

Residential Training

Summer School on Regulation of Energy Utilities



@EUI_FSR #FSRSummerSchool

3 - 7 July 2023

Sala Europa - Villa Schifanoia, Via Boccaccio 121 - Florence

Course Director:

Prof. Carlos Batlle | Florence School of Regulation, MIT Energy Initiative and Comillas University

Training Coordinator:

Elena Bondesan | Florence School of Regulation, RSCAS, EUI

Introduction

Europe has undertaken the great task of integrating the energy markets at the continental level. Much progress has been achieved thanks to comprehensive policy and regulatory efforts put forth to coordinate the objectives of all market participants in an open, fair and sustainable competitive market. Energy companies, Transmission System Operators, distribution utilities and every market agent has been tasked to align local policies and regulatory frameworks with an increasingly ever more comprehensive European regulatory framework that fosters cross-border exchange and cooperation.

The FSR Summer School on Regulation of Energy Utilities will provide the most up-to-date and comprehensive view of the key regulatory principles, actions and implications of the current regulatory framework, highlighting the key challenges for the alignment of the industry with the policy goals of sustainability and security of supply.

The Summer School balances theory with practice with key practical study cases illustrated directly by the agents and decision-makers involved, including former and current energy regulators, renowned academics and professionals from leading energy companies.



Draft Programme

3 July

Day 1

09:00 - 09:15 Introduction to the course and tour de table introduction of participants and their course expectations.

Carlos Batlle | MIT Energy Initiative, Florence School of Regulation

09:15 - 10:45 Theory and principles of regulation. Models of regulation.

Alberto Pototschnig | Florence School of Regulation, RSCAS, EUI

10:45 - 11:00 *Coffee break*

11:00 - 12:30 *Jam session:*

Restructuring of the energy power industry. Basic policies and features in Europe.

Alberto Pototschnig | Florence School of Regulation, RSCAS, EUI

Pippo Ranci | Florence School of Regulation, RSCAS, EUI

Rudi Hakvoort | Delft University

12:30 - 14:00 *Lunch*

14:00 - 15:30 Traditional regulation of energy utilities. Regulation of monopolistic activities. Approaches to price control.

Rudi Hakvoort | Delft University

15:30 - 15:45 *Coffee break*

15:45 - 17:15 Service Quality Regulation in Electricity Distribution Networks.

Elena Fumagalli | Copernicus Institute of Sustainable Development, Utrecht University

17:15 - 17:30 Wrap-up of first day.

Carlos Batlle | MIT Energy Initiative, Florence School of Regulation

17:30 - 18:30 *Welcome cocktail*

4 July

Day 2

09:00 - 09:15 Introduction.

Carlos Batlle | MIT Energy Initiative, Florence School of Regulation

09:15 - 10:45 Wholesale electricity markets and power exchanges.

Carlos Batlle | MIT Energy Initiative, Florence School of Regulation

10:45 - 11:00 *Coffee break*

11:00 - 12:30 Case example on PXs: Price coupling of regions-PCR.

Juan Pérez | EPEX SPOT

12:30 - 14:00 *Lunch*

14:00 - 15:30

Gas markets.

Tania Tholot | The Brattle Group

Flora Triolo | The Brattle Group

15:30 - 15:45

Coffee break

15:45 - 17:15

Case example on gas markets.

Tania Tholot | The Brattle Group

Flora Triolo | The Brattle Group

17:15 - 17:30

Wrap-up of second day.

Carlos Batlle | MIT Energy Initiative, Florence School of Regulation

17:30 -

Guided tour

5 July

Day 3

09:00 - 09:15

Introduction.

Carlos Batlle | MIT Energy Initiative, Florence School of Regulation

09:15 - 10:45

Natural Gas Network: an overview of main aspects.

Marzia Sesini | Florence School of Regulation, RSCAS, EUI

10:45 - 11:00

Coffee break

11:00 - 12:30

Case example on gas networks: the EU gas systems.

Nico Keyaerts | ACER

12:30 - 14:00

Lunch

14:00 - 15:30

The electricity transmission and distribution networks.

Goran Majstrović | Energy Institut Hrvoje Požar

15:30 - 15:45

Coffee break

15:45 - 17:15

Case example on electricity grids: The Trans-European Networks for Energy (TEN-E) policy.

