



EUROPEAN COMMISSION  
DG Competition

***Case M.8660 -  
FORTUM / UNIPER***

Only the English text is available and authentic.

**REGULATION (EC) No 139/2004  
MERGER PROCEDURE**

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Article 6(1)(b) NON-OPPOSITION  
Date: 15/06/2018

***In electronic form on the EUR-Lex website under  
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In the published version of this decision, some information has been omitted pursuant to Article 17(2) of Council Regulation (EC) No 139/2004 concerning non-disclosure of business secrets and other confidential information. The omissions are shown thus [...]. Where possible the information omitted has been replaced by ranges of figures or a general description.

Brussels, 15.6.2018  
C(2018) 3921 final

PUBLIC VERSION

To the Notifying Party

**Subject: Case M.8660 – FORTUM / UNIPER  
Commission decision pursuant to Article 6(1)(b) of Council  
Regulation No 139/2004<sup>1</sup> and Article 57 of the Agreement on the  
European Economic Area<sup>2</sup>**

Dear Sir or Madam,

- (1) On 7 May 2018, the European Commission received notification of a proposed concentration pursuant to Article 4 of the Merger Regulation by which Fortum Oyj ("Fortum", Finland) acquires sole control over Uniper SE ("Uniper", Germany) within the meaning of Article 3(1)(b) of the Merger Regulation, by way of a public takeover offer (the "Proposed Transaction"). Fortum is hereafter referred to as the "Notifying Party" and Fortum and Uniper are collectively referred to as the "Parties".

## **1. THE PARTIES**

- (2) Fortum is an energy group majority-owned by the Finnish State and principally active in power and heat generation and energy-related services, mainly in the Nordic<sup>3</sup> and Baltic regions but also with operations elsewhere in Europe and Russia, as well as in India.

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<sup>1</sup> OJ L 24, 29.1.2004, p. 1 (the 'Merger Regulation'). With effect from 1 December 2009, the Treaty on the Functioning of the European Union ('TFEU') has introduced certain changes, such as the replacement of 'Community' by 'Union' and 'common market' by 'internal market'. The terminology of the TFEU will be used throughout this decision.

<sup>2</sup> OJ L 1, 3.1.1994, p. 3 (the 'EEA Agreement').

<sup>3</sup> The Nordic region refers to Norway, Sweden, Finland and Denmark.

- (3) Uniper is an energy company that comprises the former conventional power utility and commodities trading business of E.ON and is currently owned 46.65% by E.ON, with activities in Europe and Russia.

## 2. THE CONCENTRATION

- (4) On 26 September 2017, Fortum announced an agreement with E.ON whereby E.ON could tender its 46.65% stake in Uniper in a public takeover offer for Uniper initiated by Fortum. While opposed by Uniper's management, Fortum's public offer eventually resulted in acceptances by shareholders – including E.ON – representing 47.12% of Uniper's share capital. In accordance with paragraph 59 of the Commission Consolidated Jurisdictional Notice<sup>4</sup>, the Commission considers that the ownership by Fortum of a 47.12% interest and associated voting rights in Uniper is sufficient to confer Fortum sole control over Uniper.
- (5) In effect, given the dispersed shareholding structure of Uniper,<sup>5</sup> and the attendance rate in Uniper's previous (and only) General Meeting of Shareholders of 72-73%,<sup>6</sup> the ownership of a 47.12% interest is highly likely to enable Fortum to achieve a majority at Uniper shareholders' meetings going forward.<sup>7</sup> According to Uniper's Articles of Association, Fortum would then be able to secure the appointment of the six shareholder representatives at Uniper's Supervisory Board,<sup>8</sup> as they are elected by a simple majority vote of the General Meeting,<sup>9</sup> including the chairman who holds a casting vote.<sup>10</sup>
- (6) In turn, Fortum would be able to exercise decisive influence over Uniper because the Supervisory Board is required to approve Uniper's annual budget and business plan, as well as other material decisions, by a simple majority vote.<sup>11</sup> Likewise, the Supervisory Board appoints (and dismisses) Uniper's Board of Management by simple majority vote;<sup>12</sup> the latter having overall responsibility for Uniper's commercial decision-making.
- (7) As a result, the Proposed Transaction enables a lasting change of control over Uniper and therefore qualifies as a concentration pursuant to Article 3 of the Merger Regulation.

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<sup>4</sup> Commission Consolidated Jurisdictional Notice under Council Regulation (EC) No 139/2004 on the control of concentrations between undertakings [2008] *O.J.* C95/01.

<sup>5</sup> Uniper reports that its largest shareholders after E.ON are Cornwall (Luxembourg) S.à.r.l. with 8%, Knight Vinke Asset Management with 5% and BlackRock Inc. with 4%, while other institutional investors together account for 23% and retail investors for 8% (unidentified: 5%). See <https://ir.uniper.energy/websites/uniper/English/1400/shareholder-structure.html> (last consulted on 12.06.2018).

<sup>6</sup> See <https://ir.uniper.energy/websites/uniper/English/6515/archive-of-annual-general-meetings.html> (last consulted on 12.06.2018).

<sup>7</sup> Attendance rate would have to be in excess of 94.23% for Fortum not to be able to achieve the majority of votes at the shareholders' meeting.

<sup>8</sup> Uniper Articles of Association, Article 8(2). Another six members are elected as employee representatives by the SE Works Council.

<sup>9</sup> Uniper Articles of Association, Article 21(1).

<sup>10</sup> Uniper Articles of Association, Article 12(4).

<sup>11</sup> Uniper Articles of Association, Articles 10(3) and 12(3).

<sup>12</sup> Uniper Articles of Association, Article 6(1).

### 3. EU DIMENSION

- (8) The undertakings concerned have a combined aggregate world-wide turnover of more than EUR 5 000 million<sup>13</sup> (Fortum: EUR [...] million; Uniper: EUR 72 238 million). Each of them has an EU-wide turnover in excess of EUR 250 million (Fortum: EUR [...] million; Uniper: EUR [...] million), but they do not achieve more than two-thirds of their aggregate EU-wide turnover within one and the same Member State. The notified operation therefore has an EU dimension.<sup>14</sup>

### 4. MARKET DEFINITION

- (9) The Proposed Transaction involves the cross-border combination of two EEA-based energy groups with significant electricity generation assets, notably hydropower plants. The Proposed Transaction's stated rationale lies in the combination of Uniper's ability to provide security of electricity supply with Fortum's long-term emphasis on renewable energy generation, in order to accompany the transition towards full decarbonisation.<sup>15</sup>
- (10) The Parties' electricity generation activities are widely complementary from a geographic point of view, as Fortum's geographic focus is the Nordic and Baltic regions while Uniper's focus is continental Europe. In particular, their electricity generation activities only overlap in Sweden. That overlap has been the focal point of the Commission's assessment of the compatibility of the Proposed Transaction with the internal market in relation to the generation and wholesale supply of electricity and the supply of ancillary services contributing to the balancing of electricity supply and demand.
- (11) In addition, the Commission has assessed the impact of the Proposed Transaction in a number of energy-related activities giving rise to horizontal or vertical relationships between the Parties, including financial electricity trading, the retail supply of electricity, trading in CO<sub>2</sub> allowances, renewable energy certificates and guarantees of origin, physical commodity trading, the supply of energy production-related services and of district heating.
- (12) The present section aims to define the relevant markets with a view to identifying the boundaries of competition between the Parties and the competitive constraints that they face,<sup>16</sup> and thereby frame the competitive assessment of the Proposed Transaction.

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<sup>13</sup> Turnover calculated in accordance with Article 5 of the Merger Regulation.

<sup>14</sup> The Proposed Transaction has an EU dimension irrespective of whether the 50.76% interest held in Fortum by the Finnish State, via the Prime Minister's office, is taken into account. In any event, for the reasons explained in Section 5 below, the Commission takes the view that Fortum constitutes a single economic unit and that combining the activities of the energy-related Finnish SOEs with those of Fortum would not materially alter the competitive assessment of the Proposed Transaction.

<sup>15</sup> Form CO, para. 1.8.

<sup>16</sup> Commission Notice on the definition of relevant market [1997] *O.J. C 372/3*, para. 2.

#### 4.1. Generation and wholesale supply of electricity

- (13) Both Parties own and operate electricity generation assets in Sweden. Sweden is divided into four bidding zones for the purpose of wholesale electricity trading (i.e. sale and purchase of generated electricity), and the overlap between the Parties' assets lies in SE2 and SE3 (central zones). In addition, Uniper also has some limited production capacity in SE4 (southern zone). Conversely, neither Party generates electricity in SE1 (northern zone).<sup>17</sup>
- (14) Electricity generated in Sweden is traded for the most part on the Nord Pool power exchange<sup>18</sup> where prices are determined for each bidding zone by the intersection of aggregated demand and supply curves resulting from bids entered the day before physical delivery (so-called "day ahead" market, called Elspot), or on a "pay-as-bid" basis in case of same day delivery (so-called "intra-day" market, called Elbas).<sup>19</sup> Prices are also a function of imports of electricity through interconnectors with other bidding zones, either within Sweden or with neighbouring countries, primarily Norway, Denmark and Finland, though the geographical scope of Nord Pool now extends to all Nordic and Baltic countries (Norway, Sweden, Finland, Denmark, Estonia, Latvia and Lithuania). The availability of imports is a function of interconnectors' capacity. An overview of the Nord Pool bidding zones and of the nominal interconnector capacities (that is, the maximum net transmission capacities, "NTC"), is provided in Graph 4.1.

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<sup>17</sup> See Graph 4.1.

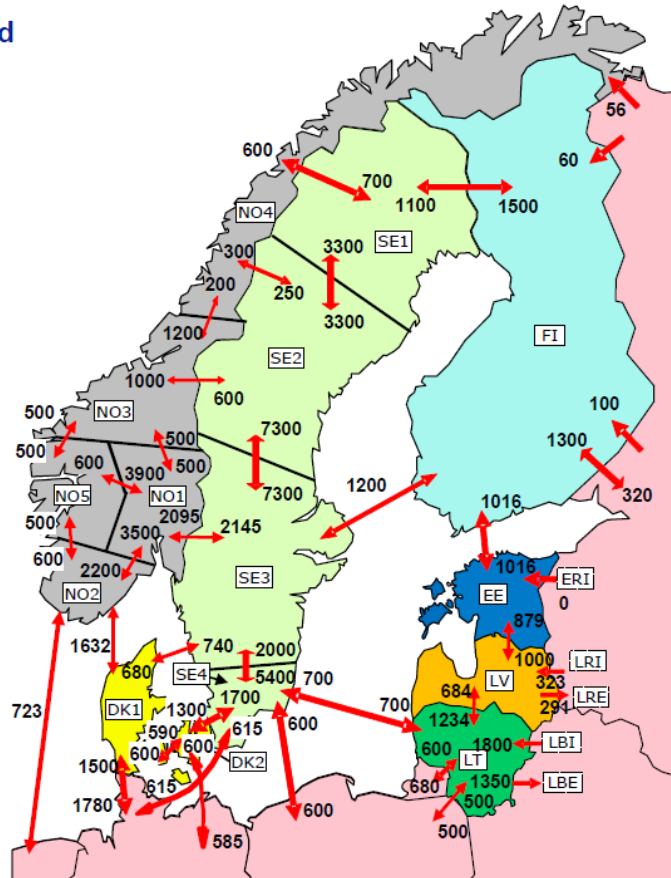
<sup>18</sup> The rest is sold via bilateral contracts entered into between electricity generators and customers. These bilateral agreements, of a longer or shorter duration, may provide for a fixed price but may also set a base price indexed to the Nord Pool spot price or some other commodity trading benchmark, to which service fees, margins and additional levies and other costs may be added, (see non-confidential minutes of call with customer on 16.01.2018, paras. 4-5; non-confidential minutes of call with customer on 12.01.2018, para. 7). The Commission understands that volumes sold by means of bilateral contracts are still declared to Nord Pool, and then discounted from the spot market allocation process (see non-confidential minutes of call with customer on 12.01.2018, para. 8).

<sup>19</sup> On the day-ahead market, generators specify, for each hour, the volumes of electricity they are willing to supply at each of a number of different price points. Similarly, prospective purchasers of electricity submit, for each hour, bids for the volumes of electricity they are willing to purchase at particular price points. All supply and purchase bids for a bidding area and a given hour are then aggregated by Nord Pool and prices are determined by a price formation algorithm called EUPHEMIA, which also takes into account electricity produced elsewhere in the Nord Pool area, subject to the limitations of available transmission capacity (Form CO, paras. 6.61-6.63). On the intra-day market, prices are set on a "pay-as-bid" basis and trades are allocated on a "first-come, first served" basis (highest demand and lowest supply bids are allocated first). (See Form CO, para. 6.76.) The Elbas market accounts for less than 1.5% of total electricity traded on Nord Pool, meaning that Elspot is overwhelmingly the market of reference for assessing the market dynamics affecting the generation and wholesale supply of electricity in the Nordic and Baltic region, including Sweden (see [www.nordpool.com](http://www.nordpool.com), last visited 07.06.2018).

## Graph 4.1 – Nord Pool bidding zones and nominal interconnector capacity

The maximum NTC values are valid from September 28<sup>th</sup>, 2017.

NTC values are given in MW.



Source: Nord Pool

### 4.1.1. Product market definition

#### *The Notifying Party's view*

- (15) The Notifying Party submits that there is a close substitutability between the generation and wholesale supply of electricity, the provision of ancillary services and the financial trading of electricity.<sup>20</sup>
- (16) From a supply-side perspective, according to the Notifying Party, the electricity used for ancillary services is no different from the electricity sold on the wholesale market and producers are able to switch between the wholesale supply of electricity and the provision of ancillary services, while there is a close relationship between the physical and financial trading of electricity.<sup>21</sup> From a demand-side perspective, there is a strong degree of inter-relationship between wholesale and financial trading activities since purchasers can engage in financial hedging strategies to alter their exposure to wholesale spot prices, while prices and price expectations in wholesale and financial trading mutually influence each other.<sup>22</sup>
- (17) As a result, the Notifying Party argues that these segments all belong to the same product market. However, the Notifying Party submits that no competition

<sup>20</sup> Form CO, para. 6.118.

<sup>21</sup> Idem.

<sup>22</sup> Idem.

concern arises even based on the narrowest plausible market definition limited to the generation and wholesale supply of electricity, and proceeds to discuss the relevant geographic segmentation on that basis.<sup>23</sup>

#### *The Commission's assessment*

- (18) The Commission has consistently defined a relevant product market encompassing both the generation and wholesale supply of electricity, irrespective of the generation sources and trading channels.<sup>24</sup> As a result, in relation to electricity supply in the Nordic region, the Commission has, in the past, considered that the relevant market covered electricity sold by means of bilateral contracts and on the Nord Pool platform, both on Elspot (day-ahead) and Elbas (intra-day).<sup>25</sup>
- (19) The Commission has also considered in the past whether the financial trading of electricity<sup>26</sup> and ancillary services<sup>27</sup> belonged to the same product market as the generation and wholesale supply of electricity, or to distinct markets. Generally, ancillary services have been distinguished from wholesale supply based on demand-side and functionality considerations, including in the Nordic region.<sup>28</sup> Financial trading has also been distinguished from wholesale supply due to differences in settlement, duration and overall function since financially settled contracts are about trading risk while physically traded ones are about trading electricity for consumption.<sup>29</sup> In particular, in relation to the Nordic region, the Commission found that the physical and financial electricity trading were separate markets irrespective of their close interconnection.<sup>30</sup>
- (20) In the present case, replies to the market investigation indicated that whilst generation and wholesale of electricity, ancillary services and the financial trading of electricity are all linked to each other, each has different functionalities and dynamics.<sup>31</sup>
- (21) Ultimately, the Commission considers that the precise market definition can be left open since no serious doubts arise about the compatibility of the Proposed Transaction with the internal market, even on the narrowest plausible segmentation, which is at the level of the generation and wholesale supply of electricity, separate from ancillary services and financial trading.<sup>32</sup> Hence, the

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<sup>23</sup> Form CO, paras. 6118-6119.

<sup>24</sup> See cases COMP/M.7927 – *EPH/ENEL/SE*, paras. 9-12; COMP/M.6984 – *EPH/Stredoslovenska Energetika*, para. 15; M.3268 – *Sydskraft/Graninge*, paras. 19-20.

<sup>25</sup> Case COMP/M.3268 – *Sydskraft/Graninge*, para. 19.

<sup>26</sup> See cases COMP/M.5549 – *EDF/Segebel*, paras. 79-83; COMP/M.3868 – *DONG/Elsam/Energi E2*, paras. 241-246.

<sup>27</sup> See cases COMP/M.5978 – *GDF Suez/International Power*, paras. 47-57; COMP/M.3868 – *DONG/Elsam/Energi E2*, paras. 235-239; COMP/M.3867 – *Vattenfall/Elsam and E2 Assets*, paras. 18-19.

<sup>28</sup> Case COMP/M.3268 – *Sydskraft/Graninge*, para. 51; COMP/M.3440 – *ENI/EDP/GDP*, para. 51; COMP/M.3868 – *DONG/Elsam/Energi E2*, para. 240; COMP/M.4180 – *GDF/Suez*, para. 683.

<sup>29</sup> See case e.g. COMP/M.3868 – *DONG/Elsam/Energi E2*, para. 252.

<sup>30</sup> *Idem* and case COMP/M.3268 – *Sydskraft/Graninge*, paras. 65-66.

<sup>31</sup> Non-confidential minutes of calls with customers and replies to Requests for Information of 08.05.2018 from customers and competitors.

<sup>32</sup> The volume of electricity traded for the purpose of supplying ancillary services constitutes in any event a fraction of the volume traded at wholesale level (Form CO, para. 6.91: Fortum estimates that the total volume of ancillary services in the Nordic countries represented in 2015 approximately

Commission carried out separate assessments of the impact of the Proposed Transaction on the generation and wholesale supply of electricity, the provision of ancillary services and financial trading, respectively.

#### 4.1.2. Geographic market definition

##### *The Notifying Party's view*

- (22) The Notifying Party submits that the relevant geographic market for the generation and wholesale supply of electricity is Nord Pool-wide, thus covering the Nordic (Finland, Sweden, Norway, Denmark) and the Baltic countries (Estonia, Latvia and Lithuania).
- (23) In essence, the Notifying Party contends that: (i) the Nord Pool area is highly integrated due to a large number of interconnectors allowing electricity to flow across the area; (ii) the regulatory environment is effectively Nord Pool-wide; (iii) there is no barrier to sellers and purchasers from any part of Nord Pool agreeing in principle to the sale and purchase of electricity; (iv) Nord Pool prices are formed automatically through an algorithm that secures optimal utilisation of transmission capacity on the basis of supply/demand across Nord Pool as a whole.<sup>33</sup>
- (24) In addition, the Notifying Party considers the possibility of limiting the scope of the relevant market to Sweden but points out that Swedish bidding zones are interconnected and frequently coupled with various (and varying) other zones outside of Sweden, which would render such segmentation somewhat arbitrary.<sup>34</sup> Thus, even if the market were to be defined on a national basis (Sweden), Nord Pool-wide market dynamics need to be taken into account in the assessment of the Proposed Transaction.<sup>35</sup> In any event, the Notifying Party argues that there is no plausible basis for segmenting the relevant market at the level of individual Swedish bidding zones because these are (almost) never isolated from all other bidding zones but generally form part of wider pricing areas.<sup>36</sup>
- (25) In any event, the Notifying Party submits that it is unnecessary to conclude on the geographic scope of the relevant market because the Proposed Transaction would not raise serious doubts as to its compatibility with the internal market under any of the contemplated bases.<sup>37</sup>

##### *The Commission's assessment*

- (26) The Commission has historically defined the market for the generation and wholesale supply of electricity at national level.<sup>38</sup> However, the Commission has also recognised the relevance of interconnection capacity between Member States

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1.5% of the Nord Pool day ahead market). Conversely, the overall volume traded on financial markets is a multiple of the volume physically produced and traded at wholesale level.

<sup>33</sup> Form CO, para. 6.122.

<sup>34</sup> Form CO, paras. 6.131-6.124.

<sup>35</sup> Form CO, para. 6.135.

<sup>36</sup> Form CO, para. 6.136.

<sup>37</sup> Form CO, paras. 6.122-6.126.

<sup>38</sup> See cases COMP/M.5979 – *KGHM/TAURON Wytwarzanie/JV*, para. 24; COMP/M.5711 – *RWE/Ensys*, para. 21; COMP/M.4180 – *GDF/Suez*, para. 726.



and of pricing relationships across interconnection points. Hence, with regard to the Nordic region in particular, the Commission has considered that the relevant geographic market might be wider (or narrower) than national, though it ultimately left the question open.<sup>39</sup>

- (27) In the present case, the Commission has carefully assessed the relevant geographic scope of the market for the generation and wholesale supply of electricity in the Nordic region, and in relation to Sweden in particular, based on the following factual premises: (i) the Parties' generation assets overlap only in bidding zones SE2 and SE3 within Sweden; (ii) each of SE2 and SE3 are connected to other bidding zones within and outside Sweden;<sup>40</sup> (iii) prices are determined on Nord Pool for each individual bidding zone; and (iv) the Nord Pool algorithm determines prices on the basis of supply and demand functions (or individual bids on Elbas) entered into at the level of each zone combined with other zones up to the level of available interconnection capacity, i.e. by optimising the utilisation of transmission capacity.
- (28) In line with the precedents referred to in paragraph (26), the Commission undertook an assessment of the magnitude of the existing interconnection of each of SE2 and SE3 with other bidding zones within Nord Pool and the resulting effects on prices, with a view to drawing an area in which the conditions of competition are sufficiently homogeneous.<sup>41</sup> The analysis was carried out using hourly day-ahead price and interconnector utilisation data published by Nord Pool. The data revealed, first of all, that SE2 and SE3 individually are (almost) never isolated but always coupled with at least one other bidding area within Nord Pool.<sup>42</sup> Second, the data indicated that SE2 is (almost) always coupled with SE1, and that SE3 and SE4 are also rarely decoupled from each other.<sup>43</sup> Third, the analysis showed that prices in SE3 and SE4 are materially higher than prices in SE1-SE2 (and lower than prices in Finland) in only a very limited number of hours.<sup>44</sup> Fourth, the data indicated that, on average, the four Swedish bidding zones shared a common price in 89.7% of the hours over the 2016-2017 period. These figures are consistent with the fact that the capacity of interconnectors between Swedish bidding zones is significant, and significantly higher overall than with neighbouring zones outside of Sweden,<sup>45</sup> as apparent from Graph 4.1.<sup>46</sup>

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<sup>39</sup> See cases COMP/M.3268 – *Sydkraft/Gräninge*, para. 27; COMP/M.3868 – *DONG/Elsam/Energi E2*, paras. 258-260. Conversely, in COMP/M.5591 – *CEZB/JAVYS/JESS JV* (para. 11), the Commission found that the relevant market was still limited to Slovakia in spite of market coupling with the Czech Republic due to low liquidity and remaining price differences between the two countries.

<sup>40</sup> SE2 is connected to SE1, SE3, NO3 and NO4; SE3 is connected to SE2, SE4, NO1, DK1 and FI.

<sup>41</sup> Commission Notice on the definition of relevant market for the purposes of Community competition law [1997] *O.J. C 372/03*, para. 8.

<sup>42</sup> In 2017, SE3 was only fully decoupled in 0.3% of hours and SE2 was never isolated. In 2016, neither SE2 nor SE3 were ever fully isolated.

<sup>43</sup> SE2 and SE1 share the same price 99% of the time (see also Form CO, para. 6.127). On average during the 2016-2017 period, SE3 and SE4 had different prices in 8.1% of hours.

<sup>44</sup> In the 2-year period (2016-2017) analysed, 109 hours and 10 hours based on a price difference of EUR 1 and EUR 5, respectively.

<sup>45</sup> Form CO, Figure 6.2.

<sup>46</sup> Graph 4.1 presents the maximum net transmission capacities (NTC) of interconnectors within the Nord Pool area, in MW. The Commission analysis has however been carried out on the basis of actual interconnector utilisation data published by Nord Pool.

- (29) As a result, the Commission observes that SE2 and SE3 do not constitute distinctive areas in terms of pricing, as a reflection of supply and demand dynamics and, in particular, of interconnections with other bidding zones. In this particular case, defining relevant markets at the level of each of SE2 and SE3 appears therefore inappropriate, irrespective of the fact that bids are entered on Nord Pool and prices are determined by Nord Pool at a bidding zone level and that generators' market shares vary across single bidding zones, notably within Sweden. Defining a relevant market at the level of a single bidding zone cannot be excluded in principle, also within the Nord Pool area, but evidence does not support this in relation to SE2 and SE3 specifically, where the generation assets of the Parties overlap.
- (30) In contrast, the Commission considers plausible a market definition encompassing all four Swedish bidding zones. At that level, the Commission acknowledges that individual bidding zones within Sweden are also frequently coupled with other bidding zones outside of Sweden within the Nord Pool system. In fact, the analysis has showed that the four Swedish bidding zones formed one single pricing area – decoupled from all the other neighbouring zones – in only 0.48% of hours over the 2016-2017 period. This means that at least one Swedish bidding zone is coupled with at least one bidding zone outside of Sweden, within the Nord Pool system, virtually all the time. Consequently, it means that when all four Swedish bidding zones are coupled together, they are also coupled with at least one other bidding zone outside of Sweden.
- (31) In that regard, the Notifying Party has also submitted its own analysis showing that, over the 2014-2017 period: (i) SE1 and SE2 together and SE3 individually shared a price with at least one bidding area outside Sweden in more than 98% of hours; (ii) Sweden as a whole was coupled with at least three other bidding areas in 81.7% of hours; and (iii) SE3 was fully decoupled in only 0.05% of all hours and was coupled with 1 and up to 14 other bidding zones for the rest of the time, with a widespread distribution of hours across the number of coupled bidding zones.<sup>47</sup>
- (32) On the basis of its own analysis and that of the Notifying Party, the Commission therefore finds that: (i) production outside of Sweden, mainly in Norway and to a lesser extent Denmark,<sup>48</sup> constitutes an important competitive constraint on the generation and wholesale supply of electricity within Sweden and within each Swedish bidding zone, thus including SE2 and SE3; (ii) there are various constellations of possible coupling combinations across bidding zones, and these combinations do vary widely across hours; and (iii) all 15 bidding zones across Nord Pool as a whole share the same price only in a limited number of hours, calculated by the Notifying Party as being 5.2% of all (day and night) hours over the 2014-2017 period.<sup>49</sup>

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<sup>47</sup> Form CO, paras. 6.127-6.129.

