



Metals Focus

Energy crisis widens the supply demand gap

IPMI, European Chapter

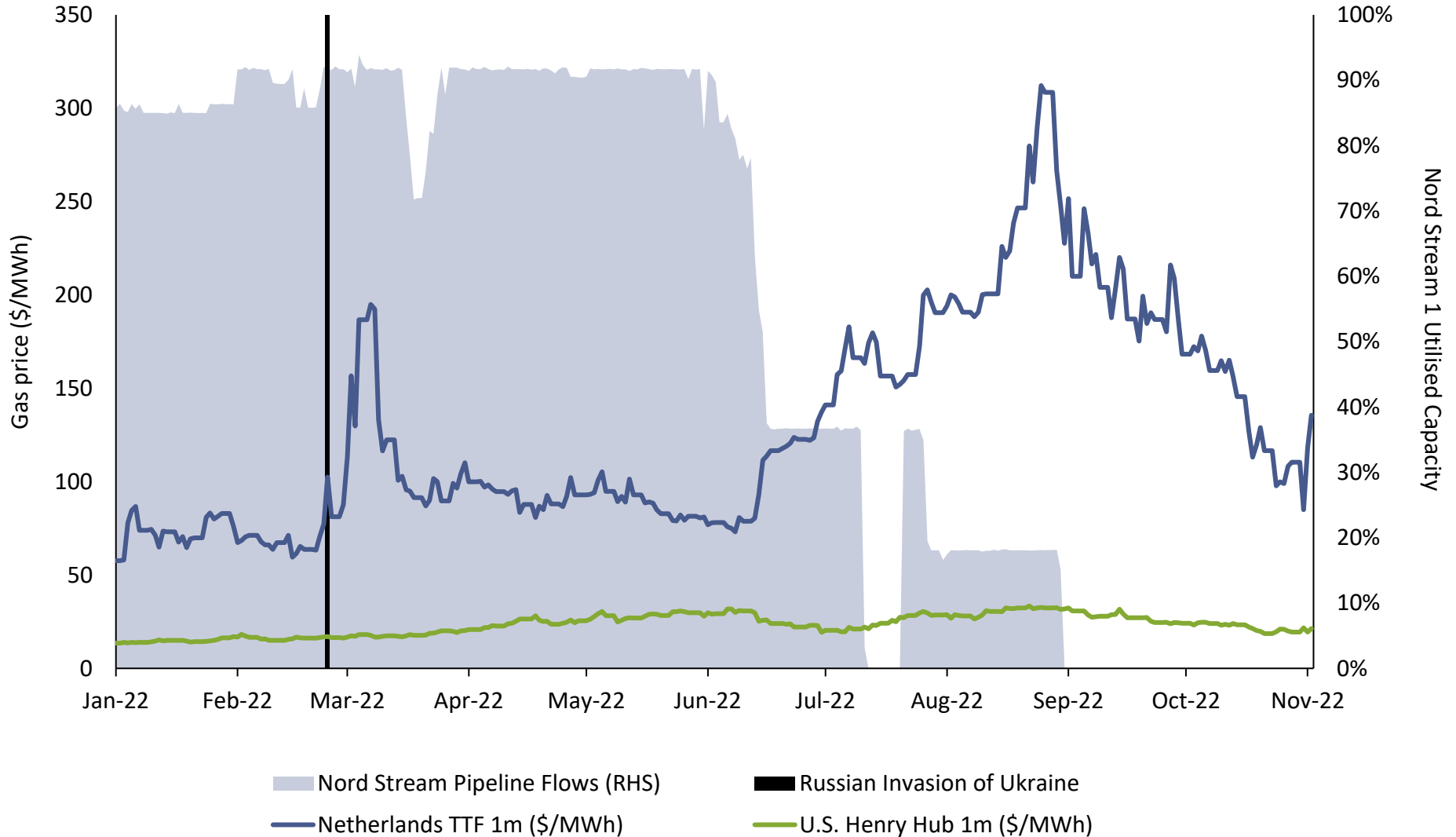
Jacob Smith

14th November 2022



Rising energy prices

