation document makes a distinction between three ways in which the effectively available transmission capacity of the cross-border connections can be increased: (i) physical investments in additional import capacity, (ii) making more capacity available for trade from existing infrastructure, and (iii) making more efficient use of available import capacity.

17. With regard to the physical investment in cross-border connections, the document refers to the so-called NorNed cable, which will make available approximately 700 MW of additional capacity. In addition, a BritNed cable is planned. TenneT has concluded that the economic potential of an additional interconnector with Germany is too small to proceed with this, partly in the light of various uncertainties. Furthermore, the structure of incentives is not clear, in particular for foreign TSOs (grid managers), which often have considerable commercial interests in production and trade.

18. Factors such as the coordination between TSOs in calculating and allocating capacity, netting import and export programmes and assuming *de facto* temperature/ capacity rather than a standard environmental temperature, may ensure that more import capacity becomes available in effect from the existing infrastructure. The European Commission and the national Member States can play an important role in this. This may ensure that additional capacity, with a maximum in the order of magnitude of several hundred MW, becomes available.

19. Implicit auctions (market coupling) between Belgium and the Netherlands (which currently exist), between Germany and the Netherlands (which do not exist at present) and between Norway and the Netherlands (planned), and the introduction of cross-border intraday trade and the integration of the balancing market may also create effectively available import capacity. Furthermore, for the sake of caution efficient markets linked through implicit auctions have been assumed in the analysis. Where analyses assume the actual situation applicable, in which the existing capacity is not utilised optimally, the capacity must be increased by a maximum of 1000 MW before it is possible to refer to a North-West European Market.

20. The above-mentioned preliminary insights may have significance for merger control in the energy sector in the coming years, in particular for companies which have to consider possible strategies in an international market environment which is undergoing major changes. To give the most concrete possible insight into the significance of the material discussed here for the practice of assessing mergers, NMa has worked out three conceivable merger scenarios on the basis of publicly available data. These are (i) the

horizontal effects of an entirely national case involving two Dutch undertakings which compete with each other through an integrated production chain. In addition, consideration is given to (ii) the horizontal effects of a German/ Dutch combination, taking as an example a completely integrated German undertaking without major Dutch interests and a fully integrated Dutch undertaking. Once again, publicly available data on existing undertakings is used for this scenario. Finally, consideration is given to (iii) a possible combination of an undertaking in the Netherlands, which has almost exclusively production and wholesale interests, and a Dutch undertaking with a complete transmission, distribution and trading arm, but with smaller production interests in the Netherlands.

21. NMa emphasises that the analysis of the hypothetical merger was done subject to the explicit condition that the publicly available data used are not necessarily complete or accurate enough for the actual assessment of a merger. These data are only suitable for the purpose for which they are used here, namely as case examples. This means that on the basis of the analyses made, no conclusions may be drawn from this example of an analysis in respect of any actual party or situation. The findings relate only to the examples given which, it must be stressed, are less than a complete reflection of reality. The document therefore in no way anticipates an actual merger notification and assessment.

22. As is generally known, however, the electricity markets, in particular, have a number of unique characteristics and circumstances, such as very low supply and demand elasticities, the necessity of keeping supply and demand in balance at every moment of the day (due to the lack of opportunities for storage) and strong and unpredictable demand which fluctuates between the day and night. In this context, however, market concentration analyses provide only limited insight into whether a dominant position may arise or be strengthened. In assessing the effects of mergers, in NMa's opinion, as far as possible it is also necessary to conduct a quantitative investigation to ascertain whether the proposed merger may result in higher prices.

23. For this reason, in addition to the market share analyses, Brattle also carried out a so-called Pivotal Supplier Index (PSI) analysis, an analysis of the amount of time that the production capacity of the undertakings involved in a proposed merger must be available to meet market demand. Furthermore, using a micro-economic model, a so-called Cournot model, Brattle calculated the possible effects of profit-maximisation strategies (normal behaviour for business undertakings) for the various merger scenarios. The document also proposes possible remedies which may neutralise or remove any competition concerns. In a transitional market, such as the energy markets, these remedies may also be of a temporary nature.

24. The outcomes of the analyses are as follows per scenario: in relation to the analysis of a horizontal merger of two Dutch companies, (the increase in) the market shares and the degree of concentration, the PSI analysis and the model calculations show that a possible merger of this nature will probably give rise to competition concerns, in particular on the national production and wholesale market for electricity during peak hours. This will even be the case if Belgium is included in this market. An entirely Dutch merger with appreciable horizontal aspects is not expected to give rise to competition concerns on a Dutch-German production and wholesale market for electricity during peak hours.

25. The competition concerns identified could be removed by divesting or (temporarily) making capacity available. However, respondents are expressly requested to propose remedies in their responses which could remove the competition concerns identified. In doing so, respondents are requested to pay attention to the *dynamics* of market development, in particular against the background of a possible North-West European market. On the Dutch retail market (the market for the supply of electricity to small consumers), such a

merger could possibly also give rise to competition concerns for which structural remedies, such as divestment of parts of the customer base, seem to provide the only solution. Respondents are also urged to propose remedies for this market.

26. With regard to the German-Dutch merger analysed, it does not seem immediately plausible that a merger of a large foreign player, which is not active in the Netherlands, and a large integrated Dutch provider will give rise to competition concerns at the level of production and wholesale trade. However, a merger such as this with an undertaking with interests in cross-border connections and/or transmission grids, which in practice affect the transmission capacity of the cross-border connections, may have a negative effect on the daily practice of deploying capacity and on the incentive to invest in expanding the capacity of the connections in question. In practice, this may well give rise to competition concerns with regard a merger of the type mentioned above.

27. A merger of two vertically related parties may give rise to various competition effects, both positive and negative. On the basis of publicly available information, it is not possible to make more concrete projections of possible overall effects in relation to this scenario.

28. With regard to the balancing market, the consultation document proposes that all mergers involving two or more of the present five providers on the balancing market could give rise to foreseeable competition concerns, given that the degree of concentration on this market is already high.

29. Finally, it is important to note that a number of the above-mentioned characteristics of the electricity sector also make the sector sensitive to tacit collusion and coordination between market players. After all, there are (amongst others) a relatively high degree of concentration, homogenous production, inelastic demand and an intensive pattern of contact with strongly dependent (vertical) relationships. The possible effects of the merger scenarios analysed above on the creation or strengthening of tacit collusion has not been taken into account in the analysis; this will possibly be the case, however, in assessing concrete future merger notifications.

1 Introduction

30. The European energy markets are changing. Mergers and acquisitions, often with a cross-border dimension, are the topic of the day. This is the second time that the Netherlands Competition Authority (hereinafter "NMa") has initiated a consultation process on the energy markets on the topic of mergers. This was done previously in December 2002.

31. NMa's aim in this consultation document is to consult all parties involved and parties with an interest in the development of the energy markets in the Netherlands and beyond on the study made by the Netherlands Competition Authority (hereinafter "NMa") into (i) the definition of the (possible) relevant markets in the electricity sector and (ii) the way in which NMa regards any mergers and acquisitions on these markets. In addition, this consultation document contributes to answering the letter of May 2005 from the Minister of Economic Affairs, in which he asked NMa to analyse the preconditions for this in terms of competition law.

32. The discussion in the Netherlands of possible far-reaching mergers in the energy sector has been ongoing for a number of years. The Cabinet recently took a decision to make it a legal requirement that the energy companies are legally split into a network division and an operating division active in the area of the production, trade and supply of electricity or gas. It is possible that this will accelerate mergers between Dutch companies all between these companies and foreign companies. In some cases, mergers on the electricity markets may result in appreciable restrictions on competition in the Netherlands and, as a result, in losses for consumers and buyers, for instance in the form of higher prices for electricity and gas. NMa has a duty to fulfil in this area.

33. In assessing whether a merger could result in the creation or strengthening of a dominant position, it is important to establish the geographical scope within which suppliers compete with each other or may enter into competition with each other (hereinafter "the geographical market"). The Minister's request has prompted an investigation into the size of the geographical markets, in particular. The Ministry of Economic Affairs is interested in whether and when a North-West European market may be deemed to exist. In addition, it is important to the respective energy companies and other parties involved to obtain an up-to-date insight into the principles that will be applied in assessing future mergers in the energy sector.

34. The Brattle Group⁴ in cooperation with Prof. David Newbery (hereinafter "Brattle") was commissioned by NMa to conduct research (i) to analyse the (possible) relevant geographical market(s) in terms of competition law per possible product market and (ii) to identify the possible effects on competition of mergers on the relevant markets and to analyse the possible remedies accompanying these. In this study, propositions are developed with regard to the various geographical market definitions, as well as the implications which these have for the assessment of the types of merger investigated.

Scope

35. The consultation document and the underlying research report limit themselves to the electricity market(s) in order to limit the scope and complexity of the consultation. In addition, the questions discussed in this report relate to prominent issues within the electricity sector at present.

⁴ The Brattle Group is a research firm which specialises in competition and regulatory issues relating to energy markets.

36. In identifying the possible effects on competition of mergers in the electricity sector, both the effects on electricity production and wholesale market(s), and the effects on the retail market are relevant. With regard to the transmission and distribution of electricity, the effects of mergers on competition were not studied separately. By definition grid companies operate on separate geographical markets. Mergers in the electricity grid sector therefore have a limited effect on competition. However, this need not apply to grid regulation. After all, as fewer companies remain, so the opportunities for effective benchmarking and yardstick competition decrease. However, for the time being future mergers between energy companies are not expected to include mergers of network interests since the Act requires the division of energy companies.⁵

37. The perspective taken in this study focuses primarily on the following questions: what are the aspects of competition law which play a role in the national and international developments on energy markets, in particular in relation to merger control exercised by NMa within the framework of the Competition Act and how are the national and international markets developing, from the perspective of competition law? Of course, there are other perspectives on this subject which are of at least equal public interest. The security of supply, safety, environmental protection, European integration and the importance of an efficient European energy sector to the international competitive position of (European) companies are high on the international and national policy agenda. For the Minister of Economic Affairs and, to some degree, also for the Director of the Office of Energy Regulation,⁶ considerations in relation to competition law are no more than—albeit important—preconditions for the role which they play in the development of the energy markets. The Minister is responsible for energy and regulatory policy, while the Director of DTe is the regulator with an independent statutory duty with regard to the development of energy markets which operate efficiently, both nationally and, in cooperation with its foreign colleagues, increasingly internationally.

38. It is not a secret that a certain tension may exist between these various public responsibilities, even within the Netherlands Competition Authority, in which DTe has its own place. For the purposes of this document, a clear perspective was chosen, namely the competition law perspective in relation to possible future mergers in the electricity sector against the background of developing markets. Although other perspectives on the matters discussed may be very legitimate, if they cannot be accommodated within the framework of competition legislation *a priori* they do not fall within the scope of this consultation document.

1.1 Structure of the document

39. Chapter 2 provides a description of possible relevant product markets for electricity. This leads to the decision to make a number of possible distinctions in this study between separate relevant product markets. Consultation questions have been formulated in relation to these choices.

40. Chapter 3 relates to the definition of the relevant geographical markets for the production and wholesale trade, retail trade and the balancing market for electricity. Firstly, the usual statistical methods for defining markets used in European competition practice will be used to define the relevant geographical

⁵ See, for instance, the letter from the Minister of Economic Affairs to the Chairman of the Lower House of the Dutch Parliament of 11 October 2004 (with reference E/EM/4063988).

⁶ Dienst Toezicht Energie (DTe)

production and wholesale market for electricity. In addition, a quantitative method is used to conduct a SSNIP test.⁷

41. The factors which are important in the further development of the North-West European market will be discussed in chapter 4.⁸ A number of developments may affect the integration of the Dutch electricity market and those of neighbouring countries (the so-called North-West European market). These are the more efficient utilisation of existing capacity on cross-border connections, the (possible) introduction of market coupling and investments in additional capacity on the cross-border connections.

42. An explanation of possible competition concerns resulting from hypothetical mergers in the electricity sector and a description of various analysis and assessment methods applied in assessing mergers is given in chapter 5. In addition, attention is paid to the various categories of remedies which may remove possible competition concerns.

43. Following this, three hypothetical, but conceivable, merger scenarios on the electricity market are analysed in chapter 6, the possible competition concerns in relation to these cases are described and the document gives a brief outline of possible remedies which may be proposed by parties if NMa is of the opinion that a proposed merger gives rise to competition concerns. Firstly the horizontal effects of a merger of two large Dutch players are analysed. Then a merger of a large foreign and a large Dutch player is considered. This example also has a mainly horizontal effect. Finally, the largely vertical effects of a merger of a large Dutch producer without distribution and/or retail interests in the Netherlands and an integrated Dutch company with relatively modest interests in the production of and wholesale trade in electricity are considered.

1.2 Consultation procedure

44. A number of questions are posed in this consultation document. An overview of all the consultation questions is provided in the addendum to this document. NMa requests market parties and other interested parties to submit written responses to these questions within six weeks. Respondents are asked to substantiate and explain their answers to the questions as far as possible.

45. NMa realises that the response period is not long, given the complexity of the material and the interests at stake. However, NMa trusts that respondents will understand this in the light of NMa's endeavour to complete the consultation process before the summer holiday period. Respondents to this consultation document should therefore ensure that NMa receives their responses before 4 August 2006. Responses may be sent by e-mail to: concentratiesenergiemarkten@nmanet.nl.

46. Responses may also be sent to:

Netherlands Competition Authority
P.O. Box 16326
2500 BH The Hague

In both cases, reference number 5209 should be stated.

⁷ SSNIP stands for 'Small but Significant Non-Transitory Increase in Price'.

⁸ The factors discussed in this chapter constitute part of DTe's monitoring duties.

2 Electricity product market

2.1 Introduction

47. The purpose of defining a product market (and also a geographical market) is to determine which actual competitors of the undertakings involved are in a position to discipline the behaviour of the undertakings involved. The relevant product market is defined as follows: '*A relevant product market comprises all those products and/or services which are regarded as interchangeable or substitutable by the consumer, by reason of the products' characteristics, their prices and their intended use.*'⁹

48. The criteria for determining the relevant market are generally applied in the event of structural changes to the supply of products and/or services (merger control) and investigations into certain market practices (anti-competitive agreements or abuse of a dominant position). This consultation document focuses on the definition of energy markets within the framework of merger control and not within the context of investigations into anti-competitive practices. It is possible that a different definition is used to assess anti-competitive agreements or the abuse of dominant positions to that used to assess mergers. This relates particularly to the concept of a 'cellophane fallacy'.¹⁰ In assessing a merger, the definition of the market focuses on examining whether a hypothetical monopolist could increase its prices relative to the present ('premerger') prices. To avoid the cellophane fallacy, when assessing an abuse of a dominant position (or anti-competitive agreements), it is possible to decide not to use present prices in the assessment.¹¹ The assessment of mergers has a more prospective and dynamic character, while the assessment of infringements relates mainly to the past.

49. In this chapter, a description of the possible relevant product market for electricity is provided on the basis of the description given in earlier decisions and documents issued by NMA, the European Commission and other national competition authorities. On the basis of this description, a number of relevant product markets are distinguished in this consultation document, which serve as input for the analysis of the geographical markets.

50. The definition of a product market and also a geographical market is a snapshot. Markets are continuously subject to the dynamism of economic, technological and political developments. Relevant product markets may therefore change over time.

51. Section 2.2 first discusses the characteristics of electricity as a product. After this, the various product markets are discussed in section 2.3. The possible relevant product markets which may be distinguished within the production and wholesale market are discussed in section 2.3.1. Section 2.3.2 deals with the relevant product markets within the electricity retail market, after which section 2.3.3 discusses the balancing market in more detail. Finally, a summary of this chapter is given in section 2.4.

⁹ See Commission Notice on the definition of relevant market for the purposes of Community competition law, 9 December 1997 (OJEC 1997, No. C 372/03), p. 5, recital 7.

¹⁰ The concept of a 'cellophane fallacy' refers to the situation where high prices already apply due to the exercise of market power, as a result of which the results of the SNIPP test, used to define the market, are misleading.

¹¹ See also the Brattle Report, section 2.3.

2.2 Nature of electricity

2.2.1 Characteristics

52. Electricity as a product has a number of specific characteristics which are relevant to the definition of the market.

- Firstly, there is a lack of substitutes and as a result there is little demand price elasticity. Furthermore, there is a lack of economically viable possibilities to store electricity. As a result, sufficient electricity must be produced at all times to meet demand;
- In addition, demand fluctuates at various moments of the day and during the various seasons. The demand for electricity is not equally high every hour of the day. The demand profile of the Netherlands shows a sharp increase in the morning hours and a slightly less sharp decrease in the evening. The level of demand also differs depending on the season. Demand for electricity may be subdivided into base-load power (electricity required seven days a week 24 hours a day) and flexible power (electricity required to absorb demand during peak hours); and
- Finally, electricity can be produced using various technologies and various raw materials (such as gas, coal, nuclear energy and hydraulic power). As a result, electricity power stations have different technical and financial specifications. The degree of (in)flexibility of production units determines how flexibly they can respond to changes in demand.

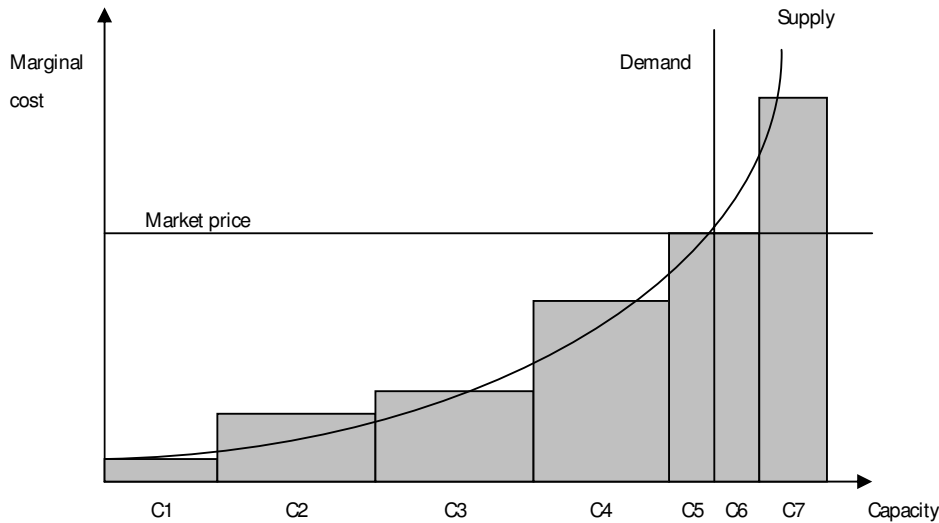
2.2.2 Price mechanism

53. The above-mentioned characteristics determine the price mechanism on the electricity market to a considerable degree. The differences in the cost structures of power stations (for example, due to the use of different fuels) result in the deployment of power stations according to the so-called 'merit order'. The merit order is the order of capacity based on the short-term marginal cost of a power station. The market price in the event of perfect competition is determined by the short-term marginal cost of the power station which produces the last unit of electricity required to meet demand. For instance, a large consumer of interruptible power may also be the marginal unit, that is a large consumer which can adjust its electricity consumption in the short-term to match conditions on its procurement market. Figure 2.1 provides a schematic representation of this merit order.

54. Power stations with relatively low marginal costs and/or which are not in a position to produce more or less electricity quickly and on demand operate almost continuously and produce baseload power (also referred to as base load capacity). On the other hand, power stations which can increase and decrease production on demand and/or which have higher marginal costs operate mainly during peak hours. In general, the shorter the period in which demand arises and in which electricity must be delivered, the fewer power stations there are that are in a position to meet this demand. During peak periods, when most installations are fully utilised and cannot increase their production further to meet peak demand, the number of effective competitors decreases.¹²

¹² In practice, the distinction between baseload power and flexible power is not a given. Under certain circumstances, flexible capacity can also be deployed to generate baseload power and *vice versa*. In addition, the opportunities which individual producers have to deliver electricity may also vary depending on, for instance, maintenance work and the weather.

Figure 2.1 The merit order: prices are determined by the marginal production unit



Source: Preliminary report of the European Commission of 16 February 2006. *Sector Inquiry of the Gas and Electricity Markets*, paragraph 343.

2.2.3 Procurement pattern and marketplaces

55. There are various marketplaces on which electricity is traded. In general, electricity is sold in numerous phases.¹³ In the first phase, the largest part of expected demand is procured from several years to a month prior to supply by purchasing baseload power and flexible power through bilateral contracts, over-the-counter (OTC) contracts, the futures market Endex and imports. Examples of products on this futures market are weekly, monthly, quarterly and yearly products and products for a number of years.¹⁴ In the second phase (one week to a day before delivery), demand can be estimated more precisely and the rough procurement profile can be matched to the actual profile to be used through short-term contracts, the Amsterdam Power Exchange (hereinafter “APX”) and import and export. Examples of products on the spot market are individual hours or blocks of hours. On the day of delivery itself, it is possible to smooth out the profile by means of intraday trade or the balancing market.

