



NETWORK FOR A CIRCULAR CARBON ECONOMY (NK2)

Intersectoral cooperation for recycling and recirculation

The objective of the NK network is the transition towards a circular carbon economy. To achieve this goal, recycling and recirculation of primary and secondary carbon raw materials are crucial factors to ensure that carbon will remain in the system instead of being released as CO₂ into the environment and contributing to climate change and global warming. The establishment of a circular carbon economy will support a sustainable raw material supply for the chemical industry in cooperation with sectors ranging from energy, waste management, recycling, processing, lightweight construction to renewables.

Against this background, Fraunhofer Institute for Microstructure of Materials and Systems (IMWS) / Halle initiated the Network for a Circular Carbon Economy (NK2) in 2019. Key topics and focuses of NK2 are (1) materials, processes and technologies for the conversion of

solid carbon resources, (2) integration of "green" hydrogen and renewable power, (3) CO₂-neutral, gas-based processes and syntheses for chemical basis materials and synthetic fuels, (4) new materials, material utilization & process design, (5) information technology, (6) systems and sustainability for a circular economy as well as (7) political framework and legislations. The NK2 network provides a platform not only for information and knowledge exchanges but also for intersectoral and international networking.

The members jointly believe that a circular carbon economy provides substantial advantages for climate protection, as well as huge potential for added value and new business models in Germany. Through workshops, trainings and conferences, NK2 partners not only exchange information relating to new developments for efficient, sustainable and economical design for a circular carbon

economy, but also for sustainable structural change in Germany's lignite regions.

The NK2 network organizes intersectoral experience exchanges with industry, politics and other key stakeholders (e.g. NGOs, Media, general public). It furthermore integrates the diversity of Fraunhofer research expertise and spans the entire innovation chain from basic research to large-scale industrial application.



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