Nord Stream Pipeline Flows versus Gas Price

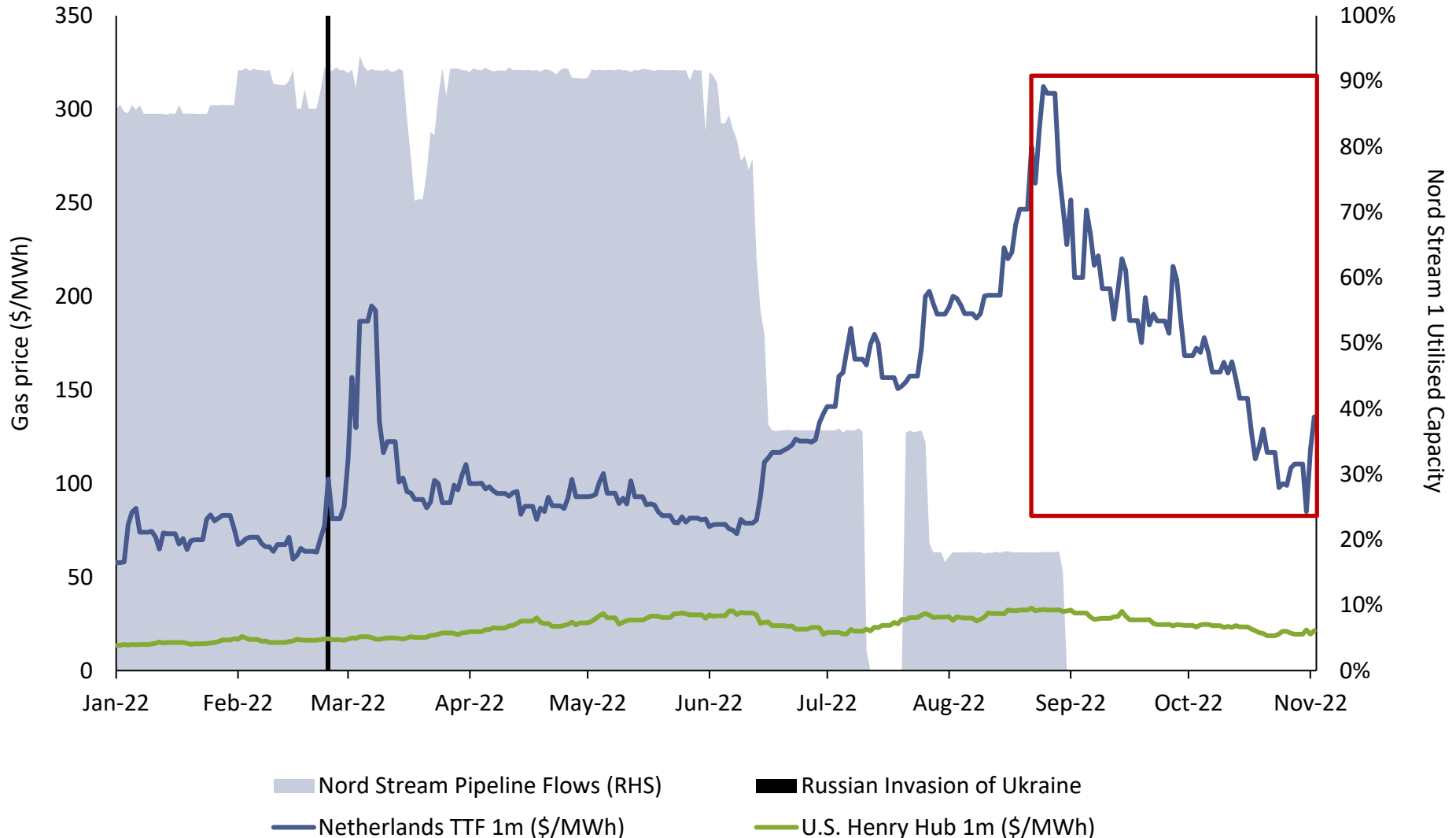


Source: Bloomberg



Rising energy prices

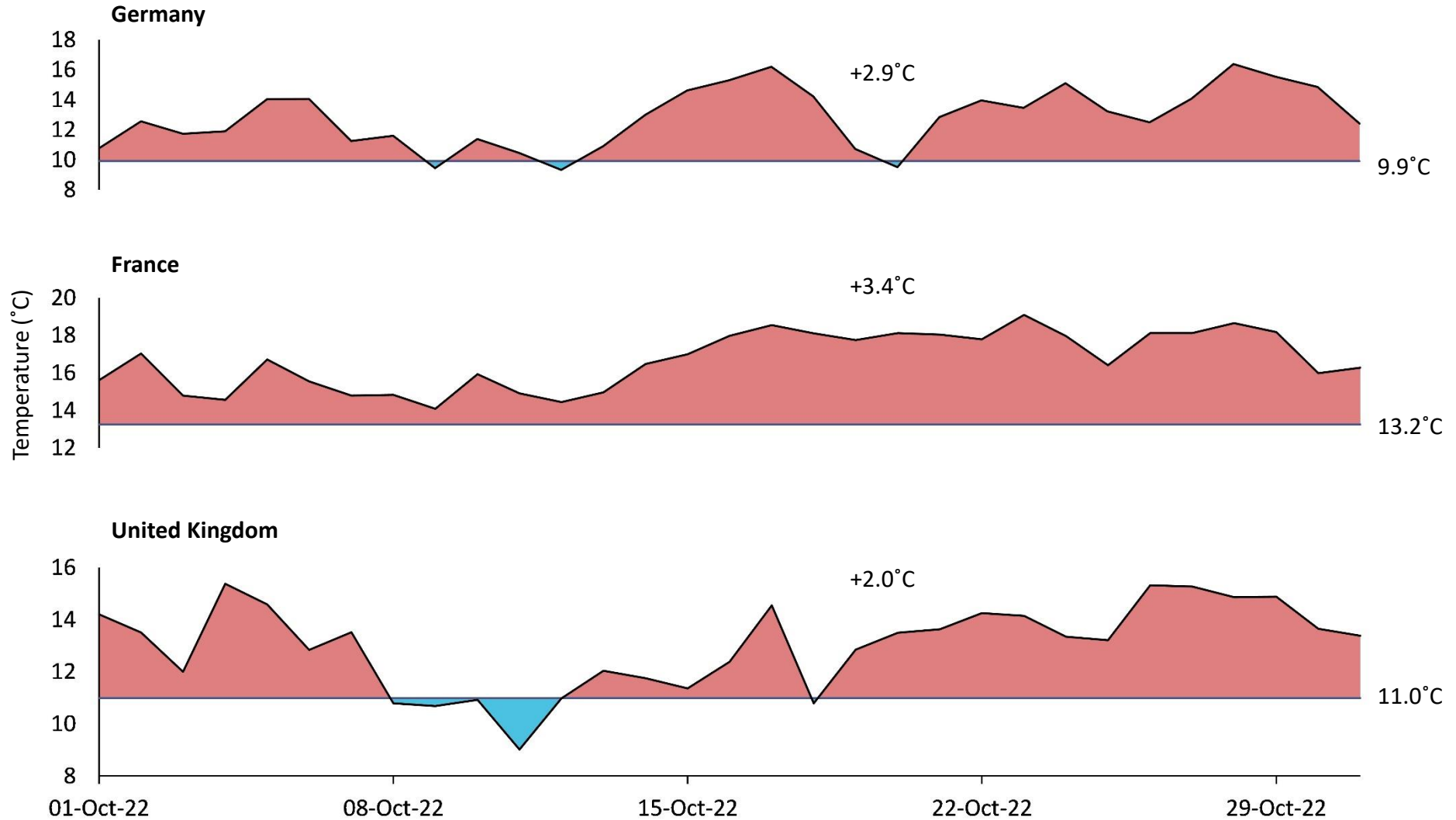
Nord Stream Pipeline Flows versus Gas Price



