



# UNIVERSITÀ POLITECNICA DELLE MARCHE

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**Perspectives in Energy. The impact  
of technological trajectories in Net-  
Zero sectors.**

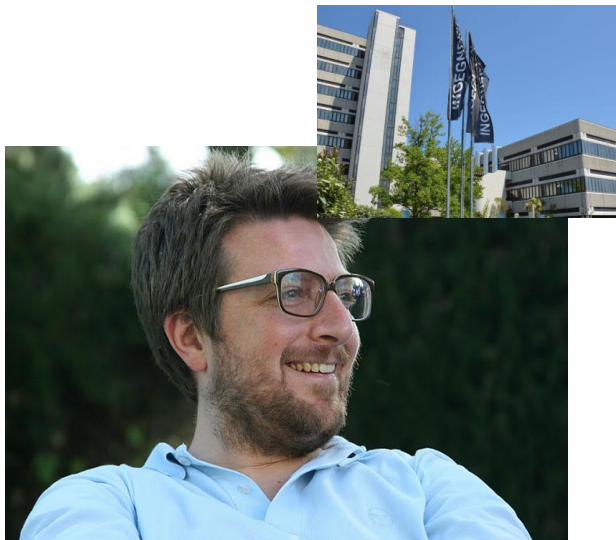
**Supervisors:  
Prof. Gabriele Comodi  
Prof. Marco Cucculelli**

**Departments:  
Department of Industrial Engineering and  
Mathematical Sciences (DIISM)  
Economics and Sociali Sciences (DISES)**

## Supervisors

Prof. Gabriele Comodi, Prof. Marco Cucculelli

- **Prof. Marco Cucculelli**, PhD, Professor in Applied Economics, **Coordinator of the PhD** in Economics at UNIVPM
- **Top 2% Most Influential Scientists** - Stanford University – Elsevier
- <https://orcid.org/0000-0003-0035-9454>, Scopus: 72 papers, 2034 cit.,
- h-index 22 (Business and Management; Economics and Econometrics)
- **Department of Economic and Social Sciences of UNIVPM**
- Secretary General of the **Italian Economic Association** and **Fulbright Chair** at the University of Pittsburgh (USA).
- Prof. Cucculelli works in the fields of **innovation and technology, corporate finance, entrepreneurship.**



- **Prof. Gabriele Comodi**, PhD, Full Professor in **Systems for energy and the environment**
- <https://orcid.org/0000-0003-4606-5283>, Scopus: 144 papers, 3,341 cit., h-index 34 (Energy; Environment Sc.; Engineering; Computer Sc.)
- **Top 2% Most Influential Scientists** - Stanford University – Elsevier
- **Department of Industrial Engineering and Mathematical Sciences UNIVPM**
- Prof. Comodi's research focuses on **energy systems for polygeneration** from fossil and **renewable sources**, with an emphasis on integration into complex systems for the **energy transition**. His expertise includes energy conversion and storage, consumption flexibility (microgrids), **industrial energy efficiency, and energy policy at various levels.**

- The research group consists of a broad network of senior researchers, post - docs and PhD students from the Department of Social Sciences and Economics and a group of researchers and stakeholders from partner universities, industries and organisations
- Prof. Cucculelli is Director of the PhD Program in Economics

### Recent European projects:

- **eNeuron - Energy Islands and Local Energy Communities** - H2020
- **MUSE GRIDS** - Energy Islands and Local Energy Communities – H2020
- **INTERFACE** - TSO-DSO-Consumer INTERFACE architecture to provide innovative grid services for an efficient power system – H2020
- **TaskforCome** – Interreg Central Europe - To improve skills and entrepreneurial competences for advancing economic and social innovation in Central European regions
- **AdriHealthMob** – Health and mobility in the Adriatic microregion

