



PhD in INGEGNERIA GESTIONALE / MANAGEMENT ENGINEERING - 38th cycle

**PARTENARIATO PNRR Research Field: SUSTAINABLE BUSINESS MODEL TO ACHIEVE
DECARBONIZATION TARGETS IN THE ENERGY SECTOR**

Monthly net income of PhDscholarship (max 36 months)

€ 1450.0

In case of a change of the welfare rates during the three-year period, the amount could be modified.

Context of the research activity

**Motivation and objectives of the research
in this field**

In the last years, the energy sector has been affected by the manifestation of different technology- and regulatory-related trends enabling its decarbonization. Among the others, the spread of Energy Storage Systems (ESSs) has been expanding the potential business opportunities that firm can tap by exploiting them in different domains, such as grid installation or the coupling with RES plants. ESSs are being recognized as one of the most promising technologies to enable the decarbonization of the energy sector, whose spread can be related to a plethora of application fields. Hence, companies may leverage ESS to develop new business models to sustain or establish sustainable competitive advantages. However, little is known on how sustainable business models – concurrently addressing economic, environmental, and social aspects – can be design to exploit ESS-related opportunities. For example, circular economy principles (e.g., life-time extension through maintenance or repurposing activities) open up interesting avenues to design sustainable business models focused on ESSs, however they significantly affect the logics through which companies create, deliver, and capture value.

In the light of the above, despite the awareness that ESSs will play an important role in the future energy system, it is unclear (i) on the one hand, the extent to which related business models are fully sustainable from an economic, environmental, and social point of view; (ii) on the other



	<p>hands, the strategic levers that companies can adopt to make ESSs more sustainable.</p> <p>The PhD project will build on existing literature and develop new theoretical insights concerning sustainable business models enabled the decarbonization of the energy sector, with specific focus on the ones related to ESSs. In doing so, the research will inform theory and practice to boost the BM design capacity and performance of companies.</p> <p>At the same time, the research will inform on the economic and environmental performance of ESSs and related business models.</p>
Methods and techniques that will be developed and used to carry out the research	<p>The research will apply rigorous methods as established in the international research community and relevant literature on innovation management.</p> <p>As far as the analysis of the sustainable business models enabling the decarbonization of the energy sector is concerned, the methods will center around qualitative methodologies such as in-depth multiple case studies with data collected from interviews, archives and real-time observations. Furthermore, the analysis of the environmental impact associated to ESSs in the light of related business models will be carried out through LCA-based assessment.</p>
Educational objectives	<p>The research aims at developing an internationally-excellent research profile who will build the following skills:</p> <ul style="list-style-type: none"> - In-depth knowledge of business model enabling decarbonization theory and practice - Advanced understanding and application of qualitative methodologies and multiple case studies as well as LCA-based environmental assessment - Applicable knowledge and skills needed to design sustainable business models and implement them effectively in organizational contexts.
Job opportunities	<p>The research will develop a highly trained researcher and professional who will be competitive in the academic job market as well as appealing to a variety of organizations.</p>



Composition of the research group	3 Full Professors 0 Associated Professors 1 Assistant Professors 2 PhD Students
Name of the research directors	Proff. Chiesa, Frattini, Chiaroni, Franzò

Contacts
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Additional support - Financial aid per PhD student per year (gross amount)	
Housing - Foreign Students	--
Housing - Out-of-town residents (more than 80Km out of Milano)	--

Scholarship Increase for a period abroad	
Amount monthly	725.0 €
By number of months	6

Additional information: educational activity, teaching assistantship, computer availability, desk availability, any other information
<p>There are various forms of financial aid for activities of support to the teaching practice. The PhD student is encouraged to take part in these activities, within the limits allowed by the regulations.</p> <p>Computer and desk availability of individual use.</p> <p>CUP: D43C22003090001</p> <p>Decreto Direttoriale Avviso: D.D. 341 del 15/03/2022 Avviso pubblico per la presentazione di Proposte di intervento per la creazione di Partenariati estesi alle università, ai centri di ricerca, alle aziende per il finanziamento di progetti di ricerca di base nell'ambito del Piano Nazionale di Ripresa e Resilienza, Missione 4 Istruzione e ricerca - Componente 2 Dalla ricerca all'impresa - Investimento 1.3, finanziato dall'Unione europea - NextGenerationEU</p> <p>Decreto di concessione: D.D. 1561 del 11/10/2022</p>