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CARBON DIOXIDE UTILIZATION SUMMIT

11 - 12 SEPTEMBER -- CALGARY, CANADA

KEY TOPICS

- Canada vs. The World: A Global CCU Assessment
- Integrating CO2 Conversion with Capture
- Role of Government in Supporting the Development & Commercialization of CO2 Utilization
- Hydrogen Innovation Challenges and Solutions
- Moving from Start-up to a Commercially Viable Company
- Emerging CO2 Utilization Technology in the Industry
- CO2 Utilization in the Oil and Gas Industry
- Using CO2 as a Chemical Feedstock
- Alternative Uses of CO2
- Converting CO2 into Building Materials

SITE VISIT

On Tuesday 10th of September, a limited number of conference delegates will receive a unique opportunity to visit Innotech's Alberta Carbon Conversion Technology Centre (ACCTC).



There is no extra charge to attend the site visit, but spaces are limited and allocated on a first come - first serve basis. Please register your attendance for the site visit when booking for the conference. More info on page 2.

Exclusive Site-visit Partner:



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For sponsorship opportunities please contact Sam Cormack on +44 20 3141 0626 or samc@acieu.net

ACI's 13th Carbon Dioxide Utilisation Summit will follow on from our successful series of conferences focusing on the reuse of the 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 Canada. With technology comparisons focusing on economic, environmental and social indicators, our panel of speakers will highlight knowledgeable insights into commercial developments and application. Furthermore the conference will delve into innovative developments and projects in the CO₂ Utilization industry.

Opportunities to Meet your Target Audience



For information on available commercial opportunities, please contact:

Sam Cormack

+44 (0) 20 3141 0626 - samc@acieu.net

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Speaking Opportunities

If you would like to be considered as a speaker, for a 20-30mins presentation, at the event please submit an abstract for consideration to:

Justine Matthys +44 20 3141 0624 / jmatthys@acieu.net

EXCLUSIVE SITE VISIT:

Innotech's Alberta Carbon Conversion Technology Centre (ACCTC)



During the afternoon of Tuesday 10th of September 2019, a limited number of conference attendees will have the opportunity to attend an exclusive site visit to the Innotech's Alberta Carbon Conversion Technology Centre in Calgary, Alberta.

Innotech's Carbon Conversion Technology Centre was recently established to test and advance carbon capture and conversion technologies that accelerate greenhouse gas emission reductions by enabling the commercially viable conversion of carbon into value-added products. The ACCTC will provide technology developers with the capabilities for testing and refining their technologies using real-life flue gas from natural gas combustion provided by the adjacent power plant.

Innotech Alberta owns and operates the ACCTC, which is being used in 2019 initially to enable the NRG COSIA Carbon XPRIZE competition testing of the finalist technologies.

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

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

Who Should Attend:

Senior representatives from chemical, construction, oil and gas companies, technology developers and providers, algae production companies, petro-chemical manufacturers, research organisation, Non Governmental Organisations and market representatives

Registration is Simple

If you would like to register for this event or wish to find out more information, please contact:

Rohan Baryah

+48 (0) 616 467 022

rbaryah@acieu.net

DAY 1

Wednesday 11th September 2019

08:00 **REGISTRATION & COFFEE**

09:00 **CHAIRMAN'S OPENING REMARKS**



Ross Chow
Managing Director -
Technology & Innovation
InnoTech Alberta



SESSION ONE

Canada vs. The World: A Global CCU Assessment

09:15 **CO2 Capture, Utilization and Storage: An Assessment of Canadian Industrial Competitiveness**

- To stabilize atmospheric CO2 concentrations, the CCUS industry will need to grow to the same physical scale as the global oil & gas business
- Canada was an early leader in CCS and could be a global leader in this new industry
- Pembina & CMC have taken an empirical look at Canadian competitiveness in CCUS relative to other countries using indicators including domestic expertise, availability of public/non-dilutive funding, policy framework, venture formation & patent activity



Jason Switzer
Co-Director
Pembina Institute

Ali Talaei
Associate
Pembina Institute

09:40 **Canada's & Alberta's Role in the Global CCU Arena**

- Canada's and Alberta's strengths in a global context
- Technical challenges
- What's next



David Van Den Assem
Senior Manager, Clean Technology
Alberta Innovates

10:05 **Alberta Carbon Trunk Line Project Overview**

- The ACTL will be the largest capacity Co2 pipeline in the world
- Infrastructure will provide the backbone to enable new CCUS in Alberta
- Currently under construction, come learn about the project



