CHEMICAL ENGINEERING

Ammin/DISAT - Aqueous phase reforming of process water from hydrothermal carbonization

Funded By	Dipartimento DISAT Politecnico di TORINO [P.iva/CF:00518460019]
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Context of the research activity	The topic falls within the scope of research on aqueous phase reforming (APR), which involves the conversion of organic compounds in aqueous phase, leveraging their waste nature to produce a higher value-added compound—hydrogen. The reaction is catalytic, and thus requires the development of catalytic materials as well as the execution of experimental laboratory activities.
Objectives	The research aims to convert organic compounds that are currently very difficult to activate through: - Rational catalyst design, by studying the mechanisms of adsorption and activation of organic molecules; - Selection of appropriate operating conditions, particularly in terms of temperature; - Investigation of aqueous phase contaminants that may lead to catalyst deactivation; - Process optimization integrating hydrothermal carbonization and aqueous phase reforming.
Skills and competencies for the development of the activity	Expertise in catalysis for the development of catalytic materials and in plant engineering for conducting experimental activities.