

This text is made available for information purposes only.  
A summary of this decision is published in all Community languages in the Official Journal  
of the European Union.

***Case No COMP/M.4094 –  
Ineos/BP Dormagen***

Only the English text is authentic.

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

---

Article 8(1)  
Date: 10/08/2006



COMMISSION OF THE EUROPEAN COMMUNITIES

Brussels, 10/08/2006

C(2006)3592 final

**PUBLIC VERSION**

**COMMISSION DECISION**

**of 10/08/2006**

**declaring a concentration to be compatible with the common market  
and the functioning of the EEA Agreement**

(Case No COMP/M.4094 – Ineos/BP Dormagen)

## Table of Contents

I. THE PARTIES .....	4
II. THE OPERATION AND THE CONCENTRATION.....	5
III. RELEVANT MARKETS .....	5
Background .....	5
Relationships between Ethylene, Ethylene Oxide and derivatives .....	6
Ethylene.....	8
Relevant product market.....	8
Relevant geographical market .....	9
Ethylene oxide .....	9
Relevant product market.....	9
Relevant geographical market .....	12
Glycols.....	13
Relevant product market.....	13
Relevant geographical market .....	14
Conclusion.....	15
IV. COMPETITIVE ASSESSMENT.....	15
HORIZONTAL OVERLAPS .....	15
<b>A. Ethylene Oxide</b> .....	15
Market overview.....	15
Market structure.....	16
Assessment of market conditions that might constrain Ineos' behaviour .....	18
Customers affected by the transaction and their alternatives .....	36
Conclusion.....	38
<b>B. Ethylene Glycols</b> .....	39
VERTICAL RELATIONSHIPS .....	40
<b>A. Ethylene</b> .....	40
<b>B. Ethylene Oxide Derivatives</b> .....	41
Ethylene Glycols .....	41
Ethanolamines .....	42
Glycol ethers.....	42
PAGs .....	42
Alcohol Ethoxylates .....	43
Polyols.....	44
EO/PO block copolymers .....	46
V. Conclusion.....	47

**Commission Decision**

**of 10/08/2006**

**declaring a concentration to be compatible with the common market  
and the functioning of the EEA Agreement**

**(Case No COMP/M.4094 – Ineos/BP Dormagen)**

(Only the English text is authentic)

(Text with EEA relevance)

THE COMMISSION OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Community,

Having regard to the Agreement on the European Economic Area, and in particular Article 57 thereof,

Having regard to Council Regulation (EC) No 139/2004 of 20 January 2004 on the control of concentrations between undertakings<sup>1</sup>, and in particular Article 8(1) thereof,

Having regard to the Commission's decision of 28 February 2006 to initiate proceedings in this case,

Having given the undertakings concerned the opportunity to make known their views on the objections raised by the Commission,

After consulting the Advisory Committee on Concentrations<sup>2</sup>,

Having regard to the final report of the Hearing Officer in this case<sup>3</sup>,

WHEREAS:

---

1 OJ L 24, 29.1.2004, p. 1

2 OJ C .....200. , p....

3 OJ C .....200. , p....

- (1) On 24 January 2006, the Commission received a notification by which the undertaking INEOS Group Limited (“Ineos”) notified its intention to acquire control of the BP Ethylene Oxide/Ethylene Glycol Business (“BP Dormagen Business”) controlled by British Petroleum Group (“BP”) by way of purchase of assets.
- (2) The Commission found that the proposed operation constitutes a concentration within the meaning of Article 3(1)(b) of Regulation (EC) No 139/2004 (“ the Merger Regulation”).
- (3) After examination of the notification, on 28 February 2006, the Commission concluded that the notified operation raised serious concerns as to its compatibility with the common market and decided to initiate proceedings pursuant to Article 6(1)(c) of the Merger Regulation. For the purpose of obtaining further information from the notifying party, the Commission adopted a decision pursuant to Article 11(3) of the Merger Decision, addressed to the notifying party and dated 21 March 2006. On 19 May 2006 the Commission adopted, with the agreement of Ineos, a decision pursuant to Article 10(3) of the Merger Regulation extending the duration of the procedure by 10 working days. The Commission issued a Statement of Objections on 30 May 2006. Ineos waived its right to an oral hearing.
- (4) After examination of Ineos’ reply to the Statement of Objections submitted on 14 of June 2006, the Commission adopted a number of decisions pursuant to Article 11 of the Merger Regulation on 23 June 2006, addressed to EO producers in order to verify the factual evidence submitted by Ineos. On 29 June 2006 the Commission issued a Letter of Facts to which the parties responded 4 July 2006. In the light of the new evidence obtained after issuing the Statement of Objections, the Commission has concluded that the notified operation does not raise competition concerns as to its compatibility with the common market and the EEA Agreement.

## I. THE PARTIES

- (5) Ineos is a UK limited company in which Mr James Ratcliffe owns [...]\*. Ineos has various wholly owned subsidiaries which are active worldwide in the production, distribution, sales and marketing of intermediate and speciality chemicals. On 16 December 2006, Ineos acquired Innovene, the former olefins, derivatives and refining business of BP (excluding the BP Dormagen Business, the acquisition of which is the subject of this decision) which manufactures a range of petrochemicals, including olefins and their derivatives and a range of refinery products.<sup>4</sup> That operation was cleared by the Commission on 9 December 2005 (Case No COMP/M.4005 – Ineos/Innovene, the “Main Transaction”).

---

\* Parts of this text have been edited to ensure that confidential information is not disclosed; those parts are enclosed in square brackets and marked with an asterisk.

<sup>4</sup> Innovene operated three sites in the EEA: Grangemouth (United Kingdom), Lavera (France) and Dormagen (Germany). Grangemouth and Lavera were acquired by Ineos as a result of the Main Transaction.

- (6) BP Dormagen Business, which consists solely of a plant located in Köln/Dormagen (Germany)<sup>5</sup>, is currently controlled by BP and is active in the manufacture of ethylene oxide (“EO”) and ethylene glycols (“EGs or glycols”).

## **II. THE OPERATION AND THE CONCENTRATION**

- (7) On 7 October 2005 Ineos entered into a binding Share Sale and Purchase Agreement with BP regarding the purchase of Innovene, the BP olefins and refining business. The value of the transaction was[...]\*. The business comprising the manufacture and sale of EO and EGs (BP Dormagen Business) was excluded from this sale. However, a separate put and call option deed executed on 7 October 2005, gave BP the right to require Ineos to purchase, and Ineos the right to require BP to sell, the BP Dormagen Business within a period of two years.
- (8) The Main Transaction was notified to the Commission under the Merger Regulation on 4 November 2005 and the Commission declared it compatible with the common market on 9 December 2005. The Main Transaction closed on 16 December 2005.
- (9) On 21 December 2005 Ineos gave notice to BP that it was exercising the call option requiring BP to sell the BP Dormagen Business to Ineos.
- (10) As Ineos will acquire all of the BP Dormagen business, the proposed operation will constitute a concentration within the meaning of Article 3(1)(b) of the Merger Regulation.
- (11) As the acquisition by Ineos of the BP Dormagen Business will occur within two years of the first transaction and involves the same parties, Article 5(2) of the Merger Regulation applies and the two transactions are considered as a single transaction for jurisdictional purposes.

## **III. RELEVANT MARKETS**

### **Background**

- (12) In its examination of the Main Transaction, the Commission assessed the markets EO and for a number of its derivatives (“EODs”), in particular, glycol ethers (“GEs”) and ethanolamines (“EOAs”). The Commission concluded that that Main Transaction did not raise serious doubts as to its compatibility with the common market on the horizontally and vertically related markets.
- (13) The only products manufactured and sold by the BP Dormagen Business are EO and EGs. Ineos produces a wide range of chemicals including EO and EO-derivatives (including EGs). Consequently, the only horizontal overlaps which arise as a result of the proposed acquisition by Ineos of the BP Dormagen Business relate to EO and EGs. In addition, vertical relationships exist upstream of EO (as regards ethylene) and downstream of EO (as regards EO derivatives).

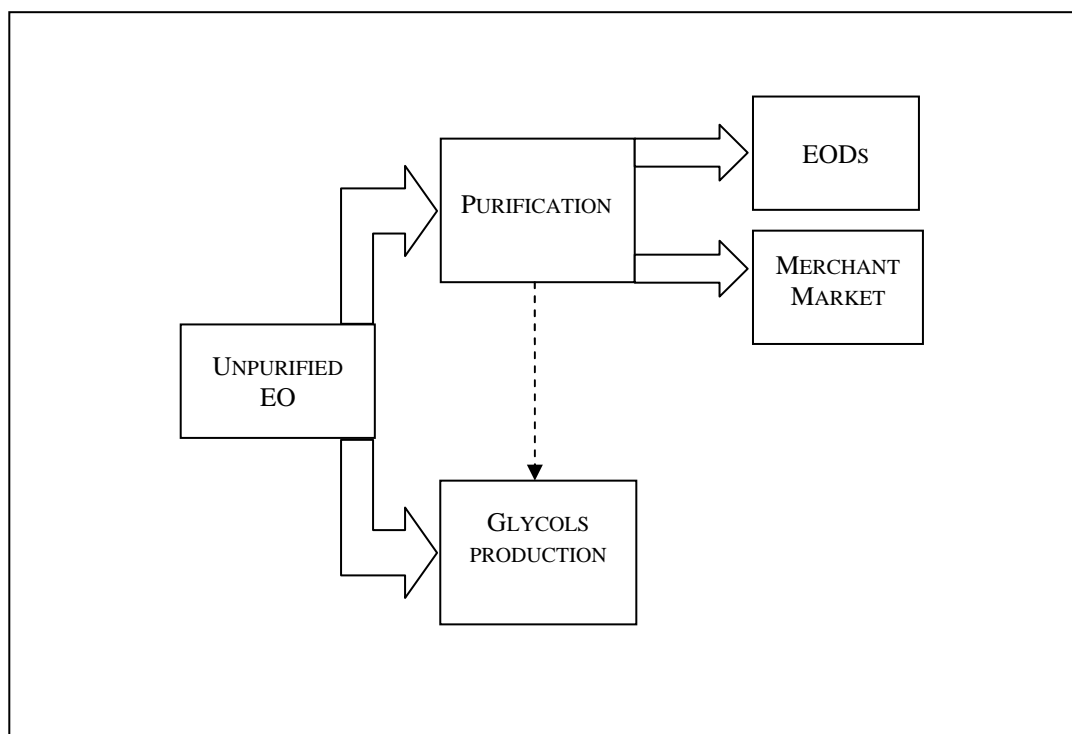
---

5 [...]\*

## Relationships between Ethylene, Ethylene Oxide and derivatives

- (14) Ethylene is produced by steam cracking of gases such as natural gas or refinery gases, including propane and butane. It is used, together with oxygen, to produce EO.
- (15) EO is a colourless gas, which is produced by the partial oxidation of the ethylene which is fed into a reactor system with oxygen over a fixed bed silver-based catalyst. EO has an ethylene content of 82% and is a hazardous product, being highly inflammable and explosive as well as being toxic and carcinogenic. EO is mixed with water to produce a mixed glycols stream or further purified for the production of other EO derivatives.
- (16) In relation to EO, Diagram 1 below shows the interrelationships between the production of EO and the possible outlets for this material. It can be used in the unpurified state to produce EGs or be further purified. Purified EO has three uses. It may be sold to the merchant market, it may be used captively to produce EODs and a small part may be used to produce glycols.

Diagram 1



- (17) EGs are intermediate chemicals produced by the non-catalytic hydration of EO. EGs account for 37.5% of total EEA consumption of EO<sup>6</sup>, have high EO content of about 72%, and are only produced by integrated EO producers.
- (18) An alternative route for processing the EO stream involves its further purification to produce a purified EO for production of various other intermediates. Most of this EO is used captively by the integrated EO producers in downstream operations, the remainder being sold to third parties, either to customers co-located on-site or to off-

---

6 Based on Ineos' figures, reply to the article 11 request of 03/03/06, point 1.3

site customers. The main groups of purified EO derivatives are: ethanolamines (“EOAs”), glycol ethers (“GEs”) and alkoxyates.

- (19) EOAs are manufactured by reacting ammonia and EO and have a high EO content of 82%<sup>7</sup>. Three types of EOAs are always produced: mono-ethanolamine (“MEA”), di-ethanolamine (“DEA”) and tri-ethanolamine (“TEA”). They are used mainly to produce lubricants, detergents, agricultural, cement and household and personal care products. EOAs account for 8.5 % of total EEA consumption of EO and are only produced by integrated EO producers.<sup>8</sup>
- (20) GEs are oxygenated solvents produced through the reaction of EO or propylene oxide (“PO”) with an alcohol to produce E-series (whereby an alcohol is reacted with ethylene oxide) and P-series (produced through the reaction of propylene oxide with an alcohol) glycol ethers respectively. GEs applications are mainly: paints, coatings, leather applications and electronics. GEs account for about 5% of the total EO consumption<sup>9</sup>. E-series GEs have a high EO content between 35-75%<sup>10</sup> and are produced only by integrated EO producers.
- (21) Out of all EO derivatives, the production of EGs, EOAs and GEs together account for 51% of total European consumption of EO, and are only manufactured by the integrated EO producers. Alkoxyates are the next most important group together accounting for 39% of total European consumption of EO and over 75% of merchant market EO consumption.<sup>11</sup>
- (22) Alkoxyates are products produced by alkoxylation and can be further sub-divided into ethoxyates, polyols, EO/PO block copolymers and other alkoxyates. Alkoxylation refers to the reaction between an alkoxide (either EO or PO) and a substrate containing one or more active hydrogen atoms in the presence of a catalyst. Ethoxyates are further sub-divided into polyalkylene glycols (“PAGs”) and alcohol ethoxyates.
- (23) Alcohol ethoxyates account for some 18% of total EEA consumption of EO, and constitute more than 40% of merchant EO consumption.<sup>12</sup> Their EO content varies between 30-90% by weight.<sup>13</sup>
- (24) PAGs are produced by reacting EO with short chain non-surfactant alcohols and they have a very high EO content (around 80-98% by weight).<sup>14</sup> Because of this high EO content, PAGs are made almost exclusively by integrated EO producers. They account for some 5.5 % of total EEA consumption of EO.<sup>15</sup>
- (25) Polyols are produced by reacting EO and PO with glycerine or trimethylolpropane (“TMP”). Polyols have an EO content of some 15% by weight<sup>16</sup> and account for approximately 5.5% of total EEA consumption of EO. Polyols are the second most important downstream market for the consumption of merchant EO (8.5% of the

---

7 Form Co, point 6.10, p. 31

8 Based on Ineos’ figures, reply to the article 11 request of 3 March 2006, point 1.3

9 Based on Ineos’ figures, reply to the article 11 request of 3 March 2006, point 1.3

10 Form Co, point 6.10, p. 31

11 Based on Ineos’ figures, reply to the article 11 request of 3 March 2006, point 1.3

12 Based on Ineos’ figures, reply to the article 11 request of 3 March 2006, point 1.3

13 Ineos’ reply to article 11 request of 3 March 2006, point 1.17

14 Ineos’ reply to article 11 request 3 March 2006, point 1. 18

15 Based on Ineos’ figures, reply to the article 11 request of 3 March 2006, point 1.3

16 Ineos’ reply to the article 11 request of 3 March 2006, point 1.20



merchant EO market).<sup>17</sup> Polyols are used in the automotive and furniture/bedding industry. Polyols are made predominantly by integrated PO producers.