### Most recent/relevant publications:

- **Energy Hub and Micro-Energy Hub Architecture in Integrated Local Energy Communities: Enabling Technologies and Energy Planning Tools** Rossi, M., Jin, L., Monforti Ferrario, A., Graditi, G., Comodi, G., 2024
- **Current Status of Multi-carrier Energy Systems in Europe with Main Limitations and Shortcomings to the Optimal Use of Local Energy Resources** - Morch, A., Sæle, H., Ardanuy, J.F., Comodi, G., Rossi, M. - 2024
- **Green patents and green trademarks as indicators of green innovation**, Block, J. Lambrecht D., Willeke T., Cucculelli M. Meloni D., (2025) *Research Policy*
- **Electricity generation and CO2 emissions in China using index decomposition and decoupling approach**, Linying Li; Raza, M. Yousaf; Cucculelli, Marco (2024). *Energy Strategy Reviews*, Volume 51
- **Sustainable energy changeover in Pakistan: prospects, progress, and policies**, (2024). Raza, M.Y., Cucculelli, M., *Environmental Science and Pollution Research* 31
- **The 'complex' transition: Energy intensity and CO<sub>2</sub> emissions amidst technological and structural shifts. Evidence from OECD countries.** (2024), Colantonio E, Cucculelli M., Marra A., Nissi E., *Energy Economics*
- **Does market power drive business model innovation? Evidence from Italian family manufacturing firms.** (2024), Cucculelli M., Cappelli R., Mondolo J. *Small Business economics*, 63,1
- **Catalyzing solar and wind technology exports: the «Flywheel Effect» of demand-side factors**, (2024), Marra A., Colantonio E., Cucculelli M. *Journal of Industrial and business Economics*,
- **Unpacking Innovation. Corporate Dynamics, Business Models and Digital Technologies.** (2024), Cucculelli, M. *Edward Elgar*
- **Artificial intelligence and corporate innovation. A review and research agenda.** (2023). Bahoo S. Cucculelli M. *Technological Forecasting & Social Science*, Volume 188
- **Environmental regulation and green productivity growth. Evidence from Italian manufacturing firms.** (2022) Lena D. Pasurka C. Cucculelli M. *Technological Forecasting & Social Science*, 4



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# The Department of Economics and Social Sciences

Director: Prof. Maria Cristina Recchioni

The Department of Economics and Social Sciences (DiSES) was established on 1 July 2011 from the merger of the Department of Economics with the Historical and Sociological area of the Department of Social Sciences, and the Applied Economics area of the Department of Management and Industrial Organization.

45 professors and researchers are affiliated with the Department: 27 belong to the economics area, 8 to economic statistics, 6 to the social sciences area, and 4 to economic history. The technical and administrative staff is made up of 10 people: the administrative secretary, 5 administrative and 4 technicians.

The main research areas developed concern: Growth and Economic Development, Demography, Econometrics, International Economics and Trade, Environmental Economics, Labor Economics, Industrial, Business and Innovation Economics, Monetary Economics, Public Economics, Regional Economics, Macroeconomics, Economic Sociology, Social and Health Organizations, Economic Statistics, History of Economic Thought, and Economic History.

<https://dises.univpm.it/en/home-english/>

## AT A GLANCE

**DISES**



45 professors  
and  
researchers

### Bachelor Degree in:

- Digital Economics and Business
- Economics and Business

### Master Degree in:

- Economic and Financial Sciences
- Data Science for Business Management
- International Economics and Commerce



### Board Members and Associate Editors

- European Journal of Operational Research
- Journal of Economic Behavior & Organization
- Journal of Economic Interaction and Coordination
- Journal of Small Business Management
- Small Business Economics
- Italian Economic Journal



Ph.D. in Economics



Research center: CRIS  
Research group: MoFiR

### Public Engagement:

- Paolo Canofari: Independent expert for the Economic and Monetary Affairs Committee of the European Parliament;
- Francesco Maria Chelli: ISTAT protempore President;
- Marco Cucculelli: General Secretary of the Italian Economic Association; Top 2% Most Influential Scientists (Ranking Stanford);
- Riccardo Lucchetti: Member of the GRETl developer team

## Brief description

The project will evaluate the potential for electricity generation and emissions reduction by considering key socio-economic factors during advanced development stages. It aims to chart innovative pathways to boost the use of renewable electricity and energy technologies, aligning with the 'Green Deal' action plan to achieve full carbon neutrality by 2050 and with global efforts.

