



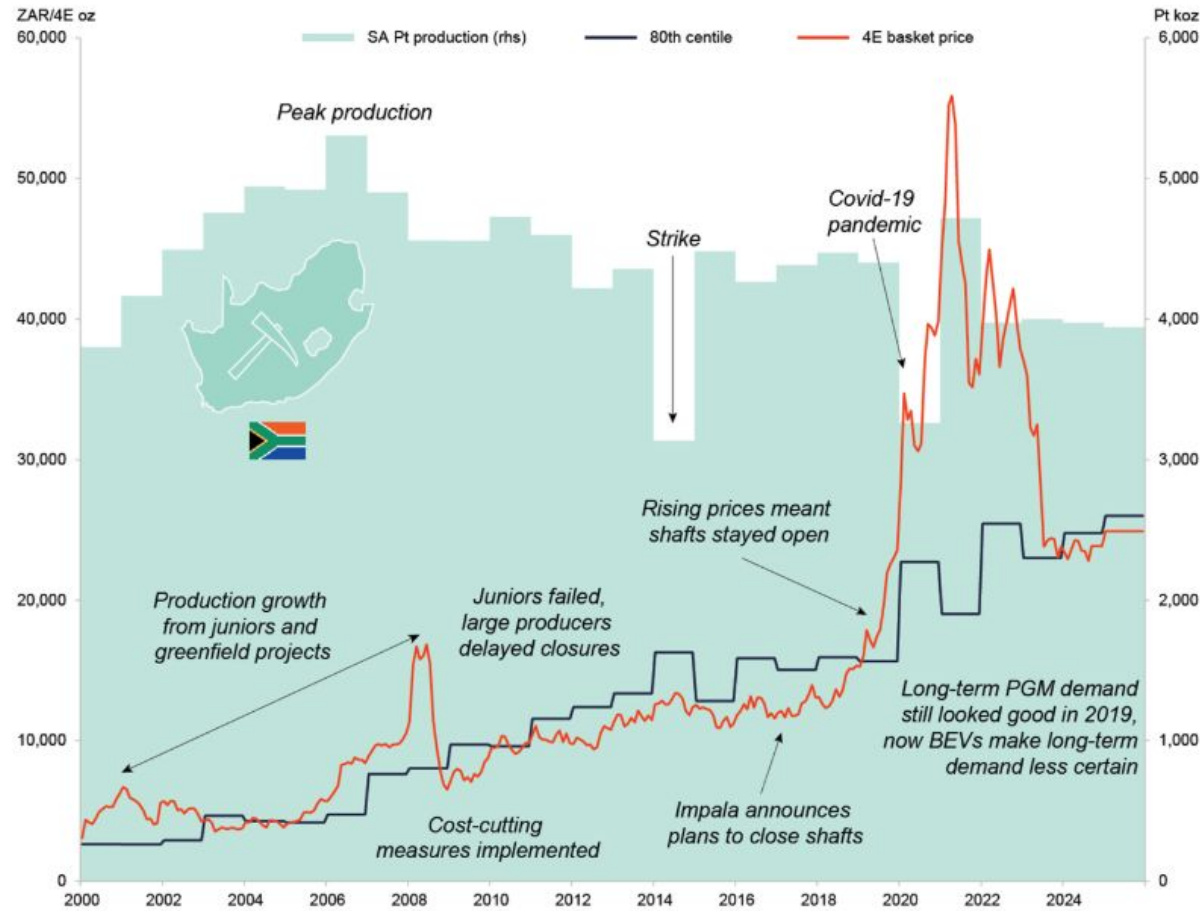
SAIMM 9th International PGM Conference 2025

Innovation – an imperative for a sustainable PGM Industry

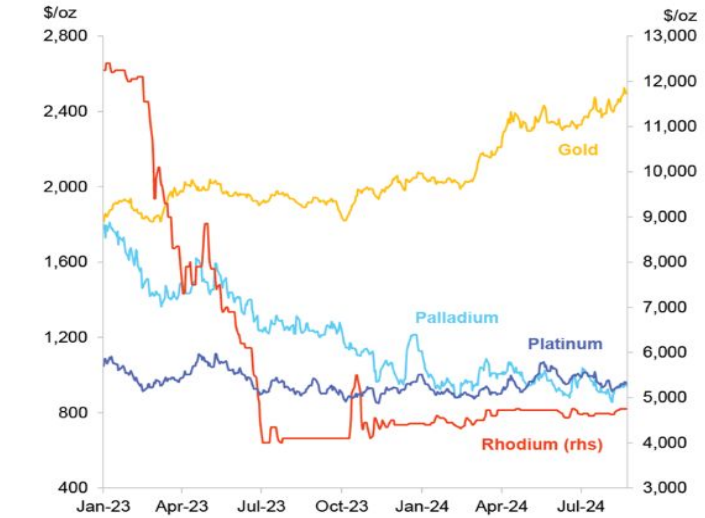


Profitability of the greater South African PGM Industry for the last 25 years

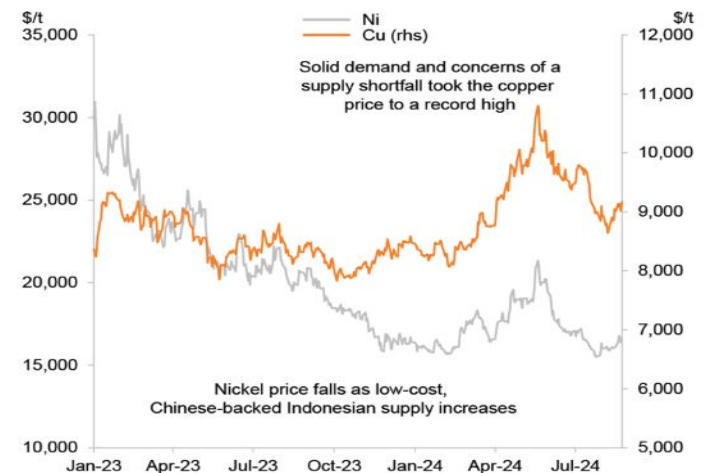
80th centile net total cash costs incl. SIB vs. SA 4E basket price