Tim Schittekatte | MIT Energy Initiative, Florence School of Regulation

17:15 - 17:30

Wrap-up of third day.

Carlos Batlle | MIT Energy Initiative, Florence School of Regulation

20:00 -

Group dinner

6 July

Day 4

09:00 - 09:15

Introduction.

Carlos Batlle | MIT Energy Initiative, Florence School of Regulation

09:15 - 10:45 Fundamentals on energy tariff design.
Tim Schittekatte | MIT Energy Initiative, Florence School of Regulation

10:45 - 11:00 *Coffee break*

11:00 - 12:30 Retail regulation.
Carlos Batlle | MIT Energy Initiative, Florence School of Regulation

12:30 - 14:00 *Lunch*

14:00 - 15:30 The Spanish response to the Ukrainian energy crisis.
Julian-Salma Barquin | Endesa

15:30 - 15:45 *Coffee break*

15:45 - 17:15 Case example on retail market regulation, retail prices and competition.
Csilla Bartok | ACER

17:15 - 17:30 Wrap-up of fourth day.
Carlos Batlle | MIT Energy Initiative, Florence School of Regulation

7 July **Day 5**

09:00 - 10:30 Case example on energy markets: Latin American energy markets.
Luiz Augusto Barroso | PSR Energy Consulting and Analytics

10:30 - 10:45 *Coffee break*

10:45 - 12:15 Case example on vulnerable customers: the US and the EU approaches to face the energy poverty challenge in the move towards decarbonization.
Peter Heller | Massachusetts Institute of Technology

12:15 - 13:45 Case example on renewable energy integration: Long-term investment incentivisation through contracts-for-difference.
Lena Kitzing | Technical University of Denmark (DTU)

13:45 - 14:00 Wrap-up and conclusions of the course.
Carlos Batlle | MIT Energy Initiative, Florence School of Regulation

14:00 - *Farewell lunch*

Summer School on the Regulation of Energy Utilities



Alberto Pototschnig | Florence School of Regulation, RSCAS, EUI

Alberto Pototschnig is Executive Deputy Director, World of Practice. He is an economist with extensive experience in energy policy, regulation and market design issues, with a focus on European markets. Between 2010 and 2019 Alberto served as the first Director of the European Union Agency for the Cooperation of Energy Regulators (ACER).

After seven years in the consultancy business with London Economics, Alberto joined the Italian Energy Regulatory Authority in 1997. As Director of Electricity Regulation, he was responsible for the design and implementation of technical and economic regulation for the electricity sector.

In 2000 Alberto was appointed CEO of the Italian Electricity Market Operator, and later joined the Italian Transmission System Operator (TSO). From 2006 to 2010 he was a Partner in Mercados EMI, an international consultancy specialised in energy markets design and regulation.

Alberto regularly teaches in FSR training courses on regulatory and market design issues and directs the 'Regulatory Policy Workshop Series', the longest-running FSR workshop series, investigating the most topical issues in the energy sector.



Pippo Ranci | Florence School of Regulation, RSCAS, EUI

Pippo Ranci is Professor of Economic Policy at the Università Cattolica in Milan. His research interests are in regulation and industrial and energy policy.

Until 2008 Pippo was director of the Florence School of Regulation at the European University Institute in Florence. Before that, he was president of the Italian regulatory authority for electricity and gas for seven years (1996 – 2003), co-founder and vice-president of the Council of European Energy Regulators (2000-2003), and often a consultant to the Italian government (1972-1993).

He has also worked in non-profit organisations, setting up the Italian partner in the Johns Hopkins Comparative Non-profit Sector Project (1989-1994).



Rudi Hakvoort | Delft University

Rudi Hakvoort has in-depth knowledge and experience in the area of energy network regulation and market functioning. As an associate professor at the faculty Technology, Policy and Management of Delft University of Technology he currently studies the design and organisation of liberalised energy markets. From 1998–2005, he directed the department Market and Infrastructure of the Dutch Office for Energy Regulation where he was responsible for network quality and capacity development, interconnection, congestion management, market design and market development, market surveillance and also for the 2004 decision on behalf of the Dutch government on the NorNed-cable, the 700 MW DC electricity link between the Netherlands and Norway (to be commissioned in 2008).

