



INDUSTRIAL POLICIES FOR A CIRCULAR ECONOMY

A training programme for policymakers from Lebanon, Morocco and Tunisia



24 November - 2 December 2022 | Rome and Ferrara, Italy

Table of contents

Background.....	3
Course structure.....	3
Course design	4
Course schedule	4
Group work.....	8
Field trip.....	8
Course faculty.....	9
Course schedule – Overview week 1 Rome	21
Course schedule – Overview week 2 Ferrara	22
List of participants	23

Background

Trends in resource use and energy consumption indicate that current forms of industrial production are not sustainable in the long term. Many industrial production systems continue to be inefficient and wasteful. Linear economies which we currently have – economies where a large proportion of the resources in use are not reused and become waste and pollution – threaten to overwhelm the assimilative capacity of our planet.

In order to reverse these developments, industries need not only to improve their material and energy efficiency, they also need to support the development of circular economies: economies where materials are continuously reused rather than thrown away, and where substances harmful to the proper working of ecosystems are prevented from entering them. All this calls for new approaches towards industrial development.

In order to have an industrial sector which can support the development of biologically benign, resource efficient, and circular economies, the greening of the industrial sector is a must. Substantial product and process innovations as well as major new investments are required; new business models need to be developed and mainstreamed; new policies must be adopted which move the industry sector towards greater efficiency, and circularity.

Circular economy provides stability and resilience to economic development and improves job and income security, energy reliability and human wellbeing. In the context of a project funded by Italian Ministry of Foreign Affairs and International Cooperation the awareness course program “Industrial policies for a circular economy” reflects UNIDO’s commitment to enabling policymakers to seek innovative solutions and building their capacities in new forms of industrial development.

The Mediterranean Strategy for Sustainable Development clearly claims that “the priority area of goods manufacturing, operational objectives are provided on 1) the integration of best available technologies and practices throughout the value chain of goods production and on: 2) the integrated policy-making to promote sustainable consumption, production and recovery, to move towards a circular economy”. Therefore, this course targets participants from Morocco, Tunisia and Lebanon.

Course structure

The UNIDO Circular Economy training course provides participants with the opportunity to understand core concepts associated with circular economy and put its principles into practice, thereby helping improve industry’s environmental and socio-economic performance.

The following topics will be covered in the course:

- Industrial policy and its connection with circular economy
- Product design;
- Circularity in the production phase;
- Circularity in the use/consumption phase;
- Reuse/repair/remanufacturing (product life extension) phase;
- Recycling (material life extension) phase;
- Extraction of biochemical feedstock;
- Anaerobic digestion/composting.

During the course, participants will learn about the main strategies which can be adopted to bring about circularity and the major policy instruments which can be adopted to support the transition towards a

more sustainable industrial development and greater circularity. They will be invited to apply the lessons they learn to develop a circular economy strategy or transition plan for their country, with respect to a specific product or family or products of relevance to that country. At the end of the course, the participants will present their circular economy strategy or transition plan in plenary, where they will be discussed by the group as a whole. In this way, participants' skills and effectiveness in designing and implementing policies, strategies and projects related to sustainable industrial development and circular economy will be enhanced.

Course design

The course offers a dynamic mix of lecture-based and participatory teaching methods. It is targeted at mid-level policymakers from Ministries of Industry, Economy, Commerce, Finance, Environment, and similar, from Lebanon, Morocco and Tunisia.

Course faculty consists of senior UNIDO staff, representatives from the University of Roma Tre and international experts attached to the Centre for Research on Circular Economy, Innovation and SMEs (CERCIS), of the Department of Economics and Management at University of Ferrara, Italy, and to Sustainability Environmental Economics and Dynamics Studies (SEEDS), an interuniversity research centre.

The course runs from Thursday 24 November until Friday 2 December. It includes lectures and a site visits. The first two lecture days of the course, dealing mainly with issues related to industrial policy, will take place in Rome. Then, participants will move to Ferrara over the weekend where the remaining five days will be focusing on matters related to circular economy.

Course schedule

Thursday 24 November

- 09.30 – 10:00 Course registration at University Roma Tre
- 09:45 – 10:00 Welcome address
Valeria Costantini, Dean of Department of Economics University Roma Tre
- 10:00 – 11:00 Course opening
Carlo Pietrobelli (Roma Tre), Nicola Cantore (UNIDO)
- 11:00 – 11:30 Coffee break
- 11:30 – 12:30 What is industrial policy and how is it related to the circular economy?
Carlo Pietrobelli (Roma Tre)
- 12:30 – 13:30 Lunch
- 13:30 – 15:00 The story of circular economy policies for the Italian economy
Silvia Grandi, (Italian Ministry for Ecological Transition)
- 15:00 – 16:30 Green Industry, an ENEL perspective
Claudio Dicembrino (ENEL)
- 19:00 Opening dinner

Friday 25 November

- 09:30 – 11:00 The ENEA's role in the energy transition of the Mediterranean Region: MEDENER
Roberta Boniotti (ENEA)
- 11:00 – 11:30 Coffee break
- 11:30 – 12:30 Innovative solutions and territorial approaches for the transition to a circular economy
Christian Chiavetta (ENEA)
- 12:30 – 13:30 Lunch
- 13:30 – 15:00 Eco-innovation, the EU green deal and the twin-transition
Antonio Vezzani (University Roma Tre)
- 15:00 – 16:30 Group exercise on policy design
Antonio Vezzani (University Roma Tre)