4E constituents' price trends 2023-2024



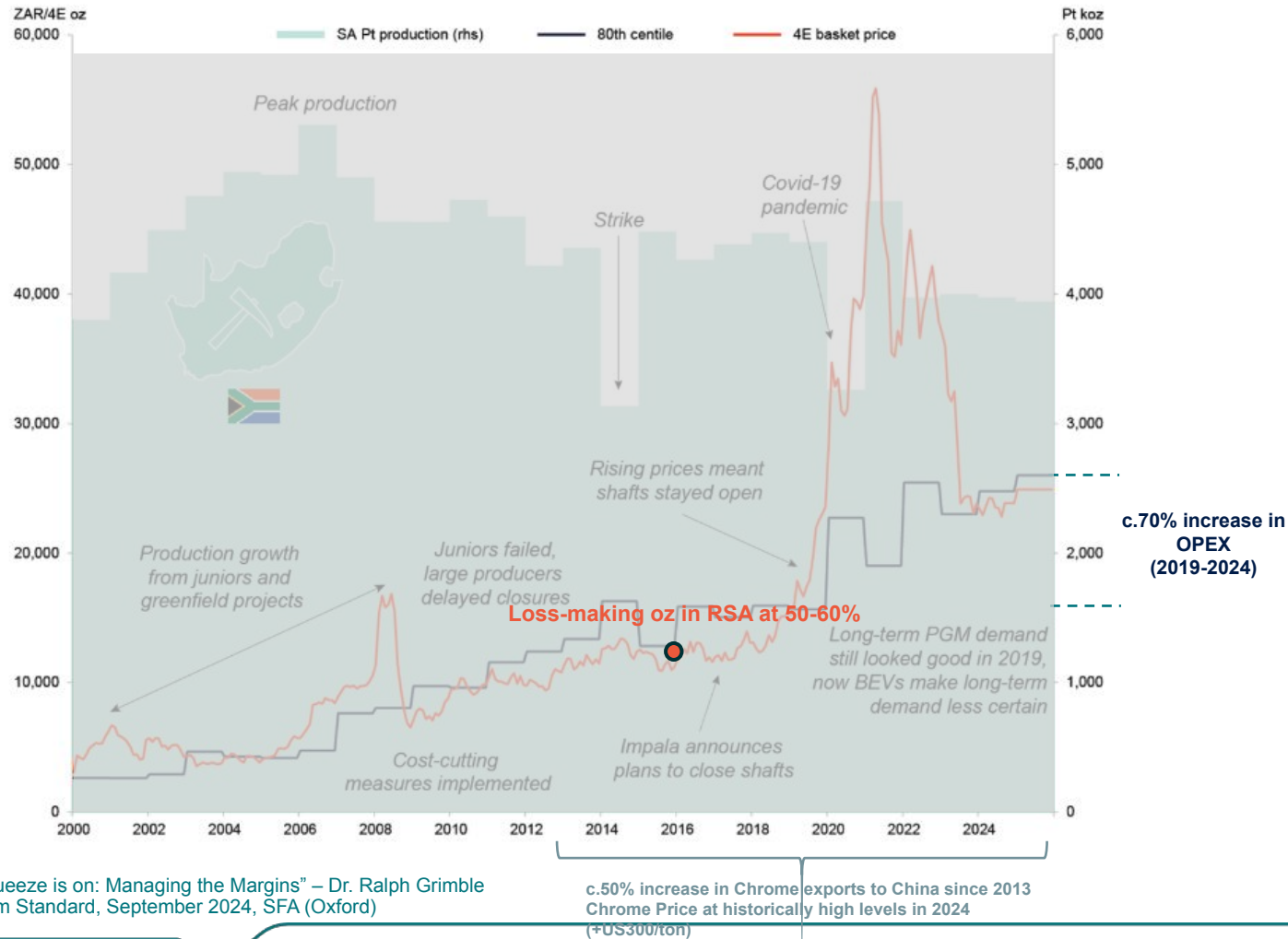
Nickel and copper prices 2023-2024



"The Squeeze is on: Managing the Margins" – Dr. Ralph Grimble
Palladium Standard, September 2024, SFA (Oxford)

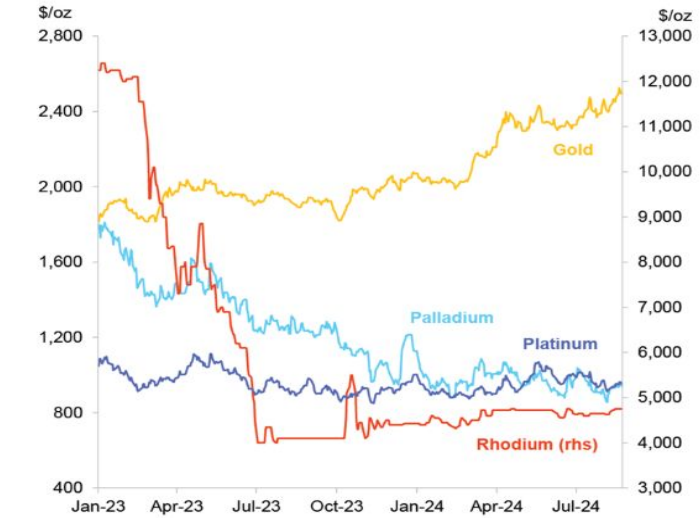
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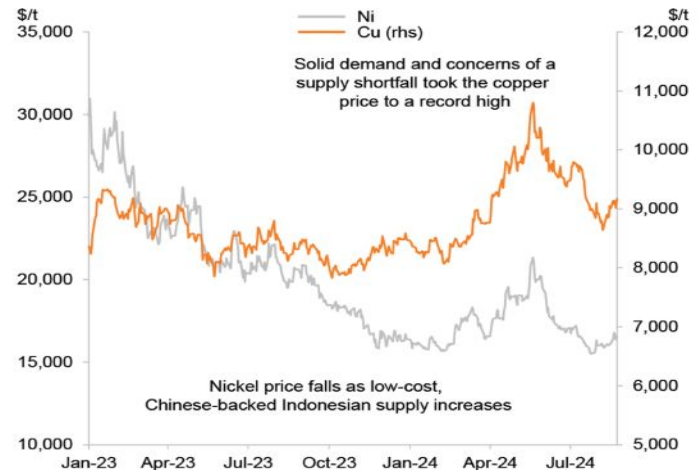


