

Short bio

Emanuela Colombo is Full Professor in *Thermoeconomics and Energy Modelling* at the Department of Energy of Politecnico di Milano, where since 2005 she has also been serving as Rector's Delegate to Cooperation and Development. In 2012 she was named Chair holder of the UNESCO CHAIR in Energy for Sustainable Development. She coordinates the SESAM research group - Sustainable Energy System Analysis and Modelling at the Department of Energy of Politecnico di Milano.

Longer version

Emanuela Colombo gained a considerable working experience in several industrial energy sectors working for Ansaldo Energia ABB Research, Fluent France and Fluent Italia, branches of Fluent Inc. (now ANSYS-FLUENT). **In 2001 she moved to an academic career** where her interest was at first focused on heat transfer devices and processes for power generation, turbulence phenomenology and modelling.

In line with her interests, in 2004 she was **one of the founders of *Ingegneria Senza Frontiere (Engineers Without Borders) in Milan***. In 2005 she was named **Rector's Delegate to Cooperation and Development at Politecnico di Milano**, a position she still covers for promoting the role of the academic education and research in coping with the complex challenges of global development and human promotion. Since 2007 she is one of the founding members of the **Network of Universities focused on Cooperation and Development (CUCS)** that includes more than 30 Italian universities. In 2011 she introduced a new track in the **MSc in Energy Engineering at Politecnico di Milano: a focus on "Energy for Development"** and she promoted an Honours Programme for the Schools of Engineering, with a focus on **"Engineering for Sustainable Development"** to promote global dimensions within engineering education launched in 2015.

Over the last decade she has been developing a strong interest in the **interrelations between Energy, Environment and Sustainable Development and the Access to energy in developing countries** and she is currently Full Professor in *Engineering for Cooperation and Development and Advanced Thermodynamics and Thermoconomics* at the Department of Energy of Politecnico di Milano and coordinates the SESAM research group - Sustainable Energy System Analysis and Modelling at the Department of Energy of Politecnico di Milano.

As part of her research work, she has been the scientific coordinator of European projects and international tenders on Green Innovation (Egypt), Sustainable Energy Engineering (Kenya, Tanzania and Ethiopia), Water Energy and Food nexus (Egypt), Modern Energy services in refugee camps (Lebanon, Somalia, RCA and Colombia) and Capacity Building in Engineering (Tanzania). In 2018-2019 she coordinated the Emerging African Innovation Leaders Programme funded by the Italian Agency of Cooperation, focussing on Kenya, Ethiopia, Niger, Nigeria, Mozambique and Tunisia.

Because of her experience in the field of energy for sustainable development, she has worked as an international expert for the United Nations Industrial Development Organization (**UNIDO**) and served in the Scientific Committee of **UNIDO-ICS** (Trieste). In 2012 she was named Chair holder of the **UNESCO CHAIR in Energy for Sustainable Development** assigned to the Department of Energy and **adjunct professor at the Nelson Mandela African Institute of Science and Technology in Arusha (Tanzania)**. Since 2016 she is also Custodian of the Workstream on Efficiency of the Africa Europe Energy Partnership (**AEEP**) and she is working closely with the International Energy Agency (**IEA**) and the World Bank (**ESMAP**). She was appointed by The Conference of Italian University Rectors (CRUI) as the representative of the academic system within the "National Council for Cooperation and Development".