

# 15th TRANSATLANTIC INFRADAY CONFERENCE

Nov. 9-10, 2023

Paris, FRANCE

Enabling Low Carbon, Smart and Resilient Infrastructures:  
Emerging challenges for the world ahead

## CONFERENCE AGENDA *(version as of October 23, 2023)*

	Thursday, November 9, 2023	Friday, November 10, 2023
08h30-09h15	<i>Coffee &amp; Registration</i>	<i>Coffee &amp; Registration</i>
09h15-09h30	Welcome to TAI 2023	
09h30-10h15	Keynote Session #1 Pr. Derek W Bunn London Business School	Keynote Session #3 Dr. Andreas Ehrenmann ENGIE
10h15-10h30	<i>Coffee break</i>	<i>Coffee break</i>
10h30-12h30	Parallel sessions 1a, 1b	Parallel session 3a, 3b
12h30-14h00	<i>Lunch</i>	<i>Lunch</i>
14h00-16h00	Parallel session 2a, 2b	Parallel session 4a, 4b
16h00-16h15	<i>Coffee break</i>	Closure of TAI 2023
16h15-17h00	Keynote Session #2 Pr. James Bushnell UC Davis	
19h00-	Networking Event Le P'tit Louis, Paris 5	

# CONFERENCE PROGRAM

(version as of October 23, 2023)

## THURSDAY, November 9, 2023

8h30-9h15 | **Coffee & Registration** (*Espace Capable*)

9h15-9h30 | **Welcome to TAI 2023** (*Theatre*)

9h30-10h15 | **Keynote session #1** (*Theatre*)

***“The delicate art of determining electricity resource adequacy”***

**Pr. Derek W Bunn** | London Business School



10h15-10h30 | **Coffee Break** (*Espace Capable*)

10h30-12h30 | **Parallel sessions 1a 1b**

### **Session 1a – Hydropower and water** (*Room SD.206*)

Chair: Julian Ancel, CentraleSupélec, Climate Economics Chaire, France

#### **1- Revisiting hierarchical planning for hydropower plant upgrades using semi-analytical policies**

Presenter: Stein-Erik Fleten, NTNU

Authors: Andreas Kleiven, Selvaprabu Nadarajah, Stein-Erik Fleten

#### **2- Equilibrium problem applied to water markets**

Presenter: Steven A. Gabriel, UMD/NTNU/Aalto

Authors: Steven A. Gabriel

#### **3- What is the value of demand-response in stressed power systems? Insights from a hydropower viewpoint.**

Presenter: Julien Ancel, CentraleSupélec, Climate Economics Chaire

Authors: Julien Ancel, Olivier Massol

### **Session 1b – Decarbonization and Transport Systems** (*Room SC.071*)

Chair: Björn Steigerwald, TU-Berlin

#### **1- Public charging infrastructure requirements for Long-haul Battery Electric Trucks (LBETs) considering environmental targets of EU countries**

Presenter: Reema Bera Sharma, Chalmers University of Technology, Gothenburg, Sweden

Authors: Reema Bera Sharma, Wasim Shoman, Niklas Lundblad, Frances Sprei, Sonia Yeh

#### **2- Day-ahead and reserve prices in a renewable-based power system**

Presenter: Laureen Deman, Univ. of Grenoble Alpes

Authors: Laureen Deman, Afzal S. Siddiqui, Cédric Clastres, Quentin Boucher

### **3- Decentralized storage and information systems**

Presenter: Diego Cebreros, CentraleSupélec

Authors: Diego Cebreros, Arnaud Destaraca, Marc Olivier Metais, Alejandro Rojano, Yannick Perez, Jan Lepoutre, Francisco Ramos, Pascal da Costa

### **4- Assessment of Integrated Assessment Models**

Presenter: Björn Steigerwald, TU-Berlin

Authors: Björn Steigerwald, Jens Weibezahn, Christian von Hirschhausen, Christian Breyer

12h30-14h00 | **Lunch** (*Espace Capable*)

14h00-16h00 | **Parallel sessions 2a 2b**

#### **Session 2a – Flexibility and storage** (*Room SD.206*)

Chair: Camille Megy, CentraleSupélec

##### **1- Integrated Operational Planning of Stand-Alone Battery Storage using Stochastic Dual Dynamic Programming in Residential Community**

Presenter: Pattanun Chanpiwat, Chulachomklao Royal Military Academy

Authors: Pattanun Chanpiwat, Fabricio Oliveira, Steven A. Gabriel

##### **2- Optimal Trading Strategies for Battery Storages in Reserve and Spot Markets under Uncertainty using SDDP**

Presenter: Paul E. Seifert, NTNU

Authors: Paul E. Seifert, Emil Kraft, Steffen J. Bakker, Stein-Erik Fleten

##### **3- Assessing the need for seasonal and pluriannual energy transfer in high variable renewable energy power systems**

Presenter: Sébastien Pezza, EDF

Authors: Sébastien Pezza, Sandrine Selosse, Edi Assoumou, Caroline Bono, Fabien Bricault

