10th Carbon Dioxide Utilization Summit
28th Feb-1st March, Tampa, FL, USA

Existing & Potential CO2 Re-Use - Exploring The Evolving Field

KEY TOPICS

- Identifying and Forecasting Market Opportunities
- Regulatory Developments and Impact on CO2 Utilization
- CO2 Bio Conversion to Biobased Chemicals and Biofuels
- Techno-Economic Analysis and Life Cycle Assessment of Large-Scale Algae Production
- Enhanced Oil Recovery (EOR) Implementation Strategies and Technologies in Oil & Gas Industry
- Electrochemical Reduction of CO2
- CO2 Conversion to Plastic Materials
- CO2 Conversion to Nutrition Products
- Converting CO2 into Green Building Materials

EXCLUSIVE SITE VISIT

During the afternoon of Tuesday 27th February 2018, a limited number of conference attendees will have the opportunity to attend an exclusive site visit to Algenol Biotech in Fort Myers, Florida. There is no extra charge to attend the site visit. Please register your attendance for the site visit when booking for the conference. Hurry! Spaces for the site visit are limited and allocated on a first come, first served basis.

FOR COMMERCIAL & SPONSORSHIP OPPORTUNITIES PLEASE CONTACT: DIMITRIS LETSIOS
TEL: 44 (0)20 3141 0628 EMAIL: DLETSIOS@ACIEU.NET

FOR MORE INFO & REGISTRATION, PLEASE CONTACT: ROHAN BARYAH
TEL: 48 (0)61 646 7022 EMAIL: rbaryah@acieu.net
ACI’s 10th Carbon Dioxide Utilization Summit 2018 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.

This 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 from pilot stage to full scale production.

**Exclusive Site Visit Details:**

**Algenol Biotech Plant in Fort Myers**

During the afternoon of Tuesday 27th February 2018, a limited number of conference attendees will have the opportunity to attend an exclusive site visit to Algenol Biotech in Fort Myers, Florida. Algenol is an industrial biotechnology company that is commercializing patented algae technology for production of biofuels and other products. The Fort Myers facilities include a fully equipped genetic engineering laboratory, engineering R&D laboratories, algae growth facilities extending from small scale laboratory to large scale (acres) outdoors, as well as a photobioreactor manufacturing plant. There is no extra charge to attend the site visit. Please register your attendance for the site visit when booking for the conference. There is no extra charge to attend the site visit. Please register your attendance for the site visit when booking for the conference.

Hurry! Spaces for the site visit are limited and allocated on a first come, first served basis.

**Confirmed Topics for Discussion:**

- Identifying and Forecasting Market Opportunities
- Regulatory Developments and Impact on CO2 Utilization
- CO2 Bio Conversion to Biobased Chemicals and Biofuels
- Techno-Economic Analysis and Life Cycle Assessment of Large-Scale Algae Production
- Electrochemical Reduction of CO2
- Converting CO2 into Green Building Materials

**Opportunities to Meet your Target Audience:**

For information on available sponsorship and commercial opportunities, please contact Dimitris Letsios:

Tel: +44 (0)20 3141 0628 or
Email: dletsios@aci-eu.net

**For Speaking Opportunities:**

Please contact: Dana Mukanova
Tel: +44 (0) 20 3141 0611
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**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 0 616 467022
- rbaryah@aci-eu.net
- http://www.acius.net
- Postal Address:
  - ACI Europe, 10 Gough Square, London, EC4A 3 DE

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**Site Visit Itinerary:**

12:30—Depart conference hotel—Tampa, Florida
14:30—Welcome address & guided tour of plant facilities
16:30—Depart from Fort Myers, Florida
18:30 —Arrival back at conference hotel —Tampa, Florida
10th Carbon Dioxide Utilisation Summit
Tampa, Florida, USA

DAY 1
Wednesday 28th February

08:00  REGISTRATION & COFFEE

09:00  CHAIRMAN’S OPENING REMARKS

Bruce Dannenberg
President & CEO
Phytonix Corporation

09:15  CONFERENCE PRESENTATION
C02 Utilization: Identifying and Forecasting Market Opportunities

- Climate change and global warming mitigation via utilization of carbon dioxide
- Global challenges and strategies for control, conversion and utilization of CO2 for sustainable development
- CO2 utilization perspective as an investment opportunity

Matt Lucas
Associate Director
Center of Carbon Removal

10:00  SESSION ONE
Regulatory Developments and Impact on CO2 Utilization

- Roadmap for the Global Implementation for Carbon Utilization technologies CO2 utilisation
- Overview of the current U.S. Department of Energy’s (DOE’s) Office projects of Fossil Energy focused on novel uses of CO2
- Updates on fiscal policy effecting CO2 extraction and transportation: Carbon taxes and its possible implementation in eight other USA states
- Government procurement and its demand for emerging technologies

John Litynski
CCS Division Director (Acting)
U.S. DOE Office of Fossil Energy

Fatima Maria Ahmad
Solutions Fellow
Center of Climate and Energy Solutions

11:00  Panel Q&A

11:15  MORNING REFRESHMENTS

11:45  SESSION TWO
CO2 Bio Conversion to Biobased Chemicals and Biofuels

Carbon Capture and Utilization in an Algae-Based Biorefinery: Current State of Technology and Projected Deployment timelines