<sup>48</sup> Normally there are imports of electricity from Norway into Sweden (with common congestion between South-Norway and South-Sweden) and virtually always there is export of electricity into Finland. (Non-confidential minutes of call with Swedish TSO on 22.12.2017, paras. 2-3).

<sup>49</sup> Form CO, Table 6-5. In that respect, it is important to clarify that Nord Pool publishes an hourly system price covering all Nordic (thus excluding Baltic) countries. However, that system price is not derived from bidding area prices and assumes no bottlenecks in interconnections across Nordic countries so that it is not directly relevant for the physical wholesale trading of electricity on Elspot.

- (33) In turn, the Commission concludes that a Nord Pool-wide market appears implausible. Contrary to the Notifying Party's views, there still remains significant capacity limitations constraining the flow of electricity across the Nord Pool area as a whole, which are unlikely to disappear in the short to medium term,<sup>50</sup> as reflected in the limited number of hours during which the same price prevails across Nord Pool. The fact that the Nord Pool algorithm optimises existing interconnection capacity throughout Nord Pool does not alleviate that reality. Moreover, the ability of traders across Nord Pool to agree to the sale and purchase of electricity is either subject to congestion constraints or governed by (bilateral) conditions that do not reflect actual Nord Pool prices, at least not completely.<sup>51</sup> Furthermore, from a regulatory point of view, the management of interconnections remains in the hands of national transmission system operators ("TSOs"), which determine by themselves the capacity of the interconnectors that is made available to Nord Pool.<sup>52</sup>
- (34) Conversely, the Commission concludes that the relevant geographic market, in the present case, could entail different combinations of bidding zones including SE2 and/or SE3. However, these combinations vary constantly, depending on the specific hour of the day/night and based on various circumstances such as weather conditions and the way they influence flows through interconnectors. In turn, carrying out a meaningful assessment of the Proposed Transaction on the basis of continuously changing constellations of bidding zones is impracticable. Conversely, a combination of all four Swedish bidding zones emerges as both a plausible and practicable geographic delineation of the generation and wholesale supply market in the present case. In this respect, the Commission further notes that: (i) the number of hours during which all four Swedish bidding zones share the same price (89.7% of all hours) is particularly high; (ii) no single Swedish bidding zone is coupled with one and the same bidding zone outside of Sweden more than 90% of the time,<sup>53</sup> i.e. more than the time in which the four Swedish bidding zones are coupled together; (iii) actual (vs nominal, as presented in Graph 4.1) interconnection capacity available on average across the four Swedish bidding zones is significantly higher than with any bidding zone outside

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Rather, it is used primarily as a benchmark for financial derivatives and other financial instruments. See Form CO, para. 6.72.

- <sup>50</sup> The market investigation has elicited mixed views regarding future congestions in the Nord Pool area. Like the Notifying Party (Form CO, paras. 6.25-6.28; internal Fortum document, No. 3.103), certain respondents predicted that congestion would decrease owing to new or expanded interconnections being planned between Sweden and Finland and between Norway and the UK, as well as due to new nuclear power generation coming into operation in Finland (Reply to Request for Information of 08.05.2018 from TSO, question 3; reply to Request for Information of 08.05.2018 from competitor, question 6; reply to Request for Information of 08.05.2018 from customer, question 1). In contrast, customers highlighted that increased renewable energy in the system would lead to higher congestion and subsequently more volatile prices (Replies to Request for Information of 08.05.2018 from customers, questions 1, 6). Overall, the market investigation has not revealed evidence that congestion issues would be drastically lifted in the coming years so as to result in common Nord Pool prices in a significantly higher number of hours compared to the current situation.
- <sup>51</sup> Over the course of the market investigation, customers engaged in bilateral trades have explained that prices can be fixed or subject to indexation to, e.g. the Nord Pool spot price or other commodity benchmarks. See non-confidential minutes of call with customer on 16.01.2018, paras. 4-5; non-confidential minutes of call with customer on 12.01.2018, paras. 7-8.
- <sup>52</sup> Non-confidential minutes of call with Swedish TSO on 22.12.2017, para. 12.
- <sup>53</sup> The most frequent coupling of a single Swedish bidding zone with a single bidding zone outside of Sweden is SE4 with DK2, 85% of the time; other individual combinations occur in a significantly lower percentage of hours.

Sweden;<sup>54</sup> and (iv) by far the largest generator and wholesale supplier of electricity in Sweden, Vattenfall, has no or only very minor activities in other parts of the Nord Pool area (and Uniper is not active at all outside of Sweden).<sup>55</sup>

- (35) As a result, Sweden as a whole can be distinguished from neighbouring areas due to appreciably different conditions of competition resulting from the available interconnection capacity and reflected in pricing commonalities across Swedish bidding zones.<sup>56</sup> In any event, the Commission will equally take into account the constraints arising from interconnection flows and overall Nord Pool-wide market dynamics in its competitive assessment, as suggested by the Notifying Party.
- (36) In light of the above, the Commission concludes that for the purposes of the present case, although the boundaries of the geographic market may vary depending on the hour based on changing constellations of different bidding zones as per the evidence summarised above, the most plausible geographic market consists of a combination of all four Swedish bidding zones, subject to external constraints in the form of flows into Sweden from other bidding zones; hence, the competitive assessment will focus on the effects of the Proposed Transaction on Sweden as a whole.

#### **4.2. Financial trading**

- (37) Aside from the physical trading of electricity on the generation and wholesale market, it is also possible to trade in financial instruments relating to electricity. Financial trading is either done via exchanges or on an over-the-counter ("OTC") basis.<sup>57</sup> Financial derivatives traded or cleared by an exchange are financially settled. Bilateral financial contracts can be settled either financially or physically.
- (38) Electricity derivatives are contracts whereby the price of a certain volume of electricity is fixed for a certain period in the future. The derivative price is then compared to the reference market price of electricity (e.g. the system spot price on Nord Pool) in the delivery period; if the realised reference price is lower than the derivative price, the buyer pays the difference to the seller and *vice versa*.

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<sup>54</sup> Nord Pool's reply to Request for Information 1 of 30.01.2018.

<sup>55</sup> Vattenfall has a combined generation capacity in Sweden of 14 449 MW ([30-40]%, compared to Fortum's [10-20]%), whereas its only other activities in the Nord Pool area include 112 MW of generation in Finland ([0-5]%) and 398 MW in Denmark ([0-5]%). See Form CO, para. 6.38 and Notifying Party's reply to Request for Information 15 of 05.06.2018.

<sup>56</sup> The Commission also investigated concerns that increased variable production in northern Sweden and higher export capacity from southern Sweden, combined with the shutting down of the Oskarshamn and Ringhals nuclear plants, could create congestion constraints between SE2 and SE3 in the near future (see reply from customer, question 1; internal Fortum documents No. 3.103; non-confidential minutes of call with Swedish TSO on 22.12.2017, para. 4). Evidence suggests, however, that these concerns would materialise in case of decommissioning of additional nuclear plants (located in SE3, other than Oskarshamn and Ringhals), which is not foreseen before 2040 (see Swedish TSO long-term development plan 2018-2027). Moreover, the TSO is well aware of that risk and is devising contingency plans to address it (see non-confidential minutes of call with Swedish TSO on 27.03.2018, para. 3).

<sup>57</sup> OTC trading can be done either bilaterally or with an OTC broker whereas the transaction is then cleared by an exchange.

- (39) The purpose of the financial trading of electricity can be either hedging; for generators to hedge their future income and for consumers to have their future costs of electricity managed to an acceptable level, or speculation.
- (40) The main types of electricity derivatives in the Nordics are the following:
- Forwards: electricity forward contracts represent the future obligation to buy or sell a fixed amount of electricity at a pre-specified price ("the forward price"). Forwards can be either physically or financially settled and are traded both via exchanges and on an OTC basis.<sup>58</sup>
  - Futures: electricity futures function similarly to forwards, however they are more standardised products and their settlement involves both a daily mark-to-market settlement and a final spot reference cash settlement. Futures are traded exclusively via exchanges.
  - Options: Options are contracts giving the holder the right – but not the obligation – to buy or sell a fixed volume during a future time period at a pre-specified price. Options therefore give more flexibility to their holder, however the associated costs also should be taken into account as there is a non-refundable premium to buy or sell an option.
  - Electricity Price Area Differentials ("EPADs"): known in other regions as contracts for differences ("CfDs"), EPADs are products hedging the realised bidding area price against the Nordic system price, therefore allowing market participants to hedge against the price risk caused by transmission interconnection constraints. EPADs are financially settled.

#### 4.2.1. Product market definition

##### *The Notifying Party's view*

- (41) The Notifying Party submits that financial and physical trading of electricity are closely related with each other, but notes that the Proposed Transaction does not raise competition concerns even if financial trading is considered to be a separate product market.<sup>59</sup>
- (42) The Notifying Party further argues that all different types of electricity derivatives belong to the same relevant product market. Furthermore, other commodity derivatives that can be used for hedging purposes ("proxy hedging") may also belong to the same product market whereas for purely speculative traders, even all other types of financial instruments are substitutable with electricity derivatives. However, the Notifying Party submits that the Proposed Transaction does not raise competition concerns even if only electricity derivatives are considered. Furthermore, it argues that no competition concerns arise even if – based on the Commission's decisional practice – EPADs are considered to constitute a separate product market.<sup>60</sup>

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<sup>58</sup> Nasdaq Commodities offers deferred settlement ("DS") futures which are financially settled during the delivery period.

<sup>59</sup> Form CO, paras. 6.140-6.141.

<sup>60</sup> Form CO, para. 6.144.

## *The Commission's assessment*

- (43) As explained in paragraph (19) although the decisional practice is not uniform in this regard,<sup>61</sup> the Commission has previously considered that the financial trading of electricity might constitute a distinct relevant product market, separate from the generation and wholesale supply of electricity.<sup>62</sup> Financial trading of electricity, whether on an OTC basis, bilaterally or on organised market places (exchanges), has been considered to be part of one and the same market.<sup>63</sup> However, the Commission has considered that contracts for differences (here: EPADs)<sup>64</sup> might form a product market separate from the other financial electricity derivatives based on their limited substitutability.<sup>65</sup>
- (44) For the purposes of the present case, the Commission considers first, that the financial trading of electricity constitutes a relevant product market, separate from the generation and wholesale supply of electricity. Although the Commission acknowledges that these two activities are closely linked, having the system price as a common reference price, the settlement and the delivery time differs on the physical and the financial markets as the financial trading of electricity is ultimately about trading risks or speculative trading, and not the consumption of electricity. Furthermore, the presence of speculative traders, as well as the overall trading volume which is multiple times the volume physically produced, also underlines the differences between the two markets. Furthermore, the physical and financial trading activity is separated from the generation activity within the producers' organisation, and internal information barriers ("Chinese walls") are implemented in order to comply with the prohibition of insider trading under REMIT<sup>66</sup> and the Market Abuse Regulation.<sup>67</sup>
- (45) Second, the Commission considers that there is a sufficient degree of supply- and demand-side substitutability between the different system price-based electricity derivatives given that their overall purpose is the same, i.e. risk management or purely speculative trading. Indeed, the market investigation results<sup>68</sup> support the Notifying Party's argument that market participants choose one derivative or

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<sup>61</sup> In some previous decisions, the Commission has considered that the financial trading of electricity belongs to the market for generation and wholesale supply of electricity (see cases COMP/M.5549 – *EDF/Segebel*, paras. 15-21; COMP/M.5224 – *EDF/British Energy*, paras. 16-18; COMP/M.5844 – *JP Morgan/RBS Sempra*, para. 10 and footnote 7).

<sup>62</sup> See cases COMP/M.3868 – *DONG/Elsam/Energi E2*, paras. 241-245; COMP/M.3867 – *Vattenfall/Elsam and E2 Assets*, paras. 14-17.

<sup>63</sup> See cases M.5549 – *EDF/Segebel*, paras. 18-21; M.5224 – *EDF/British Energy*, paras. 16-18.

<sup>64</sup> In the Nordic financial electricity market, contracts for differences were introduced under the name of EPADs at the end of year 2000.

<sup>65</sup> See case M.3868 – *DONG/Elsam/Energi E2*, para. 246.

<sup>66</sup> Regulation (EU) No 1227/2011 of the European Parliament and of the Council of 25 October 2011 on wholesale energy market integrity and transparency.

<sup>67</sup> Regulation (EU) No 596/2014 of the European Parliament and of the Council of 16 April 2014 on market abuse (Market Abuse Regulation) and repealing Directive 2003/6/EC of the European Parliament and of the Council and Commission Directives 2003/124/EC, 2003/125/EC and 2004/72/EC.

<sup>68</sup> In particular, market participants indicated that they use a portfolio of different electricity derivatives in order to hedge their risk (see replies to Request for Information from competitors, question 12/18/19/20 and Request for Information from customers, questions 11, 13 and 14/18, as well as non-confidential minutes of calls with customers on 12.01.2018 (para. 6), on 16.01.2018 (para. 7), on 08.02.2018 (para. 9), on 12.02.2018 (para. 6) and on 15.02.2018 (para. 10) and non-confidential minutes of call with competitor on 06.02.2018, para. 9).

another irrespective of the precise format but based on its liquidity.<sup>69</sup> It should, however, be noted that respondents to the market investigation did not indicate that they see proxy hedging as an alternative to Nordic electricity derivatives.

- (46) However the Commission considers that EPADs constitute a separate product market based on their limited substitutability<sup>70</sup> with other electricity derivatives given that their purpose is to hedge the remaining area specific price risk.<sup>71</sup>
- (47) Finally, the Commission considers, in line with its previous decisional practice, that a distinction between financial electricity trading via exchanges on the one hand and on an OTC basis on the other hand is not appropriate. Irrespective of the exact mechanism of trading, electricity derivatives ultimately serve the same – hedging or speculative – purposes. It should also be noted that volumes traded on an OTC basis can and are to some extent cleared by exchanges, therefore removing some differences between organised and OTC trading, as regards transparency and counterparty risk management.
- (48) Based on the considerations explained in paragraphs (44) to (47), the Commission therefore considers that the financial trading of electricity – including all system price-based electricity derivatives, and excluding proxy hedging – on the one hand, and the trading of EPADs on the other hand, constitute two distinct product markets.

#### 4.2.2. *Geographic market definition*

##### *The Notifying Party's view*

- (49) The Notifying Party submits that the market for financial trading of electricity is global, and in any event at least EEA-wide in scope. This is because the physical location of the counterparties is irrelevant, given that there is no physical settlement involved. The Notifying Party argues that the practice of proxy hedging also points towards a global market. It submits that these arguments are equally valid for EPADs.<sup>72</sup>
- (50) However, the Notifying Party submits that the Proposed Transaction does not raise competition concerns even if the market for financial trading of electricity is considered on a regional basis and the market for EPADs on a bidding zone basis.<sup>73</sup>

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<sup>69</sup> Form CO, para. 6.309.

<sup>70</sup> Market participants also differentiated EPADs from other electricity derivatives in the market investigation (see non-confidential minutes of call with Nasdaq Commodities, para. 5, non-confidential minutes of call with customer on 15.02.2018, para. 26, reply to Request for Information of 08.05.2018 from customers, question 17(c)).

<sup>71</sup> For the sake of completeness, it should be mentioned that for purely speculative purposes, EPADs can be substitutable with other electricity derivatives and even all other financial products. However, and as discussed in Section 5.2.1.2, EPADs are mainly used for hedging purposes.

<sup>72</sup> Form CO, para. 6.146.

<sup>73</sup> Form CO, para. 6.147.

### *The Commission's assessment*

- (51) The Commission previously considered the market for financial trading of electricity to be global or at least EEA-wide,<sup>74</sup> and in relation to the Nord Pool area, comprising at least the Nord Pool region.<sup>75</sup> As for the market for EPADs, the Commission previously considered that the relevant market could comprise each particular price area.<sup>76</sup>
- (52) Given that the market investigation has not brought to light any indication that would contradict the Commission's earlier findings, the Commission has taken a conservative approach and analysed the effects of the Proposed Transaction on the narrowest possible basis, considering the market for financial trading of electricity to be regional (Nord Pool-wide) and the market for EPADs to be local (comprising each particular bidding zone) in scope.

### **4.3. Ancillary services**

- (53) Ancillary services are the services procured by each of the national TSOs to maintain the frequency of the electricity grid in the Nordic power system<sup>77</sup> at 50 Hz by ensuring a balance between electricity production and electricity consumption at any moment. If an imbalance occurs with excess consumption (demand) on the grid, a TSO requests up-regulation which can be an increase in generation or a reduction in consumption. The reverse is true for down-regulation.
- (54) Ancillary services can generally be categorised as primary, secondary or tertiary regulation, on the basis of the order of activation and the magnitude of frequency deviation. As further explained in paragraphs (55) to (64) and summarised in Graph 4.2, primary regulation consists of Frequency Containment Reserve ("FCR"), secondary regulation consists of automatic Frequency Restoration Reserve ("aFRR"), and tertiary regulation consists of manual Frequency Restoration Reserve ("mFRR"), Fast Active Disturbance Reserve ("FADR") and Peak Load Reserve ("PLR").

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<sup>74</sup> See cases COMP/M.5844 – *JP Morgen/RBS Sempra*, para. 14; COMP/M.4517 – *Iberdrola/Scottish Power*, para. 18; COMP/M.5467 – *RWE/Essent*, para. 53.

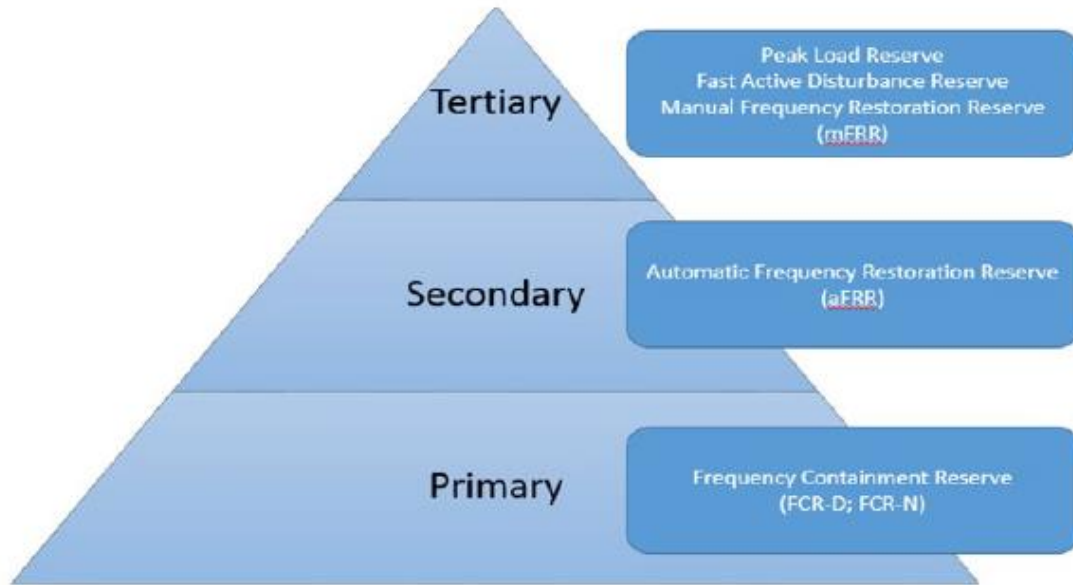
<sup>75</sup> See cases COMP/M.3868 – *DONG/Elsam/Energi E2*, para. 267; COMP/M.3867 – *Vattenfall/Elsam and E2 Assets*, para. 17.

<sup>76</sup> See case COMP/M.3868 – *DONG/Elsam/Energi E2*, para. 268.

<sup>77</sup> The Nordic power system includes Norway, Sweden, Finland and Denmark.



**Graph 4.2 – Ancillary Services**



Source: Form CO

### *FCR*

- (55) FCR is a capacity reservation mechanism used for the constant control of frequency and activated automatically within seconds in response to frequency changes. There are two types of FCR: FCR-N (normal) and FCR-D (disturbance). The provision of FCR-N relates to small frequency imbalances in the electricity system<sup>78</sup>, while FCR-D is required to re-balance more significant frequency shortfalls.<sup>79</sup>
- (56) In the Nordic region, FCR capacity is procured for every hour of every day. The capacity is fixed<sup>80</sup> annually based on a system agreement between the Nordic TSOs with a distribution key to allocate capacity to individual TSOs.<sup>81</sup> In addition, Nordic TSOs can purchase from other Nordic TSOs up to one-third of their individual FCR requirement.
- (57) The Swedish TSO, Svenska Kraftnät, procures FCR capacity one or two days in advance (ahead of delivery). The FCR capacity is procured based on the bids made by suppliers. Those suppliers whose bids are accepted by the TSO receive a capacity payment. Upon activation of reserved capacity, the suppliers also receive an energy payment for the activated electricity. Not all reserved capacity is ultimately activated.<sup>82</sup>

<sup>78</sup> This concerns infrequencies of <0.1 Hz either side of the 50 Hz level (up- and down-regulation).

<sup>79</sup> This concerns frequency shortfalls of <0.4 Hz.

<sup>80</sup> Currently the procured FCR-D capacity is decided two days in advance but in practice it is almost the same amount for every hour per day. See non-confidential minutes of call with Swedish TSO on 27.03.2018, para. 7.

<sup>81</sup> For FCR-N in Sweden, approximately 200 MW of capacity is procured for every hour and every day; the same amount is procured per hour per day. For FCR-D, approximately 400 MW of capacity is procured every hour of every day. See non-confidential minutes of call with Swedish TSO on 27.03.2018, para. 6.

<sup>82</sup> Non-confidential minutes of call with Swedish TSO on 27.03.2018, paras. 7-8.

### *aFRR*

- (58) The aFRR is a capacity reservation mechanism which can be activated automatically within 2 minutes. aFRR is procured for every day but not for every hour. It generally only covers morning and evening hours when the risk of frequency deviation is highest.<sup>83</sup>
- (59) In the Nordic region, every 6 months, the TSOs decide how much aFRR capacity will be procured by each of the TSOs for both up- and down regulation.<sup>84</sup> The actual activation is automatic and controlled by Statnett, the Norwegian TSO for the whole Nordic region.
- (60) The Swedish TSO procures aFRR capacity every Thursday for the whole of the following week. The aFRR capacity is procured based on the bids made by suppliers. Those suppliers whose bids are accepted by the TSO receive a capacity payment. Upon activation of reserved capacity, the suppliers also receive an energy payment for the activated electricity. Not all reserved capacity is ultimately activated.<sup>85</sup>

### *mFRR*

- (61) Unlike for FCR and aFRR, no capacity reservation takes place for mFRR. mFRR is procured in the hours when supply and demand differs. The suppliers only receive an energy payment. The TSO pays an energy payment on a clearing price basis (unlike for FCR and aFRR, the marginal price determines the price for all accepted bids). mFRR is procured on the Nordic regulation power market which functions in a similar manner to the generation and wholesale market.<sup>86</sup>
- (62) mFRR is procured by each of the Nordic TSOs and can be manually activated within 15 minutes. Suppliers (producers and consumers) can bid up to 45 minutes before the delivery hour. In practice, mFRR is always needed as the Swedish TSO has a preference not to have the automatic reserves (FCR and aFRR) fully activated at all times, as this would mean that the automatic reserves would not be ready for any disturbances; mFRR is thus also used to relieve and reset aFRR.<sup>87</sup>

### *FADR*

- (63) FADR is procured for situations when mFRR is insufficient and can be manually activated in 15 minutes<sup>88</sup>, but also for other uses such as a black start.<sup>89</sup> The

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<sup>83</sup> For aFRR in Sweden, approximately 100 MW of capacity is procured on each of the selected hours for the whole week. The selected hours are based on frequency quality statistics. See non-confidential minutes of call with Swedish TSO on 27.03.2018, para. 11.

<sup>84</sup> Non-confidential minutes of call with Swedish TSO on 27.03.2018, para. 12.

<sup>85</sup> Non-confidential minutes of call with Swedish TSO on 27.03.2018, para 13.

<sup>86</sup> Non-confidential minutes of call with Swedish TSO on 27.03.2018, para. 19.

<sup>87</sup> Non-confidential minutes of call with Swedish TSO on 27.03.2018, para. 19.

<sup>88</sup> For FADR in Sweden, 1300 MW are procured. See non-confidential minutes of call with Swedish TSO on 27.03.2018, para. 22.

<sup>89</sup> Black start means restoring the electricity supply in the grid without the need to draw electricity from the grid.

procurement takes place several years ahead and it is a requirement that assets providing FADR are not in commercial use.<sup>90</sup>

### *PLR*

- (64) PLR is procured for situations where the planned electricity production may not be sufficient to cover anticipated consumption.<sup>91</sup> In Sweden, it is provided under long-term arrangements in the area in which such reserves are needed.<sup>92</sup> The demand response<sup>93</sup> part of the PLR (25%) is procured every year, and the remaining part of the PLR is procured ever 4 years.<sup>94</sup> PLR can be activated within 1 to 2 days.<sup>95</sup>

#### *4.3.1. Product market definition*

##### *The Notifying Party's view*

- (65) The Notifying Party takes the view that hourly reserves (i.e. FCR, aFRR and mFRR) form part of the market of the generation and wholesale supply of electricity as production plants supplying electricity for these ancillary services are already (and simultaneously) supplying electricity to Nord Pool. The Notifying Party argues that there is no difference in the electricity sold depending on the purpose of its use whether for the generation and wholesale market or for the hourly reserves. Consequently, generators face no delays in switching capacity between Nord Pool and hourly reserves (or between hourly reserves).<sup>96</sup>
- (66) Moreover, provided that a hydro plant has the necessary inherent flexibility and size, which is typically the case for reservoir hydro plants in Sweden, no or only limited costs are required to equip that plant to provide hourly reserves according to the TSO requirements.<sup>97</sup>
- (67) Therefore, the Notifying Party argues that hourly reserves are substitutable between themselves and with the generation and wholesale supply of electricity. Nevertheless, on a conservative basis, the Notifying Party submits information on the basis of a product market comprising each of the hourly reserves separately.<sup>98</sup>
- (68) The Notifying Party also takes the view that the two non-hourly reserves (i.e. FADR and PLR) form one or two separate product markets as they are outside the commercial day-ahead and intra-day power market, and are only activated in exceptional circumstances of severe disturbances or capacity shortages.<sup>99</sup>

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<sup>90</sup> Form CO, para. 6.320.