¹³ See NMa’s decision of 8 December 2003 in case 3386/ Nuon – Reliant Energy Group, recital 15.

¹⁴ See the report by the European Commission, *Sector Inquiry on the Gas and Electricity Markets*, *op. cit.*, paragraph 338.

2.2.4 Market parties

56. The production of electricity occurs through the large-scale generation of electricity by several market parties (in particular, Essent, Electrabel and Nuon) and electricity generation by various parties by means of total energy plants and sustainable energy in the form of wind, hydraulic, solar and biomass energy. In addition, import contributes to the supply of electricity in the Netherlands.

57. The total installed production capacity of producers amounted to more than 21 GW in 2004 and annual production amounted to almost 100 TWh in 2004.¹⁵ Almost three quarters of production plant in the Netherlands belongs to four electricity producers (Essent, Electrabel, Nuon and E.on).

58. The Dutch electricity grid is linked by cross-border connections to the Belgian and German grids. The effectively available import capacity on the connections with Belgium and Germany amounts to approximately 3,600 MW. This is divided between the annual auction, the monthly auctions and the daily auctions.¹⁶

59. Retail companies supply electricity to end users. With regard to electricity, a total of approximately 25 retail companies are active in the Netherlands. In addition to the 'incumbent' retail companies (such as Nuon, Essent and Eneco), relatively new players are also active (such as Greenchoice and Centrica/Oxxio). The incumbent retail companies are generally vertically integrated and have their own production capacity (for example, Nuon and Essent). In general, the new players do not have their own production capacity. Since July 2004, approximately 11% of small business and domestic buyers have opted for a different retail company.

60. Both suppliers and a few large industrial consumers of electricity and other buyers are active on the production and wholesale market for electricity.

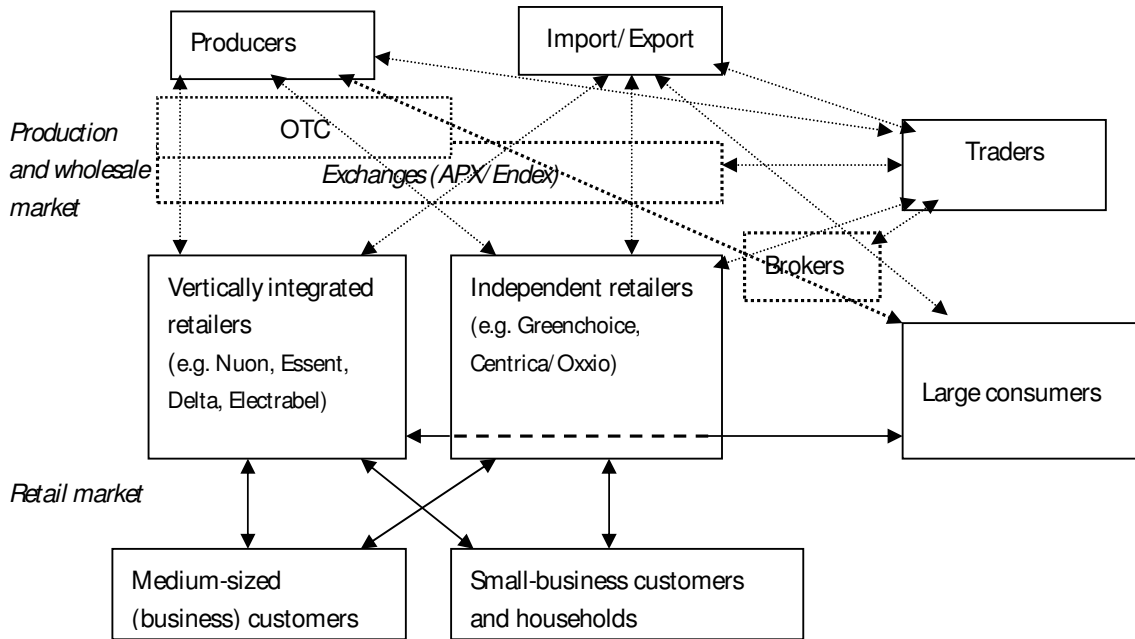
61. Traders buy and sell electricity with the aim of utilising price differences and, by doing so, making a profit. A number of producers and retail companies have their own trading floors, while others outsource this to external parties. Brokers act on behalf of market parties as intermediaries between supply and demand. In contrast to traders, they do not have a position on the market.

62. Figure 2.2 is a schematic representation of the electricity market.

¹⁵ Source: *Energie in Nederland 2005, Feiten & Cijfers*, EnergieNed, Arnhem, May 2005.

¹⁶ See www.tso-auction.org

Figure 2.2 Schematic representation of the electricity market



63. The national grid manager, TenneT, is responsible, inter alia, for averting underutilisation or overloading of the transmission grid and maintaining the balance within the electricity supply system. Programme managers match supply and demand for electricity through the national grid manager for the following day. This arises from a statutory obligation applicable to those connected to the electricity grid. In most cases, this role is fulfilled by traders and/or suppliers. The electricity market is represented schematically below.

23 Product market for electricity

64. The electricity sector has five main activities:¹⁷ (i) the production of electricity, (ii) the purchase and sale of electricity on the wholesale market, whereby the supply and offtake of balancing services may be regarded as a separate activity, (iii) the transmission of electricity on the high-voltage grid, (iv) the transmission of electricity across the low and medium-voltage grid (distribution) and (v) the supply of electricity to end users.

65. A distinction is made in earlier decisions by NMa¹⁸ and the European Commission¹⁹ between (i) the production and wholesale market for electricity, (ii) the markets for the transmission of electricity, and (iii) the market for the supply of electricity to end users.²⁰

¹⁷ See the report by the European Commission, *Sector Inquiry on the Gas and Electricity Markets*, op. cit., paragraph 295.

¹⁸ See the decision by NMa of 25 February 2003 in case 3282/ *Eneco – Flemu* and case 3386/ *Nuon – Reliant Energy Group*, op. cit..

66. In this consultation document, the separate relevant product markets within the production and wholesale market for electricity and the electricity retail market will be discussed in more detail. These markets and the distinctions made within them will be worked out in the sections which follow.

2.3.1 Production of and wholesale trade in electricity

67. With the liberalisation of the market for the production of electricity various marketplaces came into existence, such as the APX, Endex, the market for bilateral contracts market, the over-the-counter (OTC) market, and the balancing market. In addition to producers and importers, traders and retail companies are also active on these marketplaces as suppliers. The buyers on these marketplaces are traders, retail companies and (industrial) end users. For this reason, reference is made to a single production and wholesale market for electricity.²¹

68. With regard to the production of electricity in the Netherlands, NMa makes a distinction between production through decentralised electricity generation, in particular through so-called total energy power installations, and large-scale or centralised production.²²

69. Due to the product characteristics of electricity described in section 2.2, various factors can be identified which provide a basis for distinguishing between possible separate product markets. The most important possible product markets which can be distinguished are discussed below.

2.3.1.1 Distinction on the basis of time

70. As was described earlier, fluctuations in demand and differences in the degree of (in)flexibility of production units are the important characteristics of electricity as a product. The profile of demand in the Netherlands shows an increase in the morning hours and a decrease in the evening hours. As a result, market relationships may fluctuate considerably over time. The shorter the period in which electricity has to be supplied, the fewer the power stations which are able to meet this demand. There are also limitations on the capacity of production units. Power stations which produce at maximum capacity can no longer respond to price increases by producing more and are, in fact, price inelastic at such moments. In peak hours, in particular, there is a decrease in the number of suppliers which can meet an increase in demand. Given the high degree of inelasticity in the demand for electricity and the impossibility of storage (substitution over time), the market power of parties which have access in these periods to the power stations mentioned last increases. Consequently the time factor is an important dimension in determining the relevant market.

¹⁹ See the decision of the European Commission of 9 December 2004 in case COMP/M.3440 *ENI – EDP – GDP*, recital 31 and the decision of the European Commission of 30 October 2003 in case COMP/M.3268-*Sydkraft – Grøninge*, recital 14.

²⁰ In addition, various gas markets can be distinguished, as well as a separate market for the production, distribution and supply of heating. The last market involves the operation of systems for producing and delivering heat to consumers, such as urban heating, total energy installations and water pumps (see the decision by NMa of 6 November 2000 in case 2129/ *Essent N.V. – N.V. Nutsbedrijven Maastricht* (hereinafter "Essent – Nutsbedrijven Maastricht"), recital 16). However, these markets will not be discussed further in this consultation document, which focuses on the electricity markets.

²¹ See case COMP/M.3268 *Sydkraft – Grøninge*, *op. cit.*, recital 19 and the decision of the European Commission of 25 July 2002 in case COMP/M.2890 *EDF – Seaboard*.

²² See case 2129/ *Essent – N.V. Nutsbedrijven Maastricht*, *op. cit.*, recital 13 and the decision by NMa of 20 October 1999 in case 1331/ *PNEM/MEGA – EDON*, recitals 22 and 27.

71. In an earlier decision, NMa²³ discussed this time aspect. It was argued that each time unit is in fact a separate relevant product market. Such a relevant time unit could be a number of hours, a single hour, a half an hour or even a quarter of an hour. The European Commission²⁴ and other competition authorities²⁵ also make a distinction on the basis of time on these electricity markets.

72. Brattle's report also makes a distinction on the basis of time in the form of peak-hour and off-peak-hour markets.²⁶ Brattle observes consistent price differences between peak-hour and off-peak-hour prices. In addition, Brattle explores the possibility of a separate product market for 'super-peak' hours.

73. On the basis of the above, NMa concludes that the distinction on the basis of time plays an important role in defining a relevant production and wholesale market for electricity. For the current purpose, this consultation document will in any event distinguish between markets during peak hours and during off-peak hours, whereby 'peak hours' assumes the definition used in the Netherlands, namely from 07:00 to 23:00 on workdays.²⁷

2.1 NMa invites parties involved to provide a substantiated response to the proposition that in relation to the definition of the production and wholesale market for electricity (i) a distinction must be made between markets for peak hours and off-peak hours and (ii) a possible distinction must be made between numerous separate markets for super-peak hours.

2.3.1.2 Distinction on the basis of marketplaces

74. Whether a distinction should be made between electricity traded on various marketplaces, such as the market for bilateral agreements, the OTC market, Endex, APX and the balancing market has been discussed in earlier decisions and memoranda issued by NMa.

75. On the bilateral market, non-standardised contracts are agreed between producers, (large) buyers and suppliers for lengthy periods. The OTC market is the market on which standard quantities are traded. On this market, contracts are often sold on a number of times through various brokers who clear transactions.²⁸

76. In addition to entering into standard OTC contracts, parties may also trade on the exchange: on the APX for so-called spot products and on Endex²⁹ for futures. The primary aim of APX is to facilitate a spot market or, in other words, the day-ahead market. The supply and demand for electricity are brought together on an hourly basis. The parties to which import capacity is allocated on the daily auction are obliged to trade

²³ See case 3386/ Nuon – Reliant Energy Group, *op. cit.*, recital 18.

²⁴ See the decision of the European Commission of 19 March 2002 in case COMP/M.2684- *EnBW/EDP/CAJASTUR/HIDROCANTABRICO*, recital 31.

²⁵ See a joint publication by OFT and Ofgem of January 2005, *Application in the Energy sector, understanding competition law*, section 3.13.

²⁶ See Brattle rapport, section 3.1.

²⁷ See www.endex.nl.

²⁸ See the report by DTe of July 2005, *Monitor methode groothandelsmarkt*, p. 26.

²⁹ In 2001, APX hived off its spot activities on the electricity market and sold them to TenneT. The remaining activities (gas and electricity forward products) fall under the new name of Endex. APX has a contract with Endex in which it has been agreed that APX will carry out all the clearing services for Endex.

the electricity transmitted on the Dutch side through APX.³⁰ Endex's offering at present consists of future and forward contracts for electricity, namely three-month ahead (baseload and peak load), four-quarters ahead (baseload and peak load) and two-years ahead (baseload and peak load).

77. Finally there is the balancing market. This market is discussed further in section 2.3.3.

78. There is a strong relationship between the various marketplaces.³¹ In the long term, hardly any appreciable and systematic price differences occur. Both buyers and suppliers are continuously confronted with the question as to whether electricity should be purchased or sold long or short before it is required.³² As a result, there is a close relationship between trade on the exchanges and trade in the form of bilateral contracts. It is important in this regard that the relevant moment is not the moment at which trade occurs, but the moment at which the decision is taken as to how the need for electricity should be covered in the long term. As a result, arbitrage occurs between bilateral agreements, the OTC market and the exchanges.

79. The European Commission³³ refers to the trade on the OTC market and on the exchanges as a single relevant market. In its report, Brattle also argues that electricity purchased through the OTC market and electricity purchased on the exchange (APX and Endex) are substitutes for each other and therefore belong to the same relevant market.

80. On the basis of the above-mentioned grounds, this consultation document does not distinguish between electricity traded on various marketplaces. However, a separate relevant balancing market is distinguished (in this regard, see section 2.3.3).

2.2 NMa invites parties involved to give a substantiated response to the proposition that in defining the production and wholesale markets for electricity, no distinction should be made between electricity traded on different marketplaces.

2.3.1.3 Distinction on the basis contractual term

81. In addition to the above, a distinction can also be made on the basis of contractual terms. This distinction depends largely on the distinction between various marketplaces due to the fact that future contracts are traded on the OTC market and Endex, in particular, and day-ahead spot market products are traded on the APX day-ahead spot market (see also paragraph 76).

82. Brattle argues that day-ahead contracts and long-term contracts (for instance, for one to two years) belong to the same market. Buyers who are confronted by high prices for one-year contracts can switch to short-term contracts at lower prices and even to day-ahead products.

83. With regard to contracts for very long terms (of, for instance, 10 to 15 years), these may affect the capacity available on the relevant market. Such contracts may withdraw capacity from the market. The former

³⁰ See article 5.6.12 van de Grid Code.

³¹ See DTe's report, *Monitor methode groothandelsmarkt, op. cit.*, p. 27.

³² See also paragraph 55.

³³ See case COMP/M.3268 – *Sydkraft/Grainige*, recital 19 and the notification of the European Commission of 18 October 2005 in case COMP/M.3867 – *Vattenfall/Elsam & Energi E2*.

SEP contracts,³⁴ for instance, limited the import capacity available to the rest of the market. However, these contracts have not been enforced in practice since September 2005.³⁵

84. In addition, price increases on the spot market may be less profitable due to the existence of contracts for very long terms. If the parties use contracts of, for instance, 10 to 15 years, in theory a price increase on the spot market should only affect prices on the futures market after a lengthy period. However, in practice the prices of such long-term contracts are usually (partially) indexed on the basis of spot-market prices. As a result, according to Brattle, it is improbable that the existence of such contracts for very long terms would influence the definition of the market.³⁶

85. On the basis of the above considerations, this consultation does not make a distinction between contracts for various terms.

2.3 NMa invites parties involved to give a substantiated response to the proposition that a distinction should not be made between contracts for different contractual terms in defining the production and wholesale market for electricity.

2.3.1.4 Distinction on the basis of physical and financial products

86. Furthermore a separate market for trade in financial products may be distinguished. Financial products, also referred to as derivatives, serve as a means of hedging price fluctuations on the physical electricity market.

87. In earlier cases dealt with by the European Commission, it was concluded that numerous market parties regarded the trade in physical electricity and the trade in electricity derivatives as separate markets.³⁷ The European Commission concludes that there are functional differences between the trade in physical electricity and the trade in financial electricity. The most important difference is that in the case of the trade in financial electricity there is no obligation to supply actual physical electricity. Even if the prices of the physical and the financial product affect each other, financial trade can never be a substitute for physical electricity.

88. In its report, Brattle also states that the markets for financial products and physical electricity may be regarded as separate relevant markets.³⁸

³⁴ These contracts give privileged access to the grid for cross-border electricity transmission to undertakings which were previously responsible for administering services in the general economic interest on the basis of long-term contracts entered into before the liberalisation of the market.

³⁵ The capacity reserved for former SEP contracts amounts to 750 MW. A case was brought before the Trade and Industry Appeals Tribunal with regard to the priority given to SEP (NEA) on the interconnectors. The response to the answer from the European Court of Justice to prejudicial questions posed by the Trade and Industry Appeals Tribunal (in the ruling of 6 June 2005), TenneT has not reserved this capacity since 1 September 2005. On Wednesday, 24 May 2004, the Trade and Industry Appeals Tribunal passed a ruling which brought a final end to the priority access to the interconnectors.

³⁶ See Brattle rapport, p. 73.

³⁷ See case COMP/M.3268 – *Sydkraft/Grøninge*, *op. cit.*, and case COMP/M.3867 – *Vattenfall - Elsam en Energi E2*, *op. cit.*

³⁸ See the Brattle Report, p. 16.

89. On the basis of the above, this consultation document distinguishes between separate markets for physical electricity and financial products. This consultation document only relates to the market for physical electricity (see also paragraph 36) and does pay any further attention to the market for financial products. The characteristics of the latter market differ considerably from those of the market for physical electricity (as described in paragraph 52). Different players are active on the financial markets and from a geographical perspective this is an international or even a global market.

2.3.1.5 Distinction on the basis of buyers

90. Finally a further distinction can perhaps be made is the distinction according to the various types of buyers on the production and wholesale market for electricity. These are firstly large (industrial) consumers, which procure electricity directly on the wholesale market, and secondly, retail companies, which procure electricity on the production and wholesale market for electricity for onward sale to large, medium-sized and small consumers.³⁹

91. The various types of buyer are free to choose the producer or wholesaler from which they purchase electricity. There is no reason to assume that large consumers and other consumers such as retail companies are charged different prices for standard products. Due to the fact that the profiles of large consumers and retail companies differ, there will be differences in the prices of non-standardised products.

92. On the basis of the above, distinction is not made in this consultation document between production and wholesale markets for electricity according to the type of buyer.

2.4 NMa invites parties involved to give a substantiated response to the proposition that with regard to the definition of the production and wholesale market for electricity, no distinction must be made according to the type of buyer.

2.3.2 Retail market

93. The supply of electricity is understood to mean the supply of electricity to end users, also referred to as the retail trade. Retail companies supply electricity which they have procured on the production and wholesale market for electricity. Many undertakings on the electricity market are vertically integrated and active at the level of both production and wholesale trade, and retail trade. A merger of these players would therefore have effects both at the level of production and wholesale trade, and retail trade. In this section, the possible relevant product markets which may be distinguished are discussed in relation to the definition of the market at the retail level.

³⁹ In addition, traders are also active on these markets as buyers.

2.3.2.1 Distinction on the basis of buyers

94. During the various phases of liberalisation, the retail market was divided into a separate market for the supply of electricity to so-called free customers and a separate market for the supply of electricity to captive customers. Since the completion of liberalisation, all buyers in the Netherlands are free to choose their supplier and this distinction is no longer relevant. See also the textbox below "Liberalisation: European initiatives".

Box 2.1: Liberalisation: European initiatives

The liberalisation of the energy market began when the European Directive 96/92 EC⁴⁰ came into force, which set out the common rules with regard to the internal market for electricity. The purpose of this directive was gradually to bring about a single internal liberalised market for electricity and to introduce common rules for the production and transmission (transmission and distribution) of electricity. Since the translation of Directive 96/92 EC into the Electricity Act of 1998, the production of electricity in the Netherlands is an activity which has been opened to competition. The coming into force of the Electricity Act of 1998 also resulted in the creation of the regulator, DTe.

Before the Electricity Act of 1998 came into force, Samenwerkende Elektriciteits Productiebedrijven (SEP) (a cooperative venture of electricity production companies) coordinated the deployment of power stations and the construction and operation of the 220 kV and the 380 kV grids (the high-voltage grid). The more recent European Directive 2003/54/EC⁴¹ makes it possible for all groups of buyers of energy to choose their own supplier. On the basis of this directive, the Member States of the European Union were required to make it possible for all buyers (excepting households) to choose their energy supplier before 1 July 2004. The Member States are required to realise this freedom of choice for households throughout the European Union before 1 July 2007.

The Netherlands implemented Directive 2003/54/EC in extensions to the Electricity Act of 1998. The energy market has been liberalised fully since 1 July 2004; since this date all buyers may choose their own supplier. Large buyers⁴² have been able to choose their own suppliers since 1998. Medium-sized buyers⁴³ have had the freedom to choose since 1 January 2002. Since 1 July 2004, small consumers⁴⁴ have been able to choose their own supplier. Small consumers had already been able to choose their own supplier of green electricity since 2001.

In addition to policy measures, efforts have also been made by European regulators to realise an increase in competition on the electricity market. For instance, the national regulators cooperate through CEER/ERGEG to ensure the harmonised application of directives and to advise the European Commission on new legislation and regulations or on the operation of existing legislation and regulations.⁴⁵ Furthermore, the European Commission began a sector study in the second half of 2005 into obstacles to achieving an internal market for electricity and gas. In November 2005, the European Commission published an issues paper, and in February 2006 a preliminary report on its findings. Finally, the European Commission published a green book in March 2006 with proposals for a common European energy policy.

