EUROPEAN COMMISSION

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PUBLIC VERSION

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 Where possible the information omitted has been replaced by ranges of figures or a general description.

Apollo Management, L.P.
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New York, NY 10019
United States of America

Subject: **Case M.10712 – APOLLO MANAGEMENT / TENNECO**
Commission decision pursuant to Article 6(1)(b) of Council Regulation No 139/2004[1] and Article 57 of the Agreement on the European Economic Area[2]

Dear Sir or Madam,

(1) On 23 September 2022, the European Commission received notification of a proposed concentration pursuant to Article 4 of the Merger Regulation by which Pegasus Holdings III, LLC ("Pegasus Holding", USA), an investment vehicle controlled by Apollo Management L.P. ("Apollo" or the "Notifying Party", USA) will acquire within the meaning of Article 3(1)(b) of the Merger Regulation sole control of Tenneco Inc. ("Tenneco", USA) by way of a purchase of shares (the "Transaction").[3]

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

2 OJ L 1, 3.1.1994, p. 3 (the "EEA Agreement").

3 Publication in the Official Journal of the European Union No C 379, 3.10.2022, p. 14.

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1. THE PARTIES

1.1. Apollo

(2) Pegasus Holdings, a Delaware limited liability company, is an investment vehicle controlled by Apollo. Apollo is a global alternative asset manager established and organized under the laws of the United States of America and headquartered in New York City, New York. As of December 31, 2021, Apollo had approximately $498 billion of assets under management. Examples of current investments include, inter alia, companies in education, insurance, financial services, lighting, and leisure businesses. The European Commission (the "Commission") has previously considered Apollo to be a single undertaking for merger control purposes.[4]

1.2. Tenneco

(3) Tenneco is a global supplier of components for motor vehicles, headquartered in Illinois, United States. Tenneco is active in the design, manufacture, and distribution of car components, including catalytic converters and aftertreatment systems, which are incorporated into the hot-ends of automobiles' exhaust systems. Tenneco targets the light vehicle, commercial vehicle, and other mobility segments. Tenneco serves both original equipment manufacturers ("OEMs") and the repair and replacement market ("aftermarket") on a worldwide basis.

2. THE CONCENTRATION

(4) The concentration consists of the acquisition of sole control by Apollo over Tenneco in accordance with Article 3(1) of the Merger Regulation. Pursuant to an Agreement and Plan of Merger executed on 22 February 2022, Tenneco will become a wholly owned subsidiary of Pegasus Holdings.

(5) Upon completion of the Transaction, Tenneco's shares will no longer trade on the New York Stock Exchange, and Tenneco will become a private company, wholly owned and solely controlled by Apollo through Pegasus Holding. Tenneco will continue to operate under the Tenneco brand and maintain a global presence.

3. UNION DIMENSION

(6) The Transaction has a Union dimension pursuant to Article 1(2) of the Merger Regulation. The undertakings concerned have a combined aggregate worldwide turnover of more than EUR 5 000 million (Apollo: EUR […]; Tenneco: EUR 15.2 billion). Both have an EU-wide turnover of more than EUR 250 million (Apollo: EUR […]; Tenneco: EUR […]), and none of the undertakings concerned achieves more than two-thirds of its aggregate EU wide turnover within one and the same Member State.

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[4] Case M.9689 – Apollo Management/Tech Data Corporation; Case M.9675 – Apollo Capital Management/Lopesan Group/IFA Faro Hotel/IFA Buenaventura Hotel; Case M.9933 – Apollo Capital Management/Chyronhego; Case M.10318 – Apollo Management/Verizon Media Group; Case M.10414 – Apollo Management/AS Graanul; Case M. 10413 – Apollo Management/Reno de Medici. [Organizational structure of Apollo].

4. RELEVANT MARKETS

4.1. Introduction

(7) Among other portfolio companies, Apollo controls MAFTEC Co. Ltd. ("MAFTEC", Japan). MAFTEC produces and supplies polycrystalline fibre wool ("PCW") products.

(8) PCW is a fibre typically made from alumina and silica, available in a range of densities and sizes for a wide variety of thermal applications up to 1600 °C.

(9) MAFTEC is a vertically integrated manufacturer of PCW. Its business is divided in two independently operated segments: (i) the production of bulk PCW and blankets that can be used for various high-temperature fireproof applications; and (ii) the production of substrate support mats for the automotive industry.

(10) Tenneco purchases PCW support mats and uses them as an input for the manufacture of catalytic converters and hot-ends for light vehicles with gasoline engines. Tenneco further uses PCW mats as an input for the manufacture of aftertreatment systems and hot-ends for light vehicles with diesel engines. Small quantities of Tenneco's PCW support mat purchases are also used in the manufacture of aftertreatment systems for commercial truck and off-highway ("CTOH") vehicles with diesel engines. Tenneco's catalytic converters, aftertreatment systems and respective hot-ends are typically sold to automotive OEMs. Finally, Tenneco uses small quantities of PCW support mats to manufacture light vehicle gasoline engine catalytic converters sold in the independent aftermarket ("IAM").

(11) The Commission has not previously defined a market for PCW products.

PCW blankets and bulk products

(12) PCW bulk products can be widely used for various industrial filling, reinforcement and shaped products. Figure 1 below shows the bulk polycrystalline alumina fibre, prior to any transformation process.

Figure 1 - Bulk PCW



Source: Maftec.

(13) PCW bulk is processed to produce a PCW blanket. The manufacturing process includes the following steps: [details of manufacturing steps]. Figure 2 below shows a finished PCW blanket.

Figure 2 - PCW blanket



Source: Maftec.

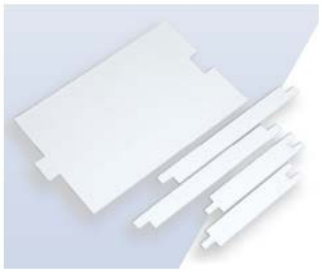
(14) In industrial markets, PCW blankets are used for insulation in high temperature applications, such as industrial furnaces, hot rolling mills, and the like. Other industrial uses include high-temperature furnaces in the petrochemical industry and fast fire kilns in the ceramics industry.

PCW substrate support mats

(15) PCW blankets can be further processed into PCW support mats, which are incorporated into catalytic converters and aftertreatment systems. Catalytic converters form part of the exhaust system of a gasoline-powered automobile, while aftertreatment systems form part of the exhaust system of diesel-powered automobiles.[5]

(16) Figure 3 below shows the finished PCW support mat.

Figure 3 - PCW support mat



Source: Maftec.

(17) Support mats are used as a holding material to (i) protect ceramic catalytic converters from vibration and impact during running and (ii) purify automobile exhaust gas. Figure 4 below shows how support mats are incorporated into an automobile's catalytic converter.

[5] See Form CO, paragraph 69.

Figure 4 - PCW support mat in a catalytic converter



Source: Maftec.

(18) The Transaction gives rise to a vertical relationship between MAFTEC's activity in the manufacture and supply of PCW blankets (higher upstream (level 1)) and MAFTEC's activity in the manufacture and supply of PCW mats as insulation components for automobile exhaust systems (upstream (level 2)), on the one hand, and Tenneco's activities in the manufacture and supply of automobile exhaust systems (downstream (level 3)), on the other hand.

