Anticipated acquisition by Sibanye Gold Limited (trading as Sibanye-Stillwater) of Lonmin Plc

Decision on relevant merger situation and substantial lessening of competition

ME/6742-18

The CMA's decision on reference under section 33(1) of the Enterprise Act 2002 given on 28 June 2018. Full text of the decision published on 30 July 2018.

Please note that [✂] indicates figures or text which have been deleted or replaced in ranges at the request of the parties for reasons of commercial confidentiality.

SUMMARY

1. Sibanye Gold Limited (trading as Sibanye-Stillwater) (**Sibanye-Stillwater**) has agreed to acquire Lonmin Plc (**Lonmin**) (the **Merger**). Sibanye-Stillwater and Lonmin are together referred to as the **Parties**.

2. The Competition and Markets Authority (**CMA**) believes that it is or may be the case that Sibanye-Stillwater and Lonmin are two separate enterprises which will cease to be distinct as a result of the Merger, that the turnover test is met and that accordingly arrangements are in progress or in contemplation which, if carried into effect, will result in the creation of a relevant merger situation.

3. The Parties are both active in the extraction, production and supply of the platinum group metals (**PGMs**) which include: platinum, palladium, rhodium, ruthenium and iridium. Both Parties extract PGM ore from their mines in South Africa and, in Sibanye-Stillwater's case Zimbabwe and the USA, which is processed into PGM concentrate. The PGM concentrate is then refined into the five PGMs and sold globally (including in the UK).

4. The CMA has assessed the impact of the Merger in the following frames of reference:

   (a) the upstream supply of PGM concentrate on a global basis;

   (b) the downstream supply of refined platinum on a global basis;

   (c) the downstream supply of refined palladium on a global basis;

   (d) the downstream supply of refined rhodium on a global basis;

   (e) the downstream supply of refined ruthenium on a global basis; and

   (f) the downstream supply of refined iridium on a global basis.

5. Within these frames of reference, the CMA found that the Parties would not have sufficient market power to influence global PGM prices through output or capacity reductions. In particular, the CMA found that the Parties would continue to be constrained by other large PGM producers, as well as PGMs sourced from recycling. With regard to ruthenium and iridium, the CMA further found that these PGMs are only produced as by-products and account for a minimal share of the Parties' combined revenue from PGMs. As such, the CMA considers that production decisions would not realistically be determined by these two by-products.

6. The CMA also considered whether the Merger could lead to coordinated effects through the coordination of output, capacity and/or contract terms between the largest PGM producers (the Parties, Anglo-American Platinum (**AAP**) and Impala Platinum (**Implats**) for platinum, rhodium, ruthenium and iridium, and the Parties, AAP and Norilsk Nickel (**Norilsk**), a Russian producer of PGMs, for palladium). The CMA found that coordination on contract terms could not be monitored or enforced. The CMA found that coordination on output or capacity would be internally unsustainable, given that the significant time and costs to stop and restart production at particular mines would prevent the enforcement of any coordination. The CMA further found that competition from smaller mines as well as from recycled PGMs would make coordination on output, capacity or contract terms externally unsustainable.

7. There are also vertical components to the Merger, as Sibanye-Stillwater relies on third parties to smelt the majority and refine the entirety of its PGM concentrate while Lonmin is vertically integrated and offers smelting and refining services to third parties. The CMA was however able to exclude vertical foreclosure theories for (i) the supply of PGM concentrate to third parties and (ii) the supply of smelting and refining services to third parties on

the basis that the Parties would not have the ability to pursue such strategies (in particular due to the fact that in each case, numerous other alternatives remain in the market post-Merger).

8. The CMA therefore believes that the Merger does not give rise to a realistic prospect of a substantial lessening of competition (**SLC**) as a result of horizontal unilateral, coordinated or vertical effects.

9. The Merger will therefore **not be referred** under section 33(1) of the Enterprise Act 2002 (the **Act**).

ASSESSMENT

Parties

10. Sibanye-Stillwater is a South African precious metals mining group which owns and operates a mix of gold and PGM mines and projects in South Africa, Zimbabwe[1] and the USA. It supplies refined PGMs globally. Sibanye-Stillwater has its primary listing on the Johannesburg Stock Exchange and an American depository receipt programme traded on the New York Stock Exchange. The turnover of Sibanye-Stillwater in its last financial year (to 31 December 2017) was approximately £3,518 million worldwide, [✂].

11. Lonmin is a mine-to-market producer of PGMs listed on the London Stock Exchange with a secondary listing on the Johannesburg Stock Exchange.[2] Lonmin's core operations are in South Africa, where it mines and produces (through its smelting and refining operations) PGMs which it supplies globally. The turnover of Lonmin in its last financial year (to 30 September 2017) was approximately £921.62 million worldwide and approximately £[✂] million in the UK.

Transaction

12. On 14 December 2017, Sibanye-Stillwater publicly announced that it proposed to acquire Lonmin. The Merger is subject to the UK Takeover Code.

13. The Parties informed the CMA that the Merger is also the subject of review by competition authorities in South Africa.

[1] Where Sibanye-Stillwater holds a 50% share interest in a mine.