⁴⁰ See Directive 96/92 of the European Parliament and the Council of 19 December 1996 (OJEC L 27/20).

⁴¹ See Directive 2003/54 EC of the European Parliament and the Council of 26 June 2003 (OJEC L 176/37).

⁴² This relates to buyers with a connection capacity exceeding 2 MW.

⁴³ These are buyers with a total maximum transmission capacity exceeding 3x80A and an available electrical capacity of 2 MW or less.

⁴⁴ Small consumers are buyers with a total maximum transmission capacity of 3.80A.

⁴⁵ See, for instance, the so-called Florence agenda and the Mini-forums (Source: www.ceer-eu.org).

95. In an earlier case,⁴⁶ the European Commission distinguished between various customer groups on the retail market according to their size: (i) industrial large users connected to the high-voltage and medium-voltage grids and (ii) small users and households connected to the low-voltage grid. These customer groups differ, according to the European Commission, with regard to their consumption, conditions and prices, and their price structure. The consumption pattern of large consumers is fairly constant, with a fall at weekends, while the demand of small consumers (in particular, households) fluctuates during the day. Furthermore the different customer groups have different commercial relationships with their suppliers.

96. This distinction between electricity supply to large consumers and supply to small consumers on the retail market may possibly also be made in the Netherlands. In terms of connection conditions, three groups of buyers can be distinguished: large consumers with a connection capacity exceeding 2 MW, large and medium-sized buyers with a connection capacity of less than 2 MW, but more than 3x80A, and small users with a connection capacity of 3x80A. Some of the large consumers purchase directly on the production and wholesale market for electricity, while other large consumers procure electricity on the retail market. The supply of electricity to these three groups of buyers may be considered to be three separate relevant markets. With regard to the retail market, this consultation document only focuses on the supply of electricity to small consumers. These are small undertakings and households.

97. With regard to the definition of the retail market, in this consultation document a separate market is defined in any event for the supply of electricity to small consumers. Within the retail market there are possibly also separate markets for medium-sized and large users, but these are not taken into account in this consultation document. Where reference is made in this consultation document to the retail market, this denotes the market for the supply of electricity to small consumers.

2.5 NMa invites parties involved to give a substantiated response to the proposition in relation to the definition of the retail market for electricity that a separate market can be distinguished for the supply of electricity to small users (including households).

2.3.3 Balancing market

98. As was stated earlier, supply and demand on the grid must be in balance. To maintain the balance of the system, a system of programme responsibility exists.⁴⁷ If programme managers cannot comply with the programmes declared in advance, this results in the last hour in electricity transactions with TenneT on the balancing market. The price for balancing power is determined by the so-called bid-price ladder.⁴⁸

99. In an earlier decision, the European Commission stated that it distinguished a separate market for balancing.⁴⁹ This distinction is based on the fact that there is only one national supplier of balancing services to which producers are obliged to supply electricity. This also applies to the Dutch market where TenneT is the only party to offer balancing services. Only a limited number of producers supply TenneT with control and

⁴⁶ See the decision of the European Commission of 20 December 2002 in case COMP/M.2947 - *Verbund - Energie Allianz*, *op. cit.*, recitals 34 up to and including 37 and case COMP/M.3440 *ENI - EDP - GDP*, *op. cit.*, recital 64.

⁴⁷ Programme managers must submit programmes to TenneT a day in advance stating how much electricity they will transmit, at what time and to which party.

⁴⁸ Source: www.tennet.nl

⁴⁹ See case COMP/M.3440 *ENI - EDP - GDP*, *op. cit.*, recital 51.

reserve power for the balancing market, because only they can offer sufficient flexibility to meet demand on this market.

100. In its report, Brattle gives various reasons why a separate market for balancing can be distinguished in the Netherlands.⁵⁰ For instance, it is not possible under the present regulatory system for foreign producers to supply balancing power. This is due, amongst other reasons, to the fact that the balancing market is defined in time units of 15 minutes, while imports are defined in time units of one hour.

101. On the basis of the above, this consultation document identifies a separate market for balancing power.

2.6 NMa invites parties involved to give a substantiated response to the proposition that the balancing market is a separate relevant market.

24 Summary of the product market

102. In this chapter, with regard to the definition of the product market, various markets and the distinctions that may be made within them have been discussed. The aim of this chapter was to arrive at a number of possible relevant product markets which can serve as input for the research into factors which determine the geographical scope of the market. On the basis of statements and documents issued by NMa, the European Commission and other competition authorities, in any event the following product markets are distinguished by NMa in this study.

Figure 2.3 Product markets used

Production and wholesale market for electricity			Transmission market <i>not applicable</i>	Retail market (small consumers)
Peak hours	Off-peak hours	Balancing		

⁵⁰ See the Brattle rapport, section 8.1.

3 Geographical market for electricity

3.1 Introduction

103. To assess whether a merger on the electricity market could result in the creation or strengthening of a dominant position, it is important to establish the geographical area within which suppliers compete with each other or could compete with each other. To analyse this area, the relevant geographical market must be defined.

104. The relevant geographical market can be defined as follows: “...*the area in which the undertakings concerned are involved in the supply and demand of products or services, in which the conditions of competition are sufficiently homogeneous and which can be distinguished from neighbouring areas because the conditions of competition are appreciably different in those area*”.⁵¹

105. With regard to the geographical definition of the relevant markets, the European Commission has based its findings in the past on statistical analyses of historical price differences between regions or countries. Differences in prices on the production and wholesale markets for electricity between the Netherlands and neighbouring countries may be a strong indication of a separate geographical market. As a point of departure, statistical analyses were carried out into prices on the market(s) for the production of and wholesale trade in electricity. Since merger control is largely prospective, a SSNIP test was carried out to supplement the statistical analyses in defining the relevant geographical market. The SSNIP test is a method commonly used in competition law to arrive at a definition of a market.⁵²

106. In this chapter, on the basis of the Brattle report, the relevant geographical markets are analysed per product market in relation to competition law. This chapter is an exploration of the relevant geographical market(s) for the production of and wholesale trade in electricity (section 3.2) and the electricity retail market (section 3.3). The electricity balancing market is dealt with separately in section 3.4.

⁵¹ See Commission Notice on the definition of relevant market for the purposes of Community competition law, 9 December 1997 (*OJEC* 1997, No. C 372/03), p. 5, paragraph 7.

⁵² See Commission Notice on the definition of relevant market for the purposes of Community competition law, 9 December 1997 (*OJEC* 1997, No. C 372/03), p. 5, paragraph 7.

3.2 Production and wholesale markets for electricity

3.2.1 Case law

3.2.1.1 NMa

107. In earlier decisions,⁵³ NMa has assumed a national production and wholesale market for electricity. The existing and potential competitive pressure which could be exerted by imports from neighbouring countries has been taken into account in assessing the consequences of mergers. Evidence of a national market included, for instance, price differences, differences in competitive conditions and the limited import capacity between the Netherlands and neighbouring countries. Furthermore there was only a small correlation between prices in Germany and the Netherlands. At the time, there was insufficient concrete evidence that the price differences, differences in competitive conditions and the limited import capacity between the Netherlands and neighbouring countries would be eliminated within a number of years. In assessing the consequences of a merger, in the case of Nuon-Reliant Energy Group (hereinafter “Nuon – Reliant”), the competitive pressure exerted by imports was taken into account. It was concluded in the Nuon - Reliant case that at moments of high demand, the import capacity for electricity from Germany was usually fully utilised, so that a price increase in the Netherlands could no longer result in an increase in imports from Germany. The connection with the Belgian market was less often fully utilised, but this market was dominated by Electrabel (with approximately 90% of Belgian production capacity). As a result, flexible supply from Belgium was controlled by one of the larger suppliers in the Netherlands. At moments when demand was high, the competitive pressure from other countries was therefore limited.

3.2.1.2 European competition authorities

108. In a recently published study⁵⁴ by the European Commission, it is argued that in most European countries the geographical production and wholesale markets for electricity are national⁵⁵ or smaller than national.⁵⁶ This is confirmed in a number of decisions. In these decisions, the European Commission based its findings primarily on price differences and the effectively available import capacity between countries. According to the European Commission, the price differences between countries in Europe are considerable and the cross-border trade is still too limited for the markets to be considered larger than national markets. The reason for this is that there is still insufficient effective and available import capacity to make possible perfect market integration and competitive pressure from imports.

109. In another decision⁵⁷ by the European Commission, on the grounds of differences between prices in Sweden and Finland and between Sweden and Denmark, the European Commission concluded that the

⁵³ See the decision of NMa of 14 July 2006 in case 5098/ *Eon - NRE*, *op. cit.*, case 3386/ *Nuon - Reliant Energy Group*, *op. cit.*, case 3282/ *Eneco - Flemu*, *op. cit.*, and case 2129/ *Essent N.V. - N.V. Nutsbedrijven Maastricht*, *op. cit.*

⁵⁴ Preliminary report of the European Commission, *Sector Inquiry on the Gas and Electricity Markets*, *op. cit.*

⁵⁵ See case COMP/M.3440 *EDP - ENI - GDP*, *op. cit.*, and the decision of the European Commission of 2 June 2005 in case COMP/M.3696 *EON - MOL*.

⁵⁶ See the decision of the European Commission of 7 July 2005 in case COMP/M.3729 *EdF - AEM - Edison*.

⁵⁷ See case COMP/M.3268 *Sydskraft - Grøninge*.

relevant geographical market may be larger than the national market, in this case Sweden. However, a decision was not taken on the exact definition of the relevant geographical market.

110. At the national level, price variance analyses are used to define geographical markets. For instance, in a recent decision by the Finnish competition authority in the Fortum-Eon case, a plausible case was made that the production and wholesale market for electricity may be national at certain moments in time, due to appreciable price differences between different countries.⁵⁸ The price differences are the consequence of limited effectively available import capacity, despite the existence of an electricity exchange which has a broader than national scope (Nordic Nordpool).

3.2.2 Statistical analyses

111. Within the geographical market, appreciable and permanent price differences for identical products seldom occur because suppliers are disciplined by buyers, who will try to purchase electricity at the lowest possible price: price differences will be settled by the disciplining effect of the market.⁵⁹ Appreciable and permanent price differences between regions may be an indication that suppliers in a certain region or country are insufficiently disciplined by suppliers outside this region. Permanent and appreciable differences in prices on the production and wholesale market for electricity between the Netherlands and neighbouring countries may therefore be a strong indication that a separate geographical market exists.

3.1 NMa invites parties involved to give a substantiated response to the proposition that appreciable and permanent price differences between countries may be a strong indication that a separate geographical market exists.

Average price differences per day

112. Given the fact that price formation on the production and wholesale markets for electricity occurs at a national level, no differences in the price of electricity can be observed within the Netherlands.⁶⁰ On the basis of day-ahead OTC prices⁶¹ for 2004 and 2005, it appears that electricity prices in the Netherlands are often higher than those in Belgium, Germany and France. This applies both to weekdays and to weekend days.⁶² It appears from the Brattle report that the average price difference between the Netherlands and Germany on week days is greater than or equal to 5% for 60% of the time and more than 10% for 37% of the time. The average price difference between the Netherlands and Belgium weekdays is greater or equal to 5% for 41% of the time and is greater than 10% for 17% of the time (see table 3.1).

⁵⁸ See the decision in the notification phase of 3 March 2006 in the *Fortum-Eon* case, in which the application for a licence was required.

⁵⁹ This is extrapolated from search costs and uncertainty, which could explain the slight price differences.

⁶⁰ The Dutch grid is regarded as a "copper plate". The costs of any restrictions on transmission on the Dutch grid are socialised and paid by all the grid managers.

⁶¹ APX and OTC prices show a strong correlation, because any differences between APX and OTC are subject to arbitrage (see also section 2.3.1.2).

⁶² The price differences between the Netherlands and Belgium and between the Netherlands and Germany, in terms of percentages, are the same for weekdays and weekend days.

Table 3.1: Price differences between the Netherlands and Germany and between the Netherlands and Belgium on weekdays in 2005

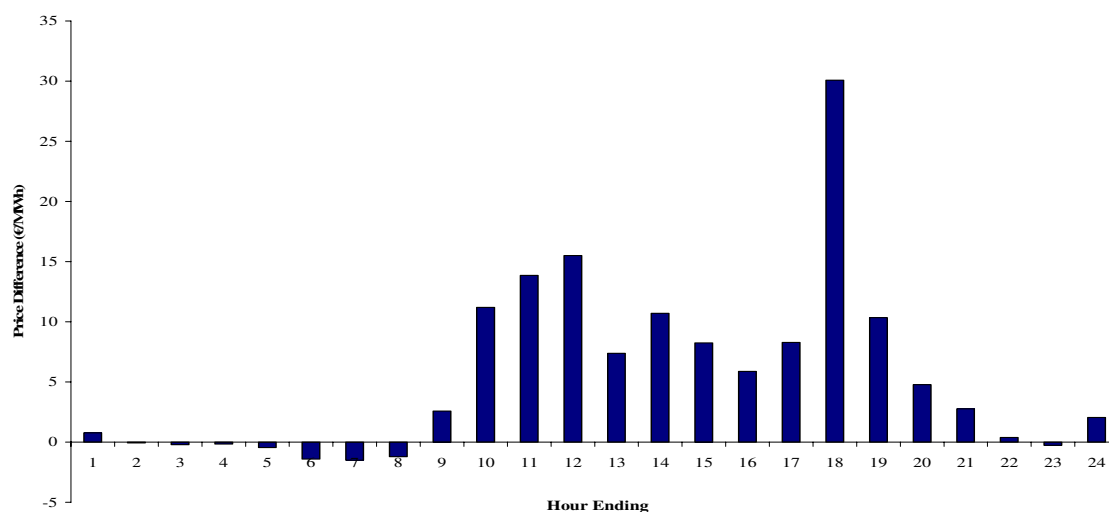
Netherlands and Germany		Netherlands and Belgium	
Price difference is greater than or equal to	Percentage of the time	Price difference is greater than or equal to	Percentage of the time
5%	60%	5%	41%
10%	37%	10%	17%
20%	17%	20%	5%

Source: Brattle Report, page 24.

Average price differences per hour

113. If price differences per hour are considered for the period 2004-2005, it appears that electricity prices in the Netherlands during the day were considerably higher than those in Belgium and in Germany and that electricity prices in the Netherlands at night were lower than or equal to those in Belgium and in Germany. Since there are no hourly prices for the production of and wholesale trade in electricity on the Belgian market, the auction prices for import capacity between the Netherlands and Belgium has been used to estimate the average price difference per hour. Figure 3.1 provides an overview of the average price differences per hour between the Netherlands and Germany for the period 2004-2005.

Figure 3.1 Average price differences per hour between the Netherlands and Germany, 2004 – 2005.



Source: APX, EEX.

Note: A positive price difference indicates the price in the Netherlands exceeding the price in Germany.

Source: Brattle Report, page 25.

114. Prices on the production and wholesale markets for electricity are determined by supply and demand factors. In the short term, prices are determined mainly by the available electricity power stations, fuel and CO₂ prices, precipitation, temperature and effectively available import capacity. In the long term, prices are determined, for instance, by expectations with regard to investments in production and import capacity, economic growth, and fuel and CO₂ prices. These expectations are expressed in forward prices.⁶³ Forward

⁶³ See the Preliminary report of the European Commission, *Sector Inquiry on the Gas and Electricity markets*, op. cit., p. 109.

prices may be used to obtain an estimate of whether the price differences observed between countries will be sustained in the future. Since it appears from the Brattle report that the differences in forward prices in the period 2006-2008 between the Netherlands and Germany and between the Netherlands and Belgium are significant, it seems that the observed (historic) price differences between the countries involved will be sustained in the coming years.⁶⁴

Limited importance of price correlations

115. In addition to price differences, according to some parties, correlations⁶⁵ between the electricity wholesale prices of regions or countries may indicate that they belong to the same geographical market. However, electricity wholesale prices in the Netherlands and neighbouring countries may also show a strong correlation without the existence of cross-border trade because fluctuations in electricity prices are also determined by other factors, such as fluctuations in the cost price of electricity, but also by demand factors, such as temperature. If price correlations are not corrected for these factors, they are of limited importance in defining the geographical market.

116. In addition, price correlations are not necessary for this consultation document, since the observed price differences between the Netherlands and Germany and between the Netherlands and Belgium, in combination with forward prices, are sufficient in themselves to provide an indication of the size of the geographical production and wholesale markets for electricity. In addition, a SSNIP test was carried out in this document (see section 3.2.3).

3.2.2.1 Summary of statistical analysis

117. The observed differences in prices in the Netherlands, Belgium and Germany are evidence that electricity producers in the Netherlands are not disciplined sufficiently during the day by foreign producers. This may be an indication that the geographical market is a national market. The small price differences during hours at night are evidence that electricity producers in the Netherlands are disciplined sufficiently by foreign producers. This may be an indication that the geographical market for hours during the night may be larger than the national geographical market. Furthermore, it seems that the observed (historic) price differences between the countries involved will be sustained in the coming years, since the difference between the forward prices for the period 2006-2008 are significant.

<p>3.2 NMa invites parties involved to give a substantiated response to the proposition that the statistical analysis of historic price differences in combination with forward prices, which was carried out, provides evidence that electricity producers in the Netherlands (i) are not sufficiently disciplined during peak hours by foreign producers and (ii) are sufficiently disciplined during off-peak hours by foreign producers.</p>

⁶⁴ See the Brattle Report, pp. 31 and 32.

⁶⁵ A price correlation indicates the extent to which two prices move together over time. A high degree of correlation means that a price change in the one country is often accompanied by a price change in the other country; the two prices do not behave independently of each other.

3.2.3 SSNIP test

3.2.3.1 SSNIP test method

118. By means of the SSNIP test, the relevant market is defined as the smallest possible market on which a hypothetical monopolist can profitably increase its prices appreciably and on a permanent basis. In the event of a price increase, if many buyers were to switch to producers based elsewhere, the price increase would not be profitable and the geographical market would therefore not be separate. This means that producers from a different region have to be included in the possible relevance geographical market. The test is then repeated until the assumed price increase is profitable.

119. For the purpose of this consultation, research was carried out to establish whether a hypothetical monopolist on the production and wholesale market for electricity could profitably increase its prices in the Netherlands⁶⁶ by 5% to 10% or more and on a permanent basis. If a hypothetical monopolist can profitably increase its prices by 5% to 10% or more and on a permanent basis, the relevant geographical market is a national market. If a hypothetical monopolist in the Netherlands *cannot* profitably increase its prices in the Netherlands by 5% to 10% or more and on a non-transitory basis, the relevant geographical market is larger than a national market.

120. Industrial end-users are not expected to relocate their production process in the short term to a foreign country as a result of an increase in the price in the Netherlands. There is limited geographical demand substitution. Significant and permanent price differences can therefore only be explained by supply factors and differences in legislation and regulations between countries.

121. For as long as there are price differences between countries, there is a need for import capacity. Import is attractive to Dutch buyers due to the availability of power stations with lower marginal costs, particularly in Belgium, France, Germany and Norway. Due to the fact that electricity cannot be stored, electricity which is generated must always be transmitted across transmission and distribution grids. Since transmission and distribution grids have limited capacity, the trade in electricity between countries is limited by congestion. The higher the congestion at a certain moment, the fewer alternatives there are for buyers of electricity to meet their demand at that moment. At moments that import capacity is not fully utilised and import is possible, any domestic price increases are less likely to be profitable because buyers may turn to other countries to purchase electricity. However, at moments that import capacity is fully utilised, such price increases are more likely, since (competitive) imports are not possible. Electricity producers in the Netherlands are then no longer disciplined by producers in other countries.

⁶⁶ It is plausible that the Netherlands is the smallest possible geographical market, because there are no price differences in the Netherlands on the Dutch production and wholesale market for electricity.