Rudi Hakvoort has been chairman of the working group on Congestion Management of the Council of European Energy Regulators (CEER) from 2000–2004. Furthermore, dr.ir. Hakvoort is regularly contributing to the Florence School of Regulation at the European University (Florence, Italy) and other training courses in the area of energy policy and regulation in Europe.

Elena Fumagalli | Utrecht University



Elena M. Fumagalli is a tenured Assistant Professor at Utrecht University, Copernicus Institute of Sustainable Development (The Netherlands) and a Part-time Professor at the European University Institute, Florence School of Regulation (Italy). She holds an M.Sc. in Nuclear Engineering from Politecnico di Milano (Italy) and a PhD in Energy Engineering from the University of Padua (Italy). Her research line is built on three pillars: incentive regulation, wholesale electricity market design, and energy access in the Global South.

On these topics, she has (co-)authored over 70 peer-reviewed journal and conference paper publications and one book.

Juan Perez | EPEX SPOT



Juan Perez is Director of Strategy at EPEX SPOT. The core business of EPEX SPOT consists in operating a power exchange for Central Western Europe, the United Kingdom, Poland and the Nordic countries.

Since December 2022, Juan is also a member of the Supervisory Board of ADEX Group, the first regional Power Exchange in Southern-Eastern Europe that currently covers Slovenia and Serbia. He joined Powernext in 2008 and had previously worked in several positions at RTE, the French Transmission System Operator. Juan holds an Executive MBA from HEC-Paris and MSc degrees on Power Systems from ICAI-Madrid and Supelec-Paris.

Tania Tholot | The Brattle Group



Tania Tholot specializes in regulatory and damages issues in international arbitration, state aid, and competition matters. She has worked on cases in Europe, Asia, and Africa, with a focus on the energy sector and regulated industries. Tania's experience includes many cases on the pricing of fossil fuels and renewable energy. In particular, she has performed complex analysis to value flexible deliveries of pipeline gas and LNG under long-term contracts throughout Europe, with valuation dates spreading over the past decade. Tania is currently involved in several cases related to under-deliveries of Russian gas to European buyers. Tania has a BA in Social Sciences and a BS in Mathematics. Tania holds a Masters in Economics and Public Policy from Sciences Po Paris.

Flora Triolo | The Brattle Group

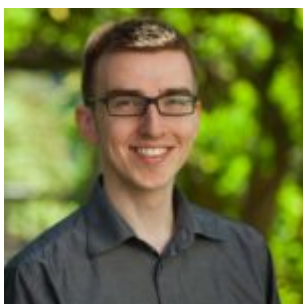


Flora Triolo specializes in arbitration and litigation cases in the energy sector and in the economic analysis of regulated industries. She has worked on several commercial arbitrations, with a focus on the analysis of long-term natural gas supply contracts and the estimation of the competitive price of natural gas in several European and Asian markets. She has assessed pricing policies and margins of producers and suppliers. She has also worked on estimating damages from changes in regulation and contract breaches, including the failure to deliver natural gas and LNG. She holds a M.Sc. in Economics and Social Sciences from Bocconi University.



Marzia Sesini | Florence School of Regulation, RSCAS, EUI

Marzia Sesini is a Research Associate in the Gas Area at the Florence School of Regulation (FSR) and Course Director of the Loyola Autumn Research School – LARS. Her research interests span from energy security and security of supply to the decarbonisation of the energy system, renewable gas, and technologies for the energy sector, to cross infrastructure integration and distribution network optimisation modeling. She has been a Postdoctoral Researcher at the Chaire Economie du Climat (Université Paris-Dauphine; Institut Europlace de Finance – Paris), investigating policy-supporting mechanisms to create a market driver for renewable gases (i.e., biogas and biomethane) in the EU natural gas grid. An engineer by training, she has accrued extensive experience in the energy industry at the corporate and academic levels. She has worked in Snam's Corporate Strategy Department as a Gas Advocacy Specialist, as well as at Bocconi University as an Academic Fellow in the Department of Management and Technology and as a Doctoral Visiting Fellow at the Oxford Institute of Energy Studies (OIES). She holds a Ph.D. in Process Systems Engineering | Chemical Engineering Department from Imperial College London, as well as an M.S. in Sustainability Management from the Earth Institute of Columbia University in NYC and an M.S. in Engineering from Pavia State University.