4.2. Manufacture and supply of PCW blankets

4.2.1. Product market definition

(19) The Commission has not previously defined a market for the manufacture and supply of PCW blankets.[6]

4.2.1.1. The Notifying Party's views

(20) The Notifying Party submits that PCW blankets can be manufactured using different processes. First, PCW blankets can be distinguished between needle-punched and non-needle-punched PCW blankets. Needle-punched blankets interlock the fibres together in a flat two-dimensional shape. These blankets are cheaper to produce, and have a greater tensile and peeling strength than non-needle-punched PCW blankets.[7] Second, PCW blankets can be distinguished between dry-laid and wet-laid PCW blankets. Wet-laid PCW blankets have a higher manufacturing cost than dry-laid ones and have slightly lower heat resistance. However, wet-laid PCW is more suitable and less expensive, when a thicker supporting mat is required.[8]

(21) The Notifying Party further notes that MAFTEC only manufactures needle-punched, dry-laid PCW blankets.[9]

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6 The Office of Fair Trading in the UK found a separate market for PCW which could be further sub-segmented between automotive and industrial fibres; see OFT decision of 4 January 2011 regarding the completed acquisition by Unifrax I LLC of Saffil 2011 Limited and Saffil America.

7 See Form CO, paragraph 76.

8 See Form CO, paragraph 80; Table 2.

9 See Form CO, paragraphs 76, 80.

(22) PCW blankets can be used in the industrial markets, as an insulating material for high temperature applications, such as industrial furnaces and hot rolling mills. PCW blankets can also be used to manufacture support mats that are incorporated into the exhaust system of automobiles.

(23) With regard to PCW blankets used for the production of support mats for use in the automotive industry, the Notifying Party submits that the relevant product market should include both dry- and wet-laid PCW, as well as alternative insulating materials, such as refractory ceramic fibre (RCF), bio-soluble fibre (BSF) or alkaline earth silicate wool (AES).[10]

4.2.1.2. The Commission's assessment

(24) The relevant product market comprises all products which are regarded as interchangeable or substitutable by the customer, by reason of the products' characteristics, their prices and their intended use.[11] The Commission has therefore investigated whether, from a demand-side perspective, dry-laid PCW blankets are regarded as interchangeable with (i) PCW mats or other forms of PCW, (ii) blankets made from other materials, and (iii) wet-laid PCW blankets, and more narrowly, (iv) whether a distinction between needle-punched and non-needle-punched PCW blankets was warranted. The Commission has further taken considerations of supply-side substitutability and potential competition into account.

PCW blankets versus other forms of PCW

(25) With regard to other forms of PCW (bulk and mats), the market investigation unanimously confirmed that PCW blankets are not regarded as interchangeable with, e.g., PCW in bulk form or PCW support mats.[12] As one market participant noted, the "*manufacturing of PCW* […] *mats is a capital-intensive business*" that would require specific know-how and machinery.[13] Moreover, PCW customers typically buy PCW in the required form, i.e. either in bulk, blankets or mats, depending on their specific needs.[14]

PCW blankets versus blankets made of alternative insulating materials

(26) With regard to the question whether blankets made of alternative insulating materials, such as refractory ceramic fibre (RCF), bio-soluble fibre (BSF) or alkaline earth silicate wool (AES) belong to the same market as blankets made of PCW, the results of the market investigation were mixed.

(27) Considering the demand-side of the market, a majority of hot-end manufacturers submitted that such alternative materials are no substitutes for PCW for all end-

10 See Form CO, paragraphs 82 *et seqq.*

11 Commission Notice on the definition of relevant market for the purposes of Community competition law, OJ C 372, 9.12.1997, p. 3, paragraph 7.

12 See response to Question 5, eQ1 to manufacturers of PCW blankets and mats and eQ2 to manufacturers of hot-ends.

13 See non-confidential response to Question 5.1, eQ1 to manufacturers of PCW blankets and mats.

14 See responses to Question 5, eQ 1 to manufacturers of PCW blankets and mats; Question 5, eQ 2 to manufacturers of hot-ends.

uses in the automobile industry.[15] The reason cited by a number of respondents is the fact that such alternative materials have a lower heat resistance, making them unsuitable for gasoline vehicles, which typically develop higher temperatures than diesel vehicles.[16]

(28) As one hot-end manufacturer noted in this regard, "*AES/RCF have max heat resistance of 800/850°C, [which is] not sufficient for gasoline applications*".[17] Another hot-end manufacturer noted similarly that "*[PCW] is not replaceable, because alternative materials (RCF, AES) have much lower level of performance. AES is only suitable for low temperature applications*".[18]

(29) With regard to RCF, a number of hot-end manufacturers further noted that use of the material has been banned in the EEA, as it is considered carcinogenic.[19]

(30) However, the market investigation revealed that hot-end manufacturers generally consider AES as suitable for use in the manufacture of aftertreatment systems for diesel cars and CTOHs, while, for use outside the EEA, they also generally consider RCF as suitable for use in hot-ends of both gasoline and diesel vehicles.[20]

(31) The responses of manufacturers of PCW blankets and mats confirmed that AES can be a substitute to PCW in relation to low-temperature use cases[21] (i.e. diesel cars and CTOHs), while RCF is not being used in the EEA for reasons of regulation.[22]

(32) From a supply-side perspective, MAFTEC is currently the most important manufacturer of PCW blankets globally. MAFTEC currently produces [80-90]% of all dry-laid PCW blankets,[23] [90-100]% of which are processed into support mats for the automotive industry.[24] As also noted at paragraph (21) above, MAFTEC does not manufacture blankets made of materials other than PCW. A switching in manufacturing would require significant investment, which MAFTEC is unable to realize in a timely and sufficient manner [proprietary production details].[25] It follows that there is no sufficient supply-side substitution between PCW blankets and blankets made of alternative materials.

Dry-laid versus wet-laid PCW blankets

(33) Considering further a possible distinction between dry-laid and wet-laid PCW blankets, the results of the market investigation were again mixed.

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15 See response to Question 7, eQ2 to manufacturers of hot-ends.
16 See response to Question 7.1, eQ2 to manufacturers of hot-ends.
17 *Ibid.*
18 *Ibid.*
19 *Ibid.* See also Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency.
20 See responses to Question 19, eQ2 to manufacturers of hot-ends.
21 See responses to Question 8.1, eQ1 to manufacturers of PCW blankets and mats.
22 *Ibid.*
23 See Form CO, paragraph 125.
24 See Form CO, paragraph 79.
25 See Form CO, paras. 155 et seq. and 158 et seq.

(34) On the demand side, manufacturers of hot-ends generally tend to perceive dry-laid PCW as the most versatile material, which is suitable for both gasoline and diesel vehicles.[26] A majority of hot-end manufacturers responded that they use dry-laid PCW not only in the manufacture of hot-ends for gasoline cars, but also for diesel cars and CTOHs.[27] As one respondent noted, *"[d]ry laid PCW mats (…) are the highest perform[ing] products and theoretically suit to all applications. It is a safe option."*[28]

(35) Wet-laid PCW, on the other hand, is not seen as a substitute to dry-laid PCW by the majority of hot-end manufacturers.[29] This is mainly related to the higher performance of dry-laid PCW. As one respondent explains, *"[w]et-laid PCW mats (paper mats) have [a] different level of performance vs dry laid (needled mats). Wet-laid PCW mats (…) are [subject to a risk of erosion]*".[30] The Notifying Party confirms that, in comparison to dry-laid PCW, the wet-laid type has overall less resistance to peeling, less stretch resistance and lower heat resistance.[31] Nonetheless, a majority of hot-end manufacturers submitted that they do consider wet-laid PCW as suitable for use in both gasoline and diesel cars and CTOHs.[32]

(36) The majority of blanket and mat manufacturers confirmed that dry- and wet-laid PCW blankets are partly interchangeable for automotive use.[33]

(37) With regard to the supply-side of the market, as noted at paragraph (32) above, MAFTEC is the most important supplier of PCW blankets, accounting for [80-90]% of the global production of dry-laid PCW blankets. As further noted at paragraph (21) above, MAFTEC does not supply wet-laid PCW blankets. The wet-laid manufacturing process requires different production lines and equipment than dry-laid manufacturing. Dry-laid PCW blanket production facilities cannot easily be converted into wet-laid production facilities and MAFTEC would not be able to switch production in a timely and sufficient manner [proprietary production details].[34] It follows that there is no supply-side substitutability between dry- and wet-laid PCW blankets.

