

## Waste to Hydrogen – Torrefaction pilot plant at RWE Innovation Centre Niederaußem

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**Keywords:** *Circular economy, Torrefaction, Waste utilization, Gasification*

### Abstract

Hydrocarbons need to be produced and utilized in the future using less fossil resources and emitting significantly less greenhouse gases than today. This can only be implemented by establishing circular economy in all economic sectors. The utilization of hydrocarbon-containing streams such as municipal solid waste and sewage sludge will significantly contribute to the circular economy. From these materials, hydrogen and carbon can be recovered by thermochemical conversion and be applied in new products. Methods and processes that were initially developed for fossil carbon carriers can be adapted to these feedstocks [1].

In this context, RWE elaborates on hydrogen production from municipal solid waste by means of entrained flow gasification in the framework of the FUREC project as shown in Figure 1. Within FUREC a large-scale industrial conversion plant is developed aiming at final investment decision in 2026. RWE has built and operates, pilot plants at its innovation center located at the power plant site in Niederaußem for both, the torrefaction of municipal solid waste pellets and the entrained flow gasification of solid feedstocks.

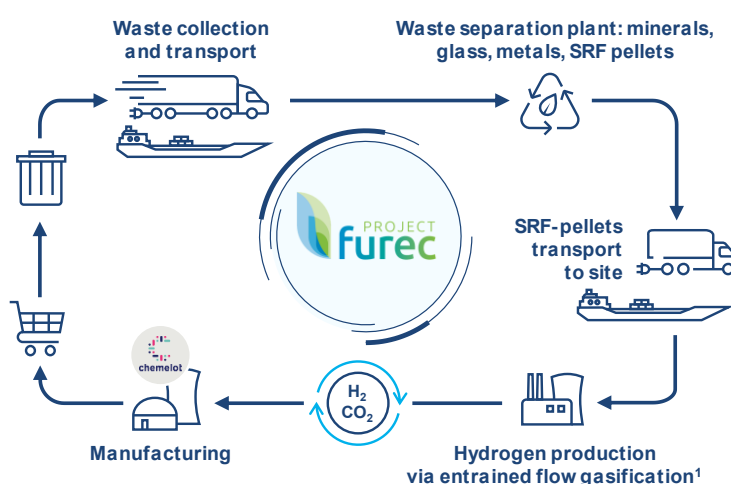


Figure 1: FUREC project applying Waste-to-Syngas process