[2] Lonmin also has an American depository receipt programme traded on the over-the-counter market in the USA.

Jurisdiction

14. Sibanye-Stillwater and Lonmin are two separate enterprises which will cease to be distinct as a result of the Merger.

15. The UK turnover of Lonmin exceeds £70 million, so the turnover test in section 23(1)(b) of the Act is satisfied.

16. The CMA therefore believes that it is or may be the case that arrangements are in progress or in contemplation which, if carried into effect, will result in the creation of a relevant merger situation.

17. The initial period for consideration of the Merger under section 34ZA(3) of the Act started on 15 May 2018 and expires on 10 July 2018.

Counterfactual

18. The CMA assesses a merger's impact relative to the situation that would prevail absent the merger (ie the counterfactual). For anticipated mergers the CMA generally adopts the prevailing conditions of competition as the counterfactual against which to assess the impact of the merger. However, the CMA will assess the merger against an alternative counterfactual where, based on the evidence available to it, it believes that, in the absence of the merger, the prospect of these conditions continuing is not realistic, or there is a realistic prospect of a counterfactual that is more competitive than these conditions.[3]

19. Sibanye-Stillwater submitted that Lonmin is under severe financial pressure and continues to be hamstrung by its capital structure and liquidity concerns. Sibanye-Stillwater further submitted that operationally, Lonmin's [✂]. As such, Sibanye-Stillwater submitted that the CMA should recognise that this pre-existing situation represents an upper bound on Lonmin's future competitive strength and assess the Merger against this counterfactual.

20. The CMA will assess the Merger against an alternative counterfactual where, based on the evidence available to it, it considers that the prospect of prevailing conditions continuing is not realistic (for example, because the CMA believes that one of the merger firms would inevitably have exited from the market) or where there is a realistic prospect of a counterfactual that is more competitive than prevailing conditions.

[3] *Merger Assessment Guidelines* (OFT1254/CC2), September 2010, from paragraph 4.3.5. The *Merger Assessment Guidelines* have been adopted by the CMA (see *Mergers: Guidance on the CMA's jurisdiction and procedure* (CMA2), January 2014, Annex D).

21. However, Sibanye-Stillwater has not submitted that absent the Merger, Lonmin would have inevitably exited the market or that the conditions for a failing-firm counterfactual are met. Evidence from internal documents shows that Lonmin [✂]. Therefore, the CMA has assessed the Merger against the prevailing conditions of competition.

Frame of reference

22. Market definition provides a framework for assessing the competitive effects of a merger and involves an element of judgement. The boundaries of the market do not determine the outcome of the analysis of the competitive effects of the merger, as it is recognised that there can be constraints on merging parties from outside the relevant market, segmentation within the relevant market, or other ways in which some constraints are more important than others. The CMA will take these factors into account in its competitive assessment.[4]

23. The Parties overlap in the production and supply of PGMs. Both Parties extract PGM ore and process it into PGM concentrate (the supply of **PGM concentrate**). Through their PGM mining operations, the Parties each produce PGM concentrate containing primarily platinum, palladium and rhodium. [5] These are collectively termed 'primary', or '3E' PGMs as they are typically contained in higher concentration in rock deposits. Sibanye-Stillwater submitted that 3E PGMs make up the vast majority (around [90-100]% by revenue) of the total PGMs extracted from the mined ore. PGM concentrate also contains smaller quantities of ruthenium and iridium (sometimes termed minor PGMs), as well as small amounts of other by-products including nickel, copper, cobalt, chrome, gold and silver.[6] PGM concentrate is supplied to downstream players who process it into the different PGM metals.

24. Both Parties also supply refined PGMs to the market (the supply of **refined PGMs**). Refined PGMs are used, for example, for the manufacture of autocatalysts (used in car exhaust control systems) and jewellery. Autocatalyst manufacturing accounts for an estimated 65% of global 3E PGM demand.[7] PGMs are also used in certain industrial applications such as electronics, chemicals, dental material and glass. There is also some physical demand for PGMs by investors who invest in physical bars and coins, or physically backed securities through exchange traded funds.

[4] *Merger Assessment Guidelines*, paragraph 5.2.2.

[5] PGM concentrate is the material produced after the ore has been extracted from mining, which is then crushed and milled at a concentrator. To produce refined PGMs, the concentrate is smelted and refined.

[6] The CMA has not considered in any detail overlaps in these by-products since they are insignificant.

[7] Figures submitted by the Parties prepared on the basis of Johnson Matthey PGMs Market Report May 2017.

25. Sibanye-Stillwater operates primarily at the upstream level. With the exception of its USA site, Sibanye-Stillwater does not have the capabilities to smelt and refine its own PGM concentrate. As such, Sibanye-Stillwater sells the concentrate it produces to third party refiners which smelt and refine the concentrate and either on-sell the refined metals into the market, or return them to Sibanye-Stillwater to sell. At its USA site, Sibanye-Stillwater smelts and engages in some refining of its own PGM concentrate, which is then further refined by a third-party refiner. Lonmin is a fully integrated mine-to-market producer of PGMs with mining and refining operations in South Africa. Lonmin smelts and refines its PGM concentrate production as well as some PGM concentrate produced by other mining companies.