Jeff Pearson
President,
Wolf Carbon Solutions

10:30 **PANEL Q&A**

10:50 **MORNING REFRESHMENTS**

SESSION TWO

Integrating CO2 Capture with Conversion

11:20 **CO2 Capture and Utilization as a Climate Care Strategy for NOVA Chemicals**

- The approach to evaluating carbon capture and utilization technologies as an opportunity for being climate care leaders in our industry will be reviewed
- The major uncertainties that NOVA chemicals has faced which can hinder successful implementation of carbon capture and utilization technologies will be discussed
- Some of the options for addressing these uncertainties will be discussed and is the continuous focus of this work



Joanne Lake
Research Engineer, Environment
NOVA Chemicals

11:45 **From Capture to Conversion**

- What are the capture opportunities?
- What are the conversion opportunities?
- What are your "location" integration options?
- How do you make the business case?

JohnPaul Portelli
Lead, Technology Solutions & IP
Canadian Natural Resources Limited

12:10 **PANEL Q&A**

12:25 **PANEL DISCUSSION**

Role of Government in Supporting the Development & Commercialization of CO2 Utilization

- Updates & expectations on policies and regulations regarding CO2 utilization in Canada
- Discussing incentives for companies and individuals working on CO2 utilization
- Assessing current and future expectations on carbon pricing, mitigating risks and funding.



Dr. Marcius Extavour
Exec. Director & Energy Lead
XPRIZE
NRG COSIA Carbon XPRIZE



Mark Summers
Exec. Director Technology & Innovation
Emissions Reduction Alberta

Robert Savage
Assistant Deputy Minister
Alberta Climate Change Office
Alberta Environment and Parks

Alex Ip
Team Lead
CERT

Apoorv Sinha
CEO & Founder
Carbon Upcycling Technology

Jennifer Wagner
Executive Vice President of
Corporate Development
CarbonCure

13:10 LUNCH

14:10 CONFERENCE PRESENTATION A Case for a 'Made-in-Alberta' Hydrogen Economy

- Rather than a threat to Alberta's oil-based economy, vehicle electrification could be a major opportunity for the province - especially if the vehicle's electricity is generated from on-board hydrogen (H₂ using fuel-cell based drivetrains).
- H₂ fuel cell electric vehicles (HFCEV) are particularly promising as an alternative to heavy diesel engines for freight movement
- The H₂ can be made from carbon-based fuels as long as the carbon is kept out of the atmosphere.
- Moreover, compared to Alberta's current export markets for oil and gas, H₂ production and export would return to the province, two to four times the economic benefit



Dr. David Layzell
Director, Canadian Energy Systems
Analysis Research (CESAR) Initiative
University of Calgary

14:55 XPRIZE PANEL DISCUSSION Meet the Finalists of the NRG COSIA Carbon XPRIZE

- Final NRG COSIA Carbon XPRIZE phase: industrial demonstrations at the Alberta Carbon Conversion Technology Center & Wyoming Integrated Test Center in Gillette
- An update of the Carbon XPRIZE, meet the finalists & hear about their plans for pilot CO₂-conversion demonstrations in Calgary in 2019 & 2020



Dr. Marcus Extavour
Exec. Director & Energy Lead
XPRIZE
NRG COSIA Carbon XPRIZE

Stuart Licht
Founder
C2CNT

15:40 AFTERNOON REFRESHMENTS

16:10 CONFERENCE PRESENTATION Fostering Innovation for Closed Carbon Cycle Economy in Alberta with Innotech Alberta and the Alberta Carbon Conversion Technology Centre

- Support testing, advancing, and de-risking CO₂ capture and conversion technologies in real-life conditions within a semi-commercial scale
- Five outdoor test bays plus onsite office space
- Up to 25 tonnes per day of CO₂ supplied in flue gas from adjacent natural gas fired power plant
- Carbon capture capabilities to provide concentrated CO₂ if required



Harold Krenkel
Functional Manager -
Processing Technologies
Innotech Alberta



SESSION THREE Emerging CO₂ Capture & Utilization Technology in the Industry

16:55 Building a CO₂ Marketplace

- Inventys' CO₂ capture technology
- Husky 30TPD Pilot Plant
- Project CO₂MENT with LafargeHolcim in BC



Brett Henkell
Co-Founder & VP, Strategic
Accounts & Government Affairs
Inventys Inc.