Description of the implementation of a SSNIP test

122. The SSNIP test is carried out for the two possible product markets to be distinguished: (i) the production and wholesale market for electricity during peak hours and (ii) the production and wholesale market for electricity during off-peak hours. In addition, the analyses were also carried out for hours with the highest level of demand during the day, the so-called super-peak hours. The analyses assume the market situation in the year 2008, so that all relevant (planned) investments by TenneT and producers between now and 2008 with regard to, for instance, import capacity, demand in the Netherlands and the total production capacity have been taken into account in the analysis. An overview of this is given in table 3.2.⁶⁷

Table 3.2 Overview of the available import capacity, demand in the Netherlands and production capacity

	2005	2008	% change
Available import capacity in MW	3,600	4,300 ⁶⁸	19%
Demand in the Netherlands during peak hours in GW	18.4	19.6	6%
Total production capacity in GW	21.1	21.7	3%

123. These analyses simulate the operation of the production and wholesale markets for electricity in the Netherlands and neighbouring countries. The prices per country, trade flows between countries, turnovers, profits and costs per power station are calculated for each day of the week. On the basis of fuel and CO₂ prices, variable costs and technical yields per power station, and the model generates the merit order per country, so that the marginal cost of electricity, including an assumed fair return, can be calculated for each assumed level of demand. To calculate the competitive price level, the accompanying profits per power station and the degree of congestion on the border, Brattle takes into account the import capacity per country and a low price elasticity of demand.⁶⁹

Import capacity

124. The total effectively available import capacity determines the extent to which domestic price increases can be introduced on a profitable and permanent basis. The Netherlands electricity transmission grid has six cross-border connections: two with Belgium, three with Germany as of 2007 and one with Norway. The connections between the Netherlands and Belgium, and the Netherlands and Germany have a total capacity of approximately 3,600 MW available to the market for import and export, as agreed with the Belgian and German TSOs. Sometimes TenneT is able to make 3,850 MW available to the market. At present, the Dutch cross-border connections are, in fact, suitable for importing a total of 5,000 MW. According to TenneT, it requires 300 MW for mutual help and assistance between TSOs. In fact, 4,700 MW may therefore be available to the market at this moment, but this cannot yet be achieved. This is due to limitations on the grid in other countries, caused by the effect of strong fluctuations in the pattern of electricity flows in North-West Europe. For instance, the power fed into the North German grid by the many wind turbines is subject to strong fluctuations because this is determined by the strength of the wind. These fluctuations and relevant

⁶⁷ For a complete overview of the assumptions with regard to the import capacity available in 2008, the projected demand for 2008 and the installed production capacity in the Netherlands, see page p. 49 and Appendix III of the Brattle Report.

⁶⁸ Due to the construction of the NorNed cable between Norway and the Netherlands, 700 MW of additional import capacity is expected to become available to the market in 2007.

⁶⁹ It appears from academic research that the price elasticity of demand is low. Low elasticity was also assumed in case 3386/*Nuon-Reliant Energy Group, op. cit.*

national and European regulation with regard to these wind flows affect the pattern of electricity flows on all the transmission grids. The effectively available import capacity is therefore limited.⁷⁰

125. The effectively available import capacity is therefore the capacity which is actually available for buyers on the production and wholesale markets for electricity. Tennet publishes the effectively available import capacity on its website.⁷¹ With regard to the total effectively available import capacity, the method assumes the recent data published by Tennet.

Market coupling

126. At present, the import capacity of the countries involved is allocated by the TSOs through an explicit auction. This does not result in optimal utilisation of the import capacity.⁷² Assuming a full market coupling, if the geographical size of the market is that of a national market, it will certainly be national if the assumption of a full market coupling is abandoned. For the sake of caution, in carrying out the SSNIP test it was assumed that all the available import capacity is utilised optimally (full market coupling). It appears from Brattle's analyses that market coupling (see also text box 3.1) may result in a fall in electricity prices in the Netherlands,⁷³ if the effectively available import capacity amounts to 4,300 MW (see table 3.2), but will not have an effect on the definition of the geographical market in terms of competition law (see the text box 'Introduction of market coupling').

⁷⁰ Source: www.tennet.nl.

⁷¹ Source: www.tso-auction.org.

⁷² In practice, price differences do occur, although capacity is not fully utilised. See also the Preliminary Report of the European Commission, *Sector Inquiry on the Gas and Electricity Markets*, *op. cit.*

⁷³ The effect of market coupling is calculated by comparing the actual cross-border flows realised (2004 -2005) to the expected flows.

Text box 3.1 Introduction of market coupling

The import capacity between the Netherlands and neighbouring countries is often fully utilised. The price of German or Belgian electricity is often lower than the price of electricity generated in the Netherlands.

Since January 2001, the TSO Auction Office⁷⁴ has organised a so-called explicit auction of capacity on the cross-border connection. In the case of an explicit auction, the available import capacity is auctioned separately from the electricity to be transmitted. Market parties who wish to purchase import capacity submit their bids to the TSO Auction Office (this can be done a day in advance, a month in advance or a year in advance). The highest bidder receives all the capacity requested. After this, (any) remaining capacity is allocated to the next highest bidder(s).

The price which emerges on the explicit auction is determined by the lowest price at which bidders acquire capacity. If there is no congestion on the cross-border connections, import capacity has no economic value.

In principle, NMa is in favour of using the instrument of an implicit auction (also referred to as "market coupling"). In the case of market coupling, the available import capacity is auctioned implicitly through the electricity exchanges. By means of this method, market parties can no longer import or export electricity themselves. The import capacity is used by the exchanges to transmit energy from a cheaper market to a more expensive market. As a result, prices on the markets converge. This process ceases once the effectively available import capacity has been used or if the prices on the markets are the same. In practice, the markets are therefore linked to each other. The (possible) introduction of market coupling, however, does not in itself ensure that the geographical market will be larger than the national market (see also chapter 4).

3.2.3.2 Results of the SSNIP test

Production and wholesale market during peak hours

127. Assuming the situation in 2008, on the basis of Brattle's calculations it appears that a hypothetical monopolist can profitably increase its prices during peak hours in the Netherlands by 5% to 10% or more. Producers in the Netherlands are therefore not disciplined sufficiently by foreign producers during peak hours. It is predicted that during peak hours in approximately 62% of the time cross-border trade is not possible due to congestion⁷⁵ on the border. If the hypothetical monopolist increases its prices by more than 10%, cross-border trade is not possible for 70% of the time due to congestion on the border.⁷⁶

⁷⁴ TSO Auction BV is a joint venture of TenneT, RWE, Eon (the relevant grid managers in Germany) and Elia (the national grid manager for Belgium). See also www.tso-auction.org.

⁷⁵ Congestion occurs if, in a technical sense, no more electricity can be transmitted over a certain connection.

⁷⁶ See the Brattle Report, p. 52.

3.3 NMa invites parties involved to give a substantiated response to the proposition that the geographical market during peak hours comprises (only) the Netherlands.

128. If the available import capacity is increased to at least 6,500 MW, a hypothetical monopolist cannot profitably and permanently increase its prices during peak hours in the Netherlands by 5% to 10% or more. On the basis of this, NMa has indications that the geographical market during peak hours is larger than the national market if the effectively available import capacity is increased to 6,500 MW.⁷⁷ The exact geographical definition of the market (the Netherlands and Belgium or the Netherlands and Germany) depends on the border at which the effectively available import capacity is increased. Given the fact that at present the total import capacity is not always fully utilised, it is possible that more has to be invested to increase the capacity to 6,500 MW (see also paragraph 124).

129. It should be noted that in theory a profitable price increase is possible, namely at the moment that the import capacity is fully utilised. If the effectively available import capacity is increased to 6500 MW, a price increase (by the hypothetical monopolist during peak hours) is only profitable if the prices are increased by more than 45% on a permanent basis. NMa does not consider such a permanent price increase realistic.

3.4 NMa invites parties involved to give a substantiated response to the proposition that the geographical market during peak hours is larger than the national market if the effectively available import capacity is increased to approximately 6,500 MW.

Production and wholesale market for electricity during super-peak hours

130. During super-peak hours, it would still be more profitable for a hypothetical monopolist to increase its prices in the Netherlands on a profitable and long lasting basis by 5% to 10% or more than during peak hours, since by definition during super-peak hours there is greater demand for electricity. It emerges from Brattle's analysis that a hypothetical monopolist could not increase its prices profitably and on a permanent basis by 5% to 10% or more during super-peak hours in the Netherlands if the effectively available import capacity is increased to at least 8,250 MW.⁷⁸

Production and wholesale market for electricity during off-peak hours

131. Carrying out the SSNIP test on a production and wholesale market for electricity during off-peak/peak hours is complicated because the prices of electricity are lower than the marginal costs during off-peak hours. Without taking into account the costs of starting up a power station, it would be profitable for a producer to produce as little as possible. However, such a strategy is not profitable because the producer has to operate its power stations in order to avoid start-up costs. These start-up costs are difficult to model. In order to carry out the SSNIP test for off-peak hours, the change in turnover (volume) due to a price increase has to be analysed and this has to be compared to the change in turnover due to a price increase during peak hours. It appears that the change in turnover as a result of a price increase during off-peak hours is much stronger than the change in turnover as a result of a price increase during peak hours. It appears from the analysis that during off-peak hours no cross-border trade is possible for 32% of the time due to congestion at the

⁷⁷ See the Brattle Report, p. 61.

⁷⁸ See the Brattle Report, p. 64.

border (this is low compared to congestion for 62% of the time during peak hours). Since 85% of the additional imports originated from Germany in the event of the assumed a price increase, it appears to be the case that the geographical market comprises at least the Netherlands and Germany during off-peak hours.⁷⁹

3.5 NMa invites parties involved to give a substantiated response to the proposition that the geographical market during off-peak hours comprises at least the Netherlands and Germany.

3.2.4 Summary of the geographical production and wholesale market for electricity

132. On the basis of the results of the statistical analyses and the outcomes of the SSNIP test and assuming the situation in 2008, NMa has indications that (i) the geographical production and wholesale market for electricity during peak hours comprises the Netherlands and (ii) that the geographical market during off-peak hours comprises at least the Netherlands and Germany.

133. In addition, NMa has indications that (i) the geographical production and wholesale market for electricity during peak hours is larger than the national market if the effectively available import capacity is increased to 6,500 MW. The exact geographical definition of the market depends on the border (the Dutch/ German or the Dutch Belgian border) at which the effectively available import capacity is increased. Given the fact that at present the total import capacity is not always fully utilised, it is possible that more has to be invested to increase the capacity to 6,500 MW.

3.3 Electricity retail market

134. A SSNIP test was not carried out to determine the geographical definition of the retail market, but Brattle carried out analyses on the basis of qualitative and quantitative material to obtain an indication of the geographical size of the retail market.

135. Due to the fact that there are almost no small consumers who purchase electricity in other countries, the geographical size of the retail market is not larger than the national market.⁸⁰ Almost all players on the Dutch electricity retail market recruit customers at the national level. This is an indication that the geographical retail market is a single national market. Within a single geographical market, significant price differences seldom occur for identical products because suppliers are disciplined by buyers who will attempt to purchase electricity at the lowest possible price: price differences will be evened out through the discipline of the market. On the basis of an analysis of price differences between various regions, a sufficiently plausible case can be made that the price differences between regions in the Netherlands are small. It appears, for instance, from the most recent data that the prices of incumbents of annual contracts are almost the same as those of new entrants.⁸¹ Furthermore, it appears from DTe's internal calculations that increasing wholesale prices exert pressure on the prices and margins on the retail markets and that the spread of electricity tariffs

⁷⁹ See the Brattle Report, p. 54.

⁸⁰ In accordance with section 95a of the Electricity Act of 1998, since 1 January 2002, leaving aside several exceptions, it is prohibited to supply electricity to small consumers without a licence. Section 95c(1) of the Act stipulates that a licence is granted if the applicant can show that it has the necessary organisational, financial and technical qualities for the proper performance of its duties and may be deemed to be in a position, within reason, to comply with the obligations incumbent upon it.

⁸¹ The prices of new entrants are usually slightly lower than those of incumbents.

has remained low. The amount that an average household can save on an annual basis is EUR 13. This saving has not changed compared to the previous year.

136. Barriers to newcomers in the incumbent's area may play a role with regard to the size of the geographical market. High barriers may be an indication that markets exist which are smaller than the national markets. There are opportunities for market parties to enter the retail market in 2005. For instance, four parties successfully entered the retail market. It should be noted that the costs incurred for media and advertising campaigns may be high, but it was nevertheless possible for newcomers, such as Oxxio and Greenchoice, to become well-known and important players on the retail market.

137. Since the various products sold on the retail market are almost identical, there are no insuperable barriers to entry. As the price differences between regions are small, NMa regards this as an indication that the retail market is a national market. Furthermore, NMa notes that there are hardly any opportunities to obtain electricity from Dutch electricity retailers in other countries the differences in wholesale prices and balancing costs are significant compared to those of neighbouring countries, which is an indication that the geographical market is in any event not larger than a national market (see also section 3.2.2).

3.6 NMa invites parties involved to give a substantiated response to the proposition that the geographical size of the retail market is that of a national market.

3.4 *Balancing market for electricity*

138. Under the present regulatory system, it is not possible to absorb imbalances by means of cross-border trade. In the Netherlands, imports must be programmed at least a day in advance per hour, while any imbalance has to be eliminated by the TSO every 15 minutes. It is therefore not possible for foreign producers to offer electricity on the balancing market. Due to the fact that all Dutch suppliers on the balancing market are spread throughout the Netherlands and the fact that these players are almost equally large, NMa has indications that the geographical market is in any event not smaller than the national market.

3.7 NMa invites parties involved to give a substantiated response to the proposition that the geographical size of the balancing market is the national market.

3.5 *Summary of the geographical market for electricity*

139. Assuming the situation in 2008, NMa has indications that (i) the geographical production and wholesale market for electricity during peak hours comprises the Netherlands and (ii) that the geographical production and wholesale market for electricity during off-peak hours comprises at least the Netherlands and Germany. Furthermore NMa has indications that the geographical production and wholesale market for electricity during peak hours comprises at least the Netherlands and Germany or the Netherlands and Belgium, if the effectively available import capacity is increased to 6,500 MW. If a market for super-peak hours is taken into consideration, the geographical market comprises at least the Netherlands and Germany, if the effectively available import capacity is increased to 8,250 MW.

140. With regard to the retail market and the balancing market, NMa has indications that the size of the retail and the balancing markets at this moment corresponds to the national market.

4 Creation of a North-West European market

4.1 Introduction

141. In the previous chapters, the relevant product markets and the geographical markets that can be distinguished for the production and supply of electricity were discussed. This chapter describes the factors which play a role in determining the size of the relevant geographical market. Depending on the development of these factors, it may be possible to refer in the future to a larger North-West European market. In addition, this chapter gives attention to possible measures.

142. Reference is made in various discussions to regional markets, such as the North-West or Central West-European market. Regulators generally define a regional market as a market with a comparable legal and regulatory framework, comparable price formation without market distortions and efficient cross-border trade, and good utilisation of cross-border connections. In this consultation document, NMa takes as its point of departure the competition law perspective and understands by a North-West European market a relevant geographical wholesale market, in the competition law meaning of the term, for the generation and large-scale supply of electricity which, within the framework of this document, comprises the Netherlands and one or more of its neighbouring countries (hereinafter "the North-West European market").

143. It emerges from the Brattle report that the development of prices (including the spread between the gas price and the price of coal, and the price of CO₂ emission rights) and available import capacity on the cross-border connections are important factors in determining the size of the relevant market during peak hours. In chapter 3 it was concluded that the geographical market during peak hours at least comprises Germany and the Netherlands if the effectively available import capacity (between the Netherlands and Belgium/ Germany) is increased to 6,500 MW (on the assumption of implicit auctions and the availability of the NorNed cable).

144. NMa considers the availability of cross-border import capacity and price development to be factors which may affect the size of the relevant geographical wholesale market. In addition, NMa identifies measures which may make a contribution to market integration and more efficient cross-border trade.

4.2 Factors that may affect the size of the relevant geographical market

4.2.1 Development of prices

145. The Netherlands has a large share of gas-fired power stations and Germany has more coal-fired power stations. The marginal cost of gas-fired power stations is higher than that of coal-fired power stations. If the gas price increases relative to the price of coal, the price of electricity will increase further during peak hours in the Netherlands and the price differences with Germany would increase. As a result, import capacity will be fully utilised earlier. Price formation in the Netherlands may therefore occur more independently of the German market. In other words, the relevant market will sooner remain limited to the Netherlands. In this regard, the Brattle report indicates that it is not plausible that gas prices will change to such an extent that the relevant production and wholesale market for electricity will be larger or smaller than the Netherlands.

146. Not only the development of fuel prices is important, but more generally the development of the cost of the production of electricity.⁸² Fuel prices are an important component of this. The development of the price for CO₂ emission rights also plays a role. If CO₂ emission rights become more expensive, the marginal cost of gas-fired and coal-fired power stations converge. This is due to the fact that coal-fired power stations emit more CO₂. Finally, changes to production plant in the Netherlands and neighbouring countries may play a role. If producers in the Netherlands invest more in coal-fired production capacity, the price differences with Germany and the scarcity of import capacity may decrease. There are plans to invest in new production capacity in the Netherlands. However, such projects require at least several years and are therefore not expected to have an effect in the short term.

147. The development of fuel prices and the price of CO₂ emission rights is the result of focused government policy and the operation market forces. The choice as to which new installations are deployed and/or constructed and where they are deployed and/or constructed is also the result of market forces. NMa notes that the price of fuel and CO₂ emission rights could make a contribution to the size of the relevant geographical market.

4.1. NMa invites parties involved to give a substantiated response to the question of whether and to what extent the factors outlined in section 4.2.1 affect the size of the relevant geographical production and the wholesale market for electricity and whether these factors must be regarded by NMa as beyond the influence of any party or parties.

4.2.2 Cross-border import capacity

148. The effectively available import capacity on the cross-border connections is an important factor in determining the size of the relevant geographical market during peak hours. An increase in the present effective import capacity may have a disciplining effect on producers. Increasing the effectively available import capacity may increase the supply of electricity and, by doing so, the liquidity and supply elasticity of the Dutch wholesale market. This should reduce the likelihood that a dominant position may arise or (possibly) be abused within the Netherlands.

149. The effectively available import capacity could be increased in three ways:

- i. investments in additional cross-border import capacity;
- ii. creating additional import capacity from existing infrastructure; and
- iii. using existing cross-border import capacity more efficiently.

(i) Investments in additional cross-border import capacity

150. The construction of the NorNed cable between the Norway and the Netherlands is expected to make 700 MW of additional import capacity available to the market. The cable is expected to come into operation at the end of 2007. In the analyses made, it has been assumed that this import capacity is available to the market. In addition, the possible construction of a marine cable between the United Kingdom and the Netherlands (also referred to as the "BritNed cable") could result in an increase in the effective available capacity.⁸³

⁸² In this consultation document, NMa has not taken into account the possible effects of abandoning the link to the oil and gas price and/or large fluctuations in the prices of these fuels.

⁸³ For more information, see also: www.nationalgrid.com.

151. The construction of more cross-border connections is sometimes impossible and/or economically unfeasible. For instance, it is possible that regional planning and/or environmental regulations apply which prohibit the construction or make it difficult to realise. Furthermore, the weighing up of expected direct and indirect costs against the expected benefits (such as trade revenues, lower prices) and the accompanying risks showed that the financing of more import capacity cannot be justified (only) on economic grounds, unless a broader social decision is taken. TenneT, for instance, makes the following observation:⁸⁴ "Although from the perspective of cost differences between the Netherlands and Germany there still appears to be scope for additional import, the total economic potential from the perspective of savings on variable production costs is too small to proceed with the construction of an additional connection with Germany. Partly due to the decreasing differences between prices on the exchanges in Germany and the Netherlands, and uncertainties with regard to factors such as the decommissioning of atomic energy power stations, fuel prices, national stimulation/subsidisation of sustainable energy generation and the coal industry in Germany, it would be better to wait for the proposed expansion of the transmission grids in Belgium and Germany. This expansion will most probably give the Netherlands the opportunity to import more electricity without any effect on costs." Whether the necessary investments outweigh the (social) benefits of expanding import capacity lies beyond the scope of this research.

152. The expansion of the effectively available import capacity, which would be necessary before it would be possible to talk of a larger relevant geographical market during peak hours, will not be achieved with the present investment plans. TenneT assumes an expansion (until 2008) of the technically available import capacity on the cross-border connections with Belgium and Germany from approximately 3,600 MW to 4,200 MW, while according to Brattle approximately 6,500 MW of effective available import capacity would be necessary to achieve a market which comprises at least the Netherlands and Germany. A possible investment in the so-called BritNed cable (at least 800 MW) may result in a downward adjustment of the expansion required.⁸⁵

153. It is questionable whether the Transmission System Operators (TSOs) in the North-West European countries use the investment funds, which they receive from the proceeds of the auctions, correctly for investments in cross-border import capacity or investments in the national high-voltage grid.⁸⁶ The European Commission announced in February 2006 that it will conduct research specifically into this. In this regard, it should be noted that many foreign TSOs are still owned by large energy companies, which are also active in producing and trading electricity.

154. In this regard, it seems advisable to consider whether TSOs could be given more (financial) incentives to make investments or investment proposals or whether the unbundling of their commercial companies (splitting ownership) should be advocated.⁸⁷

⁸⁴ *Kwaliteits- en Capaciteitsplan TenneT 2006-2012* (December 2005).

⁸⁵ See as background information also the *Kwaliteits- en Capaciteitsplan TenneT 2006-2012* at www.tennet.nl.

⁸⁶ For instance, in the Preliminary Report, *Sector Inquiry on the Gas and Electricity Markets, op. cit.*, the European Commission concludes that three German TSOs received a total of EUR 400 million to EUR 500 million in the period from 2001 to mid-2005 and in the same period spent EUR 20 million to EUR 30 million on strengthening or expanding interconnector capacity.

⁸⁷ See the Brattle Report, section 6.5.

