

# 10<sup>th</sup> Carbon Dioxide Utilization Summit

28<sup>TH</sup> FEB- 1<sup>ST</sup> MARCH, TAMPA, FL, USA

Existing & Potential CO<sub>2</sub> Re-Use - Exploring The Evolving Field

## KEY TOPICS

- Identifying and Forecasting Market Opportunities
- Regulatory Developments and Impact on CO<sub>2</sub> Utilization
- CO<sub>2</sub> 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 CO<sub>2</sub>
- CO<sub>2</sub> Conversion to Plastic Materials
- CO<sub>2</sub> Conversion to Nutrition Products
- Converting CO<sub>2</sub> 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](mailto:DLETSIOS@ACIEU.NET)

FOR MORE INFO & REGISTRATION, PLEASE CONTACT: **ROHAN BARYAH**  
TEL: 48 (0)61 646 7022 EMAIL: [rbaryah@acieu.net](mailto:rbaryah@acieu.net)

ACI's 10th Carbon Dioxide Utilization Summit 2018 will follow on from our successful series of conferences focusing on the re-use of green house gas CO<sub>2</sub> and converting this into profitable sustainable materials.

This two day conference brings together senior experts from various CO<sub>2</sub> emitting industries discussing the sustainable, technological and commercial aspects of CO<sub>2</sub> 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

## 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.

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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

## Confirmed Topics for Discussion:

- Identifying and Forecasting Market Opportunities
- Regulatory Developments and Impact on CO<sub>2</sub> Utilization
- CO<sub>2</sub> Bio Conversion to Biobased Chemicals and Biofuels
- Techno-Economic Analysis and Life Cycle Assessment of Large-Scale Algae Production
- Electrochemical Reduction of CO<sub>2</sub>
- Converting CO<sub>2</sub> 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@acieu.net](mailto:dletsios@acieu.net)

## For Speaking Opportunities:

Please contact: Dana Mukanova  
Tel : +44 (0) 20 3141 0611  
Email: [dmukanova@acieu.net](mailto:dmukanova@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 Baryan by using any of the following methods:

 +48 0 616 467022

 [rbaryan@acieu.net](mailto:rbaryan@acieu.net)

 <http://www.acius.net>

 Postal Address:

 ACI Europe, 10 Gough Square, London, EC4A 3 DE

## 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**

### **CO2 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

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

Fatima Maria Ahmad  
Solutions Fellow  
**Center of Climate and Energy Solutions**

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 ethanol cassette design
- 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

### **Techno-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  
**MicroBio Engineering**

12:45

**Panel Q&A**

13:00

**LUNCH**

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
- Carbon recycling for innovative fuels via gas fermentation

15:15

**AFTENON REFRESHMENTS**

## 15:45 SESSION FOUR

### Electrochemical Reduction of CO<sub>2</sub>

- Efficient electrochemical CO<sub>2</sub> conversion to renewable energy
- Concept of conversion of carbon dioxide and water into chemical fuel using renewable electrical energy
- Breakthrough solar cell captures CO<sub>2</sub> and sunlight, produces burnable fuel
- Artificial leaf that turns CO<sub>2</sub> into fuel
- Development of new electrolyser capabilities

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

## 17:00 CLOSE OF DAY ONE

## DAY 2

Thursday 1st March 2018

## 08:30 REGISTRATION & COFFEE

## 09:00 CHAIRMAN'S OPENING REMARKS

Bruce Dannenberg  
President & CEO  
Phytonix Corporation

## 09:10 SESSION FIVE CO<sub>2</sub> into Chemicals, Plastic Materials & Nutrition Products

- The use of CO<sub>2</sub> as a novel raw material for plastics
- CO<sub>2</sub> into food and nutrition products
- CO<sub>2</sub> electrocatalysis as a key technology for the production of high value chemicals

## 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 CO<sub>2</sub> for oil recovery and CO<sub>2</sub> diversion in oil and gas reservoir
- Evaluation of CO<sub>2</sub> purification
- The advantages of the novel advanced inexpensive CO<sub>2</sub> technologies
- Cost reduction possibilities of CO<sub>2</sub> transportation