Saturday 26 November

Sightseeing tour Rome

Sunday 27 November

Transfer to Ferrara

Monday 28 November

- 09:30 – 11:00 Introduction to circular economy
Nilgün Tas (UNIDO)
- 11:00 – 11:30 Coffee break
- 11:30 – 12:30 Industrial policy and circular economy
Nicola Cantore (UNIDO)
- 12:30 – 13:30 Lunch
- 13:30 – 14:30 Reshaping business strategies for the circular economy
Massimiliano Mazzanti (Univ. Ferrara)
- 14:30 – 15:30 Group work
Franz Brugger (UNIDO)
- 15:30 – 16:00 Tea break
- 16:00 – 17:00 The productive phase in CE
Edward Clarence-Smith

Tuesday 29 November

- 09:30 – 11:00 Recycling and Remanufacturing in CE
Nilgün Tas (UNIDO)
- 11:00 – 11:30 Coffee break
- 11:30 – 12:30 Focus group Intesa Sanpaolo Innovation Center / ENI
- 12:30 – 13:30 Lunch

13:30 – 14:30 Use/consumption and behavioural issues
Susanna Mancinelli

14:30 – 15:30 Introduction to the EQUIP environmental tool
Franz Brugger (UNIDO)

15:30 – 16:00 Tea break

16:00 – 17:00 Group work
Franz Brugger (UNIDO)

Wednesday 30 November

08:45 Departure from Ferrara

09:30 – 9:40 Introduction (*ART-ER*)

09:40 – 10:00 First Session (*Emilia-Romagna Region*) Emilia-Romagna Pact for job and climate – *Patrizia Bianconi*

10:00 – 10:40 Second Session (*ART-ER*) – Analysis of the circular economy drivers of some sectors of the Emilia Romagna and trends in upskilling competences - *Daniela Sani*

10:40-11:00 Third Session (*Emilia-Romagna Region*) Circular Economy in Emilia-Romagna policy and Smart Specialization Strategy – *Morena Diazzi*

11.00 – 11:15 Break

11.15 – 12:45 *Clust-ER & Case Study*

*Silvia Rossi – Manager Clust-ER BUILD; Francesca Cappellaro – ENEA – Clust-ER GreenTech
Federico Capucci – Manager Clust-ER MECH; Marco Foschini – Manager Clust-ER Agrifood
Erasmus TICHE project and International School in Circular Economy Project management
(Centoform)*

12.45 Q&A and Closing Words

13:00 – 14:00 Lunch

14:00 Departure to Guidetti Recycling

15.00 – 16.45 Visit to Guidetti Recycling Systems - Via Salvi, 1 - 44045 Renazzo di Cento (FE) Italia, realized in collaboration with the VET provider Centoform. Guidetti Recycling Systems is a small company leader in the production of machinery for materials recycling and recovery

16:45 Departure to Ferrara - arrival predicted for 17:45

Thursday 1 December

09:30 – 11:00 Ecodesign
Jude Sherry, Frank O'Connor (anois)

11:00 – 11:30 Coffee break

11:30 – 12:30 Ecodesign (ctd.)
Jude Sherry, Frank O'Connor (anois)

- 12:30 – 13:30 Lunch
- 13:30 – 15:00 Ecodesign (ctd.)
Jude Sherry, Frank O'Connor (anois)
- 15:00 – 15:30 Tea break
- 15:30 – 17:00 Group work
Franz Brugger (UNIDO)

Friday 2 December

- 09:30 – 11:00 Normative aspects of CE
Alberto De Franceschi
- 11:00 – 11:30 Coffee break
- 11:30 – 12:30 Biological materials in CE
Roberto Zoboli
- 12:30 – 13:30 Lunch
- 13:30 – 15:00 Group work presentations
- 15:00 – 15:30 Tea break
- 15:30 – 17:00 Group work presentations
- 19:00 Closing ceremony and final dinner

Group work

The group work exercise aims to enable participants to reflect and apply some of the concepts presented during the programme to their constituencies and, thereby, to facilitate collective learning.

On the last day, groups will be given the opportunity to present their findings and to make a compelling case for their arguments.

Field trip

On Wednesday 30 November, the group will visit factory Guidetti Recycling and meet representatives from ART-ER, Clust-ER, Centoform, the research center in Bologna (CNR), and the Emilia-Romagna Region.



Course faculty

Nicola Cantore

Research and Industrial Policy Officer, UNIDO

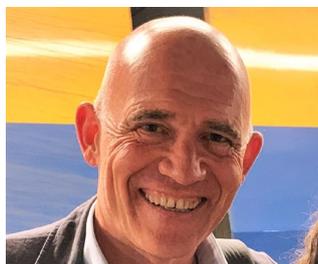


Nicola Cantore is currently a research and industrial policy officer at UNIDO's Division of Capacity Development, Statistics and Industrial Policy Advice. His work includes research, policy advice and capacity building. Prior to this, he worked as a junior researcher at the FEEM (Fondazione ENI Enrico Mattei) in Milan, as a senior researcher at the Department of Agricultural Economics and Engineering of the University of Bologna and as a research fellow at the Overseas Development Institute in London. His research interests include environment, development and structural change.