- (26) EO/PO copolymers are a range of non-ionic low-foaming surfactants made by combining EO and PO with Dipropylene Glycol. They are used as detergents, emulsifiers, dispersants, lubricants, foamers and in paper processing. EO/PO block copolymers account for only 1.5% of total EEA consumption of EO and constitute only 3% of the merchant EO market.<sup>18</sup> The EO content of these products varies according to application required, ranging from 10% to 90% by weight.<sup>19</sup> EO/PO block copolymers can either be standard commodity EO/PO block copolymers or more specialised EO/PO block copolymers. The former are produced largely by integrated EO producers whereas the latter are generally made by non-integrated third party producers.
- (27) Table 1 shows the proportions of EO used by each of the main downstream applications described above (recitals (16)-(26)), in particular for the EO used by the merchant market.

**Table 1 : Total EO consumption and merchant EO consumption per derivative (EEA):**

<b>EODs</b>	<b>EO Consumption</b>	<b>Merchant Consumption</b>
<b>Ethylene glycols</b>	37.4%	Captive
<b>Glycol ethers</b>	5.3%	Captive
<b>EOAs</b>	8.5%	Captive
<b>Other</b>	9.6%	25%
<b>Alkoxyates, including:</b>	39.2%	75%
- Alcohol ethoxylates	17.8%	39.7%
- Polyols	5.5%	8.5%
- <b>EO/PO blocks (copolymers)</b>	1.4%	2.8%
- PAGs	5.6%	1.4% (mainly captive)
- Other alkoxyates	8.9%	22.6%

Source: Commission's estimates based on Ineos' reply to article 11 Request of 3 March 2006, point 1.3.

## **Ethylene**

### Relevant product market

- (28) Ethylene is produced by steam cracking of gases such as natural gas or refinery gases, including propane and butane. It is used, among other uses, together with oxygen to produce EO. In previous decisions<sup>20</sup> the Commission found that ethylene constitutes a distinct product market. The market investigation in this case<sup>21</sup> has also confirmed that ethylene constitutes a single product market because the same product specification is

17\_ Based on Ineos' figures, reply to the article 11 request of 25 April 2006, point 1.3

18\_ Based on Ineos' figures, reply to the article 11 request of 25 April 2006, point 1.3

19\_ Parties' reply to the article 11 request of 3 March 2006, point 1.23

20\_ Case No COMP/M.2345 – DEUTSCHE BP / ERDÖLCHEMIE, 26/04/2001. Case No COMP/M.4005 – INEOS/INNOVENE, 09/12/05

21\_ Replies to Article 11 letter of 2 February 2006 (Questionnaire to Competitors – suppliers, question 9)

suitable for all derivative uses and ethylene cannot be replaced by another product in these applications.

#### Relevant geographical market

- (29) Ethylene can be distributed either by pipeline or via refrigerated ships to an import terminal. In a previous decision<sup>22</sup> the Commission rejected the arguments of the parties that the geographic market for ethylene was Western Europe, and concluded that the relevant geographic market should be defined on the basis of the extent of the available pipeline network. In that case, as well as in the current transaction, the available pipeline network was the ARG+ pipeline system<sup>23</sup> which runs in North West Europe.
- (30) In this case Ineos submits that the geographic market is Western Europe. Although the investigation was inconclusive as to whether the geographic market is the EEA or the geographic area covered by the pipeline network needed for its supply, for the purposes of this transaction it is not necessary to conclude on the exact geographic market definition given that the transaction will not significantly impede effective competition as regards ethylene in either possible market.

#### **Ethylene oxide**

#### Relevant product market

- (31) In previous decisions<sup>24</sup>, the Commission has identified a separate product market for EO as it is characterized by low substitutability especially when used as a direct raw material in chemical reactions. The market investigation in this case has largely confirmed that EO constitutes a separate product market as EO cannot be replaced in the manufacture of derivatives and it is an important intermediate building block.
- (32) Ineos pointed out the importance of integrated producers' captive use of EO both either for glycols and for other derivatives and its impact on the sales to third parties, but concentrated its analysis on the merchant market. The Commission agrees with Ineos' view. Therefore although the assessment of the impact of the transaction will be mainly focused on the merchant market, it will also take into account the relationships between the merchant and the captive sales.
- (33) As explained above (recital (16)), EO can be either mixed with water to produce a mixed EO/water stream (for the production of glycols) or further purified for the production of other EO derivatives. According to the parties, purified EO can be sub-segmented into high-grade EO ("HG-EO") or low-grade EO ("LG-EO") depending on the level of impurities (mainly the content of aldehydes). In addition, depending on the production process, glycols can also be produced from purified EO (either LG-EO or HG-EO).
- (34) Given the complexity of the production process and the fact that producers use different processes and/or plant layouts, it is difficult to give a detailed explanation of

---

22 Case No COMP / M.2761 - BP/Veba, 1 July 2006

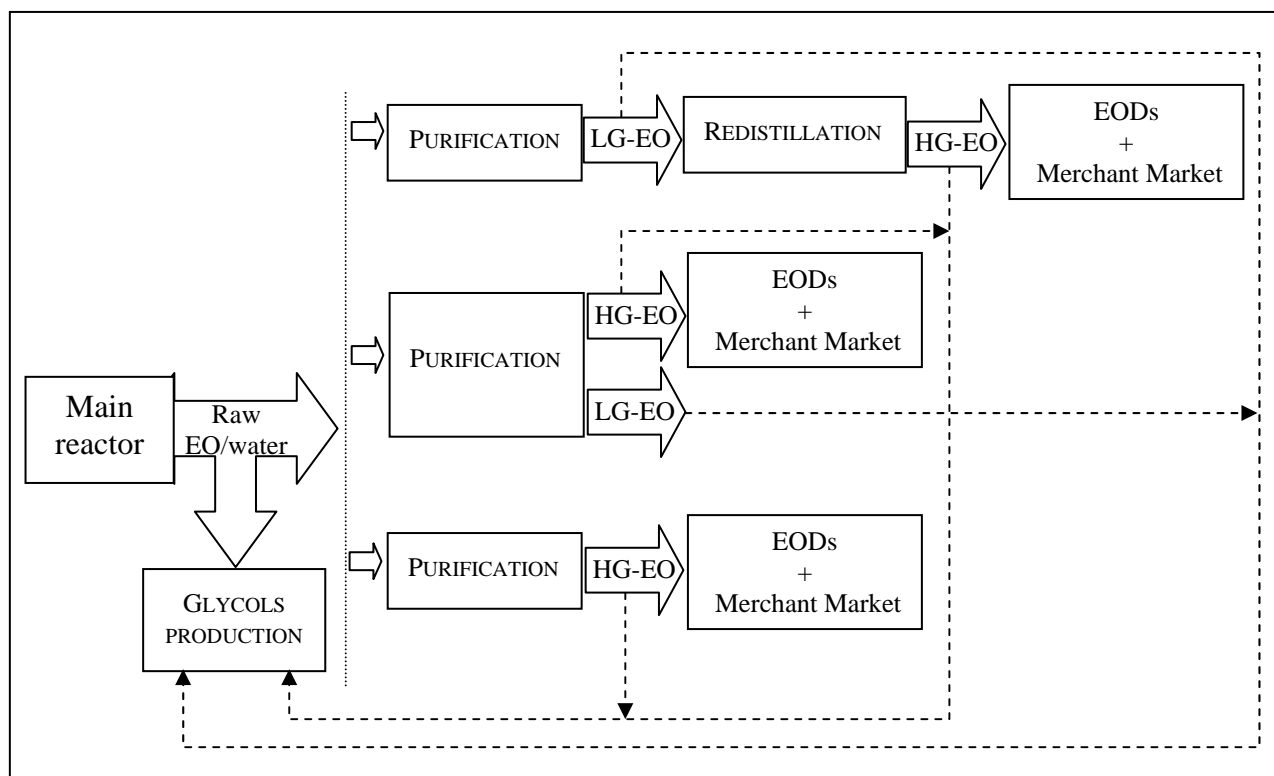
23 The pipeline network owned and operated by Aethylenrohrleitungsgesellschaft mbH & Co. KG together with its associated pipelines, which links various ethylene consumers in Belgium, The Netherlands and Western Germany.

24 Case No COMP/M.2345 – DEUTSCHE BP / ERDÖLCHEMIE, 26 April 2001 and Case No COMP / M.4005 – Ineos/Innovene, 9/12/2005.

all the production processes. However, a brief explanation of the three main production processes and a diagram showing the main processes are given below (recitals (36)-(39)). These processes are represented in Diagram 2 below.

- (35) In general, the first part of the process is fairly similar for all the plants. It is the so called “front-end” section of the production process, where the initial reaction takes place. Out of this section, a raw EO/water stream is produced, containing some impurities, mainly CO<sub>2</sub> and aldehydes. This raw EO/water stream may then be split into two parts: one part being fed into the glycols section for the production of EGs (some producers do this, others do not), while the other part is fed into the so called “back-end” section for the purification steps.

Diagram 2



- (36) According to Ineos, there are three main types of purification processes. The first one is the process used [...]\*. In this process, the raw EO/water stream is fed into a purification section from which CO<sub>2</sub> and some aldehydes are removed, being the output what Ineos calls the LG-EO. As mentioned above (recital (33)), according to Ineos, this LG-EO stream can be used as input for the glycols unit (in addition to or instead of the raw EO/water stream) or for the production of some EODs<sup>25</sup>, or it can be further purified in a re-distillation unit. After this further purification step, the content of aldehydes is further reduced and the output is the HG-EO, used for the production of all types of EODs. This is the only EO which is sold to the merchant market.
- (37) The second type of process, which is used by [...]\*, has only one purification step into which the raw EO/water stream is fed, but still produces both LG-EO and HG-EO. In

25 [Manufacturing process]\* See: Ineos' reply to the Article 11 request of 17/03/06, point 1.3.

the purification column, the HG-EO is drawn off at the top and the LG-EO is purged at the bottom. Again, according to Ineos, LG-EO can be used as input into a glycols section or for the production of other EODs<sup>26</sup>.

- (38) The third type of process is similar to the second one, the difference being that the output of the purification process is only one stream of HG-EO. In this process, there is no production of LG-EO. This process is used by [...]\*
- (39) A reduction in the production of EGs normally results in an increase in the output of purified EO available for own production of EODs as well as for the merchant market. According to Ineos, the extent to which a producer can switch the production of glycols to purified EO will depend on whether the glycols production is integrated within its EO plant. In integrated plants which produce glycols from raw EO/water stream, the ability to switch production depends upon the EO purification capacity of the plant. By contrast, according to Ineos, producers which own non-integrated plants (which produce glycols using HG or LG EO) could stop producing EGs and use their entire production of purified EO to produce other EODs and for sales to the merchant market.<sup>27</sup>
- (40) The market investigation confirmed that EO producers can vary the proportions of EGs and purified EO that they produce. However, it also showed that only limited amounts of glycols are produced from HG-EO. Furthermore, although some EO producers use LG-EO for their production of glycols, this partially purified EO cannot be readily used for the production of other derivatives or sold to the merchant market and needs to be further purified. As a consequence, its availability is subject to the purification capacity limitations in the same way as raw EO used for the production of glycols.<sup>28</sup>
- (41) Therefore, the ability of EO producers to switch will always depend upon the purification capacity of their EO plant, understood as the capacity to produce HG-EO (as only HG-EO is normally used to produce EODs other than EGs or sold into the merchant market).
- (42) Ineos submitted that a distinction needs to be made between long term arrangements for supply of EO to customers whose derivative plants for conversion of EO are located on, or adjacent to, the EO supplier's site and connected via pipe line ("on-site") and supplies to other customers ("off-site") which are served by other means such as truck or rail and which, according to Ineos, are contestable in a meaningful sense.<sup>29</sup>
- (43) According to the market investigation, prices for off-site contracts are generally higher, as transportation costs need to be included.<sup>30</sup> However apart from this

---

26 [...]\*. Ineos' submission of 19 May 2006, point 15

27 Ineos' reply to the Article 11 request of 17 March 2006, point 3

28 Based on: replies to article 11 decisions of 23 June 2006, question 17 and parties' reply to the Commission's questions of 28 June 2006, p. 13, and replies to the Article 11 letter of 19/04/06 (Phase II Questionnaire to EO Competitors – Production Table), question 2.

29 Form CO, point 6.42, p. 44

30 Replies to the Article 11 request of 15 March 2006 (Phase II Questionnaire to EO-derivatives competitors), question 52

distinction, there is no clear differentiation: both groups of customers can have their prices determined by reference to publicly reported prices.<sup>31</sup>

- (44) There are differences in contract length as off-site contracts are usually shorter, with an average of 1 to 3 years and the great majority of the contracts lasting for 1 year, while on-site contracts tend to be for between 10 and 15 years.<sup>32</sup> The market investigation has confirmed that off-site contracts tend to be shorter than on-site contracts. However, in some cases contracts cover both on-site and off-site shipments and these tend to be longer in duration.<sup>33</sup> Because of the customer's proximity to the EO supplier's site, on-site contracts tend to cover larger quantities than off-site contracts although there are also customers purchasing large quantities off-site.<sup>34</sup>
- (45) It appears to be true that on-site supplies are not easily replaced by off-site shipments mainly because of the larger quantities involved and the risks associated with transportation of EO. Moreover, on-site contract customers would normally need to make additional investments in order to build the necessary infrastructure (such as railcar logistics, truck off-load platforms and storage facilities) to switch to off-site EO supplies. Notwithstanding that, there is some evidence suggesting that there are some on-site customers who have switched to off-site supplies.<sup>35</sup>
- (46) In any event, for the purposes of this transaction it does not appear necessary to reach a conclusion as to whether on-site/off-site supplies constitute two separate markets, given that the transaction will not significantly impede effective competition, irrespective of whether on-site and off-site supplies are considered to constitute a single or two separate markets.

#### Relevant geographical market

- (47) In previous decisions<sup>36</sup> the Commission has considered the geographic dimension of the EO market as Western Europe (defined as the EEA plus Switzerland) although the exact market definition was left open. The relevant production plants are located in Antwerp (Belgium), Lavera (France) and Dormagen (Germany). Ineos submits that the market is EEA-wide as EO from these plants is transported over long distances (according to Ineos' data, in some cases more than 1000 km, although the majority of deliveries are within 600 km).<sup>37</sup> According to the market investigation, the EEA is the widest possible geographic market because of the small likelihood of imports and exports outside that area and because of the hazardous nature of the product and the respective regulations limiting EO transport.<sup>38</sup>

---

31 Replies to the Article 11 request of 15 March 2006 (Phase II Questionnaire to EO-derivatives competitors), questions: 47, 48

32 [...]\*

33 Replies to the Article 11 request of 3 February 2006 (Phase I Questionnaire to customers), questions 50, 51

34 Replies to the Article 11 request of 15 March 2006 (Phase II Questionnaire to EO-derivatives competitors), questions: 4, 5

35 [...]\*'s reply to Article 11 letter of 15 March 2006, received on 27 March 2006, question 4

36 Case No COMP/M.2345 – DEUTSCHE BP / ERDÖLCHEMIE, 26 April 2001 and Case No COMP / M.4005 – Ineos/Innovene, 9 December 2005.