<sup>91</sup> Form CO, para 6.103.

<sup>92</sup> Form CO, footnote 189.

<sup>93</sup> Demand response can be defined as a willingness of consumers to alter volume size of electricity consumed for short or long periods of time, as a response to market prices, price incentives in grid tariffs or other economic incentives. See Form CO, footnote 78

<sup>94</sup> Non-confidential minutes of call with Swedish TSO on 27.03.2018, para. 23.

<sup>95</sup> For PLR in Sweden, 750 MW are procured. See non-confidential minutes of call with Swedish TSO on 27.03.2018, para. 23.

<sup>96</sup> Form CO, paras. 6.149-6.173.

<sup>97</sup> Form CO, para. 6.158.

<sup>98</sup> Form CO, para. 6.173.

<sup>99</sup> Form CO, para. 6.150.

However, the Notifying Party argues that no conclusion on the exact product definition for FADR and PLR is necessary given the lack of overlap between the Parties' activities in these two markets.<sup>100</sup>

#### *The Commission's assessment*

- (69) As explained in paragraph (19), the Commission has generally considered the supply of ancillary services as a separate product market from the generation and wholesale supply of electricity based on demand-side and functionality considerations, also in the Nordic region.<sup>101</sup> The Commission has also considered, without concluding, sub-segmenting<sup>102</sup> the market further into different types of balancing activities<sup>103</sup>, depending on the national framework.<sup>104</sup> However, in some cases, a separate product market for balancing power has been defined from the generation and wholesale of electricity market, whereas, in other case, the exact product market definition has been left open.<sup>105</sup>
- (70) The Commission acknowledges that there is a clear link between the generation and wholesale supply of electricity on the day-ahead and intraday market and the hourly reserve markets. Each affects the other, in terms of where capacity is allocated as well as in respect of price. This is, in particular, as regards mFRR which is a reserve where no capacity is reserved and where the pricing formulation is similar to that of the generation and wholesale supply market.
- (71) That being said, the facts brought to light by the Commission's investigation show that the demand- and supply-side dynamics of ancillary services generally differ from those of generation and wholesale supply. This will first be discussed for the hourly reserves, as for the non-hourly reserves the Notifying Party argues these are separate product markets from the generation and wholesale market.
- (72) First, ancillary services are not traded on Nord Pool but procured directly by the TSO. While for the wholesale and generation market any electricity consumer active on the Nord Pool market can be the buyer of the electricity sold; for all ancillary services there is only one buyer, the TSO.
- (73) Second, the price setting mechanisms are different, in particular for FCR and aFRR for which capacity is procured based on actual supplier bids (but that

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<sup>100</sup> Form CO, para 6.151.

<sup>101</sup> See cases COMP/M.3868 – *DONG/Elsam/Energi E2*, para. 240; COMP/M.2947 – *Verbund/Allianz*, para. 54; COMP/M.3268 – *Sydkraft/Graninge*, para. 51; COMP/M.3440 – *ENI/EDP/GDP*, para. 51; COMP/M.4180 – *Gaz de France/Suez*, para. 683.

<sup>102</sup> See cases COMP/M.5224 – *EDF/British Energy*, paras. 18-19; COMP/M.4180 – *Gaz de France/Suez*, para. 683; COMP/M.3440 – *ENI/EDP/GDP*, para 51; COMP/M.3268 – *Sydkraft/Graninge*, paras. 46-51.

<sup>103</sup> See case COMP/M.5827 – *Elia/IFM/50Hertz*, para 14: The following ancillary services were distinguished: (i) provision of primary reserve; (ii) provision of secondary reserve within the Belgian zone (balancing current); (iii) provision of tertiary reserve; (iv) voltage control and reactive power control and (v) congestion management and the black start service.

<sup>104</sup> See cases COMP/M.5827 – *Elia/IFM /50Hertz*, para. 14; COMP/M.4180 – *Gaz de France/Suez*, para. 684.

<sup>105</sup> See cases COMP/M.5978 – *GDF Suez/International Power*, paras. 47-57; COMP/M.3868 – *DONG/Elsam/Energi E2*, paras. 235-240; COMP/M.3867 – *Vattenfall/Elsam and E2 Assets*, paras. 18-19; COMP/M.3696 – *E.ON/MOL*, paras. 219-222; COMP/M.3440 – *ENI/EDP/GDP*, paras. 51-55; COMP/M.3268 – *Sydkraft/Graninge*, paras.46-51; COMP/M.2947 – *Verbund/EnergieAllianz*, para. 54.

capacity may not be fully activated). Capacity procurement requires suppliers to pledge capacity to the TSO, which can be activated at short notice, fully or partially, which differs from the generation and wholesale market where electricity production is sold.

- (74) Third, the ancillary services are procured at different points in time and generally before the day-ahead market.<sup>106</sup> This is particularly the case for aFRR where the market investigation indicated that, for some producers, it may be difficult to plan one week ahead.<sup>107</sup>
- (75) Fourth, ancillary services require higher levels of flexibility in order to meet the requirements of the different reserves, in particular the maximum activation time. The Notifying Party themselves note that a hydro plant needs to have sufficient "inherent flexibility" to provide hourly reserves to the TSO (FCR, aFRR, mFRR).<sup>108</sup> The lack of flexibility in production was also highlighted by respondents to the market investigation<sup>109</sup> as a factor preventing some production plants from supplying ancillary services while being active on the generation and wholesale market.
- (76) Furthermore, respondents to the market investigation highlighted that differences in activation time as well as other technical reasons<sup>110</sup> mean that not all market participants may be able to provide all ancillary services, therefore supporting the notion that each type of hourly reserve should be considered as a separate market.
- (77) As regards the non-hourly reserves (i.e. FADR and PLR) the Commission considers that these reserves are likely to be distinct from hourly reserves as (i) they are outside the generation and wholesale market and likely each a separate product market as (ii) there is a significant difference in activation time.
- (78) In any event, for the purpose of this decision, the Commission considers that the precise market definition can be left open as no serious doubts arise even on the narrowest plausible market definition which is each hourly reserve (FCR, aFRR and mFRR) and non-hourly reserve (FADR and PLR), separately.

#### 4.3.2. *Geographic market definition*

##### *The Notifying Party's view*

- (79) The Notifying Party submits that the geographic market for hourly reserves is at least Nord Pool-wide as (i) hourly reserves are part of the overall market for the generation and wholesale supply of electricity; or (ii) even if not part of a combined market, they are still procured by the TSOs on a pan-Nordic basis.<sup>111</sup>

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<sup>106</sup> Most of the FCR is procured 2 days ahead of delivery (See non-confidential minutes of call with Swedish TSO on 27.03.2018, para. 6). The mFRR reserves are procured after the Elspot and Elbas market.

<sup>107</sup> Non-confidential minutes of call with Swedish TSO on 27.03.2018, para. 18.

<sup>108</sup> Form CO, paras. 6.158, 6.160 and 6.161.

<sup>109</sup> Reply to Request for Information of 08.05.2018 from customer, question 11.

<sup>110</sup> Reply to Request for Information of 08.05.2018 from customer, questions 3, 6; reply to Request for Information of 08.05.2018 from competitors, questions 8, 10, 11.

<sup>111</sup> Form CO, paras. 6.176-6.189.

- (80) The Notifying Party argues that (i) up to one-third of FCR demand can be procured cross-border; (ii) the Nordic TSOs have agreed on a system for the reservation of transmission capacity such as to allow aFRR to be procured on a Nordic-wide basis; and (iii) mFRR functions similarly to the Nord Pool spot market.<sup>112</sup> The Notifying Party notes that the Nordic regulation market can have a joint regulation price even though the Elspot price is divided into area prices.<sup>113</sup>
- (81) However, the Notifying Party argues that the precise geographic definition can be left open as no competition concerns arise even if the market were considered to be national.
- (82) For both FADR and PLR, the Notifying Party submits that these markets are national since they are procured by the TSO from domestic operators through a tendering process.<sup>114</sup>

#### *The Commission's assessment*

- (83) The Commission has previously considered the supply of ancillary services to be at most national in scope (possibly limited to a bidding zone).<sup>115</sup> However, concerning the Nordic region, a broader Nordic-wide market has also been considered but ultimately the market definition has been left open.<sup>116</sup>
- (84) Some respondents to the market investigation indicated that the geographic scope of the hourly reserves may differ for each product, because the current rules in force do not necessarily enable the procurement of each product on the same geographic basis.<sup>117</sup>
- (85) The Commission first notes that, while the required overall volume of the hourly reserves may be determined on a pan-Nordic basis, the overall volume is subsequently allocated to individual TSOs and the actual procurement of such hourly reserves largely takes place on a national basis. The ability to procure cross-border currently varies depending on the ancillary service in question.
- (86) As regards FCR, each Nordic TSO procures FCR capacity in principle on a national basis. However, the TSO can procure up to one-third of its capacity needs from other TSOs cross-border if needed (i.e. not directly from market participants located in a neighbouring country) within the transmission reliability margin.<sup>118</sup> As currently, the majority of the FCR reserves are still procured nationally, the most plausible geographic market is national.
- (87) For the purposes of this decision, the Commission considers the FCR market to be national (Sweden) but will take into account, in its competitive assessment, the

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<sup>112</sup> Form CO, para. 6.177

<sup>113</sup> This is because the actual physical electricity flows may differ from the forecast based on Elspot bids (Form CO, footnote 139).

<sup>114</sup> Form CO, para. 6.175.

<sup>115</sup> See cases COMP/M.5978 – *GDF Suez/International Power*, paras. 58-59; COMP/M.5549 – *EDF/Segebel*, para. 109; COMP/M.3696 – *E.ON/MOL*, para. 255; COMP/M.3868 – *DONG/Elsam/Energi E2*, paras. 263-266; COMP/M.3440 – *ENI/EDP/GDP*, para. 187.

<sup>116</sup> See case COMP/M.3268 – *Sydskraft/Gräninge*, paras. 52-55.

<sup>117</sup> Non-confidential minutes of call with Swedish TSO on 27.03.2018, para. 10; replies to Request for Information of 08.05.2018 from customers, questions 2-4.

<sup>118</sup> Form CO, para. 6.182. Non-confidential minutes of call with Swedish TSO on 31.05.2018, para. 3.

fact that the TSO can procure up to one-third of its needs from other Nordic TSOs.

- (88) As regards aFRR, each Nordic TSO currently procures this reserve nationally. However, the Nordic TSOs are in the process of implementing changes in the applicable rules which will, as of Q2 2019, broaden the market to Nordic-wide procurement and activation.<sup>119</sup> Such Nordic-wide procurement will be subject to transmission capacity being available (no congestion) but the possibility of reserving transmission capacity for the use of aFRR will exist.
- (89) Transmission capacity will be reserved for aFRR if such reservation is socio-economic beneficial compared to more expensive reserves in the other area.<sup>120</sup> In the market investigation, one respondent further indicated that it foresees that the Nordic TSOs will agree to allow imports up to one-third of the national requirements for aFRR.<sup>121</sup> As aFRR is currently procured nationally and imports have not yet commenced, the plausible geographic market is national.
- (90) For the purposes of this decision, the Commission considers the aFRR market to be national (Sweden) but will take into account, in its competitive assessment, the fact that the system will change to Nordic wide in 2019 and as such, imports from other Nordic countries will play a role.
- (91) As regards mFRR, each Nordic TSO procures this on a Nordic-wide basis (delivery is dependent on interconnector capacity, just as generation and wholesale supply). The procurement, as explained in paragraphs (61) to (62), is similar to the functioning of the generation and wholesale market. Suppliers in the Nordic market can bid mFRR from any bidding zone as long as no congestion takes place.
- (92) The Notifying Party has submitted an analysis based on the concept of 'regulation zone' that the Notifying Party uses internally. A regulation zone is defined as the collection of bidding zones with the same regulation price (mFRR price). The regulation zones can change every hour depending on the physical grid situation.<sup>122</sup> The Notifying Party focused its analysis on SE2 and SE3 as it is in these bidding zones that the Parties supply mFRR in Sweden.<sup>123</sup>
- (93) The Notifying Party's analysis shows that SE2 and SE3 were coupled in 97% of the hours in the period 2014-2016.<sup>124</sup> Furthermore<sup>125</sup>, when SE2 and SE3 were in the same regulation zone (coupled), at least one more bidding zone<sup>126</sup> was part of

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<sup>119</sup> The widening of the national aFRR market to a Nordic-wide market reflects the preparation for the new Nordic balancing concept which involves a transition from controlling the frequency to an Area Control Error (ACE)-based concept, building on controlling the balance in individual bidding zones.

<sup>120</sup> Non-confidential minutes of call with Swedish TSO on 27.03.2018, para. 16.

<sup>121</sup> Reply to Request for Information of 08/05/2018 from national TSO, question 3.

<sup>122</sup> Form CO, para 6.343.

<sup>123</sup> The Notifying Party also provides mFRR in Finland which is taken into account when FI is part of the same regulation zone as SE2 and/or SE3 (Notifying Party's reply to Request for Information 16 of 05.06.2018).

<sup>124</sup> Form CO, para 6.344.

<sup>125</sup> Form CO, para 6.344, Annex 34.

<sup>126</sup> For the one hour over the period 2014-2016 where only 3 bidding zones formed a regulation zone (in 2015), SE2 and SE3 were coupled with NO3 (Notifying Party's reply to Request for Information 16 of 05.06.2018).

the same regulation zone, but almost always at least 5 bidding zones were part of the regulation zone (and on average 10).

- (94) The Notifying Party's analysis further shows that when SE2 was not coupled with SE3, it was virtually always coupled with at least 4 bidding zones or at least with SE1.<sup>127</sup> When SE3 was not coupled with SE2, it was also virtually always coupled with at least 4 bidding zones or most often with SE4.<sup>128</sup> SE2 and SE3, where the Notifying Party offers its mFRR services, has not been observed as a single regulation zone (decoupled from all other bidding zones) in 2016 and very rarely in 2014 and 2015.<sup>129</sup>
- (95) The Commission notes that even though SE2 and SE3 may never, or very sporadically, have been fully decoupled, during the hours when SE2 and SE3 were coupled, a varying number of other bidding zones formed part of the same regulation zone but not consistently all the Nordic bidding zones. Logically, also during the few hours when SE2 and SE3 were not coupled, the geographic scope of the market was less than Nordic-wide.
- (96) In essence, the combinations tend to vary depending on the specific hour of the day/night similar to the generation and wholesale market. Given the similarities in functioning of the mFRR market with the generation and wholesale market and, in particular, the procurement on a Nordic-wide basis, subject to interconnector congestion, and the observed combination of bidding zones within Sweden and with other Nordic bidding zones, the Commission considers a combination of the four Swedish bidding zones the most distinctive area, with constraints coming from bidding zones of other Nordic countries. Therefore, for the purpose of this decision, the Commission will assess mFRR on a national basis, subject to external constraints from bidding zones outside Sweden.
- (97) Regarding FADR and PLR, the information available supports a geographic market definition that is (at most) national as these reserves are procured nationally.<sup>130</sup>
- (98) In light of the above, the Commission concludes that, for the purposes of this decision, FCR will be assessed on a national basis (see paragraphs (86) to (87)), aFRR will be assessed on a national basis (see paragraphs (88) to (90)) and mFRR will be assessed on a national basis (see paragraphs (91) to (96)), all taking into account external constraints from bidding zones outside Sweden. The non-hourly reserves, FADR and PLR will each be assessed on a national basis, separately (see paragraph (97)).

#### **4.4. Retail supply of electricity**

- (99) The retail supply of electricity comprises the sale of electricity to final customers. In the Nordic region, only the Notifying Party is active in this market, namely in Finland, Sweden and Norway.

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<sup>127</sup> For only 4 hours over the period 2014-2016, SE2 formed a single regulation zone and never in 2016.

<sup>128</sup> In only 4 hours over the period 2014-2016, SE3 formed a single regulation zone and never in 2016.

<sup>129</sup> Form CO, para 6.342.

<sup>130</sup> Non-confidential minutes of call with Swedish TSO on 27.03.2018, para 22.



#### 4.4.1. *Product market definition*

##### *The Notifying Party's view*

- (100) The Notifying Party submits that the distinction between customer groups identified in some of the Commission's previous decisions might not be appropriate in the Nordics because retailers have unrestricted access to the Nord Pool exchange and there are no regulatory or technical barriers to prevent retailers from selling electricity to different sizes of customers.<sup>131</sup>
- (101) In any event however, the Notifying Party submits that the relevant product market definition can be ultimately left open as the Proposed Transaction does not give rise to competition concerns regardless of the market definition retained.<sup>132</sup>

##### *The Commission's assessment*

- (102) The Commission has previously considered that the retail supply of electricity constitutes a separate product market from the generation and wholesale supply of electricity, and that potential narrower markets can be distinguished based on factors such as different needs and profiles on the demand side and different services and technologies on the supply side. In this regard, separate product markets were defined for the retail supply of electricity to large industrial and commercial customers on the one hand and to household and smaller industrial and commercial customers on the other hand.<sup>133</sup>
- (103) The Commission considers that the exact product market definition and the question whether the market for the retail supply of electricity should be further segmented can be left open for the purpose of this decision as the Proposed Transaction does not lead to serious doubts as to its compatibility with the internal market under the narrowest of the alternative definitions.

#### 4.4.2. *Geographic market definition*

##### *The Notifying Party's view*

- (104) The Notifying Party submits that the Nordic retail electricity markets are developing towards a combined regional market. However, it argues that the relevant product market definition can be ultimately left open as the Proposed Transaction does not give rise to competition concerns regardless of the market definition retained.<sup>134</sup>

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<sup>131</sup> Form CO, para. 6.191.

<sup>132</sup> Form CO, para. 6.192.

<sup>133</sup> See cases COMP/M.7745 – *Fortum/Lietuvos Energija/JV*, para.26; COMP/M.6984 – *EPH/Stredoslovenska Energetika*, para. 18; COMP/M.5827 – *Elia/IFM/50 Hertz*, para. 19; COMP/M.5496 – *Vattenfall/Nuon Energy*, para. 12; COMP/M.5467 – *RWE/Essent*, para. 22.

<sup>134</sup> Form CO, para. 6.194.

### *The Commission's assessment*

- (105) The Commission has previously typically defined the retail electricity markets as national in scope.<sup>135</sup> However, with regard to the Nordics, it has considered a possible wider, regional market for the retail supply of electricity.<sup>136</sup>
- (106) The Commission considers that the exact geographic market definition for the purpose of this decision can be left open as the Proposed Transaction does not lead to serious doubts as to its compatibility with the internal market under the narrowest of the alternative definitions.

### **4.5. CO<sub>2</sub> allowances, renewable electricity certificates and guarantees of origin**

- (107) Both the Notifying Party and Uniper trade in CO<sub>2</sub> allowances (under the EU ETS system), electricity certificates (within the Swedish-Norwegian system) and Guarantees of Origin ("GoOs" under the EU system).

#### *4.5.1. Product market definition*

##### *The Notifying Party's view*

- (108) Regarding the trading of CO<sub>2</sub> allowances, the Notifying Party submits that, in line with the Commission's precedents, these may form a separate product market (possibly including Certified Emission Reductions). However, it adds that, since the Proposed Transaction does not give rise to competition concerns on any plausible market, it is not necessary to conclude on the precise scope of the product market definition.<sup>137</sup>
- (109) Regarding the trading of electricity certificates and GoOs, the Notifying Party submits that: (i) each electricity certificate scheme based on the relevant national legislation may form its own relevant product market; and (ii) the market for GoOs comprises the EU's integrated GoO system (which oversees national GoOs registries and allows for the trading and use of GoOs throughout the EU). Nevertheless, the Notifying Party submits that the Proposed Transaction does not raise competition concerns irrespective of the market definition.<sup>138</sup>

##### *The Commission's assessment*

- (110) With regard to the trading of CO<sub>2</sub> allowances, in previous cases, the Commission has considered them to form a separate market, potentially also including Certified Emission Reductions issued under the global mechanisms set up by the Kyoto Protocol.<sup>139</sup> The Commission considers that the exact product market

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<sup>135</sup> See cases COMP/M.6984 – *EPH/Stredoslovenska Energetika*, para. 18; COMP/M.5827 – *Elia/IFM/50 Hertz*, para. 24; COMP/M.5496 – *Vattenfall/ Nuon Energy*, para. 15; COMP/M.5467 – *RWE/Essent*, paras. 283-284.

<sup>136</sup> See case COMP/M.3268 – *Sydskraft/Granninge*, paras. 80-82.

<sup>137</sup> Form CO, para. 6.198.

<sup>138</sup> Form CO, para. 6.199.

<sup>139</sup> See cases COMP/M.5979 – *KGHM/Tauron Wytwarzanie/JV*, para. 33; COMP/M.5793 – *Dalkia CZ/NWR Energy*, para. 18; COMP/M.5224 – *EDF/British Energy*, para. 137; COMP/M.3868 – *DONG/Elsam/Energi E2*, para. 277; COMP/M.5496 – *Vattenfall/Nuon Energy*, para. 9; COMP/M.4110 – *E.ON/Endesa*, para. 15.

definition can be left open for the purpose of this decision as the Proposed Transaction does not lead to serious doubts as to its compatibility with the internal market under the narrowest of the alternative definitions.

- (111) With regard to electricity certificates and GoOs, the Commission has not investigated these in previous cases.
- (112) Electricity certificates are connected to the national public support scheme for the production of renewable electricity in Norway and Sweden. These certificates are granted to the renewable electricity producers and electricity retailers and certain end users under a quota obligation to buy a certain number of certificates.<sup>140</sup> The trading of electricity certificates takes place through bilateral contracts and brokers in the certificate market where the price is determined by supply and demand. Trading is mainly done for spot price and forward contracts that differ mainly in the date of transfer and payment for delivery<sup>141</sup>.
- (113) GoOs on the other hand are electronic documents with the sole function of providing proof to a final customer that a certain volume of energy was produced from renewable sources. The GoOs are voluntary for market participants.<sup>142</sup>
- (114) Given the different rules governing electricity certificates and GoOs, such as the respectively mandatory and voluntary nature of the systems, and the different purpose of the two products, for the purpose of this decision, the Commission considers electricity certificates and GoOs to belong to separate product markets.
- (115) In light of the above, the Commission considers for the purposes of this decision that the trading of CO<sub>2</sub> allowances, the trading of electricity certificates and the trading of GoOs each constitute a distinct market.

#### 4.5.2. *Geographic market definition*

##### *The Notifying Party's view*

- (116) Regarding CO<sub>2</sub> allowances, the Notifying Party considers, in line with Commission precedents, the geographic market to be EU-wide in scope.<sup>143</sup>
- (117) Regarding electricity certificates and GoOs, the Notifying Party considers it likely that: (i) the geographic market for electricity certificates comprises the countries included in each relevant legislative scheme; and (ii) the geographic market for GoO is EU-wide as a result of GoOs being traded within the integrated EU-wide GoO system.<sup>144</sup>

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<sup>140</sup> Form CO, para 6.107 sub (ii)

<sup>141</sup> While spot price contracts are paid and transferred in 5 and 10 days respectively, with forward contracts this occurs at a specified future date.

<sup>142</sup> Form CO, para 6.107 sub (iii).

<sup>143</sup> Form CO, para. 6.202.

<sup>144</sup> Form CO, para. 6.203.

### *The Commission's assessment*

- (118) With regard to CO<sub>2</sub> allowances, in previous decisions, the Commission has considered the market to be EU-wide in scope.<sup>145</sup> The Commission considers that for the purposes of this decision the market for the trading of CO<sub>2</sub> allowances is EU-wide in line with previous Commission practice.
- (119) As explained in paragraph (111), the Commission has not investigated electricity certificates and GoOs in the past.
- (120) The electricity certificates support scheme of Sweden and Norway has created a common market for electricity certificates between these countries.<sup>146</sup> For the purpose of this decision, the Commission therefore considers the geographic scope of the market to be Norway and Sweden combined.
- (121) The GoOs system is based on the EU Renewable Energy Directive<sup>147</sup> and GoOs issued by individual Member States can be traded and used throughout the EU. For the purpose of this decision, the Commission therefore considers the geographic scope of the market to be EU-wide.

### **4.6. Energy production-related services**

- (122) Both Fortum and Uniper provide general energy-production related services, as well as specialised services to the nuclear sector.

#### *4.6.1. Product market definition*

##### *The Notifying Party's view*

- (123) The Notifying Party submits that general electricity production-related services comprise the provision of engineering and consultation services in different phases of the lifecycle of a production plant. It adds that these services do not require a high level of specialisation and therefore can be provided by a broad range of companies.<sup>148</sup>
- (124) In line with the Commission's decisional practice, the Notifying Party submits that there may be a separate market for the provision of nuclear services.<sup>149</sup> However, it argues that this should also include the treatment and disposal of radioactive waste and spent nuclear fuel. On the other hand, the Notifying Party

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<sup>145</sup> See cases COMP/M.5979 – *KGHM/Tauron Wytwarzanie/JV*, para. 34; COMP/M.5793 – *Dalkia CZ/NWR Energy*, paras. 19-20; COMP/M.5224 – *EDF/British Energy*, para. 139-140; COMP/M.3868 – *DONG/Elsam/Energi E2*, para. 280; and COMP/M.4110 – *E.ON/Endesa*, para. 27.