(ii) *Creating additional import capacity from existing infrastructure*

155. Measures aimed at making more import capacity available from the existing infrastructure continue to be most desirable. The following measures could increase the import capacity available between the Netherlands and its neighbouring countries:

- more far-reaching coordination between TSOs in calculating and allocating the available import capacity of the various cross-border connections by giving greater consideration to the relationships between the various connections (and therefore treating border connections less as separate interconnectors and by exchanging more up-to-date information on actual physical flows, production and consumption;
- making better use of opportunities for netting import and export programmes; import and export programmes, which apply at the same moment and are also nominated for actual use, eliminate each other, as it were, and by doing so make additional capacity available for other market parties;
- making better use of the greater import capacity of connections when the surrounding temperature is low; in the present situation, TSOs often assume a surrounding temperature of 20 °C whereas if the surrounding temperature is lower, more import capacity could be made available.

156. TSOs can only implement the above measures if they cooperate well with each other. It is important in this regard to reassess the regime governing cooperation between TSOs. The aim should be for TSOs jointly to use each other to maximise the effective available capacity on the cross-border connections. To give TSOs an incentive to do so, it may be necessary to make better regional cooperation between TSOs compulsory. The European Commission has since indicated that it is considering the introduction of a European Grid Code and a European Centre for Energy Networks. More intensive cooperation between regulators to direct TSOs at the regional or supranational level is important in this regard.⁸⁸

157. The effectively available import capacity between the Netherlands and its neighbouring countries is affected by the large-scale generation of wind energy within the North-German high-voltage grid. According to TenneT, in practice there are sometimes variances between the programmed import and physical flows due to the unexpected production of wind energy. As a result, congestion can occur, which limits the effectively available import capacity.⁸⁹ The cross-border capacity between Germany and its neighbouring countries, which would otherwise be available for market transactions, now has to be used in certain circumstances to guarantee the security of the grid.

158. In 2005 the German government and the joint grid managers commissioned the research bureau Dena to conduct a study⁹⁰ into the consequences of the wind farms in Northern Germany. Dena concluded that approximately 400 km of the existing 380 kV grids has to be improved and that approximately 850 km of new high-voltage grids must be constructed to ensure that the German grid can absorb the power produced within it (including wind energy).

⁸⁸ See also the European Commission's green paper of 8 March 2006, *Green Paper - A European Strategy for Sustainable, Competitive and Secure Energy*.

⁸⁹ TenneT states that due to the large-scale generation of wind energy, the cross-border import capacity cannot be utilised fully without investment in and strengthening of the German grid. See also TenneT's explanation of this in its *Kwaliteits- en Capaciteitsplan 2006-2012* of December 2005 at www.tennet.nl.

⁹⁰ The German energy agency DENA (Deutsche Energie-Agentur GmbH) published the study '*Energiewirtschaftliche Planung für die Netzintegration von Windenergie in Deutschland an Land und Offshore bis zum Jahr 2020*' (*Dena-Netzstudie*) in February 2004 (see www.deutsche-energie-agentur.de).

159. The cooperation of the German government and the TSOs involved will be necessary to deal with this problem. In the longer term, the solution seems to lie in investments in the German high-voltage grid. Short-term solutions are perhaps conceivable. In this regard, measures should be considered to ensure that TSOs do not solve transmission constraints which occur on their own national grids by making less import capacity available at the border.⁹¹

160. NMa has no insight into the extent to which the above-mentioned measures may result in an increase in the available import capacity, but suspects that this effect will be limited to a maximum of several hundred megawatts. The measures aimed at solving the problem of absorbing increasing quantities of large-scale wind production, however, are also meant to avoid deterioration.

(iii) Using existing cross-border import capacity more efficiently

161. Thirdly there are measures which may result in better utilisation of available import capacity. The import capacity on the cross-border connections between the Netherlands and its surrounding countries is not fully utilised at present, despite price differences with the German or Belgian markets. The following measures could result in better utilisation of the available import capacity:

- The introduction of implicit auctions (market coupling)⁹² on the cross-border connections between the Netherlands and Belgium (as provided for in the Belpex project) and between the Netherlands and Germany (no plan is available for this yet). A decision has already been taken to introduce a market coupling for the NorNed cable between the Netherlands and Norway.
- The introduction of cross-border intraday trade (after the close of the day-ahead trade) and integration of the balancing markets. In the present situation, cross-border trade after the close of the day-ahead market is not possible. If that were the case, market parties could nevertheless use capacity which had not yet been used. Furthermore, additional capacity could perhaps be made available because the TSOs would have more precise data on the actual load of the transmission grids.

162. On 7 December 2005, NMa published a joint plan of action (Roadmap) jointly with CREG and CRE for the integration of the Dutch, Belgian and French markets. This will be achieved, for instance, by introducing an explicit auction for the cross-border connections between Belgium and France,⁹³ by harmonising the rules for explicit auctions and by making cross-border intraday trade and the integration of the balancing markets possible.⁹⁴

163. In its calculations, Brattle assumed that implicit auctions already exist on the cross-border connections, or that the available import capacity is fully utilised. On the basis of this assumption, Brattle concludes that there would have to be 6,500 MW of import capacity with Belgium/ Germany before it would be possible to refer to a relevant market during peak hours which comprises at least the Netherlands and Germany. If the present situation were assumed (in other words, without a market coupling and without

⁹¹ This relates to shifting transmission problems on the national grid to the interconnectors. This phenomenon may also occur independently of the problem of large-scale wind-energy production.

⁹² See text box 3.1 for a more detailed explanation of the concept of 'market coupling'.

⁹³ TenneT is responsible for implementing these plans Together with the Belgian and French national grid managers, Elia and RTE. With regard to the introduction of an explicit auction on the Belgian-French cross-border connection, see also www.elia.be.

⁹⁴ See also www.dte.nl. Other measures include: improving transparency and joint monitoring of cross-border trade by the three regulators. In addition, the three regulators have drawn up an assessment framework for the possible introduction of a market coupling.

cross-border intraday trade), a maximum of 1,000 MW more of import capacity would be needed (in other words, in addition to the 6,500 MW), before one could refer to a relevant market during peak hours which comprises at least the Netherlands and Germany.

4.2. NMa invites parties involved to give a substantiated response to the question as to whether and to what extent the factors outlined in section 4.2.2 make a contribution to enlarging the relevant market, which measures should be given priority and which parties are responsible for the implementation of these measures.

4.3 *Other measures for market integration and more efficient cross-border trade*

164. Cross-border trade can only be efficient if price formation on both sides of the cross-border connections occurs on a comparable basis. If, for instance, only producers were to pay for transmission in Country A and only consumers were to do so in Country B, the marginal production costs in Country A would be higher than in Country B. This would result in transmission from B to A. This cross-border trade, however, does not lead to the most efficient deployment of installations. The harmonisation of market rules with those in neighbouring countries is therefore important to avoid such market-distorting effects. Measures aimed at achieving this objective are therefore important and the following measures could be given consideration in this regard:

- eliminating the differences in the balancing regime (the operation of the balancing markets and the way in which the settlement of imbalance positions occurs);
- harmonisation of rules governing access to grids (connection conditions and other technical conditions);
- harmonisation of the structure of grid and system services tariffs; and
- harmonisation of the availability (transparency) of relevant market information for and by market parties.⁹⁵

165. The above-mentioned measures may perhaps facilitate more efficient trade, but they do not result in more import capacity and therefore do not affect the way in which the size of the relevant market is determined.

4.3. NMa invites parties involved to give a substantiated response to the proposition that the measures outlined in section 4.3 are not relevant factors in determining the size of the relevant market.

4.4 NMa invites parties involved to give a substantiated response to the question as to whether there are other measures which may result in an increase in size of the relevant market and which parties are responsible for taking these measures.

⁹⁵ Various international reports has since raised the need for and the necessity of relevant market information. See, for instance, the sector study by the European Commission mentioned above, the Roadmap for regional market integration (wishlist of transparency items), ERGEG / Guidelines of good practice and the joint position statement by CEER in response to the European Commission's sector study (www.ceer-eu.org).

4.4 Summary

166. According to NMa, the development of wholesale prices for electricity in the Netherlands and in its neighbouring countries, as well as the available import capacity on the cross-border connections, may affect the size of the relevant geographical market. If prices converge and if more import capacity becomes available, there will sooner be a larger relevant market.

167. The development of wholesale prices is determined, for instance, by the development of the prices of the various fuels, the development of prices for CO₂ emission certificates and investments in new production capacity. NMa is of the opinion that it cannot influence these developments.

168. The effectively available import capacity could be increased in three ways:

- i. investments in additional cross-border import capacity;
- ii. creating additional import capacity from existing infrastructure; and
- iii. using existing cross-border import capacity more efficiently.

169. The present investment plans for increasing the effectively available import capacity provide insufficient basis for defining a larger relevant geographical market during peak hours.

170. Various measures are conceivable which may make more import capacity available from the existing infrastructure. NMa has no insight into the extent to which these measures could result in an increase in the available import capacity, but suspects that this effect will be limited to a maximum of several hundred megawatts. Several measures, however, are also import to prevent possible deterioration.

171. The introduction of implicit auctions, cross-border intraday trade and the integration of the balancing markets are measures which could result in the better utilisation of available import capacity. The effect of these measures on the available import capacity, which is necessary before it is possible to refer to a relevant market during peak hours which is larger than the Netherlands alone, is a maximum of 1,000 MW.

5 Merger control

172. As was stated in chapter 1, the aim of this consultation document is to consult all those involved and interested in the development of the energy market in the Netherlands about NMa's analysis of the definition of (possible) markets in the electricity sector and the way in which NMa views possible mergers and acquisitions on these markets. The last point will be explained in this and the subsequent chapter on the basis of a general description of merger control as exercised by NMa (this chapter) and an analysis of three hypothetical merger scenarios (chapter 6).

173. This chapter, as was mentioned, serves to inform the reader⁹⁶ about NMa's merger control activities. In doing so, on more than one occasion reference will be made to the practice of the European Commission. In section 5.1, merger control will be discussed in general, that is NMa's competence (and that of the European Commission) and NMa's method of work in assessing mergers. In section 5.2, (the assessment of) mergers on the electricity markets will be discussed in more detail and attention will be given to possible competition concerns, taking into account the specific characteristics of this sector. Various assessment methods will also be explained, including (i) an analysis of the market shares, (ii) an analysis of the degree of concentration, (iii) the so-called Pivotal Supplier Index and (iv) simulation models. An explanation of the types of remedies which could be offered in merger cases that give rise to appreciable competition concerns will be discussed in general terms in section 5.3. On the basis of practical examples, remedies will then be discussed which are (or could be) proposed in merger cases in the energy sector. Finally, the most important points will be summarised in section 5.4.

5.1 Merger control in general

5.1.1 Competence of NMa and the European Commission

174. Merger control in the Netherlands applies to mergers and acquisitions (and certain joint ventures), whereby the combined (global) turnover of the undertakings involved amounts to at least EUR 113.45 million *and* whereby at least two of the undertakings involved each separately realise a turnover of at least EUR 30 million in the Netherlands.

175. The competence of the European Commission in merger cases is set out in the EC Merger Regulation.⁹⁷ Mergers and acquisitions with a certain European dimension fall within the competence of the European Commission. This is the case where (i) the undertakings involved in the merger have realised a combined global turnover exceeding EUR 5 billion and (ii) at least two of the undertakings have each separately realised a turnover within the European Community exceeding EUR 250 million.⁹⁸ Furthermore,

⁹⁶ Since this chapter relates to NMa's existing merger control practice and is meant primarily as information for the reader, no consultation questions will be posed in this chapter.

⁹⁷ The original Regulation, Council Regulation (EEC) No 4064/89 of 21 December 1989 on the control of concentrations between undertakings, was amended in 2004. The current EC Merger Regulation is Council Regulation (EC) No 139/2004 of 20 January 2004 on the control of concentrations between undertakings.

⁹⁸ This main rule has been refined, firstly to limit the category of mergers which have to be notified in numerous Member States and secondly to guarantee that mergers whose effects largely occur within a single Member State also fall within the competence of the respective Member State. For instance, mergers whereby the global turnover of the undertakings involved exceeds EUR 2.5 million and

the EC Merger Regulation offers Member States the opportunity to submit a substantiated application either to refer the case to a Member State for adjudication, where a merger threatens to affect competition on certain nationally defined markets (in accordance with Article 9), or to refer the case for adjudication to the European Commission, where the merger threatens to affect trade between Member States and competition in the Member States which submitted the application (in accordance with Article 22). The undertakings involved in the merger also have the possibility of submitting such applications for referral, prior to notification of the merger.

5.1.2 Method of operation of merger control

5.1.2.1 Competitive assessment

176. Merger control in the Dutch Competition Act is modelled on the example of the EC Merger Regulation of 1989. The test used relates to whether a dominant position will arise or be strengthened as a result of a merger, which will appreciably restrict competition on the markets involved. The *modus operandi* in relation to the material assessment of mergers, which is discussed extensively below, has therefore never differed significantly from European practice. With regard to the definition of terms used in the Competition Act, such as the concept of a 'merger', 'undertaking involved' and 'turnover', NMa also models its decisions on the interpretations, as set out in the various notices of the European Commission.⁹⁹

177. The European Commission's competitive assessment has been amended in the new EC Merger Regulation of 2004. The European Commission must now determine whether a merger restricts *de facto* competition appreciably, whereby the creation or strengthening of a dominant position is still an important, but no longer the only possible cause of this restriction. The emphasis of the material assessment therefore shifts from the effects on the market structure to the more direct effects on competition. The change to the test has two important implications. Firstly, it has become clearer as a result of this change that mergers which do not result in market shares that exceed 40% to 50%, but which are damaging to competition because it becomes rational for the merging undertakings and their competitors to increase their prices appreciably to a supracompetitive level (a so-called non-collusive oligopoly), can also be prohibited. A merger on a concentrated market may also appreciably restrict *de facto* competition by giving rise to or strengthening a joint dominant position, because it increases the likelihood that undertakings can coordinate their behaviour in this way and can increase their prices, even without entering into an agreement or becoming involved in concerted practices.¹⁰⁰ Secondly, the new test offers the merging undertakings a clearer basis on

the turnover within the Community of at least two undertakings separately amounts to EUR 100 million, are also regarded as mergers with a European dimension if (i) the total combined turnover of the undertakings involved in each of at least three Member States amounts to more than EUR 100 million and (ii) at least two of the undertakings involved has each separately realised a turnover exceeding EUR 25 million in each of the three Member States referred to above. On the other hand, mergers which meet the turnover thresholds described above do not have a Community dimension if each of the undertakings involved realises more than two thirds of its total turnover within the Community in a single Member State.

⁹⁹ NMa's *modus operandi* and that of the Commission differ with regard to procedural law. Action taken by NMa is subject to the principles and provisions of the General Administrative Law Act [*Algemene Wet Bestuursrecht (Awb)*] and the procedures arising from this, for instance with regard to the principle of hearing both sides of the argument, the right to appeal and the rights of interested parties. The Competition Act stipulates relatively few procedural rules of its own.

¹⁰⁰ A merger may also make market coordination easier, more stable and more effective for undertakings which coordinated their activities before the merger.

which to raise the efficiency advantages which arise as a result of the merger. Since the European Commission must first consider the effect of the merger on competition, it has to assess these advantages raised by the parties to ascertain whether these advantages outweigh the negative effects of the merger on competition.¹⁰¹

178. An amendment to the Dutch Competition Act, which, for instance, provides for an adjustment to the test in accordance with the European Merger Regulation, is currently before the Lower House of the Dutch Parliament.

5.1.2.2 Market Definition

179. In the assessment of a competition case, the definition of the relevant markets with regard to their product and geographical dimensions is generally an important step. As stated in chapter 1, it is necessary to determine the products and services with which and the geographical areas in which the merging parties will compete with each other, which other party's exercise competitive pressure on the merging undertakings, and what the competitive strength is of the merging undertakings and their competitors after the merger. Where it is possible to determine which products and services constitute a market on the basis of their substitutability, the market position of the parties and their competitors can be determined in more detail within the framework of the material assessment of the effects of the merger.

5.1.2.3 Material assessment of the effects of mergers

180. In its Guidelines for the assessment of horizontal¹⁰² agreements¹⁰³ (hereinafter "the Guidelines for Horizontal Agreements"), the European Commission states that horizontal mergers can restrict competition in two ways: because they remove important competitive pressure on undertakings or because they change the nature of competition on a market in such a way that they promote the coordination of market behaviour on the respective markets.

181. Market shares in general are an important factor in assessing the consequences of a merger. In the Guidelines for Horizontal Agreements, the European Commission states that according to European case law market shares of 50% or more in themselves may constitute sufficient evidence of the existence of a dominant position. The European Commission also draws attention to the fact that in numerous cases mergers which result in market shares of 40% to 50%—and in several cases mergers which result in market shares of less than 40%—may result in the creation or strengthening of a dominant position, on the basis of other factors, such as the (limited) strength of competitors, the existence of restrictions on capacity or a high degree of mutual substitutability of the products of the parties compared to the products of others. When the joint market share of the parties involved does not exceed 25%, this is generally seen as an indication that competition cannot be restricted.

182. In addition to the market shares of the merging undertakings, it is generally important to consider the level of concentration of the total market involved and the change to this (hereinafter "delta") which occurs

¹⁰¹ The undertakings involved also have an onerous burden of proof in that they have to present a plausible case that the advantages will in fact occur and will be passed on to the end user, and that the advantages could not have been achieved by less far-reaching means.

¹⁰² Horizontal mergers are mergers involving parties active on the same market.

¹⁰³ See the (European) Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings (2004/C 31/03), OJEC C 31, 5 February 2004, pp. 5-18.

as a consequence of the merger. An important indicator of market concentration is the Herfindahl-Hirschman Index (hereinafter "HHI"). This is calculated as the sum of the squares of the individual market shares of all the undertakings on the market.¹⁰⁴ The HHI and the delta of this is of greater importance as an initial indicator of the creation of a non-collusive oligopoly or a joint dominant position than the joint market share of the merging undertakings. According to the European Commission's Guidelines,¹⁰⁵ it is unlikely that competition concerns will arise as a result of mergers on markets with an HHI of less than 1,000. There will also generally be no appreciable competition concerns as a result of mergers on markets with an HHI between 1,000 and 2,000 if the merger results in a delta below 250, and on markets with an HHI greater than 2,000 if the merger results in a delta below 150, leaving aside exceptional circumstances.¹⁰⁶ The Horizontal Merger Guidelines of the US Department of Justice use stricter HHI values: mergers which result in an HHI of more than 1,800 give rise to potential competition concerns if the delta is greater than 50 points, and mergers which result in an HHI greater than 1,800 with a delta that exceeds 100 points are assumed to give rise to or strengthen a dominant position.¹⁰⁷

183. In addition to market shares and the degree of concentration on a market, in assessing mergers, additional factors are taken into account, such as opportunities for entry, the degree of dependence of suppliers and buyers, and the opportunity and incentive for competing parties to exhibit certain strategic behaviour as a result of the merger.

184. If two parties integrate, which are active in different links of the same production chain, this constitutes a vertical merger. An example of a vertical merger is a producer and a distributor of a product. Vertical mergers are usually less likely to give rise to competition concerns than horizontal mergers.¹⁰⁸ This is due to the fact that this involves mergers of parties which by definition are active on different markets (although these are vertically related). Competition concerns due to vertical mergers usually focus on market foreclosure, increased barriers to entry and an increase in the opportunities for collusion.

185. NMa assesses prospectively. In other words, it makes an *ex ante* assessment of the effects of a proposed merger. In doing so, NMa usually considers a period of three to five years subsequent to the merger because conclusions with regard to the development of the market (whether or not as a consequence of the merger) can be drawn with sufficient certainty for such a period.

¹⁰⁴ For a more theoretical explanation of the HHI, see for instance Church, J and Ware, R. *Industrial Organization – A Strategic Approach*, McGraw-Hill International Editions, 2000, p. 239 *et seq.*

¹⁰⁵ See the (European) Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings (2004/C 31/03), *op. cit.*

¹⁰⁶ For instance, if a (potential) newcomer or a strong competitor is acquired, which most probably disrupts coordinated market practices, if there is evidence that market coordination occurred or is still occurring, or if one of the parties already had a market share exceeding 50% prior to the merger.

¹⁰⁷ U.S. Department of Justice and Federal Trade Commission, "Horizontal Merger Guidelines" of 2 April 1992, as amended on 8 April 1997.

¹⁰⁸ See, for instance, the "Non-Horizontal Merger Guidelines" of the U.S. Department of Justice: "By definition, non-horizontal mergers involve firms that do not operate in the same market. It necessarily follows that such mergers produce no immediate change in the level of concentration in any relevant market as defined in Section 2 of these Guidelines. Although non-horizontal mergers are less likely than horizontal mergers to create competitive problems, they are not invariably innocuous."

5.2 Mergers on the electricity markets

186. Due to the unique characteristics of the electricity sector,¹⁰⁹ sector-specific competition concerns may arise, in particular on the wholesale trade in electricity during peak hours, for which an analysis based on factors such as market shares and the degree of concentration may possibly provide insufficient insight. Supplementary assessment methods are a so-called Pivotal Supplier Index and a simulation analysis using microeconomic models.

