Conference Scheduler DAY 1 Wednesday 28 June 2023

| DAY 1                | HYDROGEN PRODUCTION,<br>STORAGE, AND INFRASTRUCTURE<br>DEVELOPMENT   | FUEL CELL TECHNOLOGY  | LOW CARBON FUELS AND PROPULSION  | CARBON CAPTURE, UTILIZATION<br>AND STORAGE & BLUE HYDROGEN   |
|----------------------|--|---|--|--|
| 09:00 AM             | Opening Remarks: Tim Foggarty ■  | Opening Remarks: Patrick Stone ■  | Opening Remarks: TBA ■   | Opening Remarks: Peter Jackson ■   |
| 09:15 AM             | Houston as a Global Clean<br>Hydrogen Hub ■  | Decarbonizing Ultra Class<br>Mining Trucks ■  | Application of H2ICE Injection Technology on Commercial Vehicles ■                           | Global Overview of CCS   |
| 09:30 AM<br>09:45 AM | Fueling the growth of Green Technologies<br>in the United States ■   | Mining, PGMs and Hydrogen - Aiming for a<br>Goldilocks future ■   | Liebherr's approach to Hydrogen-based<br>internal Combustion Technology ■                    | Impacts of Policy Decisions and Incentives on the Evolution of CCUS Business Models in the United States ■ |
| 10:00 AM<br>10:15 AM | ExxonMobil's Advancements in<br>Low-Carbon Hydrogen Production ■   | FCEV's and Stationary Fuel Cell Generator:<br>Enabling a more reliable grid in a<br>high BEV world ■                      | The Hydrogen Combustion Engine: A path to decarbonizing heavy industry ■                     | Carbon Capture & Stroage - A vital<br>comonent to the energy transition ■                                  |
| 10:30 AM             | Break  | Break   | Break  | Break  |
| 10:45 AM<br>11:00 AM | The role of Retrofitted Gas Turbine Power<br>Plants for Clean Hydrogen in a fully<br>Decarbonized Generation Portfolio ■ | Energy Conversion - PEM Water<br>Electrolysis and the challenge of<br>Precious Metals ■                                   | Study of Technology fit and Market poten-<br>tial of Hydrogen use in ICE<br>and Fuel Cells ■ | Now Delivering Reliable and Affordable<br>CCUS at Scale ■  |
| 11:15 AM<br>11:30 AM | Autothermal Reforming Technology (ATR)<br>Anchoring Low Carbon Hydrogen<br>Generation, at large scale ■                  | Distributed energy solution using<br>Hydrogen Fuel Cells ■  | Connected Strategy for Hydrogen Value<br>Chain with focus on Heavy-Duty<br>Transport ■       | Fostering CCUS with an Expanding<br>Technology Portfolio ■   |
| 11:45 AM<br>12:00 PM | Simulating Solid Oxide Electrolyzer<br>Systems while scaling up ■  | Panel Discussion - Platinum Group Metals:<br>Mining, using and salvaging critical<br>materials for Fuel Cell Technology ■ | Panel Discussion - Forecasting HICE<br>through 2030 and beyond in<br>North America ■         | Building a scalable Supply Chain to deliver<br>gigaton scale Carbon Capture and<br>Removal Plants ■        |
| 12:15 PM             | Panel Discussion - Banking and Finance in  |   |  | Panel Discussion - Connecting Capture to<br>Storage: Connecting the Links Across the                       |
| 12:30 PM<br>12:45 PM | Panel Discussion - Banking and Finance in<br>the Hydrogen sector ■   | Lunch   | Lunch  | CCUS Valūe Chain ■   |
| 01:00 PM             |  |   |  |  |

