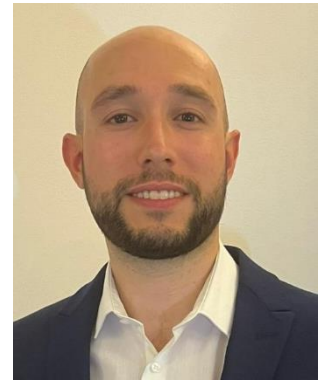# FILIPPO BOVERA

WORK EXPERIENCE

The research activity currently focuses on three main directions.
- (i) Modelling and optimization of integrated, smart multi-energy systems, with a special attention to sector-coupling and flexibility provision issues.
- (ii) Policy and regulation of electricity networks and markets, especially concerning regulatory experimentation.
- (iii) Statistical inference and machine learning techniques applied to electricity markets.

2021 - ongoing	**Postdoctoral Researcher (RTD-A)	POLITECNICO DI MILANO, Energy Department**
2017 - 2021	**PhD Student	POLITECNICO DI MILANO, Energy Department**

INSTITUTIONAL TASKS

2022 - ongoing	**University Energy Manager (Italian Law 10/91)	POLITECNICO DI MILANO** Representative of Politecnico di Milano at RUS – Rete Università Sostenibili (https://reterus.it/) Coordinator of the RUS sub-group on Energy Communities (Energy WG)
2018 – ongoing	**Member of Commissione Energia	POLITECNICO DI MILANO** (https://www.commissionenergia.polimi.it/)

TEACHING ACTIVITY

2017 – ongoing	**Teacher	POLITECNICO DI MILANO** Master of Science courses: (i) Regulation of Electric Power Systems – MSc in Electrical Engineering (ii) Smart Grids and Regulation for Renewable Energy Resources – MSc in Energy Engineering First and second level specializing courses: (iii) RIDEF 2.0 - reinventare l'energia – Energy Department, Politecnico di Milano (iv) Percorso Executive in Energy Management – MIP Graduate School of Business, Politecnico di Milano (v) Strategic and Innovative O&M Management – Politecnico di Milano and ENEL Group (vi) Master Smart Grids - Politecnico di Milano and ENEL Group (vii) Terna Academy – Politecnico di Milano and Terna SpA

RESEARCH PROJECTS

2022 – ongoing	**ENELFLEX	Program of Environment of the United Nations (UNEP)** Digital Demand-Driven Electricity Networks (3DEN) programme intending to implement advanced digitization of DSO network solutions for demand response and flexibility solutions.
2018 – 2021	**ENERGYNIUS	European Funds for Regional Development (POR-FESR)**

	Evolution of smart multi energy districts (electricity, heat and cold) in tertiary and industrial sectors for the optimization of environmental, social and economic aspects.
2018 – 2021	**Merezzate+ | Climate-KIC Program** Integration of efficient energy resources and sustainable practices within social housing contexts, focusing on residential demand side management and on final users engagement.
2018 – 2020	**InteGRIDy | Horizon 2020 Program (European Commission)** Integration of electrochemical storages in distribution grids, evaluating different business solutions according to the energy scenarios prospected in diverse EU countries.

EDUCATION

Sept 2022	**Training on Energy Communities | Council of European Energy Regulators (CEER)** *Specialised training on regulation of energy communities and new business models in the energy sector*
Nov. 2020	**Moxoff Academy | MOXOFF** *Specialization course in applied mathematics, distributed computing and data science for industrial application.* Credential badge: credential.net/6a0aab03-8092-4c19-8d5b-1cb98566d2cc#gs.a0qosu
Nov.2017 – Jul. 2021	**PhD in Electrical Engineering | POLITECNICO DI MILANO** *Analysis and simulation of technical, economic and regulatory aspects linked to the provision of ancillary services by production and consumption units aggregated at a distribution network level.* Final dissertation: "United We Stand: how aggregates of distributed resources can shape the future energy system" Grade: cum laude
Oct. 2014 – Apr. 2017	**MSc in Energy Engineering | POLITECNICO DI MILANO** *Renewable and sustainable resources, environmental safety and smart grids.* Final dissertation: "Optimization tool for the sizing of a CCHP plant in the new energy market framework" Grade: 110/110 cum laude

SELECTED PUBLICATIONS

2022	From energy communities to sector coupling: a taxonomy for regulatory experimentation in the age of the European Green Deal F.Bovera, L. Lo Schiavo Energy Policy. (https://doi.org/10.1016/j.enpol.2022.113299)
2022	Revenue stacking for BESS: fast frequency regulation and balancing market participation in Italy G.Rancilio, F.Bovera, M.Merlo International Transactions on Electrical Energy Systems. (https://doi.org/10.1155/2022/1894003)
2022	Tariff-based regulatory sandboxes for EV smart charging: impacts on the tariff and the power system in a national framework G.Rancilio, F.Bovera, M.Delfanti International Journal of Energy Research. (https://doi.org/10.1002/er.8193)
2021	Energy communities design optimization in the Italian framework M.Zatti, M.Moncecchi, M.Gabba, A.Chiesa, F.Bovera, M.Merlo Applied Sciences. (https://doi.org/10.3390/app11115218)
2021	Data-driven evaluation of secondary and tertiary reserve needs with high renewables penetration: the Italian case F.Bovera, G.Rancilio, D.Falabretti, M.Merlo Energies. (https://doi.org/10.3390/en14082157)
2021	Regulating electricity distribution networks under technological and demand uncertainty F.Bovera, E.Fumagalli, M.Delfanti, L.Lo Schiavo, R.Vailati Energy Policy. (https://doi.org/10.1016/j.enpol.2020.111989)

Milano, li 27/07/2023

Sincerely

Filippo Bovera