

## **Corrosion during manufacturing, transformation, storage, and use of biofuels and bioproducts**

### **Joint session WP 15 “Corrosion in Refinery and Petrochemistry industry” and TF “Corrosion in Green and Low Carbon Energy Technologies”**

To limit the CO<sub>2</sub> emissions, the refinery and petrochemistry industries are facing new corrosion challenges to synthesis bio products (fuels, chemicals, materials) and hydrogen from biomass feed and waste oils.

The use of fuels from biomass is one of the paths to the transition toward the non-fossil energies and CO<sub>2</sub> emissions limitations. In bio-refineries, different processes (biological, thermochemical, etc.) transform feedstocks of very different compositions (vegetable oils, wood, straw, residues, etc.) to obtain alcohols, esters, synthetic fuels and bio plastics. The behaviour of materials with respect to the corrosion of the equipment of these new processes is an important parameter to ensure the reliability of these industries. In addition, the presence of oxygenated compounds in these new fuels can lead to corrosion and fouling in storage, transportation equipment and in the internal combustion chambers of heat engines and turbojets. The changes in feed chemistry push the processes to re-evaluate the material selections and corrosion mitigation techniques. As examples, the thermochemical transformation of the biomass feed or waste oils concern processes such as pyrolysis, hydrotreatment, gasification BTL way (that can generate synthetic gas, hydrogen, alcohols).

This joint session between WP15 “Corrosion in refinery and petrochemistry industries” and WP26 “Corrosion in green and low carbon energy technologies” will focus on knowledge of corrosion and protection mechanisms and their application for reliable developments of bio energy carriers and bio products.