| 01:15 PM |  |   |   | Lunch   |
|----------|--|---|---|---|
| 01:30 PM | Lunch  | Tackling Degradation of PEM Fuel Cells<br>with Modelling and Simulation Analysis on<br>System Level ■ |   |   |
| 01:45 PM |  |   |   |   |
| 02:00 PM | Modular system for on-site storage of large volumes of Gaseous Hydrogen ■  | Heavy-duty Hydrogen Mobility - High<br>Power and Durable Fuel Cell System<br>Technology ■             | Are H2ICE viable for medium and heavy duty trucks? ■  | Carbon Capture, Utilization and Sequestration CCUS - The time is now ■  |
| 02:15 PM |  | Advanced Hydrogen Vehicle Develop-  | Efficient Hydrogen Combustion for Heavy   |   |
| 02:30 PM | Hydrogen Storage and Loadout Design<br>Considerations ■  | ment at Ontario Tech University ACE Core<br>research facility ■                                       | Duty Engines ■  | Duoline 20 Fibreglass (GRE) Lined Tubing in Carbon Dioxide injection and Sequestration ■                                |
| 02:45 PM | Monitoring and Optimization Solutions for Hydrogen Production, Storage, and                                      | Break   | Development of a Class 8 Hydrogen ICE<br>Truck, Part 1 - Steady State<br>Engine Development ■                         | Accelerating use of hot Potassium<br>Carbonate for CCS through 60 years of<br>Learnings ■                               |
| 03:00 PM | Infrastructure Development ■   |   |   |   |
| 03:15 PM | Break  | Next Generation H2 Production,<br>Fuel Cell Design and Carbon Capture<br>Optimization ■               | Break   | Break   |
| 03:30 PM |  |   | A.T   |   |
| 03:45 PM | Putting Hydrogen to work cleaning the<br>Air, Land and Sea ■   | Hydrogen Business at Honda □  | A Techno-Economic Assessment of Hydro-<br>gen use in Internal Combustion Engines<br>and Fuel Cell based Powertrains ■ | CO2 Compressors for CCUS<br>Applications ■  |
| 04:00 PM |  | Stationary SOFC: Market, Technologies,<br>Opportunities ■   | Improving Standardization of component reliability testing for Hydrogen-fueled vehicles ■                             |   |
| 04:15 PM | Using Light-Driven Chemistry to produce<br>Low-Carbon Hydrogen ■   | Panel Discussion - Expected Technological<br>Improvements from Fuel Cells<br>through 2030 ■           |   | The role of CCS in the LNG value chain  |
| 04:30 PM | Panel Discussion - How can the necessary infrastructure for distributing and using Liquid Hydrogen be developed? |   | Hydrogen-material Interactions<br>in an ICE ■   | Developing the Development of Francisco   |
| 04:45 PM |  |   |   | Panel Discussion: Department of Energy<br>Carbon Capture funding opportunities to<br>accelerate towards Net-Zero 2050 ■ |
| 04:43 FM |  |   | Closing Remarks: Dr Kunpeng Wang ■  |   |
| 05:00 PM |  | Closing Remarks:<br>Christopher Robertson ■   | End Officerion  | Closing Remarks: Gary Hargraves ■   |
| 05:15 PM | Closing Remarks: Melissa Morisson  End Of Session  | End Of Session  | End Of Session  | End Of Session  |

| Conference Scheduler DAY 2 Thursday 29 June 2023 |   |  |   |   |
|--|---|--|---|---|
| DAY 2  | HYDROGEN PRODUCTION,<br>STORAGE, AND INFRASTRUCTURE<br>DEVELOPMENT  | FUEL CELL TECHNOLOGY   | LOW CARBON FUELS AND PROPULSION   | CARBON CAPTURE, UTILIZATION AND STORAGE & BLUE HYDROGEN   |
| 09:00 AM   | Opening Remarks: Danny Rehg   | Opening Remarks: Prof Christine<br>Ehlig-Economides ■  | Opening Remarks:<br>Veshal Venkat ■   | Opening Remarks: Greg Owen  |
| 09:15 AM   | Hydrogen Projects require<br>Integrated Solutions <b>■</b>  | PEM Fuel Cell Retrofit solution for the Marine Industry  | Using Hydrogen-fueled gas<br>engine generators to reduce<br>Carbon Footprint of distributed<br>Energy Systems ■ | Carbon Capture invented for a changing world ■  |
| 09:30 AM<br>09:45 AM                             | Hydrogen reciprocating<br>Compressors - Applications for<br>the Energy Transition ■                                   | Engineering chanllenges in<br>deploying bespoke FC solution<br>to large Marine and Aerospace<br>applications ■ | How Nuclear Power can enable<br>Clean Hydrogen and Synthetic<br>Fuel at scale ■                                 | Site selection criteria for retrofit<br>CO2 Capture Technology ■  |
| 10:00 AM<br>10:15 AM                             | The use of Primary Controlled<br>Drive Technology in<br>Compression □   | Titanium bipolar plates for<br>Aviation: What is essential for<br>the production? ■                            | Low-Carbon Fuels for power<br>generation ■  | BECCS by Drax ■   |
| 10:30 AM<br>10:45 AM                             | Break   | Break  | Break   | Break   |
| 11:00 AM   | Bringing value in the Hydrogen<br>Liquefaction ecosystem through<br>differentiated equipment and<br>R&D collaboration | Optimizing materials for PEM-Fuel Cell ■   | Hydrogen powered aviation<br>through Digitalization ■   | Contributing to Carbon<br>Neutrality - Gas Seperation<br>Membrane and monolith for<br>Direct Air Capture System |
| 11:15 AM<br>11:30 AM                             | Flashing Liquid Expanders for<br>two-phase pressure letdowns in<br>Liquefaction Processes ■                           | German Fuel Cell cooperation:<br>Efficient and scalable production<br>equipment for bipolar plates □           | A flight plan for global aviation<br>to reach zero emissions ■  | NETL Direct Air Capture Center ■  |
| 11:45 AM<br>12:00 PM                             | Slush and Liquid Hydrogen in<br>Storage and Transportation ■  | Panel Discussion - Fuel Cells and<br>Batteries: Hydrogen enabling<br>long duration energy storage as           | Panel Discussion -<br>Considerations to make when   | Advancing Direct Air Capture  |
| 12:15 PM   | Panel Discussion - Air, Land, Sea<br>& Space ■  | a compliment to batteries <b>□</b>   | building an eFuels Plant ■  | Panel Discussion: Digitalization<br>for Carbon Capture - How digital<br>transformation can advance the          |
| 12:30 PM<br>12:45 PM                             | o space   | Lunch  |   | lifecycle of CO2 projects ■   |