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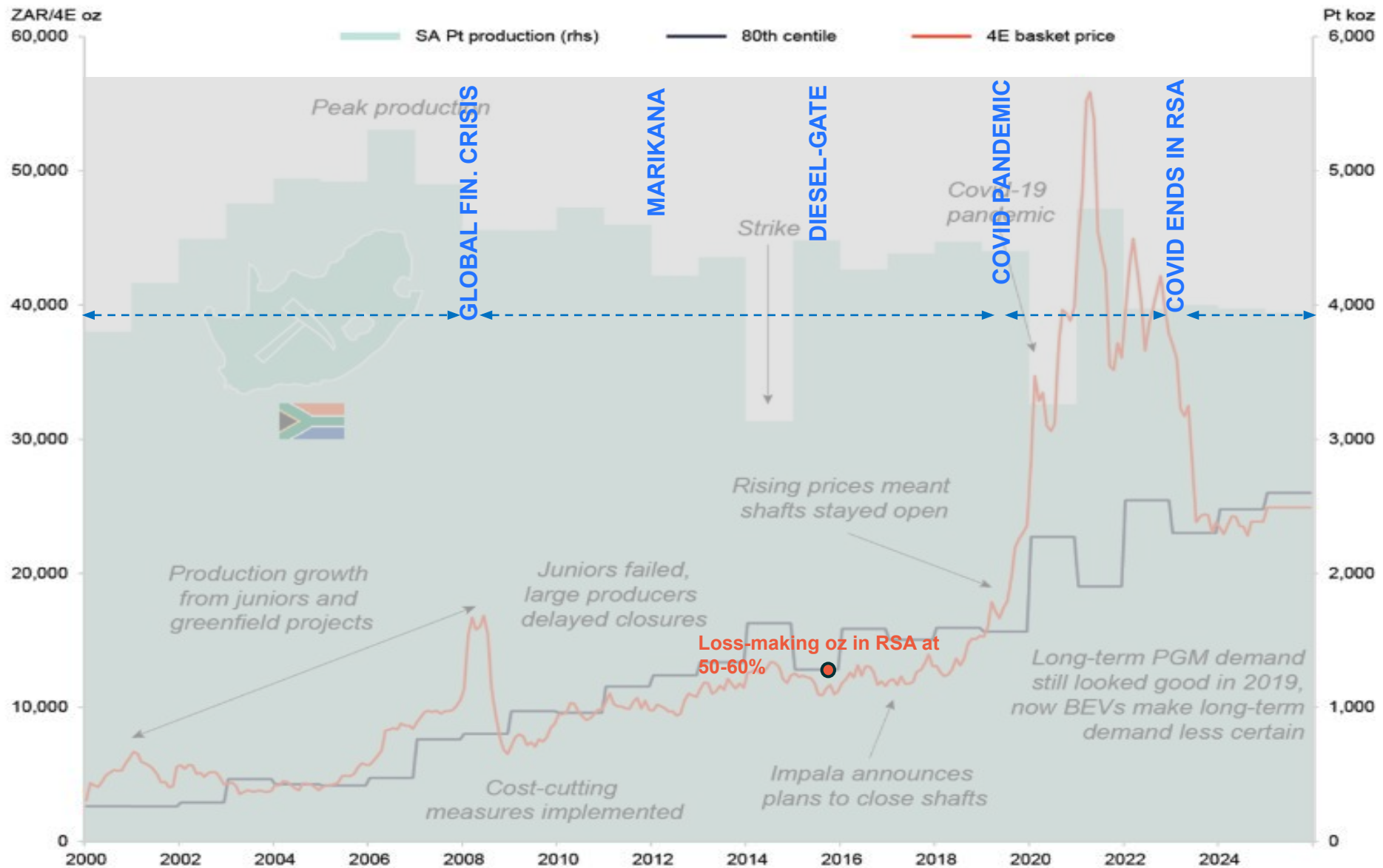
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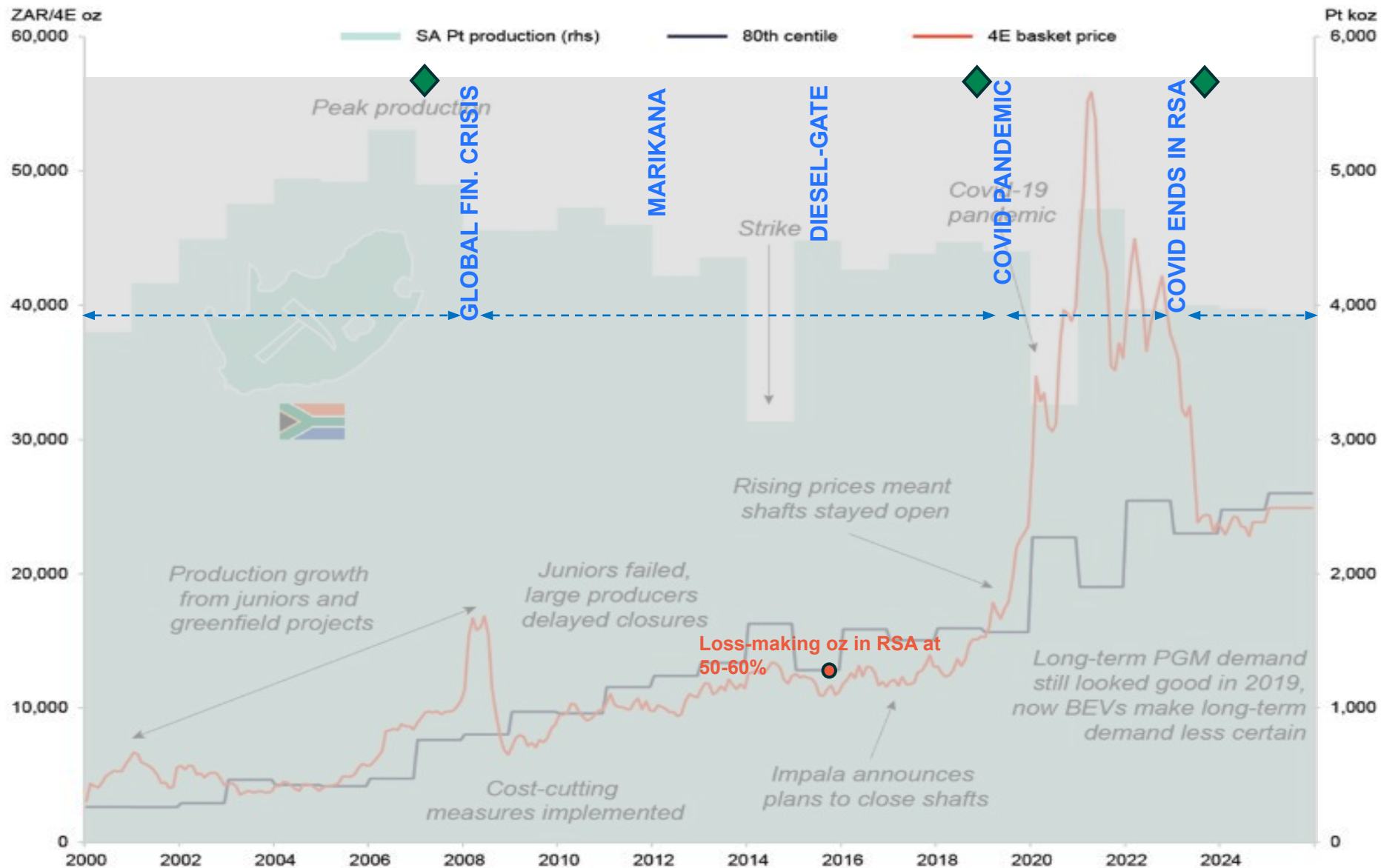
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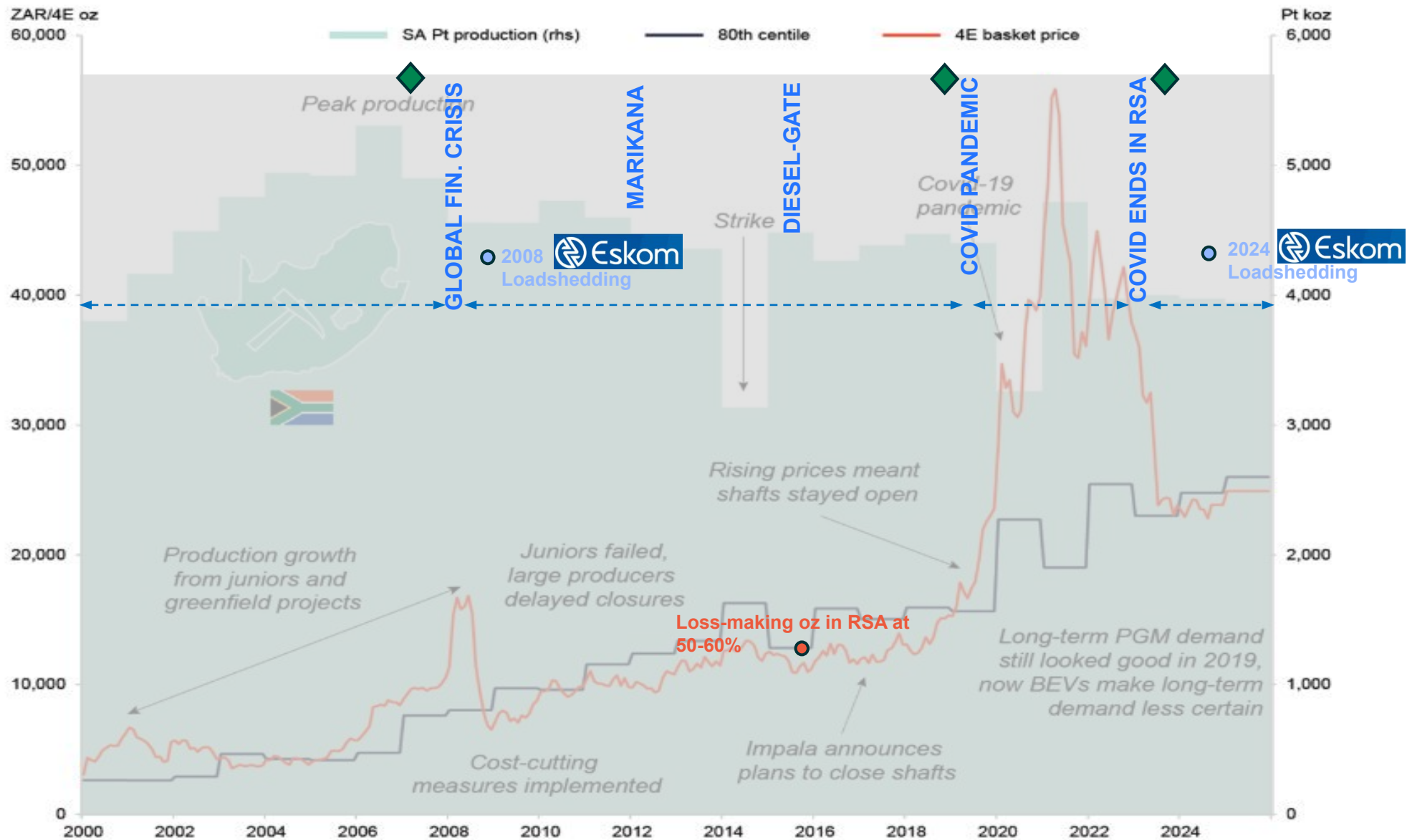
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80th centile net total cash costs incl. SIB vs. SA 4E basket price