##### **4- Examining the Competition between Power-to-Gas and Energy Storage: Insights from a Stochastic Dynamic Model**

Presenter: Camille Megy, CentraleSupélec

Authors: Ange Blanchard, Camille Megy

#### **Session 2b – Modeling Power Markets** (*Room SC.071*)

Chair: Marina Dietze Monteiro, PUC-Rio/NTNU

##### **1- Analysis of Short-Run and Long-Run Marginal Costs of Generation in the Power Market**

Presenter: Shamim Homaei, NTNU

Authors: Shamim Homaei, Asgeir Tomasgard, Simon Roussanaly

##### **2- Electricity-market design**

Presenter: Ramteen Sioshansi, Carnegie Mellon University

Authors: Yuzhou Jiand and Ramteen Sioshansi

##### **3- Modeling binary constraints in a Cournot equilibrium model for a electricity market**

Presenter: Mel Devine, University College Dublin

Authors: Mel Devine, Muireann Lynch

#### **4- A Novel Semiparametric Structural Model for Electricity Forward Curves**

Presenter: Marina Dietze Monteiro, PUC-Rio/NTNU

Authors: Marina Dietze Monteiro, Iago Chávarry, Ana Carolina Freire, Davi Valladão,  
Alexandre Street, Stein-Erik Fleten

16h00-16h15 | **Coffee Break** (*Espace Capable*)

16h15-17h00 | **Keynote session #2** (*Theatre*)

***“Energy Policy Modeling Under Uncertainty: the Case of  
the Inflation Reduction Act”***

**Pr. James Bushnell | UC Davis**



19h-22h | **Networking event**

#### **Bar Restaurant Le P'tit Louis**

*35 rue Descartes, 75005 Paris*



## FRIDAY, November 10, 2023

8h30-9h30 | **Coffee & Registration** (*Espace Capable*)

9h30-10h15 | **Keynote session #3** (*Theatre*)

**“The role of contracts for the energy decarbonization”**  
Dr. Andreas Ehrenmann | ENGIE



10h15-10h30 | **Coffee Break** (*Espace Capable*)

10h30-12h30 | **Parallel sessions 3a 3b**

### **Session 3a – Risk Modeling** (*Room SD.206*)

Chair: Ange Blanchard, CentraleSupélec

#### **1- Market design for risk-averse hydropower**

Presenter: Viviane Aubin, NTNU

Authors: Viviane Aubin, Magnus Korpås, Stein-Erik Fleten, Arild Helseth

#### **2- Risk Measures in Energy Markets with Market Power**

Presenter: Dáire Byrne, UCD

Authors: Dáire Byrne, Mel Devine

#### **3- Climate policy effects on power systems with incomplete markets for risk**

Presenter: Emil Dimanchev, NTNU

Authors: Emil Dimanchev, Steven Gabriel, Magnus Korpås

#### **4- Examining the Potential Market Power of Vehicle-to-Grid Aggregators: A Game-Theoretic Approach**

Presenter: Ange Blanchard, CentraleSupélec

Authors: Ange Blanchard

### **Session 3b – Capacity Expansion Planning** (*Room SC.071*)

Chair: David Lowing, CentraleSupélec

#### **1- Optimal transmission expansion planning in the context of renewable energy integration policies**

Presenter: Nikita Belyak, Aalto University

Authors: Nikita Belyak, Steven A. Gabriel, Nikolay Khabarov, Fabricio Oliveira

#### **2- EV charging load in California**

Presenter: James Bushnell, UC Davis

Authors: James Bushnell and al

#### **3- CCS deployment infrastructure in India**

Presenter: Adrien Nicolle, CentraleSupélec

Authors: Adrien Nicolle, Stephanie Monjon, Olivier Massol

#### **4- Cost allocation in energy distribution networks**

Presenter: David Lowing, CentraleSupélec

Authors: David Lowing

12h30-14h00 | **Lunch** (*Espace Capable*)

14h00-16h00 | **Parallel sessions 4a 4b**

**Session 4a – Hydrogen & Gas Markets** (*Room SD.206*)

Chair: Christian von Hirschhausen, TU Berlin/DIW Berlin

**1- Some theoretical results for gas markets using complementarity theory**

Presenter: Steven A. Gabriel, UMD/NTNU/Aalto

Authors: Steven A. Gabriel, Dominic Flocco, & al.

**2- Some numerical insights for the Brazilian Gas Markets using complementarity theory**

Presenter: Dominic Flocco, University of Maryland

Authors: Dominic Flocco, Steven A. Gabriel & al.

**3- Hydrogen and Natural Gas Modelling**

Presenter: Lukas Barner, TU Berlin/DIW Berlin

Authors: Lukas Barner

**4- Long-term development of european Natural gas markets – scenario analysis using the global gas model**

Presenter: Christian von Hirschhausen, TU Berlin/DIW Berlin

Authors: Christian von Hirschhausen, Lukas Barner, Franziska Holz, Claudia Kemfert, Björn Steigerwald

**Session 4b – Decarbonization, Transport System and Storage** (*Room SC.071*)

Chair: Björn Steigerwald, TU Berlin

**1- Long-term storage in the long term: A decomposition approach to model decarbonized energy systems over multiple decades**

Presenter: Felix Schmidt, DIW Berlin

Authors: Felix Schmidt

**2- Charging/fueling infrastructure planning**

Presenter: Antonia Golab, TU Wien

Authors: Antonia Golab, Steffen Bakker, Sebastian Zwickl-Bernhard, Jonas Martin, Hans Auer

**3- Economic potential of battery storage for grid expansion under high renewable penetration**

Presenter: Adrienne de Bazelaire, CentraleSupélec

Authors: Adrienne de Bazelaire

**4- The Potential of Nuclear Power in the Context of Climate Change Mitigation - A Techno-Economic Reactor Technology Assessment**

Presenter: Björn Steigerwald, TU Berlin

Authors: Fanny Böse, Alexander Wimmers, Björn Steigerwald, Christian von Hirschhausen

16h00-16h15 | **Closure of TAI 2023** (*Espace Capable*)