



**Borsa di studio attivata ai sensi di quanto disposto dal D.M. n. 1061 del 10/08/2021**

Titolo del progetto: Algal Biorefinery Systems - Viability for Renewable Energy Production and Economic Growth in the Mediterranean Sea Region

La borsa sarà attivata sul seguente corso di dottorato accreditato per il XXXVII ciclo:  
ECONOMIA POLITICA

Responsabile scientifico: Massimiliano Tancioni

Area per la quale si presenta la richiesta: GREEN

Numero di mensilità da svolgere in azienda: 9

Azienda: Enel S.p.A.

Progetto di ricerca:

This proposal provides, in configuration with a sustainable bioeconomy, solutions for the development of algal biorefinery systems in the region of the Mediterranean Sea. The design of a biorefinery focuses on the extraction of high-value products including today's most requested goods and services: clean environment, food security and renewable energy. Optimal solutions engage harvesting of macroalgae taken into account the resilience of local ecosystems, rural market development, turning negative externalities from agricultural production into positive externalities to among others the fishery and tourism industries. Environmental benefits include the mitigation of eutrophication and greenhouse gases as well as the preservation of biodiversity. While marketable benefits involve the introduction of a new industrial concept in rural areas, the increase of the value-added of biomass, the synergy between biorefinery systems and existing agricultural production resulting in an overall socioeconomic growth in the region of the Mediterranean Sea. To assess these objectives we consider:

- Ecological-economic modelling on optimal harvesting of macroalgae including the quantification of positive externalities on the fishery and tourism industries
- Techno-economic modelling on cost efficient implementation of novel extraction technologies in industrial processing
- Environmental-economic modelling on the internalisation of negative externalities from agriculture
- Rural industrial organisation modelling on market supply and competitiveness
- Socio-economic growth modelling for the entire region of the Mediterranean Sea

Titolo del progetto (inglese): Algal Biorefinery Systems - Viability for Renewable Energy Production and Economic Growth in the Mediterranean Sea Region

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