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PRESS RELEASE

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TNG Limited and SMS group bank on turquoise hydrogen (H_2) produced from methane for carbon-neutral pre-reduction of titanomagnetite ores

The next step towards a carbon-neutral future

SMS group takes the next step into a carbon-neutral future.

Australian mining corporation TNG Limited, based in Perth, Australia, und SMS group plan to implement a process enabling the production of CO_2-neutral hydrogen as they are developing the Mt. Peake titanium/vanadium/iron project in the Northern Territory, Australia. The thus produced turquoise hydrogen will be used as reducing agent to make the production of

titanium/vanadium and iron from fine-grained titanomagnetite concentrate carbon-neutral.

TNG Limited and SMS group have now agreed to jointly invest in the development of a complementary hydrogen production technology. On account of the limited availability of green electricity, both companies bank on the production of hydrogen by breaking methane (natural gas or biomethane) down into hydrogen and solid carbon. This process requires just about one third of the electricity consumed by other green hydrogen production routes. The electricity consumption of the new process envisaged by TNG and SMS group is rated at 15 to 18 kWh per kilogram of hydrogen produced. TNG and SMS group plan to construct and bring on stream a Europe-based pilot plant with a hydrogen production capacity of 14 kilograms per hour in the next few years. This will correspond to about 100 tons of carbon-neutral hydrogen per year ? a capacity set to enable the scale-up of the technology to an industrial level.

The process has the potential to become the method of choice for the production of hydrogen and syngas from a wide range of hydrocarbons, including fossil, biogenic and waste materials. For TNG and SMS group, this opens up ? outside their respective core businesses ? new business opportunities in the fast-growing hydrogen and e-fuel sector. The process produces carbon black as a by-product. The current market price of a ton of carbon black is about 1,000 US dollar.

TNG Limited and SMS group have already been working closely with leading institutes and partners from industry with the aim to jointly develop an efficient direct pre-reduction process ? on fluidized bed basis ? for TNG’s fine-grained titanomagnetite concentrate, and have meanwhile successfully demonstrated the feasibility of the process at lab scale.

“TNG’s Mt. Peake project provides perfect conditions for the first industrial-scale application of this technology, thanks to the abundant local availability of methane and the specific characteristics of TNG’s fine-grained concentrate, which are very suitable for a fluidized bed direct reduction process using hydrogen as reducing

agent," said Herbert Weissenbaeck, responsible at SMS group for strategic project development, on the occasion of the announcement of the cooperation agreement.

"We see Australia's industry embarking on a carbon-neutral future and believe our investment will pay off not only for the environment but also for our shareholders in the long term," said Paul Burton, Managing Director and CEO of TNG Limited.

SMS group is a group of companies internationally active in plant construction and mechanical engineering for the steel and nonferrous metals industry. It has some 14,000 employees who generate worldwide sales of more than EUR 2.9 billion. The sole owner of the holding company SMS GmbH is the Familie Weiss Foundation.