37 Form CO, p. 39 and annex 2

38 Replies to the Article 11 request of 15 March 2006 (Phase II Questionnaire to EO producers), question 16

- (48) However, the great majority of customers and at least half of the competitors consider however the geographic market to be regional.<sup>39</sup> Shipping distances appear to range between 0 km to 800 km with the large majority between 0 to 600 km, due to transport costs and the hazardous nature of the product.<sup>40</sup>
- (49) According to the limitations on transport distance, these regional markets for EO would be (i) United Kingdom and Ireland, (ii) Nordic countries (Norway, Sweden and Finland), (iii) Mainland North-West Europe, or “MNWE” (the Netherlands, Denmark, Belgium, Luxemburg, Germany, Austria, Central and Northern France) , (iv) the Mediterranean basin (Italy, Portugal, Southern France, and Spain), and (v) Central and Eastern Europe. The large majority of supplies to consumers in the MNWE is from plants located within this area. Some quantities are supplied to other regions such as the Nordic countries, the Mediterranean basin, United Kingdom and Ireland. In terms of trade flows using 2004 data, deliveries from one area to another are generally rather limited (i.e. below 5% of the total). In the MNWE region 74% of supplies were delivered within the region (with 20% being exported to the Mediterranean basin and 4% to the United Kingdom). In the Mediterranean basin, 96% of supplies were delivered within the region (with 4% being exported to MNWE). In Central Europe 96% of supplies were delivered within the region (with 4% being exported to MNWE). This geographic market segmentation is even clearer if the trade flows into MNWE are looked at. For example, there are no shipments at all from the United Kingdom to mainland Europe and shipments from Central and Eastern Europe are not significant (below 5%).<sup>41</sup>
- (50) In addition, regional price differences tend to confirm this geographic market segmentation. For example, [...] average prices in the United Kingdom are around [5-15%] higher than [...] average prices in the MNWE. This difference rises to [5-15]% for Italy.<sup>42</sup>
- (51) In any event, the exact geographic market definition for EO can be left open as, irrespective of the exact definition, the proposed transaction will not significantly impede effective competition on either possible geographic market.

## **Glycols**

### Relevant product market

- (52) EGs are intermediate chemicals produced by the non-catalytic hydration of EO. There are three types of EGs: mono-ethylene glycol (“MEG”), di-ethylene glycol (“DEG”) and tri-ethylene glycol (“TEG”). MEG accounts for the great majority of the production (about 90%), with the remaining part of production distributed between DEG (about 9%) and TEG (about 1%). The most important applications for MEG are in the production of polyester for textile/industrial fibres, polyester film for packaging/photography, polyester resin used to make plastic (PET) bottles, and anti-

---

39 Replies to the Article 11 request of 3 February 2006 (Phase I Questionnaire to customers), question 32; Replies to the Article 11 request of 2 February 2006 (Phase I Questionnaire to competitors), question 41

40 Replies to the Article 11 request of 2 February 2006 (Phase I Questionnaire to customers), question 32, 33; Replies to the Article 11 request of 2 February 2006 (Phase I Questionnaire to competitors), question 35, 36

41 Replies to the Article 11 request of 15 March 2006 (Phase II Questionnaire to EO producers), question 17

42 [...]\*

freeze. DEG is used in the production of polyols for use in polyurethanes for clothing, automotive and construction applications, while TEG is used as a dehumidifier in oil and gas processing and as automotive antifreeze/coolant.<sup>43</sup>

- (53) Ineos submits that EGs constitute a separate product market, in line with a previous Commission decision.<sup>44</sup> However, in a subsequent decision<sup>45</sup>, the Commission noted that demand-side considerations may, to some extent, make it necessary to distinguish between the different types of EG. In that case the Commission left the definition open.
- (54) In this case, the majority of market participants indicated that EGs should be further segmented into three markets, for MEG, DEG and TEG, because they are used in very different applications and are not substitutable to a large extent. However, from the supply-side point of view, MEG, DEG, TEG are invariably manufactured together and are produced in very similar proportions.
- (55) From the supply side perspective, there is a relationship between the production of purified EO and EGs. A reduction in the production of EGs may enable producers to increase their purified EO production. However, this relationship is based on the fact that both products use the same raw material (unpurified EO) and, in consequence, a reduction in the production of EGs will release unpurified EO which can be used for the production of additional quantities of purified EO (as long as there is enough purification capacity available). EGs and purified EO are produced in different equipment and the processes are different. The equipment used to produce EGs cannot be used to produce purified EO and vice versa. Therefore, this relationship between EGs and purified EO is not the type of supply side substitutability defined in the Commission Notice on the definition of the relevant market for the purposes of Community competition law<sup>46</sup>, and cannot lead the Commission to consider that there is a wider relevant product market comprising both EGs and purified EO.
- (56) For the purposes of this decision, the exact market definition can be left open as the transaction will not significantly impede effective competition in the common market or in a substantial part of it with respect to EGs under any of the alternative product market definitions.

#### Relevant geographical market

- (57) Ineos submits, in line with what has been argued in previous decisions,<sup>47</sup> that the relevant geographic market for EGs is at least Western Europe and even global. This is because EGs are not hazardous products and, in consequence, they are easily transportable. Prices are comparable at a global level, and imports into the EEA, mainly from Middle East and Russia, represent around 13% of the total EEA consumption.
- (58) The vast majority of the respondents to the market investigation have confirmed that the geographic market is at least EEA-wide. However, for the purposes of this transaction, the exact market definition can be left open as the transaction will not

---

43 Form CO, point 6.8, p. 30

44 Case No COMP/M.2345 – DEUTSCHE BP / ERDÖLCHEMIE, 26 April 2001

45 Case No COMP / M.3467 - DOW CHEMICALS/PIC/WHITE SANDS JV, 28 June 2004

46 OJ C 372/9, 9.12.1997, paragraphs 20 to 23.

47 Case No COMP/M.2345 – DEUTSCHE BP / ERDÖLCHEMIE, 26/04/2001, Case No COMP / M.3467 - DOW CHEMICALS/PIC/WHITE SANDS JV, 28 June 2004

significantly impede effective competition in the common market or a substantial part of it under any alternative geographic market definitions.

### **Conclusion**

- (59) The Commission has defined a separate relevant product market for ethylene. The effects of the operation in this product market at the EEA level and in the area supplied by the ARG + pipeline will be examined in recitals (168)-(176).
- (60) The Commission has defined, for the purposes of this decision, a relevant product market for ethylene oxide sold to merchant customers (including both on-site and off-site customers). The relevant geographic markets considered are the EEA and MNWE. The effects of the operation in this product market will be examined in recitals (62)-(163).
- (61) For EGs the Commission will examine the markets for all EGs and for MEG, DEG and TEG separately. The geographic markets considered are the EEA and world-wide.

## **IV. COMPETITIVE ASSESSMENT**

### **HORIZONTAL OVERLAPS**

#### **A. Ethylene Oxide**

##### **Market overview**

- (62) The overall size of the EO market in the EEA , including production for captive use, is around 3,000 ktpa (kilo tonnes per annum) and has a value at market prices of about[...]\*. The merchant market represents around 18% of the total production or about 560 ktpa, with a value of approximately[...]\*, of which [33%]\*is accounted for by the on-site customers and [67%]\* by the off-site customers.<sup>48</sup>
- (63) According to the CEFIC (European Chemical Industry Council) data submitted by Ineos, the total EO production increased by 24% over the period 2000 to 2005 (that is to say, by 4.2% *per annum*). Over the same period, EO third party sales increased by 13.3% (2.2% *per annum*.) and captive consumption, other than for the production of glycols, increased by 31.4% (5.2% *per annum*). Combined EO captive consumption and sales (excluding glycols) grew by 17.4% (2.9% *per annum*) which is slightly above GNP over the same period.<sup>49</sup>
- (64) The market investigation showed that the EO market is still growing, although at a low rate in line with the GNP. This growth is estimated to be between 3 to 4% for

---

48 Based on market data from Replies to the Article 11 request of 2 February 2006 (Phase I Questionnaire to competitors), question 64 and Ineos' data from the Form CO. Average market prices taken from Ineos' prices indicated in Form CO, Annex 5 [...]\*

49 European Chemical Industry Council, quoted by Ineos in Ineos' reply to the article 11 request of 3 March 2006, point 11.1



purified EO and slightly lower (between 2 and 3%) for EO used for glycols production.<sup>50</sup>

- (65) However, according to independent sources, the overall production of EO in Western Europe<sup>51</sup> is expected to decrease by 7.7% over the next five years (2006-2010)<sup>52</sup> due to an expected increase in supply of glycols from the Middle East.

### **Market structure**

- (66) The results of the market investigation have shown important discrepancies with the data submitted by Ineos with respect to the EO merchant market size and, consequently, with respect to the estimated market shares.<sup>53</sup>
- (67) According to the market investigation<sup>54</sup>, the sizes of the overall merchant market, the on-site merchant market and the off-site merchant market (for 2004), are around 560 ktpa, 170 ktpa and 390 ktpa respectively.<sup>55</sup> These figures are significantly lower than Ineos' estimates of around [...] respectively.<sup>56</sup> The Table 2 below shows the market shares for merchant sales in the EEA in 2004 in the light of the information gathered by the Commission.

---

50 Replies to the Article 11 request of 15 March 2006 (Phase II Questionnaire to EO producers), question 54

51 Defined as the EEA + Switzerland, except new Member States. The two plants located at Poland and Slovakia account for only 5% of the current EEA production. The exclusion of these plants does not have a significant impact on the forecast growth rates.

52 PCI Ethylene Oxide and Glycol World Supply and Demand Report 2005/2006, p. 214

53 Based on market data from Replies to the Article 11 request of 2 February 2006 (Phase I Questionnaire to competitors), question 64

54 The Commission checked the data provided by Ineos in the Form CO (Annex 6) and in order to verify these data and the data collected in the course of the first phase market investigation, the Commission included additional questions on EO production and sales in the questionnaires sent to EO producers during the second phase investigation. These questions were drafted to follow Ineos' methodology and confirmed previous Commission's findings. See: replies to the Article 11 letter of 19 April 2006 (Phase II Questionnaire to EO Competitors – Production Table), question 1.

55 Based on market data from the replies to the Article 11 request of 2 February 2006 (Phase I Questionnaire to competitors) question 64

56 Form CO, tables: 7.1.A and 7.2A, p. 78

**Table 2: EO Merchant Market Shares for the EEA (2004)**

Company	Total %	On-site customers %	Off-site customers %
Ineos	[25-35]*%	[15-25]*%	[30-40]*%
BP Dormagen	[20-30]*%	[30-40]*%	[10-20]*%
Combined	[50-60]*%	[55-65]*%	[45-55]*%
BASF	[<10] %	0%	[<10] %
Shell	[15-25]%	[15-25]%	[15-25]%
Clariant	[<10] %	0%	[<10]%
Sasol	[<10] %	0%	[<10] %
IQA	[<10] %	[15-25]%	[<10] %
PKN	[<10] %	0%	[<10] %
Slovnaft	[<10] %	0%	[<10] %
Total	100%	100%	100%

Source: Sales data collected in market investigation based on market data from the replies to the Article 11 request of 2 February 2006 (Phase I Questionnaire to competitors) question 64

- (68) The market shares of the combined entity, according to the Commission's investigation, would be [50-60]\*% of the overall merchant market, [55-65]\*% of on-site sales and [45-55]\*% of off-site customers at EEA level (based on Ineos' estimates, these market shares would be [...] % respectively). The combined entity's closest competitor, Shell, represents [15-25]\* % of the overall merchant market and on-site and off-site supplies. All the remaining competitors have market shares below 10% (many below 5%) for both total and off-site sales.
- (69) If narrower geographic markets are considered, the combined entity's activities would overlap only in MNWE (excluding the United Kingdom and Ireland, Scandinavia, Southern Europe and the new Member States that are likely to constitute separate regional markets). The combined market share of Ineos/BP Dormagen would be [50-60]\*% of the overall merchant market, [70-80]\*% of on-site sales and [40-50]\*% of off-site sales, with significant overlap due to the BP Dormagen Business ([30-40]\*% of the total merchant market, [55-65]\*% of on-site sales and [15-25]\*% of off-site sales). Their closest competitor would be Shell with about half the combined entity's market shares on the various markets, followed by Clariant, Sasol and BASF. Table 3 below shows the market shares for this narrower market<sup>57</sup>.

---

<sup>57</sup> Replies to the Article 11 request of 15 March 2006 (Phase II Questionnaire to EO producers), question: 17 and 18

**Table 3: EO Merchant market shares for MNWE (2004)**

<b>Company</b>	<b>Total %</b>	<b>On-site customers %</b>	<b>Off-site customers %</b>
Ineos	[15-25]**%	[10-20]**%	[20-30]**%
BP Dormagen	[30-40]**%	[55-65]**%	[15-25]**%
Combined	[50-60]**%	[70-80]**%	[40-50]**%
BASF	[<10]%	0%	[<10]%
Shell	[20-30]%	[20-30]%	[20-30]%
Clariant	[<10]%	0%	[<10]%
Sasol	[<10]%	0%	[5-15]%
Total	100%	100%	100%

Source: Sales data collected in market investigation based on market data from the replies to the Article 11 request of 2 February 2006 (Phase I Questionnaire to competitors) question 64

- (70) On the basis of the data in Table 3, the transaction would result in a merger between two of the three largest EO suppliers in the EEA, giving rise to combined market shares above 45% under any reasonable definition of the relevant product and geographic markets for EO.
- (71) However, taking into account that the merchant market represents a fairly small proportion of total production (around 18%), relatively small changes in the overall production may have a significant impact on the merchant market.

### **Assessment of market conditions that might constrain Ineos' behaviour**

#### *Introduction*

- (72) The following sections examine the conditions relating to supply of EO and, in particular, those factors capable of constraining the behaviour of the combined entity on the merchant market for EO.
- (73) For competitors to be able to exert competitive pressure on Ineos, they will have to have sufficient spare EO capacity to supply the merchant market. In this regard, it is the purification capacity that is critical as merchant market sales are only of purified EO.
- (74) Recitals 80-90 examine the current capacity situation both for the primary production of EO and its purification.
- (75) Recitals 91-100 then address the extent to which producers have been able to switch their production from glycols to purified EO. Those recitals include an evaluation of a study of the industry's response to unplanned plant outages, submitted by Ineos.
- (76) Recitals 101-109 then examine the extent to which, in the face of forecast reductions in demand for their EGs, competitors could switch their production from EGs to purified EO within the constraints of their current EO purification capacity.
- (77) Recitals 110-120 then examine the forecast market development in terms of demand, primary EO capacity and purification capacity and calculate the future spare capacities for unpurified and purified EO.

- (78) Recitals 121-141 examine how any spare capacity will be distributed between the combined entity and its competitors. This section also examines the incentives of competitors to supply the merchant market.
- (79) Finally in relation to EO, recitals 142-158 examine the effects of the proposed transaction on the various customers groups.

*EO production capacity– current situation*

*EEA*

- (80) After the transaction, the combined entity will have three production plants with a capacity of [...] ktpa, which represents a [20-30]% share of EO production capacity at EEA-level (Ineos: [...]; BP Dormagen Business [...]). According to Ineos, their competitors' shares of production capacity are [between 7% and 23%].<sup>58</sup>
- (81) The results of market investigation give similar results with the following shares of production capacity: BASF [20-30]%, Dow [10-20]%, Shell [10-20]%, Clariant and Sasol [0-10]%.<sup>59</sup>
- (82) The market investigation has also shown that the parties' share of current EO spare production capacity (in a market which already has a high capacity utilisation rate of around [90-100]% overall, against [85-95]% for the combined entity)<sup>60</sup> is around [...] ktpa out of [...] ktpa or [30-40]% at EEA level<sup>61</sup>. However, most of the spare capacity ([60-70]%) is in the hands of competitors. Table 4 below shows a summary of the EO production capacity and the spare capacity of the combined entity and the other producers for 2004.