17:25

The Case for Renewable Electrosynthesis from CO₂

- Outline of electrosynthesis technology as it stands today
- Challenges in the field
- Technoeconomic analyses and life cycle assessments
- Demonstrations and movements in the field
- Outline of the NRC Materials for Clean Fuels Challenge Program



Phil De Luna
Program Director, Energy Materials
Challenge Program
National Research Council Canada

17:50

Converting Co₂ Into Something Useful

- Design of membrane reactors for CO₂ conversion
- Review of feedstocks for CO₂ electrolyzers
- Introduction of advanced electrolysis designs



Curtis Berlinguette
Canada Research Chair in Energy
Conversion
The University of British Columbia

18:10

PANEL Q&A

18:25

CLOSE OF DAY ONE

DAY 2

Thursday 12th September 2019

08:30 REGISTRATION & COFFEE

09:00 CHAIRMAN'S OPENING REMARKS



Ross Chow
Managing Director -
Technology & Innovation
InnoTech Alberta



SESSION FOUR

CO₂ Utilization in the Oil and Gas Industry

09:05 Unlocking potential: Indigenous Business and the Resources economy in Canada

- Introduction Canadian Council for Aboriginal Business
- Indigenous economy in Canada background and information
- Building relationships between the resource sector and Indigenous business



Paul-Emile McNab
Director, Business Development &
Strategic Initiatives
**Canadian Council for Aboriginal
Business**

09:35

CO₂ Conversion in the Oil Sands

- Overview of COSIA and GHG Gaps & overview of oil sands process
- XPRIZE overview & status
- Discussion on CO₂ conversion technology development and oil sands integration challenges
- CO₂ "Decision Tree" for oil sands applications
- Collaboration opportunities for advancing CO₂ Capture and Conversion in Canada
- COSIA tools to support vendors



Matt McCulloch
Director, Greenhouse Gas
**Canada's Oil Sands Innovation
Alliance**

10:05

PANEL Q&A

10:20

MORNING REFRESHMENTS

10:50

SESSION FIVE

Using CO₂ as a Chemical Feedstock

11:20

ENERKEM: Carbon Utilization in Fuels and Chemicals

- Avoiding CO₂ emissions and better use of carbon via proper waste management and the circular economy
- Enerkem core technology for commercial scale carbon recycling

- CO2 and low steam reforming: for direct CO2 use
- Target products and markets for carbon utilization



David Lynch
General Manager, Research and Development
Enerkem Inc.

11:20

Utilization of CO2 in the Fuels Markets of the Future

- Introduction & scale of the energy industry
- Electrolysis and Methanol to Gasoline
- CO2 in the MTG process & its impacts



Dr. Ron Britton
Chief Technology Officer
Renewable Hydrogen Canada Inc.

11:50

PANEL Q&A

12:05

CONFERENCE PRESENTATION

Transforming Extraction: CO2-based Consumer Products

- Skybaron's story/mission and the word 'transformation'
- Current examples of consumer products and their potential applications
- Relevant players: carbon conversion companies, corporations & connecting the network
- The public: messaging and advertising, education and the "Parley model"
- The future: market and climate impact



James Kahn
Founder
SkyBaron

12:50

LUNCH

SESSION SIX

Converting CO2 into Building Materials

13:50

Turning Carbon Pricing into a Competitive Advantage

- What carbon pricing means to the cement industry, and Lafarge in specific
- Getting the numbers right and identifying abatement strategies
- Examples of carbon capture and utilization strategies being developed in Canada by Lafarge and partners
- Complementary policies and initiatives



Jonathan Moser
Head, Environment & Public Affairs
Lafarge Canada Inc

14:20

Utilization of CO2 in Production of Cement-Free Concrete Masonry Units

- Conventional concrete environmental impact
- Production of cement-free concrete products
- Performance of cement-free concrete products



Mehrdad Mahoutian
Co-Founder, CTO
Carbcrete Inc.

14:50

PANEL Q&A

15:05

CHAIRMAN'S CLOSING REMARKS



Ross Chow
Managing Director - Technology & Innovation
InnoTech Alberta



15:10

END OF CONFERENCE & AFTERNOON REFRESHMENTS

More information & registration

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:

Tel: +48 (0) 616 467 022

Email: rbaryah@acieu.net

Web: <http://www.acieu.net>

Address: 10 Gough Square, London, EC4A 3DE

Registration Is Simple

Conference (Includes Access to Documentation Pack) 11th & 12th September 2019	\$2,395.00
Documentation Pack Only	\$615.00

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 13th Carbon Dioxide Utilization papers at just \$585 (+\$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, ACI opened its European head office in London at the end of 2005 and has expanded rapidly, launching a series of events in key industries including maritime, energy, chemicals, cosmetics & pharma and opening offices in Poznan (Poland) & Pune (India).

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** for more information.

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.

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