

Research biochar for PCI in blast furnace to reduce fossil CO2 emission

Publieke samenvatting / Public summary

Aanleiding

TSN shares a vision with the Dutch government regarding the transition to a clean, green and circular industry and protecting and maintaining the size and contribution of the manufacturing industry in the Netherlands. Switching to large-scale production of green steel will result in significant CO2 reduction, has environmental benefits and contributes to a sustainable economy. Furthermore, the project guarantees strategic autonomy in the Netherlands and the EU. More specific, decarbonization of the steel industry by introducing biochar to replace fossil coal, the by-product of biochar production is syngas, part of the syngas can be used as SAF feedstock to decarbonise the aviation industry.

Doelstelling

The project connects to the TKI initiative to use bio-based feedstock. Bio-based feedstocks is one of the levers to achieve a 55% CO2 emissions reduction as per the EU climate goals. The execution of this project will deliver insights which allows Tata Steel to engage in follow up projects, leading to a potential of 320ktpa CO2 emission reduction.

Korte omschrijving

The project starts with prototype testing of several biochar samples of different qualities. The samples will be tested in lab scale, replicating the industrial application as accurate as reasonably possible. The results will determine which sample will be selected for the next test series, which includes tests in the

Projectinformatie / Project information

Projectnummer / Project number

TKITOETKI_21_Bio4Steel

Subsidiebedrag / Grant amount

€ 508.571,00

Algemene informatie / General information

Penvoerder / Secretariat

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Tata Steel operations. The results of the second tests will further enhance the lab models and support decision making for a further scale up.

Resultaat

The project will generate knowledge which allows Tata Steel to scale up the biochar use in the operations. Tata Steel is targeting an initial 320ktpa CO2 emissions reduction, with further reductions possible once stable operation based on biochar is established. In addition the biochar project will generate byproducts which can be used as SAF feedstock for the decarbonisation of the aviation industry.

De data in deze applicatie is afkomstig van de Rijksdienst voor Ondernemend Nederland (RVO) en wordt in samenwerking met de Topsector Energie ontsloten.

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