12TH CARBON DIOXIDE UTILIZATION SUMMIT
Advancements in CO2 Utilization and its Application to Industry

KEY TOPICS:
- Government Policy and its Impact On CO2 Utilization
- CO2 Utilization in the Oil and Gas Industry
- CO2 Derived Chemicals and their Application
- Synthetic Fuels: Driving the Future
- Building CO2 into Construction
- Conversion Processes of CO2
- Life Cycle Assessment

WITH THANKS TO OUR SPONSORS:

inventys

oco
Use, Don’t Waste, Carbon Dioxide

BIOFERM™
ENERGY SYSTEMS

27-28 February 2019
Houston, Tx, USA

FOR COMMERCIAL & SPONSORSHIP ENQUIRIES
Karel Krticka +44 2031410628 or Karelk@acienv.net
ACI’s 12th Carbon Dioxide Utilization Summit 2019 will follow on from our successful series of conferences focusing on the reuse of green house gas CO2 and converting this into profitable sustainable materials. The two day conference brings together senior experts from various CO2 emitting industries discussing the sustainable, technological and commercial aspects of CO2 Utilization in North America and across the globe. With technology comparisons focusing on economic, environmental and social indicators, our panel of speakers will highlight knowledgeable insights into commercial developments and application.

Opportunities to Meet your Target Audience:

For information on available sponsorship and commercial opportunities, please contact Karel Kriticka:

Tel: +44 (0)20 3141 0628
Email: KarelK@acieu.net

Who Should Attend:
Senior representatives from chemical, construction, oil and gas companies, technology developers and providers, algae production companies, petro-chemical manufacturers, research organisations, Non Government Organisations and market representatives.

Previous Attendees Include:


SITE VISIT - Petra Nova Facility
Tuesday, 26th February

During the afternoon of 26th of February, a day before the conference, a group of attendees will get an opportunity to visit the Petra Nova Facility near Houston, Texas.

Carbon capture extends the life of mature oil fields—playing an important role in our country’s domestic economy.

Overall, the project represents an accomplishment for cleaner energy today and a proven vision for how we can enhance coal-powered technology for the future.

There is no extra charge to join the site visit, although places are limited and allocated to conference delegates on first come first served basis.

Site visit attendance is subject to approval from site operators.

Therefore, we would strongly suggest to book your place early to avoid disappointment.

SPEAKING OPPORTUNITIES:

If you would like to be considered as a speaker for the event with a 30-45 minute presentation, please submit an abstract to Daniel Laverty

Tel: +44 (0)20 3141 0612 Email: dlaverty@acieu.net

Registration is Simple:

If you would like to register for this event or wish to find out more information, you can contact Rohan Baryah by using any of the following methods:

+48 61 646 7022
rbaryah@acieu.net
http://www.acieu.net
Postal Address
ACI Europe, 10 Gough Square, London, EC4A 3 DE
DAY 1
Wednesday 27th February 2019

08:00 REGISTRATION & COFFEE

09:00 CHAIRMAN’S OPENING REMARKS

09:15 SESSION ONE
Government Policy as a Commercialisation Driver for CO₂ Utilisation
- Governments introducing CO₂ policies to reduce emissions
- 45Q tax credit: A potential game changer in R&D for CO₂ utilisation
- 45Q tax credit: Assessing the benefits
- Lessons learnt from California’s Low Carbon Fuel Standard. Pushing clean energy technology from the margins towards the mainstream

Lynn Brickett
Technology Manager
National Energy Technology Laboratory - NETL

Matt Lucas
Associate Director for Carbontech
Carson180

Brad Crabtree
Policy Director
Great Plains Institute

11:05 MORNING REFRESHMENTS

11:35 SESSION TWO
CO₂ Utilization in the Oil and Gas Industry
- Looking at EOR as a cost effective way of utilizing CO₂
- EOR and how it is maximising oil productivity
- The environmental implications of using CO₂ in EOR
- The benefits of a closed loop process from EOR