Source: Bloomberg

Mild October for Europe

Temperature in October 2022 versus 30-Year October Average

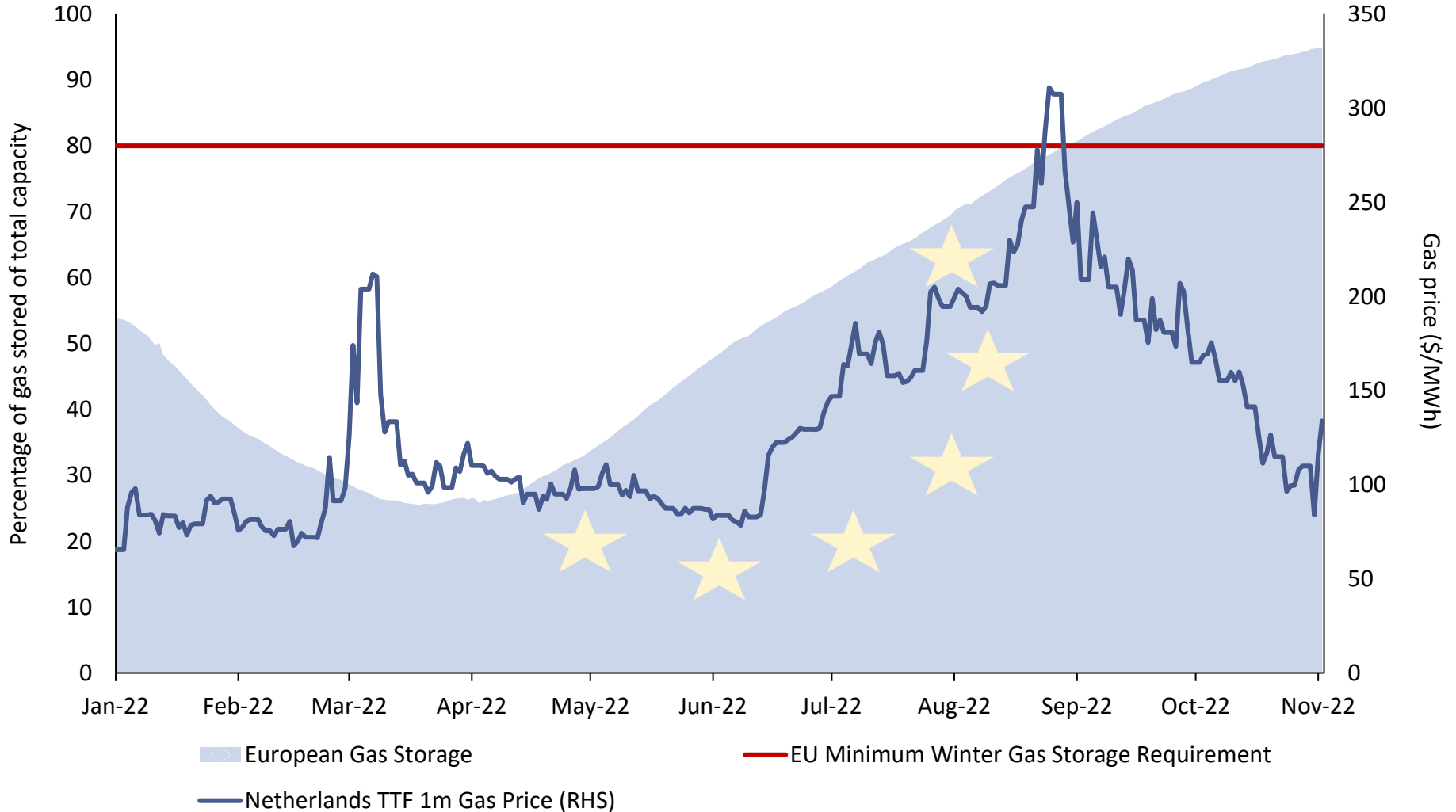


Source: Weather Services International



Gas storage levels in Europe

European Gas Storage versus Mandated Winter Storage Requirement and Price

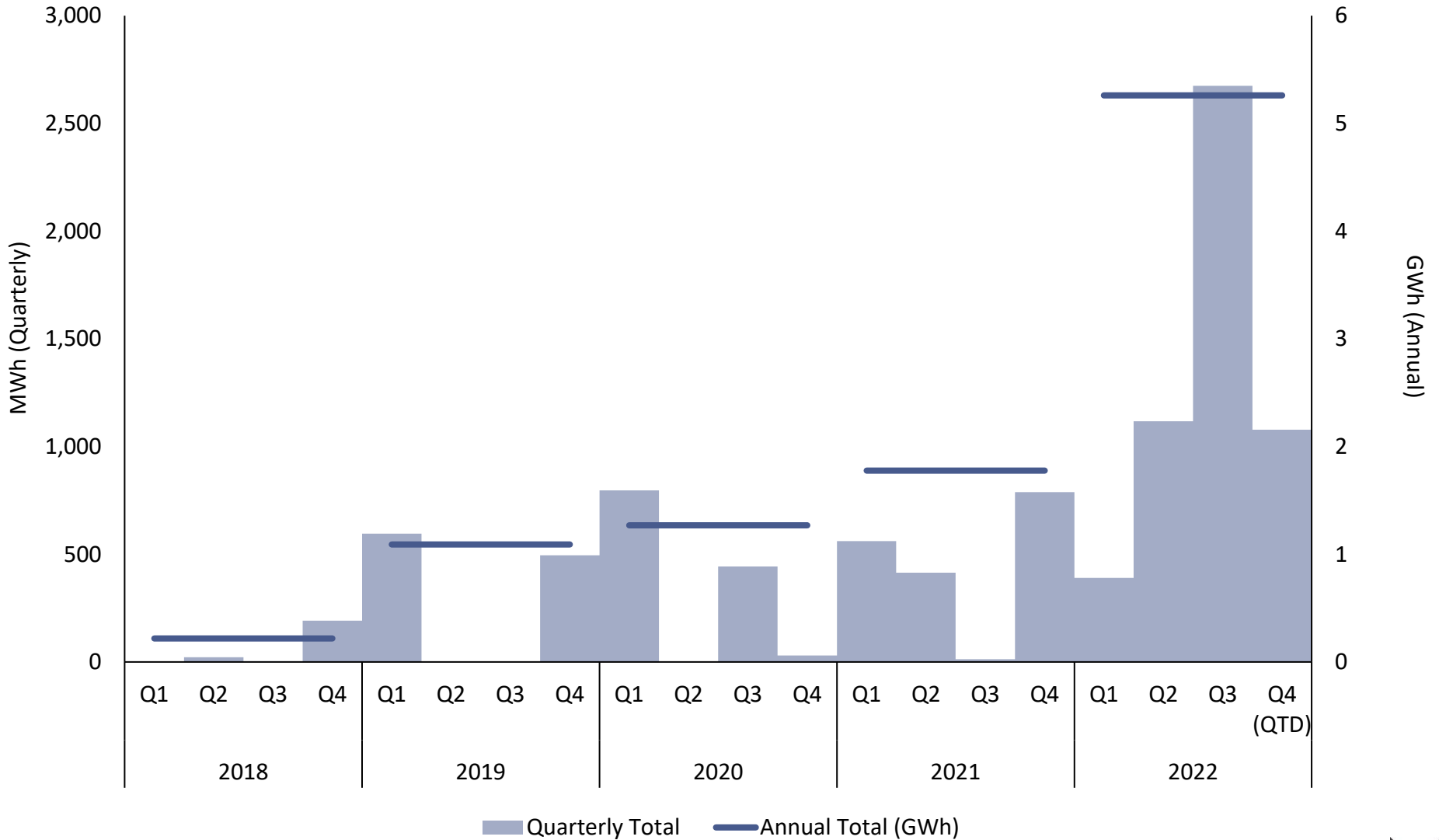


Source: Bloomberg



How much load shedding?

