



# Refineries as Green Hydrogen Technologies' Incubators (GH2T)

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S. Moreno, B. Alonso-Fariñas, A. Ronda, K. Guerra, R. Arjona, M. Campoy, A. Villanueva Perales, D. Fuentes-Cano, S. Nilsson, P. Ollero, J. Pino, E. Romero, P. Haro\*

Chemical and Environmental Engineering Department. Escuela Técnica Superior de Ingeniería, Universidad de Sevilla.  
Camino de los Descubrimientos s/n. 41092 Seville, Spain, [pedrogh@us.es](mailto:pedrogh@us.es)

## Introduction

- Waste biomass in western Andalusia (Spain) can be a key contributor to the decarbonization of the energy system.
- Hydrogen is seen as one of the most promising solutions for the replacement of fossil fuels in the industry.
- In GH2T, the general objective is to set the path for the transformation of oil refineries into hydrogen clusters for the incubation of green hydrogen technologies, while considering current and future complexity of oil refining.

Figure 2. Energy potential of agricultural resources in the study area.

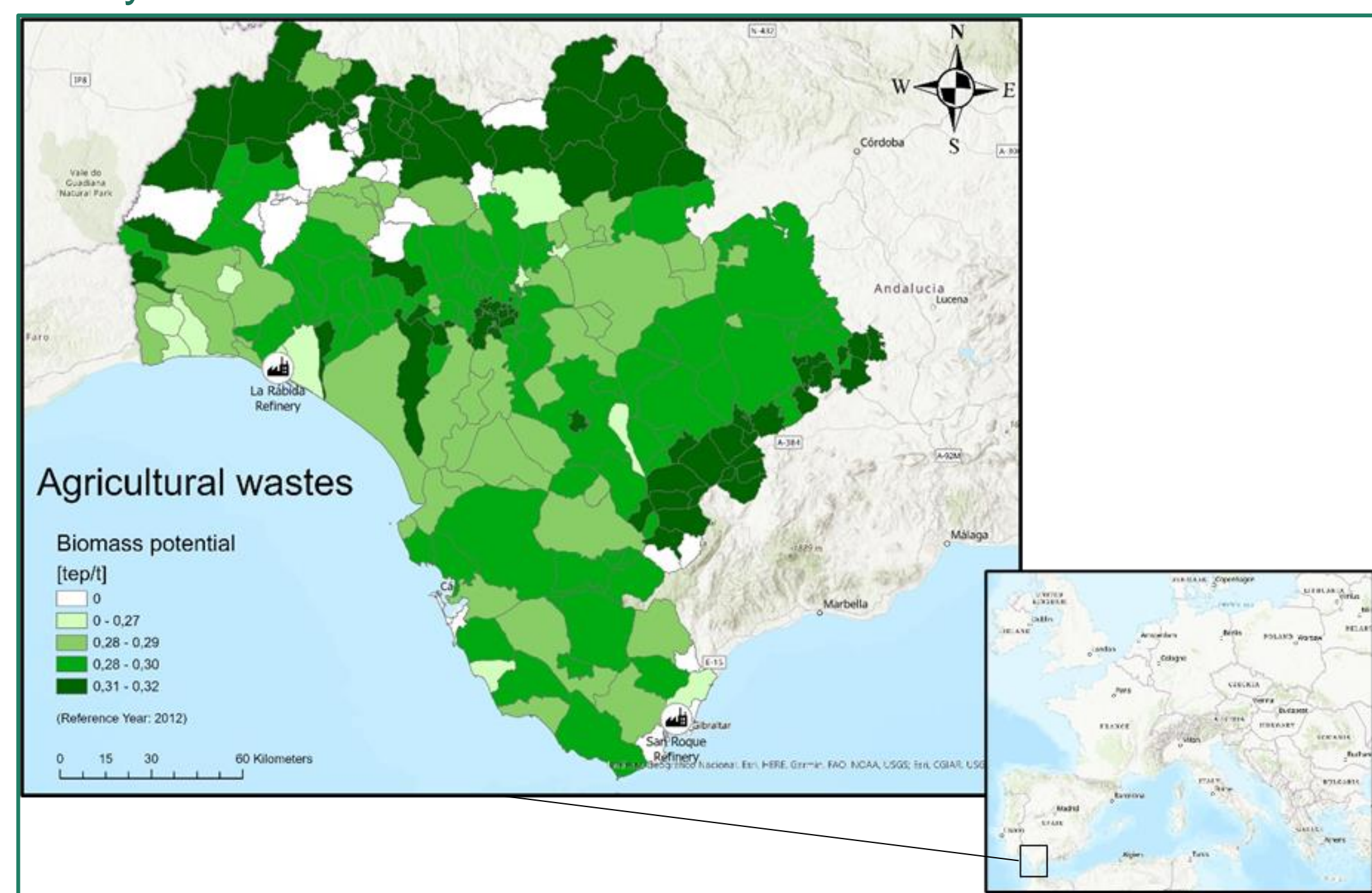
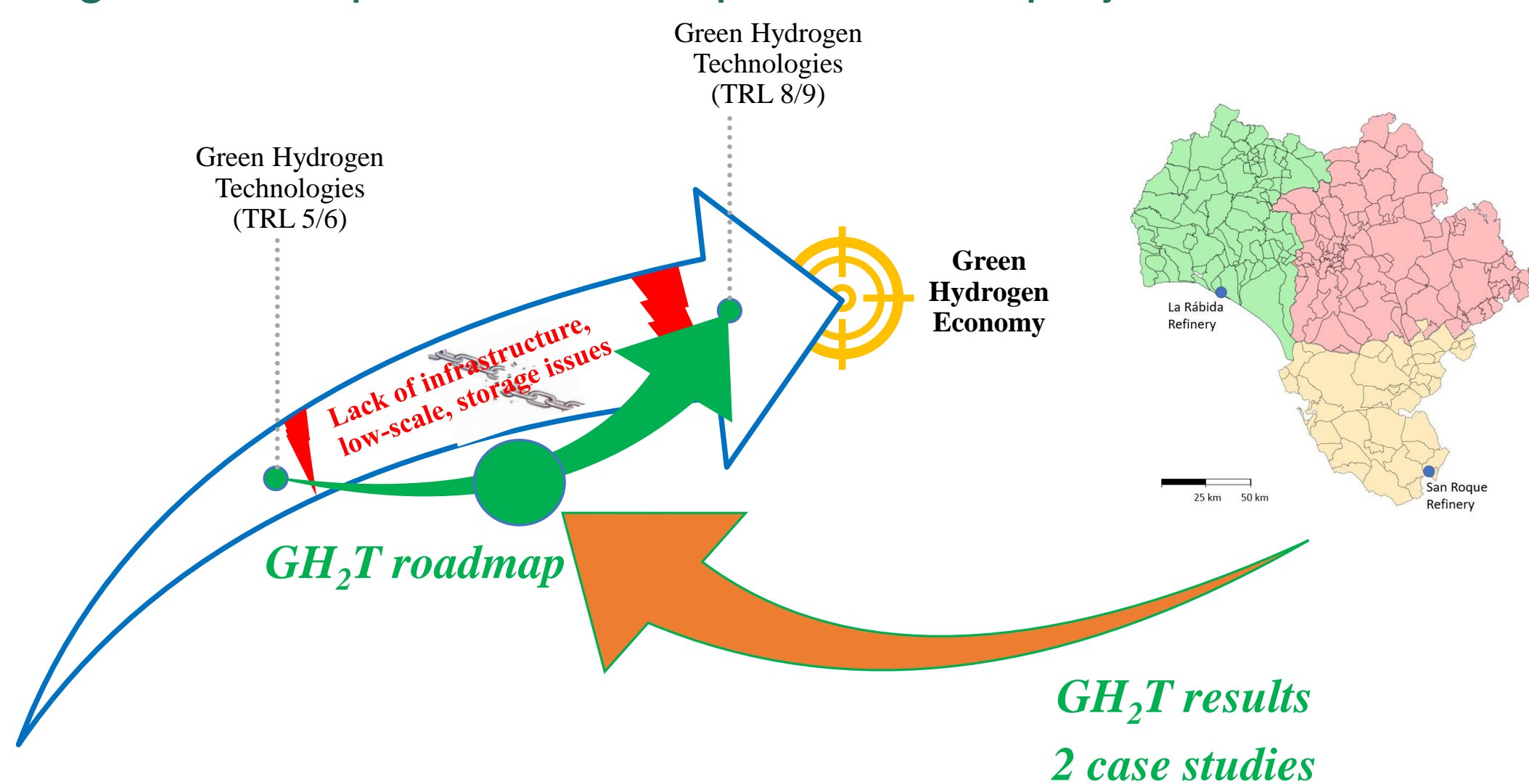