4 off

Eskom Cost (RSA
c/kWh)

15

17

23

40

56

70

85

92

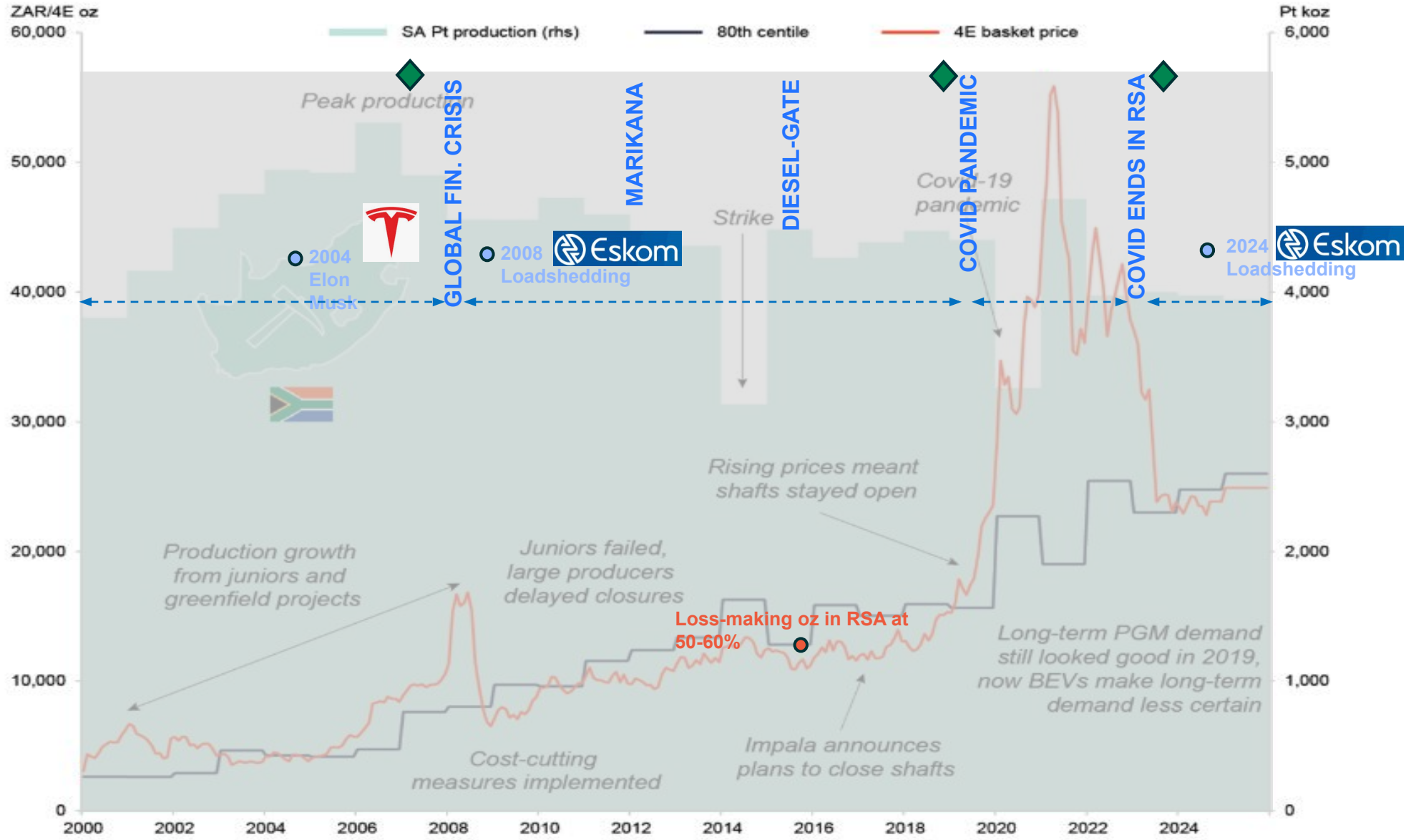
114

144

194

>350
%

80th centile net total cash costs incl. SIB vs. SA 4E basket price



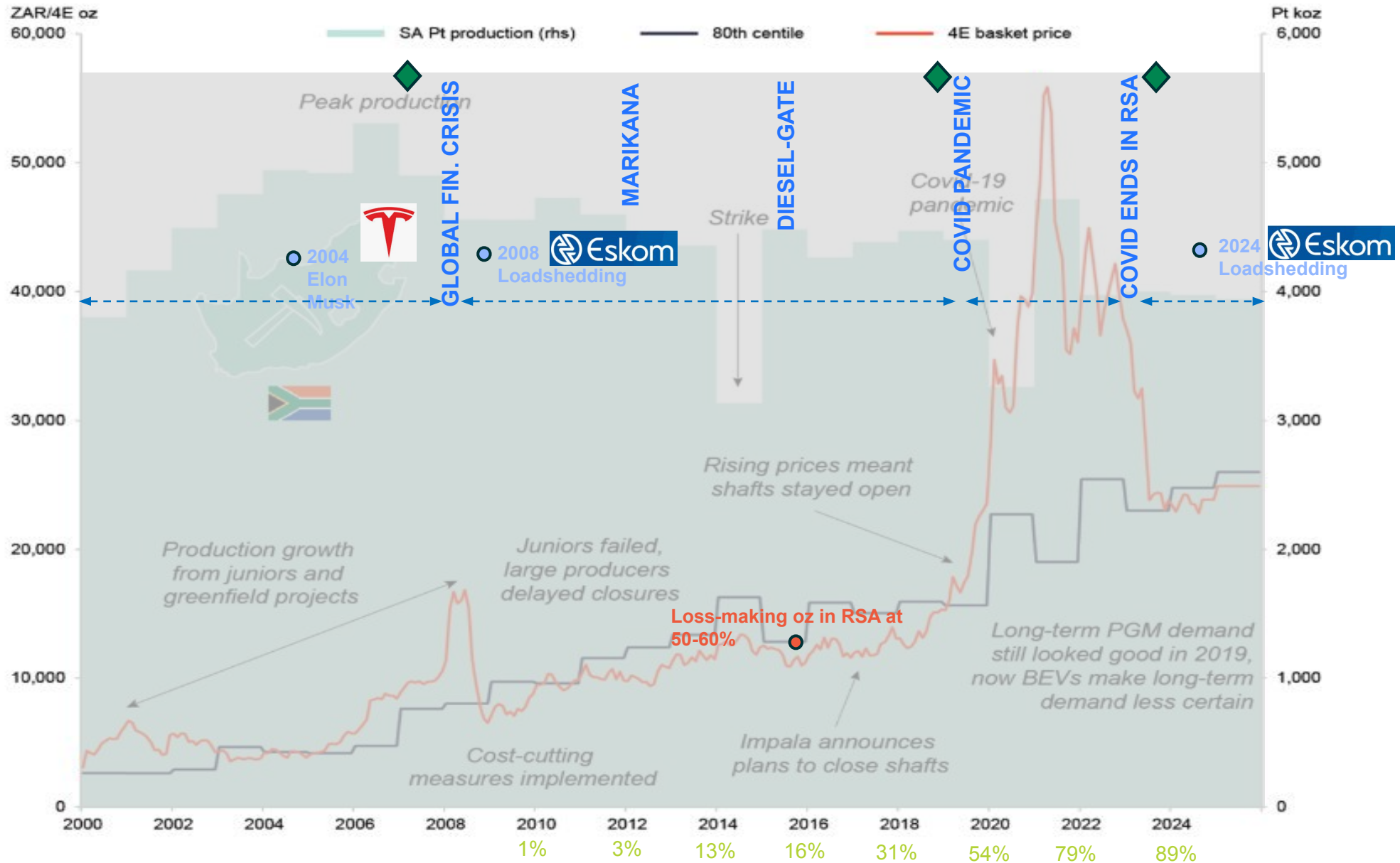
4 off

