

## **MISTRA ANNUAL PGM ROUNDTABLE**

### **WELCOME NOTES**

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Today's roundtable on Platinum Group Metals brings us just one year short of what the Spaniards call *la decima* – as we approach our tenth roundtable in 2025.

Discourse on PGMs and the Hydrogen Economy has become more widespread than we ever dreamt of when the Mapungubwe Institute published the book on *South Africa and Global Hydrogen Economy* 11 years ago; and the ensuing booklet on *A South African PGM Exchange* five years later.

The MISTRA annual roundtable provides a unique opportunity for strategic reflection; and what is important is that the discussions have evolved more towards monitoring and evaluation of progress in implementation. Wishes have become green hydrogen horses and all and sundry can now ride: from workers to engineers to researchers to venture capitalists to public policy-makers to mining companies and manufacturers.

MISTRA is proud to have been a key part of that journey, working with the Department of Science, Technology and Innovation and the multitude of other partners who operate in this field. The Hydrogen Society Roadmap and its offshoots such as the Green Hydrogen Commercialisation Strategy speak to the journey we have travelled – and, indeed, the more the platforms of engagement, the merrier.

What guides our approach to this area of endeavour? As MISTRA, we believe that all of us have a responsibility:

- one, to meet the objective of becoming a leading player in the Hydrogen and fuel cell industry, by developing capacities to become an indispensable part of the whole value chain – from mining to refining, manufacturing and services
- two, to identify gaps in the evolution of the country's efforts and address them in a deliberate, collaborative and focussed manner
- three, to ensure that the benefits of the emergent industry accrue to all, including workers and communities, and young people in a variety of skills
- and, four, to guarantee global security of supply of green hydrogen, PGMs and other critical minerals by fostering a stable, peaceful and mutually beneficial investment environment.

Further, with companies such as Bambili, Isondo and Mitochondria, the country can generate a corps of black industrialists, with empowerment that is organic.

Progress is being made all-round; but as with any strategic undertaking, we need to challenge ourselves on the pace of implementation, including finding practical solutions to gaps and weaknesses as they emerge.

Can we speed up implementation of such initiatives as the Mpumalanga long-term purchase contracts for green hydrogen and derivatives; the Boegebaai and Saldanha projects; the N3 hydrogen corridor as part of the Hydrogen Valley; the Hive project at the Nqurha SEZ and the phasing in of green hydrogen in hard-to-abate sectors?

Globally, a brief scan of developments over the past year, does show that progress is being made. It is estimated that some 35-million tons of green hydrogen will be produced by 2030 (Mining Weekly, 22/04/2024); and it will form 20 percent of the European energy mix by 2050 (Bloomberg in Mining Weekly, 12/10/2023). Besides the many stationary applications, fuel cell electric trains, small and large vehicles, ships, bikes and even aircraft are increasingly populating the transport arteries of Europe, the US, Korea, Japan and China, among others. It is estimated that there will be one-million fuel cell electric vehicles in China alone by 2035 (Mining Weekly, 12/10/2023). And there is promising research on PGM-based electric batteries that are not only lighter but also have high-energy density (Mining Weekly, 16/04/2024).

Among the immediate challenges in dealing with critical minerals is the need to find the appropriate balance between supply and demand. In this regard, questions have been posed as to whether auctions should not be used on both the supply-side and the demand-side of the equation (IRENA: 2024). There is also a need to source finance for the many viable and bankable projects. Regulations and standards, particularly with regard to green hydrogen, need to be developed as a matter of urgency; and we must crack the code of hydrogen energy-intensity and cost of production and storage.

Mitochondria which is building electrolyser and fuel cell plants in South Africa has identified supply of fuel cell and related components as a major challenge. (Engineering News, 204/10/2024). Isondo has raised similar concerns about intermediate capacities in the value chain. (Mining Weekly, 15/04/2024)

Beyond this, the Mapungubwe Institute and other partners are striving for consensus on setting up a Metals Exchange in the country for endowments that we have in abundance, rather than advantaging other jurisdictions.

Some have asked whether the hydrogen economy and other transition technologies are hyped and need 'a reality check'. They point to some companies scaling back or shelving their plans. (Engineering News, 17/072024 & FT, 26/11/2024).

Such scepticism and commercial ebbs and flows are not uncommon with nascent technologies. Our answer must be to demonstrate the industries' viability in the blast furnace of actual practice. And South Africa should be in the lead.

We hope that today's discussion will help raise our efforts to an even higher pedestal.

**END**