01:00 PM

Lunch

| 01:15 PM             | Lunch  |  |   | Lunch  |
|----------------------|--|--|---|--|
| 01:30 PM             |  | Hydrogen and Fuel Cell Powered<br>Aircraft ■   | Well-to-Wake Life Cycle Analysis<br>for promising alternative Fuels<br>with consideration of Green          |  |
| 01:45 PM<br>02:00 PM | Making Clean Ports a reality with<br>Hydrogen ■  | LH2 System and Storage for H2<br>Fuel Cell Powered Aircraft ■  | Shipping Corridors ■  Innovations and Developments in r-DME to Hydrogen for Fuel  Cell ■                    | Role of Electrical Drives and<br>Machines in improvement of<br>efficiency and reliability in<br>Carbon Capture and Hydrogen<br>Processes ■ |
| 02:15 PM<br>02:30 PM | Securing the Electric Power Conversion supply chain for Green Hydrogen & Carbon Capture. Are they the same cast of characters? | Filtration and membranes in a<br>Hydrogen Economy ■  | Some advanced Process Technologies for production of Renewable Low Carbon Fuels and applications for Modern | Oxygen-Fired Package Boiler<br>System to produce Low-Carbon<br>Intensity Electricity ■   |
| 02:45:00 PM          | Reducing the cost of Green<br>Hydrogen - Every Microvolt<br>Counts ■   | Break  | Propulsion Systems ■  Break   | Japan, Australia and North<br>America: Projects that captured<br>CO2, pre and post combustion<br>and Oxyfuel combustion ■                  |
| 03:00 PM<br>03:15 PM | Break  | Advances in Composite Mem-<br>branes Design and Scale up for<br>Proton Exchange Membrane<br>Water Electrolysis | Innovations in Thermal<br>Processing using H2 as Fuel<br>Source ■   | Break  |
| 03:30 PM<br>03:45 PM | Materials and Coatings Solutions<br>to address Green Hydrogen<br>Production challenges ■                                       | High yield production of Polymer<br>Electrolyte Membranes ■  | Navigating and building trust in an evolving Hydrogen Supply  Chain ■                                       | DMX Technology, a<br>breakthrough demixing solvent<br>for Post Combustion<br>CO2 Capture ■   |
| 04:00 PM             | Hydrogen blending in Natural<br>Gas Pipelines ■  | Series Production of Membrane<br>Electrode assembly by means of<br>a Double Belt Press ■                       | Closing Remarks: Brian<br>Petermann ∎   | Carbon Capture application to<br>Blue Hydrogen Production ■  |
| 04:15 PM<br>04:30 PM | How Hydrogen demand can be scaled through the Natural Gas Industry ■   | Panel Discussion - North of the<br>IRA: Updates from Canada's  | End Of Session  | Paving the way for Blue Hydrogen - Clariant's innovative catalytic solutions to reduce carbon intensity                                    |
| 04:45 PM             | Closing Remarks: Parul Dhall   | Hydrogen Sector ■  |   | Closing Remarks:<br>Manuel Herraiz ■   |
| 05:00 PM             | End Of Session   | Closing Remarks: Kay Devlin  |   | End Of Session   |