IMPULSE PAPER

The Importance of Platinum Group Metals (PGMs) in the context of the Clean Trade and Investment Partnership (CTIP) built by the European Union with South Africa

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A collaborative paper prepared by IPA members and published by the IPA

The **International Platinum Group Metals Association (IPA)** represents over 80% of the global **Platinum Group Metals (PGMs)** industry, encompassing the leading companies involved in the mining, refining, recycling, and fabrication of PGMs.

PGMs: Platinum (Pt) - Palladium (Pd) - Rhodium (Rh) - Ruthenium (Ru) - Iridium (Ir) - Osmium (Os)

Platinum Group Metals are all around us, often invisible, but essential. Platinum powers the green hydrogen revolution and, together with Rhodium and Palladium, helps cut toxic emissions from cars. Palladium is likely in your smartphone or laptop. Iridium coats medical instruments, whilst Ruthenium is used in digital storage and clean industrial processes.

IPA position on EU's Clean Trade & Investment Partnership (CTIP)

IPA welcomes the Clean Trade & Investment Partnership (CTIP) and the strengthening EU-South Africa cooperation on trade, investment, and the clean energy transition, as the PGMs industry is a good example of long-lasting partnership between South Africa, the world's largest miner of these metals, and Europe, the global leader in PGM recycling. PGMs mined in South Africa are refined locally, then exported mostly to Europe, the USA and Japan where PGM-containing products such as catalysts and electrolysers are fabricated, used and recycled.

Key Asks

- **The EU must deepen ties with South Africa, a reliable Platinum Group Metals (PGMs) miner,** to secure critical supply for its key industries and support its position as a global leader in PGM recycling.

- **Creating demand for PGM-based clean tech in the European Union is key to securing long-term supply** while supporting the scaling up of Europe's recycling market.

- **Any proposed future restrictions on exports from South Africa and additional regulatory requirements on European PGM companies must be avoided** to ensure the European Union remains competitive in this sector.

Strategic importance of PGMs to the EU

PGMs are fundamental to many EU policy objectives, including the European Green Deal, the Critical Raw Materials Act (CRMA), and the EU's broader reindustrialisation agenda. Their indispensable role spans a wide range of critical applications - from reducing emissions via

automotive catalytic converters, to enabling hydrogen production and fuel cell technologies, and supporting essential industrial and medical uses, such as pacemakers and anticancer therapies.

The PGM industry provides jobs to around 7,000 EU citizens, and contributes more than 10 billion euros to the Union's gross domestic product. In South Africa, the PGM sector directly employs close to 175,000 workers, while its sales represent 8.4 billion euros per year.

Supply security and international partnerships

Although the EU is a leader in Platinum Group Metals (PGMs) recycling, secondary material supply alone cannot meet total demand. Imports of mined material, particularly from South Africa, remain essential for the EU's reindustrialisation agenda.

The EU must therefore deepen ties with South Africa, a reliable PGM miner, to secure supply and retain its position of global leader in PGM recycling.

No PGM mines in Europe: Europe does not have significant primary mining of PGMs, and more than 70% of global PGM mining comes from South Africa.

The EU has access to large volumes of PGMs locally, used in millions of catalyst converters for passenger vehicles and industrial plants: recycling from this "urban mine" already contributes to the EU's needs for PGMs. However, local demand requires a reliable primary supply, as recycling alone cannot fully meet the EU needs. .

Stimulation of internal PGM demand in clean technologies

PGMs are geologically concentrated, and significant untapped reserves exist in South Africa and other producer countries. However, underinvestment persisted due to weak price signals and uncertain long-term demand, for platinum in particular. Policies that create predictable demand can unlock these resources sustainably and responsibly.

The best lever available to policymakers to support long-term supply security is through stimulating internal demand for PGMs through policies that accelerate the deployment of clean technologies such as hydrogen infrastructure, Fuel Cell Electric Vehicles, and other clean technologies which rely heavily on PGMs. This demand creation not only advances the EU's own climate and energy transition goals but also provides the market certainty needed by investors in both recycling and primary producers to justify investment in new and existing operations.

The EU Hydrogen Strategy targets 10 million tonnes of renewable hydrogen by 2030. PEM electrolysers and fuel cells alike rely on PGMs, making them indispensable to scale up hydrogen use, whether generally or in specific use cases such as transport. But hydrogen vehicle production for heavy-duty applications and passenger cars is currently struggling due to the lack of a level playing field – namely infrastructure and subsidies – with other zero emissions vehicles. In summary, PGM resources are not in themselves geologically scarce, but complementary long-term policy levers are needed to promote future demand and in turn ensure PGM production investment and security of supply.

