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Spent FCC-Catalysts to Industrial Catalyst and Additives – Recycling and Recovery

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Process of fracking to deliver unconventional fossil resources results in strong dynamics of the market. Economical important platform chemicals for plastic industry like propene cannot be produced in sufficient quantities. An increase of production volume of propene can be realized using adjusted classic Fluid Catalytic Cracking (FCC).

Application of a ZSM-5-containing catalyst additive results in an enhancement of selectivity and improvement of resource efficiency but also in degradation of durability and regenerability. Based on these aspects, there is a current need for research on innovative catalysts or additives via synthesis, post-synthesis and shaping.

Aim of the project is the sustainable and applied development of an easy and reproducible synthesis strategy of ZSM-5 based additives and zeolite Y-containing cracking catalysts. This research project combines raw material efficiency by developing modified catalysts as well as recycling of spent FCC catalysts and climate protection by using biogenic resource technology, directly or as co-feed. These materials fit to challenges of FCC-conditions and increasing demand of propene.