Eskom Cost (RSA c/kWh)

15 17 23 40 56 70 85 92 114 144 194

>350 %

80th centile net total cash costs incl. SIB vs. SA 4E basket price



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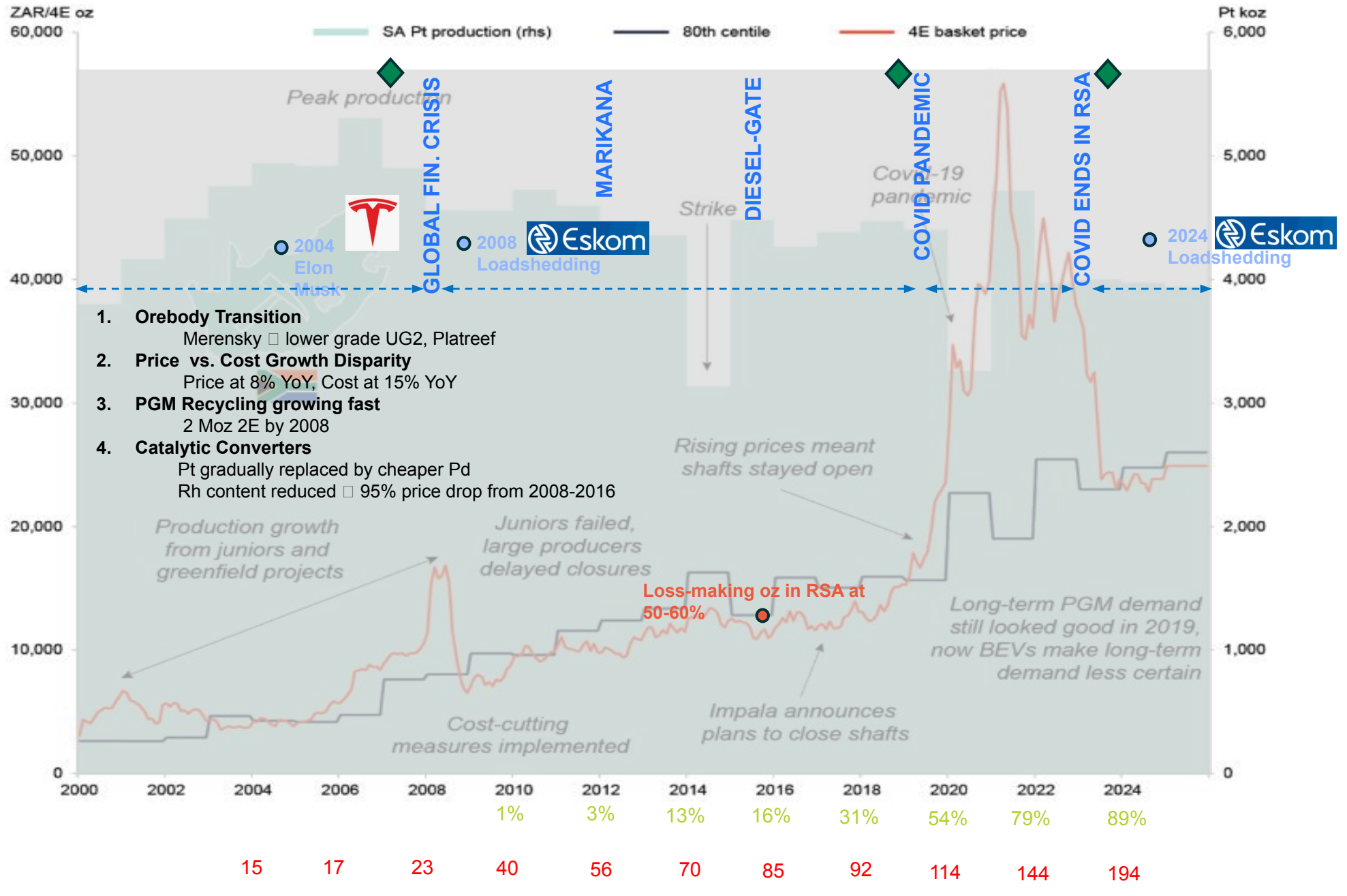
Norway EV
Adoption

