

Teresa Bonserio

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ABOUT ME

PhD student - STEP Change program, Politecnico di Milano

WORK EXPERIENCE

Visiting researcher

Pacific Northwest National Laboratory (PNNL) [01/11/2024 – 30/04/2025]

City: College Park (MD) | Country: United States

Creation of a soft-link between the Global Change Analysis Model (GCAM) and the energy systems model OSeMOSYS-TEMBA AHA for the evaluation of the impact of global and national climate change mitigation strategies on the African energy sector.

Students assistant

Politecnico di Milano [02/2024 – 06/2024]

City: Milan | Country: Italy

Tutoring activity devoted to students involved in the master's degree course "Natural Resources Management", carried out as part of the teaching curriculum in Environmental and Land Planning Engineering.

Activities carried out include:

- In-person support to students during laboratories for the course's project,
- Preparation of Matlab exercises for the course's project.

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City: Milan | Country: Italy

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Sustainability Analyst - Climate Change

Deloitte & Touche SpA [15/11/2021 – 06/10/2022]

City: Milan | Country: Italy

- Implementation of Environmental, Health and Safety and Energy Management Systems (ISO 14001, 45001, 50001)
- Impact evaluation through the Life Cycle Assessment of Products and Services (ISO 14040 and 14044 standard)
- Support in the certification of the Environmental Product Declaration (ISO 14025 standard)
- Quantification of Products' and Organizations' Carbon Footprint (ISO 14064 and 14067 standard)
- On-site energy audit and support in the execution of energy efficiency projects
- Support in the company reporting of scope 1, 2 and 3 emissions
- Validation of companies' environmental data to be disclosed in the Non-Financial Declaration
- Environmental disclosures with international frameworks (i.e. Climate Change CDP, Water Security CDP, EcoVadis)

Curricular internship

Ecoacque s.r.l [09/2018 – 12/2018]

City: Giovinazzo | Country: Italy

- Support to the company's activities with the mentoring of chief Engineer Fanizzi, company manager
- Examined topics: rainwater management and treatment

EDUCATION AND TRAINING

PhD in Science, Technology and Policy for Sustainable Change

Politecnico di Milano [11/2022 – Current]

City: Milan | Country: Italy | Thesis: Multi-sector assessment of climate change mitigation policies on the African energy system

Research objectives:

1. Expanding the traditional large-scale energy planning methodology, based on least-cost optimization models, to include evaluations of:
 - The political risk associated with cost-optimal energy generation and exchange strategies,
 - The impact of hydropower plants on local ecosystem services.
2. Soft-linking an integrated assessment model and an energy systems model to investigate the effects of global and national climate change mitigation policies.

Both objectives will be carried out with a focus on the African energy sector.

Expected defence by January 2026.

Master's degree in Environmental and Land Planning Engineering

Polytechnic University of Milan [09/2019 – 12/2021]

City: Milan | Country: Italy | Final grade: 110L/110 | Thesis: Sizing and displacement of a stand-alone power generation system in Nosy Mitsio, Madagascar

- Track "Environmental Engineering for Sustainability", carried out entirely in English
- Acquired knowledge: wastewater treatment, solid waste treatment, soil remediation, ecology, groundwater hydraulics, water resources modeling, LCA, climate change
- Thesis carried out in collaboration with the Alta Scuola Politecnica project "ENVAO", focused on the sustainable electrification of a rural island in Northern Madagascar. The research activity included an in-situ visit to collect population data, questionnaire responses and cartographic information.

Double degree with Polytechnic University of Turin

Alta Scuola Politecnica [01/2020 – 09/2021]

Final grade: n.a. | Thesis: Kick-starting sustainable development in Gran Mitsio Island

- International multidisciplinary honors program, limited to 150 students per year
- Multidisciplinary courses: Dynamics of Innovation, Design Methods and Processes, Decision Making for Changing Cities, Digital Medicine
- Collaboration with the ENVAO project for the design of a sustainable electrification solution for the rural island of Nosy Mitsio, in Madagascar. The research activity included an in-situ visit to collect population data, questionnaire responses and cartographic information.

Bachelor's degree in Civil and Environmental Engineering

Polytechnic University of Bari [09/2016 – 07/2019]

City: Bari | Country: Italy | Final grade: 110L/110 | Thesis: Sustainable Management of Sewage Sludge

LANGUAGE SKILLS

Mother tongue(s): Italian

Other language(s):

English

LISTENING C1 READING C1 WRITING C1

SPOKEN PRODUCTION C1 SPOKEN INTERACTION C1

French

LISTENING B2 READING B2 WRITING B2

SPOKEN PRODUCTION B2 SPOKEN INTERACTION B2

Spanish

LISTENING B2 READING B2 WRITING B2

SPOKEN PRODUCTION B2 SPOKEN INTERACTION B2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

DIGITAL SKILLS

QGIS / AutoCAD / Office Package / Open Street Mapping / Matlab / Python

PUBLICATIONS

[2024]

Soft integration of an Integrated Assessment Model and an Energy System Model for the multi-sectorial evaluation of African energy transition pathways

Write here the description...