Product scope

Individual PGMs

26. Sibanye-Stillwater submitted that each individual PGM constitutes a separate product frame of reference with no further subdivisions. This is in line with previous European Commission precedents,[8] which found that while PGMs occur naturally together in the same ore body, they do not constitute a single relevant product market due to their different applications and limited demand-side substitutability.[9] In these decisions, the European Commission also found that the price of each PGM moved independently of one another. Third party responses to the CMA did not contradict this view.

27. The CMA considered whether the production and supply of PGMs should be further segmented according to the different functional levels of the production process (ie the supply of PGM concentrate at the upstream level, and the supply of refined PGMs at the downstream level). This was not considered in previous European Commission decisions, where parties were vertically integrated.

28. Sibanye-Stillwater submitted that there is no need to consider such a separate frame of reference, because the Parties do not overlap in the supply of refining and smelting services to third parties, and furthermore because the Merger does not give rise to any vertical concerns. Sibanye-Stillwater also submitted that only the supply of refined metals at the downstream level is directly relevant to the competitive effect of the merger in the UK, as UK

[8] European Commission decision M.619 – Gencor/Lonrho (1996) and European Commission decision M.754 – Anglo American Corporation/Lonrho.
[9] European Commission decision M.619 – Gencor/Lonrho (1996), paragraph 20.

customers only purchase refined PGMs and are not otherwise directly exposed to the PGM production process.

29. However, PGM producers which do not possess smelting and/or refining capabilities require third party smelting and/or refining services to bring their product to the market. Furthermore, there is a potential vertical link between the Parties, as Lonmin provides smelting and refining services to third parties, and Sibanye-Stillwater relies on third parties for most of its smelting and refining requirements. The CMA has therefore, on a cautious basis assessed the effects of the Merger on the supply of PGM concentrate and on the supply of refined PGMs. However, it was not necessary for the CMA to conclude on the segmentation into an upstream and downstream frame of reference, since no competition concerns arise on any plausible basis.

Upstream supply of PGM concentrate

Further segmentation

30. The CMA understands that PGM concentrate will contain all, or a mix of, the different PGMs, depending on which deposit it was extracted from. The CMA therefore considers that the supply of PGM concentrate should not be distinguished further by metal.

Recycling in the upstream markets

31. Sibanye-Stillwater submitted that supply from recycling should not be considered within a separate frame of reference to supply from mined ore, since the two are indistinguishably comingled during the smelting and refining process. Submissions from third parties on this point have broadly supported this view, although one refiner ([✂]) stated it only refines PGMs from secondary (ie recycled) sources due to differences in the refining processes. However, other refiners ([✂]) submitted that other than the pre-treatment, the refining process for recycled PGMs is identical to that for PGMs from mined ore, that they refine both types of PGMs and that the final products are identical.

Conclusion on the supply of PGM concentrate

32. As such, on a cautious basis, the CMA has assessed the effect of the Merger on the supply of PGM concentrate (including concentrate from recycling) to smelters and/or refiners.

Downstream supply of refined PGMs

Further segmentation

33. With regard to the downstream supply of refined PGMs, the CMA considered whether further distinctions should be made by purity or grade of metal. Sibanye-Stillwater submitted that such distinctions would not be appropriate, as PGMs are refined to well defined standards. For example, to be sold on the London Platinum and Palladium Market, platinum and palladium, must meet certain purity standards.[10] Furthermore, where a customer requires a higher purity PGM (eg for highly specialised industrial uses), metal from any source can be processed to such a standard.

34. Third parties confirmed that customers will usually require PGMs refined to a defined industrial standard. Third party competitors ([✂]) confirmed that where a customer requires a higher purity PGM, they are generally able to meet this demand without changing their existing production processes.

35. For these reasons, the CMA does not consider that any further segmentation by grade or purity of PGM is appropriate for this Merger assessment.

Recycling in the downstream markets

36. The CMA also considered whether to include refined PGMs produced from recycled material within the downstream frame of reference. Previous EC decisions did not consider recycled refined PGMs as part of the supply chain since they were, at the time, only a limited supplementary source of supply.

37. Market share data submitted by the Parties however shows that refined PGMs from recycled materials now account for up to [20-30]% of 3E PGM supply, depending on the metal. Sibanye-Stillwater further submitted that for any given PGM refined to the industry purity standard, the source is irrelevant. This was confirmed by customers and competitors, which consistently confirmed that they consider refined PGMs from recycling to be equivalent to refined PGMs from mined ore, with many noting that they expected the importance of recycled PGMs to increase. The CMA also found that estimates of refined PGMs supply and demand from industry sources include recycled PGMs as a source of supply that addresses the same demand.[11]

[10] London Platinum and Palladium Market Good Delivery List.

[11] See eg Johnson Matthey PGMs Market Report May 2017.

Conclusion on the supply of refined PGMs

38. As such, on a cautious basis, the CMA has considered each of the five PGMs, including PGMs from recycling, produced by the Parties separately in respect of the downstream supply of refined PGMs.