Mr. Cantore holds a Ph.D in environmental economics and management at the University of York and a Ph.D in economics at the Università Cattolica del Sacro Cuore.

Carlo Pietrobelli

Professor, University of Roma Tre, Italy and UNU-MERIT (United Nations University), Maastricht



Carlo Pietrobelli is a professor and policy advisor on innovation and industrial development and policy. He currently holds a UNESCO Chair on "Science, Technology and Innovation Policies for Sustainable Development in Latin America" at the United Nations University UNU-MERIT, Maastricht. He is a Professor of Economics at University Roma Tre, Italy, and Adjunct Professor at Georgetown University, Washington D.C.. During 2009-2016 he was a Lead Economist at the Inter-American Development Bank. His research interests range from development economics to innovation, trade, industry and natural resources in developing countries. He has published widely in international journals and his books were published by Harvard University Press, Edward Elgar, Palgrave and Routledge.

He holds a PhD in Economics from Oxford University and has been a regular policy advisor to governments in Africa, Asia, Europe and Latin America. Personal website: https://www.merit.unu.edu/about-us/profile/?staff_id=1560

Antonio Vezzani

Associate Professor, University Roma Tre and Rennes School of Business (France)



Antonio Vezzani is Associate Professor at the Department of Strategy & Innovation, Rennes School of Business, and at the University Roma Tre and Research Associate at the Institute for Research on Population and Social Policies, National Research Council of Italy (CNR). Previously he was a Research Fellow at the Industrial Research & Innovation team of the Joint Research Centre of the European Commission where he has been member of the Scientific Committee, and consultant for the Food and Agriculture Organization of the United Nations. Antonio studied Political Sciences and then graduated as a PhD in Economic Theory and Institutions at the University of Rome Tor Vergata, Italy. His research focuses on the economics of innovation and technological change, intangible assets and intellectual property

rights, local and global knowledge dynamics, and industrial and innovation policies. Antonio has published several articles in international peer reviewed journals and is a member of the editorial review board of *Small Business Economics: An Entrepreneurship Journal*.

Silvia Grandi

Director General for the Circular Economy, Ministry for the Ecological Transition, Italy, and University of Bologna



Silvia Grandi is currently the Direct General for the Circular Economy at the Italian Ministry for Ecological Transition. She was a Director at the Italian Ministry of Economic development since 2010 and member of various national and European committees. She is also an Adjunct Professor at the University of Bologna, and at the University of Modena and Reggio Emilia (2008-18) in the field of geography of development, political, finance and economic geography. Her research interests lie particularly in the relationship between geography and policies, with particular attention to sustainable development, geography of finance, energy, raw materials and natural resources, blue economy, Low Carbon Economy, Cohesion, Neighborhood, Eu integration, multi-level governance EU policies and tourism. She holds a PhD in Environmental Quality and Regional Economic Development at University of Bologna.

Claudio Dicembrino

Head of Group Investment Stewardship Management, ENEL



Claudio Dicembrino is Head of Group Investment Stewardship Management, leading administration, financial and control issues for more than 20 Joint Ventures spread in 15 Countries. Currently he is Managing Director of Enel X International. He joined Enel in 2011 where he was first responsible for the Macroeconomic and Energy Strategy, then Group Chief Economist and from 2019 to 2022 Chief Financial Officer of Enel X. Prior to joining the company, Claudio worked at the Italian Institute for Competitiveness (Rome), the United Nations Department of Economics (New York) and the Italian Ministry of Economic Development. He received a B.A., in Economics of Financial Markets

and International Institutions, a M.Sc., in Development Economics, and a Ph.D., in Economics at the University of Rome "Tor Vergata", Italy. He has published in national and international energy and economics peer reviewed journals.

Roberta Boniotti

ENEA - the Italian National Agency for New Technologies, Energy and Sustainable Economic Development



Since 2010 Dr. Roberta Boniotti has been the Advisor on European and International Affairs at ENEA in Brussels, maintaining key links with stakeholders in the EU institutions. Previously she was a Member of the Board of Directors and a Member of the Board of Auditors in several private research companies in Italy and Head of Unit "Company Relations Management" at ENEA Headquarters in Rome. She is an economist, holds a Master's in Business Administration (MBA) from the University of Bologna, and has more than 20 years of experience in the sectors of energy, the environment, and sustainable economic development.

Since 2017 she has been the Secretary General of MEDENER, the

Association of National Agencies for Energy Management in the Mediterranean Region. Dr. Boniotti is a member of the Executive Working Group of TAFTIE, the European Association of leading National Innovation Agencies, a member of the Advisory Board of Sustainable Energy Investments Forums Initiative, ENEA's Representative in the network of European National Energy Agencies (EnR) and in the EU WG of the ISSS Platform - Innovation Platform "Sustainable Sea and Ocean Solutions".

Cristian Chiavetta

ENEA - the Italian National Agency for New Technologies, Energy and Sustainable Economic Development



Cristian Chiavetta is an Environmental Engineer graduated at the University of Bologna with a PhD on LCA of renewable energy and resource valorization as secondary raw materials. He is working at ENEA, as researcher in the Department for Sustainability. He coordinates national and international projects focusing on Sustainable Development and supports companies of the Blue Economy in eco-innovation paths through the implementation of circular economy solutions. He is the member of the board of expert on the blue bioeconomy of the Cluster BIG, has

been selected as circular economy expert by the Italian Ministry for the Foreign Affairs and International Cooperation (MAECI) to be part of the delegation representing Italy in the Summit of 2 Shores and provides technical supports to the Italian Ministry for Economic Development (MISE) as advisor on the Green transition of the SMEs within the initiative of the Med platform of the industrial cooperation promoted by the Union for Mediterranean and European Commission.