- CO2 capture and utilization: Photosynthetic efficiency and productivity targets
- CO2 recycling by microalgae and cyanobacteria
- Drivers and issues of biofuels and industrial chemical production
- Key considerations for biofuels and industrial chemical production
- Cost and carbon footprint on an energy to wheel basis
- Metabolic pathway for ethanol and butanol production

Ron Chance
Executive Vice President
Head of Engineering
Algenol Biotech

12:15  TECHNOC-O-ECONOMIC ANALYSIS AND LIFE CYCLE ASSESSMENT OF LARGE-SCALE ALGAE PRODUCTION

- Beneficial utilization of CO2 with Microalgae: Products, Economics and Potential
- Microalgae, unlike higher plants, require enriched CO2 sources for large-scale production.
- Economics currently limit commodities to co-production with wastewater treatment (water reclamation)
- Products can be commodities (reclaimed water, fuels, feeds, fertilizers) and higher value specialties.

John Benemann
CEO
MicroAlgae Engineering

12:45  Panel Q&A

13:00  LUNCH
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14:00 SESSION THREE
CO2 Conversion into Fuels
- Emerging CO2 sources
- The key to economic conversion of CO2 to renewable fuels
- Technical development of CO2 to methanol
- Maximizing opportunities of market access of CO2 to methanol
- Utilization of CO2 hydrogenation by solar power: Light-driven reaction converts carbon dioxide into fuel
- Biological gas conversion to capture a wider field

Laura Nereng
Sustainability and Business Development Leader
3M

CO2 to fuels and chemical, gas fermentation for a circular economy
CO2 as carbon source for fuel and chemical production
Process scale up and commercialization
Use of numerous feed stocks, including industrial waste gases, MSW, biomass, and CO2
Electrolyzers for CO2 reduction; applications for gas fermentation

Christophe Mthalcea
Director, Fermentation
Lenze Technologies

DAY 2
Thursday 1st March 2018

08:30 REGISTRATION & COFFEE

09:00 CHAIRMAN’S OPENING REMARKS
Bruce Dinnenberg
President & CEO
Phytonix Corporation

09:10 SESSION FIVE
- Estimating Economic Value of Nature as a Source of Carbon Sink
- Technology-based Reduction of Carbon Emission
- Methodology of Estimating Economic Value of Nature

Dai-yeun Jeong
Director
Asia Climate Change Education Center

CO2 electrocatalysis as Key Technology for the Production of High Value Chemicals
- CO2 to high value chemicals
- Powerful electrochemical technology platform
- Support global electrification

Klaas Jan Schouten
Program Manager Electrochemistry
Avantium

Large scale algae production for biofertilizer that is used to sequester carbon in agricultural and other soils

Mark P. Allen
Vice President
Accelergy Corporation

15:15 AFTERNOON REFRESHMENTS
15:45 SESSION FOUR
Electrochemical Reduction of CO2
- Efficient electrochemical CO2 conversion to renewable energy
- Concept of conversion of carbon dioxide and water into chemical fuel using renewable electrical energy
- Breakthrough solar cell captures CO2 and sunlight, produces burnable fuel
- Artificial leaf that turns CO2 into fuel
- Development of new electrolyser capabilities

Amin Salehi-Khojin
Professor
UIC Department of Mechanical & Industrial Engineering

17:00 CLOSE OF DAY ONE
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11:00 MORNING REFRESHMENTS

11:30 SESSION SIX
Enhanced Oil Recovery (EOR): Implementation Strategies and Technologies in Oil & Gas Industry

- EOR – injecting into oil reservoirs
- Latest advancements in technology: A novel hybrid gas EOR technology
- Increasing use of CO2 for oil recovery and CO2 diversion in oil and gas reservoir
- Evaluation of CO2 purification
- The advantages of the novel advanced inexpensive CO2 technologies
- Cost reduction possibilities of CO2 transportation

Jared Ciferno
Director
Strategic Center for Natural Gas & Oil at U.S. Department of Energy

12:30 LUNCH

13:00 SESSION SEVEN
CO2 into Green Building Materials

- Producing cost effective aggregates from CO2
- A closed-loop process: Capturing carbon from power plant to create new building material
- Game changer case study: Tackle climate change by CO2 utilization for building materials

Sean Mcnkm
VP, Technology Development
CarbonCure Technologies

14:00 Lessons Learned from a Field Test
Demonstrating CO2 EOR and Geologic Storage at Wellington Field in Southern Kansas

Eugene Holubnyak
Petroleum Engineer
Kansas Geological Survey

14:30 The carbon balance evolution of CO2-EOR: an opportunity for net-carbon-negative-oil
- The CO2-EOR system boundaries: cradle to grave, gate to gate, gate to grave
- Energy intensity of the EOR site operation and its components
- Impact of oil field development practices on CO2 utilization ratios and on carbon balance
- Impact of downstream carbon emissions of carbon balance

15:00 Panel Q&A

15:30 Panel Q&A

16:35 CHAIRMAN’S CLOSING REMARKS

16:50 END OF CONFERENCE & AFTERNOON REFRESHMENTS
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
- ACI Europe, 10 Gough Square, London, EC4A 3DE

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 the 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.

Pricing

| Conference (Includes Documentation Packet) | £1,595.00 |
| Documentation Packet Only | £420.00 |

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 8th Carbon Dioxide Utilization Summit papers at just £395 (+£25 P&P). Simply tick the box on the back of this leaflet, 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.

Previous Attendees