5.2.1 Possible competition concerns

187. As was stated in paragraph 52, the production and wholesale markets for electricity have a number of specific characteristics, namely (i) a lack of substitutes and relative indispensability, as a result of which there is little price elasticity of demand, (ii) the lack of opportunities for storage, as a result of which it is necessary to maintain a continuous balance between supply and demand, (iii) fluctuations in demand and (iv) the fact that the degree of flexibility with which changes in demand can be absorbed is determined to a considerable extent by the (in)flexibility of the various technologies and production units used to generate electricity. As stated in paragraphs 53 and 54], the merit order determines which power stations are deployed when. During peak periods, when most installations are fully utilised and their production can no longer be increased to meet peak demand, the number of effective competitors decreases. Competition concerns may arise in these periods.

188. A possible competition concern which may arise as a result of the above market structure and product characteristics is the fact that producers which have capacity that can be deployed flexibly (at higher marginal cost) may find themselves in a situation where they can influence prices by changing the capacity offered to the market (physical withholding of capacity), by changing the prices at which capacity is offered, by creating artificial congestion or limited capacity on transmission lines, or by a combination of these three factors. This problem can be exacerbated if fewer players with flexible capacity remain after a merger.

5.2.2 Assessment methods

5.2.2.1 HHI and market shares

189. After defining the relevant (electricity) markets, a market share analysis is carried out in which the joint market share of the merging parties and the market shares of the other suppliers are examined. On the basis of these market shares, the degree of concentration (HHI) can then be calculated, as well as the extent to which the proposed merger would result in an increase in the HHI. This generates important information on the creation or strengthening of a dominant position as a result of the proposed merger.

190. However, an analysis of the average market shares is not sufficient for the specific competition concern described above in relation to the production and wholesale market for electricity during peak hours.¹¹⁰ The competitive relationships on the production and wholesale markets for electricity may differ

¹⁰⁹ As stated in paragraph 35, this document relates primarily to the electricity markets.

¹¹⁰ In case 3386/ Nuon – Reliant Energy Group, *op. cit.*, NMA's investigation therefore also focused on a more direct measurement of the consequences for competition of the merger. In particular, in this case the expected effects of the merger on market prices were

from hour to hour or from one quarter of an hour to the next.¹¹¹ A player with a relatively low average market share may also have appreciable market power at some moments and for some periods if, for instance, at a certain level of demand all the other suppliers have no more capacity available. If this player does have capacity available, it may be the power station which determines the price. A situation such as this may arise even if the HHI is relatively low.

5.2.2.2 Pivotal Supplier Index

191. A method, which is appropriate to the specific characteristics of the electricity market, is the so-called Pivotal Supplier Index (PSI). This index shows the extent to which the capacity of an electricity producer is required to meet market demand, given the capacity of other electricity producers. If all available capacity of competitors is already used and one player still has capacity available, which is required to meet demand, this player is 'pivotal' and at that moment is in a position to determine the price of electricity. In other words, at these moments this player may act independently of its competitors and buyers and at these moments therefore has a dominant position.

192. For the time being, there is no European practice with regard to the application of PSI in relation to merger control. In the United States, PSI is applied in a regulatory context by the Federal Energy Regulatory Commission (FERC).¹¹² The FERC does not allow electricity prices to be determined without price regulation¹¹³ if a supplier is pivotal at any moment examined (in other words, if the PSI is greater than zero). If the demand for electricity cannot be met in a particular market without making use of (part of) the capacity of one particular supplier, this supplier is then pivotal and is assumed to have a dominant position.

5.1 NMa invites parties involved to give a substantiated response to the use of a PSI analysis within the framework of merger control in the electricity sector. Which values do you consider acceptable in this regard?

5.2.2.3 Simulation models

193. One method for *measuring* the effects on competition of mergers in the electricity sector is the use of so-called simulation models: models whereby the actual competition on the electricity markets is constructed. Such so-called simulation models are not yet used, but are increasingly applied in competition analyses within the framework of merger control, including the analysis of the energy markets.¹¹⁴ Such a model-based analysis may contribute to making explicit and quantifying qualitative arguments.

investigated. In doing so, the effect of the merger on the most important opportunities and incentives for suppliers to act strategically were ascertained. In its ruling of 31 May 2005, the Court of Rotterdam declared NMa's decision in this case to be null and void. This case is currently on appeal before the Trade and Industries Appeals Tribunal.

¹¹¹ The creation or strengthening of a dominant position can also be affected by factors which changed over time, such as the season, the time of the day, the weather and the technical availability of production capacity.

¹¹² FERC does not apply PSI analyses to merger control.

¹¹³ 'Without price regulation' in this context means that non-regulated electricity suppliers may apply to use so-called 'Market Based Rates' (see the website of the Federal Energy Regulatory Commission, www.ferc.gov).

¹¹⁴ See Goppelsröder, M. and Schinkel, M.P. "On the use of economic modelling in merger control", in: Van Bergeijk, P.A.G. and Kloosterhuis, E. "Modelling European Mergers – Theory, Competition Policy and Case Studies", 2005, p. 53-78.

194. Such models can take into account the production capacity of the various players, but also qualitative aspects of their portfolios, in particular differences in the marginal costs of the various production units, the available import capacity, various levels of demand and elasticity values, etc. The models also make it possible to take into account the factor of time which, as was stated above, or to play an important role in the analysis of competition on this market. Import opportunities can also be taken into account in a realistic manner, so that the most significant aspect of the relevant geographical market can be incorporated into the research. With regard to the product markets, which depend on various levels of demand (during peak hours and off-peak hours), these models can be used to calculate the projected market outcomes for each level of demand.

5.3 Remedies

5.3.1 Remedies in general

195. When NMa sees competition concerns in a proposed merger, the parties to the merger, if they so wish, may propose measures which will remove these competition concerns.¹¹⁵ The Guidelines for Remedies of 17 December 2002 (hereinafter "the Guidelines for Remedies") aim to give insight into the substantive requirements which remedies must meet in NMa's opinion and the way in which the remedies must be submitted and implemented. It should be noted in this regard that the concrete assessment of proposed remedies always depends on the special circumstances of the individual case.

196. Three types of remedies are distinguished in the Guidelines for Remedies. As set out in the Guidelines for Remedies, remedies should preferably have a structural character. Structural remedies affect the control relationships and bring about a structural change on the market. This usually involves divestments of one or more parts of the undertakings to be merged. Behavioural remedies imply that the undertaking which will be realised as a result of the merger will behave in a particular way or will refrain from certain behaviour. Behavioural remedies therefore require continuous monitoring of the behaviour of undertakings. In addition to structural remedies and behavioural remedies, a further distinction is made into so-called quasi-structural remedies. Quasi-structural remedies are remedies which do not have a structural character, but which have permanent (and more or less structural) effects on the market. An example of such a remedy is the issuing of an exclusive and privative licence; despite the fact that the new undertaking retains the title, and in this sense the remedy is not structural, the *de facto* result is that the new undertaking cannot make use of certain assets.

197. In some circumstances, remedies may also be of a temporary nature. This may apply, for instance, where the case relates to technologically strong markets which are undergoing change or where the merger involves undertakings which operate on markets which are in transition from strong (price) regulation to a market orientation, as in the case of the energy sector. In such situations, markets may undergo strong development, also in geographical terms. In this case, when assessing the merger, it is necessary to consider what the market and the market relationships will be in a number of years' time and how the expected market developments will be taken into account in the assessment. This may necessitate the imposition of

¹¹⁵ These measures are so-called 'remedies'. 'Remedies' is also the English term for contracts offered by parties which are attached by the European Commission as conditions and obligations to its decision granting its approval. See the Commission Notice on remedies acceptable under Council Regulation (EEC) No 4064/89 and under Commission Regulation (EC) No 447/98, OJEC C 68/3, 2 March 2001.

temporary remedies, exclusively for the period in which the market is not yet fully developed (in the expectation that it will develop fully within a foreseeable number of years).

198. Various types of remedies may address different types of competition concerns. A rough distinction can be made between four types of remedies, namely remedies which address (a) the market position of parties, (b) barriers to entry, (c) delivery to third parties and (d) procurement from third parties.¹¹⁶

(a) *Remedies which focus on the market position of the parties*

199. In the majority of competition cases in which competition concerns arise, including the energy sector, these involve the creation or strengthening of market power because parties combine their strength on a market. In such cases, the tried and tested remedy is to divest part of the undertaking on the market in question.¹¹⁷ It appears, however, from a recent study by the European Commission¹¹⁸ into the effectiveness of remedies in the period from 1996 to 2000¹¹⁹ that approximately 30% of remedies, whereby a subsidiary was divested, were only partially effective or were not affected at all in the period following the merger (three to five years). The shortcomings appear to relate mainly to the (inadequate) scope of the parts of the undertakings to be divested (shares and/or activities). In addition, factors such as finding a suitable buyer, the disintegration of the part of the company to be divested from the remaining parts of the company and the actual transfer also play a role in the effectiveness of the remedies studied.

200. It is therefore of considerable importance that the above-mentioned aspects are considered carefully by the competition authority when parties present proposals to remove the competition concerns which have been identified. The European Commission has drawn up a number of documents¹²⁰ on this. In these, the importance, amongst others, of the fact that the part of the company to be divested must be clearly defined, as such should be a viable undertaking which can compete effectively after the sale with the merged company, and must include those activities and/or shares which are best suited for this purpose.

(b) *Remedies which focus on barriers to entry*

201. Mergers can result in the creation of or an increase in the barriers to entry, which usually give rise to competition concerns. For instance, the vertical integration of two parties active at various levels in the product chain may, for instance, result in a situation where one entrant would have to enter at both levels to

¹¹⁶ See, for instance, Lindsay, A., *The EC Merger Regulation: Substantive Issues*, Sweet & Maxwell, London, 2003.

¹¹⁷ See de Commission Notice on remedies acceptable under Council Regulation (EEC) No 4064/89 and under Commission Regulation (EC) No 447/98, *op. cit.*, paragraph 13: "Where a proposed merger threatens to create or strengthen a dominant position which would impede effective competition, the most effective way to restore effective competition, apart from prohibition, is to create the conditions for the creation of a new competitive entity or for the strengthening of existing competitors via divestiture."

¹¹⁸ See the European Commission, DG COMP, *Merger Remedies Study*, October 2005.

¹¹⁹ The study analysed 40 (of a total of 91) merger decisions taken by the European Commission with 96 (of a total of 227) different remedies for the period 1996 to 2000. The decisions and remedies analysed were selected on the basis of (i) the type of remedy, (ii) the number of remedies accepted in the notification phase or after a more in-depth investigation in the licensing phase and (iii) the type of sector in which the merger took place.

¹²⁰ The Commission has drawn up so-called "Best Practice Guidelines", as well as a standard model for the divestment of parts of undertakings and a standard model for the trustee mandate.

compete effectively. Another example is a situation where a merger results in the merged undertaking acquiring control of important infrastructure which may make it more difficult to enter.

202. Examples of remedies which address competition concerns with regard to barriers to entry are the stimulation of new entry (for instance, by granting access to infrastructure or making technologies compatible) and removing contractual agreements which obstruct entry (such as exclusive contracts and the purchase/ supply of bundled products).

(c) (d) Remedies which focus on deliveries to third parties and procurement from third parties

203. In the case of the vertical integration of two parties, which are active at various levels in the product chain, delivery to third parties and/or procurement from third parties may be restricted if the merged parties trade more internally and, as a result, deliver less to third parties and/or procure less from third parties.

204. Competition concerns in relation to deliveries to third parties can be solved by divesting parts of the undertaking, but in some cases also by means of behavioural remedies, such as granting access to infrastructure and granting licences. Competition concerns in relation to procurement from third parties can be solved, for instance, by means of procurement guarantees.

5.3.2 Remedies in concentration cases in the energy sector

205. In the energy sector, remedies usually take the form of the divestment of certain parts of the company at the level of production and wholesale trade. In addition, behavioural remedies are also offered, depending on the competition concerns identified. On the basis of practical examples, a description will be given below of the way in which NMa and the European Commission have dealt with remedies proposed by parties to merger cases on the energy markets. The leading example of a merger case in the energy sector in the Netherlands is the case of *Nuon – Reliant*, in which the proposed remedy was the auctioning of capacity (a quasi-structural remedy). This remedy was of a temporary nature. The European Commission has dealt with various merger cases in the energy sector, of which two will be discussed briefly here to illustrate the types of remedies proposed on the electricity (and gas) markets.

5.3.2.1 NMa: *Nuon – Reliant*

206. In the case of *Nuon – Reliant*, the parties made proposals to remove competition concerns identified by NMa on the electricity wholesale market. NMa noted that a dominant position would be created or strengthened on the wholesale market which would appreciably restrict *de facto* competition. The final proposal, in brief, stipulated that Nuon would auction 900 MW of firm capacity¹²¹ for (successive periods of) five years. The capacity would be auctioned in blocks of 10 MW for a period of five years. At least 80% of the nominated firm capacity would be generated by the Intergen power station, as far as possible on the basis of the technical availability of the Intergen power station.¹²² Nuon, Essent and Electrabel were excluded from the

¹²¹ 'Firm' capacity is understood to be capacity the availability of which is guaranteed by Nuon.

¹²² Intergen is a gas-fired power station with a capacity of 800 MW. At the time of the decision of 8 December 2003 in the licensing phase of case 3386/ *Nuon – Reliant*, *op. cit.*, Nuon was expected to procure electricity for 15 years to the exclusion of the Intergen power station after the power station came into operation in 2005. See the aforementioned decision, recital 43.

auction. The monitoring trustee was to supervise compliance by Nuon with its obligations, including the holding of the auction, and to report to NMa.

207. Approximately 38 months after the decision in the licensing phase of case 3386/ *Nuon – Reliant*, Nuon applied for a review of the conditions attached to the above-mentioned decision. In accordance with this application, Nuon was obliged to auction a quantity of firm capacity amounting to 200 MW rather than 900 MW for a period of one year, commencing on 1 January 2005 and ending on 31 December 2005. The reason for the application was the proposed transfer by Nuon to Eneco of Nuon's contractual entitlements to the capacity of Intergen (hereinafter "the Intergen contract").

208. The request of the parties to the notification was granted subject to the condition that Nuon would organise a subsequent auction of 900 MW of firm capacity for delivery from 1 January 2006, if it had not shown to NMa's satisfaction by the latest on 1 September 2005 that the transfer of the Intergen contract to Eneco had taken place or would take place before 1 January 2006. In June 2005, Nuon definitively transferred the 15-year procurement contract with InterGen to Eneco. The original decision by NMa in this case was declared null and void by a court ruling in May 2005. This case is currently on appeal before the Trade and Industry Appeals Tribunal.

5.3.2.2 Decisions of the European Commission

209. The European Commission has assessed numerous merger cases in the energy sector. In several cases, the Commission was of the opinion that competition concerns would arise as a result of the proposed merger and remedies were offered by the notifying parties. Two recent examples are discussed briefly below.

210. In a decision¹²³ by the European Commission, the proposal by the established electricity supplier in Portugal and an Italian electricity supplier to obtain joint control of the established gas producer in Portugal gave rise to competition concerns. The competition concerns identified related to the market position of the parties, the elimination of an important potential competitor and supply to third parties. The parties offered, for instance, to divest certain parts of the undertaking in the area of the production and sale of electricity, to reduce their interest in a third party, not to construct any new generation capacity until 2010 and to lease part of the existing generation capacity to third parties. With regard to the production and sale of gas, the parties offered to guarantee access to the infrastructure in various ways, to divest two distribution undertakings and to increase the flexibility of the gas supply contract with buyers.

211. The European Commission decided that the above-mentioned remedies were not sufficient to remove the competition concerns in relation to the market position of the parties on the wholesale market and on the resale market for electricity. It was uncertain, in particular, whether refraining from constructing new capacity and leasing part of the capacity would have the same effects as a structural remedy which would make possible effective and timely entry to the market. The proposed remedy is also insufficient to remove the concerns in relation to the supply of gas to competing electricity producers. Furthermore, in the opinion of the Commission, there was insufficient certainty that the proposed remedies could solve the competition concerns with regard to the market position of the parties on the wholesale market(s) for the supply of gas to various groups of buyers. The European Commission therefore prohibited the proposed merger.

¹²³ See case COMP/M.3440 – *ENI-EDP-GDF*, *op. cit.*

212. In another decision¹²⁴ by the European Commission, the proposal by the German gas and electricity provider E.On to acquire two subsidiaries of the established Hungarian gas producer and supplier, MOL, also gave rise to competition concerns. The concerns of the European Commission related to the market position of the parties and the supply of gas to third parties.¹²⁵ The package of remedies MOL and E.On offered comprise both structural and behavioural remedies. The structural remedies included, for instance, the complete unbundling of ownership of the gas production and transmission activities (which were to remain behind with MOL) and the wholesale and storage activities (which were to be transferred to E.On),¹²⁶ as well as the obligatory sale of one billion m³ of gas per year during the period from 2006 to 2013.¹²⁷ Proposals to remove the competition concerns in relation to the supply of gas to third parties related to relinquishing to a third party half of the contract with the remaining subsidiary of MOL, which is active in the production of gas and granting of access to storage capacity subject to regulated prices and conditions. The European Commission was of the opinion that the proposed remedies were adequate to remove the competition concerns expressed.

5.4 Summary

213. Within the framework of merger control, NMa assesses proposed mergers or acquisitions on the basis of whether, as a result of the merger, a dominant position will arise or be strengthened which will appreciably restrict competition on the market involved. A method usually applied to answer this question is to define the relevant market(s) and then to carry out a market analysis and possibly an analysis of the (change to the) degree of concentration. Simulation models and PSI analyses are methods which take into account the effects on competition of a proposed merger directly and which are appropriate to the specific characteristics of the energy sector.

214. Where proposed mergers give rise to appreciable competition concerns, the parties have the possibility of offering remedies which may remove these competition concerns. In the energy sector, remedies often take the form of divesting certain parts of the undertaking at the level of production and wholesale trade. In addition, depending on the competition concerns identified, behavioural remedies may also be offered, such as making capacity available, providing guarantees of delivery and granting access to infrastructure.

¹²⁴ See case 3696/ *EOn – MOL*, *op. cit.*

¹²⁵ Although the competition concerns in this case related mainly to the Hungarian gas market(s), similar competition concerns may arise on electricity markets and comparable remedies may be offered to remove these concerns.

¹²⁶ Initially, MOL was to retain a minority interest of 25% + 1 share in the two subsidiaries which were to be sold.

¹²⁷ This is the largest so-called 'gas release program programme' in Europe to date within the framework of merger control.

6 Possible effects of mergers

6.1 Introduction

215. Within the framework of this consultation document, NMA has investigated possible future merger scenarios. These are purely hypothetical scenarios which, in principle, may conceivably occur in the near future.

216. Consideration was first given to the possible horizontal effects of a merger of two large parties in the Netherlands.¹²⁸ In the light of the fact that they control a large share of electricity production and trade, Nuon and Essent served as examples for this investigation, in the sense that the investigation took as its point of departure parties of similar size in the Netherlands.¹²⁹ This merger scenario will be referred to below as HOR-NL/NL (a merger of two large parties in the Netherlands with consideration given only to horizontal effects).

217. In addition, consideration was given to the possible horizontal effects of a merger of a large foreign supplier with little or no production and trading activities in the Netherlands and a large party in the Netherlands, to investigate the much-discussed scenario of an acquisition by a foreign player. This investigation was modelled on RWE, a large German player with few activities in the Netherlands, and Essent, in the sense that the investigation takes as its point of departure parties of similar size with activities in the Netherlands and other countries. This merger scenario is referred to below as HOR-BU/NL (a merger of a foreign party and a Dutch party with consideration given only to horizontal effects).

218. Thirdly, an investigation was carried out into the possible vertical effects of a merger of two players where the one partner is active at the level of production and wholesale trade in the Netherlands and the other at the level of retail trade in the Netherlands, in other words on vertically related markets. These effects may occur in the case of a merger of two players which are already vertically integrated and which are active both at the level of production and wholesale trade, and at the level of retail trade, such as Nuon and Essent, but also of players of which one party is active entirely or mainly at the level of production and wholesale trade, such as Electrabel, and the other is active more at the level of retail trade, such as Eneco. Electrabel and Eneco served as models for this investigation, in the sense that the investigation took as its point of departure parties with similar activities in the Netherlands. This merger scenario is referred to below as VERT-NL/NL (a merger of two parties active in the Netherlands with consideration given only to vertical effects).

219. The merger scenarios, HOR-NL/NL and HOR-BU/NL, will be investigated below on the basis of the assessment methods explained in the previous chapter to ascertain (i) the estimated market shares of the most important players, (ii) the HHI, (iii) the PSI and, where applicable, (iv) the outcomes of the Cournot simulation model which Brattle has designed and implemented in relation to pricing on the production and wholesale markets for electricity during peak hours and during off-peak hours. The possible effects of the hypothetical vertical integration of two parties active on vertically related markets will then be explained.