Needle-punched versus non-needle-punched PCW blankets

(38) Regarding a further distinction between needle-punched and non-needle-punched PCW, the results of the market investigation suggest that it is tautological with the distinction between dry- and wet-laid PCW, in the sense that dry-laid PCW will typically be needle-punched, while wet-laid PCW will typically be non-needle-punched.[35]

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26 See responses to Question 10, eQ2 to manufacturers of hot-ends.
27 See responses to Question 11, eQ2 to manufacturers of hot-ends
28 See responses to Question 11.1, eQ2 to manufacturers of hot-ends.
29 See responses to Question 8, eQ2 to manufacturers of hot-ends.
30 See responses to Question 8.1, eQ2 to manufacturers of hot-ends.
31 See Form CO, Table 2.
32 See responses to Question 10, eQ2 to manufacturers of hot-ends.
33 See confidential responses to Question 6, eQ1 to manufacturers of PCW blankets and mats.
34 See Form CO, paras. 155 et seq. and 158 et seq.
35 See confidential replies to Question 7.1, eQ 1 to manufacturers of PCW blankets and mats; Question 9.1, eQ 2 to manufacturers of hot-ends. The remainder of this decision will therefore solely refer to "dry-laid", it being understood that dry-laid typically is needle-punched.

Conclusion

(39) In light of the market investigation, the Commission therefore finds that:

(40) *First,* PCW blankets are not interchangeable with other forms of PCW, such as bulk or mats.

(41) *Second*, based on its product characteristics, blankets made from PCW are interchangeable only to a limited extent with blankets made from alternative materials, at least in the EEA. PCW seems to be the preferred material for manufacturers of hot-ends due to its higher heat resistance compared to e.g. AES and RCF. Manufacturers of hot-ends for gasoline powered light vehicles therefore typically do not consider alternative insulation materials as being substitutable for PCW. However, AES is being used by hot-end manufacturers in hot-ends for diesel cars and CTOHs. Moreover, outside the EEA, RCF is being used by hot-end manufacturers in hot-ends for gasoline and diesel cars, and CTOHs. It follows that PCW could face competition from alternative materials at least to some degree.

(42) *Third,* with regard to a potential distinction between dry-laid and wet-laid PCW, the Commission notes that dry-laid PCW is the preferred material for the manufacture of hot-ends for gasoline vehicles, due to its higher heat resistance in thinner layers, compared to wet-laid PCW. Wet-laid PCW, however, is suitable for use in the manufacture of hot-ends for diesel cars and CTOHs. Wet-laid PCW is also suitable for gasoline vehicles, however this would require the use of thicker layers of the material, compared to dry-laid PCW.[36]

(43) *Fourth*, there is no need to further distinguish between needle-punched and non-needle-punched PCW blankets.

(44) The Commission considers that, for the purposes of the present case, it may be left open whether PCW belongs to the same product market with other types of insulating materials, and whether, within the plausible market for PCW blankets, there should be a further distinction between dry-laid and wet-laid PCW, as the Transaction does not lead to serious doubts as to its compatibility with the internal market, regardless of the market definition adopted. Since MAFTEC only manufactures dry-laid PCW blankets, the Commission will assess the Transaction under the most precautionary basis, considering a market for dry-laid PCW blankets.

4.2.2. Geographic market definition

4.2.2.1. The Notifying Party's views

(45) The Notifying Party submits that the market for the manufacture and supply of PCW blankets is global in scope for the following reasons: (i) MAFTEC manufactures PCW blankets in two plants in Japan and ships them worldwide; (ii) other manufacturers of PCW blankets also operate on a worldwide basis; (iii) the transport costs do not generally represent a material percentage of the final

[36] See Form CO, paragraph 87; See also replies to Question 20.1, eQ2 to manufacturers of hot-ends.

price; (iv) prices are uniform across geographies; and (iv) there are no national regulations or tariffs that hinder the imports of blankets.[37]

4.2.2.2. The Commission's assessment

(46) The results of the market investigation confirmed that manufacturers of PCW support mats source PCW blankets on a worldwide level.[38] The Notifying Party confirms that MAFTEC, the most important supplier of dry-laid PCW blankets, supplies its blankets on a worldwide basis.[39] The majority of manufacturers of PCW support mats responded that transportation costs for their products are insignificant, and in any case below 10% of the product's final price,[40] while there are no regulations, certification processes or other factors that would hinder the import of PCW blankets into the EEA from any region worldwide.[41]

(47) Although some manufacturers of PCW blankets and mats submitted that prices can differ among world regions (e.g. Europe, Asia, Americas etc.),[42] the Commission does nonetheless consider that the demand and supply for PCW blankets takes place on a global scale.

(48) On the basis of the foregoing, the Commission will conduct its assessment of the Transaction considering a market for dry-laid PCW blankets that is worldwide in scope.

4.3. Manufacture and supply of insulation components for automobile exhaust systems

4.3.1. Product market definition

(49) The Commission has previously considered a separate market for insulation components (i.e. supporting mats) for automotive catalytic converters and exhaust systems in one decision but ultimately left the exact market definition open.[43]

4.3.1.1. The Notifying Party's views

(50) The Notifying Party submits that the processing of PCW blankets into PCW mats entails a separate manufacturing process, which requires specific equipment and know-how that is different from the one required for the manufacturing of PCW blankets.[44] The Notifying Party further submits [proprietary production details].[45]

(51) As set out at paragraph (23) above, the Notifying Party submits that the relevant product market should include both dry-, and wet-laid PCW mats, as well as mats

37 See Form CO, paragraph 99.
38 See responses to Question 10, eQ1 to manufacturers of PCW blankets and mats.
39 See Form CO, paragraph 99.
40 See responses to Question 11, eQ1 to manufacturers of PCW blankets and mats.
41 See responses to Question 13, eQ1 to manufacturers of PCW blankets and mats.
42 See responses to Question 12, eQ1 to manufacturers of PCW blankets and mats.
43 See Commission, Case COMP/M.5942 -Lloyds Tsb Bank/ Svenska Handelsbanken/ Dyson Group, decision of 18 November 2010, paragraph 8.
44 See Form CO, paragraph 65.
45 *Ibid.*

produced by alternative insulating materials, such as refractory ceramic fibre (RCF), bio-soluble fibre (BSF) or alkaline earth silicate wool (AES).[46]

4.3.1.2. The Commission's assessment

(52) The market investigation confirmed that the manufacture of PCW support mats constitutes a market that is separate from the market for the manufacture of PCW blankets.

