



**THE ENERGY TRANSITION**  
THE ROLE FOR SUSTAINABLE CARBON  
CAGLIARI, ITALY 16-18 NOVEMBER 2022

# WORKSHOP ON THE ENERGY TRANSITION

CAGLIARI, SARDINIA, ITALY



INTERNATIONAL CENTRE FOR  
SUSTAINABLE CARBON

Technology Collaboration Programme  
by **iea**

## DAY 1 - WEDNESDAY 16<sup>TH</sup> NOVEMBER

### 08:30 REGISTRATION

#### 09:30-11:00 SESSION 1 – WELCOME AND KEYNOTE ADDRESSES

09:30-10:30 Welcome and keynote address by Sotacarbo  
MARIO PORCU (Sotacarbo, Italy)

Welcome and keynote address by ICSC  
ANDREW MINCHENER (ICSC, UK)

Welcome and keynote address by Sardinian Region  
(RAS – Sardinia Regional Government, Italy)

#### 10:30-11:30 SESSION 2 – TRANSITION: SOCIAL INCLUSIVITY AND TECHNICAL VIABILITY

10:30-11:00 Public acceptability – decarbonisation project through an environmental justice lens  
NIALL DUNPHY (University of Cork, Ireland)

11:00-11:30 2022: a decisive year for CCU in EU Climate Policies  
TUDY BERNIER (CO<sub>2</sub> Value Europe, Belgium)

### 11:30-11:50 COFFEE BREAK

#### 11:50-13:00 SESSION 3 – ENERGY TRANSITION STRATEGIES I

11:50-12:25 Italian strategies for energy transition  
MARCELLO CAPRA (Ministry of Ecological Transition, Italy)

12:25-13:00 Australia's energy transition  
ALEX WONHAS (EnergyCo NSW, Australia)

### 13:00-14:00 LUNCH

#### 14:00-17:30 SESSION 4 – ENERGY TRANSITION STRATEGIES II

14:00-14:30 Outlook for the global energy sector and energy transitions  
CARL GREENFIELD (IEA, France)

14:30-15:00 NEDO's Activities on Technology Developments for Carbon Recycling/CCUS  
MAKOTO NUNOKAWA, TAKUYA KANDA, (NEDO, Japan)

15:00-15:45 USA's energy transition roadmap  
JEN WILCOX (USDOE, USA)

### 15:45-16:00 COFFEE BREAK

#### 16:00-17:00 SESSION 5 – ENERGY TRANSITION STRATEGIES III

16:00-16:30 South Africa's energy transition roadmap  
TITUS MATHE (SANEDI, South Africa)

16:30-17:00 Just energy transition programme case study – TEJ for Santa Catarina State, Brazil  
FERNANDO LUIZ ZANCAN, (BRAZILIAN COAL ASSOC, Brazil)

17:00 CLOSE

19.45 Workshop dinner hosted by Sotacarbo

## DAY 2 – THURSDAY 17<sup>TH</sup> NOVEMBER

### 09:00-10:40 SESSION 6 – LOW-CARBON FLEXIBILITY TO SUPPORT VRE

- 09:00-09:25 Low carbon grid balancing  
MAI BUI (Imperial College, UK)
- 09:25-09:50 The Australian grid – transition at lowest cost  
NOEL SIMENTO (ANLEC, Australia)
- 09:50-10:15 Greenfield PC plants designed for flexible operation  
MARC TURNER (NETL, USA)
- 10:15-10:40 Global status of BECCS  
JENNY JONES (University of Leeds, UK)

### 10:40-11:00 COFFEE BREAK

### 11:00-13:05 SESSION 7 – LOW-CARBON HYDROGEN TECHNOLOGIES

- 11:00-11:25 Options for net zero emissions hydrogen and ammonia from Victorian lignite  
DAVID MCMANUS (Australian Carbon Innovation, Australia)
- 11:25-11:50 Production of turquoise H<sub>2</sub> and high valued hydrocarbons from biogas  
ASHTON SWARTBOOI (CSIR, South Africa)
- 11:50-12:15 Advanced technologies and materials for sustainable fuels production  
ALBERTO PETTINAU (Sotacarbo, Italy)
- 12:15-12:40 Energy independence for decarbonisation  
CARLO MANCONI (H<sub>2</sub>D Energy, Italy)
- 12:40-13:05 Hydrogen valley as value chain promoter  
FRANCESCO REDA (VTT, Finland)

### 13:05-14:00 LUNCH

### 14:00-15:50 SESSION 8 – BRIDGING THE GAP

- 14:00-14:30 De-risking and scale up of hydrogen technologies to enable the transformation to a net-zero energy future  
BRIAN ANDERSON (NETL, USA)
- 14:30-15:00 IPCC Climate change 2022 report  
ELENA VERDOLINI (IPCC WG III, Italy)
- 15:00-15:25 The role of ammonia in the energy transition  
QIAN ZHU (ICSC, UK)
- 15:25-15:50 Methanol production and markets  
SARAH LAI (Sotacarbo, Italy)

### 15:50-16:05 COFFEE BREAK

### 16:05-17:25 SESSION 9 – CAN COAL BE SUSTAINABLE?

- 16:05-16:35 Coal in the new carbon age  
RANDALL ATKINS (Ramaco Carbon, USA)
- 16:35-17:00 Carbon products  
IAN REID (ICSC, UK)
- 17:00-17:25 Can coal be sustainable?  
NAUSHAAD HARIPERSAD (Eskom, South Africa)
- 17:25-17:45 CLOSING REMARKS  
DEBO ADAMS (ICSC, UK), GIANNI SERRA (Sotacarbo, Italy)

## DAY 3 – FRIDAY 18<sup>TH</sup> NOVEMBER

**09:00-13:00 MORNING SITE VISIT (09.00-13.00)**

The visit will include:

### 1 – SOTACARBO RESEARCH CENTRE FACILITY TOUR (PLANTS AND LABORATORIES)

Sotacarbo, a public-owned R&D company operating in low-carbon energy conversion technologies, has represented Italy in the IEA's ICSC TCP since 1989. The Sotacarbo Research Centre located in the former Serbariu coal mine has advanced laboratories and a pilot platform to develop – from laboratory to pilot and demonstration scale – gasification technologies, solvents for CO<sub>2</sub> capture, advanced catalysts and processes for CO<sub>2</sub> conversion into renewable fuels, and advanced monitoring systems for CO<sub>2</sub> geological storage applications.

<https://www.sotacarbo.it/it/2017/02/laboratori-centro-ricerche/>



### 2 – THE ITALIAN MUSEUM OF COAL TOUR

Serbariu coal mine, active from 1937 to 1964, fuelled the economic growth of Sardinia and especially the Sulcis local area and was one of the main energy resources in Italy between the 1930s and the 1950s. The complex was restored and now it comprehends the Sotacarbo Research Centre and the Italian 'Museo del Carbone', which includes the the underground tour, the winch room and the lamp room, which houses a permanent exhibition on the history of coal, the mine and the town of Carbonia; it's a large room where you can admire a valuable collection of mine lamps, work tools, instruments and everyday objects, and see photographs, documents, period films and video interviews with some miners.

<https://www.museodelcarbone.it/en/>



## ORGANISED BY



INTERNATIONAL  
CENTRE FOR  
**SUSTAINABLE  
CARBON**



**SOTACARBO**

SUSTAINABLE ENERGY  
RESEARCH CENTRE



REGIONE AUTÓNOMA DE SARDIGNA  
REGIONE AUTONOMA DELLA SARDEGNA

Funded by the Autonomous Region of Sardinia (RAS)