A global and complex PGMs supply chain

The PGM market is highly specialised, and globally integrated. Ensuring fair and stable access requires responsible trade and long-term partnerships with producer countries. Sudden public-

sector interventions – such as tariffs, quotas or even the creation of large strategic reserves – would severely distort market dynamics.

It is also important to recognise the unintended consequences of different policies which impacts the development of the PGM industry as a whole. Any introduction of export taxes must be considered against the needs of the PGM industry. For example, the proposed export taxes in South Africa on chrome concentrate will negatively target an important revenue generator for PGM producers. Any disruption to these established value-chains risks compromising supply security for EU refiners and may jeopardise Europe's ability to achieve its Green Deal and Net-Zero goals - ultimately eroding Europe's leadership in circular economy innovation and green technology development.

Trade barriers in South Africa such as the proposed export taxes on chrome concentrate or additional regulatory requirements on European PGM companies must therefore be avoided to ensure the EU remains competitive in this sector. This is why establishing a strong relationship with South Africa as a privileged EU trade partner is essential both for now and the future.

The EU Stockpiling Strategy, driven by concerns about supply chain vulnerabilities and the need for a secure, domestic source of these materials, must not disrupt the PGM value chains, and prior industry consultation is paramount to protect this European industrial leadership.

Policy Recommendations

As stated in the EU Critical Raw Materials Act (CRMA), **PGMs are essential to several core EU policy objectives** and underpin key legislative initiatives in the fields of climate and environmental protection, clean energy, and strategic industrial resilience. By cooperating with South Africa in the PGMs sector, the EU can support its own economic security, industrial and environmental policy objectives.

The IPA therefore recommends the European Union to:

- Build a strong partnership with South Africa, to safeguard the PGMs' vital industrial supply chains in the near term, and advance common sustainability objectives in the long term,
- Develop the EU infrastructure and subsidies for hydrogen vehicle production including heavy-duty applications as well as wider mobility solutions, to stimulate the EU's demand for PGMs, and in turn investment in South Africa's mining sector.
- Avoid future restrictions on critical raw materials exported by South Africa, and additional regulatory requirements on European PGM companies, especially in the context of the EU Stockpiling Strategy,
- Align Critical Raw Material Act (CRMA) and Global Gateway with South Africa's development goals.

About IPA

The International Platinum Group Metals Association (IPA) represents the worldwide leading mining, recycling and fabrication companies in the global platinum group metals (PGMs) industry, comprising platinum, palladium, iridium, rhodium, osmium and ruthenium.

The IPA provides a platform to address issues of common concern and to jointly engage with stakeholders at the international level. The association represents over 80% of the global PGM industry.

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Supporting Information on Platinum Group Metals (PGMs)

Main PGM-based applications relevant for the EU

Automotive Industry (Catalytic Converters):

- **Platinum:** ~40% of demand: used mainly in diesel vehicle catalytic converters to reduce emissions. Also gaining use in hydrogen fuel cell vehicles.
- **Palladium:** ~80% of demand: used in catalytic converters for gasoline engines to reduce harmful emissions. The EU's strict emission regulations drive high demand.

Hydrogen Economy & Fuel Cells: a key component in electrolysis for green hydrogen production and fuel cells, supporting green energy initiatives in the EU.
Industrial & Chemical Applications: used in the production of important chemicals, e.g. nitric acid, fertilizers, and silicones. Also used in glassmaking, petroleum refining, and medical devices.
Electronics: used in multilayer ceramic capacitors (MLCCs) for smartphones, laptops, and other devices. Also found in connectors and electrical contacts.
Dental and Medical Equipment: used in dental alloys and medical instruments due to its biocompatibility. PGMs save lives as the active ingredient in pharmaceuticals such as anti-cancer drugs and as key elements in surgical technologies.

PGM recycling

The PGM industry is strongly committed to sustainability, with mature recycling networks integrated across the West, ensuring efficient metal reuse.

Although the EU is a global leader in PGM recycling and the material from spent PGM containing automotive emission control catalysts (catalytic converters) and chemical catalysts is a major source of new PGM supply, the material from PGM recycling alone is insufficient to meet full domestic demand without imports of additional recycled as well as mined material. Despite various research initiatives such as PEACOC, regulations like the Critical Raw Materials Act (CRMA), and numerous circular economy efforts aimed at boosting European precious metals production and reducing dependence on third countries, the EU market will continue to rely on external suppliers – such as South Africa – to meet its demand in the foreseeable future.

PGM mining

The absence of relevant PGM mines in the EU makes imports of primary (mined) PGM supply and recycling material from non-EU countries critical to meeting the demand of key markets like the green hydrogen supply chain. Supply chains of primary PGM material are mature, transparent, and diversified across the globe while PGM mining itself is concentrated among a few countries such as South Africa, the U.S., Russia, Zimbabwe, and Canada.