Desirable Approach to Establishing Government Policy for Reduction of Human-induced Carbon Emission
- Conceptual Framework for Establishing Policy
- Policy Formation for Reducing Human-induced Carbon Emission
- Governance System in the Process of Establishing Policies
- Analysis of policy efficiency and effectiveness

Dai-Yeun Jeang
Director
Asia Climate Change Education Center

13:25 BUILDING A PHYSICAL CO₂ MARKETPLACE
- To reduce the capture cost by a factor of two compared to first generation technology
- To focus the market entry on CO₂ monetization at scale of 30-600 TPD (distributed CO₂ supply)
- The environmental implications of using CO₂ in EOR

Claude Letourneau
CEO
Inventys, Inc.

John Marnano
President
JM Energy Consulting

14:25 SESSION THREE
CO₂ Derived Chemicals and their Application
- Manufacturing solvents through gas fermentation
- Benefits of CO₂ as a green solvent compared to conventional hydro-carbon based solvents
- CO₂ based polyols as a substitute feedstock for plastic production
- The benefits of CO₂ based polyols over conventional petroleum based polyols
- Mineral carbonation of CO₂ and its applications

Empower Materials - Polyalkylene Carbonates
- History of Polyalkylene Carbonates
- Present Status of Polyalkylene Carbonates
- Empower Materials
- Industry overall
- Future Plans for Polyalkylene Carbonates
- Empower Materials
- Industry overall

Peter Ferraro
Director of Business Development
Empower Materials

Todd Brix
CEO
OCO Corporation

LEADERS IN CONFERENCE PLANNING & PRODUCTION
www.wplgroup.com/aci
LEADERS IN CONFERENCE PLANNING & PRODUCTION

12TH Carbon Dioxide Utilization Summit 2019
Houston, Texas, USA

Biological Carbon Dioxide Utilization (CDU)
Technology for the Production of Low Cost Industrial Chemicals Utilizing Photosynthesis

- Our solar chemical CDU technology utilizes photosynthesis to directly convert CO2 into industrial chemicals and fuels
- Phytonix uses cyanobacteria to produce solar chemicals such as butanol and octanol from CO2 feedstock
- The Phytonix process directly reduces green house gas (GHG) emissions at the rate of 1 tonne CO2 per 137 gallons of biobutanol produced
- We expect our carbon negative process to produce cost leadership industrial chemicals at less than half the cost of the incumbent fossil producers
- Provides a solar energy storage solution far more economical and superior to batteries with a negative carbon footprint
- Full global deployment could significantly reduce annual anthropogenic carbon dioxide emissions

Bruce Dannenberg
President & CEO
Phytonix Corporation

DAY 2
Thursday 28th February 2019

08:30
REGISTRATION & COFFEE

09:00
CHAIRMAN’S OPENING REMARKS

09:05
CONFERENCE PRESENTATION
Global Status of CCS: 2018

Patricia Loria
Senior Client Engagement Lead
Global CCS Institute

09:50
SESSION FIVE
Building CO₂ into Construction

- Harnessing waste CO₂ within the construction industry
- CO₂ converted carbonates a valued building product
- Environmental assessment of CO₂ as lightweight aggregate
- The benefits of CO₂ fixation in cement

Dr Gaurav N Sant
Associate Professor
UCLA Engineering
Director of Institute for Carbon Management

10:55
MORNING REFRESHMENTS

11:25
SESSION SIX
Conversion Processes of CO₂

- Green energy and its potential to reduce the cost CO₂ conversion
- Advances in electrolysis and its impact on industry
- Using low solar energy conversion for CO₂
- Bringing concentrated CO₂ sources together for effective utilisation
- Application of technology to industry. A way to create new products

Ron Chance
Executive Vice President
Algenol Biotech

CLOSE OF DAY ONE

For Speaking Opportunities Please Contact
Daniel Lovery
dlovery@aci.eu.net
+44 (0)203 141 0612

www.wplgroup.com/aci
Gas Fermentation for the Commercial Production of Low Carbon Fuels & Chemicals Through Waste Recycling