South African Load Shedding Imposed by Eskom

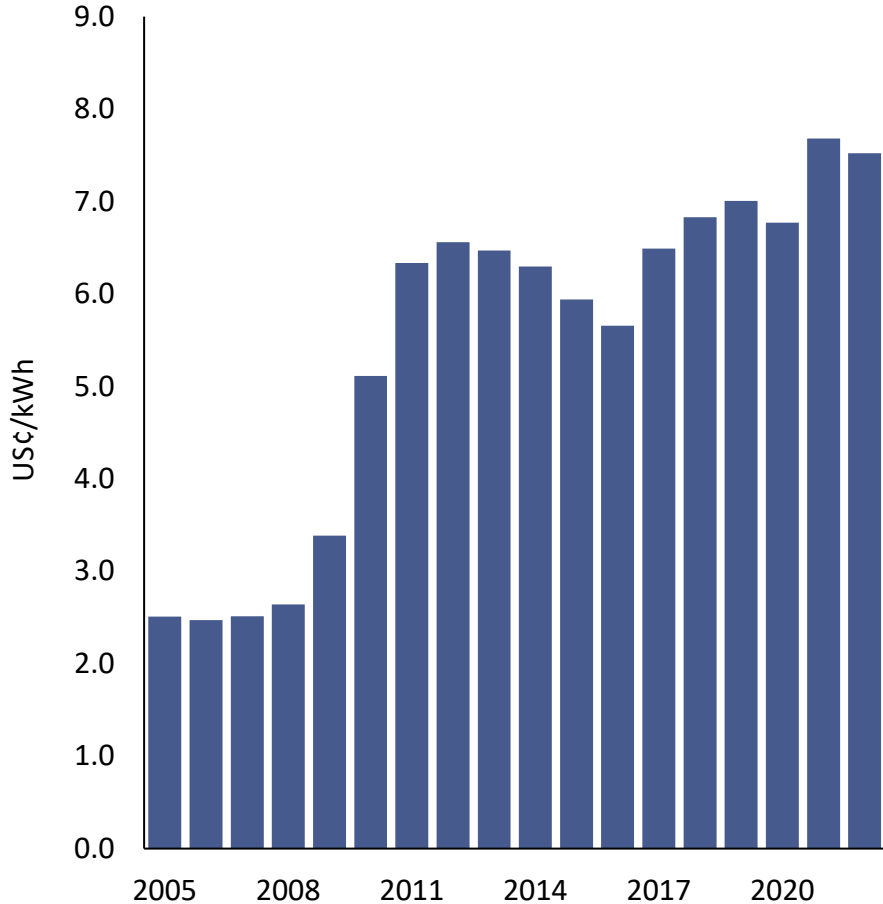


Source: Eskom

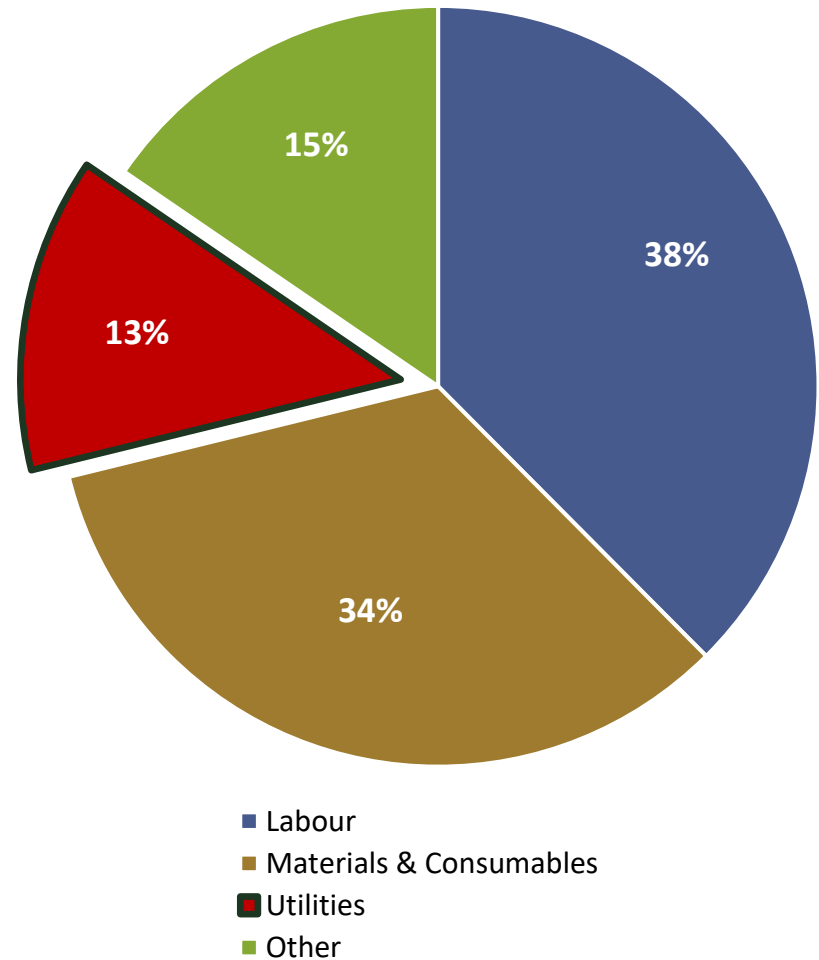


Rising prices impact on South Africa

Electricity Costs Paid by South African Miners



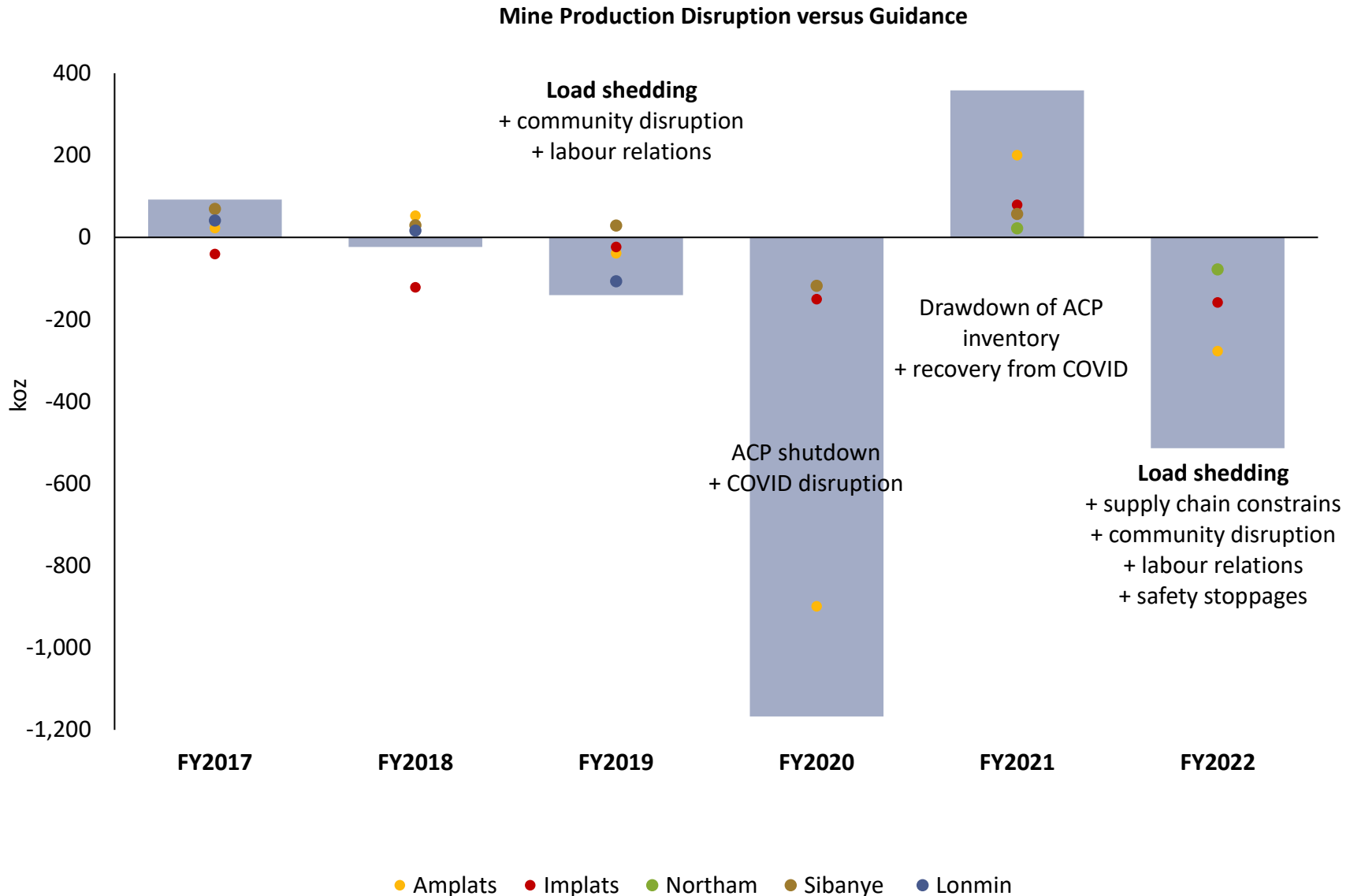
South African Miners' Operational Expenditure Breakdown



Source: Eskom

Source: Anglo Company Report

Load shedding a threat to mine supply?

