

## **APPLICATION OF GREEN HYDROGEN IN MOBILITY SECTOR**

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At a global level, different studies disclose that transport systems are responsible for 25% of CO<sub>2</sub> emissions. In the context of sustainable mobility, one of the challenges in the short term is associated with the research and improvement of alternative fuels, which allow a fast decrease in the generation of greenhouse gases due to sustainable transport means. In this sense, green hydrogen can play a fundamental role. Green hydrogen is the basis for producing synthetic fuels, which can replace oil and its derivatives. Synthetic fuels or e-fuel are hydrocarbons produced from carbon dioxide (CO<sub>2</sub>) and green hydrogen (H<sub>2</sub>) as the only raw materials. H<sub>2</sub> or e-fuel could be used in many sectors (manufacturing, residential, transportation, mining and other industries). In this work, different applications of hydrogen are evaluated by techno-economic analysis. The main variable that affects the production of hydrogen and its derivatives is the cost of electricity. Considering the renewable energy potential of Chile, it is feasible to develop in Chile the green hydrogen production as an energy vector, which would be a technically and economically viable, together with the environmental benefits.