

Press Release

SPRIND CHALLENGE „CARBON-TO-VALUE“ WANTS TO TURN BACK CO₂-CLOCK

Three teams each receive 2.3 million euros for the further development of innovative technologies for the permanent storage of CO₂ in new products

Leipzig, April 26, 2023

The Federal Agency for Disruptive Innovations SPRIND has selected the participants for the second stage of the Challenge "Carbon-to-Value". Having already received up to 700,000 euros for the first year, each of the three selected teams will receive a further 2,300,000 euros by the end of this multi-year Challenge on 30 September 2024. The aim of this Challenge which is funded by Federal Ministry of Education and Research (BMBF) is to achieve a breakthrough in the use of CO₂ from the air in new products to make the fight against climate change economically viable.

"To limit the serious increase in the global average temperature, it is not enough to avoid and reduce future CO₂ emissions. We need to additionally remove a large amount of CO₂ from the atmosphere," explains Jano Costard, Challenge Officer of SPRIND. "With this Challenge, we want to help new processes achieve a technical and commercial breakthrough to remove CO₂ from the atmosphere and then store it in valuable products in the long term."

An international jury has selected the following three teams from the five participants so far for further funding:

Carbo Culture sequesters carbon from waste biomass in the form of biochar, which can be used in concrete to reduce the ecological footprint and adds functionality as a heat conductor. The concrete guarantees long-term sequestration of CO₂ and can secure a CO₂-neutral footprint through the use of the biochar. With this process, additional revenues can be generated for carbon removal, which further increases the economic viability of the product.

By employing non-thermal plasma catalysis, **enaDyne** is able to convert CO₂ from biological sources into methanol, ethylene and other hydrocarbons with little energy input. These hydrocarbons are required to a large extent by the chemical industry for durable products. Until now, these compounds have been produced almost exclusively by processing fossil raw materials.

MacroCarbon, a spin-off of the Alfred Wegener Institute and Carbonwave PBC, is pursuing a similar goal. MacroCarbon develops huge ocean farms in which the seaweed Sargassum is cultivated. Sargassum is a seaweed that grows very quickly and thereby steadily removes CO₂ from the seawater. The CO₂ sequestration potential of algae is many times higher than that of trees. Moreover, no precious land or fresh water is needed for cultivation. The company is able to process the CO₂ captured by the algae into raw materials for the chemical industry such as naphtha. The team is in regular contact with researchers at

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BASF about the possible integration of products from algae cultivation into current and future value chains in the chemical industry.

SPRIND supports the three teams in the further development of their technologies and commercialization of their products not only financially, but also with intensive coaching and contacts to private-sector investors. This ensures that the young companies also receive follow-up financing for their further growth.

For more information on the SPRIND Challenge "Carbon-to-Value", please visit <https://www.sprind.org/en/challenges/carbon-to-value>

About SPRIND

The Federal Agency for Disruptive Innovations SPRIND was founded on December 16, 2019, with its registered office in Leipzig. The sole shareholder is the Federal Republic of Germany, represented by the Federal Ministry of Education and Research (BMBF) and the Federal Ministry for Economic Affairs and Climate Action (BMWK). SPRIND fills a gap in the German innovation landscape: it finds new, groundbreaking technologies for the major challenges of our time, while ensuring that the value created by the resulting companies and industries remains in Germany and Europe. SPRIND is financed by funds from the federal budget. SPRIND is managed by Rafael Laguna de la Vera and Berit Dannenberg.

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