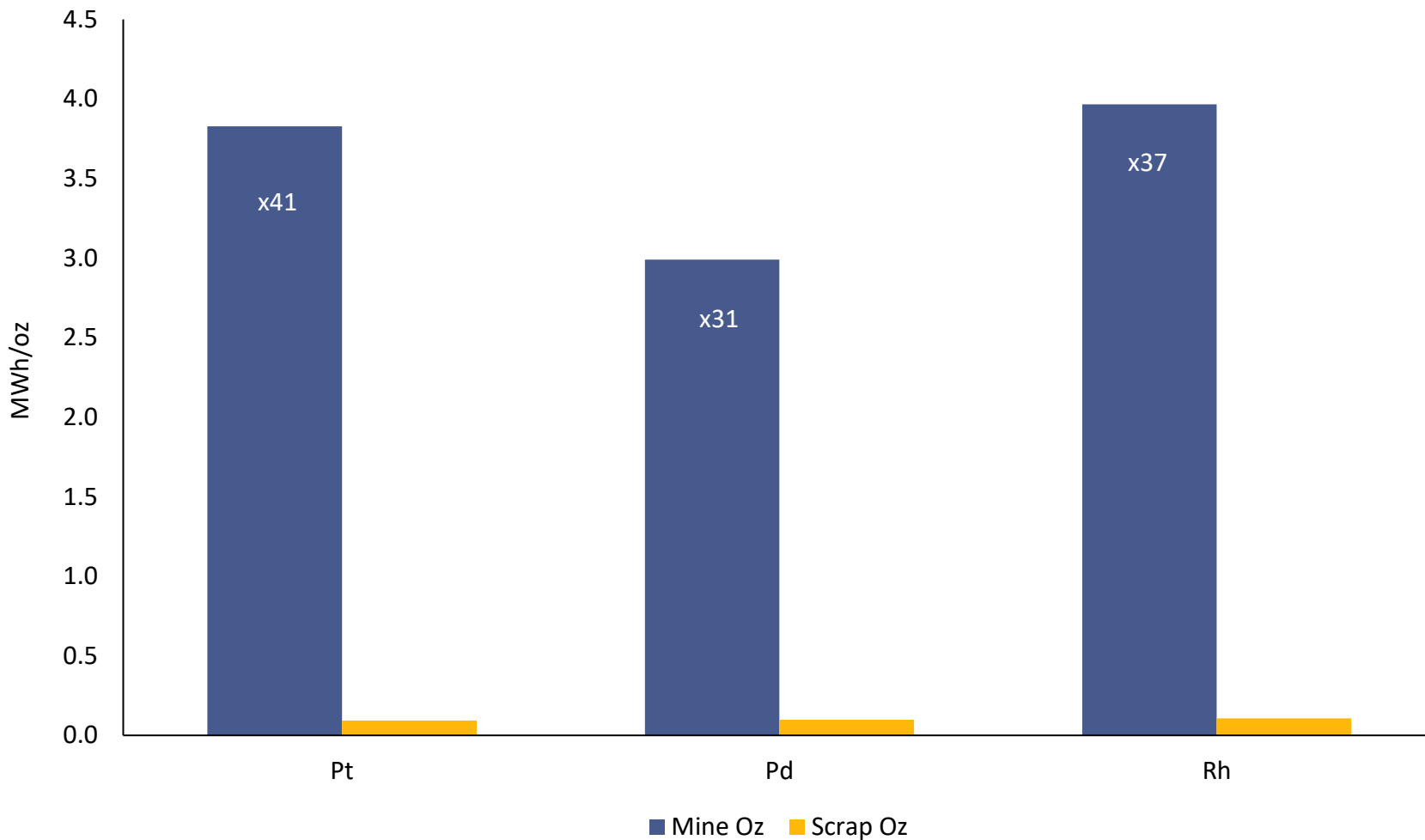


Source: Mining Company Reports



Energy required to produce an ounce of metal

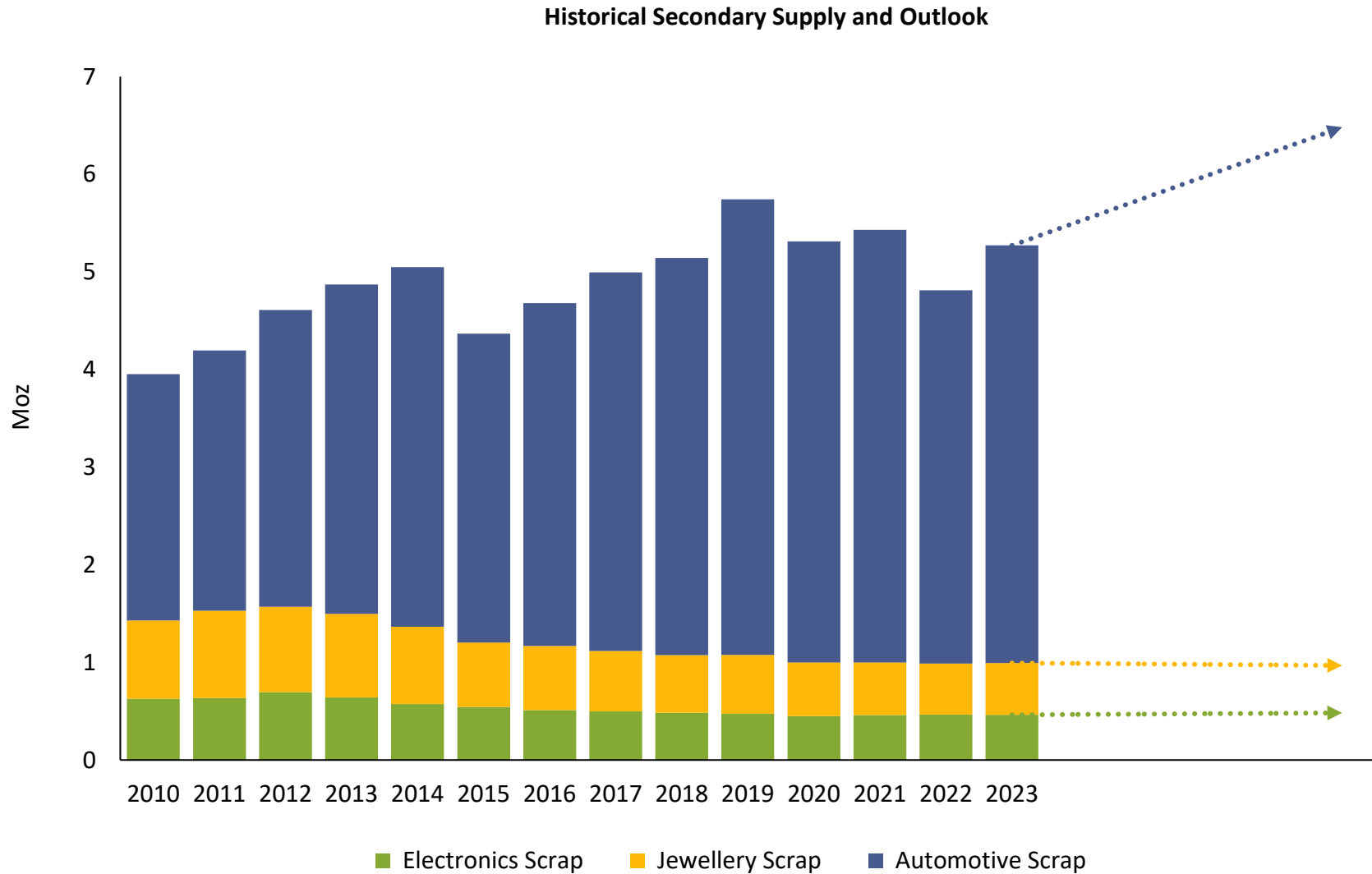
