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INDUSTRIAL DEVELOPMENT ORGANIZATION



Circular Economy – Policies for greener Industries

9 – 13 December 2019 | Ferrara, Italy



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Circular Economy – Policies for greener Industries

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The greening of industries provides stability and resilience to economic development and improves job and income security, energy reliability and human wellbeing. The capacity development programme “Green Industrial Development: Towards 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 UNIDO Green Industry training course provides participants with the opportunity to understand the concept of “Circular Economy” and put its principles into practice, thereby helping improve industry’s environmental and socio-economic performance.

Participants of the course will:

- Understand the most pressing environmental trends and issues which affect industry today;
- Learn about policy instruments and tools to effectively address those issues;
- Apply lessons learnt to the situation in their countries.

The following topics will be covered in the course:

- Product design;
- Circularity in the production phase;
- Circularity in the use/consumption phase;
- Remanufacturing;
- Recycling phase;
- Biomaterials in a circular economy.

Course structure

The 5-day intensive course offers a dynamic mix of lecture-based and participatory teaching methods. The course is targeted at mid-level policymakers from Ministries of Industry, Economy, Commerce, Finance, Environment, and similar, from Egypt, Morocco and Tunisia.



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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 faculty will consist of senior UNIDO staff members 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.

Course lectures

Monday 9 December

Introduction to Circular Economy

N. Tas

The lecture will “set the scene”: what circular economy is in practice and why we need it.

Participants' country presentations

This session will give selected participants the opportunity to update the audience on the current status of circular economy in their countries.

Eco/circular design in industry

F. O'Connor

Through practical examples the participants will learn what eco/circular design means for business in terms of product design, business models and life cycle strategies.

Eco/circular design in policy

F. O'Connor

Participants will learn about key circular policies, baseline studies, good practice interventions and key global trends in regulation, standards and compliance.

Circular economy practices in production

N. Tas

This lecture will give an overview of circular economy practices applied in production of goods and services, covering topics such as resource efficient cleaner production, collaborative actions in eco-industrial parks, and chemical leasing.

Tuesday 10 December

Company case studies in circular economy, in Emilia Romagna and abroad

M. Mazzanti

As a complement to the previous two lectures, this lecture will focus on case studies of companies in the region of Emilia-Romagna which have undertaken and are undertaking activities related to circular economy. A few case studies from Africa will also be given.

Use/consumption phase in a circular economy

E. Clarence-Smith

This lecture will give an overview of the various strategies which can be adopted in the use phase of a circular economy, namely: efficient first use, extending use through repair, encouraging reuse (through, e.g., second-hand markets and through cascading), encouraging more intensive use (through, e.g., sharing strategies). It will also give an overview of the policy instruments which can promote and support the adoption of these strategies.

Recycling in CE

R. De Palma

The lecture will present some innovative solutions and business models for circularity from the perspective of recycling/upcycling by-products/waste, in three main sectors: plastics, food and textiles. Also briefly presented will be two recently launched circular economy projects in textile and plastics sector, which are being implemented within UNIDO's SwitchMed programme.

Law for the Circular Economy

A. De Franceschi

The lecture will cover a number of topics with relevance to policy-making for a circular economy:

- Challenges linked to definitions of “waste”;
- Trends in discussions about repair;
- The use of public procurement to promote circularity;
- Policy thinking on circularity in the construction sector.