<sup>146</sup> See <http://www.statnett.no/en/Market-and-operations/the-power-market/Elcertificates/>.

<sup>147</sup> Directive 2009/28/EC of the European Parliament and the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC, *O.J. L* 140 5.6.2009, p16.

<sup>148</sup> Form CO, para. 6.209.

<sup>149</sup> Form CO, para. 6.207.

considers that the storage of nuclear fuel should constitute a separate market from the nuclear services.<sup>150</sup>

- (125) In any event however, the Notifying Party submits that the relevant product market definition can be ultimately left open as the Proposed Transaction does not give rise to competition concerns regardless of the market definition retained.<sup>151</sup>

#### *The Commission's assessment*

- (126) The Commission has previously not assessed the market for energy production-related services but defined a separate product market for nuclear services in its past decisions.<sup>152</sup> No further sub-segmentation based on the type of services or the technology of the reactor was considered appropriate.<sup>153</sup> Furthermore, the treatment and disposal of radioactive waste and spent nuclear fuel was also considered to be a separate product market.<sup>154</sup>
- (127) General energy production-related services comprise of a range of engineering and consulting services in different phases of the lifecycle of a production plant, such as design, operation and maintenance, inspection and consultation services related to power plant systems or services related to power plants' efficiency.
- (128) These services are procured by power plant owners or operators in a changing constellation according to the current needs of the production plant. The suppliers of these services, either specialised in the energy sector (such as the Parties) or general technical engineering suppliers (such as Siemens or GE), offer a broad range of services. Based on these demand- and supply-side substitutability considerations, the Commission considers that it is appropriate to define a separate relevant product market for general energy production-related services.
- (129) As to whether nuclear services and the treatment and disposal of radioactive waste and spent nuclear fuel constitute separate markets from the market for general energy production-related services, the Commission considers that the exact product market definition can be left open for the purpose of this decision as the Proposed Transaction does not lead to serious doubts as to its compatibility with the internal market under any of the alternative definitions.

#### *4.6.2. Geographic market definition*

##### *The Notifying Party's view*

- (130) The Notifying Party submits that the market for general energy production-related services is global or at least EEA-wide in scope.<sup>155</sup> With regard to nuclear services, and in line with the Commission's decisional practice, it submits that the

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<sup>150</sup> Form CO, para. 6.208.

<sup>151</sup> Form CO, para. 6.210.

<sup>152</sup> See cases COMP/M.7764 – *EDF/Areva Reactor Business*, para. 94; COMP/AT.39736 – *Areva/Siemens*, para. 18; COMP/M.4153 – *Toshiba/Westinghouse*, paras. 25-28.

<sup>153</sup> See cases COMP/M.7764 – *EDF/Areva Reactor Business*, para. 94; COMP/M.4153 – *Toshiba/Westinghouse*, para. 29.

<sup>154</sup> See case COMP/M.5591 – *CEZ/JAVYS/JESS JV*, para. 12.

<sup>155</sup> Form CO, para. 6.214.

market is at least EEA-wide, if not global.<sup>156</sup> The Notifying Party argues that the treatment and disposal of radioactive waste and spent nuclear fuel does not constitute a separate product market and is global in scope.<sup>157</sup>

- (131) In any event however, the Notifying Party submits that the relevant geographic market definition can be ultimately left open as the Proposed Transaction does not give rise to competition concerns regardless of the market definition retained.<sup>158</sup>

#### *The Commission's assessment*

- (132) The Commission has in the past not analysed the market for general energy production-related services. With regard to nuclear services, the Commission has previously considered that the market is at least EEA-wide or global in scope.<sup>159</sup> As regards the treatment and disposal of radioactive waste and spent nuclear fuel, the Commission considered in a decision the market to be national in scope.<sup>160</sup>
- (133) The Commission considers that the market for general energy production-related services is at least EEA-wide in scope based on the fact that there are no specific legal or commercial requirements restricting the provision of such services within the EEA<sup>161</sup> and that the suppliers of such services, including the Parties,<sup>162</sup> indeed operate on an EEA-wide or global basis. The market investigation has not brought to light any indication that would contradict this finding.
- (134) With regard to nuclear services and the treatment and disposal of radioactive waste and spent nuclear fuel, the market investigation has not brought to light any indication that would contradict the Commission's earlier findings as to geographic market definition and therefore those findings are retained for the present decision.

#### **4.7. Trading in natural gas and coal**

- (135) Uniper is active in the supply of natural gas and coal both at the (downstream) wholesale and retail level in a number of EEA countries. Within the EEA, Fortum procures natural gas and coal as fuel for its power production in Finland, Latvia, Sweden and Poland. In Poland, Fortum also supplies natural gas at retail level, both to industrial customers and households.

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<sup>156</sup> Form CO, para. 6.215.

<sup>157</sup> Form CO, para. 6.216.

<sup>158</sup> Form CO, para. 6.217.

<sup>159</sup> See cases COMP/M.7764 – *EDF/Areva Reactor Business*, para. 100; COMP/AT.39736 – *Areva/Siemens*, para. 19; COMP/M.4153 – *Toshiba/Westinghouse*, paras. 42-45.

<sup>160</sup> See case COMP/M.5591 – *CEZ/JAVYS/JESS JV*, para. 13.

<sup>161</sup> See Notifying Party's reply to Request for Information 12 of 25.05.2018, question 7.

<sup>162</sup> See Notifying Party's reply to Request for Information 12 of 25.05.2018, question 7 and reply to Request for Information 3 of 29.05.2018 from Uniper, question 4(ii).

#### 4.7.1. Product market definition

##### *The Notifying Party's view*

- (136) As regards the trading of natural gas, the Notifying Party submits that, in line with Commission's precedents, there are separate markets for the wholesale supply of gas and the retail supply of gas. However, since the Proposed Transaction does not give rise to competition concerns on any plausible market, it is not necessary to conclude on the precise scope of the product market definition.<sup>163</sup>
- (137) Likewise, as regards coal, the Notifying Party refers to Commission precedents defining a product market for all solid fuels or, alternatively, a separate market for fuel grade petcoke and, separately, a market for other solid fuels. In any case, since the Proposed Transaction does not give rise to competition concerns on any plausible market, it is not necessary to conclude on the precise scope of the product market definition.<sup>164</sup>

##### *The Commission's assessment*

- (138) Regarding the trading of natural gas, the Commission has in the past considered the existence of separate relevant product markets for: (i) the upstream wholesale supply of gas (comprising the development, production and upstream supply of gas to large importers/wholesalers); (ii) the downstream wholesale supply of gas (comprising the sale by non-integrated wholesalers to other wholesalers or downstream distributors); and (iii) the retail sale of gas.<sup>165</sup> A further segmentation of the market for the retail sale of gas has also been considered, into: (i) the supply of gas to gas-fired power plants; (ii) the supply of gas to large industrial customers; (iii) the supply of gas to small industrial and commercial customers; and (iv) the supply of gas to household customers.<sup>166</sup>
- (139) Regarding the trading of coal, the Commission has also previously considered a product market comprising all solid fuels or, alternatively, a separate market for fuel grade petcoke and a separate market for other solid fuels, including coal.<sup>167</sup>
- (140) For the purpose of this decision, the precise product market definitions in relation to natural gas and coal can be left open as the Proposed Transaction does not raise serious doubts as to its compatibility with the internal market even on the narrowest plausible segmentation.

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<sup>163</sup> Form CO, para. 6.221.

<sup>164</sup> Form CO, para. 6.222.

<sup>165</sup> See cases COMP/M.6984 – *EPH/Stredoslovenska Energetika*, para.23; COMP/M.6910 – *Gazprom/Wintershall/Target companies*, paras. 60-68; COMP/M.5585 – *Centrica/Venture Production*, para. 10.

<sup>166</sup> See cases COMP/M.6984 – *EPH/Stredoslovenska Energetika*, para. 27; COMP/M.6910 – *Gazprom/Wintershall/Target companies*, para. 65; COMP/M.5585 – *Centrica/Venture Production*, para. 16.

<sup>167</sup> See cases COMP/M.4742 – *Oxbow/SSM*, paras. 8-11; COMP/M.2588 – *Rheinbraun Brennstoff/SSM Coal*, paras. 7-11.

#### 4.7.2. Geographic market definition

##### *The Notifying Party's view*

- (141) As regards both natural gas and coal, the Notifying Party agrees with Commission precedents, as summarised below. Nevertheless, since the Proposed Transaction does not give rise to competition concerns on any plausible market, it considers that it is not necessary to conclude on the precise scope of the geographic market definition.<sup>168</sup>

##### *The Commission's assessment*

- (142) Regarding natural gas, the Commission has in the past considered the geographic scope of the market for the upstream wholesale supply of gas to be EEA-wide or narrower (i.e. regional or national).<sup>169</sup> The market for the downstream wholesale supply of gas has been generally considered to be delineated along existing transport grid areas, thus at national or regional level.<sup>170</sup> As regards the geographic scope of the retail gas markets, the Commission has generally considered these to be national in scope but also regional for specific Member States overall and for the retail supply of gas to household customers.<sup>171</sup>
- (143) As regards coal, the Commission has considered the geographic market to be EEA-wide or global in scope, both when all solid fuels are considered together as well as when fuel grade petcoke is considered separately (from coal, notably).<sup>172</sup>
- (144) For the purpose of this decision, the precise geographic market definition can be left open as the Proposed Transaction does not raise serious doubts as to its compatibility with the internal market even on the narrowest plausible segmentation.

#### **4.8. District heating**

- (145) According to Fortum, the Parties only overlap in the supply of district heating in Sweden; Fortum supplies district heating to Stockholm and Uniper supplies district heating to Malmö. According to Uniper, district heating produced in Malmö (via the Öresundskraft power plant) was sold to the district heating network owned by E.ON Varme AB. However, the contract was terminated in March 2016 and since March 2017, Öresundskraft has been in preservation mode and unavailable for district heating production. Uniper confirms that no future district heating production is envisaged at the moment.

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<sup>168</sup> Form CO, paras. 6.225-6.226.

<sup>169</sup> See case COMP/M.5585 – *Centrica/Venture Production*, para 11.

<sup>170</sup> See cases COMP/M.6984 – *EPH/Stredoslovenska Energetika*, paras. 21-23; COMP/M.6910 – *Gazprom/Wintershall/Target companies*, para. 62.

<sup>171</sup> See cases COMP/M.6984 – *EPH/Stredoslovenska Energetika*, paras. 27; COMP/M.6910 – *Gazprom/Wintershall/Target companies*, para. 67.

<sup>172</sup> See cases COMP/M.4742 – *Oxbow/SSM*, para 13; COMP/M.2588 – *Rheinbraun Brennstoff/SSM Coal*, paras 10-11.



#### 4.8.1. Product market definition

##### *The Notifying Party's view*

(146) The Notifying Party submits that increasing forms of heating source methods, such as geothermal heating, could suggest a wider product market than Commission precedents. However, it adds that, since the Proposed Transaction does not give rise to competition concerns on any plausible market, it is not necessary to conclude on the precise scope of the product market definition.<sup>173</sup>

##### *The Commission's assessment*

(147) In previous decisions, the Commission has considered the provision of district heating as a separate relevant product market.<sup>174</sup>

(148) For the purpose of this decision, the precise product market definition can be left open as the Proposed Transaction does not raise serious doubts as to its compatibility with the internal market even on the narrowest plausible segmentation.

#### 4.8.2. Geographic market definition

##### *The Notifying Party's view*

(149) The Notifying Party does not dispute the Commission's decision-making practice summarised below and submits that since the Proposed Transaction does not give rise to competition concerns on any plausible market, it is not necessary to conclude on the precise scope of the geographic market definition.<sup>175</sup>

##### *The Commission's assessment*

(150) In previous decisions, the Commission has defined the relevant geographic market as local and limited to the relevant district heating network.<sup>176</sup>

(151) For the purpose of this decision, the precise product market definition can be left open as the Proposed Transaction does not raise serious doubts as to its compatibility with the internal market even on the narrowest plausible segmentation.

## 5. COMPETITIVE ASSESSMENT

### Relevant economic unit as the acquiring undertaking

(152) Pursuant to Article 3(1), Article 5(4) read in conjunction with Recital 22 of the Merger Regulation and the Consolidated Jurisdictional Notice,<sup>177</sup> the Commission

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<sup>173</sup> Form CO, para. 6.228.

<sup>174</sup> See cases COMP/M.5793 – *Dalkia CZ/NWR Energy*, para. 17; COMP/M5365 – *IPO/ENBW/Praha/PT*, para. 16; COMP/M.4238 – *E.ON/Pražská Plynárenská* – para. 21; COMP/M.3268 – *Sydskraft/Graniče*, para. 90; COMP/M.2701 – *Vattenfall/Bewag*, para. 7.

<sup>175</sup> Form CO, para. 6.230.

<sup>176</sup> See cases COMP/M.5793 – *Dalkia CZ/NWR Energy*, para. 17; COMP/M5365 – *IPO/ENBW/Praha/PT*, para. 16; COMP/M.4238 – *E.ON/Pražská Plynárenská*, para. 21.

has undertaken to assess whether Fortum should be considered to fall under the same controlling undertaking as other Finnish State-owned enterprises ("SOEs") or, conversely, whether it has a power of decision independent from the Finnish State and other Finnish SOEs. In principle, the outcome of that assessment might indeed affect the scope of the substantive assessment of the Proposed Transaction.

- (153) The Notifying Party submits that: (i) Fortum is an independent economic unit; (ii) the Finnish State manages its interest in Fortum entirely separately from its investments in other companies; and (iii) Fortum is not subject to any form of coordination with any other company controlled by the Finnish State.<sup>177</sup> In particular, the Notifying Party indicates that no State employee sits on Fortum's Board of Directors, which is responsible for all strategic decisions relating to the commercial policy of the company, including budget, business plan, major investments and the appointment of the senior management.<sup>179</sup> Moreover, in compliance with the Finnish Corporate Governance Code applicable to all publicly traded companies on the Helsinki stock exchange, all members of Fortum's Board of Directors are independent of the company and of its significant shareholders.<sup>180</sup> In practice, members of Fortum's Board of Directors are appointed for a one-year term by the Annual General Meeting ("AGM") of shareholders, by simple majority, upon proposal by the Shareholders' Nomination Board ("SNB").<sup>181</sup> The SNB is composed of representatives of the three largest shareholders in Fortum and of its President, but decides by unanimity.<sup>182</sup> Overall, the Notifying Party submits that the Finnish State has never objected to a member being appointed to Fortum's Board of Directors as presented to the AGM.<sup>183</sup>
- (154) The Commission has investigated the relationship between Fortum and the Finnish State, and together with other Finnish SOEs active in the energy sector, in particular Gasum Corporation (gas supply), Neste Corporation (oil products), Kemijoki Oy (hydropower production) and Vapo Oy (supply of solid fuels, heating and electricity). In doing so, and in line with precedents,<sup>184</sup> the Commission has focused on: (i) Fortum's autonomy from the Finnish State in deciding on its own strategy, business plan and budget; and (ii) the possibility for the Finnish State to coordinate the commercial conduct of Fortum and of other Finnish SOEs active in the energy sector.
- (155) As a preliminary observation, the Commission notes that the Finnish State does not have any special rights attached to its shares in Fortum, which all belong to one and the same class and carry the same voting rights.<sup>185</sup>

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<sup>177</sup> See Consolidated Jurisdictional Notice [2008] O.J. C 95/1, paras. 7, 52-53, 153 and 194.

<sup>178</sup> Form CO, para. 3.2; Notifying Party's reply to Request for Information 2 of 22.11.2017, paras. 3.1-3.9.

<sup>179</sup> Form CO, para. 3.3; Fortum's Articles of Association, §7.

<sup>180</sup> Finnish Corporate Governance Code 2015, Recommendation 10.

<sup>181</sup> Fortum's Articles of Association, §6.

<sup>182</sup> If unanimous decision cannot be reached, the SNB informs the Board of Directors that it is unable to make a proposal to the AGM (Form CO, para. 3.3(viii)).

<sup>183</sup> Form CO, para. 3.3(iv); Notifying Party's reply to Request for Information 2 of 22.11.2017, para. 3.7.

<sup>184</sup> See, e.g. Cases M.7850 – *EDF/CGH/NNB Group of companies*, para. 30; M.5549 – *EDF/Segebel*, para. 92, M.8687 – *Prisko/OKD Nastupnicka*, paras. 11-27.

<sup>185</sup> See <https://www.fortum.com/about-us/investors/share-information>, last consulted on 13 June 2018.

- (156) In relation to Fortum's autonomy, the Commission first notes that the fact that Fortum is a public company listed on Nasdaq Helsinki since 1998 and is therefore subject to the Finnish Corporate Governance Code is in itself not sufficient to establish independence from the Finnish State. However, in analysing Fortum's corporate governance, notably by means of Fortum's publicly available Corporate Governance Statements,<sup>186</sup> the Commission found that Fortum's governance structure goes in fact beyond the independence requirements set forth in the Finnish Corporate Governance Code. In particular, the Finnish Corporate Governance Code does not require that all members of the Board of Directors fulfil the independence requirements, notably towards shareholders, as seems instead to be the case for Fortum.<sup>187</sup> Moreover, the Finnish Corporate Governance Code does not mandate recourse to the SNB mechanism according to which the Finnish State cannot impose the presentation of a particular Board member to the AGM without the consent of representatives of other large shareholders and of the Chair of Fortum's Board of Directors.
- (157) Second, a criterion commonly relied upon by the Commission to assess the autonomy of SOEs is the degree of interlocking directorships. In that regard, the Commission has not identified the existence of common members of the Board of Directors across the energy-related Finnish SOEs, as listed above.<sup>188</sup> The only relevant links identified by the Commission relate to the Fortum Board membership of Neste Corporation's CEO and the Kemijoki Board membership of a Fortum executive. However, it appears from publicly available information that Neste Corporation's CEO is only a Board member of Fortum since 2017 and his tenure at Neste Corporation is ending in 2018. Kemijoki is also partly owned by Fortum and its purpose is to produce electricity at cost for its shareholders, thus including Fortum. These links do not therefore seem to be such as to impair the autonomy of Fortum, or to be such as to enable a coordination of the commercial conduct of Fortum with the SOEs in question.<sup>189</sup> For the sake of completeness, the Commission notes that Fortum and Neste share the same three largest shareholders and that the same individuals sit in their respective SNB. However, as noted, these two listed companies do not share any single common member of their Board of Directors.
- (158) In terms of (lack of) coordination across Finnish energy-related SOEs, which complements the assessment of Fortum's autonomy, the Commission also notes that it is familiar with the Finnish State's ownership scheme and that in the past it has consistently found that the energy-related SOEs in question acted independently. Thus, in *Neste/IVO*, the Commission concluded that there was no indication that the commercial conduct of these companies had been coordinated in the past. In contrast, the Commission found that the Finnish State exercised its

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<sup>186</sup> See <https://www.fortum.com/about-us/investors/corporate-governance>, last consulted on 13.06.2018.

<sup>187</sup> Recommendation 10 of the Finnish Corporate Governance Code provides that the majority of the directors shall be independent of the company and that at least two directors are also independent of the significant shareholders.

<sup>188</sup> See, Fortum Corporate Governance Statement 2017 (available at <https://www.fortum.com/about-us/investors/corporate-governance>), and for Neste: <https://www.neste.com/corporate-info/investors/corporate-governance>; for Gasum: <https://www.gasum.com/en/About-gasum/Information-about-Gasum/management/>; for Vapo: <https://www.vapo.com/en/vapo-group-2/corporate-governance/members-of-the-board-of-directors> (last consulted on 13.06.2018).

<sup>189</sup> The other identified links include the Vapo Board membership of a Neste Corporation executive and the Gasum Board membership of a former Fortum executive.

ownership control only in questions relating to the shareholding of the State (such as sales of shares, listings, etc.).<sup>190</sup> That assessment of the possible coordination of SOEs through the Finnish Primer Minister's Office was revisited and confirmed in subsequent cases.<sup>191</sup> Likewise, in the present case, the Commission has not identified elements pointing to a possible coordination of Finnish energy-related SOEs, thus including Fortum, or to any specific involvement of the Finnish State in the decision-making process relating to the Proposed Transaction. To the contrary, the Finnish government appears to have publicly and repeatedly underlined its unwillingness to intervene in this matter.<sup>192</sup>

- (159) Based on the outcome of its investigation, the Commission therefore concludes that Fortum appears to constitute a distinct economic unit with an independent power of decision. Hence, the competitive assessment of the Proposed Transaction can be properly carried out by considering Fortum on a standalone basis.
- (160) In any event, the Commission observes that the competitive assessment of the Proposed Transaction would not be materially affected by a combination of the activities of other energy-related Finnish SOEs with the ones of Forum. In particular, the Commission notes that Gasum does not supply natural gas to power plants in Sweden and that Uniper is not engaged in the trading or supply of natural gas in Finland, Sweden or Norway, where Gasum is active.<sup>193</sup> The Commission also understands that Neste Corporation does supply fuel to oil-fired power plants but that Uniper operates only one such plant in the entire Nordic and Baltic area (in Sweden), where Neste's activities concentrate. As noted above, Kemijoki produces in Finland electricity at cost for its shareholders, including Fortum, either for consumption or resale, and is thus not engaged directly in the wholesale supply of electricity.<sup>194</sup> Finally, while Vapo supplies solid fuels for use in bioenergy plants in Finland, Sweden and Estonia, Uniper does not operate any such plants in any Nordic country, or Estonia. In addition, Vapo Oy has very limited electricity generation activities in Sweden (less than 0.1%), where the Parties' own generation activities overlap, and does not supply heat in the Malmö area where Uniper does.

#### Scope of the competitive assessment

- (161) In view of the above considerations pertaining to the scope of the relevant economic unit as the acquiring undertaking, and based on the product and geographic market definitions set forth in Section 4, the Proposed Transaction leads to a number of horizontally affected markets within the areas of: (i) the

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<sup>190</sup> Case No. IV/931 – *Neste/IVO*, para. 8.

<sup>191</sup> See e.g. case COMP/M.8815 – *Vapo/OP Financial Group/JV*.

<sup>192</sup> See e.g. the statement of Economy Minister Mika Lintila reported by Reuters on 10 October 2017: "*This is purely a business transaction by Fortum... The government has not had any discussion about an intervention, and it will not intervene*" (T. Forsell, Finnish government backs Fortum's Uniper bid despite Nord Stream II link, Reuters.com, 10 October 2017, last consulted 13.06.2018).

<sup>193</sup> Moreover, at the level of upstream wholesale supply of natural gas or LNG, Gasum is a very modest player at EEA level with purchases representing approx. 0.3% of Norway's 2016 natural gas production and 1.4% of total 2016 LNG imports into the EU (see Form CO, Annex 1, para. 1.1(A)(iii)(iv)).

<sup>194</sup> Fortum's entitlement to Kemijoki's electricity production has been included in the relevant market share and other data reflecting Fortum's market position in the generation and wholesale supply of electricity in the Nord Pool area, thus including Finland, or in Finland on a standalone basis.

generation and wholesale supply of electricity; (ii) financial trading; and (iii) ancillary services.<sup>195</sup>

- (162) Furthermore, vertically affected markets arise in relation to: (i) the Parties' activities on the market for generation and wholesale supply of electricity (upstream) and Fortum's activities on the market for retail supply of electricity (downstream);<sup>196</sup> and (ii) the Parties' activities on the market(s) for energy production-related services (upstream)<sup>197</sup> and their activities on the market for the generation and wholesale supply of electricity (downstream).
- (163) No horizontally or vertically affected markets arise in respect of: (i) CO<sub>2</sub> allowances, renewable electricity certificates and guarantees of origin; (ii) trading of natural gas and coal; and (iii) district heating.
- (164) Regarding the trading of CO<sub>2</sub> allowances, electricity certificates and GoOs, whilst both Parties are active in those markets, the Proposed Transaction does not give rise to horizontally or vertically affected markets.<sup>198</sup> Moreover, no concerns were raised in the market investigation. For these reasons, the Commission considers that no serious doubts arise in respect of those markets. Therefore, these products will not be further discussed in this Decision.
- (165) In relation to the trading of natural gas and coal, the Proposed Transaction does not give rise to horizontal overlaps,<sup>199</sup> or to any vertically affected markets.<sup>200</sup>

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<sup>195</sup> This only concerns the hourly reserves and not the FADR and PLR.

<sup>196</sup> The Parties' activities do not horizontally overlap in the retail supply of electricity; therefore this market will be only further discussed with regard to its vertical relationship to the market for generation and wholesale supply of electricity (see Section 5.1.4.1).

<sup>197</sup> The Transaction does not give rise to horizontally affected markets with regard to general energy production-related services (EEA-wide combined market share is under [10-20]%, with an increment of less than [0-5]%), nuclear services (EEA-wide combined market share is under [0-5]%, with an increment of less than [0-5]%) or the treatment and disposal of radioactive waste and spent nuclear fuel (no overlap). Therefore, these markets will be further discussed only with regard to their vertical relationship to the market for generation and wholesale supply of electricity (see Section 5.1.4.2).

<sup>198</sup> As regards electricity certificates in the area covering Norway and Sweden, the Notifying Party estimated the total size of the market based on certificates trading undertaken through two brokers, which trade the vast majority, but recognised that small volumes may also be traded through other channels and, as such, the total market size is underestimated (Form CO, para 6.396). Uniper estimated the total market size to be significantly larger. Taking into account (i) the fact that the Notifying Party confirms that it may not have captured the total market size, and (ii) Uniper's total market size estimate, the Commission considers that the Proposed Transaction is unlikely to give rise to any affected markets with regard to electricity certificates. As regards CO<sub>2</sub> allowances and GoOs, the Parties combined market shares (2016) would remain well below 20% on each of those markets.