Conclusion on product scope

39. For the reasons set out above, on a cautious basis the CMA has considered the impact of the Merger in the following product frames of reference:

- the upstream supply of PGM concentrate;
- the downstream supply of refined platinum;
- the downstream supply of refined palladium;
- the downstream supply of refined rhodium;
- the downstream supply of refined ruthenium; and
- the downstream supply of refined iridium.

Geographic scope

40. Sibanye-Stillwater submitted that the production and supply of PGMs is a global market.

Upstream supply of PGM concentrate

41. With regard to PGM concentrate, Sibanye-Stillwater submitted that concentrate is not widely traded or transported over long distances. However, Sibanye-Stillwater submitted that because the value of concentrate is derived solely from the value of the refined metal into which it is processed and which is then sold on a global market, a global geographic frame of reference is appropriate.

42. Furthermore, Sibanye-Stillwater submitted, and third parties have confirmed, that Northam Platinum Limited's (**Northam**) (a South African PGM company) PGM concentrate is processed and transported to Hanau in Germany for processing by Heraeus Holdings (**Heraeus**). Third parties offering refining services ([✂]) also considered that their main competitors were other refining companies operating globally (Europe, Asia and North America in addition to South Africa).

43. On this basis, the CMA has considered the impact of the Merger for the supply of PGM concentrate globally.

Downstream supply of refined PGMs

44. Consistent with precedent, Sibanye-Stillwater submitted that refined PGMs are globally traded commodities in which reference prices emerge from global trading platforms. Platinum and palladium reference prices are the London Bullion Market Association prices, which are independently administered by the London Metal Exchange through an auction process. Rhodium, ruthenium and iridium reference prices are the [✂]. Third parties confirmed that global reference prices are generally used either as benchmarks in contracts (between the customer and the supplier) or when purchasing through the spot market.

Conclusion on frame of reference

45. For the reasons set out above, the CMA has considered the impact of the Merger on a global basis for each of:

- the upstream supply of PGM concentrate;
- the downstream supply of refined platinum;
- the downstream supply of refined palladium;
- the downstream supply of refined rhodium;
- the downstream supply of refined ruthenium; and
- the downstream supply of refined iridium.

Competitive assessment

Horizontal unilateral effects

46. Horizontal unilateral effects may arise when one firm merges with a competitor that previously provided a competitive constraint, allowing the merged firm profitably to raise prices or to degrade quality on its own and without needing to coordinate with its rivals.[12] Horizontal unilateral effects are more likely when the merging parties are close competitors. The CMA assessed whether it is or may be the case that the Merger has resulted, or

[12] *Merger Assessment Guidelines*, from paragraph 5.4.1.

may be expected to result, in an SLC in relation to horizontal unilateral effects in:

- the upstream supply of PGM concentrate;
- the downstream supply of refined platinum;
- the downstream supply of refined palladium;
- the downstream supply of refined rhodium;
- the downstream supply of refined ruthenium; and
- the downstream supply of refined iridium.

47. The CMA has found that the characteristics of competition across the different frames for reference were generally the same. In the analysis below, the CMA has therefore not differentiated by frame of reference unless specific constraints or considerations applied.

Background

48. Buyers of PGMs include manufacturers in the automotive, jewellery, glass, chemical, medical and petroleum sectors. Buyers can purchase PGMs on the spot market (in the UK these are the London Platinum and Palladium Market or the London Metal Exchange), or pursuant to direct contracts with particular mines. Buyers on the spot market purchase at the market price. Contracts usually offer a price scenario that is linked to some benchmark (eg the average of the London Platinum and Palladium Market price over a given period), sometimes with an agreed discount or premium, depending on the arrangements between the parties.

49. Sibanye-Stillwater submitted that PGM prices are set with reference to benchmarks determined by the markets and the balance of supply and demand. Sibanye-Stillwater also submitted that negotiated discounts and premiums under contracts represent a non-material fraction of the overall price. These submissions were confirmed by customers ([✂]).

50. This means that PGM prices can only be materially affected by flexing output to alter aggregate supply in the market, either by reducing short-term output or by slowing the rate of capacity expansion. For such a strategy to be profitable, the Parties would require a certain degree of market power post-Merger.

Shares of supply

51. Sibanye-Stillwater provided market share estimates (compiled on the basis of its internal documents and publicly accessible data) for both the upstream and downstream supply of each PGM. In each case, these market share estimates were provided on the basis of current asset ownership (ie assigning production volumes to entities based on current shareholdings) and historical ownership (ie assigning volumes to entities based on the shareholdings for the period considered).

52. The upstream market shares for each PGM will necessarily be related to market shares in the supply of PGM concentrate, as they represent the final output from PGM concentrate. Further as the Parties' combined market shares were consistently higher in the upstream frame of reference on the basis of current asset ownership, the CMA details these below and does not set out separate downstream market shares.