Nilgün Tas

Senior Adviser to the Director, Division for Circular Economy and Environmental Protection, UNIDO



Nilgün leads UNIDO's cross-departmental team for circular economy. She has over 37 years of private sector development experience and held various positions as Deputy Director of the Department of Environment, Chief for Industrial Resource Efficiency, Chief for Competitiveness, Business Environment and Industrial Upgrading, Chairperson of the Gender Mainstreaming Steering Committee, UNIDO Representative in Vietnam and Chief Technical Advisor for UNIDO, and in projects for UNDP, OECD and TIKA

since 1996. Previously, she was the Vice President of the Small and Medium Enterprise Development Administration (KOSGEB) in Turkey; founder and Board Member for the Turkish Credit Guarantee Fund Company (KGF), and founding team member of the Turkish International Cooperation Agency (TIKA). In 2011, Nilgün was honored with a Medal of Friendship by the President of Viet Nam for her contributions to the development efforts of the country. In 2010 and 2011, Viet Nam Ministers of Planning and Investment and Science and Technology, awarded Nilgün with Medals of Appreciation for her contributions in their areas of responsibility, respectively.

She holds B.Sc. and M.Sc. degrees in metallurgical and materials engineering from the Middle East Technical University and an MBA from the College of Business, Iowa State University.

Massimiliano Mazzanti

Professor of Economics, University of Ferrara



Massimiliano Mazzanti is currently Professor of Economics in the Department of Economics Institutions and Territory at the University of Ferrara. Since 2019, he has been Director of the Department's Centre for Research on Circular Economy, Innovation and SMEs (CERCIS). Since 2002, he has also been Lecturer in Environmental Economics in the Faculty of Economics and Faculty of Sciences. Since 1999, he has been External Research collaborator on projects dealing with environmental policy, waste and resource management & policy, economic valuation of non-market goods and services, at the National Research Council, Milan. Since 2001, he has been Lecturer for courses in Economics, Public economic

and Cultural Economics in the Faculty of Arts and Faculty of Law at the University of Bologna, while since 2004 he has been Lecturer of Environmental economics for the Master's programme for Innovation Development and Change at the Faculty of Law. Since 2012, he has been a Visiting Researcher and Lecturer at Université de Paris Sud, Écoles des Mines, Telecom Business School. Since 2012, Prof. Mazzanti has been Director of the inter-university center SEEDS, which is led by the University of Ferrara and brings together the Universities of Bologna, Tor Vergata in Rome, and Cattolica in Milan. 2016-2017, he was President of the Italian Association of Environmental Economics and Natural Resources.

Prof. Mazzanti holds a Ph.D from the University of Rome III, an MSc in Environmental and Natural Resource Economics from University College, London, and a Degree in Political Science and Economics (110/110) from the University of Bologna.

Edward Clarence-Smith

Senior Consultant on Green Industry



Edward Clarence-Smith is currently a senior consultant on Green Industry and Circular Economy as well as a Lecturer at Kyoto University on Sustainable Industrialization within a Circular Economy. From 1998 to 2016, he worked for UNIDO in various capacities: UNIDO Regional Representative in Beijing and then in Bangkok (2009-2016); Global Environment Facilities (GEF) Coordinator (2006-2009), and Senior Industrial Officer in the Cleaner Production Unit of UNIDO's Environmental Management Branch (1998-2006). From 1991 to 1998, he was head of Italian operations at Dames & Moore

International, an international environmental consultancy company specializing in environmental due diligence and auditing, as well as groundwater remediation. From 1986 to 1990, Mr. Clarence-Smith worked at the Natural Resources Defense Council, an American environmental NGO, focusing on pollution prevention, hazardous waste management and workers' 'right-to-know' legislation. Prior to this, he focused on chemicals management at the Environment Directorate of the OECD and the Joint Research Centre of the EU. Edward started his career at the US Environmental Protection Agency, working on the control of chlorofluorocarbons (CFCs).

Mr. Clarence-Smith holds a BSc (Hons) in Chemical Engineering from Edinburgh University and an SM in the same from MIT. He also holds an Engineering degree in Environmental Engineering from MIT.

Alberto De Franceschi

Chair of Private Law, Digital Law and Environmental Sustainability, University of Ferrara



Alberto De Franceschi is Full Professor of Private Law, Digital Law and Environmental Sustainability at the University of Ferrara. In 2022 he is Global Law Professor of Digital Law facing the Sustainability Challenge at Katholieke Universiteit Leuven (Belgium) and Visiting Professor of Law and Technology at the Zhejiang University, Hangzhou (China). He is co-chairman of the European Law Institute's Digital Law Special Interest Group (since 2015), and of the European Law Institute's Environmental Law Special Interest Group (since 2021), and co-chair of the project on "Climate Justice - New Challenges for Law and Judges" of the European Law Institute. From 2016 to 2021 he acted as a consultant to the Italian Ministry of Justice for the adoption and the implementation of EU Directives on the Supply of Digital Content and Digital Services, and on the Sale of Goods. In 2022 he is delegate of Italy at the UNCITRAL – Working Group IV on E-Commerce and national expert for Italy at G7 Digital&Technology. He is founding member and co-editor of the Journal of European Consumer and Market Law (EuCML) and of The Italian Law Journal (ItaLJ).