Eskom Cost (RSA
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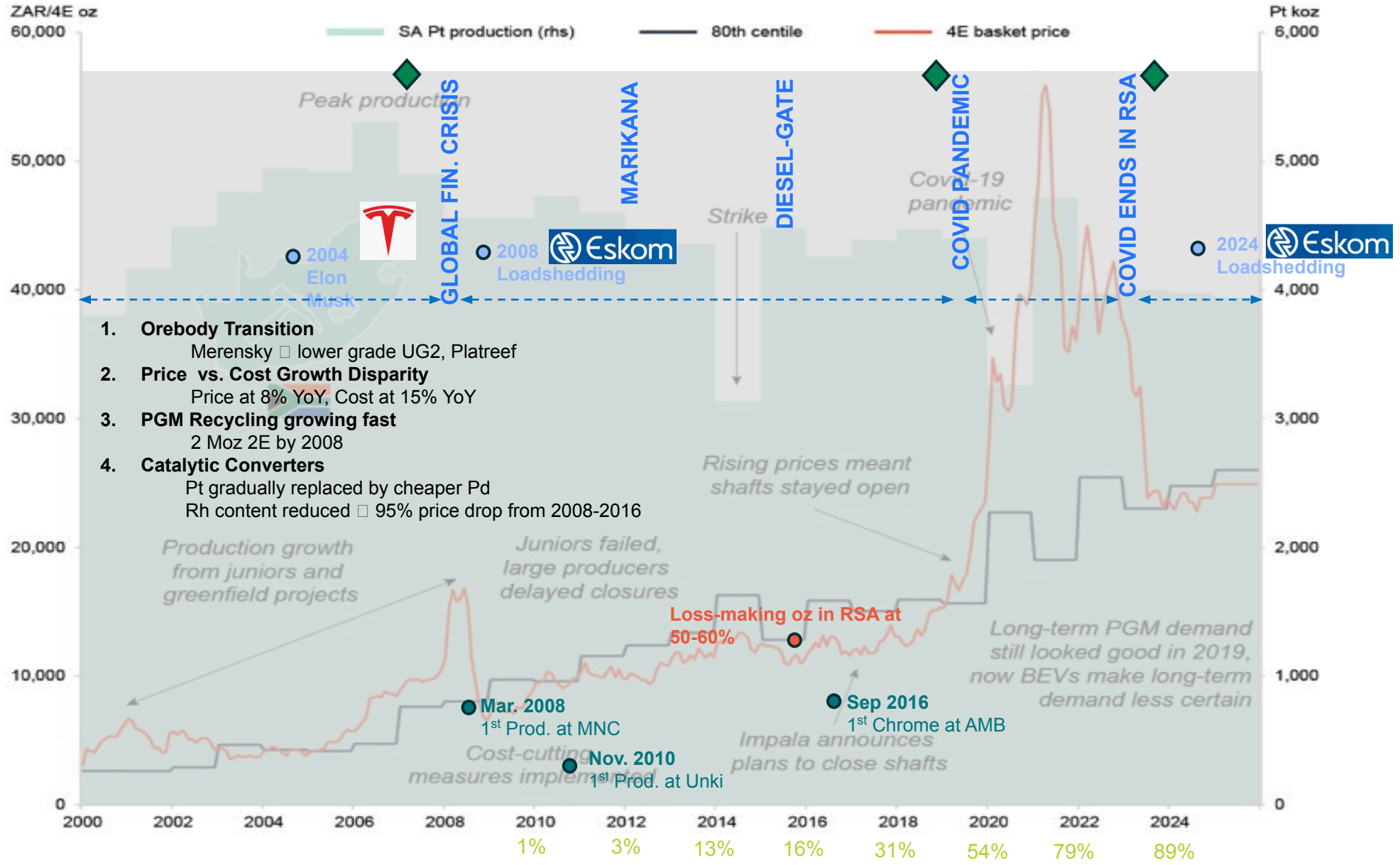
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80th centile net total cash costs incl. SIB vs. SA 4E basket price



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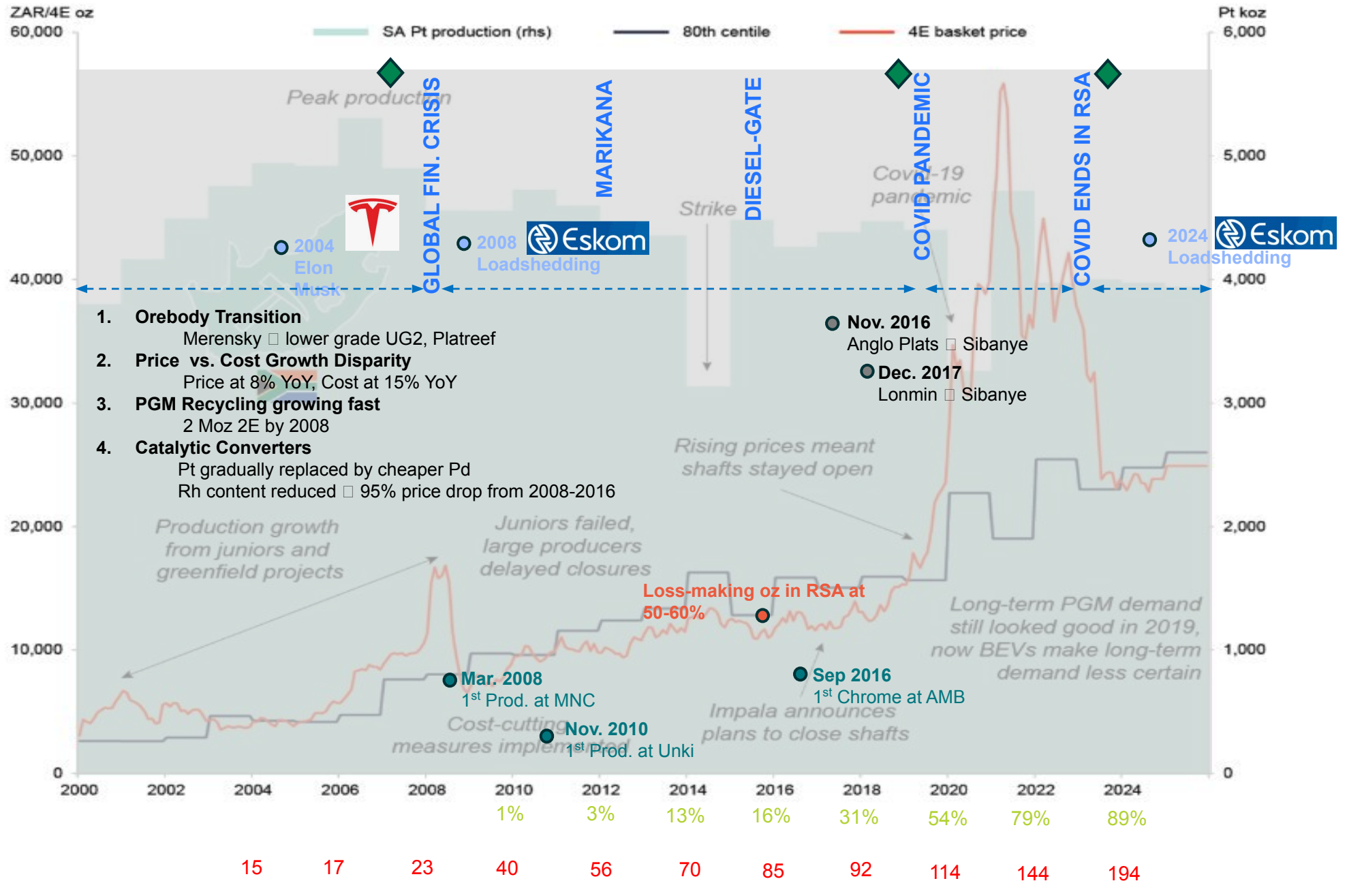