Table 1 Current asset ownership upstream supply shares in platinum, palladium and rhodium[13]

	2016			2017		
% production of metal concentrate from mined material & recycling	**Platinum**	**Palladium**	**Rhodium**	**Platinum**	**Palladium**	**Rhodium**
Sibanye-Stillwater	[10-20]	[10-20]	[10-20]	[10-20]	[10-20]	[10-20]
Lonmin	[0-10]	[0-10]	[0-10]	[0-10]	[0-10]	[0-10]
Parties combined	**[20-30]** ([20-30]%)	**[10-20]** ([10-20]%)	**[20-30]** ([20-30]%)	**[20-30]** ([20-30]%)	**[10-20]** ([10-20]%)	**[20-30]** ([20-30]%)
AAP	[10-20]	[0-10]	[10-20]	[10-20]	[10-20]	[10-20]
Implats	[10-20]	[0-10]	[10-20]	[10-20]	[0-10]	[10-20]
Norilsk	[0-10]	[20-30]	[0-10]	[0-10]	[20-30]	[0-10]
Northam	[0-10]	[0-10]	[0-10]	[0-10]	[0-10]	[0-10]
African Rainbow Minerals Platinum (**ARM**)	[0-10]	[0-10]	[0-10]	[0-10]	[0-10]	[0-10]
Vale	[0-10]	[0-10]	[0-10]	[0-10]	[0-10]	[0-10]
Royal Bafokeng Platinum (**RBP**)	[0-10]	[0-10]	[0-10]	[0-10]	[0-10]	[0-10]
Glencore	[0-10]	[0-10]	[0-10]	[0-10]	[0-10]	[0-10]
Tharisa	[0-10]	[0-10]	[0-10]	[0-10]	[0-10]	[0-10]
Sedibelo	[0-10]	[0-10]	[0-10]	[0-10]	[0-10]	[0-10]
North American Palladium (**NAP**)	[0-10]	[0-10]	[0-10]	[0-10]	[0-10]	[0-10]
Siyanda Resources (**Siyanda**)	[0-10]	[0-10]	[0-10]	[0-10]	[0-10]	[0-10]
Other primary	[0-10]	[0-10]	[0-10]	[0-10]	[0-10]	[0-10]
Total primary	[70-80]	[70-80]	[70-80]	[70-80]	[70-80]	[70-80]
Recycling exc. Sibanye-Stillwater	[20-30]	[20-30]	[20-30]	[20-30]	[20-30]	[20-30]
Sibanye-Stillwater recycling	[0-10]	[0-10]	[0-10]	[0-10]	[0-10]	[0-10]
Total recycling	[20-30]	[20-30]	[20-30]	[20-30]	[20-30]	[20-30]
Total supply	100	100	100	100	100	100

Source: Data provided by the Parties. Totals may not add up due to rounding.

[13] The Parties' combined share in the upstream supply of platinum, palladium and rhodium accounting for Sibanye-Stillwater's recycling activities are presented in parentheses. Sibanye-Stillwater submitted that the Parties do not hold information about the distribution of recycling amongst their competitors.

Table 2 Current asset upstream supply shares in ruthenium and iridium (extraction of raw ore/ production of concentrate)[14]

	2016		2017	
% production of metal concentrate from mined material & recycling	**Ruthenium**	**Iridium**	**Ruthenium**	**Iridium**
Sibanye-Stillwater	[10-20]	[10-20]	[10-20]	[10-20]
Lonmin	[10-20]	[10-20]	[10-20]	[10-20]
Parties combined	**[20-30]**	**[20-30]**	**[30-40]**	**[20-30]**
AAP	[20-30]	[20-30]	[20-30]	[20-30]
Implats	[20-30]	[20-30]	[20-30]	[10-20]
Northam	[0-10]	[0-10]	[0-10]	[0-10]
Norilsk	[0-10]	[0-10]	[0-10]	[0-10]
ARM	[0-10]	[0-10]	[0-10]	[0-10]
Tharisa	[0-10]	[0-10]	[0-10]	[0-10]
RBP	[0-10]	[0-10]	[0-10]	[0-10]
Sedibelo	[0-10]	[0-10]	[0-10]	[0-10]
Siyanda	[0-10]	[0-10]	[0-10]	[0-10]
Others	[0-10]	[0-10]	[0-10]	[0-10]
Total supply	100	100	100	100

Source: Data provided by the Parties. Totals may not add up due to rounding.

53. Other than for ruthenium, the Parties' combined shares of supply post-Merger will remain under [20-30]%, with a [30-40]% combined share in the supply of ruthenium.

54. As stated above, ruthenium and iridium are by-products of the production of primary PGMs, which are not separated from PGM concentrate until the later stages of refining. Sibanye-Stillwater submitted that therefore ruthenium and iridium output cannot be altered without affecting the output of the other three PGMs. As ruthenium and iridium combined only account for about [0-10]% of the Parties' PGM revenues, Sibanye-Stillwater submitted that the Parties' production decisions would not realistically be determined by these two by-products. A third party ([✂]) confirmed that iridium and ruthenium sales do not have a material impact on the mines' revenues.

55. The CMA also examined whether these shares of supply are likely to increase significantly as a result of the future potential extraction of the Parties' combined reserves and resources of PGMs.[15] Publicly available data submitted by Sibanye-Stillwater shows that reserves and resources of PGMs are distributed asymmetrically. Thus, the Parties' combined share of reserves

[14] These figures do not include recycling; [✂].