AGU General Assembly 2024, Washington D.C., United States, 9–13 Dec 2024

[2023]

Climate change, declining cost of renewables, and political stability shape future African hydropower evolution

AGU General Assembly 2023, San Francisco (CA), United States, 11–15 Dec 2023

[2024]

Impact of Socio-Economic and Climatic Scenarios on Power Trade Vulnerability in Africa

EGU General Assembly 2024, Vienna, Austria, 15–19 Apr 2024

[2023]

Political instability influence on hydropower planning in Africa: a continental scale analysis

EGU General Assembly 2023, Vienna, Austria, 24–28 Apr 2023

CONFERENCES AND SEMINARS

[09/12/2024 – 13/12/2024] Washington D.C., United States

American Geosciences Union (AGU) Annual Meeting 2024

Participated to the conference with a poster presentation titled "Soft integration of an Integrated Assessment Model and an Energy System Model for the multi-sectorial evaluation of African energy transition pathways" in the thematic session GC31U ("Multisector Dynamics: Energy-Water-Land Interactions and Adaptations at Multiple Scales I Poster").

[15/04/2024 – 19/04/2024] Vienna, Austria

European Geosciences Union (EGU) General Assembly 2024

Participated to the conference giving an oral presentation titled "Impact of Socio-Economic and Climatic Scenarios on Power Trade Vulnerability in Africa" in the thematic session HS5.2.2 ("From research to practice in managing the water-energy-food-environment nexus in a changing world").

[27/05/2024 – 31/05/2024] Delft, the Netherlands

AMBITION Summer School on Governing the Just Transition

AMBITION is a EU-funded project targeted at PhD students and aimed at contributing towards raising a future generation of scientific ambassadors for Sustainable Transition. The Summer School was aimed at investigating social justice issues in sustainable development through the lens of spatial planning, emphasizing values, local knowledge, and transdisciplinary approaches.

[20/11/2023 – 24/11/2023] Nairobi, Kenya

AMBITION Summer School on Integrated Energy and cross-sectorial modelling for the sustainable transition

AMBITION is a EU-funded project targeted at PhD students and aimed at contributing towards raising a future generation of scientific ambassadors for Sustainable Transition. The Summer School was aimed at providing a general overview of the various aspects related to the Energy Transition in the light of Sustainable Development paradigm, diving into the global challenges related to the energy sector with a specific focus on its implications at the national economy level.

[13/11/2023 – 17/11/2023] Nairobi, Kenya

AMBITION Summer School on Life Cycle Sustainability Assessment

AMBITION is a EU-funded project targeted at PhD students and aimed at contributing towards raising a future generation of scientific ambassadors for Sustainable Transition. The Summer School was aimed at providing basic concepts and methods on sustainable development and how to measure sustainability to assess contributions to the United Nations Sustainable Development Goals (SDGs). It provides strategic and practical knowledge needed for decision-making at company and community levels.

[27/08/2023 – 01/09/2023] Ascona, Switzerland

ETH Summer School on Energy Technology, Policy and Politics

The Summer School, organized by ETH Zurich, provided a comprehensive overview of the technical, socioeconomic and political challenges and opportunities of creating a sustainable energy supply for the future, under the premise of net-zero (or even negative) greenhouse gas (GHG) emissions.

[23/04/2023 – 28/04/2023] Vienna, Austria

European Geosciences Union (EGU) General Assembly 2023

Participated to the conference giving an oral presentation titled "Political instability influence on hydropower planning in Africa: a continental scale analysis" in the thematic session HS5.7 ("Multi-scale water-energy-food-environment (WEFE) nexus planning: from research to practice in managing socio-economic, climatic, and technological change").

Link: <https://doi.org/10.5194/egusphere-egu23-16319>

PROJECTS

[06/2020 – 09/2021]

ENVAO

Voluntary project for the design of a sustainable electrification strategy for the rural island of Nosy Mitsio, in northern Madagascar. Carried out as part of the Alta Scuola Politecnica curriculum.

LICENSES & CERTIFICATIONS

Qualification to practice as a Civil and Environmental Engineer

Issued in 2023 by Politecnico di Bari
(Abilitazione alla professione di Ingegnere Civile e Ambientale sez. A)

First Certificate in English, Grade A

Issued in 2014 by Cambridge University Press & Assessment English

Diplôme d'études en langue française B2

Issued in 2014 by "Ministère de l'Éducation nationale et de la Jeunesse"