(53) *First*, the market investigation confirmed that processing PCW blankets into mats is a capital-intensive process that requires specific equipment and know-how, which is different from that required for the manufacture of PCW blankets.[47]

(54) *Second*, the market investigation confirmed that, from the demand-side of the market, there is no substitutability between PCW blankets and PCW mats. The manufacturers of hot-ends were unanimous in that they would source PCW only in the form of mats, and would not source PCW blankets instead.[48] This was also confirmed by the responses of manufacturers of PCW blankets and mats.[49]

(55) *Third*, hot-end manufacturers cannot easily switch to mats made from different materials or by different procedures during the course of an ongoing OEM program, other than the one that was validated by the OEM as part of the overall validation of the hot-end. Each different type of mat has different specifications, which are taken into account in the initial design of the hot-end. The initial design for the hot-end is typically validated by the OEM and any subsequent change to its materials or design would likely trigger a new validation process.[50]

(56) *Fourth*, there is no supply-side substitutability between PCW blankets and mats. As mentioned at paragraphs (32)*et seq*., with particular regard to dry-laid PCW, MAFTEC is currently the most important manufacturer, accounting for [80-90]% of total production worldwide. Although MAFTEC is also active in the manufacture and supply of PCW mats, it is a rather small player in that market. Instead, the most important manufacturers and suppliers of dry-laid PCW mats are 3M and Ibiden, which themselves do not manufacture dry-laid PCW blankets.[51]

(57) With regard to whether supporting mats made of alternative materials to PCW, as well as supporting mats made out of dry-laid and wet-laid PCW should be considered to belong to the same market, the same considerations as under (25) to (38) for PCW blankets apply. The Commission therefore considers that the exact market definition can be left open, as the Transaction does not lead to serious

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46 See Form CO, paragraphs 82 *et seqq*.

47 See confidential and non-confidential replies to Questions 5.1, 17, 17.1, 26, eQ1 to manufacturers of PCW blankets and mats; Questions 30.1, eQ2 to manufacturers of hot-ends.

48 See responses to Question 5, eQ 2 to manufacturers of hot-ends.

49 See responses to Question 5, eQ 1 to manufacturers of PCW blankets and mats.

50 See responses to Question 20.1, eQ 2 to manufacturers of hot-ends. See also Form CO, paragraph 87. The validation of a hot-end and its individual parts, including the supporting mats, typically lasts 2-3 years. Therefore, switching to a different, non-validated supporting mat while an OEM program is ongoing is rather unfeasible. However, at the point where the hot-end manufacturer designs a new hot-end (i.e. when bidding for a new OEM program), the hot-end manufacturer may possibly consider several types of materials for the support mats to be used in the hot-end.

51 See Form CO, paragraph 125.

doubts as to its compatibility with the internal market, regardless of the market definition retained. The Commission will, on a precautionary basis, assess the Transaction considering the narrowest plausible market for dry-laid PCW supporting mats.

4.3.2. Geographic market definition

(58) In the previous decision, the Commission left the geographic scope of the market for insulation components for automotive catalytic converters and exhaust systems open.[52]

4.3.2.1. The Notifying Party's views

(59) For the same reasons set out at paragraph (45) above, the Notifying Party submits that the market should be considered worldwide in scope.[53]

4.3.2.2. The Commission's assessment

(60) The results of the market investigation confirmed that manufacturers of hot-ends source PCW support mats on a worldwide level.[54] Suppliers of PCW mats confirmed that they are active globally.[55] The majority of manufacturers of hot-ends responded that transportation costs for PCW support mats are insignificant and in any case below 10% of the final price,[56] while there are no regulations, certification processes or other factors that would hinder the import of PCW support mats into the EEA from any region worldwide.[57]

(61) Although some manufacturers of hot-ends submitted that prices for PCW mats can differ among world regions (e.g. Europe, Asia, Americas etc.),[58] the Commission does nonetheless consider that the demand and supply for PCW mats takes place on a global scale.

(62) On the basis of the foregoing, the Commission will conduct its assessment of the Transaction considering a market for, dry-laid PCW support mats that is worldwide in scope.

4.4. Manufacture and supply of automobile exhaust systems

4.4.1. Product market definition

(63) The Commission has previously examined, but ultimately left open, whether exhaust systems should be considered as one single market or segmented between hot-ends and other components.[59] The Commission has also considered but left

52 See Commission, Case COMP/M.5942 -Lloyds Tsb Bank/ Svenska Handelsbanken/ Dyson Group, decision of 18 November 2010, paragraph 8.
53 See Form CO, paragraph 101.
54 See responses to Question 12, 12.1, eQ2 to manufacturers of hot-ends.
55 See responses to Question 1, eQ1 to manufacturers of PCW blankets and mats. See also Form CO, paragraph 101, with respect to MAFTEC's supporting mat supplies.
56 See responses to Question 13, eQ2 to manufacturers of hot-ends.
57 See responses to Question 15, eQ2 to manufacturers of hot-ends.
58 See responses to Question 14, eQ2 to manufacturers of hot-ends.
59 See Commission, Case M.9730 – FCA/PSA, decision of 31 December 2020, paragraph 1710.

open, whether hot-ends should be further segmented between (i) hot-ends for gasoline engines and (ii) hot-ends for diesel engines.[60]

(64) The Notifying Party does not contest the Commission's previous findings.

(65) The results of the market investigation also did not provide reasons for the Commission to depart from the findings in its past decisions. For the purposes of this decision the exact market definition for the manufacture and supply of automobile exhaust systems can be left open, as the Transaction does not lead to serious doubts as to its compatibility with the internal market, regardless of the market definition adopted.

(66) As explained at paragraph (42) above, hot-ends for gasoline vehicles are the type of hot-ends for which there are the least alternatives to dry-laid PCW mats. This is because gasoline cars tend to develop higher temperatures, whereas dry-laid PCW mats have the highest heat resistance compared to alternative materials. Furthermore, Tenneco purchases dry-laid PCW support mats primarily for the manufacture of hot-ends sold to OEMs who use them in light vehicles with gasoline engines.[61]

(67) The Commission will therefore assess the Transaction considering the narrowest plausible markets for hot-ends separately for gasoline engine cars, diesel engine cars and CTOHs, with a particular focus on gasoline engine cars, noting that the Commission's assessment does not change regardless of the specific segment of hot-ends.

4.4.2. Geographic market definition

(68) The Commission has previously found the market for the sale of automotive components to OEMs to be at least EEA-wide, leaving the exact market definition open.[62]

(69) The Notifying Party does not contest the Commission's previous findings.

(70) The results of the market investigation also did not provide reasons for the Commission to depart from the findings in its past decisions. For the purposes of this decision, the exact scope of the market for the manufacture and supply of automobile exhaust systems can be left open, as the Transaction does not lead to serious doubts as to its compatibility with the internal market, regardless of the market definition adopted.

(71) In line with its previous findings, the Commission will conduct its assessment on the basis of an at least EEA-wide market.

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60 See Commission, Case M.9730 – FCA/PSA, decision of 31 December 2020, paragraph 1710 and Commission, Case M.5680 – Faurecia/Emcon Technologies, 6 January 2010, paragraphs 6 et seq.

61 Tenneco also uses dry-laid PCW support mats as an input for the manufacture of hot-ends for diesel-engine vehicles, albeit to a small extent.

62 See Commission, Case M.9730 – FCA/PSA, decision of 31 December 2020, paragraph 1681; Commission, Case M.6714 - U-Shin/Valeo Cam, 6 February 2013, paragraph 27.

5. COMPETITIVE ASSESSMENT

5.1. Introduction

(72) The Transaction does not give rise to any horizontal overlaps.