Prof. De Franceschi holds a Ph.D in Law from the University of Ferrara and a Degree in Law from the University of Padua.

Frank O'Connor

Director, anois



Frank is director of the global design agency anois.org, which he set up with Jude Sherry to create value through design for sustainability. Frank is values-led, passionate about good design, circularity, sustainability and responsibility. An award-winning global expert and thought leader on ecodesign, design for sustainability and circular economy Frank works as a designer, strategist, speaker, mentor, evaluator, writer and artist. Frank has over 30 years experience working across the globe on design, strategy and policy challenges with all types and sizes of organisation and sector. He has unique specialist expertise and experience in government policy, business practice and education. Frank first called for a closed system economy in 1989 in his seminal publication on material recovery and recycling. He previously founded and led the award winning Ecodesign Centre, an International Centre of Excellence as well as co-founding the European Network of Ecodesign Centres (ENEC). He has a mixed discipline background, including a Masters in Advanced Manufacturing, a post-graduate in Management and a PhD in Ecodesign.

Jude Sherry

Director, anois



Jude is director of the global design agency anois.org, which she set up with Frank O'Connor to create value through design for sustainability. Jude's passion for sustainability has always influenced work in product development, services and operations. An international expert and thought leader on ecodesign, sustainable design and circular economy Jude works as designer, maker, project/operations manager, evaluator, trainer and speaker. Jude has worked across large and small companies in a diverse range of roles and sectors including furniture, logistics, consumer electronics, renewable energy and bioplastics. Jude was formerly operations lead at the award winning Ecodesign Centre, an International Centre of Excellence. She also created the first ever city MakerWalk, piloting the approach in Bristol, Glasgow and Manchester. She was awarded a Bachelors Degree in Industrial Design and Masters Degree in Environmental Management.

Roberto Zoboli

Professor of Economic Policy, Università Cattolica



Roberto Zoboli is currently Professor of Economic Policy in the Faculty of Political and Social Sciences at the Università Cattolica in Milan. He has also held and continues to hold several positions in the National Research Council in Milan. Since 2007, he is Research Associate at the Research Institute on Sustainable Economic Development. He was also Research Associate at the Research Institute on Enterprise and Development until 2014. 2003-2007, he was Research Manager, Head of the Milan Section. 2001-2002, he was Research Director, Head of the Milan Section, of the Experimental Institute for Innovation and Research Policies. 1995-2001, he was Research Director at the Research Institute on the Dynamics of Economic Systems, Milan, and the Institute Director 2000-2001. In 1994, he was in charge of research projects on environment, territory and technological innovation, at the Cariplo Foundation for Scientific Research, Milan. 1991-1993, he was at the Economic Studies Office of Montedison S.p.A., Milan, where he was Director of the journal "Innovazione e Materie Prime" and Collaborator in the Office for the analysis of innovation, the international economy, and natural resources. 1983-1990, he was with Nomisma, Society of Economic Studies, Bologna. There, he was Researcher in the Research Unit "Raw Materials"; 1986-90, he was Chief Editor of the Quarterly Report "Raw Materials" (natural resources, international trade, agricultural and industrial commodity markets) 1986-1990, he was also in charge of research projects on natural resources and the environment.

Prof. Zoboli holds a degree in Political Economy (110/110) from the University of Bologna.

Franz Brugger

Project Coordinator, UNIDO



Since 2012, Mr. Brugger works as a capacity development expert and project coordinator with UNIDO. He has been designing and conducting numerous capacity development and training activities on all matters related to industrial policy in Africa, Asia and Europe. Previously, he worked with the United Nations Alliance of Civilizations in New York, the International Press Institute in Vienna and the European Commission.

Mr. Brugger holds a Master's degree in Philosophy from Vienna University and a Master's in International Relations from the University of Cambridge, UK.

Luigi Eugenio Riccardo

Intesa Sanpaolo Banking Group



Industrial Engineer graduated at the Polytechnic of Bari in 2014, with an Industrial PhD in Innovation for the Circular Economy at the University of Turin (2018-2022) and a Master in Banking and Finance at the Italian Banking Association (2023). In early 2016 he joined the Innovation Center in Intesa Sanpaolo Banking Group, with a focus on the Circular Economy transition and the strategic role for the bank as a force for good. His job is to accelerate the transition for companies, no-profit and institutions, leveraging on innovation, investments, new financial products, education and culture. He's been part of the Management Board in TEDxTorino (2017-2021), TED affiliate in the City of Turin, and in the Global Shapers Community by the World Economic Forum, as Hub Curator for Turin in 2020/2021.

