

Clean Molecules for the energy transition - Hydrogen, biogas, biomethane, synthetic gas



14 - 25 June 2021

Online Training

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Introduction

Renewable and low-carbon gases will be an important tool in decarbonizing the EU energy sector. The 'Clean Molecules for the Energy Transition' course from the Florence School of Regulation covers the key issues in this fast-evolving area. The two-week programme offers first-hand insights into the EU and global context of clean molecules, with relevant case studies, topical discussions and panel debates, presented by leading professionals.

Concept

The EU Green Deal established a vision and a framework towards the goal of carbon neutrality for the bloc by 2050. This vision has since been applied in subsequent strategies pertaining to key areas, for example the Energy System Integration Strategy (2020) and the EU Hydrogen Strategy (2020). These two Communications envisage a prominent role in decarbonizing the energy sector for the so-called "renewable and low carbon gases" or "clean molecules" (biogas, biomethane, hydrogen and synthetic methane).

Despite limited use of clean molecules to date, they are quickly attracting growing attention from policy makers and industry who see them as a potential sector coupling tool to balance energy grids as well as a means to decarbonise certain hard-to-abate sectors. As a result, the debate around clean molecules and their uptake in strategic areas has become an important EU policy and regulatory focus.

However, is the attention and excitement around clean molecules justified? How important are clean molecules for the achievement of carbon neutrality and in which areas? How are clean molecules different from each other



and how are they different from fossil alternatives? What economic and regulatory barriers are stifling their market uptake and how can they be removed? Which technologies seem more promising and cost-efficient?

This interactive 2-week online training course will explore all of these questions and more.

Draft Programme

14 June **Preparatory week on the course platform**

12:00 - 13:00 Welcome Live Class

14 - 20 June *Read/watch/listen to the material and take the relevant activities on the course platform*

21 June **Day 1: Renewable and low carbon gases**

Morning Session

9:15 - 9:30 Welcome to the course

Ilaria Conti | Florence School of Regulation, RSCAS, EUI

Andris Piebalgs | Florence School of Regulation, RSCAS, EUI

9:30 - 10:30 The EU context
(45' lecture + 15' Q&A)

Andris Piebalgs | Florence School of Regulation, RSCAS, EUI

Hydrogen in the current EU debate

Jorgo Chatzimarkakis | Hydrogen Europe

10:30 - 11:30 Definitions (taxonomy) of origin and processes
(45' lecture + 15' Q&A)

Ilaria Conti | Florence School of Regulation, RSCAS, EUI

11:30 - 11:45 *Coffee break*

11:45 - 12:45 Biogas and biomethane: from generation to the market
(45' lecture + 15' Q&A)

Zoltan Elek | CEO, Landwaerme

Afternoon Session

14:00 - 15:00 Panel debate: How to adjust the current transport systems for renewable and low carbon gases

Moderator:

Christopher Jones | Florence School of Regulation, RSCAS, EUI

Panellists:

Carina Gewehr | Gascade

Luis Ignacio Parada | ENAGAS

Jean Marc Brimont | GRTgaz

Niko Bosnjak | OGE

22 June **Day 2: Decarbonising market products - level of technological development**

Morning Session

9:15 - 9:30 Introduction to the second day of the course

Ilaria Conti | Florence School of Regulation, RSCAS, EUI
Andris Piebalgs | Florence School of Regulation, RSCAS, EUI

9:30 - 10:30 Pyrolysis: current status and future perspective
(45' lecture + 15' Q&A)

Laurent Fulcheri | MINES Paris Tech

10:30 - 11:30 Power-to-gas: current status and future perspectives
(45' lecture + 15' Q&A)

David Parra | University of Geneva

11:30 - 11:45 *Coffee break*

11:45 - 12:45 Carbon Capture Usage and Storage (CCUS): current status and future perspectives
(45' lecture + 15' Q&A)

Sébastien Douquet | Deloitte

Afternoon Session

14:00 - 15:00 Panel debate: National strategies for a hydrogen economy

Moderator:

Ilaria Conti | Florence School of Regulation, RSCAS, EUI

Panellists:

José Luis Cabo | Spain | Ministry for the Ecological Transition and the Demographic Challenge

Gijs Kreeft | Netherlands | Ministry of Economic Affairs and Climate

Thomas Schubert | Germany | Dentons

23 June **Day 3: Regulatory and market aspects**

Morning Session

9:15 - 9:30 Introduction to the third day of the course

Ilaria Conti | Florence School of Regulation, RSCAS, EUI

Andris Piebalgs | Florence School of Regulation, RSCAS, EUI

9:30 - 10:30 Effective regulation for the energy transition: approach, core pillars, potential barriers to overcome
(45' lecture + 15' Q&A)

Csilla Bartok | ACER

10:30 - 11:30 A practical approach to facilitate market uptake: regulatory toolkit, P2G operation, Guarantees of Origin
(45' lecture + 15' Q&A)

Alberto Pototschnig | Florence School of Regulation, RSCAS, EUI

11:30 - 11:45 *Coffee break*

11:45 - 12:45 Which internal and external policies can enable the integration of renewable and decarbonised gas in the future energy system?

(45' lecture + 15' Q&A)

Oliver Koch | European Commission

Afternoon Session

14:00 - 15:00 Panel Debate: How to incentivize clean molecules?

Moderator:

Andris Piebalgs | Florence School of Regulation, RSCAS, EUI

Panellists:

James Watson | Eurogas

Tim Schittekatte | Florence School of Regulation, RSCAS, EUI

Annegret Groebel | CEER

24 June **Day 4: Global dimension**

Morning Session

9:15 - 9:30 Introduction to the fourth day of the course

Ilaria Conti | Florence School of Regulation, RSCAS, EUI

Andris Piebalgs | Florence School of Regulation, RSCAS, EUI

9:30 - 10:30 Clean molecules and methane emissions

(45' lecture + 15' Q&A)

Maria Olczak | Florence School of Regulation, RSCAS, EUI

10:30 - 11:30 How to design a circular economy

(45' lecture + 15' Q&A)

Lucila de Almeida | Florence School of Regulation, RSCAS, EUI

11:30 - 11:45 *Coffee break*

11:45 - 12:45 Advancing decarbonisation in LNG and storage

(45' lecture + 15' Q&A)

Andrea Stegheer | IGU

Afternoon Session

14:00 - 15:00 Panel debate: Decarbonisation trends and challenges in non-EU countries

Moderator:

Ilaria Conti | Florence School of Regulation, RSCAS, EUI

Panellists:

Barbara Jinks | IRENA

Sylvia Beyer | IEA

Luca Franza | CIEP

25 June **Day 5: Participants' projects discussion**

9:30 - 13:00 Students' group work presentations