[15] Reserves are valuable and legally, economically and technically feasible to extract. Resources are potentially valuable meaning that there is a reasonable prospect for economic extraction. Resources include reserves.

in 4E PGMs[16] (platinum, palladium, rhodium and gold) as of February 2018 is [10-20]%, with AAP holding [30-40]% and Norilsk [20-30]%. With regard to resources, the Parties' combined share of supply is [10-20]%, with AAP having [30-40]%, and each of Implats and Norilsk having [10-20]%. The CMA therefore does not believe that the Parties' shares of supply are likely to significantly increase in the future.

Closeness of competition

56. PGMs are homogeneous products produced to defined industry standards. Sibanye-Stillwater submitted that the Parties are therefore not particularly close competitors or particularly strong as against other competitors. Third parties confirmed that neither Lonmin nor Sibanye-Stillwater have a particular brand advantage with some third parties naming AAP and Implats as desirable brands. One third party ([✂]) submitted that Lonmin was a relatively weak competitor in ruthenium due to the coarseness of its grain. While some third parties indicated that they do not purchase PGMs from smaller competitors, the CMA has received evidence that these smaller competitors are able to sell to refiners, who then sell into the market. In addition, some customers stated that the identity of the refiner (eg [✂]) is more important than that of the primary producer.

Competitive constraints

57. With respect to platinum, rhodium, ruthenium and iridium, two competitors with similar market shares to the Parties (AAP and Implats) will remain in the market post-Merger. With respect to palladium, Norilsk will remain the largest producer of palladium ([20-30]% share of supply) with AAP and Implats as the third and fourth largest producers.

58. Third parties confirmed that AAP, Implats and Norilsk (for palladium) are credible competitors to the Parties and most submissions by customers of the Parties ([✂]) also mentioned Northam as another close competitor. In addition, the CMA has received evidence that other smaller competitors ([✂]) are investing in capacity expansions, which are forecasted to result in increased production output in the coming years. The available resources and reserves data further suggests that the Parties will remain constrained by these competitors both in the near and the longer-term future.

59. The Parties will also continue to face a significant constraint from recycled PGMs, which constitute between [20-30]% and [20-30]% of the current

[16] Sibanye-Stillwater submitted that many producers only publish data on resources and reserves at the 4E PGM level of aggregation, rather than presenting each PGM separately, or presenting 3E PGMs separately.

primary PGM supply. As set out above, third parties submitted that they consider refined PGMs from recycling to be equivalent to refined PGMs from mined ore, with many noting that they expected the importance of recycled PGMs to keep growing.

60. Sibanye-Stillwater further submitted that both its customers and competitors routinely hold PGM stocks which could be released to offset any short-term reduction in output by the Parties. Evidence received from third parties on this point was mixed. While some third parties do hold above ground-stocks of PGMs, these cannot always be released immediately ([✂] said it would need one month). In addition, third parties submitted that these above-ground stocks are held for reasons other than potentially offsetting a reduction in supply, such as to trade on the futures markets ([✂], to meet "just-in-time" delivery requirements to end-customers ([✂]), or to support internal manufacturing operations ([✂]).

Capacity expansion

61. Sibanye-Stillwater submitted that it is [✂].

62. As regards Lonmin's expansion plans, Sibanye-Stillwater further submitted that given Lonmin's capital constraints pre-Merger, it would not be in a position to expand its capacity absent the Merger. Sibanye-Stillwater submitted that by relieving Lonmin's capital constraints, the Merger is more likely to result in higher capacity from Lonmin's resources compared to the counterfactual.

63. The Parties and third parties also noted that the economics of PGM mining incentivise PGM producers to operate their mines at full capacity because capital costs are large and most operating costs are fixed, making it costly to operate below capacity. Placing a mine on care and maintenance (ie ceasing mining operations) also involves upfront (eg redundancy) and ongoing costs.

Conclusion on horizontal unilateral effects

64. For the reasons set out above, the CMA believes that post-Merger, the Parties will continue to face significant constraints from a number of strong and growing competitors as well as from recycled PGMs. The CMA believes that the Parties therefore do not have sufficient market power to pursue a strategy of reducing output or slowing capacity expansion. Third parties did not raise concerns with regard to horizontal unilateral effects. While one third party ([✂]) noted that expansion and increase of output are not viable under the current economic climate, the available evidence suggests that several mines are in fact currently engaged in such projects. Accordingly, the CMA

has found that the Merger does not give rise to a realistic prospect of an SLC as a result of horizontal unilateral effects in relation to:

- the upstream supply of PGM concentrate;
- the downstream supply of refined platinum;
- the downstream supply of refined palladium;
- the downstream supply of refined rhodium;
- the downstream supply of refined ruthenium; and
- the downstream supply of refined iridium.

Coordinated effects

65. Coordinated effects may arise when firms operating in the same market recognise that they are mutually interdependent and that they can reach a more profitable outcome if they coordinate to limit their rivalry.[17] A merger may raise competition concerns as a result of coordinated effects if it affects the market structure such that the conditions for sustaining coordinated effects are created or enhanced.

