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CCU & Methanation: Technologies at scale to support the growth of renewables & strengthen energy security

Renewable energy growth in Europe, from solar and wind, faces an increasing business case challenge, related to the so-called “cannibalisation” effect. When all installed power plants in an area produce according to the same profile in excess of power demand, the power price drops and the “captured prices” for those plants deteriorate year after year. Supporting a continued growth of renewables requires a cocktail of solutions. One of those is power-to-gas, involving CO₂ methanation, which offers many benefits: converting biogenic CO₂ into a gas e-methane, that can be injected into the European gas grid, leveraging existing infrastructure, emethane can be converted or mass balanced “virtually” liquefied to provide a scalable fuel to the Maritime industry. Carbon capture when co-located with the power to gas plant, can also benefit from the exothermy of the Sabatier reaction, optimising overall energy conversion efficiency and improving the business case.