Carlo Cavedon

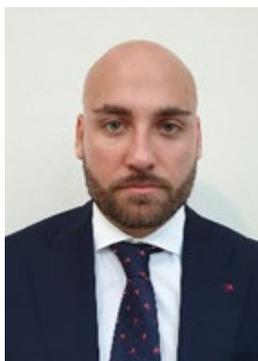
Intesa Sanpaolo Banking Group



Born in 1983, graduated in Political Science, Law and International Studies in 2005 at Università di Padova. Passionate about technology and knowledge sharing, since 2015 he has been working in Intesa Sanpaolo Innovation Center starting from the Comms Team and moving in 2019 to the Circular Economy unit. Now, as a Circular Economy Team member, he is involved in supporting the transition to the new economic paradigm, working directly on the evaluation of investment projects and fostering networking relations with national and international stakeholders

Riccardo Petrelli

Business Transformation Solutions, Eni Energy Evolution – Circular Economy BU



Riccardo Petrelli is a Chemical Engineer graduated at the Polytechnic of Milan, with a Master (II) in Energy and Environmental Management and Economics (thesis: Competitiveness analysis of production/storage of hydrogen from renewables). He started his first career in 2008 like laborer in Eni Exploration&Production, before quitting and deciding to go to university. In 2016 Eni chose him, again, during the recruitment phases for the MEDEA Master, by granting him a full-cover scholarship. In 2017, as his first job like engineer in Versalis, he was become an Operational Technologist in Mantova Site contributing to the creation of one of Eni's first circular plastic products: Expandable PolyStyrene Revive®. Eng. Petrelli is currently a Manager in Eni of Business Transformation in the Circular Economy business unit. Circular Economy in Eni Energy Evolution is in charge of the transition from a linear economic model approach to a more circular and sustainable one, keeping in mind the 3 main pillars: Reduce, Reuse and Recycle.

Roberto Palmieri

International Business Development, Eni Energy Evolution



After having worked as engineer in the conventional business, Roberto Palmieri started developing the business for decarbonization and circular economy activities. He is convinced that circular economy will change the relationship between waste production, urban areas and sustainable energy generation: cities will become the mines of the future. Curious by nature, Roberto has a strong inclination towards deliberate practice and auto-development, which lead him to attend several academic courses: strategy, scenario planning, organization and ecology are the favorite ones. He was awarded a master's degree in Mechanical Engineering, and he is an expert in

Climate & Renewable Energy Finance from Frankfurt School of Finance & Management together with UNEP.

Susanna Mancinelli

Professor of Economics, University of Ferrara



Susanna Mancinelli is Professor of Economics in the Department of Economics and Management (DEM), University of Ferrara, Italy. Her main fields of expertise are: environmental economics, waste economics, behavioral economics. She has extensive university teaching experience. She is author of several papers in peer-reviewed journals (Research Policy, Annals of Regional Sciences, The Journal of Socio-Economics, Rationality and Society, Economia Politica, Journal of Analytical and Institutional Economics, Ecological Economics, Climate Policy, International Review of Applied Economics, European Economic Review, World Development). Since 2013 she

has participated in the following European Research projects: Horizon2020 "Green.EU", 2015-19, "European Global Transition Network on Eco-Innovation, Green Economy and Sustainable Development" (<http://www.zew.de/en/projects/1466>); FP7 project CECILIA 2013-15 "Choosing Efficient Combinations of Policy Instruments for Low-carbon development and Innovation to Achieve Europe's 2050 climate targets."

Prof. Mancinelli holds a Ph.D in Economics from the University of Rome La Sapienza and a Degree in Political Science and Economics from the University of Rome La Sapienza.

Patrizia Bianconi

Sustainability, Ecological transition and climate change senior expert, Regione Emilia Romagna



Patrizia Bianconi is Sustainability, Ecological transition and climate change senior expert at the Emilia-Romagna Region. Senior expert, with over 25 years of experience, in the development and coordination of projects at regional, national and international level topics of sustainable development, climate change, clean technologies, process and product qualification (management systems and certifications), low carbon economy, green public procurement and monitoring environmental. Expert in environmental assessment of projects e programs with reference to the Evaluation procedures Environmental Strategic plans and programs. Coordination of projects promotion of local development, territorial economic/environmental cooperation e research programs in cultural heritage. Program Manager of the Joint Initiative Program on Cultural Heritage. Technical director and human resources manager of the Regional Agency for Local Development of Marche region.

Daniela Sani

Sustainability Area Manager for Sustainable Innovation, ART-ER



Daniela Sani Ph.D in Geotechnical Engineering, Mediator for civil and commercial disputes accredited by the Chamber of Commerce of Ancona, Master in Business Administration, Degree in Civil Engineering. Since 2006 in ART-ER, she is currently on the staff of the Sustainability Area Manager for Sustainable Innovation. He holds regional representation roles in the SPRING National Technological Cluster, PPP BBI-JTU, in the National Coordination Group on the Bioeconomy, in the European Expert Group Circular Economy Financing Mode, in the European Innovation Partnership (EIP) on Raw Materials. He is responsible for the EIT Raw Materials and EIT Manufacturing KICs and is a member of the EIT Food RIS Policy Council. Coordinates the Regional Working Group on the Circular Economy and participates in the Plastic FreER Control Room. He works as an expert evaluator for the European Commission, the ERA European partnerships and other institutions. Since 2012 professor of "Operation and Project Management" for the Faculty of Economics of the Polytechnic University of Marche; former contract professor for the Faculties of Science and Engineering. 10 years of research in topics related to the environment and materials with the production of over 80 publications (1/3 surveyed Scopus and Google science).