(73) As outlined at paragraphs (7) *et seq.* above, Apollo (through MAFTEC) is active globally (i) in the manufacture and supply of dry-laid PCW blankets (level 1), as well as (ii) in the manufacture and supply of dry-laid PCW support mats (level 2). As further outlined at paragraph (10) above, Tenneco is active in the manufacture and supply of hot-ends of automobiles' exhaust systems (level 3). Tenneco purchases PCW support mats and uses them as an input primarily for the manufacture of hot-ends sold to OEMs who use them in light vehicles with gasoline engines.

(74) The Transaction would therefore lead to a direct vertical link between the market for the manufacture and supply of dry-laid PCW mats upstream, and the manufacture and supply of hot-ends of automobiles' exhaust systems downstream.

(75) According to Section 6.3 of the Form CO, relating to the notification of a concentration pursuant to Regulation (EC) No 139/2004,[63] a vertically affected market exists where "*one or more of the parties to the concentration are engaged in business activities in a relevant market, which is upstream or downstream of a relevant market in which any other party to the concentration is engaged, and any of their individual or combined market shares at either level is 30 % or more […]*".

(76) MAFTEC's market shares in the manufacture and supply of dry-laid PCW support mats are [5-10]%.

(77) In turn, as shown in Table 1 below, Tenneco's market shares in the manufacture and supply of hot ends of automobiles' exhaust systems is below 30% in the EEA under any plausible market delineation.[64]

(78) With particular regard to hot-ends for gasoline light vehicles, where dry-laid PCW mats are primarily used as an input, Tenneco's market share is [0-5]%.

Table 1 – Market shares for the manufacture of hot-ends of automobiles' exhaust systems in the EEA (2021)

	Hot-ends of gasoline light vehicles	**Hot-ends for diesel light vehicles**	**Hot-ends for CTOHs**
Faurecia	[20-30]%	[40-50]%	[20-30]%
Eberspaecher	[20-30]%	[5-10]%	[10-20]%

63 See Annex 1 to Commission Regulation (EC) No 802/2004 on the implementation of Council Regulation (EC) No 139/2004 on the control of concentrations between undertakings.

64 The Commission notes that Tenneco's market share in the independent aftermarket in Denmark for hot-ends for light vehicles with gasoline and diesel engines exceeded 30% in the past years 2019. However, as explained at paragraph (60), hot-end manufacturers source their dry-laid PCW mats on a global basis. Therefore, the national market shares on the supply side of the independent aftermarket are not relevant for the assessment of potential vertical effects between the supply of dry-laid PCW mats in the upstream market, and the supply of hot-ends in the downstream market.

	Hot-ends of gasoline light vehicles	Hot-ends for diesel light vehicles	Hot-ends for CTOHs
Boysen	[10-20]%	[0-5]%	[0-5]%
Futaba	[10-20]%	-	[0-5]%
Tenneco	[0-5]%	[20-30]%	[20-30]%

Source: Annex 7.1, Form CO.

(79) On the basis of the above, the direct vertical link between the manufacture and supply of dry-laid PCW mats upstream (level 2), where Apollo is active through MAFTEC, and the manufacture and supply of hot-ends for automobiles' exhaust systems downstream (level 3), where Tenneco is active, does not give rise to an affected market.

(80) However, the Commission was contacted by a market participant, who expressed concerns about the combination of the main global manufacturer and supplier of dry-laid PCW blankets (level 1), with one of the main players on the market for the manufacture and supply of hot-ends for automobiles' exhaust systems (level 3). Such concerns were generally reiterated also by other market participants in response to the Commission's market investigation.[65]

(81) The Commission will therefore assess the potential vertical effects that could arise from MAFTEC's activities on the manufacture and supply of dry-laid PCW blankets (level 1) in the further upstream market, and Tenneco's activities in the manufacture and supply of hot-ends for automobiles' exhaust systems (level 3) in the downstream market.

(82) The Commission notes from the outset that the markets for the manufacture of PCW blankets and of PCW mats are niche markets with very few market participants globally, which have little visibility on the exact product range and capacities of each other, while there exist no third-party reports that estimate the size of this market.

(83) With regard to the specific form of PCW, namely dry-laid PCW, there are currently mainly two manufacturers active in the production of blankets (level 1). Those are MAFTEC, accounting for roughly [80-90]% of the global production, and Unifrax, approx. accounting for [10-20]% of the global production.[66]

(84) Both MAFTEC and Unifrax are vertically integrated between the production of dry-laid PCW blankets (level 1) and the production of dry-laid PCW support mats (level 2). While the Commission understands that Unifrax uses all or almost all of its blanket production captively[67] for its own manufacture of support mats,

65 See responses to Questions of Section D., Questionnaire 1 to manufacturers and suppliers of PCW blankets and mats; Questions of Section D., Questionnaire 2 to manufacturers and suppliers of hot-ends.

66 See Form CO, paragraph 125. The Commission understands that Unifrax uses all or almost all of its blanket production captively, as explained at paragraph (84).

67 See Form CO, paragraph 128.

MAFTEC supplies its blankets primarily to the merchant market and has only marginal activities in the manufacture and supply of support mats.[68]

(85) On the market for the manufacture of dry-laid PCW mats (level 2), apart from MAFTEC and Unifrax, there are only two other main players active globally, namely 3M and Ibiden. In this market, MAFTEC has a market share of [5-10]%, while the rest of the market is divided mainly amongst 3M, Ibiden and Unifrax.[69]

(86) Due to the limited number of, and the interdependency between market participants on level 1 and level 2 of the market for PCW products, as well as due to the existing commercial relationships between PCW support mats producers and manufacturers of automobile exhaust systems, the result of the Commission's market investigation is characterised by a large number of confidential responses.

(87) The Commission will nonetheless base its assessment on the overall feedback from the market investigation, taking into account both the non-confidential and confidential responses, as well as the submissions of the Notifying Party, insofar as they are not conflicting with the overall feedback from the market investigation.

5.2. Analytical framework

(88) The legal test for the assessment of vertical effects of a merger is set out in the Merger Regulation and the Commission's Guidelines on the assessment of non-horizontal mergers under the Council Regulation on the control of concentrations between undertakings ("Non-horizontal Merger Guidelines").[70]

(89) According to the Non-horizontal Merger Guidelines, foreclosure effects in a vertical scenario may occur where actual or potential rivals' access to supplies (i.e. input foreclosure) or markets (i.e. customer foreclosure) is hampered or eliminated as a result of the merger, thereby reducing these companies' ability and/or incentive to compete.[71]

(90) In assessing the likelihood of an anticompetitive input foreclosure scenario, the Commission examines, whether the merged entity would have, post-merger, the ability to substantially foreclose access to inputs, whether it would have the incentive to do so, and whether a foreclosure strategy would have a significant detrimental effect on competition downstream.[72] Those conditions are cumulative.[73]

(91) Similarly, in assessing the likelihood of an anticompetitive customer foreclosure scenario, the Commission examines whether the merged entity would have the ability to foreclose access to downstream markets by reducing its purchases from its upstream rivals, whether it would have the incentive to reduce its purchases upstream, and whether a foreclosure strategy would have a significant detrimental

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68 See Form CO, paragraph 147. MAFTEC achieves […]% of its revenues from the sales of blankets mainly to [customer name], […]% from the sale of support mats.

69 There are also some smaller players active on the manufacture and supply of PCW support mats, such as Culimeta Saveguard, see Form CO, paragraph 138.