---

58 Form CO, table 6.4, p. 35

59 Based on market data from the replies to the Article 11 request of 2 February 2006 (Phase I Questionnaire to competitors) question 64

60 Based on market data from the replies to the Article 11 request of 2 February 2006 (Phase I Questionnaire to competitors) question 64

61 Ineos estimates of the current capacity and production level for the plants in Antwerp and Lavera, submitted in the reply to the Statement of Objections

**Table 4: EEA capacity and production (2004)**

Company	Plant Location	Production Capacity (ktpa)	%	Total Production	%	Free Capacity	Capacity Utilisation Rate	% of the total spare capacity
Ineos	Antwerp	[...]*	[...]* %	[...]*	[...]* %	[...]*	[...]*%	[...]*%
	Lavera (Innovene)	[...]*	[...]* %	[...]*	[...]* %	[...]*	[...]*%	[...]*%
Dormagen	Dormagen	[...]*	[...]* %	[...]*	[...]* %	[...]*	[...]*%	[...]*%
Combined		[...]*	[20-30]* %	[...]*	[20-30]* %	[...]*	[85-95]*%	[30-40]* %
Other producers		[...]*	[70-80]* %	[...]*	[70-80]* %	[...]*	[90-100]*%	[60-70]*%
<b>Total</b>		[...]*	100%	[...]*	100%	[...]*	[90-100]*%	100%

Source: Based on market data from the replies to the Article 11 request of 2 February 2006 (Phase I Questionnaire to competitors) question 64 and the replies to article 11 decisions of 23 June 2006, question 2 ;for the parties: reply to the article 11 request of 3 February 2006, point 6 and reply to the Statement of Objections of 14 June 2006, point 2.7.

\*\_The free capacity figure does not equal in this case production capacity minus real production since some producers indicated a total production level above the production capacity. This situation may happen when the nameplate capacity is reported instead of the maximum capacity. Therefore, negative values for free capacity have not been taken into account but assumed to be zero.

- (83) As stated above (recital (71), the merchant market is comparatively small (560 ktpa in 2004) compared with overall EO production (3025 ktpa in 2004). Competitors have [...] ktpa of spare EO capacity representing about [25-35]\*% of the merchant market.

*MNWE*

- (84) The situation is similar at MNWE level. In terms of production capacity for the overall EO market, the combined entity will have, after the transaction, two production plants with a capacity of [...] ktpa, which represents about [...] of total capacity at MNWE-level (Ineos Antwerp: [...] and BP Dormagen Business [...]).
- (85) Table 5 below shows the market structure in terms of production and production capacities at MNWE-level, which indicates that the combined entity will have [25-35]\*% of the current spare capacity and its competitors the remaining [65-75]\*%.

**Table 5: MNWE capacity and production (2004)**

Company	Plant Location	Production Capacity (ktpa)	%	Total Production	%	Free Capacity	Capacity Utilisation Rate	% of the total spare capacity
Ineos	Antwerp	[...]*	[10-20]*%	[...]*	[10-20]*%	[...]*	[85-95]*%	[...]*%
Dormagen	Dormagen	[...]*	[5-15]*%	[...]*	[5-15]*%	[...]*	[85-95]*%	[...]*%
Combined		[...]*	[25-35]*%	[...]*	[25-35]*%	[...]*	[85-95]*%	[25-35]*%
Other producers		[...]*	[65-75]*%	[...]*	[65-75]*%	[...]*	[85-95]*%	[65-75]*%
<b>Total</b>		2.361	100%	2.201	100%	188	[90-100]*%	100%

Source: Data collected from the market investigation: third parties, data from the replies to the Article 11 request of 2 February 2006 (Phase I Questionnaire to competitors), question 64 and the replies to article 11 decisions of 23 June 2006, question 2; for the parties: reply to the article 11 request of 3 February 2006, point 6 and reply to the Statement of Objections of 14 June 2006, point 2.7.

\* The free capacity figure does not equal in this case production capacity minus real production since some producers indicated a total production level above the production capacity. This situation may happen when the nameplate capacity is reported instead of the maximum capacity. Therefore, negative values for free capacity have not been taken into account but assumed to be zero.

- (86) Again at MNWE level the merchant market is relatively small (378 ktpa in 2004) compared with the overall EO production (2201 ktpa in 2004). Therefore, the current spare capacity held by the competitors will have an important impact on the merchant market ([...]\*ktpa representing [...]\*% of the total sales in MNWE).
- (87) However, as explained in the product market definition, EO to be used either for the production of EODs or to be sold in the merchant market has to go through a process of purification which can limit the total output of EO. In other words, the total EO production capacity of a given producer can be constrained either at the level of the production of the main stream of crude EO in the front-end of the process (on which the figures given above in recital (82) are based on) or at the level of the “purification” step in the back-end of the process.
- (88) The Commission has gathered information from the European EO producers with respect to their maximum purification capacity both at EEA and MNWE level. The results of the investigation are shown in Table 6 below.

**Table 6: EO consumption/purification capacity in 2005**

	<b>EEA</b>	<b>MNWE</b>
EO-derivatives + merchant market	1.734*	1.267
Maximum EO purification capacity	2.139	1.520
Spare EO purification capacity	405	254

Source: Commission's estimates. The split between merchant and EO-derivative markets has been done on the basis of the merchant market size calculated from the data obtained in the market investigation based on replies to Article 11 request of 15 March 2006 (Phase II Questionnaire to EO producers), question 51. Maximum purification capacity based on replies to Article 11 request of 15 March 2006 (Phase II Questionnaire to EO producers), question 52. The same growth rates have been assumed for both the merchant and the EO-derivative markets on the basis of PCI Ethylene and Glycol World Supply and Demand Report 2005/6, p. 214. For Ineos: Ineos' reply to the Article 11 request of 17 March 2006, point 2.2, 3.5, 3.7.

(\*) Excludes around 57 ktpa of LG-EO used by Ineos for the production of EODs, given that only the capacity able to produce HG-EO to be used in the productions of EODs or in the merchant market is being assessed.

- (89) In the EEA, the spare purification capacity (405 ktpa) currently represents around 78% of the total merchant market (517ktpa in 2005). The combined entity has [...]ktpa of the spare purification capacity (equivalent to [...]% of the total merchant market), while the remaining EO producers' spare purification capacity represents [...]% of the total merchant market. Although some of these producers are currently constrained in the up-stream EO capacity, this situation is likely to change given that general EO spare capacity will increase in the future (see Table 8 below).
- (90) In MNWE the spare purification capacity (254ktpa) currently represents about 72% of the merchant sales. This spare purification capacity is split as follows: [30-40]% is owned by the combined entity and [60-70]% is owned by its competitors.

*Ability of EO producers to increase EO sales as a response to a reduction in EO sales by the combined entity*

- (91) Ineos submits that MEG is used as a swing product allowing EO producers to switch to and from the supply of EO or other EO derivatives depending on market conditions.<sup>62</sup> This argument is important in assessing whether the competitors would have the ability to respond to anticompetitive behaviour by the combined entity (such as an increase in prices and/or a reduction in sales). The results of an econometric study<sup>63</sup> submitted by Ineos support this argument. The study<sup>64</sup> examines the effect of capacity outages on EO production and EO usage (MEG production, captive use of EO and EO sales) at an aggregate level. The results of the study are indicative of how the total EO production and the total amount of EO used for MEG production, captive

62 Ineos' submission of 9 May 2006, para 11, p. 5

63 Ineos' submission of 9 May 2006, annex 1

64 The analysis is based on CEFIC data, as well as on weekly ISIC and monthly PCI reports from 2000 to 2005 (72 observations). Specifically, CEFIC data is used for aggregate (raw) EO production, captive use of (purified) EO, (purified) EO sales to third parties, MEG production, MEG captive use and MEG sales. Capacity and outage data is constructed from ISIC and PCI reports.

production of derivatives and sales to third parties change as a result of capacity outages (of any of the firms in the sample).

- (92) The results indicate that capacity outages have a negative impact on aggregate EO production, EO used for MEG production and the captive use of EO, while not affecting EO merchant sales.<sup>65</sup> However, the results from an aggregate-level analysis refer to the total (industry) response of EO production and EO usage to outages and cannot be used as evidence that competitors are *able* to increase EO production (sales) in response to a decrease in Ineos' and BP Dormagen Business' EO production (sales). The absence of negative effects on sales to the merchant market may be due to the fact that the firm affected by the outage is limiting its own captive production of both glycols and EO derivatives, while trying to maintain its contractual obligations to third parties (EO sales to the merchant market).
- (93) In its Reply to the Statement of Objections<sup>66</sup>, Ineos presented an additional econometric study, which focuses on the effect on competitors' sales of capacity outages at Ineos or BP's plants<sup>67</sup>.
- (94) The new regression analysis also shows that the EO production of the competitors taken together is negatively affected by outages in their own plants. This reduction appears to affect mainly EO used for MEG and EO used in-house, while EO sales to third parties appear to remain unaffected by such outages. These results are consistent with the findings related in the first study. Further, competitors' EO production is affected positively by outages at Ineos or BP. Such outages also negatively affect the EO used for MEG by competitors and positively affect competitors' EO captive use, EO sales to third parties and the overall amount purified EO used by competitors. Finally, the study finds that outages at Ineos and BP led these firms to reduce both their total use of purified EO and the EO sold to third parties.
- (95) The study concludes that past evidence from the competitors' responses to outages at the Ineos and BP Dormagen Business' plants is indicative of the *ability* of the competitors to increase EO production (sales to third parties) as a response to reductions in EO production (sales) by Ineos and BP Dormagen Business. This conclusion is based on the finding that, when outages at their plants occurred in the past, Ineos and BP Dormagen Business decreased their EO sales, while their competitors increased their EO sales. It is also supported by the aggregate data analysis, where outages are found not to affect total EO sales, which suggests that reductions in the EO sales by the affected plants are (to some extent) offset by increased EO sales by competitors.
- (96) Although the data on which the studies rely is relatively limited and it might be that not all findings are statistically significant, the two empirical studies taken together establish that competitors historically have been able to increase their EO sales to

---

65 In addition, it is shown that the effects of planned and unplanned outages are not statistically different.

66 Ineos' Reply to the SO of 14 June 2006, Appendix 4.

67 The econometric analysis is based on the same data sources used in the previous one, CEFIC data and ISIC, PCI reports. The figures on EO production and usage reported by Ineos and BP in CEFIC are subtracted from the aggregate data to obtain the respective figures for the combined entity' competitors. Since the latter data is available for the period January 2003 – August 2005, this analysis is based on 32 observations and, therefore, as acknowledged in the study, some of the estimates should be interpreted with caution regarding magnitude and significance.



third parties in response to reductions in EO production by Ineos and BP Dormagen Business.

- (97) However, the findings regarding past ability to react to short term outages cannot be immediately extrapolated to future ability to react to more permanent anticompetitive reductions in merchant sales by the combined entity. Nevertheless, the studies contribute - together with the other findings of the Commission - to the conclusion that the combined entity is unlikely to reduce its sales to the merchant market since its competitors would have both the ability and incentive to counteract such a strategy.

*Ability of EO producers to increase purification production at the expense of their glycols production*

- (98) Ineos' econometric study also shows that the other EO producers have the ability to increase their production of purified EO by reducing glycols production and/or increasing production of raw EO. However, the ability to convert EO used for glycols into purified EO used for EODs depends and will continue to depend upon the available purification capacity. This view was confirmed by other EO producers.<sup>68</sup>
- (99) Accordingly, in order to assess the amplitude of the potential swing from glycols to purified EO in case of the maximum downturn in glycols production, the Commission has compared the current spare purification capacity, with the difference between the current consumption of EO for production of glycols and the minimum consumption of EO necessary to sustain an efficient running of the glycols' plants. The potential swing from glycols to purified EO represents [...] ktpa, around 2/3 of which are attributable to competitors ([...]\*ktpa). This is a significant amount of purified EO, representing around [35-45]\*% of the current merchant market, that in the case of a unilateral price increase, can be released to the merchant market.

**Table 7: Potential swing capacity from glycols, EEA (2005)**

Company	EO used for glycols	EGs capacities	EGs utilization rate	Min. EGs capacity	Potential swing without constraint	Spare purification capacity	Potential swing with constraint
<b>Total</b>	1210	1560	78%	669	541	393	311
<b>Combined entity</b>	[...]*	[...]*	[...]*	[...]*	[...]*	[...]*	[...]*
<b>Competitors</b>	[...]*	[...]*	[70-80]*%	[...]*	[...]*	[...]*	[...]*

Source: Commission' estimates based on the replies to article 11 decisions of 23 June 2006, question 17

- (100) The results (Table 7) show how much purified EO could potentially be released to counteract a unilateral price increase. Such release would be subject to the limitations of purification capacities. However, this is a theoretical scenario in which all

68 The market investigation shows that very limited amounts of glycols are produced from H-G EO, which can be readily diverted to the merchant market or for other captive uses not subject to the purification capacity constraint. Also, although some of EO producers use L-G EO for their production of glycols, these partially purified EO can not be readily used for the production of other derivatives and needs to be further purified and as a consequence its availability is subject to the purification capacity limitations. Based on: replies to article 11 decisions of 23 June 2006, question 17 and parties' reply to the Commission's questions of 28 June 2006, p. 13, and replies to the Article 11 letter of 19/04/06 (Phase II Questionnaire to EO Competitors – Production Table), question 2.

European EO producers decide to run their glycols units at the minimum rate possible. European EO producers have the ability to divert part of their EO now used for glycols to the production of EODs and to sales to the third parties. EO producers currently have few incentives to switch production from glycols. However the predicted downturn in European glycols production (as explained below: recitals (100)-(109)) is likely to change their incentives in the future.

*Impact of expansion of EG production capacity in the Middle-East and Asia*

- (101) According to Ineos, the current situation of the EO market in Europe will change in the near future, given the increased production of EO in the Middle and Far East. These new plants will produce only EGs and will not produce other EODs.
- (102) At the global level the supply of EGs over recent years has been tight, due in particular to the demand in China and the Far East for MEG to make polyester textiles. This has, in turn, stimulated investments in substantial new EG capacities in Asia and the Middle East scheduled to come on stream over the next few years. As a result of these new plants, PCI<sup>69</sup> estimates that global MEG capacity will increase from 18,977 ktpa in 2005 to 23,782 ktpa in 2008 and 28,827 ktpa in 2010. This represents an increase in global MEG capacity of 25% and 51% respectively. Almost all of the significant new MEG plants are being built in the Middle East, South East Asia and China. In contrast, no new plants are being built in either North America or Europe.<sup>70</sup>
- (103) These new plants built in the Middle East and Asia are expected to operate at substantially lower cost levels than the American and European EO/MEG producers due to very favourable gas prices. This is particularly so for Middle Eastern producers who have access to very low cost feedstock, giving them a substantial cost advantage when compared to American and European producers.<sup>71</sup>
- (104) Although the principal impact of these capacity increases will be felt in Asia, which currently accounts for almost two thirds of global MEG demand, PCI forecasts a significant impact on trade flows at world-wide level.<sup>72</sup>
- (105) With the capacity expansions in the Middle East, PCI forecasts that by 2010 MEG production in the Middle East will increase to 9,739 ktpa, of which 90% will be exported. Asia will remain the primary market for the Middle East's MEG with China continuing to grow faster than the rest of the world.<sup>73</sup> Growth in MEG demand in China is expected to account for a large proportion of increased MEG consumption and, in spite of the construction of new plants in Asia, PCI forecasts that net imports will increase to

---

69 PCI Ethylene and Glycol World Supply and Demand Report 2005/6 submitted by Ineos on 16 May 2006, p. 20.

70 Parties' reply to the article 11 request of 25 April 2006, point 2.2.

71 Parties' reply to the article 11 request of 25 April 2006, point 2.10 and some of the replies to the article 11 letter of 19 April 2006 (Phase II Questionnaire to EO Competitors – Production Table), question 2

72 Parties' reply to the article 11 request of 28 April 2006, point 2.11, citing the PCI Ethylene and Glycol World Supply and Demand Report 2005/6 submitted by Ineos on 16 May 2006.