Morena Diazzi

Director Production Activities, Regione Emilia Romagna



Morena Diazzi is Director-General for Knowledge, Research, Labour, Enterprises. She is an industrial economist with expertise in the analysis and evaluation of territorial systems and public policies. She has been developing significant analytical experience of the Italian production system and the industrial policy, focusing on problems concerning the development of SMEs systems and clusters and the related public policies. In her position as senior researcher at Nomisma (Institute of Economic Studies), she focused on issues regarding SMEs like productivity, competitive

performance, labour cost, development, and innovation, through quantitative and qualitative methods. From 1993 to 1999, she also developed managerial and administrative skills in economic public services, as Chairman of AIMAG, the company managing economic public services (water, gas, waste, electricity) in the province of Modena. From 1999 to 2005, she covered the position of Counselor of Economic Activities, Human Resources and Equal opportunities in the Province of Modena, one of the most industrialized areas in Italy. There, she managed policies for SMEs performances, research and employment, the University of Modena and IT systems. For over ten years, she has been Director-General of the Emilia-Romagna Regional Government. In her position, she is responsible for programming and managing documents regarding the main policies of the Directorate like the Triennial Programme on Productive Activities, the Triennial Programme for Research, the Regional Energy Programme and the activities of the Regional Desk for the Internationalization of SMEs. She is also the managing authority for the Regional Operational Programmes ERDF and ESF 2014-2020 for the Emilia-Romagna region. Morena Diazzi contributed to developing European networks for the promotion of projects in the field of support to SMEs, local development, and research. She participated as a guest speaker in various seminars and training courses in Italy and abroad, and she is the author of various articles and publications.

Silvia Rossi

Manager Clust-ER BUILD



Silvia Rossi, since 2019 she is Manager of Clust-ER Build, an association of public and private organisations (companies, research centres and training institutions) that aims to support the innovation system in the building and construction field, developing collaborative research and technology transfer activities, according to the priorities of the Emilia Romagna Region Smart Specialization Strategy (S3). Experienced Architect with a demonstrated history of working in the management consulting industry. Skilled in AutoCAD, Sustainable Development, Computer-Aided Design (CAD), Urban Planning, and Revit. Strong arts and design professional with a

Master Internazionale II liv. Eco Polis focused in Sustainable Local Development from Università degli Studi di Ferrara.

Francesca Cappellaro

Sustainability & Circular Economy, ENEA – Clust-ER Greentech



Francesca Cappellaro, environmental engineer, has been a researcher since 2000 and deals with sustainability, ecodesign, circular economy and other emerging approaches for sustainable system innovation. During her PhD in Environmental Engineering she deepened the Sustainability Transitions approach by collaborating with Climate KIC and the Transition Towns movement. She has worked in the field of Life Cycle Assessments (LCA), ecodesign, industrial ecology, holding the role of Technical Secretariat of the Italian LCA Network. She is currently involved in the development of innovative methodologies and tools for the circular economy. She is also involved, with the role of coordinator, in numerous European, national and

regional projects and in the activities of the Italian Platform of Circular Economy Stakeholders (ICESP). She is marketing manager of the ENEA-LEA industrial research laboratory of the Emilia Romagna Region High Technology Network. ENEA representative in the Board of Directors of the Clust-ER Energy and Sustainable Development (Greentech) of the Emilia-Romagna Region. She is a member of the Green City Network, of the WG Circular Economy – Emilia Romagna Region, of the Scientific Committee of the Emilia Romagna Regional Energy Plan and participates in the activities of numerous national and regional Clusters. Invited speaker at numerous workshops, scientific conferences, seminars and webinars, she is author and co-author of books and peer-reviewed scientific publications. Lecturer and tutor of distance learning courses and tutor of research grants, doctorates, internships and degree theses.

Federico Capucci

Cluster Manager, Clust-ER Mech



Multi-year experience in public relations, event management, media relations, public communication and community management. I recently focused on supporting open innovation projects and on fostering collaboration, industrial research, training and technology transfer between enterprises, universities, public and private research institutions, start-up incubators and other players active in the field of innovation.

Marco Foschini

Cluster Manager, Clust-ER Agrifood



Marco Foschini has a degree in Economics and Commerce. Since 2018 he is the Manager of Clust-ER Agrifood since 2018. The Agrifood Clust-ER is an association of public and private bodies: companies, research centres and training institutions that share skills, ideas and resources to support the competitiveness of the sector. The Emilia-Romagna Region has found in the Clust-ERs the subjects capable of multiplying innovation opportunities through a collaborative approach, as they focus their activity in R&D strategic sectors.

Chiara Pancaldi

Director, Centoform



Chiara Pancaldi is Centoform director and with a degree in Economics and Commerce. Before she worked for the different organization and companies in the field of Vocational and training (Sinnea Internationa, Fondazione Alma Mater, Formindustria Emilia-Romagna). She is currently an expert in training, education and employment.