70 OJ C 265, 18.10.2008, p. 6.

71 Non-horizontal Merger Guidelines, paragraph 18.

72 Non-horizontal Merger Guidelines, paragraph 32.

73 See Judgement of the General Court in case T-370/17 – KPN v Commission, paragraph 119.

effect on consumers in the downstream market.[74] Those conditions are cumulative.[75]

(92) In the present case, the complaints received by the Commission referred to a potential input foreclosure strategy, which the combined entity could pursue based on a certain degree of market power in the upstream (level 1) market for the manufacture and supply of dry-laid blankets. In particular, the complaints referred to the possibility that, post-Transaction, MAFTEC could increase the prices for, or limit access to dry-laid PCW blankets for manufacturers of support mats, while supplying dry-laid PCW mats on reduced prices exclusively to Tenneco. The increased costs incurred by the manufacturers and suppliers of dry-laid PCW mats would then be passed on to Tenneco's competitors in the market for the manufacture and supply of hot-ends, thereby reducing the competitiveness of Tenneco's competitors in the downstream market (level 3).

(93) Whereas under normal circumstances, the lack of affected markets in a direct vertical relationship between the merging parties, i.e. where the merging parties are active in markets which are directly up- or downstream of each other, would be unlikely to raise concerns, the finding of concerns in an indirectly affected vertical relationship between the merging parties, i.e. where the merging parties are active on different levels of the value chain and have market shares above 30% on one or several markets which are not directly adjacent to each other, cannot be excluded from the outset.

(94) In order to assess potential competition concerns arising from an indirect vertical relationship as a result of the proposed Transaction, the Commission will base its assessment on additional specific circumstances, such as, for instance, where compared to the upstream level the intermediary level of the value chain that separates the markets in which the parties are active adds little value to the product used as an input on the downstream level, or where the merging parties have plans to expand production on the intermediary level of the value chain, or where such expansion in a timely and sufficient manner is at least possible.

(95) To address the complaints received from market participants, the Commission has examined both a hypothetical total foreclosure as well as a hypothetical partial foreclosure strategy.

5.3. Total input foreclosure – Withholding supply of dry-laid PCW blankets

(96) According to a total foreclosure theory, MAFTEC would stop supplying dry-laid PCW blankets to [customer name], which it would instead use internally to produce additional PCW support mats to, ultimately, benefit Tenneco.

5.3.1. The Notifying Party's views

(97) The Notifying Party submits that there is no risk of input foreclosure as a result of this Transaction, for the following reasons.

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74 Non-horizontal Merger Guidelines, paragraph 59.

75 See Judgement of the General Court in case T-370/17 – KPN v Commission, paragraph 119.

(98) *First*, MAFTEC's two largest customers, [customer name], account for approximately […]% of MAFTEC's total dry-laid PCW blanket sales. [proprietary financial details].[76]

(99) *Second*, MAFTEC does not have the ability to increase its own production of PCW mats to absorb the sales of PCW blankets that would need to be withheld from [customer name] in order to increase the supply of PCW mats to Tenneco and thereby to capture the demand of PCW mats that could be lost by [customer name]. This strategy would require [production details].[77]

(100) *Third*, according to the Notifying Party, it would not be in Tenneco's interest, if its other dry-laid PCW mat suppliers, namely [supplier name], were foreclosed by MAFTEC, even if it were assumed that MAFTEC could cover all of Tenneco's demand for dry-laid PCW mats. This is because Tenneco could damage its business and reputation if it were to rely on only one supplier for dry-laid PCW mats. This decision would cut Tenneco's supply of mats from [supplier name]and would expose Tenneco to the risk of supply interruptions due to lack of supplier diversification.[78]

(101) *Lastly*, Tenneco would also face retaliation from OEM customers with strong bargaining power. Tenneco is particularly vulnerable to retaliation because hot-ends account for a small share of their overall sales. Sales of products other than hot-ends account for nearly [80-90]% of Tenneco's global sales to the top 15 OEMs. Importantly, Tenneco has [information concerning business relations with third party companies]. Tenneco would therefore be particularly vulnerable to retaliation from [information concerning business relations with third party companies].[79]

5.3.2. The Commission's assessment

(102) Based on the Commission's findings, MAFTEC could not profitably engage in a strategy by which it would withhold supplies of PCW blankets to rival manufacturers of PCW support mats, in order to channel all input to Tenneco and foreclose Tenneco's rivals from access to dry-laid PCW mats. This is for the reasons set out below.

5.3.2.1. Ability to foreclose

(103) *First*, and foremost, the vertical integration of MAFTEC between its activities on the upstream market for PCW blankets production (level 1) and its activities on the intermediary market for PCW support mats production (level 2) is pre-existing. Apollo's proposed acquisition of Tenneco does not alter MAFTEC's hypothetical ability to further its own activities in PCW support mats (level 2) using its upstream market position in dry-laid PCW blankets (level 1), a strategy that MAFTEC has not resorted to in the past.

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76 See Form CO, paragraph 151.
77 See Form CO, paragraph 158.
78 See Form CO, paragraph 165.
79 See Form CO, paragraph 170.

(104) In light of the indirectly vertically affected markets described at paragraph (92) above, a merger-specific impact on Apollo's ability to foreclose Tenneco's rivals on the downstream market (level 3) from access to dry-laid PCW mats requires specific circumstances on the intermediary market level (level 2) that would enable Apollo to "bridge" the gap between level 1 and level 3 of the PCW value chain and leverage its market position from the upstream market (level 1) across the intermediary market into the downstream market (level 3).

(105) Such specific circumstances would exist, e.g., if MAFTEC were able to expand its activities in the intermediary market for the manufacturing and supply of PCW support mats in a timely and sufficient manner, in order to internalize the additional supply of dry-laid PCW blankets freed up through the withholding from MAFTEC's rivals in the same market. This is however not the case.

(106) MAFTEC does not have the capacity to turn all its blanket production into supporting mats. As explained in paragraph (83) *et seqq.*, MAFTEC's business model primarily focuses on the manufacture and supply of dry-laid PCW blankets, activities from which it derives […]% of its revenues. On the other hand, it is one of the smallest players in the reprocessing of such blankets into supporting mats, with a market share of only [5-10]%.

(107) MAFTEC's actual capacity for the manufacture of dry-laid PCW blankets is around […] tons per year. In 2021, […] tons of such blanket output was sold to [customer name], […] tons were sold to industrial (non-automotive) customers, and the remaining […] tons were used internally for the production of support mats. These figures represent 100% of MAFTEC's actual capacity.

(108) If MAFTEC were to withhold the […] tons of blankets it sold to [customer name] (which were presumably further processed into support mats and were supplied to hot-end manufacturers), MAFTEC would need to increase its current supporting mat manufacturing to […] times. This would require capital expenditures of around EUR […] million for special equipment and land, and would entail lead times of […]. As explained at paragraph (53) above, the market investigation confirmed that the reprocessing of PCW blankets into mats is a capital intensive process, which requires specific equipment and know-how that is different to the one used for the production of PCW blankets. Moreover, MAFTEC would need to hire and train specialised personnel, and have the supporting mats produced by its new production lines validated by hot-end manufacturers and OEMs.

(109) It follows that such a […] expansion would be considerably cost and time intensive. In addition, as several respondents to the market investigation pointed out,[80] the production of internal combustion engines, and thus exhaust systems, will gradually decline in the EEA and globally in the following years. Under these circumstances, an expansion of MAFTEC's manufacturing capacity for dry-laid PCW mats would likely not be feasible nor economically rewarding.[81]

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80 See e.g. replies to Question 26.1 of eQ1 to manufacturers and suppliers of PCW blankets and mats; Question 24.1 of eQ2 to manufacturers and suppliers of hot-ends.