73 PCI Ethylene and Glycol World Supply and Demand Report 2005/6 submitted by Ineos on 16 May 2006, p. 95.

7 031 ktpa by 2010 accounting for 50% of Asian consumption. Asia will remain the biggest net importer of MEG.<sup>74</sup>

- (106) Western Europe<sup>75</sup> is already a net importer of MEG and in 2005, according to PCI's data it imported some 240 ktpa of MEG, which constitutes some 17% of the total consumption<sup>76</sup>. Western Europe is a particularly attractive market for exports from the Middle East as transport costs are lower than for sales to Asia, China and the United States. Faced with competition from cheaper supplies particularly from the Middle East, PCI forecast that Western European production of MEG will fall by 34%, from 1,534 ktpa to 1,003 ktpa, between 2005 and 2010. Over the same period, imports are expected to increase in order to meet the increasing MEG demand in Western Europe (from 1,607 ktpa to 1,802 ktpa).<sup>77</sup> According to Ineos, and based on external reports, production of non-glycols derivatives in Europe will also increase by 200 ktpa in the next five years but not enough as to offset the reduction in glycol production. This will lead to lower utilization rates for EO capacity (from 93% in 2005 to 85% in 2010).<sup>78</sup>
- (107) Ineos submits that the impact of the new capacities for glycols production built outside Europe will increase the availability of EO in the EEA for third party sales and the in-house production of other EO derivatives.<sup>79</sup> They further submit that any attempt by the combined entity to restrict EO supplies to the merchant market would therefore be entirely undermined by the ability and incentive of the remaining producers to divert EO production from EGs to the merchant market thereby reducing their exposure to the MEG market where profits and margins will be under pressure.
- (108) The market investigation confirmed that most of the other European EO and glycol producers and some major customers anticipate that the new EO production capacities being built in the Middle East and Asia for the production of glycols will result in an increase of exports of EGs to the EEA. These respondents agreed that this increase in exports is likely to result in a decrease in EGs production in the EEA and is likely to lead to an increase in spare EO production capacity in the EEA and MNWE.<sup>80</sup>
- (109) The Commission considers that the evidence gathered in its investigation and its evaluation of the published sources supports Ineos' contention that the new capacity for glycols production coming on stream in the Middle East and Asia will reduce demand in Europe for EGs produced in Europe and thus release EO for other uses. The Commission believes that the impact of these new capacities on the European market for EO will be both timely and likely because 1.3 million tonnes of new EO/glycols capacity has already been commissioned or will be commissioned this

---

74 PCI Ethylene and Glycol World Supply and Demand Report 2005/6 submitted by Ineos on 16 May 2006, p. 101.

75 The PCI Report provides data for Western Europe, defined as the old 15 Member States plus Norway plus Switzerland.

76 Parties' reply to the article 11 request of 25 April 2006, point 2.12.

77 PCI Ethylene and Glycol World Supply and Demand Report 2005/6 submitted by Ineos on 16 May 2006, p.101.

78 Parties' submission of 19 May 2006, point 2; based on PCI Ethylene and Glycol World Supply and Demand Report 2005/6 submitted by Ineos on 16 May 2006, p. 214 and this trend was confirmed by some competitors in the replies to the Article 11 request of 19 April 2006 (Phase II Questionnaire to EO Competitors – Production Table), question 2c.

79 Parties' reply to the article 11 request of 25 April 2006, point 2.13.

80 Replies to the Article 11 request of 19 April 2006 (Phase II Questionnaire to EO Competitors – Production Table), question 2 (5 out of 7 producers), Minutes of conference call with Buyer (28 June 2006), Taminco (29 June 2006), Dow (3 July 2006).

year in the Middle East<sup>81</sup>. It will be sufficient, given the high capacities to be installed compared to the overall EEA production of EO (approximately 3 million tonnes a year).

*Expected EO market evolution: EO capacities, demand and purification capacities*

- (110) Taking into account the expected increased imports of glycols from the Middle East, the impact of the proposed operation must be assessed in a prospective manner, that is to say, in relation to the forecast and reasonably expected developments in the future.
- (111) With respect to the possibilities of new entries in the EO/EGs markets, Ineos has recognised that there has been no entry in the EEA in the past five years and that new entries are not likely. This view has been confirmed by the market investigation.<sup>82</sup>
- (112) The Commission found during the market investigation that some players are planning to expand their EO production capacity. Ineos and the BP Dormagen Business have expanded their capacities by small scale projects, for example to de-bottleneck, or by changing the catalyst used in the EO production process. According to the information gathered by the Commission, the overall capacity expansion will amount to [0-20]\* ktpa in 2006, [40-60]\* ktpa in 2007 and [20-40]\* ktpa in 2008, made up of a number of small projects<sup>83</sup>. At MNWE level, the anticipated EO capacity expansion will amount to [40-60]\* ktpa in 2007 and [10-30]\* in 2008. These expansions are linked to the EO initial production process (the front-end) and some respondents have also reported capacity expansion related to the EO purification process (the back-end).<sup>84</sup>
- (113) The EO merchant market must be assessed taking into account that the real constraint for EO merchant sales can be either the EO production capacity level (the front-end of the process) or the purification capacity (the back-end). It will be necessary to make a prospective analysis comparing the expected demand (for EO and EODs) with the expected production capacity. This prospective analysis also has to take into account in particular the commercial strategies with respect to the merchant market of the EO producers and how these strategies may change in the light of the new situation in Europe.
- (114) Based on the Commission's investigation, and taking into account the growth estimates<sup>85</sup> and planned expansion of EO production capacities<sup>86</sup>, it is estimated that the balance production/demand for the EO market in the EEA will be set out in Table 8 for the period 2005 -2010<sup>87</sup>:

---

81 Ineos' reply to Article 11 request of 25 April 2006, page 4, quoting PCI and Tecnon OrbiChem reports.

82 Replies to the Article 11 request of 2 February 2006 (Phase I Questionnaire to competitors), questions: 52 and 67

83 Replies to the Article 11 request of 15 March 2006 (Phase II Questionnaire to EO producers), question 56 and 55

84 Third parties' replies received on 16 May 2006 and 17 May 2006 via e-mail

85 PCI Ethylene and Glycol World Supply and Demand Report 2005/6, p. 214

86 These updates include Ineos' new estimate of their own EO production capacity at Antwerp submitted in Ineos' reply to the Statement of Objections of 14 June 2006 and the update of some producers' capacity submitted in the replies to article 11 decisions of 23 June 2006, question 2, in order to better reflect their real production capacity.

87 Given the absence of EO imports into the EEA, consumption equals production.

**Table 8: EEA consumption/capacity of EO**

	<b>2005</b>	<b>2008</b>	<b>2010</b>	<b>% growth period 2005-2008</b>	<b>% growth period 2008-2010</b>
<b>Total for EG</b>	1.238	1.019	808	-18%	-21%
<b>Total for EO-derivatives + merchant market</b>	1.791	1.973	2.047	10%	3.75%
<b>Total demand</b>	3.029	2.992	2.854	-1.2%	-4.6%
<b>Production capacity*</b>	3.267	3.417	3.417	4.5%	0%
<b>Theoretical spare capacity</b>	238	425	563		

(\*) Including planned expansions: data from the replies to Article 11 request of 15 March 2006 to EO producers question 56.

Source: Commission's estimates based on Replies to Article 11 request of 15 March 2006 (Phase II Questionnaire to EO producers), question 51 and PCI Ethylene and Glycol World Supply and Demand Report 2005/6, p. 214 and Ineos' reply to the article 11 request of 3 February 2006, point 6, Ineos' reply to the Statement of Objections of 14 June 2006 and Ineos' reply to the Article 11 request of 17 March 2006, point 2.2

(115) In the light of the above, it is clear that the total spare capacity for the production of EO in the EEA is expected to grow in the coming years and utilization rates will be lower.

(116) This situation is similar if the geographic market is considered to be MNWE<sup>88</sup> as shown in Table 9 below :

---

88 The data included in MNWE exclude the Ineos' plant at Lavera and the growth rates are based on the expected demand in the MNWE countries only (which are very close to the growth rates estimated for the entire Western European area at paragraph (113)). In addition, the calculation of the spare capacity above is based not on the consumption in MNWE but on the production of the plants located at MNWE, the objective being to estimate the spare production capacity which will be available in a certain geographic area (MNWE) to serve the customers located in that area. The only sensible way of estimating this spare production capacity is by comparing the demand in terms of production on these plants (independently of where the production is sold) with the production capacity of these plants.

**Table 9: MNWE - production/capacity of EO**

	<b>2005</b>	<b>2008</b>	<b>2010</b>	<b>% growth period 2005-2008*</b>	<b>% growth period 2008-2010*</b>
<b>Total for EG</b>	930	756	583	-19%	-23%
<b>Total for EO-derivatives + merchant market</b>	1.304	1.431	1.481	10%	3.5%
<b>Total demand</b>	2.233	2.187	2.064	-2%	-5.5%
<b>Production capacity*</b>	2.361	2.426	2.426	3%	0%
<b>Theoretical spare capacity</b>	128	239	362		

\* These growth rates are the weighted average of the growth rates in all the countries included in MNWE. The Commission is aware that the exact growth rates should comprise not only the MNWE countries but also the rest of the countries supplied by the plants concerned, but it considers that these growth rates are a sufficient approximation for the purposes of the analysis. Based on and PCI Ethylene and Glycol World Supply and Demand Report 2005/6.

Source: Commission's estimates based on Replies to Article 11 request of 15 March 2006 (Phase II Questionnaire to EO producers), question 51 and the replies to Article 11 request of 15 March 2006 to EO producers question 56 and Ineos' reply to the article 11 request of 3 February 2006, point 6, Ineos' reply to the Statement of Objections of 14 June 2006, point 2.7 and Ineos' reply to the Article 11 request of 17 March 2006, point 2.2

(117) However, a further constraint for the production of EO to be used for EO-derivatives or to be sold to the merchant market is the purification capacity. The Commission has gathered information from the European EO producers with respect to their maximum purification capacity. The results of the investigation compared with the expected evolution of the EO-derivative markets and the EO merchant market in the EEA are shown in Table 10 below.

**Table 10: EO consumption/purification capacity in the EEA**

	<b>2005</b>	<b>2008</b>	<b>2010</b>
EO-derivatives + merchant market	1.734*	1.910	1.982
EO-derivatives	1.217	1.340	1.391
Merchant	517	569	591
Maximum EO purification capacity	2.139	2.139	2.196
Spare EO purification capacity	405	286	270

Source: Commission's estimates. The split between merchant and EO-derivative markets has been done on the basis of the merchant market size calculated from the data obtained in the market investigation based on replies to Article 11 request of 15 March 2006 (Phase II Questionnaire to EO producers), question 51. Maximum purification capacity based on replies to Article 11 request of 15 March 2006 (Phase II Questionnaire to EO producers), question 52. For Ineos: Ineos' reply to the Article 11 request of 17 March 2006, point 2.2, 3.5, 3.7

The same growth rates have been assumed for both the merchant and the EO-derivative markets on the basis of PCI Ethylene and Glycol World Supply and Demand Report 2005/6, p. 214.

(\*) Excludes around [...] ktpa of LG-EO used by Ineos for the production of EODs, given that only the capacity able to produce HG-EO to be used in the productions of EODs or in the merchant market is being assessed.

(118) In the light of the above, and unlike the overall spare EO production capacity, the spare purification capacity that can be used for the production of HG-EO to supply the merchant and the EO derivatives markets is expected to decrease in the near future. However, as the merchant market is relatively small and is not expected to increase substantially in the near future, the remaining spare purification capacity can still act as a constraint on unilateral increases in prices by the combined entity.

(119) At the MNWE level, the situation mirrors that in the EEA as a whole as shown in Table 11.

**Table 11: EO consumption/purification capacity in Mainland North Western Europe**

	<b>2005</b>	<b>2008</b>	<b>2010</b>
<b>EO-derivatives + merchant market</b>	1.267	1.390	1.439
<b>EO-derivatives</b>	918	1.008	1.043
<b>Merchant</b>	348	382	396
<b>Maximum EO purification capacity</b>	1.520	1.520	1.563
<b>Spare EO purification capacity</b>	254	173	124

Source: Commission's estimates based on replies to Article 11 request of 15 March 2006 (Phase II Questionnaire to EO producers), question 51, and question 52. Ineos data based on reply to the article 11 request of 17 March 2006, point 2.2 and point 3.5. The same growth rates have been assumed for both the merchant and the EO-derivative markets on the basis of PCI Ethylene and Glycol World Supply and Demand Report 2005/6, p. 214. For Ineos: Ineos' reply to the Article 11 request of 17 March 2006, point 2.2, 3.5, 3.7

(120) In the light of the above, it appears that, despite the relatively high share of the spare purification capacity held by the combined entity both at EEA and at MNWE level, the spare purification capacities held by other producers will represent an important part of the merchant market for the foreseeable future and therefore constitute credible alternatives for the customers.

Competitors' abilities and incentives to serve the merchant market

- (121) Given that many producers are vertically integrated downstream in the production of EODs, they may have different incentives and strategies with respect to customers in the EO merchant market who are at the same time competitors in the EODs markets.
- (122) Therefore the Commission assessed the impact that these strategies may have on the available spare purification capacity. The market investigation revealed that, for the majority of these producers, the availability of EO for the third parties will depend on their purification capacity and on their internal EO consumption for production of EO derivatives.<sup>89</sup>
- (123) The Commission asked each EO producer whether it would be willing to use its spare purification capacity to produce EO for sale to the merchant market. The results of the investigation and evidence gathered after the Statement of Objections<sup>90</sup> show that, although there are some EO producers who (for different reasons) ruled out the possibility of selling or expanding their EO sales into the merchant market<sup>91</sup>, the number of credible alternatives, as shown below (recitals 125,126), appears to be sufficient to ensure the existence of alternative supplies for the customers.
- (124) In addition, as Ineos rightly pointed out in the reply to the Statement of Objections<sup>92</sup>, should the vertically integrated EO producers be constrained in downstream EODs capacities, not all the purified EO will be processed into EODs. Consequently, more purified EO would be directed to the merchant market.
- (125) Accordingly, the Commission has calculated the available spare purification capacity taking into account (i) the expected rate of growth of EO demand, (ii) the current production levels and spare purification capacity of the producers considered by the Commission as credible competitive constraints in the EO merchant market, and (iii) the restrictions at the production level for both the main EO stream (front-end) and the production of EODs. The results are given in the Table 12 below.