66. When assessing whether or not coordinated effects may arise as a consequence of a merger, the CMA has regard to whether (a) there is evidence of pre-existing coordination in the relevant markets, (b) firms are able to reach and monitor the terms of coordination, (c) coordination would be internally sustainable, and (d) coordination would be externally sustainable.[18] The CMA has considered these factors below.

67. In this case, as illustrated in Tables 1 and 2, the Parties, AAP and Implats generally account for a significant share of the PGM market, with combined upstream shares of supply of [50-60]% in platinum and rhodium,[19] and around [60-70]% in ruthenium and iridium. With regard to palladium, the Parties, AAP and Norilsk have a combined upstream share of supply of [50-60]%.[20] One third party ([✂]) also expressed the concern that the Merger [✂].

68. As noted above, PGM producers set prices with reference to benchmarks determined by the markets and the balance of supply and demand. This

[17] *Merger Assessment Guidelines*, paragraph 5.5.1.
[18] *Merger Assessment Guidelines*, paragraphs 5.5.4 and 5.5.9.
[19] Excluding Sibanye-Stillwater's shares from PGM recycling. The combined downstream market shares for the Parties, AAP and Implats are [60-70]% for platinum, [60-70]% for rhodium, [80-90]% for ruthenium and [80-90]% for iridium.
[20] The combined downstream market share of Parties, AAP and Norilsk in palladium is [60-70]%.

means that the most likely forms of coordination would involve flexing output to alter aggregate supply in the market or coordinating discounts and premiums in contracts with customers. The CMA therefore examined whether the Merger would affect the market structure so as to create or enhance the conditions for coordination on output, capacity (by reducing or slowing expansion) or contract terms (ie discounts and premiums).

Coordination on output or capacity

69. Sibanye-Stillwater submitted that due to high fixed and capital costs, it is inefficient to operate mines below full capacity. Sibanye-Stillwater submitted that this means that reducing output achieves little or no cost savings, making a coordinated output reduction strategy costly and therefore generally undesirable. At the same time, expanding capacity and therefore output requires considerable upfront investment and time, meaning that the threat of expansion could not be used to enforce coordination on output.

70. Third parties ([✂]) confirmed that shutting down mines or placing them on care and maintenance is costly and done generally only where they are loss-making. One third party ([✂]) also commented that restarting a mine placed on care and maintenance would require significant investment. While one third party ([✂]) mentioned that it could theoretically shut down one of its processing plants to reduce PGM production, the CMA considers that this is unlikely to occur in practice as that same mine is currently investing in expanding its capacity.

71. Furthermore, resources and reserves of PGMs are asymmetrically distributed in the market, with AAP holding a large majority of all available PGM resources and reserves. The CMA therefore considers that any punishment mechanism against AAP in particular would be very difficult to implement in the long term.

72. As such, the CMA considers that because deviations cannot be punished in the short term, coordinating parties are able to and incentivised to deviate from any coordination strategy on output. Furthermore, as noted above, expanding capacity involves significant costs and time, meaning that deviations on capacity coordination cannot be punished in the short term. Even if investments into increasing capacity were used to punish deviating behaviour, the sunk costs of reversing or abandoning these investments would disincentive coordinating parties to revert to the coordination strategy.

73. The CMA therefore believes that coordination on output and capacity of PGMs is not internally sustainable.

Coordination on contract terms[21]

74. Sibanye-Stillwater submitted that individual contract terms between mines and buyers are not known to other market participants. Furthermore, customers often source PGMs through a mix of contracts (with terms of several months or years) and spot trading. This was confirmed by third parties.

75. The CMA therefore considers that coordinating parties would be unable to monitor the terms of coordination or detect deviations. Furthermore, the CMA considers that any attempts at coordination on contract terms would not be internally sustainable due to the inability to swiftly punish deviations from the coordinated behaviour (given the duration of contracts).

External unsustainability

76. Sibanye-Stillwater submitted that there are a number of third parties present in the market which would be able to undercut any coordination strategy through discounting or increases in output or capacity. This was supported by third party submissions, which in addition to AAP and Implats, generally considered Northam to be a credible competitor, with one customer noting that the company is growing. There are also a large number of smaller competitors, which could (and in some cases already do) invest in increasing output and capacity. Furthermore, the CMA considers that the Parties, AAP, Norilsk and Implats face and will continue to face significant competition from recycled PGMs, which are produced and supplied by a large number of additional competitors (eg BASF, Umicore, Johnson Matthey, Heraeus).

77. The available evidence therefore suggests that coordination is likely to be undermined by competition outside of any coordinating group, making it externally unsustainable.

Conclusion on coordinated effects

78. For the reasons set out above, the CMA does not believe that the Merger would affect market structure such that the conditions for sustaining coordinated effects are created or enhanced. Accordingly, the CMA found that the Merger does not give rise to a realistic prospect of an SLC as a result of coordinated effects in relation to:

    (a) The upstream supply of PGM concentrate;

    (b) The downstream supply of refined platinum;

[21] *Merger Assessment Guidelines*, paragraphs 5.5.10 – 5.5.13, 5.5.15 and 5.5.16.