- Orebody Transition**
Merensky □ lower grade UG2, Platreef
- Price vs. Cost Growth Disparity**
Price at 8% YoY, Cost at 15% YoY
- PGM Recycling growing fast**
2 Moz 2E by 2008
- Catalytic Converters**
Pt gradually replaced by cheaper Pd
Rh content reduced □ 95% price drop from 2008-2016

Norway EV Adoption

Eskom Cost (RSA c/kWh)

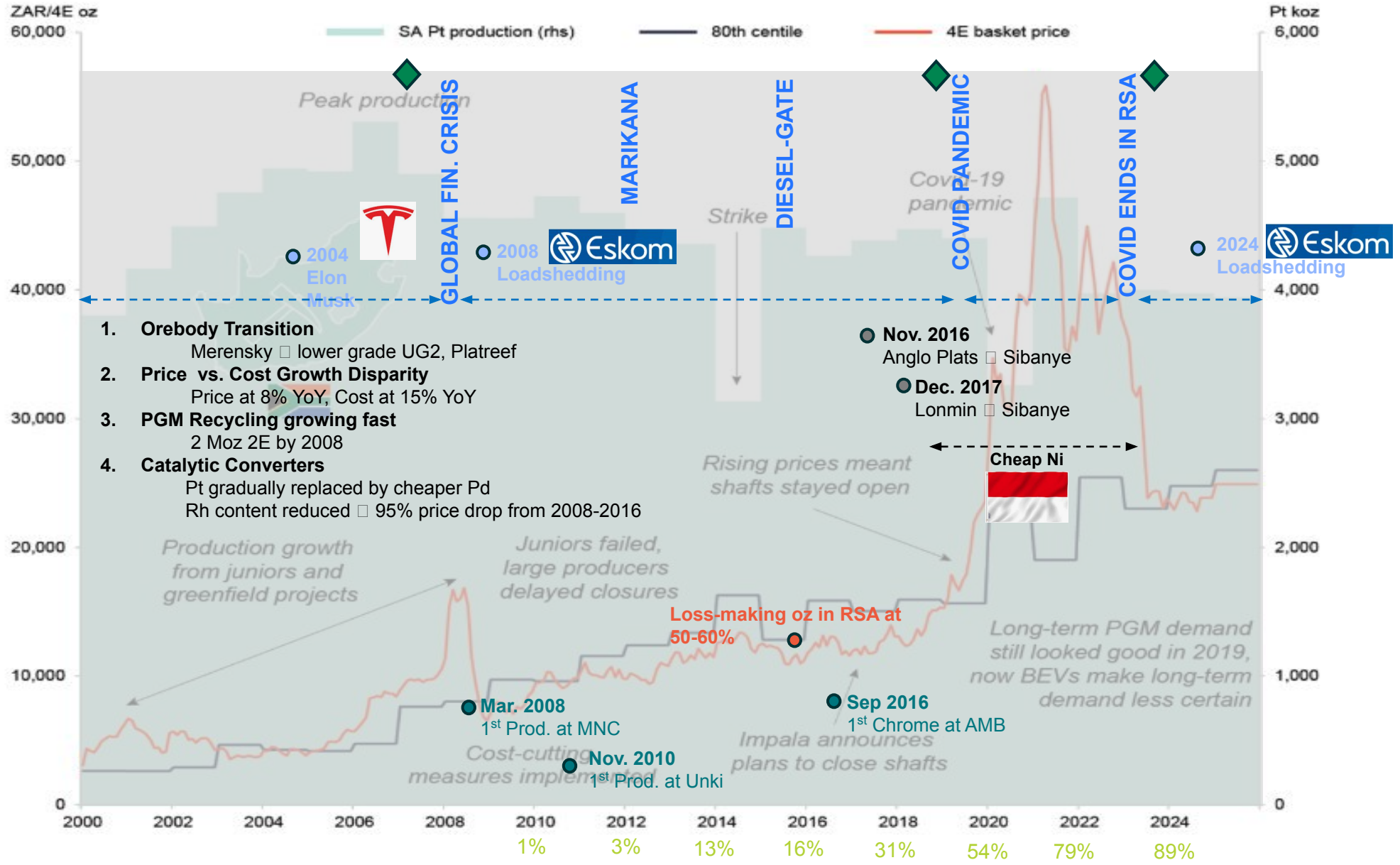
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Norway EV Adoption