---

89 Replies to Article 11 request of 15 March 2006 (Phase II Questionnaire to EO producers), question 62

90 This new evidence overturned the Commission's conclusion at the time of the Statement of Objections, that some EO producers could not be regarded as credible alternative suppliers in the EO merchant market.

91 Replies of Article 11 letter of 19 April 06 (Phase II Questionnaire to EO Competitors – Production Table), questions: 3, 4, 5

92 Reply of 14 June 2006.



**Table 12 Purification capacity available to the merchant market EEA**

Producers	Spare purification capacity		
	2005	2008	2010
<b>Ineos*</b>	[...]*	[...]*	[...]*
<b>BP Dormagen</b>	[...]*	[...]*	[...]*
<b>Combined</b>	[50-70]*	[25-40]*	[85-110]*
<b>Rest of producers likely to sell to merchant market</b>	160	213	172

\* Includes Lavera

Source: Commission's estimates. Maximum purification capacity based on replies to Article 11 request of 15 March 2006 (Phase II Questionnaire to EO producers), question 52. Producers that are likely to serve the merchant market selected on the basis of the replies of Article 11 letter of 19 April 2006 (Phase II Questionnaire to EO Competitors – Production Table), questions: 3, 4, 5 and further evidence gathered from the market participants. The same growth rates have been assumed for both the merchant and the EO-derivative markets on the basis of PCI Ethylene and Glycol World Supply and Demand Report 2005/6, p. 214.

(126) For the EEA market, potentially available spare purification capacity of third parties (160 ktpa) currently represents around [25-35]\*% of the total merchant market and this proportion is likely to be maintained in 2010 ([25-35]\*%).

(127) At the level of MNWE, potentially available spare purification capacity of third parties (90 ktpa) currently constitutes around [20-30]\*% of the total merchant market, and this proportion will be [10-20]\*% in 2010. See table 13 below

**Table 13 Purification capacity available to the merchant market MNWE**

Producers	Spare purification capacity**		
	2005	2008	2010
<b>Ineos*</b>	[...]*	[...]*	[...]*
<b>BP Dormagen</b>	[...]*	[...]*	[...]*
<b>Combined</b>	[35-60]*	[35-50]*	[45-60]*
<b>Rest of producers likely to sell to merchant market</b>	90	99	53

\* Includes Lavera

\*\* Constrained by the maximum EODs capacity if applicable.

Source: Commission's estimates. Maximum purification capacity based on replies to Article 11 request of 15 March 2006 (Phase II Questionnaire to EO producers), question 52. Producers that are likely to serve the merchant market selected on the basis of the replies of Article 11 letter of 19 April 2006 (Phase II Questionnaire to EO Competitors – Production Table), questions: 3, 4, 5 and further evidence gathered from the market participants. The same growth rates have been assumed for both the merchant and the EO-derivative markets on the basis of PCI Ethylene and Glycol World Supply and Demand Report 2005/6, p. 214.

(128) Additionally, in order to assess the impact of the anticipated increase in imports of glycols from the Middle East on the European EO merchant market, future economic

incentives of EO producers to supply the merchant market have to be taken into account.

- (129) According to the PCI Report, by 2010 the European EO capacity utilization rate is predicted to decrease to 85% (from the current 95%) due to a decline in European production of EO for glycols. As EO plants operate more efficiently at or close to full capacity utilization, EO producers will have incentives to continue to keep the capacity utilization high.<sup>93</sup>
- (130) In order to compensate the predicted downturn in EO consumption for glycols and in order to keep the utilization rates for EO production at the highest possible levels, EO producers will need to find other outlets for their supply of EO. As all other EO derivatives (apart from glycols) and the merchant market require purified EO, European EO producers will have incentives to increase their current purification capacities.
- (131) Ineos argued in its reply to the Statement of Objections that although, according to the Commission's findings, EO producers do not plan substantial expansions in their purification capacities, the new economic situation might convince them to do so. Competitors might not be interested in increasing their purification capacities as there is currently surplus purification capacity. Additionally, in recent years, because of high demand for glycols, the focus of EO producers has been in increasing glycol production, which increased the spare purification capacity of their plants.<sup>94</sup> However, with the expected over-supply of glycols from the Middle East, EO producers will have an incentive to make investments in their purification capacities if doing so would enable them to maintain higher utilisation rates for their equipment, provided the additional expansion costs do not exceed the benefits deriving from increased sales and utilisation rates.
- (132) Ineos submits<sup>95</sup> that in contrast to front-end expansions in the main EO reactor and recovery stages, expansion in purification sections are less expensive and often do not need to be accompanied by other investments across the plant. This is consistent with the latest Commission's findings from the market investigation conducted after receiving the reply to the Statement of Objections.<sup>96</sup>
- (133) Ineos provided detailed data relating to its past expansions (5 examples relating to 3 plants) of purification capacities in order to show that these expansions are technically and economically feasible in the short term.<sup>97</sup> These figures indicate that purification capacity could be increased without significant expenditure and in a reasonably limited time. The average cost of all expansions was around [40-50]\* euro/tonne (ranging from [...] euro/tonne for [...] to [...] euro/tonne for [...]\*). Ineos submits that lead times for all these expansions were[relatively short]\*.
- (134) The Commission asked third parties to provide details of the cost of past expansions of purification capacities and, although based on a limited number of examples of past

---

93 Reply to the SO, p. 26-27

94 Reply to the Commission's questions of 28 June 2006, p. 4

95 Reply to the Commission's questions of 28 June 2006, p. 2

96 Replies to article 11 decisions of 23 June 2006, question 7, 3. This conclusion is valid even considering that the costs of different kind of expansions refer to different technology processes and the undertaken changes are different.

97 Reply to the SO, p. 29

increases of purification capacities by other EO producers, Ineos' view that increasing purification capacities is cost efficient was confirmed.<sup>98</sup>

- (135) Assuming that competitors will be able to increase their current purification capacities in order to absorb the expected decrease in production of glycols, the extent to which increased production of purified EO would be utilized in the merchant market needs to be assessed. This would depend upon EO producers' captive use of EO for EODs, their ability to increase their EODs capacities and their incentives to use EO captively or sell it to the merchant market.
- (136) Switching of production between the EO merchant market and the various downstream derivatives markets is possible, although subject to downstream capacities constraints. The producers' decisions on volumes of EO production to be used captively to manufacture downstream derivatives, or switched to the merchant market depend on returns per tonne EO of each derivative. According to the data collected from the competitors and presented below in Table 14, EO derivatives markets appear to be more profitable than sales of purified EO.

**Table 14 Average margins of vertically integrated producers**

	<b>Average margins of the other EO producers %</b>
<b>EO</b>	14
<b>PAGs*</b>	31
<b>glycol ethers</b>	19
<b>ethanolamines</b>	30
<b>GEs</b>	19
<b>Polyols*</b>	19
<b>Ethoxylates*</b>	21

Source: Commission estimates based on Replies to Article 11 request of 15 March 2006 (Phase II Questionnaire to EO producers), question 63.

\* weighted average

- (137) Given the higher margins in the EODs market, it appears that firms would prefer to use the purified EO freed by the reduction in demand for EGs for the production of EODs rather than offering it in the merchant market. However, their ability to increase their production of EODs will depend upon their EODs' capacity. Although, current EODs production capacity of integrated EO producers is not fully utilized it will be more constrained in the future, due to increased demand for EODs.
- (138) According to the results of the market investigation<sup>99</sup> EODs markets have higher forecast growth rates than the markets for EO and glycols. These differences will increase further in the future, with demand for purified EO derivatives continuing to grow, and demand for glycols decreasing. See Table 15 below

<sup>98</sup> Replies to article 11 decisions of 23 June 2006, question 7

<sup>99</sup> Replies to Article 11 request of 15 March 2006 (Phase II Questionnaire to EO producers), question 54

**Table 15 EO derivatives growth rates:**

<b>Products</b>	<b>% change 2005-2010</b>
Production of EO	-7.7%
Total Glycols	-34.8%
Ethanolamines	42.5%
Ethoxylates	7.9%
Glycol Ethers	8.9%
Polyols	20.9%
PEGs	1.1%
Other/Inventory	6.3%
Total EOD's	14.3%

Source: PCI Ethylene and Glycol World Supply and Demand Report 2005/6

(139) On the basis of the PCI forecast, the Commission's investigation shows that, by 2008, the EODs' capacity of integrated producers will be partially constrained due to increased demand for EODs. See Table 16 below. This constraint will be more pronounced by 2010. Increases in EODs production capacity are more costly and take more time than increases in EO purification capacity.<sup>100</sup>

**Table 16 EODs capacities of integrated EO producers excluding the combined entity**

<b>2005</b>			<b>2008</b>			<b>2010</b>		
<b>Capacity</b>	<b>Production</b>	<b>Capacity utilization</b>	<b>Capacity</b>	<b>Production</b>	<b>Capacity utilization</b>	<b>Capacity</b>	<b>Production</b>	<b>Capacity utilization</b>
1120	1115	91%	1285	1257	98%	1301	1307	100%

Source: Commission' estimates based on the replies to article 11 decisions of 23 June 2006, question 9 and 10.

(140) Not all of the purified EO released as a result of the decrease in production of glycols in the EEA will be absorbed by increased production of EODs by integrated producers. It will consequently be available to the merchant market.

(141) In the light of the above, it is likely that in the foreseeable future there will be enough spare purification capacity to exert competitive pressure on the combined entity's behaviour. Therefore, a significant impediment of effective competition in the merchant market for EO can be ruled out.

---

<sup>100</sup> Although it is very difficult to compare different expansions in EODs capacities, the average cost of reported expansions by combined entity' competitors is around 300 euros per tone. Replies to article 11 decisions of 23 June 2006, question 7.

## Customers affected by the proposed transaction and their alternatives

- (142) During the investigation, concerns were raised about the strong market position that the combined entity would achieve after the transaction<sup>101</sup> with market shares above [40-50]\*% under any possible product and geographic market.
- (143) Some customers consider that there would be a reduction in the number of alternative sources of supply for some of their plants from three to two (the combined entity and Shell). They consider that none of the other EO producers would be able to supply all their needs, and that this may lead to increases in prices and may even prevent them from competing in some downstream markets. Some large customers indicated they are limited in their choice of alternative suppliers as only very few suppliers offer significant amounts of merchant EO<sup>102</sup> and, as explained in the section dealing with market definition (recital 47), the possibility of importing EO from outside the EEA is extremely low or non-existent due to the highly hazardous nature of the product.
- (144) However, other customers support the proposed transaction, including some of the combined entity's large customers, because they believe that security of supply, a very important factor related to EO sourcing, will be improved.<sup>103</sup>

### Alternative suppliers capable of constraining Ineos' behaviour

#### *Off-site customers*

- (145) The ability of off-site customers to switch suppliers should the combined entity increase prices depends on the available free capacity of the other producers and their willingness to serve the merchant market.
- (146) As concluded above (recital 141), there are a number of producers that will have the necessary spare capacity and are willing to supply the merchant market. These EO producers are likely to be able to exert a sufficient competitive constraint on Ineos to prevent anti-competitive behaviour both in the EEA and in MNWE.
- (147) The location of a customer's production plant in relation to the EO producer's plant is an important factor given the difficulties in transporting and stocking EO. Customers currently purchasing from Ineos Antwerp and BP Dormagen (in the narrowest possible geographic market definition - MNWE) would be able to source their EO from Shell (Moerdijk, the Netherlands), BASF (Antwerp, Belgium and Ludwigshafen, Germany), Clariant (Gendorf, Germany), Sasol (Marl, Germany) and Dow (Terneuzen, Netherlands). MNWE has the highest geographic density of suppliers in the EEA.
- (148) At the EEA level the situation will be similar as BP has only one plant in Dormagen, which is in MNWE. Customers who have, actually or potentially, BP Dormagen and

---

101 Replies to Article 11 request of 15 March 2006 (Phase II Questionnaire to EO producers), question 75; Replies to the Article 11 request of 02/02/2006 (Phase I Questionnaire to competitors), questions: 69 (d)

102 Replies to the Article 11 request of 15 March 2006 (Phase II Questionnaire to EO-derivatives competitors), question 50.

103 See [customer]\* (replies to Article 11 request of 15 March 2006 – Phase II Questionnaire to EO-derivatives competitors, questions 57, 58 and 59; minutes of conference call/ meeting of respectively 26 and 27 June 2006).

Ineos Antwerp as suppliers would have the alternatives set out in recital 147 and some of them will also have PKN and Sloznaft as alternative suppliers.

- (149) Furthermore, those large customers who have suggested that they would encounter difficulties in finding alternative suppliers due to the large amounts required are of such a size and importance that they can be expected to be able to exert strong negotiating power in dealing with the combined entity.<sup>104</sup> The loss of such clients would have serious repercussions for Ineos and disrupt its EO production, thereby lowering its capacity utilization. Furthermore, it may not be necessary for customers to find alternative supplies for all their requirements. The ability to switch part of their requirements to another supplier is likely to deter the combined entity from unilaterally increasing prices.
- (150) Moreover, the fact that other EO producers, and possible alternative suppliers, are competing with the non-integrated producers in the various derivatives markets, does not mean that they would not have the incentive to supply significant quantities of EO at competitive prices. With the exception of Dow (which at present does not supply the merchant market) and PKN (which only produces EGs), all other producers sell EO to the merchant market while being vertically integrated downstream in different derivatives markets. This appears to be consistent with the economic incentive EO producers have in securing different outlets for their EO production (the majority being present in the markets for EGs and other EODs and in the merchant market) in order to minimise the impact of downturns in a specific market.

#### *On-site customers*

- (151) The situation of on-site customers is different because of the nature of the arrangement between them and their suppliers. The customer's plant is physically connected to the supplier's EO stream. In most cases alternative supplies of EO could not be taken into the derivative production plant without significant new investment in pipework, valves and, more importantly, access infrastructure (railway tracks, etc) to receive EO from alternative sources. In addition, the customer has invested in the installation of facilities for conversion of the EO on-site, and at least part of these costs would be stranded, if the contract were to be terminated.<sup>105</sup> As a result, the customer is in effect "locked in" with the local supplier and there are no realistic prospects that it could switch to a different supplier.
- (152) For customers that are already co-located at suppliers' plants, the proposed merger does not alter their position for the duration of their contracts. On-site supplies to [...] at Ineos' plant in Antwerp (and indeed to [...] at Lavera following completion of the Main Transaction) are not currently contestable by BP. On-site supplies to [...] at Dormagen are not currently contestable by Ineos.
- (153) As Ineos pointed out, on the on-site market there is competition for the customer at the time the decision is taken to invest in building or expanding conversion capacity on the site of a given supplier.<sup>106</sup> To a lesser degree there is competition again when contracts come up for renegotiation. The possibility that on-site clients (who are generally significant customers) may move operations elsewhere will have a disciplining effect on the supplier.

---

<sup>104</sup> Form CO, point 6.76.

<sup>105</sup> Form CO, point 6.47

<sup>106</sup> Form CO, point 6.50

(154) Although, at present, the Ineos/BP Dormagen Business has a substantial market share on the on-site market, Shell and IQA currently offer on-site supplies and both BASF in Ludwigshafen and Dow in Wilton and Terneuzen appear to be credible potential on-site suppliers.<sup>107</sup> Therefore, both new entrants and the current on-site customers of the combined entity (when their current contracts end) will have credible alternative sites on which to establish their EO conversion activities.