- C1 fermentation for ethanol production at commercial scale
- Catalytic upgrading of ethanol to jet fuel
- CO2/H2 based 2 step fermentations for lipid productions
- Applications for electrolyzers in gas fermentation for enhanced carbon capture

Christophe L. Mihalcea
Director Fermentation
LanzaTech

Alfonso Schulte
CEO
BIOFerm - Carbotech

Jeff Moore
Institute Engineer
Southwest Research Institute

LUNCH

14:15
SESSION SEVEN
Life Cycle Assessment

- Utilising LCA as a tool to recognise potential and environmental benefits of CO2 utilisation
- LCA as drives of CO2 utilisation technology
- Benefits of LCA in the development of sustainable products

Michele Mutchok
Senior Engineer
National Energy Technology Laboratory - NETL

CHAIRMAN’S CLOSING REMARKS

15:30
END OF CONFERENCE & AFTERNOON REFRESHMENTS

15:35
Registration Is Simple
If you would like to register for this event or wish to find out more information, you can contact Rohan Baryah using any of the following methods:

+48 (0)616 467 022
baryah@acieu.net
http://www.acieu.net

Postal Address:
ACI Europe; 5/13 Great Suffolk Street, London, SE1 ONS

Pricing

<table>
<thead>
<tr>
<th>Conference (Includes Documentation Packet)</th>
<th>$2,395.00</th>
</tr>
</thead>
<tbody>
<tr>
<td>27th &amp; 28th February 2019</td>
<td></td>
</tr>
<tr>
<td>Documentation Packet Only</td>
<td>$615.00</td>
</tr>
</tbody>
</table>

Please Note.
Members and customers of all supporting organizations are entitled to a discount off their conference package.

For more information please call +48 (0)616 467 022

Documentation Packet Available
We are selling the 12th Carbon Dioxide Utilization Summit papers at just $525 (+$30 P&P). Simply tick the box on the booking form, send it with payment and your copy will be on its way to you after the meeting.
This important manual will be a source of invaluable reference for the future.

About ACI
ACI, a UK owned company, has been running successful conferences in the USA since 1999. Headquartered in Chicago with offices all around the States, ACI opened its European head office at the end of 2005 and has expanded rapidly, launching a series of events in key industries including maritime, energy, oil & gas, cosmetics, chemicals & media.

Terms & Conditions

Payment
Payment must be received within five business days of returning the signed contract. After receiving payment a VAT receipt will be issued. If you do not receive a letter outlining details two weeks prior to the event, please contact the Conference Coordinator at ACI Europe Ltd.

Discounts are available for multiple/group bookings. Please call +48 (0)616 467 022

Cancellations
Substitutions are welcome up to 24 hours prior to the event. Cancellations must be received in writing no less than 3 weeks prior to the start of the conference; a full credit voucher towards a future ACI conference will be issued. Any cancellation received less than 3 weeks prior to the start of the event shall be deemed to be a breach of this contract by client, and accordingly, no credits will be given. Cancellations must be received in writing by mail or fax three weeks before the conference. Thereafter the full conference fee is payable. If for any reason ACI Europe Ltd decides to amend, cancel or postpone this conference, the conference fee will not be refunded. Furthermore, ACI Europe Ltd will not be responsible for covering airfare, hotel or other costs incurred by registrants. In the event that ACI Europe Ltd cancel or postpone the event, ACI Europe Ltd reserves the right to transfer this booking to another conference to be held in the following twelve months, or to provide a credit of an equivalent amount to another conference within the following twelve months. The construction, validity and performance of this agreement shall be governed in all respects by the laws of England to the exclusive jurisdiction of whose courts the Parties hereby agree to submit.

Accommodation
The cost of accommodation is not included in the event fee. Preferential rates will be arranged with or near the event venue, and all confirmed delegates will be given details of how to book accommodation at this rate in due course.

Media Partners

[Media Partner Logos]