

Summer School Program

Energy Transition towards Sustainability: Renewable Energies and Synthetic Fuels A German and Egyptian Perspective

August 29th, Monday

09:00-10:00 Welcome and Introduction to EWI & University of Cologne. Dr. Johanna Bocklet (EWI) & Dr. Thilo Zimmermann (International Office, UoC)

10:00-11:15 Germany's path to climate neutrality. Tobias Sprenger (EWI)

11:15-11:30 Break

11:30-12:30 Primary Energy sources: facts and challenges with emphasis on Egypt. Prof. Ahmed ElBanbi (AUC)

12:30-13:30 Lunch break

Time to install programs to computers

13:45-15:15 Lecture: Econometrics in Energy System Modelling. Markos Farag (UoC)

15:15-15:30 Break

15:30-17:00 Case Study Econometrics. Markos Farag (UoC)

Notes:

- you need to bring your laptop

August 30th, Tuesday

09:00-10:00 Introduction to the German power market. Konstantin Gruber (EWI)

10:00-10:15 Break

10:15-11:15 Egyptian vs. German Energy Landscape: resources and consumers. Prof. Yasser Elshayeb (AUC)

11:15 onwards: Trip to Essen. 12:07 RE 6 Cologne Hbf to Essen Hbf

14:15 -16:15 Company Visit RWE Supply & Trading

Bus to Zeche Zollverein

17:00-18:00 Guided tour at Zeche Zollverein

18:42 Trip back to Cologne, RB35 from Essen-Zollverein Nord. Or optional: Spend the evening in Essen and return to Cologne on your own

Notes:

- you need to bring your own lunch

August 31st, Wednesday

09:00-09:30 Nudging pro-environmental behavior: an experimental approach towards energy conservation. Sarah Ahmed (BUE)

09:30-10:00 Break

10:00-12:00 Energy and the Economy. Prof. Marc Oliver Bettzüge (UoC)

12-13:00 Lunch Break

13:00-14:30 Security of supply in power systems with high shares of renewables. Berit Czock (EWI)

14:30-15:00 Break

14:45-16:00 Introduction to Hydrogen & the EWI LCOH Tool. David Schlund (EWI)

16:00-17:00 Research mentoring & interviews with EWI experts

EWI Get together Evening from **17:00** onwards

September 1st, Thursday

09:00-10:30 Lecture Optimization & Linear Programming. Philipp Kienscherf (UoC)

10:30-10:45 Break

10:45-12:00 Application of Linear Programming. Philipp Kienscherf (UoC)

12:00-13:30 Lunch Break

13:30-14:30 Green Hydrogen in Egypt: Future perspectives. Prof. Moustafa Orabi (AUC)

14:30-15:00 Break

15:00-16:00 Green Hydrogen in Germany. Patricia Wild (EWI)

16:00-16:30 COSIMENA Research idea. Patricia Wild (EWI)

Dinner together - to be confirmed

Notes:

- you need to bring your laptop

September 2nd, Friday

09:30-10:30 EV Preparedness. Konstantin Gruber (EWI)

10:30-11:00 Break

11:00-12:30 Introduction to Machine Learning. Online lecture. Jun. Prof. Dr. Ziyue Li (UoC)

12:30-14:00 Lunch Break

14:00-15:30 Towards Large-Scale EV Adoption: The Challenges and Opportunities Ahead Arne Lilienkamp (EWI)

16:30-16:00 Break

16:00-17:00 Group Work to develop a research question/project idea

September 3rd, Saturday

09:30-10:30 Introduction to Emissions Trading. Dr. Johanna Bocklet (EWI)

10:30-10:45 Break

10:45-12:15 Group work to develop & present a project idea (5 groups)

12:15-12:30 Wrap up & end of academic program

Break/ time to take the train to downtown Cologne

Cultural afternoon - guided tour at Cologne downtown