*Customers are contractually protected from price increases*

(155) According to the market investigation<sup>108</sup>, EO sales to third party customers are priced in one of the following ways: (i) by reference to the single North West Europe Contract Price (“NWECP”) for ethylene (“C2”) published by ICIS<sup>109</sup>, with an appropriate extra that is individually negotiated; (ii) by reference to monthly prices for EO published by ICIS (also with adjustments to reflect transport costs as well as individual discounts and rebates); or (iii) by negotiation (typically on a quarterly basis) taking account of the ethylene price and market conditions more generally. [...] Consequently, even if the combined entity would have the ability and the incentives to raise prices, customers would be contractually protected from price increases.

(156) In its reply to the Statement of Objection, Ineos noted that [a large proportion]\* of on-site sales were sold under contracts based on C2 prices, whilst [a large proportion]\* of off-site sales were sold under contracts based on C2-based. In total, [a large proportion]\* of 2005 sales of EO from the combined entity’s plants were sold at prices based on C2 prices.<sup>110</sup>

(157) The Commission’s market investigation showed that at least [60-70]\*% of Ineos and BP’s sales to customers benefit from contractual protection in case of unilateral price increases. The difference between the results of the Commission’s investigation and Ineos’ data are largely due to interpretations of contractual arrangements [...]\*.

(158) Consequently, the conclusion according to which the overall merchant market will not be affected can be retained with respect to on-site and off-site customers if assessed separately.

**Conclusion**

(159) It follows from the foregoing that the combined entity would have an important position on the merchant market.

(160) However, competitors currently have both sufficient EO and purification capacities to act as effective constraints in case of a unilateral price increase by Ineos. This conclusion was confirmed in the study submitted with the reply to the Statement of Objections, showing that in the past competitors were able to increase their production of purified EO and subsequently their sales to the merchant market in the event of

---

107 Reply to the Statement of Objections, 14 June 2006 annex 8 quoting Chemical Week of 4/08/04 (Dow Wilton) and of 12/10/05 (BASF Ludwigshafen) and Chemical Investments Site Supplement 2004 (Dow Terneuzen) in Reply of 14 June 2006 to SO, appendix 8.

108 Reply to the Statement of Objections, 14 June 2006 and replies to Phase II questionnaire to EO derivatives Competitors, questions 47 and 48.

109 A well-known trade publication monitoring prices for petrochemical products.

110 Reply of 14 June 2006 to the SO, appendix 7.

plant outages affecting Ineos and BP's plants. On the basis of that, the Commission estimates that competitors are able to convert substantial quantities of EO used for glycols to purified EO in order to increase sales to the merchant market.

- (161) In addition, the prospective analysis of the market indicates that this situation of sufficient spare capacity will continue to exist in the future. In fact, due to the increased import of glycols from the Middle East, EO producers in the near future will tend to reduce their production of glycols. As a consequence, EO producers will have an incentive to use their spare EO production capacity to produce more purified EO for both captive use and the merchant market. The market investigation has shown that expansion of purification capacity is comparatively inexpensive, can be completed in a relatively short time span, and is cost efficient.
- (162) Finally, competitors will also have economic incentives to increase their sales of purified EO for the merchant market, given that their ability to divert EO to the production of EO derivatives will be capacity constrained.
- (163) As a result, EO customers will have supply alternatives which will be sufficient to exert competitive pressure on the combined entity's behaviour. Therefore, a significant impediment of effective competition in the merchant market for EO can be ruled out.<sup>111</sup>

## **B. Ethylene Glycols**

- (164) World production and consumption of EG is estimated at some 17,000 ktpa, of which EEA production is around 1,700 ktpa for a demand of some 1,950 ktpa. World demand over recent years has been tight, due in particular to the demand in China and the Far East for MEG to make polyester textiles. This has, in turn, stimulated investments in substantial new EG capacity in Asia and the Middle East scheduled to come on stream over the next few years.
- (165) The combined entity's market share on a global merchant market do not exceed 5% for any possible product market definition (EG as a whole [ $<5$ ]\*%, MEG [ $<5$ ]\*%, DEG [ $<10$ ]\*% and TEG [ $<10$ ]\*%). On an EEA-wide merchant market, the combined entity's share does not exceed 20% for any relevant product market (around [10-20]\*% for EG as a whole, MEG and DEG, and around [15-25]\*% for TEG). The combined entity faces competition from various strong competitors such as BASF, MEGlobal, Sabic, Shell and Clariant, whose market shares in the different alternative markets are set out in Table 17 below:

---

<sup>111</sup> Similar arguments and in particular the ability of other players to increase their purification capacity excludes the any possibility of tacit collusion between Ineos and Shell. In this context it should be noted that some of the smaller suppliers to the merchant EO market are in fact major producers of EO.



**Table 17 Glycols' Market Shares at EEA level**

<b>Company</b>	<b>EG</b>	<b>MEG</b>	<b>DEG</b>	<b>TEG</b>
<b>Ineos</b>	[...]*%	[...]*%	[...]*%	[...]*%
<b>BP Dormagen Business</b>	[...]*%	[...]*%	[...]*%	[...]*%
<b>Combined</b>	[10-20%]*%	[10-20]*%	[10-20]*%	[15-20]*%
<b>BASF</b>	[15-25]*%	[20-30]*%	[10-20]*%	[<10]*%
<b>MEGlobal</b>	[15-25]*%	[20-30]*%	[15-25]*%	[<5]*%
<b>Sabir</b>	[5-15]*%	[5-15]*%	[5-15]*%	[5-15]*%
<b>Shell</b>	[5-15]*%	[5-15]*%	[0-10]*%	[15-25]*%
<b>Clariant</b>	[5-15]*%	[5-15]*%	[0-10]*%	[10-20]*%
<b>Petrochemia</b>	[0-10]*%	[0-10]*%	[<10]*%	[<5]*%

Source: Ineos

(166) In the light of the combined entity's limited market share, the presence of significant competitors with comparable or larger market shares and the predicted downturn in glycols production in Europe, the proposed transaction does not raise horizontal competition concerns in the market for EG.

#### **VERTICAL RELATIONSHIPS**

(167) Relevant vertical relationships arise upstream of EO with respect to ethylene, and downstream of EO with respect to EO derivatives including EGs.

##### **A. Ethylene**

(168) The total European production of ethylene is estimated to be around 23,000 ktpa and the total ethylene production capacity in the EEA is estimated to be around 23,600 ktpa.

(169) In the EEA, Innovene used to produce ethylene at its plants in Grangemouth in the United Kingdom, Lavera in France and Köln/Dormagen<sup>112</sup> in Germany. These ethylene production sites are now owned and controlled by Ineos. Prior to completion of the acquisition of Innovene, Ineos was not vertically integrated into the production of ethylene and purchased all of its requirements from third party suppliers. In terms of production of ethylene, Ineos currently represents [<5]\*% of the global production and [5-15]\*% of the European production. However, it uses ethylene for its downstream activities and, [...]\*.

(170) After completion of the acquisition of Innovene by Ineos, the BP Dormagen Business continued to source its ethylene requirements from Innovene (now Ineos). Ineos (formerly Innovene) supplies of ethylene to the BP Dormagen Business amount to less than [<5]\*% of the total EEA merchant market for ethylene. Ineos submits that the

---

<sup>112</sup> This part of the business of Innovene at Dormagen was transferred to Ineos in the Main Transaction.

only impact on this market as a result of the proposed acquisition will be the re-internalisation of those supplies. If the merchant market for ethylene is considered from a narrower geographic perspective, the only region affected by the proposed acquisition of the BP Dormagen Business is the ARG+ pipeline network where Ineos currently has a market share of around [5-15]\*% of merchant supplies of ethylene, including the current supply to the BP Dormagen Business.

(171) The total combined future consumption of ethylene by Ineos in Europe (including the BP Dormagen Business) is estimated to be around [...] ktpa. This is equivalent to approximately [10-20]\*% of total European production with the increment from the acquisition of the BP Dormagen Business amounting to less than [5]\*%.

(172) [This paragraph deals with Ineos ethylene requirements]\*.

(173) As [...] the ethylene used to produce EO represents only a small part of the overall market for ethylene (around 10%) the operation will not give the combined entity the opportunity to leverage its strong position on the market for EO. In practical terms the operation reintegrates BP Dormagen's production into its supply chain, that is to say, it restores the situation before the acquisition of Innovene by Ineos.

(174) Regarding the impact of the transaction, most of the respondents consider that it will be minimal, and that the transaction is not likely to give rise to competition concerns. Although the cost of ethylene constitutes between 60-80% of the price for EO, the majority of the respondents consider that the consumption of the combined entity will not have any influence on ethylene prices, as only 10% of the total European ethylene production is used for EO production and therefore the impact of the combined entity's purchases is small.

(175) However, some respondents mentioned that backward integration into the main feedstock for EO and its derivatives might give the combined entity a further competitive advantage. According to these respondents, the ethylene market is already concentrated and sales of ethylene to third parties are limited due to captive consumption by vertically integrated producers. Customers are bound by long term contracts. However, this argument is a general one and is not related to the proposed operation which, as discussed above (recital 169), merely restores the BP Dormagen plant to the position it held in the past. Ineos will continue to buy some of its ethylene requirements on the merchant market.

(176) The Commission has not identified any competition concerns resulting from the proposed operation in relation to vertical integration between ethylene and EO.

## **B. Ethylene Oxide Derivatives**

### **Ethylene Glycols**

(177) With regard to possible concerns of a vertical nature, EGs constitute 42% of the total EO consumption in the EEA. Given the high market share of the combined entity in the production of EO and its position in EGs (around [10-20]\*% at EEA level), the Commission assessed whether it would be in a position to leverage its market position in EO in such a way as to give rise to competition concerns in the EGs market. However, EGs are only produced by integrated EO producers, who do not need to purchase EO from the merchant market. Therefore, the proposed operation does not

raise any competition concerns in relation to the vertical relationship between EO and EGs.

### **Ethanolamines**

(178) Ethanolamines (“EOAs”) account for 8.5 % of total EEA consumption of EO.<sup>113</sup> After the closure of the Main Transaction Ineos’ market share increased from [1-10]\* % to [15-25]\*% at EEA level.<sup>114</sup> However, the possible impact of the combined entity’s position on the upstream EO merchant market on the EOAs market will be limited as EOAs are only produced by integrated EO producers, who do not need to purchase EO from the merchant market. Therefore, the proposed operation does not raise any competition concerns in relation to the vertical relationship between EO and EOAs.

### **Glycol ethers**

(179) E-series glycol ethers (GEs)<sup>115</sup> account for about 5% of the total EO consumption<sup>116</sup>. E-series GEs have a high EO content of between 35 and 75% and consequently are produced only by the vertically integrated EO producers. After the closure of the Main Transaction, Ineos’ market share in E-series GEs increased to [25-35]\*% at EEA level<sup>117</sup>. However, the possible impact of the combined entity’s position in the upstream EO market on the GEs market will be limited as E-series GEs are only produced by integrated EO producers. Therefore, the proposed operation does not raise any competition concerns in relation to the vertical relationship between EO and glycol ethers.

### **PAGs**

(180) PAGs account for some 5.5 % of total EEA consumption of EO<sup>118</sup> and have a very high EO content (around 80-98% by weight).<sup>119</sup> Because of their high EO content, all PAGs are made almost exclusively by integrated EO producers (around 95% in the EEA)<sup>120</sup> such as BASF, Dow, Sasol, Clariant and Ineos. Ineos produces PAGs at its Antwerp plant and represents [20-30]\*% of EEA production, with BASF and Clariant representing larger proportions of production. Ineos also plays an important role on the merchant market where it represents [15-25]\*% of the total sales<sup>121</sup>. However, the possible vertical impact on PAGs is limited as the majority of PAGs producers do not

---

113 Based on Ineos’ figures, reply to the article 11 request of 3 March 2006, point 1.3

114 Case No COMP / M.4005 – Ineos/Innovene, 9 December 2005. EEA was considered the narrowest geographic market in this case.

115 As it was explained above, GEs are oxygenated solvents produced through the reaction of EO (called E-series) or propylene oxide (called P-series). In Case No COMP / M.4005 – Ineos/Innovene, 9 December 2005, the exact product market definition was left open and consequently in order to assess vertical relationship between GEs and EO, the Commission needs to assess impact on the narrowest product market.

116 Based on Ineos’ figures, reply to the article 11 request of 3 March 2006, point 1.3

117 Case No COMP / M.4005 – Ineos/Innovene, 9 December 2005. EEA was considered the narrowest geographic market in this case.

118 Based on Ineos’ figures, reply to the article 11 request of 3 March 2006, point 1.3

119 Ineos’ reply to article 11 request of 3 March 2006, point 1. 18

120 Commission’s estimates based on the replies to replies to Article 11 request of 15 March 2006 (Phase II Questionnaire to EO producers), question 70.

121 Commission’s estimates based on the replies to Article 11 request of 15 March 2006 (Phase II Questionnaire to EO producers), question 70

need to purchase EO from the merchant market. Therefore, the proposed operation does not raise to any competition concerns in relation to the vertical relationship between EO and PAGs.

### **Alcohol Ethoxylates**

- (181) The Commission has assessed whether the combined entity's position in the production of EO would allow them to raise input prices for non-integrated producers on the downstream market for ethoxylates and foreclose the non-vertically integrated players from this market. This is because EO is a very important input to the production of alcohol ethoxylates and because alcohol ethoxylates account for 40% of the merchant market consumption.
- (182) Alcohol ethoxylates are made by combining EO with medium or long chain surfactant alcohols. Both synthetic and natural (palm, palm kernel or coconut oil based) alcohols can be used. Alcohol ethoxylates account for approximately 18% of total EEA consumption of EO and more than 40% of third parties' consumption of EO. Alcohol ethoxylates are produced by both vertically integrated EO producers and non-vertically integrated EO producers. Large integrated producers are Sasol, BASF, Shell and Clariant. Non-integrated but significant players are Cognis, Hunstman, Uniqema and Kolb. The market appears to be fragmented, with a considerable number of producers having low market shares of 1-2%.
- (183) EO accounts for a significant proportion of ethoxylates' production costs due to their high EO content, while the other main input is an alcohol (natural or synthetic). The relative proportion of EO and alcohol depends very much on the type of product and the intended application. It varies from 60-40% for alcohol ethoxylates for primary surfactants applications to 90-10% EO for fatty alcohol ethoxylates for applications as wetting agents or emulsifiers.
- (184) According to some market participants the possibility could not be ruled out that Ineos would have an interest in expanding their activities in the alcohol ethoxylates market given that they already own and operate an alkoxylation unit in Antwerp. The Commission therefore examined whether Ineos would have the possibility of raising its competitor's costs by increasing the prices for EO to benefit Ineos' own ethoxylates business.
- (185) The Commission considers that these concerns are not realistic for a host of reasons. First, as set out in the section dealing with EO (recitals 62-163), Ineos will face competitive constraints on the EO merchant market which will defeat attempts to unilaterally increase prices or deteriorate supply conditions on the merchant market.
- (186) Second, at present, Ineos has a very limited presence on the ethoxylates market with direct sales accounting for approximately [...] k/tonnes in a market of approximately [...] k/tonnes [amounting to < 1%]\*.<sup>122</sup> Its current presence is therefore insignificant and insufficient to confer Ineos sufficient market power in the alcohol ethoxylates market to raise prices.

---

<sup>122</sup> Based on the Commissions' market investigation which does not include i) all EEA alcohol ethoxylates producers (but includes all the major players) and ii) does not include imports into the EEA. Consequently, the total market is certainly larger and inherently Ineos' market share will be smaller.