Figure 1. Graphical abstract of the GH2T project.



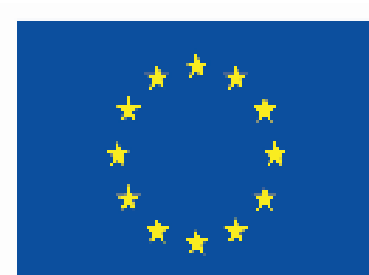
## Objectives

01. Identification of opportunities, challenges and synergies for integrated renewable hydrogen production in oil refineries.
02. Conceptual design of the integration of the technologies.
03. Critical evaluation (along the project) of the sustainability of the conceptual designs prepared.
04. Contribution to policy making in the framework of the hydrogen economy and its integration into existing industrial activities.
05. Creation of a realistic exploitation roadmap for the results of the project.
06. Maximizing the contribution to the Sustainable Development in terms of economic, social, and environmental sustainability.

## Highlights

- Development and deployment of an effective and cost-efficient system based on the production of green hydrogen from dispatchable renewable sources.
- Provision of a new perspective for the future development of bioenergy (wastes).
- Analysis and quantification of the agricultural and urban waste available in Western Andalusia as a source of green hydrogen.
- Use of an approach applicable to other locations, adapting the data and types of wastes.
- Demonstration of the great potential of biomass in Western Andalusia for hydrogen production.
- Social and environmental impact assessment of the proposed case studies.

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