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Wednesday 11 December – Field trip

10.00 – 12.30 Circular Economy in Emilia-Romagna policy and Smart Specialization Strategy

Meeting with some referents of Emilia-Romagna Region and Emilia-Romagna CLUST-ER c/o CNR (National Council for Research)

- Attilio Raimondi – Emilia-Romagna Region, Service for research, innovation, Energy, sustainable economy
- Enrico Cancila – Art-Er (Agency for attractiveness, research, territory in Emilia-Romagna Region- Head of the Unit “Economic development and environment”
- Daniela Sani – ART-ER – Member of the informal group of expert for the implementation of models and tools of the circular economy
- Silvia Rossi – Manager Clust-ER Build
- Katia Ferrari – Manager Clust-ER Green Tech
- Marco Foschini – Manager Clust-ER Agrifood



15.00 – 17.00 Visit to Guidetti Recycling Systems - Via Salvi, 1 - 44045 Renazzo di Cento (FE) Italia

Guidetti Recycling Systems is a small company leader in the production of machinery for materials recycling and recovery





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Thursday 12 December

Remanufacturing in CE

E. Clarence-Smith

The lecture will focus on the role which remanufacturing can play in a circular economy, it will discuss barriers to greater deployment of remanufacturing, and will give an overview of the policy instruments which can be used to promote remanufacturing.

Plastics in a circular economy

A. D'Amato

This lecture will cover the following aspects of plastics in a circular economy:

- The economics of plastic waste and policy: a very brief introduction;
- Plastic waste management and disposal in the EU;
- Waste trade and its drivers: the case of plastic waste.

The Circular Economy and Bioeconomy

R. Zoboli

The lecture will give an overview of three aspects related to biomass flows:

- The concept/principles of flows of biomaterials/biomass in an economy;
- The use of biomaterial flows for energy production;
- The use of biomaterial flows as raw materials for green chemistry.

Government planning for the transition to a circular economy

E. Clarence-Smith

The lecture will give a brief overview of the planning process that governments could adopt to transition from today's linear economies to circular economies, and will give examples of such planning processes.

The economic case for a circular economy

N. Cantore

The lecture will make the economic case for a circular economy.

The transition to renewable energy - cases and policies

Nicola Cantore

Recognizing that circular economies will only be truly sustainable if they transition to away from fossil fuels as the primary source of energy to renewable sources of energy, the lecture will discuss trends in this transition.

Friday 13 December

The Private Sector and the Circular Economy

The participants will hear from representatives of Italian large companies about their plans and strategies for the circular economy.

Course faculty

Nilgün Tas

Chief, Industrial Resource Efficiency Division, UNIDO



Nilgün Tas is the Chief for the Industrial Resource Efficiency Division in the Department of Environment, UNIDO and leads the cross-departmental team for the circular economy. She is a private sector development specialist with over 32 years of experience. Nilgün held various positions at UNIDO as Officer-in-Charge for the Department of External Relations, Chief for Competitiveness, Business Environment and Industrial Upgrading Unit, Chairperson of the Gender Mainstreaming Steering Committee, UNIDO Representative in Vietnam and Chief/Senior Technical Advisor for various UNIDO, UNDP, OECD and TIKa projects since 1996. Previously, Nilgün was the Vice President of the Small and Medium Industry Development Administration in Turkey, and a founder and Board Member for the Turkish Credit Guarantee Fund Company, a founding team member of the Turkish International Cooperation Agency, where she helped set up the OECD Ankara Tax Training and the Istanbul Private Sector Development Centers.

Ms. Tas holds undergraduate and graduate degrees in engineering and a master of business administration.



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Nicola Cantore

Industrial Development Officer, UNIDO



Nicola Cantore is currently a research and industrial policy officer at the Department of Policy Research and Statistics of UNIDO. 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.

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.



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Frank O'Connor

Director anois



Frank is an award-winning values-led designer, strategist and speaker recognised as a global expert and thought leader on ecodesign and the circular economy. He has extensive experience of working in multicultural environments, multi-sectors and with all types and sizes of organisation. His professional journey which began with his first project on material recycling in 1988 has included working on product development, business models, brand development, value chains and communications as well as related policy development, public procurement and educational programmes. Frank co-founded anois, an agency specialising in ecodesign and the circular economy, with Jude Sherry in 2016. Previously Frank set up and ran the award-winning international Ecodesign Centre between 2006 and 2013 and co-founded the European Network of Ecodesign Centres (ENEC) in 2012. Frank has held numerous roles, including being publicly appointed as an advisor to the Welsh Government from 2011-13, and has been working for the European Commission and United Nations Industrial Development Organisation (UNIDO) as an independent expert since 2009. Frank has published extensively and was awarded a PhD in 2000 for his innovative study of multi-stakeholder approaches to environmentally conscious design.

