

Toyota-Shudao Joint Venture to Boost South African PGM Demand

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The demand outlook for South African platinum group metals (PGMs) is set to improve following the announcement of a joint venture between Japan's Toyota Motor Corporation and China's Shudao Investment conglomerate. The partnership will establish a hydrogen fuel cell plant in Chengdu, China, signaling a significant investment in the country's burgeoning hydrogen economy and strengthening its position as a global leader in hydrogen technology.

The new one-billion yuan facility in China's Sichuan province will produce fuel cell systems and components for heavy-duty commercial vehicles, including trucks, buses, and sanitation vehicles. With operations scheduled to begin by the end of the year, the plant will support the Chengdu-Chongqing Hydrogen Corridor, which is developing into a key regional hydrogen hub. This initiative aligns with China's national goal of achieving carbon neutrality.

According to the World Platinum Investment Council (WPIC), this development underscores the importance of the Chinese market to the hydrogen outlook. The WPIC forecasts that China will be the primary driver of the hydrogen economy, accounting for over 50% of global electrolyzer capacity by 2030 and 32% of hydrogen-linked demand for platinum.

In a related development, the Guangzhou Futures Exchange has confirmed the upcoming launch of physically-settled platinum and palladium futures, following two years of development. These contracts are benchmarked against international exchanges, and there are plans to introduce options contracts as well.

Global Green Hydrogen and PGM Demand on the Rise

This development in China is part of a broader global push toward green hydrogen. International projects

are emerging worldwide, from a new green hydrogen and ammonia facility in Brazil, a joint effort involving China's Envision, to a similar project under construction in Australia. South Africa is also a key player, with Green Hydrogen Solutions developing a project in the East London Industrial Development Zone and Hive Hydrogen advancing its Coega Green Ammonia Project.

The maritime and aviation sectors are also embracing hydrogen technology. Canada's Ballard Power Systems is supplying fuel cell engines for vessels in Europe, while Airbus and MTU Aero Engines have partnered to develop hydrogen fuel cell propulsion for commercial aircraft.

Meanwhile, the global water electrolysis hydrogen equipment market is projected to reach \$15 billion by 2034, according to a recent report from Exactitude Consultancy. The International Council on Clean Transportation has also reported that green hydrogen-powered fuel cell electric vehicles (FCEVs) have the lowest carbon emissions over their entire lifecycle.

Innovative Hydrogen Applications in Mining and Transport

The mining industry is seeing innovative applications of hydrogen fuel cells. In China, a 260-ton hydrogen fuel cell mining truck is set for deployment at a coal mine in Inner Mongolia. This follows a similar pioneering effort by Anglo American in South Africa, which developed a hydrogen mine truck as a proof of concept. Anglo American has confirmed that its Envusa wind and solar renewable energy project, a joint venture with EDF Renewables, is progressing well.

As China's demand for PGMs continues to grow, industry analysts are closely watching its impact on global markets. The Shanghai Platinum Week recently highlighted China's dominance in PGM consumption across the automotive, chemical, glass, hydrogen, and jewelry sectors, along with a growing interest in PGM investment.