Maire Tecnimont

# Energy Transition

## News

NextChem
Maire Tecnimont for Energy Transition

TECHNOLOGIES FOR A LOW CARBON ECONOMY

nextchem.com

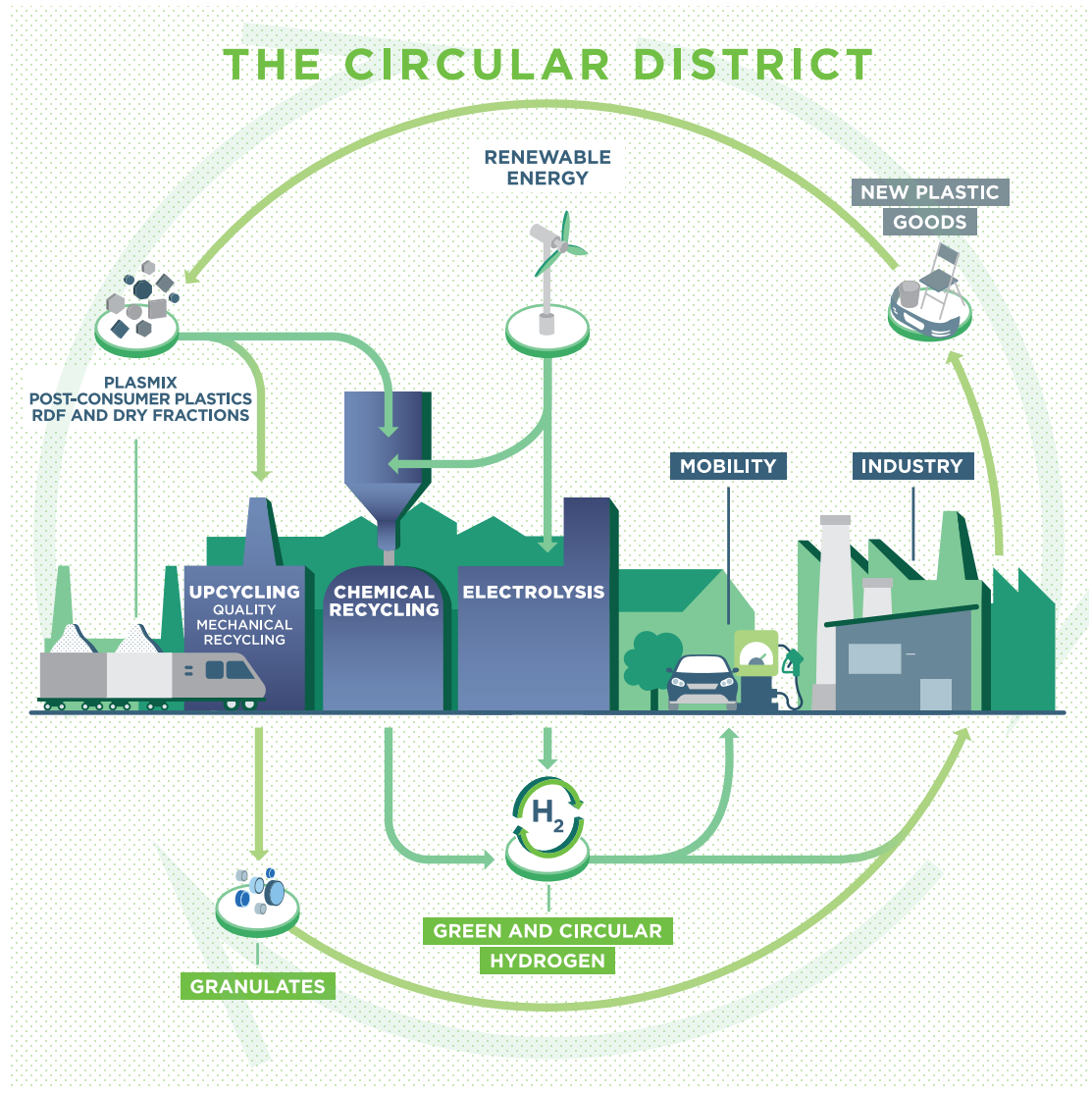
NOVEMBER 3-4, 2020

# NextChem's Circular District Model

## NextChem: the company and business areas

NextChem is the Maire Tecnimont Group's company for green chemistry and energy transition, founded in 2018. With Operative Headquarters in Rome and two other branches in Milan and L'Aquila, NextChem has more than 90 employees and 8 subsidiaries. T e company has a portfolio including proprietary technologies, exclusive licensed technologies, technology integration platforms, EPC contracts. NextChem plays partner and coordinator role in more than 10 international research projects. NextChem's roadmap is focused in three areas of activity: Greening the Brown – technologies for the reduction of pollutant and GHG emissions released from existing plants; Circular Economy – technologies for the mechanical and chemical recycling of plastic waste and other discarded materials; Green-Green – technologies which use biomass or biological raw materials to produce intermediates, biofuels and bio-plastics.

NextChem has developed a model of "Circular District" in which integrates Upcycling technology and chemical recycling of non-recyclable plastics and dry waste into syngas and "circular" chemicals with technologies for the production of hydrogen from renewable sources by electrolysis. T is model integrates proprietary and licensed technology already proven, available and ready to be industrially implemented, and it allows to realize industrial projects which are environmentally, socially and economically sustainable. Circular District model is mainly aimed at green recovery of industrial brown f eld sites, above all in petrochemical and steel sectors. T e aim of the Circular District is to replace fossil sources in industrial processes (as natural gas or hydrogen from methane) with feedstocks (renewable or circular) with a lower carbon footprint, which allow to reduce $CO_2$ emissions of industrial sites and to increase the recycling,





improving circular economy. NextChem's model is a virtuous one for the economy green relaunch: it combines circular economy with decarbonization goals, for the development and sustainable recovery of traditional sites based on fossil sources, it is useful for a green relaunch of local economy, to create employment and new skills. Finally, the production of chemicals which are building blocks for the industry using existing sites and waste as feedstock, allows to reduce virgin raw materials supply, cu t ing down the reliance of importing countries (like Italy) from abroad.

## The partnership with LanzaTech

In July 2020, NextChem and LanzaTech signed an agreement to promote circular ethanol production. NextChem's Circular District model has been enriched: in addition to hydrogen and methanol derived from the chemical conversion of non-recyclable plastics and dry waste, it will now be possible to obtain ethanol, an important chemical for sustainable fuels and disinfectant production.

## NextChem low-carbon hydrogen proposition

Hydrogen is a key topic in the discussion about energy transition. In this transitory phase, before green hydrogen reaches its maturity level, blue hydrogen and circular hydrogen produced from waste chemical conversion could play an important role in the production of a low-carbon substitute of the hydrogen from fossil source.

Read NextChem's point of view here