Course schedule – Overview week 1 Rome

Time	Wednesday 23 November	Thursday 24 November	Friday 25 November	Saturday 26 November	Sunday 27 November	
9:30 - 9:45	Arrivals	Registration	The ENEA's role in the energy transition of the Mediterranean Region: MEDENER, R. Boniotti, ENEA	Sightseeing Rome	Transfer to Ferrara	
9:45 - 10:00		Welcome, V. Costantini, Dean of Dept. Of Economics University Roma Tre				
10:00 - 10:15		Opening, introd. of participants, course aims, N. Cantore UNIDO, and C. Pietrobelli University Roma Tre				
10:15 - 10:30						
10:30 - 10:45						
10:45 - 11:00		Coffee Break				Coffee Break
11:00 - 11:15						
11:15 - 11:30		What is industrial policy and how is it related to the circular economy? C. Pietrobelli University Roma Tre				Innovative solutions and territorial approaches for the transition to a circular economy, C. Chiavetta ENEA
11:30 - 11:45						
11:45 - 12:00						
12:00 - 12:15		Lunch	Lunch			
12:15 - 12:30						
12:30 - 12:45		The story of circular economy policies for the Italian economy Silvia Grandi, Director General for the Circular Economy, Italian Ministry for Ecological Transition	Eco-innovation, the EU green deal and the twin-transition. A. Vezzani University Roma Tre			
12:45 - 13:00						
13:00 - 13:15						
13:15 - 13:30						
13:30 - 13:45						
13:45 - 14:00						
14:00 - 14:15						
14:15 - 14:30						
14:30 - 14:45						
14:45 - 15:00						
15:00 - 15:15	Green Industry, an ENEL perspective. C. Dicembrino / ENEL	Group exercise on policy design A. Vezzani University Roma Tre				
15:15 - 15:30						
15:30 - 15:45						
15:45 - 16:00						
16:00 - 16:15						
16:15 - 16:30						

Course schedule – Overview week 2 Ferrara

Time	Monday 28 November	Tuesday 29 November	Wednesday 30 November	Thursday 1 December	Friday 2 December	Saturday 3 December
9:30 - 9:45	Introduction to CE <i>N. Tas</i>	Recycling and Remanufacturing in CE <i>N. Tas</i>		Eco-design <i>F. O'Connor, J. Sherry</i>	Normative aspects of CE <i>A. De Franceschi</i>	Departures
9:45 - 10:00						
10:00 - 10:15						
10:15 - 10:30						
10:30 - 10:45						
10:45 - 11:00						
11:00 - 11:15	Coffee Break	Coffee Break		Coffee Break		
11:15 - 11:30						
11:30 - 11:45	Industrial policy and circular economy <i>N. Cantore</i>	Focus group Intesa San Paolo Innovation Center/ ENI		Eco-design <i>F. O'Connor, J. Sherry</i>	Biological materials in CE <i>R. Zoboli</i>	
11:45 - 12:00						
12:00 - 12:15						
12:15 - 12:30						
12:30 - 12:45	Lunch	Lunch	Factory visits and meeting with the Emilia Romagna cluster	Lunch	Lunch	
12:45 - 13:00						
13:00 - 13:15						
13:15 - 13:30						
13:30 - 13:45	Reshaping business strategies for the circular economy <i>M. Mazzanti</i>	Use/consumption and behavioural issues <i>S. Mancinelli</i>		Eco-design <i>F. O'Connor, J. Sherry</i>	Presentations	
13:45 - 14:00						
14:00 - 14:15						
14:15 - 14:30	Group Work	EQUIP circular economy tool <i>F. Brugger</i>		Tea Break		
14:30 - 14:45						
14:45 - 15:00						
15:00 - 15:15						
15:15 - 15:30	Tea Break	Tea Break			Tea Break	
15:30 - 15:45						
15:45 - 16:00						
16:00 - 16:15	The productive phase in CE <i>E. Clarence-Smith</i>	Group Work		Group Work	Presentations	
16:15 - 16:30						
16:30 - 16:45						
16:45 - 17:00						

List of participants

Lebanon

Ms. Basma Abdul Khalek

Institut des Finances Basil Fuleihan - Ministry of Finance
Economist

Mr. Bassam Jouny

Ministry of Industry
Economic Researcher

Ms. Zeina Harakeh

Ministry of Economy and Trade
Head of Foreign Trade Department

Ms. Hanan Abi Ghanem

Ministry of Economy and Trade
Trade specialist

Morocco

Mr. Amal Bouamama

National Office for Electricity and Water
Director Resource Office/Renewables/Market supply

Ms. Fadwa El Atrach

Moroccan Agency for Energy Efficiency (AMEE)
Director

Mr. Driss Dhiba

OCP SA (State owned fertilizers company)
Director of Strategy and Development

Mr. Selmane Lyagoubi

Ministry of Industry
Senior Advisor to the Minister

Mr. Ahmed Himy

Moroccan Agency for Energy Efficiency (AMEE)
Head of strategic studies and cooperation

Tunisia

Ms. Dalinda Ezzeddine

Ministry of the Environment
General Director of Administrative and Financial Affairs

Mr. Khaled Trabelsi

National Waste Management Agency "ANGed"
Regional Director in Sfax

Mr. Mohsen Missaoui

Technical Center of Textile (CETTEX)
General Manager

Ms. Senda Zairi

Agency for promotion of industry and innovation (APII)
Assistant Director, International Cooperation Department

Ms. Wafa Foughali

Tunisian Packaging Technical Center PACKTEC
Head of Service Marketing and Sales

Ms. Achouak Ben Hassine Ben Ghozzi

Agence de Promotion de l'Industrie et de l'Innovation
Chief Statistical Analysis

Ms. Anissa Lahdhiri

Neotex Technopark, Competitiveness pole of Monastir EL-Fejja (MFCPOLE)
Manager

Ms Amel Zai Ep Ben Fahratt

Director General
CETIME (Centre Technique des Industries Mécaniques, Electronique et Electrique)