¹²⁸ Although this investigation relates to the effects of a merger of two relatively large parties, it should be noted that, in principle, it is also possible for competition concerns to arise in the case of small market shares as a result of a merger on the production and wholesale markets for electricity (see paragraph 190).

¹²⁹ Although Electrabel is a Belgian party, it is also a large party in the Netherlands. Where reference is made here to large parties in the Netherlands, this refers to Nuon, Essent and Electrabel.

Where possible competition concerns are foreseen in the investigation of these three merger scenarios, possible remedies which could remove these competition concerns will be discussed.

220. In addition to the three merger scenarios, an initial investigation of the balancing market and the possible effects of mergers on this market will be discussed in this chapter. The possible coordinated effects on the electricity markets will also be discussed briefly. At the end of each investigation, a summary will be given of the most important points which emerged from the respective investigation.

221. It must be emphasised that the investigation of possible future merger scenarios are based on information which is publicly available at present and on cautious assumptions with regard to the capacity which various players have at their disposal and the degree of concentration. Each assessment of a possible future merger, based on all the relevant (business) information which has to be submitted within the framework of NMa's merger control, can only take place when parties notify NMa of a proposed merger. The investigations described do not replace the actual merger analysis, but are meant to provide an insight into the way in which NMa approaches such cases and what the possible conclusions could be.

6.2 Merger scenario HOR-NL/NL

6.2.1 Market shares

Production and wholesale market for electricity during peak hours

222. In chapter 3 it was concluded that the production and wholesale market for electricity during peak hours is a national market. This market consists of all production capacity in the Netherlands, with the exception of wind energy,¹³⁰ plus the import capacity available during peak hours. The demand for electricity in the Netherlands consists of all consumption in the Netherlands during peak hours plus the net¹³¹ demand from other countries through the available cross-border connections during peak hours. The size of the market, expressed as available capacity, will be approximately 21.7 GW in 2008.¹³²

6.1 NMa invites parties involved to give a substantiated response to the proposition that (i) the size of the production and wholesale market for electricity in the Netherlands during peak hours should be expressed as the available capacity, and (ii) that this includes all production capacity in the Netherlands, with the exception of wind energy, plus the import capacity available during peak hours.

223. Within the framework of the investigation commissioned by NMa, Brattle calculated what the approximate market shares¹³³ would be before and after a hypothetical merger of two large Dutch providers

¹³⁰ The generation of wind energy is unpredictable and cannot be controlled easily to influence market prices. In addition, this type of energy often has different prices and tariffs to conventional energy.

¹³¹ The total demand for energy from other countries through the available import capacity minus the electricity delivered to the other country across the available cross-border connections.

¹³² The analysis assumes the market situation in the year 2008, so that all relevant (planned) investments between now and 2008 in import, transmission and production capacity by TenneT and the producers have been included in the analysis.

¹³³ Brattle calculates the market shares and HHI on the basis of capacity (MW), because capacity (more than, for instance, the quantity of electricity sold) is an instrument for measuring the extent to which market players have the opportunity to produce electricity and, by

on the Dutch production and wholesale market for electricity during peak hours. As appears from table 1 below, the two large parties in the Netherlands would have a joint market share of approximately 40% after a merger.

Table 6.1 Average market shares of the most important suppliers on the Dutch production and wholesale market for electricity during peak hours

Electrabel	22%
Essent	21%
Nuon	16%
E.ON	9%
Delta	4%
Other (incl. import)	29%

Due to the rounding off of market shares, the sum of the individual market shares may deviate slightly from 100%.

Source: Brattle Report.

224. If the production and wholesale market for electricity during peak hours is larger than the national market and, in addition to the Netherlands, if it were also to include Belgium, the size of the market in 2008 would be approximately 34.8 GW and the joint market share of the two large parties in the Netherlands would sooner be in the vicinity of 25% or, if Electrabel were one of these parties, in the vicinity of 50%.¹³⁴ If the production and wholesale market for electricity during peak hours, in addition to the Netherlands, were also to include Germany, the size of the market in 2008 would be approximately 115.7 GW and the joint market share of the two large players in the Netherlands would probably be less than 10%.

Production and wholesale market for electricity during off-peak hours

225. To determine the size of the production and wholesale market for electricity during off-peak hours, the use of available capacity in the Netherlands was examined. With regard to the total available capacity in the Netherlands, there is an observable gap between power stations which produce 59% or less of their output in peak hours and power stations which produce 75% or more of their output in peak hours. It is reasonable to take the mean of this difference as the boundary between peak and baseload capacity. Power stations which generate more than 67% of their output during peak hours are therefore regarded as peak capacity in this consultation document and power stations which generate less than 67% of their output during peak hours are regarded as baseload capacity. In determining the size of the production and wholesale market for electricity during off-peak hours, only baseload capacity must be taken into consideration and power stations which generate more than 67% of their output during peak hours must not be taken into consideration.¹³⁵

doing so, to influence prices. Market shares calculated on the basis of the electricity produced, on the other hand, only give an insight into the decisions which market players took in the past and do not give an insight into the opportunities which a producer has to deploy flexible capacity.

¹³⁴ The reason for this is the strong position which Electrabel has in Belgium.

¹³⁵ See the Brattle Report, p. 88.

6.2 NMa invites parties involved to give a substantiated response to the proposition that (i) the size of the production and wholesale market for electricity during off-peak hours must be expressed in terms of available capacity, and (ii) that in doing so only baseload capacity must be taken into account and power stations which generate more than 67% of their output during peak hours (peak capacity) should not be taken into account.

226. It is stated in chapter 3 that the production and wholesale market for electricity during off-peak hours is probably larger than a national market and that the production and wholesale market for electricity during off-peak hours will comprise the Netherlands and Germany due to the fact that in the event of a price increase in the Netherlands, approximately 85% of the additional import generated by this would originate from Germany. On a Dutch-German production and wholesale market for electricity during off-peak hours a merger of two large parties in the Netherlands would result in a joint market share of less than 10% (see table 6.2).

Table 6.2 Market shares of the most important suppliers on a Dutch-German production and wholesale market for electricity during off-peak hours

E.On	20%
RWE	15%
Vattenfall	10%
STADTWERKE	7%
STEAG AG	4%
Electrabel	3%
KRAFTWERK	3%
Essent	3%
Nuon	2%
EnBW	1%
Other (incl. import)	32%

Source: Brattle Report, p. 89.

6.2.2 HHI

227. In its research commissioned by NMa, in addition to the market shares of the most important players on the various possible geographical production and wholesale markets for electricity during peak hours and during off-peak hours, Brattle also calculated the HHI of these possible markets and calculated how this HHI would change as a result of a hypothetical merger of two large parties in the Netherlands. It should be noted that, in doing so, Brattle made a relatively conservative calculation of the HHI.¹³⁶

¹³⁶ In the past, NMa allocated 400 MW of additional capacity to each of the larger players because they each had a maximum of 400 MW of import capacity at their disposal. This results in higher HHI values. See the decision in the licensing phase in case 3386/ *Nuon – Reliant Energy Europe, op. cit.*, footnote 59. NMa uses the same method in the publication "Market Monitor: Development of the Wholesale Market for Electricity in 2005" [*Marktmonitor, ontwikkeling van de groothandelsmarkt voor elektriciteit 2005*], which is expected to be published in June 2006.

Production and wholesale market for electricity during peak hours

228. If it is assumed that a production and wholesale market for electricity during peak hours is a national market, a merger of two large parties in the Netherlands would have an appreciable effect on the HHI of this market. Given the market shares of suppliers on the Dutch production and wholesale market for electricity during peak hours, as shown in table 6.2, a merger such as this would cause the HHI to increase by approximately 700 points, from 1,300 to approximately 2,000.

229. If the production and wholesale market for electricity during peak hours were larger than a national market and if it were to include Belgium in addition to the Netherlands, a merger of two large Dutch parties would cause the HHI to increase by about 300 points, from approximately 2,000 to approximately 2,300. If Electrabel were one of the partners to the merger, the HHI would probably increase by more points due to Electrabel's strong position in Belgium. If the production and wholesale market for electricity during peak hours were also to include Germany, in addition to the Netherlands, a merger of two large parties in the Netherlands would probably cause the HHI to increase by less than 50 points and to remain under 1,000.

Production and wholesale market for electricity during off-peak hours

230. As was stated in paragraph 226, the production and wholesale market for electricity during off-peak hours would probably comprise the Netherlands and Germany. On this market, a possible future merger of two large parties in the Netherlands would probably cause the HHI to increase by less than 50 points and remain below 1,000.

6.2.3 PSI

231. Within the framework of the research commissioned by NMa, Brattle analysed the percentage of the time that the production and wholesale market for electricity during peak hours is characterised by one or more so-called pivotal suppliers, which are able to determine the price of electricity at these moments.¹³⁷

Production and wholesale market for electricity during peak hours

232. A pivotal supplier will not exist on the Dutch production and wholesale market for electricity during peak hours prior to a possible future merger of two large parties in the Netherlands.¹³⁸ However, the merger of the two large parties in the Netherlands used in the model would mean that the capacity of the combined undertaking would be required for approximately 70% of the total number of peak hours to meet demand and during these hours they would be in a position to determine the price of electricity.

233. If the production and wholesale market for electricity during peak hours is larger than the national market and, in addition to the Netherlands, were also to include Belgium, the combined undertaking would be pivotal for approximately 55% of the total number of peak hours. Electrabel would be pivotal on a Dutch-

¹³⁷ In its PSI analysis, Brattle has taken wind energy into account by deducting the average wind energy production from total demand. After all, by reducing the demand for conventional energy, the supply of wind energy results in a reduction in the percentage of the time that one or more suppliers is/are able to determine the price of electricity (in other words, the supply of wind energy reduces the PSI).

¹³⁸ It cannot simply be concluded from this that the market is competitive. If a supplier, for instance, is not pivotal and has numerous power stations, it can still always opt (not) to deploy part of its capacity and, by doing so, to drive up the price. In addition, the fact that none of the suppliers is pivotal says nothing about the possible joint dominant position of the larger players.

Belgian production and wholesale market for electricity during peak hours for 100% of the time¹³⁹ and would therefore be jointly pivotal with the combined undertaking used in the model. A situation with two pivotal players is possibly more disadvantageous to competition than a situation in which a single supplier is pivotal, depending on the extent to which these suppliers are pivotal.¹⁴⁰

234. If the production and wholesale market for electricity during peak hours is larger than the national market and, in addition to the Netherlands, were also to include Germany, the combined undertaking would not be pivotal at any moment.

Production and wholesale market for electricity during off-peak hours

235. None of the Dutch parties used in the model of a future merger of two large parties in the Netherlands is pivotal on a Dutch-German production and wholesale market for electricity during off-peak hours. A merger of two large parties in the Netherlands would not change anything in this regard, in the sense that the combined undertaking would also not be pivotal. On this market, a large German provider may well be pivotal.

6.2.4 Simulation model

236. To obtain greater insight into the extent of the effects of possible future mergers, NMa asked Brattle to design and apply a model to simulate competition on the various electricity markets. Cournot models are usually used to model electricity markets.¹⁴¹ In the standard Cournot model used in microeconomics, it is assumed that the suppliers vary their output to maximise their profit, given the supply of the other suppliers. In addition, the Brattle model takes into account the presence of a number of smaller players which take the price to be a given and which do not (or cannot) behave strategically.¹⁴² This has a disciplining effect on the production decisions of the larger players.¹⁴³ It is also assumed that electricity suppliers have already sold a certain quantity of their output at a fixed (forward) price. This could slightly reduce their incentive to increase their prices (by not deploying capacity).¹⁴⁴ For a full description of the Cournot simulation model used by Brattle, see section 7.2 of the Brattle Report.

¹³⁹ In other words, Electrabel's capacity is always necessary to meet demand.

¹⁴⁰ See the Brattle Report, p. 86.

¹⁴¹ Examples are the modelling of the Californian market by Bushnell and Borenstein (see: S. Borenstein and J. Bushnell, 1999), of the entire "Eastern interconnection" in the US (see: U. Helman, *Oligopolistic Competition in Wholesale Electricity Markets: Large Scale Simulation and Policy Analysis Using Complementarity Models*, Ph D thesis, Johns Hopkins University, 2003) and of the market in Scandinavia (see E.S. Amundsen and L. Bergman, 2002. "Will Cross-Ownership Re-Establish Market Power in the Nordic Power Market?" *The Energy Journal*, Vol. 23, No. 2.).

¹⁴² In microeconomics this is also referred to as the 'competitive fringe'.

¹⁴³ After all, to realise more turnover smaller players will increase their production if the (given) price is higher. A larger total production, however, has the effect of depressing prices and, by doing so, has a disciplining effect on the large suppliers.

¹⁴⁴ Suppliers who have already sold a certain quantity of output in advance at a fixed (forward) price always have an incentive to drive up prices, because driving up prices may not only increase immediate turnover, but may also result in higher prices for new forward contracts.

237. A characteristic of a Cournot simulation model is that it is not necessary to define relevant (geographical and product) markets because it is possible to examine the (price) effects of a particular merger immediately, taking into account disciplinary factors already built into the model, such as import. It is therefore also not necessary to distinguish between a production and wholesale market for electricity during peak hours and a production and wholesale market for electricity during off-peak hours because the Cournot simulation model considers each hour separately.

238. Brattle compared the prices *after* a merger of the two large parties in the Netherlands used in the model and the prices prior to the merger. The Cournot simulation model predicts that on average prices in peak hours after a merger will be more than 7% higher than before the merger and in certain hours could even be 12% to 13% higher, which corresponds to a price increase of more than EUR 8/MWh.

6.2.5 Horizontal effects at the level of retail trade

239. The retail market for electricity in the Netherlands is very concentrated; the HHI is approximately [2,200 – 2,300]. A merger of the three largest parties in the Netherlands would result in a joint market share of [80 = 90]%.¹⁴⁵ The HHI on the retail market would increase considerably due to the merger by approximately [1,600 - 1,700] to [3,900 - 4,000].¹⁴⁶

240. In this regard, it should be noted that there are possibly more opportunities to enter the retail market than the production and wholesale markets. To put this point in perspective, however, the Dutch retail market (as is the case with the retail market in other European countries) is characterised by low switching rates¹⁴⁷ and thus far that there is no evidence of opportunities for successful entry.

6.3 NMa invites parties involved to give a substantiated response to the outcome of the analysis, namely that a merger of two large parties in the Netherlands will probably result in appreciable competition concerns on the Dutch production and wholesale market for electricity during peak hours and on the Dutch electricity market.

6.2.6 Possible remedies

241. On the basis of the investigation of merger scenario HOR-NL/NL, it is probable, using various assessment methods, that a merger of two large parties in the Netherlands will give rise to appreciable competition concerns on the Dutch production and wholesale market for electricity during peak hours, and possibly on a Dutch-Belgian production and wholesale market for electricity during peak hours.

242. In this merger scenario, it is possible to remove the above-mentioned competition concerns, for instance by divesting production capacity. It should be noted in this regard, however, that the effect of a remedy can only be determined when the exact extent of the competition problem is known. By definition,

¹⁴⁵ See the Brattle Report, p. 110.

¹⁴⁶ The structural characteristics of the retail market lend themselves less to a PSI analysis or simulation. In this investigation of the horizontal effects at the retail level, these assessment methods will therefore not be discussed in more detail.

¹⁴⁷ The number of consumers which switch retailers is the number compared to the total number of consumers.

remedies are very case-specific. The exploratory nature of the study must therefore once again be emphasised.

243. Assuming the European Commission's Horizontal Guidelines in relation to the HHI, Brattle investigated approximately what capacity two large Dutch parties would have to divest to remove the competition concerns. Taking the Dutch production and wholesale market for electricity during peak hours as the point of departure, divesting capacity in the order of magnitude of approximately 1,900 MW would result in an acceptable HHI.¹⁴⁸ Brattle's simulation analysis, however, implies that the price of electricity during peak hours may be above the level preceding the merger and that the merged parties may still be pivotal after divesting this capacity. If they are never to be pivotal again, it may be necessary to divest more capacity.

244. A possible remedy to remove any competition concerns in relation to horizontal effects at the retail level is the divestment of parts of the retail business, in other words the sale of parts of the customer base.¹⁴⁹ Other possible solutions to competition concerns on the electricity retail markets can be found in the area of behavioural remedies, such as making it possible for buyers to cancel their contracts prematurely (in order to switch to a different supplier) and reducing any barriers to entry. Up until now, however, such remedies have not been tested in practice on the electricity retail market.

245. It is conceivable that competition concerns may be of a temporary nature (see also chapter 5). In markets in transition (from centralised regulation to a market orientation), in particular, it is important when assessing mergers to take developments which affect the definition of the relevant markets explicitly into account. This is necessary especially where, as in the case of the energy markets, the increase in the size of the largely national energy market is an explicit political objective of both the European Commission and the national government. This does not mean, however, that in assessing mergers, politically desirable decisions must be taken, or that the market should be defined more broadly than it actually is. In particular where the size of the market is experiencing strong growth, NMa may consider quasi-structural or behavioural remedies of a temporary nature, such as periodic auctioning of production capacity for a number of years or the obligation to offer part of the capacity on the APX.

<p>6.4 NMa invites parties involved to give a substantiated response to the proposition that where markets are in transition, in assessing mergers NMa may take the expected development of the market into</p>
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¹⁴⁸ See the Brattle Report, p. 94. On a Dutch-Belgian market during peak hours, this would sooner be in the order of magnitude of approximately 1,000 MW.

¹⁴⁹ In the Netherlands, no experience has been acquired with remedies in the retail market for electricity or similar markets. The European Commission, as far as is known at this moment, has no earlier experience with remedies which focus specifically on the retail markets in the energy sector. (The European Commission, however, did conclude that competition concerns arose on retail markets in the energy sector, but these were usually related to the market position of parties at the level of production and wholesale trade. As a result, remedies relating to the market position of parties at the level of production and wholesale trade (such as the divestment of capacity) often also solve the problems on the underlying retail market.) In Pennsylvania in the United States, following liberalisation in 1999 customer data were sold to create more competition on the retail market. To limit market dominance, PECO, the largest supplier/network manager in Pennsylvania, was obliged to sell part of its customer base. Although this context differs from that of merger control, the divestment of customer bases, even in the form of a remedy, is conceivable in a merger case which gives rise to competition concerns on the retail market for electricity. However, experience with the divestment of customer bases in Pennsylvania is mixed; within a year, 25% to 33% of the customers had switched back to their previous supplier.

account in its assessment. Furthermore, in addition to accepting so-called structural remedies, on this type of market quasi-structural and behavioural remedies of a temporary nature with a clear time horizon must be considered. In addition, if appropriate to your answers, we request you to work out examples of remedies, including a time dimension, which do justice to the expected temporary nature of the competition concerns.

6.2.7 Summary of HOR-NL/NL

246. A number of points emerged from the investigation of the HOR-NL/NL merger scenario, which are summarised briefly here.

247. Firstly, a merger of two large parties in the Netherlands will probably give rise to competition concerns on a national production and wholesale market for electricity during peak hours and possibly also on a production and wholesale market for electricity during peak hours which, in addition to the Netherlands, also comprises Belgium, particularly in the light of the (increase in the) HHI, the PSI analysis and the simulation analysis. If a Dutch production and wholesale market for electricity during “super-peak hours” were to be assumed, this conclusion would remain unchanged.¹⁵⁰

248. In addition, for the time being a merger of two large parties in the Netherlands would probably not give rise to competition concerns either on the Dutch-German production and wholesale market for electricity during peak hours, or on the production and wholesale market for electricity during off-peak hours, which would probably comprise the Netherlands and Germany.

249. Finally, a merger of two large parties in the Netherlands on the Dutch retail market may give rise to competition concerns due to their joint market share and the degree of concentration. For the time being, it is unclear to what extent opportunities to enter the market will affect this conclusion.

250. Examples of remedies (at the level of production and wholesale trade) which may remove any competition concerns that could arise in the HOR-NL/NL merger scenario include the divestment of capacity (at the level of retail trade), the divestment of parts of the customer base and facilitating switching to other suppliers.

6.3 Merger scenario HOR-BU/NL

6.3.1 Market shares

Production and wholesale market for electricity during peak hours

251. At NMA's request, Brattle also analysed the horizontal effects of a merger of a large foreign player and a large Dutch player. To do so, Brattle calculated what the market shares¹⁵¹ would be on the Dutch production

¹⁵⁰ After all, the suppliers on this possible market during peak hours would be the same as those on a market during peak hours and the analysis would therefore have to be the same.

¹⁵¹ Brattle calculates the market shares and HHI on the basis of capacity (MW), because capacity (more than, for instance, the quantity of electricity sold) is an instrument for measuring the extent to which market players have the opportunity to produce electricity and, by

and wholesale market for electricity during peak hours prior to and after a hypothetical merger of a large foreign player and a large Dutch player. Assuming that the foreign player is not active in the Netherlands, a merger of a large foreign player and a large Dutch player would not affect the market shares of the players on the Dutch production and wholesale market for electricity during peak hours. If the foreign player is also not active in Belgium, the same applies if we assume that, in addition to the Netherlands, the production and wholesale market for electricity during peak hours also comprises Belgium.