Nico Keyaerts | ACER

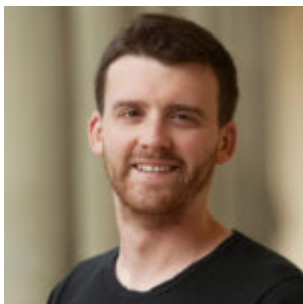
Nico Keyaerts is working since 2018 at the EU Agency for the Cooperation of Energy Regulators in the Infrastructure, Gas and Retail Department, covering electricity and gas infrastructure (TEN-E, TYNDP, scenarios, PCIs, electricity tariffs, investment incentives) and gas markets (capacity allocation and congestion management, gas tariffs). He is a former Research Fellow at the Florence School of Regulation, hosted at the European University Institute in Florence, Italy and at the Vlerick Business School, Belgium. His research mainly focused on policy and regulatory aspects of energy transmission infrastructure, bridging industry practice and academic knowledge. Nico holds a PhD in Mechanical Engineering and a Master in Business Engineering, both from KU Leuven in Belgium.



Goran Majstrovic | Energy Institut Hrvoje Požar

Dr. Goran Majstrovic is an Assistant Director and Head of Transmission and Distribution Department in the EIHP, Croatia where he has been working since 1998. EIHP is a non-profit scientific and energy consultancy institution. Field of Goran's interest is transmission system planning and analysis as well as electricity market design and RES integration. He served as a consultant for the World Bank, USAID, US Energy Association, European Commission, EBRD, KfW, Energy Community, regulatory agencies, power companies, TSOs, DSOs etc. As an author he published more than 120 studies and more than 90 papers.

Goran serves as a lecturer at the post-graduate MBA study Energy Economics at University of Rijeka, Croatia. He is a vice-president of Croatian CIGRE Committee and a Member of the Scientific Council for Energy in the Croatian Academy of Art and Science.



Tim Schittekatte | MIT Energy Initiative and Florence School of Regulation, RSCAS, EUI

Tim Schittekatte is a Postdoctoral Associate at the MIT Energy Initiative where he conducts research about power market design and regulation. He is one of the instructors of the MIT course “Engineering, Economics and Regulation of the Electric Power Sector”. He is also a part-time assistant professor at the Florence School of Regulation (FSR), where before he was a research fellow for 5 years. Before joining FSR in May 2016, he was a visiting researcher at the Grid Integration Group of the Lawrence Berkeley National Lab and a junior economist at Microeconomix in Paris. He graduated as an engineer from Ghent University, Belgium and completed the EMIN program, an international master in economics. He holds a PhD in energy economics from University Paris-Sud XI.



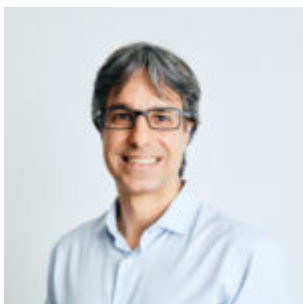
Julian-Salma Barquin | Endesa

Dr. Julian-Salma Barquin obtained his Electrical Engineering degree at Comillas University in 1988 and his Physics degree at UNED University in 1994. He finished his Ph. D. degree at Comillas University in 1993 about power systems voltage stability. He works since July 2012 at the Regulatory Affairs Department in Endesa (Enel Group), providing advice on Spanish and European regulation. Formerly he has been Professor at Comillas University. His professional activities have revolved around technical, economic and regulatory analysis of energy systems. He is author or coauthor of 5 books and more of 100 papers in peer-reviewed journals and conferences. He has headed more than 25 research projects and has been participant in many others. He has been visiting scientist at the Massachusetts Institute of Technology (USA) and visiting scholar at the University of Cambridge (UK).



Csilla Bartók | ACER

Csilla Bartók is Team leader at the Agency for the Cooperation of Energy Regulators. She deals with regulatory and policy issues connected to the European internal gas market and energy retail. Lately her team also focuses on the possible regulatory changes linked to the energy transition (e.g. decarbonisation and hydrogen). Beforehand, Csilla worked at the OECD as competition and trade analyst and at the European Commission DG Competition and DG Energy as policy officer. She holds masters in economics and political sciences and an executive MBA.