Energy Required to Obtain PGMS – Recycled versus Mined Ounces



Source: International Platinum Group Metals Association



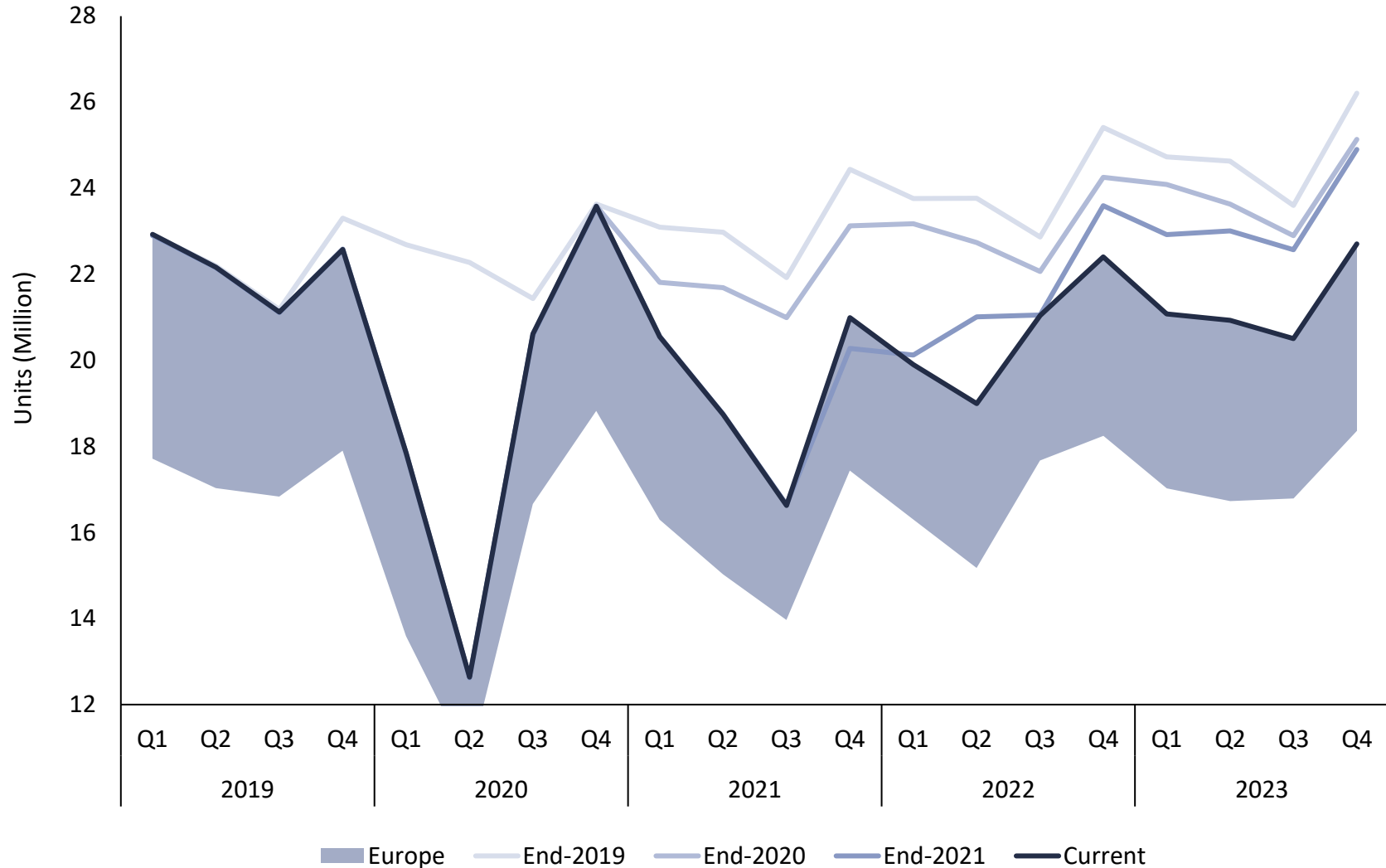
What does this mean for PGM recycling?