81 See replies to Questions 17, 17.1, 26, 26.1 of eQ1 to manufacturers and suppliers of PCW blankets and mats.

(110) Relevant specific circumstances to leverage MAFTEC's market position from the upstream market (level 1) across the intermediary market into the downstream market (level 3) would further exist, e.g., if the value added to PCW blankets through the activities in the intermediary market (level 2) of processing the blankets into PCW support mats were limited. In that case, rivals in the intermediary market (level 2) would be unable to counter or compensate for any potential foreclosure strategy with the consequence that MAFTEC's strategy employed on level 1 would have almost direct effects on level 3 of the PCW value chain. This is however not the case.

(111) The manufacturing process of dry-laid PCW blankets into mats is complex and requires several technical steps, which involve the use of chemical components of specific content. The process is therefore not limited e.g. to cutting the blanket into the size of a mat. As further explained in paragraph (25), this process requires significant equipment, know-how and specialised personnel, which are not the same as those required for the manufacture of dry-laid PCW blankets. The support mat that results from this process has a significant added value compared to the blanket input, with a gross margin of typically […]% compared to the price of a blanket.

(112) As explained in paragraphs (106) *et seq.*, MAFTEC does not have the capacity to process all of its dry-laid PCW blanket production into support mats, and cannot expand such capacity in the near future. The assessment of any input foreclosure theory, which would entail the upstream market for the manufacture of dry-laid PCW blankets (level 1) and the downstream market for the manufacture of hot-ends (level 3), cannot ignore the fact that MAFTEC […].

(113) *Second*, absent the ability to considerably expand its supporting mat production capacity, and taking into account its ongoing commitments towards manufacturers of hot-ends, MAFTEC does not have the capacity to supply Tenneco's entire needs of dry-laid PCW mats.

(114) MAFTEC's actual capacity for the manufacture of dry-laid PCW mats is between […] to […] tons per year. In 2021, Tenneco has sourced in total […] tons of dry-laid PCW mats.[82] It follows that [confidential capacity details] is not enough to serve Tenneco's demand.

(115) In addition, MAFTEC currently has around […] ongoing OEM programs, for which MAFTEC supplies PCW support mats to manufacturers of hot-ends, with an average duration longer than […] years. These programs account for roughly […]% of MAFTEC's current production of support mats and thus are a substantial share of MAFTEC's total production. [Confidential capacity details].[83]. MAFTEC cannot immediately withdraw from these programs and shift its production to serve only Tenneco.

(116) *Third*, as confirmed by the market investigation[84], MAFTEC has multi-annual volume commitments for the supply of dry-laid PCW blankets also towards its

82 See Form CO, paragraph 155.

83 See Form CO, paragraph 156.

84 See confidential replies to Question 21.2 of eQ1 to manufacturers and suppliers of PCW blankets and mats.

customers active in the manufacture and supply of dry-laid PCW mats. It follows that, while MAFTEC could in theory refuse entering into new supply contracts, it would still have to deliver on its ongoing contracts for a period of time which would be sufficient for the market to adapt to the new economic reality.

(117) *Fourth*, even if Tenneco's rivals on the market for the manufacture and supply of hot-ends (level 3) would be effectively foreclosed from input of dry-laid PCW mats, Tenneco does not have the capacity to absorb their market share. As shown in Table 1, Tenneco is present mainly in the manufacture of hot-ends for diesel cars and CTOHs, while it is not a significant manufacturer of hot-ends for gasoline-vehicles. However, as discussed in paragraph (42), for diesel cars and CTOHs, there are other types of materials, such as wet-laid PCW, which are widely used. For gasoline vehicles, where the main demand for dry-laid PCW mats occurs, Tenneco would have to massively expand its capacity, in order to absorb the demand currently addressed by its foreclosed rivals. This would entail considerable capital expenditures and lead times, which would not be feasible in the light of the gradual phasing out of combustion engine vehicles.

(118) In conclusion, the Commission finds that MAFTEC would not have the ability to withhold supplies of PCW blankets to rival manufacturers of PCW support mats, in order to channel all input to Tenneco and foreclose Tenneco's rivals from access to dry-laid PCW mats.

5.3.2.2. Incentives to foreclose

(119) *First*, absent Tenneco's ability to benefit from such a strategy, as per (117) above, such strategy would only harm MAFTEC, […]. As explained in paragraphs (83) *et seqq*., MAFTEC is primarily a supplier of PCW blankets, rather than mats. Indeed, [customer name] are MAFTEC's largest customers, accounting for […]% of MAFTEC's non-captive PCW blanket sales and […]% of its overall non-captive revenues.[85] […], MAFTEC would have no incentive post-transaction to cease supply to [customer name].

(120) *Second*, even if MAFTEC were successful in foreclosing access to dry-laid PCW blankets by its competitors in the manufacture and supply of dry-laid PCW supporting mats, and if MAFTEC's capacity for the manufacture and supply of dry-laid PCW supporting mats were sufficient to cover Tenneco's (increased, post-foreclosure) demand, a foreclosure strategy would only be economically rewarding if Tenneco could absorb all of MAFTEC's production of dry-laid PCW supporting mats. This would entail Tenneco sourcing dry-laid PCW mats only from MAFTEC, not least because its other suppliers, namely [customer names] would be foreclosed. However, Tenneco cannot rely solely on one supplier of dry-laid PCW support mats. Currently, Tenneco considers that the minimum number of suppliers of PCW dry-laid mats needed to ensure security of supply is […]. Furthermore, sourcing only from MAFTEC, which is located in Japan, entails [confidential supply details].[86]

85 See Form CO, paragraph 151.

86 See Form CO, paragraph 165.

(121) Indeed, all hot-end suppliers who participated in the market investigation responded that they have supply contracts with at least 2, and even 3 or more suppliers of mats.[87]

(122) *Third,* as explained above, if faced with a shortage of PCW on the market, Tenneco's rivals could potentially switch to alternative products. In the mid-to-long-term, Tenneco's rivals would adapt to the new economic reality, by designing new hot-ends for their upcoming OEM program bids, which would accommodate alternative materials, such as wet-laid PCW support mats. As regards the ongoing OEM programs, Tenneco's rivals would be covered by their existing supply agreements, which, as explained in paragraph (115), typically cover the duration of an OEM program. Similarly, manufacturers of dry-laid PCW mats would in turn be covered by their ongoing supply agreements with MAFTEC, as per paragraph (116) above. It follows that the market would have time to adapt to the new reality, by switching to alternative materials for new OEM programs. Provided that Tenneco would likely not benefit from such a foreclosure strategy, as set out in paragraph (117) above, the result would likely be that MAFTEC would in the mid-to-long-term undermine its own product (i.e. dry-laid PCW), to no obvious short term benefit. This would in turn bring about a long-lasting detriment to MAFTEC, since, once alternative materials will be validated for use in long-term OEM programs, the inability to switch between materials will work against switching back to dry-laid PCW mats.

(123) *Fourth,* Apollo, MAFTEC or Tenneco have no information on the available spare capacity of Unifrax, or its ability to expand.[88] Engaging into a foreclosure strategy would entail the risk that Unifrax could utilize potential spare capacities, or expand its output of dry-laid PCW blankets and mat output. In this case, the foreclosure strategy could likely result in MAFTEC losing sales to Unifrax. The inability to foresee Unifrax' reaction to such a strategy limits the incentives of MAFTEC and Tenneco to engage into such a strategy.