<sup>199</sup> In particular, there is no horizontal overlap between the Parties' activities in the area of the supply of natural gas. In Poland, which is the only EEA country where the Parties are both engaged in the supply of natural gas, Fortum is active at retail level and accounts for less than [0-5]% of total retail sales, whereas Uniper is active at (downstream) wholesale level since 2016, and its activities have so far been very limited, accounting for less than [0-5]% of total supply (Form CO, para. 6.415; reply to Request for Information 1 of 14.02.2018 from Uniper, question 17; reply to Request for Information 3 of 29.05.2018 from Uniper, question 6; Notifying Party's reply to Request for Information 12 of 25.05.2018, question 9).

<sup>200</sup> The Proposed Transaction involves vertical relations with regard to: (i) Uniper's activities in the downstream wholesale supply of gas and Fortum's activities in the retail supply of gas in Poland; (ii) the supply of solid fuels, notably coal in the EEA (Uniper on the supply side and Fortum on the demand side); and (iii) Uniper's activities in the retail supply of natural gas and solid fuels and the Parties' activities in the generation and wholesale supply of electricity in Finland, Sweden, Latvia

Moreover, no concerns were raised in the market investigation. For these reasons, the Commission considers that no serious doubts arise in respect of those markets. Hence, these activities will not be further discussed in this Decision.

- (166) As to district heating, no affected markets arise from the Proposed Transaction. Moreover, no concerns were raised in the market investigation. For these reasons, the Commission considers that no serious doubts arise in respect of those markets. Therefore, this market will not be further discussed in this Decision.<sup>201</sup>

## 5.1. Generation and wholesale supply of electricity

### 5.1.1. Market shares

- (167) The Parties are both active in the generation and wholesale of electricity in a number of EEA countries but their activities only overlap in Sweden and, in particular, in the SE2 and SE3 bidding areas.<sup>202</sup> At the level of Sweden as a whole, the Parties' combined market share amounts to [20-30]% in terms of capacity and [30-40]% in terms of actual production (volume), as apparent from Table 5.1. The market for the generation and wholesale supply of electricity in Sweden is therefore horizontally affected by the Proposed Transaction.<sup>203</sup>

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and Poland. However, none of these relations results in vertically affected markets. In effect, Uniper does not supply natural gas in Finland, Sweden or Latvia, where Fortum procures natural gas for its gas-fired power plants or the heating of its production facilities. In Poland, Uniper's supply activities at wholesale level are very limited and so are Fortum's activities at retail level. Overall, Fortum's procurement of natural gas in Poland, including for the operation of its gas-fired power plants, represented less than [0-5]% of the 2017 total natural gas consumption in Poland (Notifying Party's reply to Request for Information 15 of 05.06.2018). In relation to solid fuels, Fortum is only active as a purchaser of coal as fuel for its power production in Finland, Sweden and Poland; in contrast, Fortum does not make any sales of coal (Form CO, para. 6.417). Conversely, Uniper is engaged in the supply of solid fuels, notably coal, but has not made any sales of coal to customers based in Finland, Sweden or Poland in 2017 or 2016. At EEA level, Uniper's coal sales represented a market share well below 20% in 2016, and they have reduced in 2017. In turn, Fortum's coal purchases represented approximately [0-5]% of total EU consumption in 2016 (Form CO, para. 6.417 and Eurostat coal and lignite statistics, as a conservative proxy for solid fuels). Finally, Fortum's share of generation and wholesale supply of electricity in each of Finland, Latvia and Poland does not give rise to vertically affected markets with Uniper's activities in the trading of natural gas and solid fuels, including coal, as it remains below 30% both in terms of capacity and production (Notifying Party's reply to Request for Information 15 of 05.06.2018). For the sake of completeness, the Commission notes that the Proposed Transaction gives rise to a technically affected market with regard to Uniper's supply of coal (upstream, defined as EEA-wide) and the Parties' activities in the generation and wholesale supply of electricity in Sweden (downstream). However, as noted above, Uniper does not supply coal in Sweden and Fortum only procures insignificant amounts of coal in Sweden ([...] Mt, see Form CO, para. 6.417); hence no vertical foreclosure concern may arise as a result of the Proposed Transaction.

<sup>201</sup> There is no horizontal overlap as regards district heating since Uniper is no longer active on this market in Sweden.

<sup>202</sup> On a Nord Pool-wide basis, the combined market share of the Parties is estimated by the Notifying Party at [10-20]% on a capacity basis (Form CO, para. 6.231). Uniper is not present outside of Sweden within the Nord Pool area, whereas Fortum has significant generation operations in Finland. In Finland, Fortum's market share varies between [20-30]% (capacity) and [20-30]% (production - see Notifying Party's reply to Request for Information 15 of 05.06.2018). Outside of Sweden and Finland, Fortum's operations in the Nord Pool area are very limited.

<sup>203</sup> On a potentially broader market consisting of the generation and wholesale supply of electricity, ancillary services and financial trading, the combined market shares of the Parties would not be

**Table 5.1 – Market shares in electricity generation and wholesale supply in Sweden (2016)<sup>204</sup>**

	<b>PRODUCTION<sup>205</sup></b>	<b>CAPACITY</b>
<b>Fortum</b>	[10-20]%	[10-20]%
<b>Uniper</b>	[10-20]%	[10-20]%
<b>Combined</b>	[30-40]%	[20-30]%
<b>Vattenfall</b>	[40-50]%	[30-40]%
<b>Statkraft</b>	[0-5]%	[0-5]%
<b>Skellefteå Kraft</b>	[0-5]%	[0-5]%
<b>Others<sup>206</sup></b>	[10-20]%	[20-30]%
<b>Total</b>	<b>100%</b>	<b>100%</b>

Source: Form CO, Annex 22; Form CO, paras. 6.34 to 6.43; Notifying Party's reply to Request for Information 15 of 05.06.2018

(168) On a bidding zone level, the Parties' combined market shares in the bidding zones where their activities overlap are broadly in line with market shares at a Sweden-wide level. In terms of production, the Parties achieved a combined market share of [30-40]% in SE2 and of [40-50]% in SE3 in 2016. However, and as explained in Section 4.1.2, the Commission doubts about the appropriateness of assessing competition between electricity generators at the level of single bidding zones within Sweden. Indeed, SE1 and SE2 on the one hand, and SE3 and SE4 on the other hand, share a single price most of the time. As a result, the Parties' market shares at the level of combined SE1-SE2 and SE3-SE4 areas provide a more accurate reflection of their actual market position. As apparent from Table 5.2 below, the market share of the merged entity drops to [20-30]% at a combined SE1-SE2 level since the Parties are not active at all in SE1. At SE3-SE4 level, the Parties' combined market share is also lower than when considering SE3 in isolation. In any event, while market shares for combined SE1/SE2 and SE3/SE4 bidding zones may be more accurate than for individual zones, the Commission considers that the appropriate scope of the market for the generation and wholesale supply of electricity is broader and should encompass all four Swedish bidding zones, while acknowledging the reality of flows from neighbouring zones.

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materially different, or in any event not higher, than those indicated in Table 5.1. because: (i) the volume of electricity traded for the purpose of supplying ancillary services constitutes a fraction of the volume traded at wholesale level, so that any increment would be immaterial; and, conversely, (ii) the overall volume traded on financial markets is a multiple of the volume physically produced and traded at wholesale level so that, in view of the more limited market position of the Parties in relation to financial trading, combining wholesale supply and financial trading would dilute the Parties' market shares.

<sup>204</sup> The Commission has no reason to believe that market shares for prior or subsequent years would be significantly different.

<sup>205</sup> The Parties' combined market share in production was [30-40]% in 2015 and [30-40]% in 2014 (Form CO, Annex 27).

<sup>206</sup> Including Mälarenergi ([0-5]%), Jämtkraft ([0-5]%), Holmen Energi ([0-5]%), Tekniska Verken Linköping ([0-5]%) and Umeå Energi ([0-5]%), which operate a combination of hydro, wind and thermal assets. See Form CO, Annex 14.

**Table 5.2 – Market shares in electricity generation and wholesale supply in the Swedish bidding zones (production) (2016)<sup>207</sup>**

	SE1	SE2	SE1+SE2	SE3	SE4	SE3+SE4
<b>Fortum</b>	[0-5]%	[10-20]%	[10-20]%	[20-30]%	[0-5]%	[20-30]%
<b>Uniper</b>	[0-5]%	[10-20]%	[5-10]%	[20-30]%	[10-20]%	[10-20]%
<b>Combined</b>	[0-5]%	[30-40]%	[20-30]%	[40-50]%	[10-20]%	[30-40]%
<b>Vattenfall</b>	[80-90]%	[30-40]%	[50-60]%	[40-50]%	[5-10]%	[30-40]%
<b>Statkraft</b>	[0-5]%	[10-20]%	[5-10]%	[0-5]%	[5-10]%	<[0-5]%
<b>Skellefteå Kraft</b>	[10-20]%	[0-5]%	[5-10]%	[0-5]%	[0-5]%	<[0-5]%
<b>Other</b>	[5-10]%	[20-30]%	[10-20]%	[10-20]%	[70-80]%	[20-30]%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

Source: Form CO, Annex 24

(169) In addition, even though, as explained in paragraph (18), the market for the generation and wholesale supply of electricity includes all electricity produced irrespective of the source, the Commission considers it informative for the purpose of the assessment of the Proposed Transaction to take into account the generation mix of the various competing generators, as displayed in Table 5.3.

**Table 5.3 – Market shares in electricity generation per source in Sweden (2016)<sup>208</sup>**

	HYDRO	NUCLEAR	WIND	THERMAL	SOLAR	TOTAL
<b>Fortum</b>	[20-30]%	[10-20]%	<[0-5]%	[5-10]%	[0-5]%	[10-20]%
<b>Uniper</b>	[10-20]%	[20-30]%	[0-5]%	[0-5]%	[0-5]%	[10-20]%
<b>Combined</b>	[30-40]%	[40-50]%	[0-5]%	[10-20]%	[0-5]%	[30-40]%
<b>Vattenfall</b>	[50-60]%	[50-60]%	[5-10]%	[0-5]%	[0-5]%	[40-50]%
<b>Statkraft</b>	[5-10]%	[0-5]%	[5-10]%	[0-5]%	[0-5]%	[0-5]%
<b>Skellefteå Kraft</b>	[0-5]%	[0-5]%	[0-5]%	[0-5]%	[0-5]%	[0-5]%
<b>Other</b>	[5-10]%	[0-5]%	[80-90]%	[80-90]%	[90-100]%	[10-20]%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

Source: Form CO, Annex 21

(170) Within Sweden, the Parties' overlap in hydro production is almost exclusively located in SE2. Whilst Fortum has significant hydro production in SE3, the overlap in SE3 relates almost exclusively to nuclear generation. It is notable that the Parties are currently (almost) not active at all in wind and solar generation in Sweden, whereas wind, in particular, accounts for more than 10% of total production and has been growing continuously over the past few years.

(171) The Commission notes that the market shares presented in Tables 5.1 to 5.3 above do not account for two important features characterising the Swedish market for

<sup>207</sup> The Commission has no reason to believe that market shares for prior or subsequent years would be significantly different.

<sup>208</sup> The Commission has no reason to believe that market shares for prior or subsequent years would be significantly different.



the generation and wholesale supply of electricity. The first feature is the significant overcapacity available in Sweden (installed capacity/domestic demand and exports), equivalent on average to [30-40]%.<sup>209</sup> The second feature is the continuous constraint exercised through interconnectors by generation in other bidding zones, primarily in Norway,<sup>210</sup> on the wholesale supply of electricity in Sweden, as exemplified by the fact that Sweden as a whole is almost never completely decoupled from (at least one) neighbouring bidding zone(s).<sup>211</sup>

### 5.1.2. *Horizontal non-coordinated effects*

- (172) Since Fortum and Uniper are actual competitors on the market for the generation and wholesale supply of electricity in Sweden, the Commission undertakes to assess the possible anti-competitive horizontal effects of the Proposed Transaction. In particular, the Commission aims to verify whether and the extent to which the Proposed Transaction may remove important competitive constraints on the Parties, thereby enabling them to exercise increased market power and to increase prices.<sup>212</sup>
- (173) In previous electricity cases, the Commission has typically considered whether the combination of flexible (e.g. hydropower) and non-flexible "baseload" (e.g. nuclear) electricity production assets was prone to give rise to horizontal non-coordinated effects.<sup>213</sup> In particular, the Commission assessed whether the concentration in question was likely to give the merged entity the ability and incentive to physically or economically withhold flexible generation capacity in order to increase the market price of electricity applicable to all (so-called "infra-marginal") production units, thus including baseload production.<sup>214</sup> The premise of such a theory of harm is that a combination of flexible generation may give the merged entity additional "*opportunities to withdraw flexible capacity*", while the combination of baseload production may enable it to benefit from the resulting higher price on a larger base of infra-marginal production units.<sup>215</sup>

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<sup>209</sup> Form CO, Table 6-13. In 2016, the total spare installed capacity in Sweden amounted to [...] MW, which was higher than average domestic demand ([...] MW), and much higher than Fortum and Uniper's combined capacity ([...] MW).

<sup>210</sup> According to the Swedish TSO, under normal conditions, there are continuous imports of electricity from Norway into Sweden, with common congestion between South Norway and South Sweden. Conversely, also according to the Swedish TSO, there are virtually always electricity exports from Sweden to Finland (and the flow will not reverse with the start of operation of new nuclear capacities being developed in Finland). With the continent, the direction of electricity flows may vary, for example, depending on wind production in Denmark at a particular time of the day. See non-confidential minutes of a call with Swedish TSO on 22.12.2017, paras. 2-5.

<sup>211</sup> See above, Section 4.1.2.

<sup>212</sup> Guidelines on the assessment of horizontal mergers [2004] *O.J.* C31/5, para. 24.

<sup>213</sup> See cases COMP/M.5224 – *EDF/British Energy*; COMP/M.3268 – *Sydkraft/Gräninge*.

<sup>214</sup> Physical withholding entails a reduction in generation output offered to the market, whereas economic withholding entails an increase in unit prices while keeping output constant. The outcome is essentially the same, namely that less production is available at the pre-merger competitive price level. Thus, in a situation where generators bid supply functions, physical and economic withholding converge. Hence, the remainder of this decision refers to withholding in general as encompassing both types of strategies.

<sup>215</sup> See cases COMP/M.5224 – *EDF/British Energy*, para. 25; COMP/M.3268 – *Sydkraft/Gräninge*, para. 37.

### *The Notifying Party's view*

- (174) The Notifying Party takes the view that the Proposed Transaction does not significantly impede effective competition in the market for the generation and wholesale supply of electricity, including when limited to Sweden, for a number of reasons pertaining to the market structure, on the one hand, and the lack of ability and incentive to enter into a possible withholding strategy, on the other hand.
- (175) From a structural point of view, the Notifying Party submits that the combined market share of the merged entity would remain modest, even at Sweden level ([30-40]%), and is not such as to raise competition concerns.<sup>216</sup> That market share is further diluted by the availability of plentiful import capacity, which competes to meet demand within Sweden.<sup>217</sup> As a corollary, a number of effective competitors will remain and exert a significant competitive constraint on the Parties post-merger, including chiefly Vattenfall but also Statkraft, Skellefteå Kraft and other entities, including other Norwegian suppliers such as Norsk Hydro and E-CO Energi. In turn, most of these suppliers have a high proportion of flexible hydropower capacity in their generation portfolios, which can be deployed to constrain the merged entity.<sup>218</sup> Moreover, the Nordic area, notably Sweden, is characterised by significant oversupply in installed capacity,<sup>219</sup> and additional volumes – predominantly of wind power – are due to come on-line in the near future.<sup>220</sup> Likewise, additional nuclear capacity due to open in Finland will increase the flexible capacity available in Sweden. Finally, additional constraints will arise from additional transmission capacities planned within the Nord Pool area and with continental Europe and the UK.<sup>221</sup>
- (176) More specifically, with respect to its lacking ability and incentive of engaging into a hypothetical withholding strategy, the Notifying Party contends that, in essence:<sup>222</sup> (i) [assessment on Fortum's ability to forecast]; (ii) engaging in systematic withholding would induce competitors to reallocate hydro resources to these periods since supply is highly elastic, thereby defeating such a strategy; and (iii) the associated costs of such a strategy, including the reallocation of withdrawn production and associated efficiency losses, together with other costs arising from practical constraints applicable to river systems, are such as to offset the (expected) profitability thereof,<sup>223</sup> thus equally affecting the incentive to consider it in the first place. Overall, the Notifying Party submits that Commission precedents do not apply in the hydro-dominated Nordic system due to the lack of any predictable 'merit' order and the interconnected nature of the Nord Pool system.<sup>224</sup>

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<sup>216</sup> Form CO, paras. 6.233-6.237.

<sup>217</sup> Form CO, paras. 6.238-6.249.

<sup>218</sup> Form CO, paras. 6.253-6.260.

<sup>219</sup> Form CO, paras. 6.265-6.270.

<sup>220</sup> Form CO, paras. 6.261-6.264.

<sup>221</sup> Form CO, paras. 6.271-6.278.

<sup>222</sup> Form CO, paras. 6.279-6.292. See also RBB Economics, Fortum/Uniper – Analysis of interconnector "jamming" of 14.05.2018.

<sup>223</sup> Form CO, para. 6.288-6.289; Notifying Party's supplementary submission on generation and wholesale in Sweden of 04.06.2018.

<sup>224</sup> Form CO, para. 6.282-6.285. The 'merit order' is a way of ranking available sources of electrical generation based on an ascending order of prices combined with the amount of energy that can be

## Introduction

- (177) In line with Commission precedents in the electricity sector, set out in paragraph (173) and due to the nature of the combination of the Parties' generation assets, combined with concerns voiced by certain third parties within the framework of the market investigation, the Commission has analysed whether the merged entity could, by withholding part of its flexible production, influence market prices for electricity in Sweden (irrespective of the generation source) in a profitable manner.
- (178) In principle, there are two ways of withholding electricity. Either some volumes are fully withheld (so overall production over the year is decreased in order to positively affect prices). Or, alternatively, withheld units are sold at a later point in time when prices are less responsive to changes in output. In the particular case of hydropower assets considered here, the latter strategy of reallocating volumes from one period to another is *prima facie* more likely to be profitable than complete withholding, since hydro generation has very low marginal costs of production. Entirely foregoing the sale of withheld hydro volumes (so-called "spilling") therefore has a substantial opportunity cost. In its analysis, the Commission has therefore primarily considered a so-called "flattening" strategy, where volumes are withheld at high-demand hours (to try increasing the price during those hours) and then shifted to off-peak times. As a result of such a withholding strategy, the generation profile of the merged entity would become flatter, since output is decreased in high-production hours and increased in low-production hours.
- (179) Engaging in a withholding strategy typically involves a trade-off between potential gains and possible costs. Under the withholding strategy examined by the Commission, the potential gain of such a strategy would result from increased prices in hours where withholding takes place (which increases the profitability of the remaining infra-marginal units of production, since baseload production is not being withheld).<sup>225</sup> Conversely, the main costs associated with that strategy result from the reallocation of production to hours where prices are lower. These costs are twofold: (a) reallocated volumes have to be sold at the lower off-peak prices, (b) the increased output during those hours is likely to depress off-peak prices further (in much the same way as lower volumes increase prices during withholding). Overall, the withholding strategy becomes profitable when the gains from selling the remaining production at a higher price offset the costs of implementing the withholding strategy.

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produced for each price point. Prices usually reflect marginal costs of production. However, for hydropower production, the variable cost associated with the release of water is the 'opportunity cost' of using stored water in the period in question as opposed to retaining it for use in a future period. Hence, the 'merit order' of electricity markets where generation includes large amounts of hydropower production is more unpredictable. Moreover, the Nord Pool Elspot market functions as a bidding system: each generator submits a bidding curve (per bidding zone) which specifies, per hour of the next day, volumes of electricity it is willing to supply with an associated price. Contrary to the situation prevailing in certain Commission precedents, no merit order is identified and made available by Nord Pool, which means that market participants do not know which generation source, producer and/or plant has set the clearing price for a particular hour on a particular day.

<sup>225</sup> Unless otherwise specified, the term "withholding strategy" intends to refer in the remainder of the decision to the flattening strategy described in paragraph (178).

- (180) In the present case, the Parties' generation assets in Sweden are *prima facie* well suited to implement a withholding strategy as they combine significant nuclear "baseload" production (in SE3), on the one hand, and significant flexible hydropower assets, on the other hand (in SE2, whereas Fortum also owns significant flexible hydro assets in SE3). As the Notifying Party acknowledges, "*hydropower in particular is flexible since water reserves can effectively be shifted between different periods*".<sup>226</sup> In other words, hydropower generation assets, specifically "reservoir hydro",<sup>227</sup> can be adjusted and can therefore enable a flexible withholding strategy. In effect, the Parties already today continuously "optimise" their hydro production in order to maximise revenues, which includes withholding supply at times of low prices and increasing supply when higher prices are forecast. Compared to the pre-merger situation, the Proposed Transaction will now bring about a greater concentration of both baseload (nuclear) production capacities and flexible (hydro) generation assets. It must therefore be assessed whether the Parties' ability to shift volumes between different time periods will enable them to profitably engage in a withholding strategy post-mergers such as to harm consumers through higher prices.
- (181) Against this background, it is important to note that an ability to withhold output does not necessarily imply an ability to raise prices (in other words, withholding output does not necessarily translate into a general price increase). Indeed, depending on the elasticity of supply in the market, withheld units may well be absorbed by countervailing production from other suppliers, including imports, thus preventing prices from increasing in the first place.
- (182) Absent any price increase from withholding production, however, a withholding strategy cannot be profitably implemented. The starting point of a withholding analysis is therefore whether the merged entity would have the ability to withhold sufficient production so as to increase prices on the market.
- (183) In order to be able to locally influence prices through withholding, one important factor is the ability to limit inflows of competing electricity from neighbouring bidding zones, which could otherwise counter the attempt to artificially restrict local supplies. As a preliminary analysis, the Commission therefore assessed (for individual bidding zones and different combinations of bidding zones within Sweden where the Parties possess significant production assets, as well as for Sweden as a whole) whether the merged entity would control a sufficiently large proportion of local capacities so as to be able to induce congestion of importing interconnectors by withholding local hydro production. Whenever the spare capacity of importing interconnectors is small relative to the Parties' local hydro production, then some initial withholding may lead to congestion of interconnectors, as a result of which further withholding could cause material price increases, since competition from imports would be successfully blocked. In line with this theory, the analysis of historical data indeed revealed that wholesale

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<sup>226</sup> Form CO, para. 6.231(iii).

<sup>227</sup> Reservoir hydro is flexible because water stored in a reservoir is latent production capacity that can be released or not, depending on prevailing market conditions and physical constraints. In contrast, "run-of-river hydro" relies on natural water flows and its production is thus inflexible.

trading prices in Sweden, both overall and at the level of individual bidding zones, are typically higher when importing interconnectors are fully utilised.<sup>228</sup>

- (184) At the level of individual bidding zones (including SE2 and SE3), the Commission notes that the size of the interconnectors between different Swedish bidding zones is substantial and much larger than the interconnectors importing into Sweden (which is borne out by the fact that the four Swedish bidding zones are coupled around 90% of the hours). Given these facts, no concern arises at the level of individual bidding zones. Whilst with sufficient withholding, any interconnector can of course be congested, the Parties' ability to de-couple SE2 or SE3 from all other bidding areas to which they are regularly connected appears limited.
- (185) As regards Sweden, the Commission analysed public historical data provided by Nord Pool for 2016 and 2017, as well as detailed production data from the Parties. On this basis, the Commission found that the Parties would have a greater ability to withhold sufficient production so as to congest the importing interconnectors into Sweden.<sup>229</sup> As noted in Section 4.1.2, Sweden as a whole appears to constitute a particularly distinctive combination of bidding zones (coupled for around 90% of the hours).
- (186) However, congesting the interconnectors is not in itself sufficient to increase prices in a profitable manner. The Commission therefore endeavoured to quantify potential price reactions due to withholding and the incentives of the merged entity to withhold by analysing a particular withholding strategy.

#### The withholding strategy modelled by the Commission

- (187) On an average week-day, consumption of electricity in Sweden varies significantly across hours, typically peaking in the morning around 8 am and in the afternoon around 6 pm, with average daytime consumption being significantly larger than night-time consumption.<sup>230</sup>
- (188) The Parties' production follows this consumption pattern: [Parties' production strategies]. Prices in these hours are higher than prices in night-time when demand is lower.
- (189) As a result, the Commission modelled a withholding strategy consisting of a daily flattening of the Parties' hydro production. Instead of [Parties' hydro production strategies], the assumption is that the Parties would produce somewhat less during daytime hours than previously and correspondingly more during night-time hours. In this way, it might be possible to increase market prices during daytime hours (thereby exploiting consumers' low price elasticity for electricity during hours of

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<sup>228</sup> Norway is almost exclusively exporting to Sweden while Sweden is almost always exporting to Finland. Interconnectors with Denmark are alternatively used for exporting or importing to Sweden.

<sup>229</sup> Interconnectors that are used to export electricity from the area in question and interconnectors that are not used at a given hour are not taken into consideration. Moreover, reaction from competitors – either in-built in the bidding curves submitted or through the submission of different bidding curves than the ones historically submitted – were not considered. The analysis conducted is therefore hypothetical as it assumes that production withheld by the Parties would be systematically replaced by imports, neither considering exported production nor competitors' reaction inside Sweden.

<sup>230</sup> Consumption during weekends is typically more flat during the day, peaking in the morning and staying relatively constant throughout daytime hours.

peak demand). As discussed above, this strategy assumes no spillage of water since the opportunity costs of a complete withholding are significant: flexible hydro production remains the same as in the pre-withholding situation but is partially reallocated throughout the day in the hope to positively affect average prices.