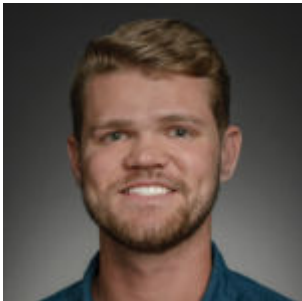


Luiz Barroso | PSR Energy Consulting and Analytics

Luiz Barroso is the managing director of PSR and a research affiliate of Comillas Pontifical University's Institute for Research in Technology in Madrid, Spain. His expertise spans areas where planning, policy, regulations, markets, modeling, finance, and risk management of energy systems overlap. He has worked in more than 30 countries in the Americas, Europe, Africa and Asia.

He is a past director general of the Energy Research Office, a government company connected to the Ministry of Energy that runs all the energy planning studies in the country to support its energy policy decisions. He was also a visitor in the International Energy Agency in France. He has also been involved in numerous

academic and lecturing activities, including at the Florence School of Regulation, where he lectures since 2010. He has more than 150 academic publications and was associated editors of several peer in peer-reviewed journals. Luiz is a Fellow of the IEEE for his analytical contributions on power system economics and regulation and the recipient of the 2010 IEEE Outstanding Young Engineer Award. He graduated in mathematics and received a Ph.D. degree in optimization from the Federal University of Rio de Janeiro, Brazil.



Peter Heller | Massachusetts Institute of Technology

Peter Heller current research at MIT is focused on developing tools to measure and monitor energy poverty in the United States and proposing innovative regulatory and policy ideas to ensure a financially sustainable, just, and inclusive energy transition. Prior to MIT, after working as an environmental engineer in Seattle, Washington, Peter served as a Policy Director to Senator Chris Hansen at the Colorado State Senate, with particular focus on the agenda to advance environmental policy and energy sector regulation. He also continues work with the Colorado Energy and Water Institute to promote a western United States wholesale electricity market through the Western Power Players conference series.



Lena Kitzing | Technical University of Denmark

Lena Kitzing is Associate Professor in Energy Economics and Policy, and Head of Section ‘Society, Market and Policy’ at the Technical University of Denmark (DTU), Department of Wind and Energy Systems. Her research spans across the energy-economy-society nexus and especially concerns the effective governance of energy systems through policy instruments, with particular focus on deployment and financing of renewables and their integration into the energy system. Lena is a leading expert in auction design for renewable energy procurement and the economics and policy for offshore wind energy. She has participated in and coordinated many international research projects, often gives scientific advice to public and private organisations, is regularly invited to key note speeches and panels, and appears in the Danish national media on energy related issues. Lena is an experienced lecturer, having developed and conducted university courses for more than ten years at five different institutions. Lena’s work is highly impact-oriented. She has been board member of the Joint Programme for wind energy of the European Energy Research Alliance, and serves on the board on several energy initiatives in Denmark. Lena is member of the European Scientific Advisory Board on Climate Change, which advises European policymakers and stakeholders on climate and energy related decisions.



Carlos Batlle | MIT Energy Initiative and Florence School of Regulation, RSCAS, EUI

Prof. Carlos Batlle joined the FSR in 2007, as Director of the “Summer School on Regulation of Energy Utilities”. Currently he is Part-time Professor, Electricity Advisor, and Director of the “Annual Training on the Regulation of Energy Utilities” and the “Regulation of the Power Sector” courses. Since 2011 he is member of the MIT Energy Initiative in 2011, where as part of the Electric Power Systems Low-Carbon Energy Center, he has been leading research projects, supervising PhD and master dissertations. He teaches the course entitled “Engineering, Economics

and Regulation of the Electric Power Sector". He is also part-time Professor at Comillas Pontifical University in Madrid, teaching Energy Economics and Electric Power Systems Regulation, and member of the Advisory Academic Panel of Ofgem, the UK energy National Regulatory Authority. He has rendered consulting services for governments, international institutions, industrial associations, and utilities in over 30 countries.