(124) *Fifth,* in case Tenneco would engage into a foreclosure strategy that would risk raising costs of OEMs, Tenneco would be subject to retaliation by such OEMs. As MAFTEC accounts for [80-90]% of the total production of dry-laid PCW material, a scarcity of this material on the markets will easily be traced back to MAFTEC/Tenneco by the OEMs.

(125) The Commission has previously found that OEMs have a high bargaining power and the ability to retaliate against Tier 1 suppliers, such as Tenneco, by shifting their procurement to their supplier's rivals.[89] Tenneco would be particularly vulnerable to such retaliation, given that [80-90]% of its revenues derive from OEM programs other than for exhaust systems.[90]

(126) Moreover, Tenneco's […] competitor in the supply of hot-ends, namely Faurecia, is part of an integrated OEM group, [relationships with third parties].[91] Such OEMs

87 See responses to Question 18, eQ2 to manufacturers of hot-ends.
88 See Form CO, paragraph 171.
89 See case COMP M. 9730 – FCA/PSA, paragraph 1875.
90 See Form CO, paragraph 11.
91 See Form CO, paragraph 170.

could easily retaliate against Tenneco, by not nominating it for OEM programs other than for exhaust systems.

(127) In conclusion, the Commission finds that MAFTEC would have no incentive to withhold supplies of PCW blankets to rival manufacturers of PCW support mats, in order to channel all input to Tenneco and foreclose Tenneco's rivals from access to dry-laid PCW mats.

5.4. Partial input foreclosure – Raising downstream rivals' costs

(128) Instead of withholding PCW blanket supplies from its customers in the manufacture and supply of PCW support mats, MAFTEC could increase the prices for supplies to such customers, while itself supplying PCW mats to Tenneco at lower than market prices. Such increase in prices of PCW blanket supplies would in theory be passed on to the manufacturers of hot-ends, who would in turn not be able to compete effectively against Tenneco.

5.4.1. The Notifying Party's views

(129) As described in paragraph (97), the Notifying Party submits that there is no risk of input foreclosure as a result of the Transaction. This is mainly because (i) […], (ii) Tenneco cannot solely depend on MAFTEC for its sourcing of dry-laid PCW mats, and (iii) Tenneco would be subject to retaliation from OEMs, in case it engaged into a foreclosure theory, which would lead to an increase in prices of hot-ends. These arguments apply also in the context of a partial input foreclosure theory.

(130) Furthermore, the Notifying Party submits that such partial input foreclosure would not lead to a substantial increase in the prices of Tenneco's rival's hot-ends, due to the trivial value of dry-laid PCW blankets compared to the final price of the hot-end.[92]

(131) Moreover, the Notifying Party argues that an increase in the price of MAFTEC's dry-laid PCW blankets would affect not only Tenneco's rivals in the manufacture of hot-ends for gasoline vehicles in the EEA, where alternative materials are limited, but also manufacturers of hot-ends for diesel light-vehicles and CTOHs, for which blankets made from alternative materials constitute a viable substitute. Manufacturers of hot-ends for diesel light-vehicles and CTOHs could therefore switch to alternative sources (AES blankets, RCF blankets, etc.), which are not supplied by MAFTEC. In addition, Tenneco would also be impacted for the part of dry-laid PCW mats it does not source directly from MAFTEC.[93]

5.4.2. The Commission's assessment

(132) In addition to the reasons set out above in paragraphs (103) - (126), the Commission considers that MAFTEC and Tenneco could not profitably engage in such a strategy for the reasons set out below.

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92 See Form CO, paragraph 182 *et seq*.

93 See Form CO, paragraph 196.

(133) *First*, PCW blankets and mats only account for a small part of the total price of hot-ends.

(134) The Notifying Party submits that dry-laid PCW support mats account for less than […]% of the price of a typical hot-end. PCW blankets account for less than […]% of the price of a hot-end that utilizes dry-laid PCW mats. In particular, the dry-laid PCW blanket accounts for […]% of the total cost of a hot-end gasoline light vehicles; […]% for diesel light vehicles; […].[94]

(135) It follows that even if there was a significant price increase in dry-laid PCW mats, and even if this price increase was fully passed on to a rival of Tenneco, it would not translate into a material price increase of that rival's costs, which could lead to diversion of that rival's customers to Tenneco. By way of example, a 20% increase in the price of a PCW blanket, if fully passed on to the manufacturer of hot-ends, would result in a [0-5]% increase in the price of a hot-end. Even if Tenneco's rivals would not absorb such cost increase itself, and would pass it on to the OEM, the percentage cost savings that OEMs could obtain by switching to Tenneco instead of sourcing from Tenneco's rival hot-end supplier would be trivial.

(136) *Second*, as explained in paragraph (118) above, […]% of MAFTEC's non-captive sales of dry-laid PCW blankets are to [customer name]. [customer name] in turn process such blankets into dry-laid PCW mats, which they supply globally for different automobile use cases (i.e. hot-ends for gasoline cars, diesel cars, CTOHs).

(137) MAFTEC cannot price discriminate between downstream customers of [customer name] as it has no visibility with regard to those customers. Any price increase would apply horizontally to all customers of [customer name], including Tenneco, which would not be able to source the entirety of its dry-laid PCW mats demand from MAFTEC (see paragraph (119) above).

(138) In addition, as explained in paragraphs (41) *et seq*. above, raising the cost for dry-laid PCW support mats would only affect those customers of [customer name] who manufacture hot-ends for gasoline vehicles in the EEA. Only for those hot-ends are Tier 1 manufacturers typically dependent on dry-laid PCW mats due to limited alternatives. On the other hand, manufacturers of hot-ends for diesel cars and CTOHs globally, as well as manufacturers of hot-ends for gasoline vehicles outside the EEA, could switch to support mats from alternative materials (i.e. wet-laid PCW, AES or RCF mats) if faced with increased costs for dry-laid PCW.

(139) Currently, […]% of CTOHs globally use dry-laid PCW mats, although having other viable alternatives. For light vehicles with a diesel engine, this percentage is […]%.[95] These represent a customer base for MAFTEC, mainly [customer name], which it would likely lose if it were to increase the costs of dry-laid PCW blankets.

(140) Furthermore, as MAFTEC cannot cover Tenneco's demand for dry-laid PCW mats, (see above, paragraph (113)) [supplier name] will likely also supply their dry-laid PCW mats to Tenneco. Tenneco too would then have to bear the increased prices of MAFTEC's dry-laid PCW blankets, passed on by [supplier name].

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94 See Form CO, paragraph 182.

95 See Form CO, paragraph 196.

(141) In conclusion, the Commission finds that MAFTEC would have no ability and no incentive to engage in a partial withholding strategy, e.g., by increasing prices to its customers in the manufacture and supply of PCW support mats.

5.5. Conclusion on input foreclosure

(142) The Commission therefore considers that the proposed Transaction does not give rise to serious doubts as to its compatibility with the internal market due to the vertical relationship between Apollo (through its controlled portfolio company MAFTEC) and the Target as regards the further upstream market for the manufacture and supply of dry-laid PCW blankets and the downstream market for the manufacture and supply of automobile exhaust systems.

6. CONCLUSION

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

For the Commission

(Signed)
Margrethe VESTAGER
Executive Vice-President