- (187) The Commission has investigated whether it would be possible for Ineos to readily expand in the alcohol ethoxylates market at a relatively low cost. This would only be possible if Ineos terminated some or all of its contractual arrangements with important customers who are active on this downstream market. [...] \*Given the contractual hurdles and the fact that Ineos has other commercial arrangements with some of these parties which would be badly affected by the premature termination of contracts this scenario is very unlikely to be realised.
- (188) Even if Ineos were to succeed [...] \* it would have a total capacity of about [...] \* ktpa or [10-20] \*% of current capacity. If this capacity were utilised at 100% (which is unlikely) Ineos' share of production would be about [10-20] \*%. Ineos would face competition on the ethoxylates market at least from vertically integrated competitors such as Sasol, Shell, BASF and Clariant who are important players in the ethoxylates market. Vertically integrated players account for about 60% of this downstream market. Consequently, Ineos would not be in a position to leverage its "alleged" market power in the EO market in order to unilaterally increase prices in the alcohol ethoxylates market.
- (189) Moreover, Ineos would have to invest in the necessary know-how (Ineos currently has no responsibility for product formulation or technical support) and develop a sales and marketing organisation (currently Ineos has no relevant sales or technical interface with ethoxylates customers).
- (190) For all these reasons, the Commission concludes that Ineos will not have the incentive to unilaterally increase prices in the EO merchant market with the aim of foreclosing access to input to its customers who are active in the alcohol ethoxylates market. Given the maximum market position it would be able to obtain, together with the fact that it would have to face competition from a number of market players who have direct access to EO, it is very unlikely that Ineos would have any incentive to follow a foreclosure strategy.

### **Polyols**

- (191) The Commission has assessed whether the combined entity's position in the production of EO would allow them to raise input prices for non-integrated producers on the downstream market for polyols and foreclose the non-vertically integrated players from this market.
- (192) Polyols are produced by reacting EO and PO with glycerine or trimethylolpropane ("TMP"). Polyols have low EO content of some 15% by weight<sup>123</sup> and account for approximately 5.5% of total EEA consumption of EO. They are the second most important downstream market, after alcohol ethoxylates, for the consumption of merchant EO (8.5% of the merchant EO market).
- (193) According to Ineos, because PO accounts for a large proportion of costs, polyols are predominantly made by integrated PO manufacturers who are typically also integrated into the manufacture of isocyanates (TDI and MDI) as most polyols (91%) are used together with isocyanates to produce polyurethane solids and foam.
- (194) Half of polyols producers are integrated into EO (BASF, Dow, and Shell). Three large producers of polyols in Europe are not directly integrated into EO Bayer, Repsol, and

---

<sup>123</sup> Ineos' reply to the article 11 request of 3 March 2006, point 1.20

Huntsman. The vertically integrated EO producers account for 70% of European production and 60% of sales. Non-integrated players account for 30% of the polyols production and 40% of sales.

- (195) Ineos estimates that EO accounts for between [5]\*% and [20]\*% of total polyols costs. According to Ineos, an increase in the merchant market price of EO would therefore have only a limited effect on the downstream price of polyols. Although the market investigation confirmed that the limited impact of EO costs on polyols' prices would not lead to input foreclosure for non-integrated into EO producers in the event of an increase in EO prices, some respondents raised concerns that it might have some impact on their costs and limit their abilities to compete with integrated into EO producers.<sup>124</sup>
- (196) The Commission considers that these concerns are not realistic because, as set out in the section dealing with EO (recitals 62-163) , Ineos will face competitive constraints on the EO merchant market which will defeat attempts to unilaterally increase prices or deteriorate supply conditions on the merchant market.
- (197) Second, at present, a foreclosure strategy is unlikely as Ineos does not manufacture polyols for its own account and only undertakes toll manufacturing at its Antwerp plant of small quantities of polyols on behalf of third parties ([customer information]\*). Therefore, its current presence is insignificant and insufficient to confer on Ineos sufficient market power in the polyols' market to raise prices
- (198) The Commission has investigated whether it would be possible for Ineos to readily expand in the polyols market at a relatively low cost. Following the acquisition of Innovene, Ineos is now integrated into PO. [...]and therefore it is unlikely that the bulk production of polyols by Ineos on its own account would be commercially viable.<sup>125</sup>
- (199) Additionally, Ineos submits that over 90% of polyols are combined with isocyanates (TDI and MDI) in the production of polyurethane foams. Isocyanates are not available at commercial rates in the merchant market and almost all polyols producers are therefore also integrated into the manufacture of isocyanates. Ineos has no presence in isocyanates and could not therefore compete effectively with these integrated manufacturers.
- (200) Finally, according to Ineos, the sale of these speciality polyols requires a considerable degree of technical knowledge. Market participants usually sell their polyols as specialised bespoke system blends for their customers.
- (201) For all these reasons, the Commission concludes that Ineos will not have the incentive to unilaterally increase prices in the EO merchant market with the aim of foreclosing access to input to its customers who are active in the polyols market Therefore, a significant impediment of effective competition in the Polyols market can be ruled out.

---

124 Replies to Article 11 request of 15 March 2006 – Phase II Questionnaire to EO-derivatives competitors, question 56)

125 Ineos' reply to the article 11 request of 25 April 2006

## EO/PO block copolymers

- (202) The Commission assessed whether the combined entity's position in the production of EO would allow them to raise input prices for non-integrated producers on the downstream market for EO/PO block copolymers and foreclose the non-vertically integrated players from this market.
- (203) EO/PO block copolymers are a range of non-ionic low-foaming surfactants made by combining EO and PO with dipropylene glycol. EO/PO block copolymers account for only 1.5% of total EEA consumption of EO and constitute only 3% of the merchant EO market.<sup>126</sup> The EO content of these products varies according to application required, ranging from 10% to 90% by weight.<sup>127</sup> Ineos estimates that EO accounts for between 30% and 40% of total EO/PO block copolymer variable costs and, generally, PO accounts for the largest part of the costs.
- (204) An increase in the price of EO might have some impact on non-integrated producers' costs and limit their ability to compete with producers integrated into EO. The Commission assessed whether Ineos would have the ability and incentive to raise its competitors' costs by increasing the prices for EO, in order to benefit Ineos' own EO/PO blocks business.
- (205) First, as set out in the section dealing with EO (recitals 62-163), Ineos will face competitive constraints on the EO merchant market which will defeat attempts to unilaterally increase prices or deteriorate supply conditions on the merchant market.
- (206) Second, Ineos currently produces small quantities of standard EO/PO block copolymers at Antwerp ([...]\*KT) which, according to Ineos' data represents [<10]\*% of the EEA production, and competes with much bigger other integrated EO producers including BASF, Dow, and Clariant and non-EO integrated producer Cognis.<sup>128</sup>
- (207) Moreover, according to Ineos, EO/PO block copolymers can either be standard commodity EO/PO block copolymers or more specialised EO/PO block copolymers. The former are produced largely by integrated EO producers whereas the latter are generally made by third party producers which are not integrated into EO.<sup>129</sup>
- (208) Typically these high value speciality EO/PO block copolymers are only manufactured in small quantities for individual applications and account for only a very small proportion of merchant market EO consumption. Because of the very small quantities of EO these producers require, they have a greater choice of potential EO suppliers. Many of the smaller niche producers also provide product application expertise in addition to manufacturing capability and will provide their customers with an end-to-end solution.<sup>130</sup>
- (209) For all these reasons, the Commission concludes that Ineos will not have any incentive to unilaterally increase prices in the EO merchant market with the aim of foreclosing access to input to its customers who are active in the EO/PO blocks market. Therefore,

---

<sup>126</sup> Based on Ineos' figures, reply to the article 11 request of 25 April 2006, point 1.3

<sup>127</sup> Ineos' reply to the article 11 request of 3 March 06, point 1.23

<sup>128</sup> Ineos' reply to the article 11 request of 3 March 06, point 2.70, 2.85

<sup>129</sup> Ineos' reply to the article 11 request of 3 March 2006, point 2.65, 2.66

<sup>130</sup> Ineos' reply to the article 11 request 3 March 2006, point 2.65, 2.66

a significant impediment of effective competition in the EO/PO blocks market can be ruled out.

## **V. CONCLUSION**

(210) For the reasons set out above it must be concluded that the proposed concentration does not significantly impede effective competition in the common market or a substantial part of it, in particular as a result of the creation or strengthening of a dominant position. The concentration should therefore be declared compatible with the common market pursuant to Article 8 (1) of the Merger Regulation and with the EEA Agreement pursuant to Article 57 thereof,



HAS ADOPTED THIS DECISION:

*Article 1*

The notified operation whereby Ineos Group Limited acquires sole control within the meaning of Article 3(1)(b) of Regulation (EC) No 139/2004 of the BP Ethylene Oxide/Ethylene Glycol Business controlled by British Petroleum Group is hereby declared compatible with the common market and the functioning of the EEA Agreement.

*Article 2*

This decision is addressed to:

**INEOS GROUP LIMITED**  
Hawkslease, Chapel Lane, Lyndhurst  
SO43 7FG Southampton  
United Kingdom

Done at Brussels, 10/08/2006

For the Commission,  
signed,  
Neelie KROES  
Member of the Commission



Brussels, 28 July 2006

## **OPINION**

**of the ADVISORY COMMITTEE on CONCENTRATIONS  
given at its 143<sup>rd</sup> meeting on 28 July 2006  
concerning a draft decision relating to  
Case COMP/M.4094 – Ineos/BP Dormagen**

**Rapporteur : FRANCE**

- 
1. The Advisory Committee agrees with the European Commission that the notified operation is a concentration in the sense of article 3(1)(b) of Council Regulation 139/2004.
  2. The Advisory Committee agrees that this operation has a Community dimension.
  3. The Advisory Committee agrees with the Commission on the definition of the following relevant markets:
    - a. For the purposes of this case, ethylene oxide constitutes a relevant product market only as to its distinction of purified EO.
    - b. It is not necessary to distinguish between the on-site (by pipeline) and the off-site (by rail or truck) supply of ethylene oxide as the results of the competitive analysis would not be modified. (One Member State abstains).
    - c. It is not necessary to further subdivide ethylene glycols according to the different types.
    - d. It is not necessary for the assessment of the merger to reach a conclusion on the exact geographic market for ethylene and ethylene oxide and that the geographic market for EGs is at least EEA-wide.
  4. The Advisory Committee shares the Commission's analysis that the operation should be authorised:
    - a. In relation to ethylene oxide :
      - (211) a.1. Purified ethylene oxide merchant market is an affected market.
      - (212) a.2. Competing undertakings are capable of increasing their production should the combined entity raise prices unilaterally. (One Member State abstains).
      - (213) a.3. The forecast development of capacities will be such as to reinforce the current excess capacity and will enable competitors to respond to any risk of price increases on the part of the combined entity.
      - (214) a.4. As a result the operation will not affect competition on the market for ethylene oxide.
    - b. In relation to ethylene glycol:

- (215) b.1. The combined entity will not have a dominant position on this market.
- (216) b.2. As a result the operation will not affect competition on the market for ethylene glycol.
- (217)
- c. In relation to vertical integration:
- (218) c.1. The upstream market for ethylene used for the production of ethylene oxide is not affected by the operation.
- (219) c.2. The other downstream markets for ethylene oxide derivatives (excluding ethylene glycols) are not affected by the operation.
5. The Advisory Committee agrees with the Commission that as a result the proposed operation would not significantly impede effective competition in the common market or in a substantial part of it and can therefore be declared compatible in the sense of articles 2(2) et 8(1) of Council Regulation 139/2004 on the control of concentrations between undertakings and the EEA agreement.

<u>BELGIË/BELGIQUE</u>	<u>ČESKÁ REPUBLIKA</u>	<u>DANMARK</u>	<u>DEUTSCHLAND</u>	<u>EESTI</u>
V. HABILS	---	J. GORMSEN	F. GEERS	---
<u>ELLADA</u>	<u>ESPAÑA</u>	<u>FRANCE</u>	<u>IRELAND</u>	<u>ITALIA</u>
---	---	O. HERY	---	P. ROMANELLI
<u>KYPROS/KIBRIS</u>	<u>LATVIJA</u>	<u>LIETUVA</u>	<u>LUXEMBOURG</u>	<u>MAGYARORSZÁG</u>
---	---	---	---	---
<u>MALTA</u>	<u>NEDERLAND</u>	<u>ÖSTERREICH</u>	<u>POLSKA</u>	<u>PORTUGAL</u>
---	---	---	---	F. MATOS
<u>SLOVENIJA</u>	<u>SLOVENSKO</u>	<u>SUOMI-FINLAND</u>	<u>SVERIGE</u>	<u>UNITED KINGDOM</u>
---	---	H. VÄISÄNEN	C. BERGER	T. KRAJEWSKA



EUROPEAN COMMISSION

The Hearing Officer

**FINAL REPORT OF THE HEARING OFFICER**  
**IN CASE COMP/M.4094 – INEOS/BP DORMAGEN**

**(pursuant to Article 15 of Commission Decision (2001/462/EC, ECSC)  
of 23 May 2001 on the terms of reference of Hearing Officers  
in certain competition proceedings – OJ L162, 19.06.2001, p.21)**

On 24 January 2006, Ineos notified the transaction to Commission pursuant to Article 4 of Council Regulation (EC) No 139/2004 (the “Merger Regulation”), by which the undertaking INEOS Group Limited (“Ineos”) would acquire control of the BP Ethylene Oxide/Ethylene Glycol Business (“BP Dormagen Business”) controlled by British Petroleum Group (“BP”).

Upon examination of the notification, the Commission concluded that the notified operation raised serious concerns as to its compatibility with the common market, and decided to initiate proceedings pursuant to Article 6(1)(c) of Council Regulation No 139/2004 on 28 February 2006. For the purpose of obtaining further information from the notifying party, the Commission adopted an Article 11(3) decision addressed to the notifying party dated 21 March 2006. On 4 April 2006, upon request, the notifying party was given access to key documents in accordance with DG Competition’s Best Practices on the conduct of EC merger control proceedings. On 19 May 2006 the Commission adopted, with the agreement of Ineos, an Article 10(3) decision extending the duration of the procedure by 10 working days.

The Commission sent a Statement of Objections to Ineos on 30 May 2006, to which Ineos replied on 14 June 2006. Ineos did not request a formal oral hearing.

*Access to file*

Ineos was granted access to file upon issuance of the Statement of Objections. In a letter to the Hearing Officer of 5 June 2006, Ineos complained that the Commission’s Statement of Objections relied heavily upon information from third parties which Ineos had not had the opportunity to review or upon which they had not had the opportunity to submit their observations. I requested that the Commission services respond to Ineos’ concerns in the first place. Ineos was provided with anonymised summaries of third party information on 9 June 2006. Some information was deemed to be sensitive business information, which was not disclosed to Ineos. Ineos has not pursued this issue further with the Hearing Officer.

*Letter of facts*

On 29 June 2006, the Commission sent a letter of facts setting out additional data relating to the objections. Ineos was requested to submit its comments, which it did on 4 July 2006.

After examination of the parties' reply to the Statement of Objections and in the light of new evidence obtained from market participants after issuing the Statement of Objections, the Commission has concluded that the proposed concentration does not significantly impede effective competition in the common market or a substantial part of it, in particular as a result of the creation or strengthening of a dominant position.

The case does not call for any particular comments as regards the right to be heard.

Brussels, 26 July 2006

*(signed)*  
**Karen WILLIAMS**