(c) The downstream supply of refined palladium;

(d) The downstream supply of refined rhodium;

(e) The downstream supply of refined ruthenium; and

(f) The downstream supply of refined iridium.

Vertical effects

79. Vertical effects may arise when a merger involves firms at different levels of the supply chain, for example a merger between an upstream supplier and a downstream customer.

80. Vertical mergers may be competitively benign or even efficiency-enhancing, but in certain circumstances can weaken rivalry, for example when they result in foreclosure of the merged firm's competitors.[22] In the present case, the CMA has considered foreclosure theories of harm in relation to (i) the supply of concentrate to third parties and (ii) the supply of smelting and refining services to third parties.

81. The Parties are active at different levels of the supply chain. Lonmin is a mine-to-market producer of PGMs; it smelts and refines the concentrate it produces, and also smelts and refines concentrate produced by third parties. Pursuant to its arrangements with third parties, Lonmin either purchases the refined PGMs for onward sale or returns the refined PGMs to the primary producers. In contrast, Sibanye-Stillwater does not smelt or refine its own PGM concentrate in Southern Africa (in the USA, Sibanye-Stillwater is able to smelt and partially refine its own concentrate). Sibanye-Stillwater is reliant on third parties for these activities, sometimes selling the concentrate to third party smelters and refiners, and sometimes procuring smelting and refining services pursuant to toll-treatment agreements, pursuant to which the refined PGMs are returned to it.

82. As such, both vertical theories of harm could be characterised as input foreclosure and customer foreclosure. However, as the CMA's approach to assessing input and customer foreclosure theories of harm is to analyse (a) the ability of the merged entity to foreclose competitors, (b) the incentive of it to do so, and (c) the overall effect of the strategy on competition,[23] and no competition concerns arise on any plausible basis, the CMA has analysed the

[22] In relation to this theory of harm 'foreclosure' means either foreclosure of a rival or to substantially competitively weaken a rival.
[23] *Merger Assessment Guidelines*, paragraph 5.6.6.

vertical theories of harm without differentiating strictly between input and customer foreclosure. This is discussed below.

Supply of concentrate

83. The CMA considers that the merged entity could not pursue a foreclosure strategy in relation to the supply of concentrate to third parties for the following reasons:

(a) All of Sibanye-Stillwater's concentrate from its operations in South Africa is smelted and refined by either AAP (pursuant to two purchase of concentrate contracts) or Implats[24] (pursuant to a purchase of concentrate contract). [✂]. The CMA considers that such 'life of mine' contracts are agreed to provide certainty for both parties and to facilitate extraction of profits over the life of the mine. [✂].

(b) In any event, customers would be able to purchase concentrate from alternative sources should supply from Sibanye-Stillwater cease:

(i) The majority of third parties which provide smelting and/or refining services to Sibanye-Stillwater ([✂]) did not express concerns with respect to the supply of concentrate. One such provider ([✂]) noted that it has portfolio of attractive projects that it could consider progressing to utilise processing capacity should the supply of concentrate from third parties decrease, and that [✂]. [✂] submitted that [✂].

(ii) [✂].

84. Due to the Parties' lack of ability to foreclose, there was no need for the CMA to assess the Parties' incentive to foreclose or the effects of this foreclosure strategy on competition.

Supply of smelting and refining services

85. Lonmin provides smelting and refining services to [✂] producers of PGM concentrate in South Africa, [✂]. [✂].

86. The CMA considers that Lonmin could not pursue a foreclosure strategy in relation to the supply of smelting and refining services because [✂] could procure smelting and refining services from a range of alternative providers, including other mines (eg AAP and Implats) and refiners (such as Heraeus

[24] Concentrate refined by Implats is first sold to Centametall AG (**Centametall**) before being refined by Implats on its behalf.

and Johnson Matthey). [✂] confirmed that it considers that numerous other refiners are available in the market, should this become necessary. In addition, [✂] submitted that it has the intention to increase its smelting capacity and is currently operating a pilot project in this respect.

87. Due to the Parties' lack of ability to foreclose, there was no need for the CMA to assess the Parties' incentive to foreclose or the effects of this foreclosure strategy on competition.

Conclusion on vertical effects

88. Accordingly, the CMA found that the Merger does not give rise to a realistic prospect of an SLC as a result of vertical effects in relation to (i) the supply of concentrate and (ii) the supply of smelting and refining services.

Barriers to entry and expansion

89. Entry, or expansion of existing firms, can mitigate the initial effect of a merger on competition, and in some cases may mean that there is no SLC. In assessing whether entry or expansion might prevent an SLC, the CMA considers whether such entry or expansion would be timely, likely and sufficient.[25]

90. However, the CMA has not had to conclude on barriers to entry or expansion as the Merger does not give rise to competition concerns on any basis.

Decision

91. Consequently, the CMA does not believe that it is or may be the case that the Merger may be expected to result in an SLC within a market or markets in the United Kingdom.

92. The Merger will therefore **not be referred** under section 33(1) of the Act.

Joel Bamford
Director of Mergers
Competition and Markets Authority
28 June 2018

[25] *Merger Assessment Guidelines*, from paragraph 5.8.1.