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Sustainable biogenic carbon for metallurgical use

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In order to remove fossil carbon from the metal industries, biogenic carbon sources are needed. Progress has been made in using biogenic carbon substitutes in pilot and industrial-scale trials. However, challenges remain in the production and use of metallurgical biocarbon products, particularly in areas such as policy support at national and EU levels, commercial financial incentives, competing demand on biomass feedstock, and raw material costs.

The HåBiMet project, funded by Swedish government agencies, aims to investigate the barriers and opportunities for promoting the production and consumption of metallurgic biocarbon products in a Swedish context. The project adopts three perspectives: technical, social, and policy-related. Key focus areas include identifying conflicts of interest regarding more sustainable use of biogenic carbon at the societal level and optimizing the biochar value chain for sustainable metallurgical industry, etc.

Potential enablers include synergies in the production of biocarbon products involving the metallurgy, district heating, and chemical sectors. Since bioenergy is the largest energy source in Sweden, a shift in the use of biomass could have significant impact on the energy market and forestry sustainability goals. The HåBiMet project addresses the challenges by fostering broad collaborations that bring together the most relevant sectors, including agriculture, energy, and metal production. It is clear that achieving wide adoption of biogenic metallurgical carbon requires sector-wide acceptance and coordination.

The HåBiMet project has gained valuable experience in building these broad and cross-sectoral collaborations and will present an outlook on the next steps toward creating a sustainable market.

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