Roberta De Palma

Chief Technical Advisor, UNIDO



Roberta De Palma has more than 20 years of working experience in managing complex sustainability projects in industry in the field of resource efficiency, corporate responsibility, eco-innovation and cleaner technology transfer. Since 2004 she has been Chief Technical Advisor of the UNIDO MED TEST Programme (phases I and II), which has promoted the adoption of sustainable manufacturing practices in more than 200 industries and built the capacity of more than 30 service providers in the North African and Middle Eastern Region. She led the conceptual design of an integrated approach and toolkit (TEST) combining key elements of material flow cost accounting, cleaner production and management system for continuous improvement of industry performance, delivering training to companies in several countries. She has worked on several assignments for the private sector, the European Commission and the IFC related to CSR reporting, stakeholder analysis and engagement, carbon footprint reporting and RECP benchmarking sector studies, monitoring and evaluation of EU LIFE and EU eco-innovation initiatives.

Ms. De Palma holds a Master's degree in Mechanical Engineering with a specialization in environmental technology.

Franz Brugger

Capacity Development Expert, UNIDO



Since 2012, Mr. Brugger works as a Capacity Development Expert with UNIDO. He has been designing and conducting numerous capacity development and training activities in Africa, Asia and Europe on issues ranging from evidence-based industrial policymaking, strategy design and instruments to the circular economy and sustainable energy solutions. 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 in International Relations from the University of Cambridge, UK.

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.

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.

Alberto De Franceschi

Associate Professor of Private Law, Environmental and Intellectual Property Law, University of Ferrara



Alberto De Franceschi is currently Associate Professor in the Department of Economics and Management of the University of Ferrara, where he has been a Lecturer in Institutions of private law since 2016. He has been a Lecturer at the same University on Introduction to Italian Private Law and on European Contract Law course, in the Department of Law. Since 2015, Prof. De Franceschi is co-chair of the Digital Law Special Interest Group of the European Law Institute. In 2016, he was a founding member of the Research Group on the Law of Digital Services. Since 2015, he is co-director of the Journal of European Consumer and Market Law and Associate Editor of the Italian Law Journal. 2013-2014, he was co-director of the Journal of American Consumer and Market Law.

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

Alessio D'Amato

Associate Professor of Economic Policy, University of Rome "Tor Vergata"



Alessio D'Amato is currently Associate Professor in Economic Policy at the Department of Economics and Finance, University of Rome "Tor Vergata". He is also head of Tor Vergata Unit at the SEEDS Inter-university research centre.

He is currently performing joint research with national and international scholars, as well as with colleagues in Tor Vergata; he has been and is part of several international projects, involving, among others, the European Environment Agency, FAO and the Joint Research Centre of the European Commission.

He will serve in 2020-2021 as President Elect, in 2022-2023 as President, and in 2024-2025 as Past President of the Italian Association of Environmental and Resource Economists (IAERE); he is also member of the Italian Economic Association (SIE), the Italian Public Economics Society (SIEP) and of the European Association of Environmental and Resource Economists (EAERE). He has been vice-chair of the Local Organizing Committee for the 18th Annual EAERE Conference, and chair of the Organizing and Scientific Committee of the 5th IAERE Annual Conference, both held in Rome – Tor Vergata.

His research activity is focused on: theory of incentives, environmental regulation under asymmetric information, emissions trading schemes and their implementation, eco-innovation, environmental compliance and illegal behavior, waste management and policy, green public procurement.

Prof. D'Amato holds a Ph.D in Economic Theory and Institutions and a Degree in Economics and Commerce, both from the University of Rome "Tor Vergata".