- (190) Consistent with the Commission's modelling, such a "flattening" strategy is identified as the most plausible for hydropower electricity production (as explained in paragraph (178)), because spillage of water is considered to be uneconomical due to the low marginal cost of hydro production.<sup>231</sup>

#### Nord Pool simulation and ability to raise prices through withholding

- (191) In order to understand whether a withholding strategy would be effective in increasing prices, it is first necessary to have some information on the elasticity of market prices to changes in output during different hours. For a withholding strategy to be profitable, it would be important that: (i) prices in high-demand hours (where volumes are withheld) are relatively responsive to output changes, whereas (ii) prices in low-demand hours (to which withheld volumes are shifted) are relatively unresponsive to output changes, so as to limit the costs of withholding.
- (192) In order to obtain an estimate of the responsiveness of prices to changes in output, the Commission asked Nord Pool to simulate the effect that a hypothetical reduction in production in SE2 and SE3 would have had in the past on the Nord Pool bidding zones; due to interconnection between bidding zones, withholding in SE2 and SE3 may have an effect on Swedish bidding zones (including SE2 and SE3), as well as on other bidding zones in the Nord Pool area. Specifically, the Commission asked Nord Pool to calibrate the price change caused by lower supply on the basis of the actual demand and supply data submitted to Nord Pool by the various market actors in 2017. In each hour a fixed amount of demand was added to the demand curve (to simulate a disparity between demand and supply through withholding). Nord Pool's simulation then identified the resulting price changes for all Nord Pool bidding zones.<sup>232</sup>
- (193) As a result of this exercise, Nord Pool was able to provide the Commission with an estimation of the elasticity of market prices to (hypothetical) changes in output. These elasticities could then be used as an input in the Commission's own simulation of a withholding strategy to assess whether the Proposed Transaction might render withholding profitable for the merged entity.
- (194) Overall, the Nord Pool simulation showed some (moderate) potential ability to affect prices in Sweden (as well as some neighbouring zones) in case a substantial proportion of the Parties' flexible generation would be withheld during peak

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<sup>231</sup> Borenstein, S., Bushnell, J. and Wolak, F. (2002), "Measuring Market Inefficiencies in California's Restructured Wholesale Electricity Market", *American Economic Review*, 92, 1376-1405; Bushnell, J. (1998), "Water and Power: Hydroelectric Resources in the Era of Competition in the Western US" (University of California Energy Institute).

<sup>232</sup> Due to time and operational constraints Nord Pool could not simulate a direct reduction in output. The addition of demand in each hour should therefore be considered as a proxy for a reduction in production of equivalent size.

hours.<sup>233</sup> It is important to emphasize, however, that this potential ability to (moderately) affect market prices by withholding significant volumes does not in itself indicate likely anti-competitive effects. Instead, whether or not a withholding strategy would be profitable needs to be considered in an incentive analysis, since a withholding strategy would also entail considerable costs (as noted above). To that effect, the Commission undertook the above-mentioned simulation of the merged entity's incentives to engage in a withholding strategy.

#### Analysis of the merged entity's incentives to withhold

- (195) The flattening strategy modelled by the Commission relies on the following mechanism. First, the merged entity would decrease its production in daytime hours in the hope of being able to increase prices and to benefit from this price increase on its remaining infra-marginal production. Second, the merged entity would move the withheld daytime production to night-time hours. Since the reallocated production was previously sold at a higher price this shift entails a direct cost. Moreover, the shift of production to night-time hours also reduces prices during night-time hours, which adds to the cost of the modelled flattening strategy. By comparing the gains from withholding (higher day-time prices) with the costs of withholding (lower night-time prices and more sales at those lower prices) one can then determine the potential incentive to engage in such a strategy (i.e. whether it would be profitable or not).
- (196) In order to compute the gains and costs of the modelled flattening strategy, the Commission used the results of the Nord Pool simulation presented above as an input to calibrate how prices in different hours would react to an output reduction in daytime hours and an output increase in night-time hours. On that basis, the Commission computed hourly average price elasticities of demand for a typical week-day. As expected, these computations indicated that prices are more responsive to output changes in daytime hours than during night-time hours.<sup>234</sup>
- (197) These elasticities were then used to calibrate the likely price changes induced by the assumed flattening strategy. This modelling yielded hourly gains (for the remaining day-time volumes) and costs (for night-time volumes) which were then aggregated at a quarterly and yearly level, both for the pre- and post-merger situation. This exercise was carried out in two variants, both based on historical data for 2016 and 2017. First the Commission considered a flattening strategy limited Swedish hydro production. Second, given Fortum's presence in Finland and the fact that the competitive assessment would need to take into account the constraints arising from overall Nord Pool-wide market dynamics in the analysis, the Commission also considered a flattening strategy for Swedish *and* Finnish hydro production.
- (198) In both variants, the Commission computed overall incentives for two alternative scenarios. First, it was assumed that the Parties have perfect foresight and are

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<sup>233</sup> The Nord Pool simulation used historical data, in particular, actual bidding curves that were submitted by the Parties and their competitors. Competitors of the Parties could, as suggested by Nord Pool, modify their bidding patterns once they have identified the Parties' withholding strategy, potentially defeating such a price increase. Neither the Nord Pool simulation nor the analysis of incentives takes this potential effect into account due to the inability to predict competitors' reactions.

<sup>234</sup> Demand in daytime hours and in particular at peak times (8-10am / 6-8pm) is driven by private household consumption which is expected to be quite inelastic.

capable of perfectly identifying days in which withholding would be profitable (eventually only implementing a flattening strategy in those days). Alternatively, it was assumed in a second scenario that the Parties have no foresight and hence cannot specifically target individually profitable days.

- (199) As will be explained in more detail below, the Commission's simulation (as regards all variants, years and scenarios considered in paragraphs (197) to (198) above) constitutes a worst case scenario in the sense that it contains a number of implicit assumptions that are unfavourable to the Parties. Notably, for practical reasons, the merger simulation had to abstract from non-negligible operational constraints and costs of shifting volumes between time periods, which in reality limit the commercial incentive to engage in a withholding strategy. The Commission's simulation is therefore likely to over-estimate any potential profitability of withholding.
- (200) Considering a flattening strategy implemented in Sweden only, the Commission's simulation indicated marginally positive yearly incentives, amounting to less than EUR [...] million per year for the merged entity (with results varying slightly according to the specific year analysed (2016 or 2017) and materially whether or not perfect foresight was assumed).<sup>235</sup> Even abstracting from the unfavourable assumptions on which the calibration is based, these simulated post-merger incentives are extremely limited when compared to the Parties' combined annual gross profits from wholesale electricity supply in Sweden (concretely: less than [0-5]%).<sup>236</sup>
- (201) Similarly, also when considering a flattening strategy implemented in Finland and Sweden simultaneously, the Commission's modelling indicated only very marginal yearly incentives, of below EUR [...] million for the merged entity (amounting to less than [0-5]% of the Parties' combined annual gross profits associated with wholesale electricity supply in Finland and Sweden).<sup>237</sup>
- (202) Moreover, as noted above, a number of significant countervailing factors that could not be incorporated in the simulation would in reality further reduce the incentive (and/or ability) to engage in the simulated withholding strategy.
- (203) First, the Commission's analysis does not take into account physical constraints associated with the normal operation of hydro plants within their respective river system. In particular, there are typically multiple hydro plants located on a river in Sweden that are operated by different electricity producers.<sup>238</sup> Plants downstream are reliant on upstream plants for water inflows and the interactions between the two are governed by binding water permits. As a result, implementing the modelled flattening strategy could entail violations by the Parties of their binding water permits, with associated penalties, reputational costs

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<sup>235</sup> The less than EUR [...] million per year incentive is the worst case scenario assuming perfect foresight. Assuming less foresight, the incentive is even smaller.

<sup>236</sup> These incentives concern a strategy run on week-days only. As explained in paragraph (189), a flattening strategy implemented during weekends is unlikely to produce incentives. If incentives were similar in weekends than in week-days, total incentives would be below EUR [...] million.

<sup>237</sup> These incentives concern a strategy run on week-days only. As explained in paragraph (189), a flattening strategy implemented during weekends is unlikely to produce incentives. If incentives were similar in weekends than in week-days, total incentives would be below EUR [...] million.

<sup>238</sup> See Annexes 6.4(A) and 6.4(B) to Notifying Party's reply to Request for Information 6 of 29.01.2018.



and exposure of their tactics to regulators. Alternatively, where the Parties' plants located upstream on the river affect water inflows of plants located downstream on the same river system, a flattening strategy could result in third parties breaching their own water permits and lose income as they would not be able to increase production at peak times, with likely knock-on effects on the merged entity.<sup>239</sup> The relationship between plants located upstream and downstream a river system also makes the flattening strategy more easily detectable by competitors who could react and/or report it to the competent regulator.

- (204) Second, moving from the current production pattern to flattened production would generate efficiency losses in certain hydro plants operated by the Parties due to increased water usage required to keep daily production level constant, thus lowering further the incentives to implement the modelled flattening strategy.<sup>240</sup>
- (205) Third, in its modelling, the Commission only accounted for the supply response built into the generators' historical bidding curves submitted to Nord Pool. However, a systematic withholding strategy like the modelled flattening strategy could be detectable by competitors who could then decide to react by increasing their own production as prices rise and adjusting their bidding curves accordingly.<sup>241</sup>
- (206) Fourth, the Commission acknowledges that the price elasticities calculated on the basis of the Nord Pool simulation are likely to overestimate the price response to withholding. Nord Pool approximated a reduction in output by an increase in aggregate demand. This approximation is likely to lead to higher price responses than an output reduction, in particular in peak hours when importing interconnectors typically have lower spare capacity; in these hours an increase in demand would potentially more quickly lead to congestion of interconnectors and a reduction in the competitive pressure exerted by competitors of the Parties located outside Sweden compared to a reduction in output, since adding demand would call for a stronger response from competitors already exporting to Sweden compared to a decrease in production in Sweden.
- (207) Finally, the Commission observes that [...] <sup>242</sup>, [...] a flat production profile which would be the result of the type of withholding strategy examined by the Commission. This suggests that [...]. Since the merged entity would be closer in size and portfolio composition to [...] would seem to suggest an absence of incentives to implement a flattening strategy.

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<sup>239</sup> Notifying Party's supplementary submission on generation and wholesale in Sweden of 04.06.2018.

<sup>240</sup> See the Notifying Party's supplementary submission on generation and wholesale in Sweden of 04.06.2018.

<sup>241</sup> The Notifying Party submitted a simulation of its own response to hypothetical flattening using its own optimisation model, attempting to prove that competitors of the Parties would react to a flattening strategy by increasing their supply. The Commission notes that this simulation seems to show that Fortum would pre-merger react to an expected increase in peak prices and decrease in off-peak prices by offering more production in peak hours and less in off-peak hours, hence defeating a potential flattening strategy. However, the Commission considers that this evidence does not by itself prove that competitors would certainly act in a similar way, given that optimisation models can be changed and this submission concerns Fortum's model and not its competitors' model.

<sup>242</sup> [...].

- (208) In conclusion, the Commission's simulation of a hypothetical withholding strategy indicates that the calibrated incentives of such a strategy would be extremely small in all scenarios examined (equal to less than [0-5]% of the Parties' combined wholesale generation profits). Moreover, the Commission's simulation does not consider various important costs and constraints that such a strategy would entail. The Commission therefore considers that it is highly implausible that a withholding strategy could be profitable for the merged entity, since in reality it would have to face these constraints and bear the significant associated costs.

*Conclusion on horizontal non-coordinated effects in generation and wholesale of electricity in Sweden*

- (209) The Commission has carefully assessed the potential ability and incentive of the Parties to engage in a withholding strategy post-merger. In order to do so, the Commission has considered both qualitative and quantitative factors. This analysis has shown that horizontal non-coordinated effects resulting from the Proposed Transaction are highly unlikely for the reasons explained in this Section, as summarised below.
- (210) First, the Parties' combined market shares are relatively moderate (with [30-40]% of production and [20-30]% of capacity in Sweden).
- (211) Second, [...] and its rivals possess substantial spare capacities.
- (212) Third, in the vast majority of hours, Swedish bidding zones are coupled with varying neighbouring zones in Finland, Norway and Denmark. In particular, Sweden is subject to significant imports of low-cost hydro production from Norway.
- (213) Finally, these results are corroborated by a quantitative simulation of a withholding strategy on the basis of Nord Pool data, which does not point to any material incentive for the merged entity to engage in a withholding strategy.
- (214) In light of all the above and since, moreover, there were only relatively few concerns raised during the market investigation, the Commission concludes that the Proposed Transaction does not give rise to serious doubts as to its compatibility with the internal market in relation to horizontal non-coordinated effects in respect of the generation and wholesale supply of electricity in Sweden.

*5.1.3. Horizontal coordinated effects*

- (215) After the Proposed Transaction, Vattenfall and the merged entity will together generate around [70-80]% of total electricity production in Sweden and will operate a seemingly comparable set of production assets, whereas their competitors appear much smaller in size and demand is relatively inelastic. As a result, the Commission has also undertaken to assess the risk of horizontal coordinated effects arising from the Proposed Transaction in generation and wholesale supply of electricity in Sweden with a view to determining whether the merged entity and Vattenfall could consider it possible, economically rational,

and hence preferable, to adopt on a sustainable basis a course of action on the market aimed at selling at increased prices.<sup>243</sup>

#### *The Notifying Party's views*

- (216) According to the Notifying Party, no coordinated effects can arise as a result of the Proposed Transaction on the market for the generation and wholesale supply of electricity because of a number of industry and market features.
- (217) First, the Notifying Party considers that competing generators differ significantly in size, geographic location and generation portfolio, which would make it implausible that they could reach a tacitly coordinated understanding of some common interest.<sup>244</sup>
- (218) Second, the Notifying Party points out that production and pricing decisions are the result of a process of optimisation of each generator's portfolio, which is itself a function of a range of shifting exogenous and endogenous factors making the whole process particularly un-transparent and undermining any ability to monitor or punish deviation.<sup>245</sup>
- (219) Third, the implementation of any coordinated strategy would be undermined by the fundamental uncertainty of market conditions affecting electricity supply due to factors ranging from weather conditions to electricity flows across Nord Pool or the emergence of new generation technologies.<sup>246</sup>

#### *The Commission's assessment*

- (220) The Proposed Transaction appears to result in increased concentration and in a greater symmetry between the relative market position and generation portfolios of the merged entity and Vattenfall, respectively, in Sweden. As a result, the Commission has undertaken an assessment of the risk that the Proposed Transaction could enable and incentivise the merged entity and Vattenfall, in particular, to adopt on a sustainable basis a coordinated course of action aimed at selling at increased prices.<sup>247</sup> In particular, the Commission has investigated whether the merged entity and Vattenfall would be able to tacitly coordinate their market conduct post-merger by engaging in joint withholding strategies, including but not limited to, the type examined in Section 5.1.2.<sup>248</sup> The outcome of the Commission's investigation has revealed that, on balance, the Proposed Transaction is unlikely to increase the likelihood of coordination in view of various market circumstances, as summarised hereinafter.
- (221) First, whereas coordination is more likely to emerge in markets where it is relatively simple to reach a common understanding on the terms of coordination, in the present case it would be difficult for generators to arrive at a common perception as to how coordination should work.<sup>249</sup>

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<sup>243</sup> Guidelines on the assessment of horizontal mergers [2004] *O.J.* C 31/5, para. 39.

<sup>244</sup> Form CO, paras. 6.295-6.297.

<sup>245</sup> Form CO, paras. 6.298-6.301.

<sup>246</sup> Form CO, paras. 6.302-6.306.

<sup>247</sup> Guidelines on the assessment of horizontal mergers [2004] *O.J.* C 31/5, para. 39.

<sup>248</sup> *Idem*, para. 40.

<sup>249</sup> *Idem*, paras. 41, 44.

- (222) Notably, it would be particularly complex for generators to coordinate implicitly on a withholding strategy that requires good foresight on days when withholding would take place, notably as electricity generators would need to identify jointly the days and hours where withholding would be profitable, and by how much. Estimating in which days and hours withholding would be profitable is a complicated task for any individual company and attempts to coordinate withholding would further increase the risks of imperfect foresight.<sup>250</sup>
- (223) Likewise, engaging in coordinated withholding would equally require a level of predictability that seems inconsistent with the complexity of planning and pricing hydropower production, notably due to the various related physical constraints (e.g. weather, water system dynamics). In that regard, Vattenfall will remain a significantly larger producer of hydropower post-merger and the distribution of the Parties and Vattenfall's hydro assets across the Swedish bidding zones will remain comparatively dispersed.<sup>251</sup> Hence, the merged entity and Vattenfall are likely to continue facing diverging variable production costs and cost structures across space and time, which would make the identification of terms of coordination particularly challenging.
- (224) Second, the complexity of reaching terms of coordination is also apparent from the fact that, on Elspot, generators not only enter bids for each bidding zone and per hour, but also in the form of multiple (up to 200) price steps for each hour. Moreover, these price steps constitute only a subset of the number of price points generated by the forecasting systems and optimisation processes relied upon internally by each producer.<sup>252</sup> In turn, this feature also limits the transparency of actual market transactions.
- (225) Third, whereas coordination requires a sufficient level of transparency to enable the monitoring of deviations,<sup>253</sup> in the context of the present case generators lack transparency on a number of elements necessary for coordination to be sustainable. In particular, they have no visibility on the bids submitted by competitors, therefore no visibility on whether production is being withheld or equally whether prices are being increased at constant production levels. In practice, generators can only observe market outcome as filtered by Nord Pool's algorithm. Moreover, due to coupling across bidding zones, including beyond Sweden, Vattenfall and the Parties have no clear visibility as to with whom they compete on a given day and in a given hour. Hence, the level of transparency in the market appears limited and so is the possibility of inferring the actions of other market participants and of detecting deviations at the requisite level of granularity.
- (226) Fourth, a number of elements are also such as to limit the incentives of entering into any tacit coordination strategy. Thus, again due to electricity flows through interconnectors, not only the coordination appears difficult to put in place but also

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<sup>250</sup> As an illustration, the Notifying Party submitted they correctly identified congestion in 2017 only [...] % of the times (see RBB Economics, Fortum/Uniper – Analysis of interconnector "jamming" of 14.05.2018).

<sup>251</sup> More than 50% of Vattenfall's hydro production takes place in SE1, where neither Fortum nor Uniper have any electricity production. Conversely, the Parties' hydro production in SE3 is a multiple of that of Vattenfall. In turn, two-third of the Parties' hydro production is located in SE2, compared to one third for Vattenfall.

<sup>252</sup> [Fortum's optimisation process].

<sup>253</sup> Guidelines on the assessment of horizontal mergers [2004] *O.J. C* 31/5, para. 49.

particularly difficult to sustain profitably. In that regard, the merged entity and Vattenfall's share of production is in practice more limited than what looking at Swedish bidding zones suggests.<sup>254</sup> Conversely, the availability of third-party production in response to a possible coordination is proportionally larger than what market shares at Sweden-level may suggest. Furthermore, coordinated withholding may be even more noticeable by regulators than unilateral withholding, and expose coordinating firms to risks of regulatory proceedings under REMIT and market manipulation rules.

- (227) Overall, therefore, there appears to be a number of exogenous variables likely to impede coordination and/or its operation in the present case. Moreover, the market investigation also supports the view that the Proposed Transaction is unlikely give rise to horizontal coordinated effects. Indeed, no customer or competitor raised concerns in this regard.

### *Conclusion*

- (228) For all the reasons referred to above, the Commission concludes the Proposed Transaction does not give rise to serious doubts as to its compatibility with the internal market in relation to horizontal coordinated effects in respect of the generation and wholesale supply of electricity in Sweden.

#### *5.1.4. Vertical non-coordinated effects*

##### *5.1.4.1. Generation and wholesale supply of electricity (upstream) – retail supply of electricity (downstream)*

- (229) While both Parties are active in the upstream market for generation and wholesale supply of electricity in Sweden (see Section 5.1), only Fortum is active in the downstream market for the retail supply of electricity in Sweden, achieving a market share of [5-10]% on the overall retail market,<sup>255</sup> and market shares of [0-5]% and [10-20]% with regard to large industrial and commercial customers,<sup>256</sup> and households and smaller industrial and commercial customers,<sup>257</sup> respectively.
- (230) The Commission considers that the Proposed Transaction does not raise input or customer foreclosure concerns for the following reasons.
- (231) First, given that retailers have direct access to Nord Pool, the merged entity would not have the ability to engage in input foreclosure. Indeed, also [Fortum's retail strategy]. This practice was confirmed by other market participants as well in the market investigation.<sup>258</sup> Furthermore, generators have to separate their generation

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<sup>254</sup> Based on the main constant changing constellations of coupled bidding zones, the combined market share of the Parties and Vattenfall would be on average below [60-70]%.

<sup>255</sup> Other competitors include e.g. Vattenfall ([20-30]-[30-40]%), E.ON ([10-20]-[10-20]%), Jämtkraft ([5-10]-[10-20]%), Göteborg Energi ([0-5]-[5-10]%) and Bixia ([0-5]-[5-10]%).

<sup>256</sup> Other competitors include e.g. Vattenfall ([10-20]-[10-20]%), Statkraft ([10-20]-[10-20]%), E.ON ([5-10]-[10-20]%), Skellefteå Kraft ([5-10]-[10-20]%) and Jämtkraft ([5-10]-[10-20]%).

<sup>257</sup> Other competitors include e.g. Vattenfall ([10-20]%), E.ON ([10-20]%), Göteborg Energi ([5-10]%), Jämtkraft ([5-10]%), Bixia ([0-5]%), Telge Energi ([0-5]%), Mälarenergi ([0-5]%), Krafringen ([0-5]%) and Skellefteå Kraft ([0-5]%).

<sup>258</sup> See non-confidential minutes of conference calls with competitors on 30.01.2018 (paras. 6 and 8) and 08.02.2018 (para. 4); non-confidential minutes of conference calls with customers on 16.01.2018 (para. 12); 17.01.2018 (para. 11); 22.01.2018 (para. 11); 15.02.2018 (para. 8).

and trading activities in order to comply with the prohibition of internal trading under REMIT.

- (232) Second, given the rather limited and pre-existent market presence of Fortum on the retail market, as well as the direct market access of generators and retailers to the exchange, the Proposed Transaction does not give rise to customer foreclosure concerns.
- (233) In light of the above, the Commission considers that the Proposed Transaction does not raise serious doubts as to its compatibility with the internal market due to the vertical relationship between the Parties as regards the upstream market for generation and wholesale supply of electricity and the downstream market for retail supply of electricity in Sweden.

5.1.4.2. Energy production-related services (upstream) – generation and wholesale supply of electricity (downstream)

- (234) The Parties are both active on the upstream market for energy production-related services. On a potential EEA-wide market for general energy production-related services, their combined market share is under [10-20]%, with a limited increment of less than [0-5]% brought about by Fortum.<sup>259</sup> On a potential EEA-wide market for nuclear services, the Parties' combined market share is less than [0-5]%, with an increment of less than [0-5].<sup>260</sup> Uniper is not active in the treatment and disposal of radioactive waste and spent nuclear fuel, and Fortum does not provide these services in Sweden.<sup>261</sup>
- (235) Based on the Parties' downstream generation and wholesale activities in Sweden (see Section 5.1), the Proposed Transaction gives rise to vertically affected markets.
- (236) The Commission considers that the Proposed Transaction does not raise input or customer foreclosure concerns for the following reasons.
- (237) First, given the limited market shares of the Parties at the upstream level, as well as the availability of other suppliers, the merged entity would not have the ability to engage in input foreclosure.
- (238) Second, based on the fact that suppliers of general energy production-related services and nuclear services offer their services on an EEA-wide or global basis and that the [Parties' energy production-related services strategies], a sufficient customer base would remain available for upstream competitors even if the merged entity were to entirely internalise such services.

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<sup>259</sup> Other competitors include e.g. Siemens (>[5-10]%), ABB (>[5-10]%), GE (>[5-10]%), Amec Foster Wheeler (>[5-10]%), NAES (>[5-10]%), Ramboll (>[5-10]%), Mott MacDonald (>[5-10]%) and ESBI (>[5-10]%).

<sup>260</sup> Other competitors include e.g. Westinghouse (<[10-20]%), Areva (<[10-20]%), GE (<[0-5]%), Rolls-Royce (<[0-5]%) and Amec Foster Wheeler (<[0-5]%).

<sup>261</sup> The treatment and disposal of radioactive waste and spent nuclear fuel is the statutory responsibility of the nuclear power plant owners in Sweden. They have, for this purpose, jointly established the Swedish Nuclear Fuel and Waste Management Company ("SKB"). SKB is the sole provider of such services in Sweden (see Notifying Party's reply to Request for Information 14 of 04.06.2018, question 2).

(239) In light of the above, the Commission considers that the Proposed Transaction does not raise serious doubts as to its compatibility with the internal market due to the vertical relationship between the Parties as regards the upstream market(s) for general energy production-related services and nuclear services and the downstream market for generation and wholesale supply of electricity.

#### *5.1.5. Conclusion on generation and wholesale supply of electricity*

(240) The Commission therefore considers that Proposed Transaction does not give rise to serious doubts as to its compatibility with the internal market with regard to generation and wholesale supply of electricity in Sweden.

## **5.2. Financial trading of electricity**

### *5.2.1. Horizontal non-coordinated effects*

#### *5.2.1.1. Financial trading of electricity (excluding EPADs)*

##### *Market structure*

(241) The Parties are both active in the financial trading of electricity in the Nord Pool region, on an OTC basis and via an exchange, namely Nasdaq Commodities. On an overall Nord Pool market for financial trading encompassing both trading on an OTC basis and via Nasdaq Commodities, the Parties' combined market share is under [10-20]%.<sup>262</sup>

##### *The Notifying Party's view*

(242) The Notifying Party submits that the Proposed Transaction does not lead to competition concerns based on (i) the modest combined market shares of the Parties; (ii) the availability of other products to be used for proxy hedging, which will be further reinforced by the increasing interconnection capacity between the Nord Pool region and continental Europe and (iii) the fact that speculative traders are present on the market increasing liquidity and being able to quickly react if the derivative prices were not aligned with the underlying electricity price.<sup>263</sup>

##### *The Commission's assessment*

(243) The Commission notes that based on the combined market shares of the Parties, the Proposed Transaction does not give rise to a horizontally affected market with regard to the financial trading of electricity. However, the Commission considers that given the nature of trading markets, the market shares – which are based on trading volumes – do not necessarily reflect the market power of market participants and thus should be considered with necessary caution. Indeed, according to Nasdaq Commodities, both Fortum and Uniper have been among the

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<sup>262</sup> For the sake of completeness, the Commission notes that the combined market share of the Parties would remain under [10-20]% even if the market were to be further sub-segmented into financial trading of electricity on Nasdaq Commodities on the one hand and on an OTC basis on the other hand.