252. If the production and wholesale market for electricity during peak hours were larger than the national market and, in addition to the Netherlands, were also to include Germany and if the foreign player were a large German supplier (as used in the model), the joint market share of the parties to the merger would be approximately 20% (see table 6.3). If the foreign player is (also) not active in Germany, a merger of a large foreign player and a large Dutch player would not affect the market shares of the players if we assume that the production and wholesale market for electricity during peak hours, in addition to the Netherlands, also comprises Germany.

Table 6.3 Market shares of the most important suppliers on the Dutch- German production and wholesale market for electricity during peak hours

EOn	19%
RWE	16%
Vattenfall	12%
STADTWERKE	8%
Electrabel	4%
STEAG AG	4%
Essent	4%
Nuon	3%
KRAFTWERK	3%
EnBW	2%
Other (incl. import)	26%

Due to the rounding off of market shares, the sum of the individual market shares may deviate slightly from 100%.

Source: Brattle Report, p. 84.

Production and wholesale market for electricity during off-peak hours

253. As was concluded in chapter 3, the size of the production and wholesale market for electricity during off-peak hours is probably larger than a national market. If the production and wholesale market for electricity during off-peak hours were to comprise the Netherlands and Germany, a possible future merger of a large German supplier and a large player in the Netherlands could result in a joint market share below 25% (see table 6.3). If the foreign player is not active in Germany, a merger of this large foreign player and a large player in the Netherlands would not have an effect on the market shares of players on the Dutch-German production and wholesale market for electricity during off-peak hours.

doing so, to influence prices. Market shares calculated on the basis of the electricity produced, on the other hand, only provide an insight into the decisions which market players have taken in the past and do not give an insight into the opportunities which a producer has to deploy flexible capacity.

6.3.2 HHI

254. As was stated in paragraph 227, at NMA's request Brattle calculated the HHIs of the geographical production and wholesale markets for electricity during peak and off-peak hours, as well as the change in these HHIs as a result of a hypothetical merger of a large foreign player and a large Dutch player.

Production and wholesale market for electricity during peak hours

255. As was stated in paragraph 251, a merger of a large foreign player and a large Dutch player will not affect the market shares of the most important players on both the Dutch and a Dutch-Belgian production and wholesale market for electricity during peak hours, assuming that the foreign supplier is not active in the Netherlands and Belgium. The HHI of these markets therefore does not change as a result of a merger of a large foreign player and a large Dutch player.

256. If the production and wholesale market for electricity during peak hours, in addition to the Netherlands, also comprises Germany, a possible future merger of a large German supplier and a large Dutch player would probably result in an HHI below 1,000. If the foreign player is (also) not active in Germany, a merger of this large foreign player and a large Dutch player would not have an effect on the market shares of the players if we were to assume that the production and wholesale market for electricity during peak hours, in addition to the Netherlands, were also to comprise Germany.

Production and wholesale market for electricity during off-peak hours

257. If the production and wholesale market for electricity during off-peak hours were to comprise the Netherlands and Germany, a merger of a large German player and a large Dutch player would cause the HHI to increase by approximately 100 points, but it would probably still remain below 1,000. If the foreign player is (also) not active in Germany, a merger of this large foreign player and a large player in the Netherlands would not affect the HHI of a Dutch-German production and wholesale market for electricity during off-peak hours.

6.3.3 PSI

Production and wholesale market for electricity during peak hours

258. As was stated in paragraph 232, there would not be a pivotal supplier on a Dutch production and wholesale market for electricity during peak hours (prior to a possible future merger of two large parties in the Netherlands). A merger of a large foreign player and a large Dutch player would not change this, assuming that the foreign supplier is not active in the Netherlands. If the foreign player is also not active in Belgium (which is assumed in the model), the same would apply if we were to assume that the production and wholesale market for electricity during peak hours, in addition to the Netherlands, were also to comprise Belgium.

259. If the production and wholesale market for electricity during peak hours, in addition to the Netherlands, were also to comprise Germany, the combination of the parties in the model would probably be pivotal for at most a small percentage of the time and would be in a position to determine the price of electricity. It is possible that the combined undertaking at these moments would be jointly pivotal with another large German supplier.

Production and wholesale market for electricity during off-peak hours

260. The large suppliers on a Dutch-German production and wholesale market for electricity during off-peak hours do not appear to be pivotal or are hardly pivotal at all prior to a merger of a large foreign player and a large Dutch player. As a result of a merger of the parties in the model, the combined undertaking would be in a position to determine the price of electricity for less than 1% of the time and during these moments would possibly be pivotal together with another large German supplier. If the foreign player is not active in Germany, a merger of this large foreign player and a large Dutch player would not affect the extent to which these parties are pivotal on a Dutch-German production and wholesale market for electricity during off-peak hours.

6.3.4 Simulation model

261. Brattle's analysis shows that the effectively available import capacity on the Dutch-German border during most peak hours is fully utilised. If a merger of a large German supplier and a large Dutch player is assumed, this implies that a merger such as this will not have considerable effects on the price on the Dutch production and wholesale market for electricity during peak hours. After all, higher prices would not (and could not) result in more imports, either prior to or after the merger. A price strategy aimed at profit maximisation on the part of the Dutch party would therefore not change as a result of the merger. A Cournot simulation analysis would therefore produce the same results (with regard to prices) if the situation prior to the merger were to be compared to the situation after the merger.

6.3.5 Horizontal effects at the level of retail trade

262. Since the size of the retail market for electricity is the national market (see chapter 3) and it is assumed in merger scenario HOR-BU/NL that the foreign player is not active or is hardly active at all in the Netherlands (not even at the retail level), there is no or hardly any horizontal overlap in the activities of the parties to the merger, namely a large foreign player and a large Dutch player. On the basis of this, for the time being no immediate changes are therefore expected on the Dutch retail market as a result of a merger of such parties.¹⁵²

6.3.6 Involvement of a non-independent TSO

263. If the foreign party were to be a provider with a TSO function that is not independently positioned, it must also be noted that a merger with a Dutch provider, such as that in the example discussed, could have a negative effect on the actual use of cross-border capacity and on the incentive to increase this capacity, even if such a case could be supported from a broader social perspective. After all, by increasing capacity on the Dutch-German border, part of the demand which the Dutch provider services, could be taken over by German competitors. By holding back on increasing the cross-border connections, the German-Dutch undertaking could keep prices high in the Netherlands on the production and wholesale market for electricity during peak hours and perhaps also during off-peak hours and could profit from this (through the Dutch partner).

¹⁵² Any vertical effects which may arise will be discussed below on the basis of merger scenario VERT-NL/NL.

6.5 NMa invites parties involved to give a well-documented response and response which is as concrete as possible to the idea expressed above that in the event of a cross-border merger, in which a non-independently positioned TSO is involved, the opportunity to influence the market must play a role in the assessment of the merger in terms of competition law. In this regard, you are also requested to discuss possible remedies, such as the obligation to provide information, increasing the independence of the TSO function, and increasing cross-border capacity.

6.3.7 Summary HOR-BU/ NL

264. On the basis of market shares, the (increase in the) HHI and the PSI analysis, it is not immediately plausible that a merger of a large foreign player and a large Dutch player will give rise to competition concerns on the production and wholesale markets for electricity during peak and off-peak hours. If the foreign supplier were to be a provider with a non-independently positioned TSO function, it should also be noted that a merger with a Dutch provider could have a negative effect on *de facto* utilisation of the cross-border capacity and on the incentive to increase this capacity, even if such a case could be supported from a broader social perspective.

265. For the time being, no immediate changes are expected on the Dutch retail market as a result of a merger of a large foreign player (which is not active on this market) and a large party in the Netherlands.¹⁵³

6.4 Merger scenario VERT-NL/ NL

6.4.1 Vertical effects

266. In addition to the hypothetical mergers of two large Dutch parties and of a large foreign player and a Dutch player, at NMa's request as part of its research Brattle analysed a hypothetical merger of two parties whose activities are vertically related.¹⁵⁴

267. The possible disadvantageous consequences of a merger of two vertically related parties are (i) a decrease in the liquidity of the wholesale market(s) because the merged entity would trade more 'internally', and the increased barriers to entry which may arise from this, (ii) access to information about competing products/ wholesalers by the party active at the level of production and wholesale trade through contact which the party active at the retail level has with these competing producers and possibly (iii) the disappearance of a potential entrants/ competitor at the retail level (the party active at the level of production and retail trade), as well as the disappearance of a potential competitor at the level of production and retail trade (the party active at the retail level).¹⁵⁵ On the other hand, such vertical integration could reduce consumers' electricity costs. After all, on a competitive market each reduction in transaction costs resulting from vertical integration would have to be passed on to consumers in the form of lower prices.

¹⁵³ This conclusion only relates to the lack of a horizontal overlap of the retail activities of these parties and for the time being does not take into account possible vertical effects.

¹⁵⁴ A merger of parties whose activities are vertically related may also have horizontal effects. In this regard, refer to the investigation of merger scenario HOR-NL/ NL earlier in this chapter.

¹⁵⁵ This last effect will not occur where both parties were active prior to the merger at the level of both production and wholesale trade, and retail trade (and are therefore actual rather than potential competitors at both levels).

268. As was stated in chapter 5 vertical mergers usually result in fewer competition concerns than horizontal mergers. However, if it can be shown plausibly that the parties will have an incentive and the opportunity after the merger to exhibit behaviour which may give rise to the above-mentioned competition concerns, and this incentive and opportunity (or one of the two) arises or is strengthened as a consequence of the merger, it may be concluded that as a consequence of such a merger a dominant position will be created or strengthened which will appreciably restrict *de facto* competition.

6.6 NMa invites parties involved to give a substantiated response to the analysis of a merger of two parties whose activities are vertically related.

6.4.2 Possible remedies

269. If the parties are not able to present a plausible or sufficiently plausible case that the above-mentioned competition concerns will be compensated by achieving efficiency gains in the form of lower consumer prices and NMa concludes that, as a consequence of a merger of these parties, a dominant position will be created or strengthened, which will appreciably restrict competition on the markets involved, remedies may be proposed to remove these competition concerns.

270. In the light of the possible disadvantageous consequences of a merger of two parties whose activities are vertically integrated, as set out in paragraph 267, any remedies should focus on (1) reducing the barriers to entry to stimulate potential competitors, (ii) separating information flows between two vertically integrated parties, on the one hand, and between the party active at the retail level and, on the other hand, other producers and (iii) increasing the liquidity/supply to and procurement from third parties. Examples of remedies which provide for these include making available part of the capacity (of the party active at the level of production and wholesale trade), eliminating any contractual agreements which restrict entry, creating separate management and/or information flows and providing delivery and procurement guarantees.

6.4.3 Summary VERT-NL/ NL

271. A merger of two parties whose activities are vertically related may give rise to appreciable competition concerns due to the vertical effects of such a merger. Although a merger such as this may also result in a reduction in consumer prices, on the basis of information which is publicly available at this moment, the possibility cannot be excluded that a merger of two parties whose activities are vertically related would give rise to competition concerns due to the above-mentioned vertical effects. Examples of remedies which could remove any competition concerns are making available part of the capacity (of the party active on the production and wholesale market), removing any contractual agreements which obstruct entry, separate management and all information flows, and delivery and procurement guarantees.

6.5 Balancing market

6.5.1 Horizontal effect

272. As the Transmission System Operator (CSO), TenneT manages the national high-voltage grid and monitors the balancing market to maintain the balance of supply and demand on this market. Buyers and

sellers inform TenneT of the quantity of electricity that they wish to buy or sell the next day. If there is a surplus of demand or supply as a result of this, this must be corrected on the balancing market on the basis of proposals made to TenneT by market parties with regard to the price at which they would be willing to offer more or less electricity the following day.

273. The balancing market in the Netherlands consists only of Dutch electricity generators. Only relatively flexible capacity can be deployed for the balancing market. The size of the Dutch balancing market, expressed as the total available capacity, is approximately 17 GW. The Dutch balancing market is very concentrated. There are only five large electricity suppliers active on this market and there are no smaller players or large buyers which participate in this market. Brattle has calculated the market shares of the five large players on the basis of these parties' trade in the past on the balancing market.¹⁵⁶ The market shares of these players vary from [10-20]% to [30-40]%.

274. On a market which is as concentrated as this it is probable that any combination of two of these five parties would result in an unacceptable increase in the HHI on the basis of the European Commission's Guidelines for Horizontal Agreements. Even in a merger of the two smallest parties would cause the HHI to increase by approximately 300 points to a total of approximately 2,600 points. A PSI analysis or a Cournot simulation analysis would be very complicated in this context due to the sharp fluctuations in demand on the balancing market. In this regard, it should also be noted that entry to the balancing market is easier than entry into the production and wholesale market for electricity during peak hours, for instance, because existing electricity suppliers, which at present have not yet deployed their flexible capacity for the balancing market, could do so easily (and by doing so would in fact enter the balancing market). This potential entry could contribute to disciplining a dominant position which could be created or strengthened by a merger.

6.5.2 Possible remedies

275. Although competition concerns with regard to the market position of the parties can often be removed by divesting part of a company, structural remedies, in the form of divestments of flexible capacity to be deployed for the balancing market, give rise to a number of complications. Firstly, on the Dutch balancing market, the lowest attainable HHI in the event of the divestment of capacity is 2,500 points, 200 points more than the 2,300 points prior to a merger of any parties whatsoever. In addition, there is no capacity which is used exclusively for the balancing market. The (flexible) capacity utilised for this is largely deployed for the production and wholesale market for electricity during peak hours. The capacity which would have to be divested to remove competition concerns on the balancing market may therefore be disproportionate in relation to the removal of the competition concern.¹⁵⁷ Finally, it is possible that a possible buyer of the capacity to be divested will not be able to deploy this capacity on the balancing market, but rather on the production and wholesale market for electricity during peak hours. As a result, the balancing market would become even more concentrated.

¹⁵⁶ No data are available on the capacity which players have at their disposal and which they can deploy for the balancing market. Brattle has calculated indicative (anonymous) market shares on the basis of the quantities of electricity traded in the past, since there is probably a high correlation between a player's capacity to trade on the balancing market and the quantities of electricity actually traded in the past.

¹⁵⁷ Since a small part of the total capacity is usually used for the balancing market, the divestment of 50 MW of balancing capacity may, in practice, amount to an obligation to divest 500 MW of flexible capacity.

276. Certain behavioural remedies may possibly remove competition concerns. For instance, parties could offer to produce a fixed quantity more for less for the balancing market subject to a maximum price approved by NMa. The parties could also offer third parties virtual balancing capacity, comparable to auctioning in capacity through so-called Virtual Power Plants.¹⁵⁸ This, however, would have to be available at very short notice and would have to be deployed exclusively for the balancing market.

6.5.3 Summary in relation to the balancing market

277. The Dutch balancing market is very concentrated. It is probable that any combination of two of the five parties active on this market would result in an unacceptable increase in the HHI, on the basis of the European Commission's Guidelines for Horizontal Agreements. Purely structural remedies, for instance in the form of divestments of flexible capacity, may possibly not remove fully the competition concerns resulting from a merger on this market. Certain behavioural remedies or quasi-structural remedies, however, may well remove the above-mentioned competition concerns.

6.6 Coordinated effects

278. The above analyses with regard to the various merger scenarios do not take into account the possibility of coordinated effects, or tacit coordination. There are various market characteristics which create opportunities for market players to coordinate their actions, such as the small number of suppliers, the homogenous nature of the product traded, symmetry in the market with regard to market shares, costs, innovation etc., transparent information for producers with regard to production and prices, buyers and sellers which trade frequently, high barriers to entry, contractual and structural relationships between suppliers and inelastic demand.

279. The electricity sector comprises almost all the above-mentioned characteristics of a sector in which tacit coordination is a realistic possibility. After all, electricity is a very homogenous product which has not been characterised by product differentiation or innovation for a long time. Furthermore, information with regard to the available capacity, production and output of buyers is often publicly available for reasons of safety and reliability and the frequency of trade facilitates contact between suppliers and makes prices transparent. The demand for electricity, as was explained above, is very inelastic, which makes collusion aimed at driving up prices profitable (after all, demand will not be reduced by much).

280. Given the characteristics of the electricity sector, which facilitate collusion, and the fact that mergers between electricity suppliers may contribute to this, proposed mergers may also give rise to competition concerns in this context,¹⁵⁹ even if the actual market shares are relatively small.

¹⁵⁸ A Virtual Power Plant (VPP) may be defined as a contract for the possibility (but not the obligation) to obtain electricity during a certain period, subject to both a fixed contract price (premium), which is determined at an auction, and a variable price (exercise or 'strike price') for each MWh purchased. In other words, VPP products are options to purchase electricity at a fixed price (premium), which is the result of an auction.

¹⁵⁹ See, for instance, the decision of the European Commission of 13 June 2000 in case COMP/M.1673 – *VEBA – VIAG*.

6.7 NMa invites parties involved to give a substantiated response to the proposition that mergers on the electricity markets may give rise to competition concerns as a result of coordinated effects.

6.7 Summary

281. A number of points emerge from the investigation of the merger scenarios HOR-NL/NL, HOR-BU/NL and VERT-NL/NL, and the investigation of the balancing market and the opportunities for tacit coordination on the electricity markets, which have been summarised for each of the investigations. It should once again be emphasised that each assessment of a possible future merger, based on all the relevant (business) information which has to be submitted to NMa within the framework of its merger control activities, can only take place when parties notify NMa of their intention to merge.

Addendum

Consultation questions

2.1 NMa invites parties involved to provide a substantiated response to the proposition that in relation to the definition of the production and wholesale market for electricity (i) a distinction must be made between markets for peak hours and off-peak hours and (ii) a possible distinction must be made between numerous separate markets for super-peak hours.

2.2 NMa invites parties involved to give a substantiated response to the proposition that in defining the production and wholesale markets for electricity, no distinction should be made between electricity traded on different marketplaces.

2.3 NMa invites parties involved to give a substantiated response to the proposition that a distinction should not be made between contracts for different contractual terms in defining the production and wholesale market for electricity.

2.4 NMa invites parties involved to give a substantiated response to the proposition that with regard to the definition of the production and wholesale market for electricity, no distinction must be made according to the type of buyer.

2.5 NMa invites parties involved to give a substantiated response to the proposition in relation to the definition of the retail market for electricity that a separate market can be distinguished for the supply of electricity to small users (including households).

2.6 NMa invites parties involved to give a substantiated response to the proposition that the balancing market is a separate relevant market.

3.1 NMa invites parties involved to give a substantiated response to the proposition that appreciable and permanent price differences between countries may be a strong indication that a separate geographical market exists.

3.2 NMa invites parties involved to give a substantiated response to the proposition that the statistical analysis of historic price differences in combination with forward prices, which was carried out, provides evidence that electricity producers in the Netherlands (i) are not sufficiently disciplined during peak hours by foreign producers and (ii) are sufficiently disciplined during off-peak hours by foreign producers.

3.3 NMa invites parties involved to give a substantiated response to the proposition that the geographical market during peak hours comprises (only) the Netherlands.

3.4 NMa invites parties involved to give a substantiated response to the proposition that the geographical market during peak hours is larger than the national market if the effectively available import capacity is increased to approximately 6,500 MW.

3.5 NMa invites parties involved to give a substantiated response to the proposition that the geographical market during off-peak hours comprises at least the Netherlands and Germany.

3.6 NMa invites parties involved to give a substantiated response to the proposition that the geographical size of the retail market is that of a national market.

3.7 NMa invites parties involved to give a substantiated response to the proposition that the geographical size of the balancing market is the national market.

4.1. NMa invites parties involved to give a substantiated response to the question of whether and to what extent the factors outlined in section 4.2.1 affect the size of the relevant geographical production and the wholesale market for electricity and whether these factors must be regarded by NMa as beyond the influence of any party or parties.

4.2. NMa invites parties involved to give a substantiated response to the question as to whether and to what extent the *factors* outlined in section 4.2.2 make a contribution to enlarging the relevant market, which measures should be given priority and which parties are responsible for the implementation of these measures.

4.3. NMa invites parties involved to give a substantiated response to the proposition that the *measures* outlined in section 4.3 are not relevant factors in determining the size of the relevant market.

5.1 NMa invites parties involved to give a substantiated response to the use of a PSI analysis within the framework of merger control in the electricity sector. Which values do you consider acceptable in this regard?

6.1 NMa invites parties involved to give a substantiated response to the proposition that (i) the size of the production and wholesale market for electricity in the Netherlands during peak hours should be expressed as the available capacity, and (ii) that this includes all production capacity in the Netherlands, with the exception of wind energy, plus the import capacity available during peak hours.

6.2 NMa invites parties involved to give a substantiated response to the proposition that (i) the size of the production and wholesale market for electricity during off-peak hours must be expressed in

terms of available capacity, and (ii) that in doing so only baseload capacity must be taken into account and power stations which generate more than 67% of their output during peak hours (peak capacity) should not be taken into account.