List of participants

Egypt

Hoda Elshawadfy

Ministry of Environment
GEF Unit Director

Eslam Ibrahim

Ministry of Planning
Economic Researcher



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Sabry Elshafiy

Industrial Development Authority
Head of the Central Department for Policy and International Cooperation

Mohamed Hassan

Ministry of finance
Economist at the Minister's Office

Morocco

Nada Tahiri

Department of the Environment
Engineer in the waste recovery and recycling channels division

Abdelali Mghizlat Idrissi

Ministry of Industry, Trade, Investment, and the Digital Economy
Division Head

Nassima Sami

Ministry of Industry, Trade, Investment, and the Digital Economy
State's Engineer

Amine Bouarfa

Ministry of Economy, Finance and Administration Reform
Inspector of Finance

Tunisia

Abderraja Salhi

Ministry of Local Affairs and Environment / General Directorate for Sustainable Development
Chief of Service

Ali Gomri

Innovation and Industrial Promotion Agency
Engineer

Ourida Chalouati

Ministry of Industry and Small and Medium Enterprises
Chief Engineer/ Sub Director of Quality Infrastructure

Bilel Bellaaj

University of Sfax Tunisia
University Assistant



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Schedule

Time	Sunday 8 December	Monday 9 December	Tuesday 10 December	Wednesday 11 December	Thursday 12 December	Friday 13 December	
9:00 - 9:15	Arrivals	Registration	Lecture 5: CE company case studies in Emilia Romagna and abroad M. MAZZANTI	Field visit	Lecture 9: Remanufacturing in CE E. CLARENCE-SMITH	Lecture 15: Financing CE Intesa San Pa	
9:15 - 9:30		Opening, introd. of participants, course aims	Group Work Session 2		Lecture 10: Plastics in a CE A. D'AMATO	Group Work Session 7	
9:30 - 9:45		Lecture 1: Introduction to CE N. TAS	Coffee Break		Coffee Break	Coffee Break	Coffee Break
9:45 - 10:00		Participants' country presentations	Lecture 6: Use/consumption phase in CE E. CLARENCE-SMITH		Lecture 11: CE and Bioeconomy R. ZOBOLI	Group Work Session 8	
10:00 - 10:15		Lunch	Lunch		Lunch	Lunch	
10:15 - 10:30		Lecture 2: Eco/circular design in industry F. O'CONNOR	Group Work Session 3		Group Work Session 5	Presentations	
10:30 - 10:45		Lecture 3: Eco/circular design in policy F. O'CONNOR	Lecture 7: Recycling in CE R. DE PALMA		Lecture 12: Gov't planning for transition to CE E. CLARENCE-SMITH		
10:45 - 11:00		Tea Break	Tea Break		Lecture 13: Economics of CE N. CANTORE	Tea Break	Tea Break
11:00 - 11:15		Lecture 4: CE practices in production N. TAS	Group Work Session 4		Group Work Session 6	Presentations	
11:15 - 11:30		Group Work Session 1	Lecture 8: Law for CE A. DE FRANCESCHI		Lecture 14: The transition to renewable energy - cases and policies N. CANTORE		
11:30 - 11:45							Closure
11:45 - 12:00							Networking
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Logistical note

From Milano Malpensa International Airport to Ferrara

Participants will be picked up by bus at the airport and transferred to the hotel in Ferrara.

Hotel in Ferrara

Participants will be accommodated in single rooms at the Hotel Europa in Ferrara.

Address: Corso della Giovecca, 49, 44100 Ferrara FE, Italy

Phone: +39 0532 205456

Web: <https://www.hoteleuropaferrara.com/>

Venue – University of Ferrara

IUSS Ferrara 1391

Corso Porta Mare 2

44122 Ferrara

Practical considerations

December can be quite cold in northern Italy so make sure to bring adequate clothing.

Emergency contacts

In case of any emergency please call Mr. Franz Brugger (+43 650 2141605).



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