



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 16TH 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

Chair: Gianni Serra

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 (CO₂ Value Europe, Belgium)

11:30-11:50 COFFEE BREAK

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

Chair: Andrew Minchener

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

Chair: Noel Simento

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

Chair: Alberto Pettinau

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 17TH NOVEMBER

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

Chair: Debo Adams

- 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

Chair: Jenny Jones

- 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 H₂ 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 (H₂D 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

Chair: Mai Bui

- 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?

Chair: Noel Simento

- 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 18TH NOVEMBER

09:00-13:00 MORNING SITE VISIT

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 CO₂ capture, advanced catalysts and processes for CO₂ conversion into renewable fuels, and advanced monitoring systems for CO₂ 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**



REGIONE AUTÓNOMA DE SARDIGNA
REGIONE AUTONOMA DELLA SARDEGNA

Funded by the Autonomous Region of Sardinia (RAS)