Source: Metals Focus Ten-Year Forecast

Can energy prices stop automotive production?

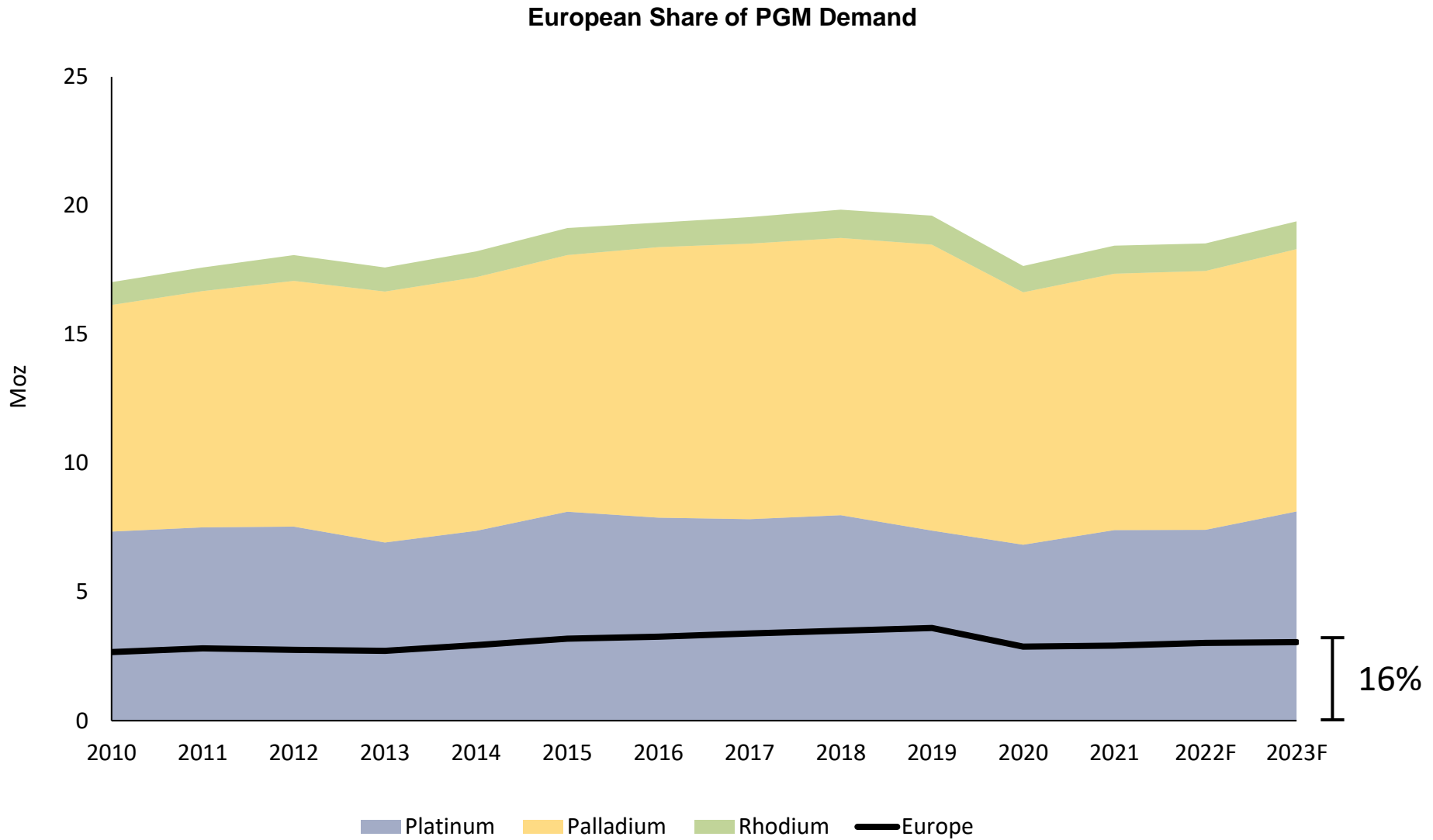
Quarterly Light Duty Vehicle Outlook



Source: LMC Automotive, A GlobalData Company

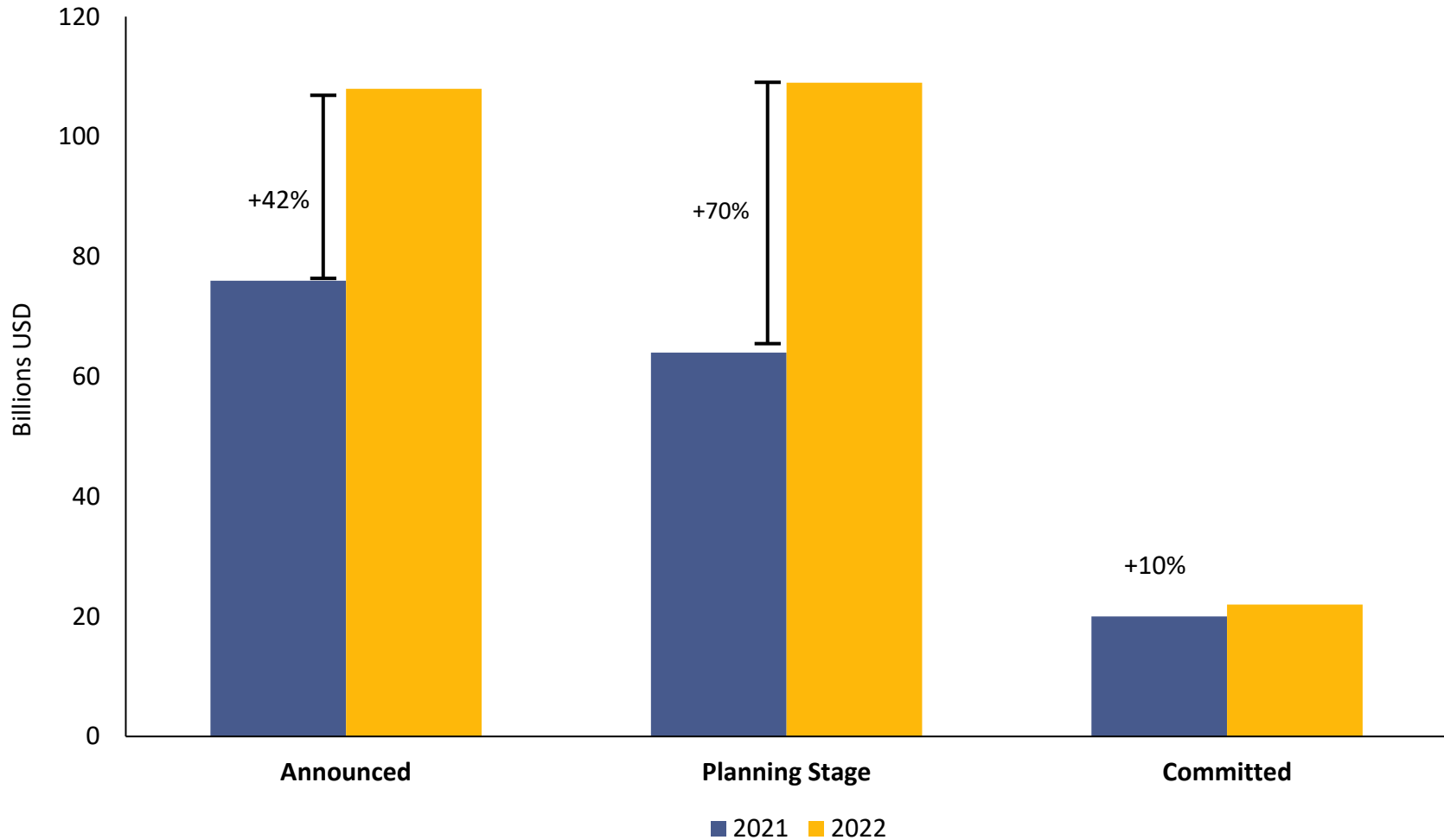