<sup>263</sup> Form CO, para. 6.315.

top six market players in the Nordic electricity derivatives market in the last 3 years.<sup>264</sup>

- (244) Some market participants have raised concerns in the market investigation with regard to the financial trading of electricity and in particular with regard to (i) the negative impact of the Proposed Transaction on liquidity, which in turn may lead to price increases; and (ii) the merged entity's ability to increase prices because of the higher concentration on the market.<sup>265</sup>
- (245) The Commission however considers that the Proposed Transaction does not give rise to competition concerns with regard to the financial trading of electricity for the following reasons.

#### Impact on liquidity

- (246) First, the market investigation results support the Notifying Party's view<sup>266</sup> that there is an on-going and therefore not merger-specific liquidity issue on the Nordic financial market. Nasdaq Commodities sees a continuous downward trend in overall trading on its exchange since 2008-2010.<sup>267</sup> With regard to OTC trading, some market participants reported similar liquidity issues, while others stated that the trading volume shifted from Nasdaq Commodities to OTC trading, increasing its liquidity.<sup>268</sup>
- (247) Market participants enumerated various reasons behind this negative tendency such as the effects of the financial crisis, the changes of the regulatory framework or subsidies provided for the renewables.<sup>269</sup>
- (248) The Commission considers that this background has to be taken into account when assessing the concerns expressed in the market investigation with regard to liquidity. Furthermore, it should be also noted that the majority of those customers and competitors expressing concerns were cautious in their prediction, indicating that in their view the Proposed Transaction *might* lead to further decrease in liquidity.
- (249) Second, the Commission considers that a distinction should be made with regard to the effects of the Proposed Transaction on liquidity between trading for hedging and speculative purposes. As Nasdaq Commodities explained, "*while the normal hedging activities will likely remain the same or increase, the pure trading activities of the merged entity are expected to be reduced because of the integration of the two trading units.*"<sup>270</sup>

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<sup>264</sup> Non-confidential minutes of call with Nasdaq Commodities on 03.05.2018, para. 3.

<sup>265</sup> See replies to Request for Information of 08.05.2018 from customers, questions 17, 22; replies to Request for Information of 08.05.2018 from competitors, questions 15, 21, 22, 23.

<sup>266</sup> Notifying Party's reply to Request for Information 12 of 25.05.2018, question 3.

<sup>267</sup> Non-confidential minutes of call with Nasdaq Commodities on 03.05.2018, para. 7.

<sup>268</sup> See replies to Request for Information of 08.05.2018 from competitors, questions 10(c), 12(c), 16(c), 17(c), 18(c); replies to Request for Information of 08.05.2018 from customers, questions 12(c), 17(c); non-confidential minutes of call with Nasdaq Commodities on 03.05.2018, para. 11; non-confidential minutes of a call with competitor on 13.02.2018, para. 11.

<sup>269</sup> See replies to Request for Information of 08.05.2018 from competitors, questions 10(c), 12(c), 16(c), 17(c), 18(c); replies to Request for Information of 08.05.2018 from customers, questions 12(c), 17(c); non-confidential minutes of call with Nasdaq Commodities on 03.05.2018, para. 11.

<sup>270</sup> Non-confidential minutes of call with Nasdaq Commodities on 03.05.2018, para. 14.



- (250) With regard to trading for hedging purposes, the Commission considers that the merged entity's hedging strategy and therefore traded volume will not significantly differ from the combined volume of the Parties pre-transaction. In this regard, the Commission notes the following.
- (251) As also pointed out by some market participants in the market investigation,<sup>271</sup> mergers might lead to decreased trading volumes if they create possibilities for further internal hedging by netting off the risk exposure of the sell and buy side of the merged entity. In this regard, it should be noted that while both Parties have [...] sell side hedging positions, only Fortum has buy side hedging positions because Uniper is not active on the retail markets in the Nord Pool region. Consequently, and taking into account the fact that Fortum's sell side is [...] than its buy side, the merged entity will not gain any incremental merger-specific ability to engage in natural hedging given that its buy side positions will remain unchanged.
- (252) Furthermore, the Parties' production portfolios are fairly similar with regard to their geographic scope and technology in the Nord Pool region (see Section 5.1). Therefore, the Proposed Transaction will not increase natural hedging possibilities by mitigating the different risk exposures and thus will not decrease the merged entity's need for hedging its sell-side positions.
- (253) Therefore, the Commission considers that the merged entity's hedging needs will remain similar as those of the Parties pre-transaction and no significant volume will be removed from the market due to internal or natural hedging.
- (254) With regard to trading for speculative purposes, the Commission notes that this represents [...] percentage of the Parties' overall financial trading activities in the Nord Pool region,<sup>272 273</sup> therefore no significant effect can be assumed due to a potential change in the merged entity's strategy in this regard.<sup>274</sup>
- (255) Therefore, based on the above reasons, the Commission considers that the Proposed Transaction as such will not have negative effects on the liquidity of the market for financial trading of electricity.

#### Price increases due to higher concentration

- (256) The Commission considers that the merged entity will not have the ability and incentive to increase prices due to increased concentration for the following reasons.

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<sup>271</sup> See replies to Request for Information of 08.05.2018 from competitors, question 12(b); replies to Request for Information of 08.05.2018 from customers, question 17(b).

<sup>272</sup> See reply to Request for Information 4 from Uniper of 01.06.2018, question 1; Notifying Party's supplementary submission on financial trading of 04.06.2018, paras. 2.1-2.4.

<sup>273</sup> The Commission also notes that this financial trading strategy does not seem unique; the majority of customers stated that they are active only for hedging purposes, while the majority of competitors replied in the market investigation that they are trading only or mainly for hedging purposes (see replies to Request for Information of 08.05.2018 from customers, questions 12(a), 17(a); replies to Request for Information of 08.05.2018 from competitors, questions 9(a), 10(a), 16(a), 17(a), 18(a).

<sup>274</sup> For the sake of completeness, it should be noted that [...], which would further increase the trading activity of the merged entity (see Notifying Party's reply to Request for Information 12 of 25.05.2018, question 3; Notifying Party's supplementary submission on financial trading of 04.06.2018, para. 2.4).

- (257) First, the Commission notes that the combined trading volumes and thus the combined market shares of the Parties are modest, and the market is not particularly concentrated; on Nasdaq Commodities, the top six market players taken together reflect around 40-45% of the total trading volume.<sup>275</sup>
- (258) Second, the merged entity – based on its generation portfolio and in order to manage its risk exposure – has a significant demand for hedging, which limits its room for manoeuvre in its financial trading strategy. Therefore, the Commission considers that the merged entity will not have significant market power.
- (259) Third, any attempt of market manipulation is prohibited under the Market Abuse Regulation, [...], as well as in the Market Conduct Rules of Nasdaq Commodities.

### *Conclusion*

- (260) The Commission therefore considers that Proposed Transaction does not give rise to serious doubts as to its compatibility with the internal market with regard to horizontal non-coordinated effects on the market for financial trading of electricity (excluding EPADs) in the Nord Pool region.

#### 5.2.1.2. Trading of EPADs

##### *Market structure*

- (261) The Parties both trade EPADs; in particular, their activities overlap in the following bidding zones: Sweden Sundsvall (SE2), Sweden Stockholm (SE3) and Sweden Malmö (SE4). Their combined market shares vary between 25-35% based on the specific bidding zone.

##### *The Notifying Party's view*

- (262) The Notifying Party submits that the Proposed Transaction does not lead to competition concerns as a market participant cannot unilaterally influence EPAD prices even if it were to have a relatively high market share. This is because the trading volumes vary significantly from year to year as EPAD trading is highly dependent on market circumstances and the chosen hedging strategy of market participants and as speculative traders seek opportunities to benefit from divergences between EPAD prices and real market expectations.<sup>276</sup>

##### *The Commission's assessment*

- (263) Although the combined market shares of the Parties are indeed higher with regard to EPADs than with regard to other electricity derivatives in the Nord Pool region, the Commission considers that the Proposed Transaction does not raise competition concerns for the following reasons.
- (264) First, EPADs are mainly used for hedging purposes, which also explains the relatively higher market share of the Parties as generators active in the specific bidding zones. Indeed, [...],<sup>277</sup> while Uniper's speculative trading activities

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<sup>275</sup> Non-confidential minutes of call with Nasdaq Commodities on 03.05.2018, para. 9.

<sup>276</sup> Form CO, para. 6.317.

<sup>277</sup> See Notifying Party's supplementary submission on financial trading of 04.06.2018, para. 2.3.

represent only a very small percent of its overall financial trading activities.<sup>278</sup> Therefore, the arguments put forward in paragraphs (246) to (255) as to why the Proposed Transaction would not have a negative effect on liquidity are also valid for EPADs. As explained by Nasdaq Commodities, "*EPADs are normally used for hedging purposes. For this reason, Nasdaq does not expect any significant changes with respect to the EPADs markets*"<sup>279</sup> as a result of the Proposed Transaction.

- (265) Second, the market shares of the Parties are not particularly high, and given that there are other generators present in each bidding zone, there are alternative suppliers available on the sell side. In this regard, it should be also noted that in SE2 and SE3, there is structural oversupply of sell side EPADs based on the fact that the generation exceeds demand in these bidding zones.
- (266) Third, and as mentioned in paragraph (259), any attempt of market manipulation is prohibited under the Market Abuse Regulation.

#### *Conclusion*

- (267) The Commission therefore considers that Proposed Transaction does not give rise to serious doubts as to its compatibility with the internal market with regard to horizontal non-coordinated effects on the market for trading of EPADs in the Swedish bidding areas SE2, SE3 and SE4.

#### *5.2.2. Horizontal coordinated effects*

##### *5.2.2.1. Financial trading of electricity (excluding EPADs)*

#### *The Notifying Party's view*

- (268) The Notifying Party submits that the Proposed Transaction does not give rise to competition concerns based on coordinated effects with respect to financial trading of electricity due to the lack of transparency, the large number of traders and the low market concentration.<sup>280</sup>

#### *The Commission's assessment*

- (269) The Commission considers that coordination is not likely to emerge on the market for financial trading of electricity due to the Proposed Transaction for the following reasons.
- (270) First, the market concentration is relatively low with a high number of heterogeneous market participants including both hedging and speculative traders, with different trading strategies, positions and time horizons. Furthermore, given that no physical assets are required, the barriers to entry are relatively low.
- (271) Second, the lack of transparency with regard to other traders' strategy hinders the monitoring of such potential coordination and the implementation of any deterrent mechanism. Indeed, on Nasdaq Commodities, as well as for OTC trades cleared

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<sup>278</sup> See reply to Request for Information 4 of 01.06.2018 from Uniper, question 1.

<sup>279</sup> Non-confidential minutes of call with Nasdaq Commodities on 03.05.2018, para. 5.

<sup>280</sup> Notifying Party's supplementary submission on financial trading of 04.06.2018, paras. 4.1-4.4.

on Nasdaq Commodities, the counterparty is the clearing house of Nasdaq Commodities. Neither bilateral OTC trades are made public.

### *Conclusion*

(272) The Commission therefore considers that Proposed Transaction does not give rise to serious doubts as to its compatibility with the internal market with regard to horizontal coordinated effects on the market for financial trading of electricity (excluding EPADs) in the Nord Pool region.

#### 5.2.2.1. Trading for EPADs

##### *The Notifying Party's view*

(273) The Notifying Party submits that the Proposed Transaction does not give rise to competition concerns based on coordinated effects with respect to the trading of EPADs due to the lack of transparency, the large number of traders and the low market concentration.<sup>281</sup>

##### *The Commission's assessment*

(274) Similarly to the financial trading of electricity via other – system price based – electricity derivatives, the Commission considers that coordination is not likely to emerge on the market for trading of EPADs due to the Proposed Transaction for the following reasons.

(275) First, although the market concentration is relatively higher, the market players still have different trading strategies, positions and time horizons. Theoretically, also speculative traders can enter the market.

(276) Second, the lack of transparency with regard to other traders' strategy hinders the monitoring of such potential coordination and the implementation of any deterrent mechanism.

### *Conclusion*

(277) The Commission therefore considers that Proposed Transaction does not give rise to serious doubts as to its compatibility with the internal market with regard to horizontal coordinated effects on the market for trading of EPADs in the Swedish bidding areas SE2, SE3 and SE4.

#### 5.2.3. Conclusion on financial trading of electricity

(278) In light of the above, the Commission considers that the Proposed Transaction does not give rise to serious doubts as to its compatibility with the internal market with regard to the financial trading of electricity and the trading of EPADs.

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<sup>281</sup> Notifying Party's supplementary submission on financial trading of 04.06.2018, paras. 4.1-4.4.

### 5.3. Ancillary services

#### 5.3.1. Horizontal non-coordinated effects

- (279) The Parties are both active in the provision of all hourly reserves in Sweden.
- (280) However, the Proposed Transaction does not give rise to any horizontal overlap as regards FADR or PLR in Sweden. As such, FADR and PLR will not be discussed further in this decision.<sup>282</sup>
- (281) Some market participants raised concerns in the market investigation with regard to ancillary services in general. The concerns appeared to be based on the premise that only the Parties and Vattenfall were active on these markets and that prices would rise owing to an increased concentration in the market.<sup>283</sup> However, the Commission considers that the Proposed Transaction does not give rise to competition concerns with regard to ancillary services for the reasons explained in Sections 5.3.1.1 to 5.3.1.3.
- (282) The Notifying Party estimates that its market share for hourly reserves, on a capacity basis, in the Nordics is below [10-20]% whilst Uniper's market share is below [10-20]%.<sup>284</sup> On a national basis, in Sweden, the Notifying Party estimates that its market share for all hourly reserves combined, on a capacity basis, is approximately [20-30]% whilst Uniper's market share is approximately [30-40]%.<sup>285</sup>
- (283) The Commission, however, takes a conservative approach and analyses each of the hourly markets separately and at national level.

##### 5.3.1.1. FCR in Sweden

- (284) The Notifying Party is unable to provide market shares separately for FCR-N and FCR-D. According to its best estimates, market participants had the following capacity based shares for FCR as a whole in 2016: Fortum [10-20]%; Uniper [10-20]%; Vattenfall [60-70]%; Statkraft [5-10]%; Skellefteå Kraft [5-10]%; and Jämtkraft [0-5]%.<sup>286</sup>

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<sup>282</sup> Regarding FADR, [...] (see Form CO, paras. 6.320-6.321, footnote 188; Notifying Party's reply to Request for Information 17 of 06.06.2018, question 2). Regarding PLR, the Notifying Party is active in Finland and Uniper is active in Sweden. [...] (see Form CO, para. 6.323-6.329, footnote 191).

<sup>283</sup> See replies to Request for Information of 08.05.2018 from customers, question 18; replies to Request for Information of 08.05.2018 from competitors, questions 23, 24. One customer highlighted a concern related to the balancing markets as the new regulatory regime would entail balancing done on a bidding-zone basis. In this respect, the Commission notes that whilst the new ACE based balancing indeed requires that the grid is balanced for every bidding zone, this does not mean that cross-bidding zone (and cross-border) procurement will not take place. Moreover, any imbalances in opposite directions are netted out if possible in the Nordic-wide system. One competitor noted an advantage of having large volumes on both the wholesale and ancillary market but did not substantiate its concerns (see non-confidential minutes of call with customer on 06.02.2018, para. 20; non-confidential minutes of call with customer on 09.02.2018, para. 26; non-confidential minutes of call with customer on 12.02.2018, para. 12; non-confidential minutes of call with customer on 15.02.2018, para. 24).

<sup>284</sup> Form CO, para. 6.333.

<sup>285</sup> Form CO, para. 6.334.

<sup>286</sup> Form CO, para. 6.334.

(285) The information received from the Swedish TSO, presented in Table 5.4 below, suggests that Fortum has significantly underestimated the Parties' combined market shares.

**Table 5.4 – Market shares for FCR-N and FCR-D in Sweden**

Capacity <sup>287</sup>	2017		2016	
	FCR-N	FCR-D	FCR-N	FCR-D
MW				
<b>Fortum</b>	[10-20]%	[10-20]%	[20-30]%	[20-30]%
<b>Uniper</b>	[10-20]%	[10-20]%	[10-20]%	[0-10]%
<b>Combined</b>	<b>[30-40]%</b>	<b>[30-40]%</b>	<b>[30-40]%</b>	<b>[30-40]%</b>
<b>Vattenfall</b>	[50-60]%	[50-60]%	[50-60]%	[50-60]%
<b>Skellefteå Kraft</b>	[0-10]%	[0-10]%	[0-10]%	[0-10]%
<b>Statkraft</b>	[0-10]%	[0-10]%	[0-10]%	[0-10]%
<b>Jämtkraft</b>	[0-10]%	[0-10]%	[0-10]%	[0-10]%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

Source: Swedish TSO

(286) The combined market shares of the Parties for FCR-N and FCR-D ranged between 30% and 40% in 2017. The market leader, Vattenfall, will continue to be the largest supplier of both FCR-N and FCR-D post-Transaction with a market share of over [50-60]%.  
*The Notifying Party's view*

*The Notifying Party's view*

(287) The Notifying Party argues that the Proposed Transaction will not give rise to competition concerns in relation to FCR for the following reasons.

(288) First, there is very significant hydro capacity capable for supplying FCR in Sweden, estimated at 640% to more than 1000% of total demand. This is argued to be capacity that can be quickly switched into FCR provision, in response to a price increase.

(289) Second, FCR can also be supplied from CHP plants.<sup>288</sup> The Notifying Party states that there is plentiful CHP capacity in Sweden in the hands of third parties, estimated at approximately 5000 MW, a proportion of which could be quickly qualified to provide FCR; [...].<sup>289</sup>

(290) Third, since one-third of FCR requirements can be procured from other TSOs, these potential imports further constrain FCR price rises in Sweden.

(291) Fourth, the Notifying Party argues that, in the near future, a significant proportion of the Swedish TSO's FCR requirements could feasibly be met by procurement

<sup>287</sup> The market shares are almost identical based on activation.

<sup>288</sup> Combined Heat and Power ("CHP") plant.

<sup>289</sup> Form CO, paras. 6.354-6.361.

from demand-side entities.<sup>290</sup> From December 2018, the Swedish TSO will have completed the installation of an IT system that will allow it to procure FCR from demand-side entities. The Notifying Party contends that the Finnish TSO now procures approximately 75% of its FCR-D requirements from demand-side entities; an increase of 50 percentage points within 2-3 years. It argues that this growth can be replicated in Sweden, especially given the relatively larger size of industrial base in Sweden.<sup>291</sup>

- (292) Moreover, demand response<sup>292</sup> can increasingly come from batteries also in Sweden. According to the Notifying Party, Germany currently has battery capacity of approximately 15% of its total FCR requirements and whilst the use of batteries is not yet as widespread in the Nordics, there are a range of entities active in the development of battery storage in the Nordics, such as Helen in Finland, Northvolt in Sweden and Vestas in Denmark. [...]. Additionally, the Notifying Party argues that as the costs of battery storage continue to decrease, this will likely increase the use of batteries as a source of electricity system stability, including in the provision of FCR.<sup>293</sup>
- (293) Fifth, whilst the investment cost is relatively large compared to other hourly reserves, this outlay to provide FCR is ultimately minimal compared to the revenue stream stemming from the investment.<sup>294</sup>
- (294) Finally, the Notifying Party argues that the introduction by the Nordic TSOs of new response time requirements for FCR around 2020 may reduce the volume of FCR that can be supplied by hydropower plants. [Fortum's internal assessment on FCR changes].<sup>295</sup> If the new rules limit a portion of hydro capacity's ability to provide FCR, this will provide further opportunity and incentive for demand-side entities and batteries to commence or expand supply of FCR in Sweden, in particular since their response time is quicker than hydro producers.

#### *The Commission's assessment*

- (295) The information gathered during the market investigation from market participants, the Parties and in particular, the Swedish TSO, supports the arguments of the Notifying Party as regards FCR provision, as described in paragraphs (288) to (294). The Commission considers that, on balance, the Proposed Transaction will not give rise to horizontal non-coordinated effects in respect of FCR for the reasons set out below.

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<sup>290</sup> Demand-side entities are companies that consume or store electricity. Effectively, demand-side entities can reduce or increase their demand (if pure consumer of electricity) or in addition release electricity (if storage) and thus provide up- and down-regulation.

<sup>291</sup> Form CO, paras. 6.362-6.365.

<sup>292</sup> Demand response can be defined as a willingness of consumers to alter volume size of electricity consumed for short or long periods of time, as a response to market prices, price incentives in grid tariffs or other economic incentives. See Form CO, footnote 78.

<sup>293</sup> Form CO, paras. 6.366-6.369.

<sup>294</sup> The Notifying Party estimates that for plants with control systems that are less than 10-15 years old (which is likely to be the majority of plants in Sweden), the only modifications that are required are a re-programming of the existing turbine regulator which would cost approximately EUR [...] to EUR [...] and typically take [...] to complete. For a more complex installation, the installation of a new turbine regulator and related hardware would cost approximately EUR [...] and would take [...]. By way of comparison, the Notifying Party's average monthly income in 2017 from FCR provision was EUR [...]. See Form CO, paras. 6.165-6.166.

<sup>295</sup> Notifying Party's supplementary submission on ancillary services of 04.06.2018, para. 2.26.

- (296) First, as regards the current market players, there is a fringe of smaller rivals that have generally gained market share between 2016 and 2017 (in total [0-5] percentage points for FCR-N and [5-10] percentage points for FCR-D), at the expense of the market leaders, Vattenfall, Fortum and Uniper, indicating that they are already constraining prices in the market.
- (297) Second, responses to the market investigation supported the Notifying Party's view that current hydro competitors could increase their supply if prices were to rise and thus latent capacity exists that could be shifted to the provision of FCR.<sup>296</sup>
- (298) Third, whilst only hydro power suppliers are currently delivering FCR in Sweden, the Swedish TSO confirmed that generators of electricity other than hydro power are considered as feasible providers of FCR as long as the technical requirements are fulfilled.<sup>297</sup> Furthermore, the Finnish TSO confirmed that CHP plants are current providers of FCR in Finland therefore there is no obvious reason why this could not also be possible in Sweden.<sup>298</sup>
- (299) Fourth, the Swedish TSO<sup>299</sup> also confirmed that it can trade up to one-third of the FCR capacity with other Nordic TSOs and in fact often does procure some capacity in particular from Norway, as Norwegian hydro is often cheaper (especially during night times when demand is low and fewer generators are active).<sup>300</sup> While the overall quantities it currently imports have so far been rather low, the fact remains that the TSO has the possibility, in effect, to procure one-third of its needs cross-border.<sup>301</sup> The possibility to import from other Nordic TSOs dilutes the concentration effect of the FCR suppliers within Sweden.
- (300) Fifth, the expected changes to the rules governing the FCR system will allow for more competition, in particular from demand response. The Swedish TSO confirmed<sup>302</sup> that whilst FCR is currently only provided by electricity generators (essentially hydro) due to the way in which the ICT system is set up, as of December 2018, the ICT system will also allow for demand response.<sup>303</sup> The purpose of this change is to allow for more market players to participate in the provision of FCR and therefore create more competition in the FCR market.
- (301) The Swedish TSO is also changing the way FCR product specifications are described in order to make the rules more technology neutral and allow all market

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<sup>296</sup> Replies from competitors, question 8.

<sup>297</sup> Reply to Request for Information of 08.05.2018 from Swedish TSO, question 4.

<sup>298</sup> Reply to Request for Information of 08.05.2018 from Swedish TSO, question 2.

<sup>299</sup> Non-confidential minutes of call with Swedish TSO on 31.05.2018, para. 3.

<sup>300</sup> The Swedish TSO indicated that it observes high FCR prices in general during the summer period and specifically mentioned the high FCR-D prices at the start of 2018 which were due to the (long) cold winter; this further increased in spring due to low consumption and melting snow. In particular, during low consumption hours when less hydro plants are running, the TSO may have difficulties in procuring FCR. This is when it tends to procure from other TSOs.

<sup>301</sup> Exchanging FCR-N does not require reservation of transmission capacity as there is already in-built in the system a transmission reliability margin for exchanging FCR. For FCR-D, nothing is required as this product is activated for such a short period of time that it is deemed that the grids can handle any excess.

<sup>302</sup> Reply to Request for Information of 08.05.2018 from Swedish TSO, question 4.