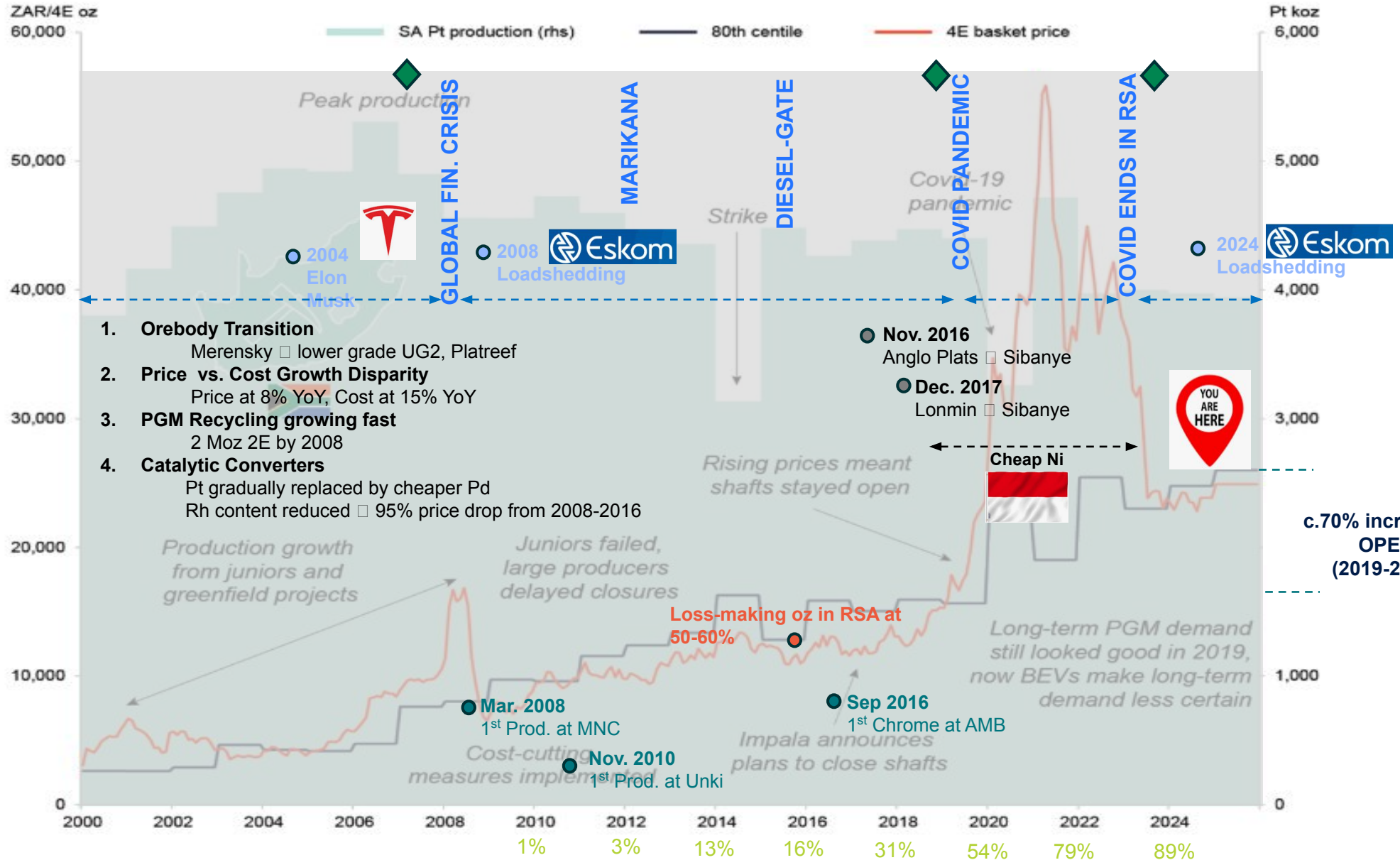
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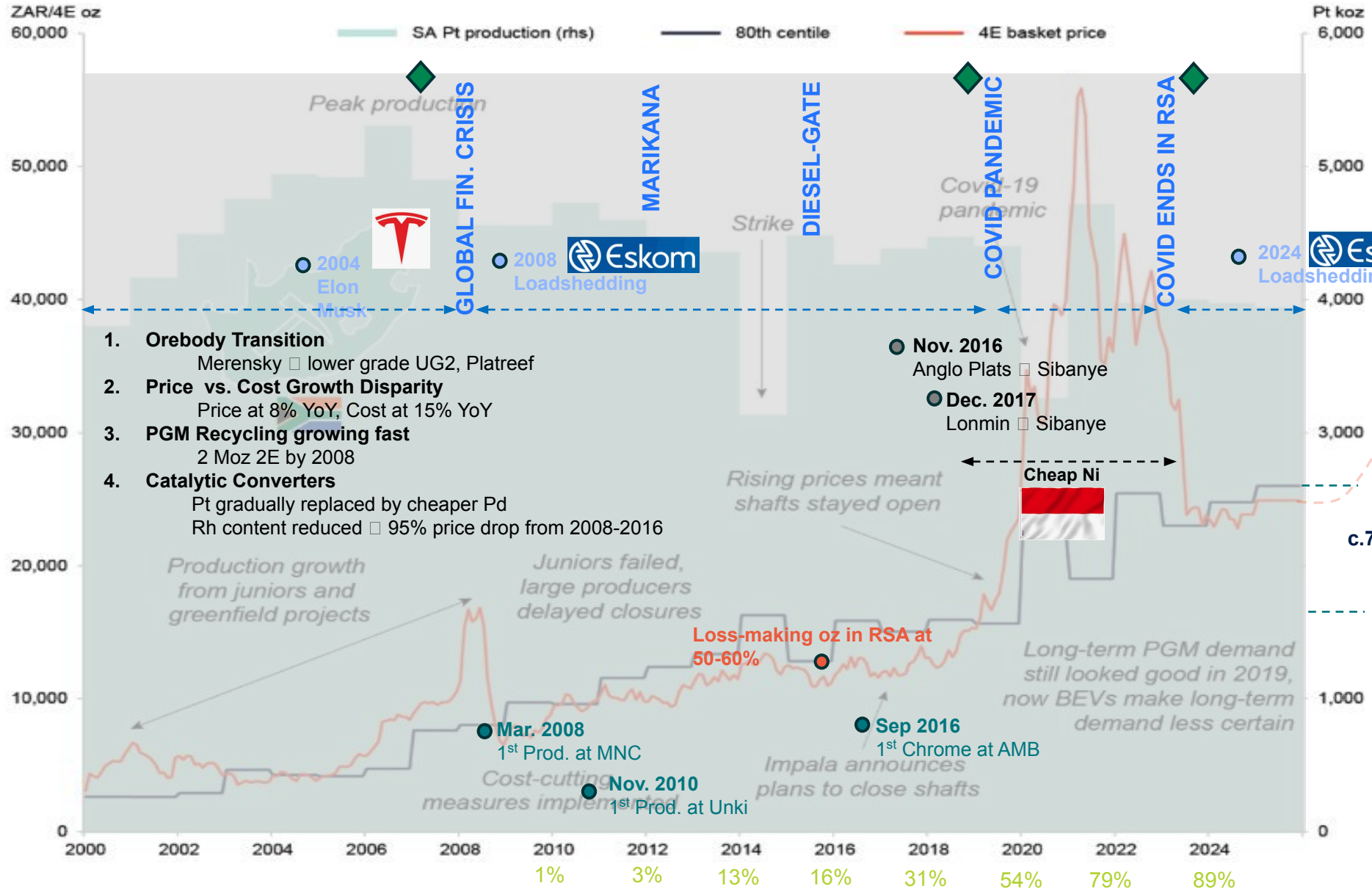
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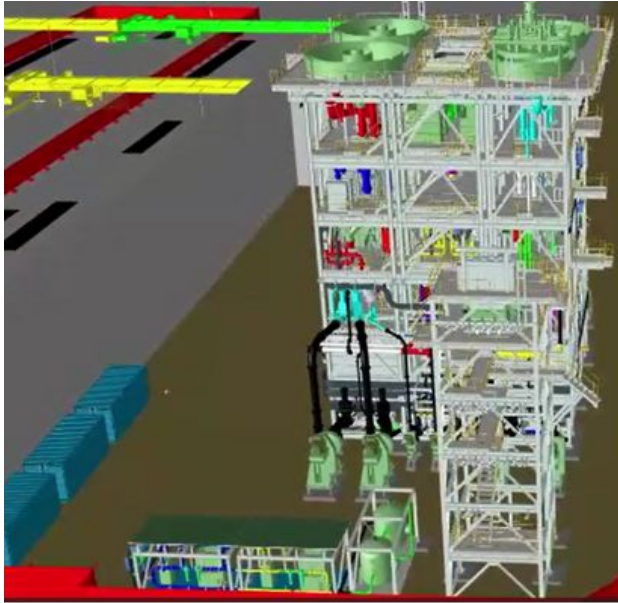
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Eskom Cost (RSA c/kWh)

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INNOVATION FOR STEP-CHANGE PERFORMANCE

Valterra Platinum Processing Value Chain - Footprint Reduction Initiative



Modular Design, Trial Assembly (Johannesburg)



Mogalakwena North Concentrator
Jameson Cleaner Module

Rapid Re-Assembly (Mogalakwena Site)



Project Completion, 18 month post commencement of Detail Design

- Improved treatability of complex Platreef Ore Types
- 30-40% reduction in MNC Concentrate to Smelter
- 10-15% reduction in Overall Smelter Duty
- Optionality to repurpose Smelter Capacity

Thank you

Security classification