European contribution to PGM demand



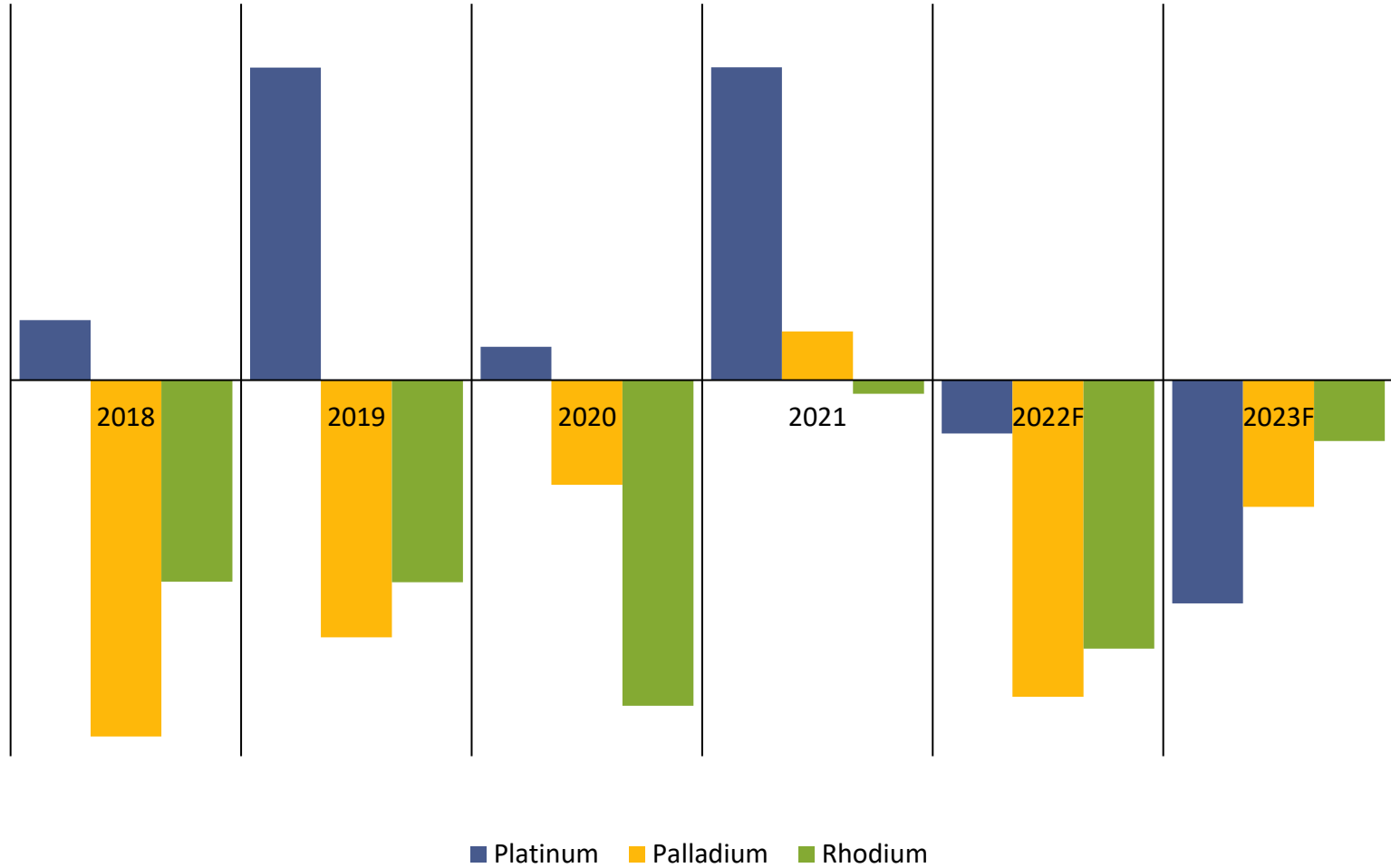
High energy prices create opportunity

Direct hydrogen investments out to 2030



Final picture

PGM Market Balances



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