<sup>303</sup> For historical reasons the Swedish system was designed for hydro, but the market investigation confirmed that other suppliers provide such services in neighbouring countries. Two pilot projects with positive results have already been conducted in Sweden with demand response suppliers.



players to understand what is required to enter the market. These changes will enter into force in December 2018. Although there is no absolute certainty that demand response will enter the market, the pilot projects carried out by the TSO yielded positive results.<sup>304</sup> Moreover, according to the changes contemplated by the Swedish TSO, bids will be allowed in 15-minute increments rather than one hour increments (making it easier for smaller generators to participate) though an exact timeline has not been specified.<sup>305</sup> Furthermore, for FCR, the Swedish TSO is also contemplating whether the payment should be changed to a 'clearing price' (i.e. marginal pricing) which may encourage further entry.<sup>306</sup>

- (302) Respondents to the market investigation supported the Notifying Party's claim that given the proposed changes in technical requirements and regulations by the TSO, the ability to and/or interest in entering exists and that, therefore, demand response capacity will be made available for providing FCR.<sup>307</sup> Also, one competitor stated that there were some limitations to entering the market for ancillary services but if prices were to increase, these limitations would no longer be binding.<sup>308</sup>
- (303) A number of customers confirmed that they are considering entering the FCR market when demand response becomes possible.<sup>309</sup> However, one large industrial customer stated that the required reaction time for the FCR market would make it difficult to enter.<sup>310</sup>
- (304) Moreover, as argued by the Notifying Party, the Swedish TSO itself also expects demand response in particular from batteries.<sup>311</sup> There are various examples of development projects using batteries in the balancing market such as Statkraft, Innogy, Vattenfall, and Enel in Germany, Helen in Finland and Nidec and E.ON in the UK.<sup>312</sup>
- (305) Sixth, the Commission notes that the Swedish TSO is the only buyer of ancillary services in Sweden and at the same time, it is the one determining the product specifications and market rules. It is thus within the power of the Swedish TSO to change product specifications even further to facilitate new entry.

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<sup>304</sup> Non-confidential minutes of call with Swedish TSO on 31.05.2018, paras. 7, 8.

<sup>305</sup> Non-confidential minutes of call with Swedish TSO on 31.05.2018, para. 7.

<sup>306</sup> Non-confidential minutes of call with Swedish TSO on 27.03.2018, para. 9.

<sup>307</sup> Replies to Request for Information of 08.05.2018 from customers, questions 3, 5, 7, 10; reply to Request for Information of 08.05.2018 from competitor, question 8.

<sup>308</sup> Reply to Request for Information of 08.05.2018 from competitor, question 10.

<sup>309</sup> Replies to Request for Information of 08.05.2018 from customers, questions 2-3. One customer indicated their interest in participating in the ancillary services market if it proved profitable to do so, but did not specify which specific market.

<sup>310</sup> Replies to Request for Information of 08.05.2018 from customer, question 6. Other customers indicated that their production process was not suitable for the provision of ancillary services in general or had no interest in entering. Replies to Request for Information on 08.05.2018 from customers, questions 1, 2, 10.

<sup>311</sup> Non-confidential minutes of call with Swedish TSO on 31.05.2018, para. 8.

<sup>312</sup> Notifying Party's supplementary submission on ancillary services of 04.06.2018, Annex 2.

- (306) Seventh, the size of the FCR market is small; total FCR demand is approximately 600 MW (200 MW FCR-N and 400 MW FCR-D) for every hour and every day, out of which one-third can be traded with other TSOs.<sup>313</sup>
- (307) Finally, the Notifying Party's internal documents show that indeed, Fortum expects more restrictive TSO requirements for the provision of FCR to reduce the capability of its existing fleet to provide the service. [Fortum's internal assessment on FCR changes].<sup>314</sup> Whilst these changes will clearly also affect the Notifying Party's hydro competitors, they show that the market is currently in flux with significant developments taking place.

#### *Conclusion on FCR*

- (308) Given the limited size of the FCR market, the increasing importance of smaller competitors, the existence of latent capacity that could be used to provide FCR, the ability of the Swedish TSO to procure up to one-third of its needs through other TSOs without additional transmission capacity reservation, the ongoing opening up of the FCR market to demand response, the clear anticipation that demand response will enter, the rule changes that will require hydro generators to also invest to ensure that current FCR capacity can be maintained in future, and the fact that the TSO as the only customer has the power to change the rules (and appears to be committed to increasing competition in respect of FCR), the Commission considers that the Proposed Transaction does not raise serious doubts as to its compatibility with the internal market due to horizontal non-coordinated effects in relation to FCR.

#### 5.3.1.2. aFRR in Sweden

- (309) The Notifying Party provided the following combined market shares for aFRR (based on capacity) in 2016: Fortum [20-30]%; Uniper [10-20]%; Vattenfall [60-70]%. For aFRR up-regulation, Fortum estimates its market share (based on volumes) at [30-40]% and, for aFRR down-regulation, at [30-40]% in 2016. No estimates of competitor market shares were submitted separately for up- and down-regulation.<sup>315</sup>
- (310) The information received from the Swedish TSO suggests that Fortum has incorrectly estimated the Parties' individual market shares. However, the combined market shares are roughly in the right ballpark.

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<sup>313</sup> Non-confidential minutes of call with Swedish TSO on 27.03.2018, para. 6; non-confidential minutes of call with Swedish TSO on 31.05.2018, para. 3.

<sup>314</sup> [Fortum internal document].

<sup>315</sup> See Form CO, paras. 6.334, 6.340.

**Table 5.5 – Market shares for up- and down-regulation of aFRR in Sweden**

Capacity <sup>316</sup>	2017		2016	
	aFRR up-regulation	aFRR down-regulation	aFRR up-regulation	aFRR down-regulation
<b>Fortum</b>	[30-40]%	[10-20]%	[40-50]%	[30-40]%
<b>Uniper</b>	[0-10]%	[0-10]%	-	-
<b>Combined</b>	[30-40]%	[10-20]%	[40-50]%	[30-40]%
<b>Vattenfall</b>	[60-70]%	[80-90]%	[50-60]%	[60-70]%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

Source: Swedish TSO

Note: The market has only existed since 2016. Uniper entered the market in 2017 hence its market share is zero in 2016

(311) The combined market shares of the Parties for aFRR, respectively for up- and down-regulation were between [10-20]% and [30-40]% in 2017. The market leader, Vattenfall, will continue to be the largest supplier of both up- and down-regulation of aFRR post-Transaction with a market share above 60% in 2017.

*The Notifying Party's view*

(312) The Notifying Party argues that the Proposed Transaction will not give rise to competition concerns in relation to aFRR, for the following reasons.

(313) First, there is significant latent hydro capacity in Sweden to provide aFRR. Only modest investment costs are required to enable a generator to provide aFRR in line with the TSO's requirements, notably as regards the remote control system linked to Statnett, the entity that controls the centralised Nordic aFRR procurement system.<sup>317</sup>

(314) Second, aFRR is a relatively new market in the Nordic region. It started in 2013 with a two-year pilot period and there was no aFRR marketplace for the first half of 2016. The aFRR marketplace in its current form did not commence until H2 2016, and has not grown significantly since that point to date. The volumes currently procured are low and there has not been sufficient incentive for multiple generators to enter the market. Currently, only around 35 hours every week (i.e. 20% of hours each year) are procured for aFRR. This is due to change (see paragraph (317)).

(315) Third, even in its current market form, were Fortum to increase its aFRR prices post-Transaction in Sweden, there would be greater incentive for the existing latent hydro capacity to be switched to aFRR, and this could happen quickly and at very low cost.

<sup>316</sup> The market shares are almost identical based on activation.

<sup>317</sup> The Notifying Party estimates that, to enter the aFRR market, the cost of installing the necessary additional functionality would be EUR [...] to EUR [...] with the installation time being approximately [...] (and could be done in-house or by third parties). For multiple plants, say 20, the Notifying Party estimates an investment of EUR [...] to EUR [...] with the installation time being approximately [...]. By way of comparison, the Notifying Party's average aFRR monthly income in 2017 was approximately EUR [...], illustrating the relatively minimal outlay required to equip a hydro portfolio with aFRR capability. See: Form CO, paras. 6.162-6.163.

- (316) Fourth, the market will change in the short-term. The Nordic TSOs are introducing a pan-Nordic system which is expected to be functioning in Q2 2019.<sup>318</sup> There will be no limit on the volume that can be procured cross-border and, according to the Notifying Party, imports will in future constrain aFRR pricing in Sweden.<sup>319</sup> The new agreement also provides greater clarity and certainty to potential suppliers of aFRR than previously and is expected to be fully implemented from Q2 2019.<sup>320</sup>
- (317) Fifth, the new framework agreement between the TSOs not only means imports but also increased number of hours and volumes procured by each TSO. According to the Notifying Party, the number of hours in which aFRR is procured is being incrementally increased every three months with the intention that by 2020, aFRR will be procured by each Nordic TSO in all hours. This means that in Q2019\*, procurement will have increased by 80 hours (or over 200% from the current procurement of 35 hours). As regards volumes procured each hour, these are set to increase incrementally from 300 to 600 MW by 2021. The removal of the small capped demand, the increase in the number of periods when aFRR is procured and an increase in the volumes procured is argued to incentivise generators, not currently active in the supply of aFRR, to enter the market.<sup>321</sup>
- (318) Sixth, according to the Notifying Party, since it is cheaper in terms of wear and tear costs for hydro producers to provide aFRR compared to FCR, given that hydro volume is likely to be displaced by demand response in FCR, hydro producers will have an additional incentive to provide more aFRR. In this context, the Notifying Party notes that since the new framework will also introduce bidding on a 'D-2'<sup>322</sup> basis compared to the current position where aFRR is procured every Thursday for the following week, this will make it easier for generators to arbitrage between the generation and wholesale market and each of FCR and aFRR as aFRR will no longer mean tying up capacity for many days in advance.<sup>323</sup>
- (319) Therefore, the Notifying Party argues that all of these factors increase the scope and incentive for new entities to offer aFRR capacity in the short-term in Sweden.

#### *The Commission's assessment*

- (320) The information gathered during the market investigation from market participants, the Parties and in particular, the Swedish TSO, supports the arguments of the Notifying Party as regards aFRR provision, as outlined in paragraphs (313) to (319). The Commission considers that, on balance, the Proposed Transaction will not give rise to horizontal non-coordinated effects in respect of aFRR for the reasons set out below.
- (321) First, responses to the market investigation supported the Notifying Party's view that current hydro competitors could increase their supply if prices were to rise

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<sup>318</sup> Reply to Request for Information of 08.05.2018 from Swedish TSO, question 8.

<sup>319</sup> Form CO, para. 6.374.

<sup>320</sup> Form CO, paras. 6.371-6.372.

\* Should read: Q2 2019

<sup>321</sup> Form CO, paras. 6.373-6.375; Notifying Party's supplementary submission on ancillary services of 04.06.2018.

<sup>322</sup> 2-days ahead.

<sup>323</sup> Form CO, para. 6.375.

and thus latent capacity exists that could be shifted to the provision of aFRR. Some generators may need to make minor investments but these were not deemed prohibitive.<sup>324</sup> In general, the same capacity that can be used for FCR can also be used for aFRR.

- (322) Second, the Swedish TSO confirmed<sup>325</sup> that aFRR is a new market with only a few suppliers active so far but that market changes will take place in 2019. Procurement of aFRR will move from national to pan-Nordic at the end of 2018. This means that imports are likely subject to interconnector congestion, however, the TSO has the possibility to reserve transmission capacity for aFRR if necessary).<sup>326</sup>
- (323) Third, the Swedish TSO also confirmed that it wants to grow the market and therefore it is likely that the procured aFRR capacity will increase and will be needed for every hour.<sup>327</sup> The reason for increasing aFRR is to prepare for the implementation of Area Control Error (ACE)<sup>328</sup> based on balancing with netting of imbalances and trade between bidding zones, while considering network constraints (see paragraph (322)).<sup>329</sup>
- (324) Fourth, the Swedish TSO is indeed considering the possibility of procuring closer to delivery, as it may be difficult for smaller producers to plan a week ahead. In addition, the TSO is considering whether it is possible to make the minimum steps of, currently, 5 MW smaller, in order to incentivise smaller producers to participate in the aFRR market.<sup>330</sup> Finally, the Swedish TSO is contemplating for aFRR, as for FCR, whether the payment should be changed to a 'clearing price' (i.e. marginal pricing) which may encourage further entry.<sup>331</sup>
- (325) Given these changes to the market in the short-term, and the latent capacity, the Commission considers that new entry by electricity generators is likely.<sup>332</sup>
- (326) Fifth, currently the size of the aFRR market is very small; total aFRR demand is approximately 100-150 MW for some hours during the year.
- (327) Additionally, as of 2020-21, the procurement of aFRR is intended to take place on a European-wide basis (subject to congestion) and a new balancing methodology will be introduced.<sup>333</sup> As a result, aFRR capacity would in principle be procured at bidding zone level (with the possibility to reserve interconnector capacity for procurement from another bidding zone), but activation of such reserve would

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<sup>324</sup> See replies to Request for Information of 08.05.2018 from competitors, question 8. For comparison, the Notifying Party estimates its own capacity for providing aFRR at [...] MW.

<sup>325</sup> Non-confidential minutes of call with Swedish TSO, on 31.05.2018, paras. 9-10.

<sup>326</sup> Non-confidential minutes of call with Swedish TSO on 31.05.2018, para. 10.

<sup>327</sup> Non-confidential minutes of call with Swedish TSO, on 27.03.2018, para. 15.

<sup>328</sup> The ACE concept builds on controlling the balance in individual bidding zones.

<sup>329</sup> See <https://www.svk.se/en/about-us/news/news/plan-to-increase-automatic-frequency-restoration-reserve-afrr/>.

<sup>330</sup> Non-confidential minutes of call with Swedish TSO on 27.03.2018, para. 18.

<sup>331</sup> Non-confidential minutes of call with Swedish TSO on 27.03.2018, para. 9.

<sup>332</sup> The Swedish TSO's ICT system currently only allows electricity generation (including district heating and remote cooling) to provide aFRR and no update is foreseen to enable demand response or storage to provide aFRR.

<sup>333</sup> Based on Area Control Error ("ACE").

take place on a European-wide basis based on the cheapest offer.<sup>334</sup> In this respect, two respondents to the market investigation<sup>335</sup> referred to the PICASSO<sup>336</sup> project, a pan-national project initiated by eight TSOs and now including 17 members (including the Nordics) to design, implement and operate a platform with harmonised rules for aFRR, and indicated potential entry when the market becomes pan-Nordic.<sup>337</sup>

- (328) Although the current supplier base for aFRR is limited to Vattenfall, Fortum and Uniper, the Swedish TSO expects more suppliers to emerge once the market becomes pan-Nordic as of Q2 2019, with interconnector reservation for cross-border procurement of aFRR based on a social-economic analysis.<sup>338</sup> One TSO estimated that based on such analysis approximately one-third of the aFRR demand could be procured cross-border.<sup>339</sup>

#### *Conclusion on aFRR*

- (329) Given that the market is relatively new, small, and is still in development with a certain level of cross-border procurement foreseen as of mid-2019, and that certain hydro producers have indicated that given the right price, they could make capacity available, the Commission considers that the Proposed Transaction does not raise serious doubts as to its compatibility with the internal market due to horizontal non-coordinated effects in relation to aFRR.

#### 1.1.1.1. mFRR

- (330) The Notifying Party submitted the following market shares for mFRR (based on capacity) in 2016: Fortum [20-30]%; Uniper [10-20]%; Vattenfall [50-60]%; Statkraft [5-10]%; Skellefteå Kraft [5-10]%; Jämtkraft [0-5]%.<sup>340</sup> The Notifying Party has not provided separate estimates for up- and down-regulation.
- (331) Information received from the Swedish TSO suggest that Fortum has significantly underestimated the Parties' combined market shares.

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<sup>334</sup> Non-confidential minutes of call with Swedish TSO, on 31.05.2018, paras. 11, 13.

<sup>335</sup> Replies from competitors, question 12; replies from customers, question 8.

<sup>336</sup> Platform for the International Coordination of Automated frequency restoration and Stable System Operation.

<sup>337</sup> Replies from competitors, question 7.

<sup>338</sup> Non-confidential minutes of call with Swedish TSO on 31.05.2018, para. 10.

<sup>339</sup> Reply from TSO, question 3.

<sup>340</sup> Form CO, para. 6.334.

**Table 5.6 – Market shares for up- and down-regulation of mFRR in Sweden**

Capacity	2017 <sup>341</sup>	
	mFRR up-regulation	mFRR down-regulation
MW		
<b>Fortum</b>	[40-50]%	[20-30]%
<b>Uniper</b>	[0-10]%	[10-20]%
<b>Combined</b>	<b>[40-50]%</b>	<b>[30-40]%</b>
<b>Vattenfall</b>	[40-50]%	[40-50]%
<b>Others</b>	[0-10]%	[10-20]%
<b>Total</b>	<b>100%</b>	<b>100%</b>

Source: Swedish TSO

Note: No data available for 2016

(332) The combined market shares of the Parties for mFRR, respectively for up- and down-regulation were between [30-40]% and [40-50]% in 2017. As a result of the Proposed Transaction, the Parties will become the market leader in mFRR up-regulation. However, Vattenfall will continue to be the market leader for mFRR down-regulation with a market share of [40-50]%.

(333) It must, however, be noted that these market shares reflect only activation in Sweden and do not include imports.

*The Notifying Party's view*

(334) The Notifying Party argues that the Proposed Transaction will not give rise to competition concerns in relation to mFRR, for the following reasons.

(335) First, the Notifying Party maintains that no additional investment is required to allow hydro plants to sell electricity as mFRR rather than on the wholesale market so increased mFRR can be provided quickly if there is an incentive to do so.<sup>342</sup>

(336) Second, the Notifying Party maintains that there is latent capacity in the hands of third party hydro generators throughout the Nordic region; that CHP plants can easily offer mFRR without any significant investment costs; and demand-side entities can offer their consumption as mFRR at minimal cost to the Swedish TSO, as is currently the case in Finland.<sup>343</sup>

(337) Third, the Notifying Party argues that because mFRR is procured on a Nordic regulation power market, there are numerous different possible constellations of bidding zones that can be the relevant geographic market. For example, in 98% of the periods during 2016 when SE2 and SE3 were part of the same regulation zone, the average number of bidding zones that formed part of the same market was ten (of the twelve Nordic bidding zones).<sup>344</sup> Therefore, the Notifying Party states that these imports constrain any potential increase in prices in mFRR in

<sup>341</sup> The market shares are calculated over the period 01.01.2017-25.9.2017.

<sup>342</sup> Form CO, paras. 6.160, 6.376. See also supplementary submission on ancillary services of 04.06.2018 in which the Notifying Party explains that beyond the activation time of 15 minutes (which is possible in all flexible hydro plants) and a requirement to submit minimum bids of 10MW, there are no technical requirements to be able to supply mFRR.

<sup>343</sup> Form CO, para. 6.378.

<sup>344</sup> Form CO, paras. 6.341-6.345.

Sweden.<sup>345</sup> When placing its bids, any generator will take into account the potential competition coming from cross-border.

- (338) Fourth, according to the Notifying Party, the Nordic TSOs have agreed a number of measures to open the marketplace to more suppliers, including lower minimum bid requirements and the electronic activation of bids, both of which would increase the attractiveness of the marketplace to demand-side entities and battery owners.

*The Commission's assessment*

- (339) The information gathered during the market investigation from market participants, the Parties and in particular, the Swedish TSO, supports the arguments of the Notifying Party as regards mFRR provision, as outlined in paragraphs (335) to (338). The Commission considers that, on balance, the Proposed Transaction does not give rise to horizontal non-coordinated effects in respect of mFRR for the reasons set out below.
- (340) First, there is a fringe of smaller rivals that already provide competition to the two major players in the market.<sup>346</sup> Replies to the market investigation support the argument that these competitors could increase quantities of mFRR were prices to rise.<sup>347</sup> This includes demand-side response which is currently provided by some customers for mFRR and which could be increased (depending on the price difference between the market price and price paid for mFRR).<sup>348</sup>
- (341) Second, new entry is also expected from both demand-side response<sup>349</sup> as well as generators. One competitor indicated that it is in the process of making the necessary investments in order to provide mFRR.<sup>350</sup>
- (342) Third, it is clear that bids for mFRR are done on a pan-Nordic basis with the price being paid being the clearing price for each bidding zone (as such, the mFRR market functions similarly to the generation and wholesale market). As such, when bidding for mFRR, the bidder must take into account potential imports from other Nordic countries. One respondent to the market investigation confirmed that it did not have generation capacity in Sweden, but may have served mFRR demand from Sweden given the Nord Pool system.<sup>351</sup>
- (343) The Commission also notes that similar to the PICASSO project in respect of aFRR, the MARI project, in respect of mFRR, plans to create a European-wide market for mFRR by 2022.

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<sup>345</sup> Form CO, para. 6.377.

<sup>346</sup> These rivals are Statkraft Energi AS, Skellefteå Kraft AB, Goteborg Energi Din El AB, Jämtkraft AB and Modity Energy Trading. See reply to Request for Information of 08.05.2018 from Swedish TSO, question 2.

<sup>347</sup> Reply to Request for Information of 08.05.2018 from customer, question 8.

<sup>348</sup> Reply to Request for Information of 08.05.2018 from customer, question 7.

<sup>349</sup> Replies to Request for Information of 08.05.2018 from customers, questions 2, 3.

<sup>350</sup> Replies to Request for Information of 08.05.2018 from competitors, questions 8, 15.

<sup>351</sup> Reply to Request for Information of 08.05.2018 from customer, question 7.



### *Conclusion on mFRR*

(344) Given the way the market functions, the fact that multiple other smaller providers are present in the market and others are capable of entering, and that ultimately, limited concerns were raised by market participants in respect of mFRR, the Commission considers that the Proposed Transaction does not raise serious doubts as to its compatibility with the internal market due to horizontal non-coordinated effects in relation to mFRR.

#### 5.3.1.4. Conclusion on horizontal non-coordinated effects regarding ancillary services

(345) In light of the considerations in Sections 5.3.1.1 to 5.3.1.3 and the size of the hourly markets in Sweden<sup>352</sup>, the Commission considers that the Proposed Transaction does not raise serious doubts as to its compatibility with the internal market due to horizontal non-coordinated effects with respect to the provision of any ancillary services in Sweden.

#### 5.3.2. *Horizontal coordinated effects*

##### *The Notifying Party's views*

(346) The Notifying Party did not submit specific views on horizontal coordinated effects in relation to ancillary services. However, in the Notifying's Party view the hourly reserves should be assessed as part of the generation and wholesale of electricity and it considers that the Proposed Transaction does not raise competition concerns with regard to the hourly reserves.<sup>353</sup>

(347) In the Notifying Party's view, even if hourly reserves are considered separately from the generation and wholesale of electricity, no competition concerns arise.<sup>354</sup>

##### *The Commission's assessment*

(348) The Commission considers that any potential coordinated effects theory would have to be built on the premise that coordination would take place between the merged entity and Vattenfall given that the Proposed Transaction increases symmetry between the two. This could take place, for example, in the form of higher prices being bid or reduced capacity being offered for ancillary services. A horizontal coordinated effects theory would notably require to: (i) identify the likely mechanism of coordination; (ii) explain how the merged entity and Vattenfall would monitor it and detect potential deviation; (iii) identify a possible and sufficiently credible deterrent mechanism; and (iv) determine whether any outside reaction by actual or potential competitors or customers could jeopardise such a strategy.

(349) The Commission considers that the Proposed Transaction is unlikely to lead to coordination on the market for ancillary services for the following reasons.

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<sup>352</sup> The hourly markets represent less than 3% of the value of the Swedish portion of the spot market. See Notifying Party's supplementary submission on ancillary services of 04.06.2018, para. 1.8.

<sup>353</sup> Form CO, para. 6.330.

<sup>354</sup> Form CO, para. 6.331.

- (350) First, the Commission observes that no respondent to the market investigation raised specific concerns in relation to horizontal coordinated effects in respect of ancillary services as a result of the Proposed Transaction.
- (351) Second, whilst electricity in itself is a homogeneous product, the way the ancillary services markets function effectively means multiple different prices for the same product. Demand and supply change constantly; by the hour. Moreover, the way the ancillary services markets function, in particular FCR and aFRR, is facing changes, as described in paragraphs (300), (301), (322) and (325), which will likely result in the widening of the markets whether in terms of geographic scope or additional market players. This suggests that the ancillary services markets are unlikely to be sufficiently stable and thus prone to coordination.
- (352) Third, the Commission notes that the FCR and aFRR markets, in particular, are not transparent. They operate on a pay-as-you-bid basis where each market participant chooses what capacity to offer, for which hour and at what price. Limited information is made public whether by market participants or by the only customer, the TSO. As such, market participants have little insight into which companies have bid for which capacity, for which hour and at what price. Although mFRR operates more like the generation and wholesale market and, as such, functions on the basis of a central clearing price, rather than each provider being paid a different price, the fact remains that each company's bids are non-transparent and only the market outcome can be observed (see in this respect also Section 5.1.3).
- (353) In this respect, the Commission notes that, according to the Notifying Party, no information was available to it concerning the total amount of capacity in use in Sweden to supply hourly reserves,<sup>355</sup> with the result that it could not give credible estimates of ancillary services sold by its competitors.<sup>356</sup>
- (354) Moreover, given that ultimately the same flexible hydro generation capacity can be used on the generation and wholesale market (on Elspot or Elbas) and on the different ancillary services markets, there is no "fixed" capacity per se that competitors can easily observe.
- (355) As such, given the non-transparent nature of the ancillary services markets, it is difficult to envisage a robust coordination strategy that could be easily monitored, and ultimately, a credible retaliation mechanism.
- (356) Finally, as explained in paragraphs (298), (303), (321), (328), (340) and (341), potential entry is feasible and currently anticipated in the ancillary services markets. Such entry makes the market situation unstable and is likely to jeopardise any potential coordination.

### *Conclusion*

- (357) For the reasons set out in paragraphs (350) to (356), the Commission considers that the Proposed Transaction does not give rise to serious doubts as to its compatibility with the internal market in relation to horizontal coordinated effects on the markets for ancillary services.

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<sup>355</sup> Form CO, para. 6.334.

<sup>356</sup> Form CO, para. 6.336.

*5.3.3. Conclusion on ancillary services*

(358) In light of the above, the Commission considers that the Proposed Transaction does not give rise to serious doubts as to its compatibility with the internal market with regard to the markets for ancillary services.

**6. CONCLUSION**

(359) For the above reasons, the European Commission has decided not to oppose the notified operation and to declare it compatible with the internal market and with the EEA Agreement. This decision is adopted in application of Article 6(1)(b) of the Merger Regulation and Article 57 of the EEA Agreement.

*For the Commission*

*(Signed)*

*Phil HOGAN*

*Member of the Commission*