Sayavur I. Bakhtiyarov, PhD DSc  
Professor  
New Mexico Institute of Mining and  
Technology Mechanical Engineering

## 13:20 LUNCH

## 14:20 SESSION SEVEN CO<sub>2</sub> into Green Building Materials

- Producing cost effective aggregates from CO<sub>2</sub>
- A closed-loop process: Capturing carbon from power plant to create new building material
- Game changer case study: Tackle climate change by CO<sub>2</sub> utilization for building materials

Sean Monkman  
VP, Technology Development  
CarbonCure Technologies

## 16:00 CHAIRMAN'S CLOSING REMARKS

## 16:10 END OF CONFERENCE & AFTERNOON REFRESHMENTS

### Testimonials of our past events:

*"In terms of content, administration and "networking usefulness", your conference was really outstanding and we are looking forward to participating in the conference next year to share knowledge in this fast-growing field of CO<sub>2</sub> utilization and mitigation."*

Hermann Pengg, Head of Renewable Fuels, Audi AG

*"Game Changing opportunity for the world of Carbon Capture"*

Stewart Erickson, Chairman & CEO, AG Gas

*"I found the conference very helpful and it resulted in a number of possible future collaborations for us. The format worked very well".*

Paul Wuebben, Senior Director, Renewable Fuels, Carbon Recycling International

*"The conference was a full success from my point of view. I learned a lot and I would love to run through the presentations again"*

Lothar Mennicken, Senior Scientific Officer,  
German Federal Ministry of Education And Research

*"A very good collection of speakers and attendees"*

Dermot Roddy, Chief Technology Officer, Five Quarter Energy

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1st March 2018

## Registration Is Simple

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 +48 (0)616 467 022

 [rbaryah@acieu.net](mailto:rbaryah@acieu.net)

 <http://www.acieu.net>

 **Postal Address:**  
ACI Europe, 10 Gough Square, London, EC4A 3DE

## Pricing

|  |                  |
|--|------------------|
| <b>Conference (Includes Documentation Packet)</b><br>28th February & 1st of March 2018 | <b>£1,595.00</b> |
| <b>Documentation Packet Only</b>   | <b>£420.00</b>   |

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 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.

## Previous Attendees

| Nalco Energy Services | GreenFire Energy | Ferus Inc. | Total | Research & Energy | University of Illinois at Chicago | Phytonix Corporation | Algae Fuels | Blue Planet | US Department of Energy (DOE) | SABIC | Volkswagen Group America | Skyonic Corporation | Liquid Light | 3M | BMBF | E.ON | Sunfire GmbH | ArcelorMittal Innovation | ACP Polska Sp | Aqualia | Audi AG | Avantium | Total | Gas Natural Fenosa Engineering | TECNALIA | SINTEF Energy Research | Iberdrola | Ecofys | FOM-institute DIFFER | ENEA Consulting | VITO | IPG Industrial Project Group Srl | International Energy Agency (IEA) | Climeworks AG | Bayer Material Science | DNV GL | Jagiellonian University | ETO-GAS GmbH | Five Quarter Energy Limited / Five Quarter Energy | PTT Exploration & Production PCL / PTTEP | DIFFER | Solvay SA | TNO | Energibyen, Skive | KSLA | VTT | GreenField Speciality Alcohols Inc / GreenField | RAFAKO S.A. | Bilfinger Bohr- Und Rohrtechnik GmbH | Linde AG | Institute For Energy Technology (IFE) | The Chemical Coal Processing Institute | Mitsubishi Hitachi Power Systems Europe GmbH / MitsubishiHitachi PowerSystems | Borealis Polyolefine GmbH | ON | University Of Antwerp | Joule Unlimited | Yara Int. | PTT PLC | Clariant Produkte (Deutschland) GmbH | Gas Natural Fenosa | INHA University | FCC AQUALIA, S.A. | Antwerp Port Authority | Jupiter Oxygen Corporation | OMV | Bertrandt Ingenieurbuero GmbH | Chemieanlagenbau Chemnitz GmbH | GDF Suez | CCM Research | BASF New Business GmbH | Unimore//Protosa | MARU Teknik AB | PTT Public Company Ltd | KH Engineering B.v | Naviglobe NV | & many more!