AUSTRALIA AND SOUTHEAST ASIA GLOBAL CCS INSTITUTE MEMBERS FORUM

GLOBAL CCS INSTITUTE

WEDNESDAY 22ND FEBRUARY: PROJECT DEVELOPMENT , UPDATES, FEEDBACK, LESSONS LEARNED

8:15 – 8:45	Arrival / Welcome Coffee
8:45 – 9:00	**Welcome to Country:** Larrakia Nation
9:00 – 9:45	**Introductions:** Alex Zapantis, General Manager, Commercial, Global Carbon Capture & Storage Institute Jarad Daniels, Chief Executive Officer, Global Carbon Capture & Storage Institute **Keynote:** Hon Madeleine King MP, Minister for Resources
9.45 – 10.00	Break
10.00 – 11.30	**CCS Developments in SEA** Southeast Asia is a dynamic region with rapidly growing economies and energy demand, which is being met, primarily, through fossil fuels. Carbon Capture and Storage has an essential role in mitigating the emissions from the production and use of energy and in emissions-intense industries. Global climate targets will not be met unless CCS becomes ubiquitous across the energy and industrial sectors in Southeast Asia. This panel will explore CCS developments in this critical region and discuss what needs to be done to accelerate investment in support of meeting global climate targets. Moderator: Alex Zapantis, General Manager, Commercial, Global Carbon Capture & Storage Institute Panelists: • Danuwas Lambasara, VP Development Planning, PTTEP • David Ramos, Geological Low Carbon Solutions Director, Repsol • Ronaldo Francisco Do Rosario, Acting Consul-General Consulate-General of Timor-Leste, Timor GAP • David Lim, CEO and Managing Director, Carbon Aceh Format: • Alex will be opening with a 5 min discussion on CCS developments, projects & opportunities in Southeast Asia and SEACA. • Panelists will provide a 10 minute summary of their involvement and future perspective on CCS in Southeast Asia. • Q&A: The format of this session will be a combination of highlighted topics, pre-submitted questions and open discussion. • Please submit any questions to panelquestions@globalccsinstitute.com • Please include the specific panel in the email subject line Discussion Notes: The focus of this session is to provide the audience with and update on CCS in SEA, hear from industry experts on developments in CCS projects, commercialisation pathways and the role of CCS in a net-zero future. The objective is to encourage conversation and discussions around the challenges, solutions and outlook of CCS in SEA. Topics that we will be focusing on include: • “What is holding CCS back? • How might CCS hubs/networks develop in the region? • How can Australia, a rich developed country, help its less developed neighbours succeed and in-so-doing, look after its own interests which are served by a stable climate? • How to drive capital investment in CCS? • How might public-private-partnerships accelerate investment? • How to finance CCS projects? What role for multilateral organisations/international banks/climate finance?”
11.30 – 11.45	**Hiroshi Nambo, Japan Branch Representative, Global Carbon Capture & Storage Institute** CCS Status in Japan: long-term road map and expected government support
11.45 – 12.45	**Lunch:** Sponsored by Northern Territory Government
12.45 – 12.55	**Bianca Molier, CSIRO** Middle Arm Sustainable Precinct Virtual Reality Experience

13.00 – 14.00	**CCS in the Northern Territory** The Northern Territory Government (NTG) is working with industry and the Australian Government to transform Middle Arm into a sustainable 'development ready' industrial precinct. A CCUS hub as part of the Middle Arm Sustainable Development Precinct would mitigate emissions from existing and future natural gas processing and will accelerate low-emission industry development, including hydrogen production. In partnership with the NT Government, CSIRO and industry are collaborating to fast-track CCUS development and establish one of the world's largest multi-user facilities of its kind in the Territory. This panel will discuss the current plans and future potential for the CCUS Hub within the Middle Arm Industrial precinct, including what opportunities and what are available for multi-user access both domestic and international. Moderator: Alister Trier, Chairman, Gas Taskforce Unit, Northern Territory Government Panelists: • Phil Grainger, Vice President Growth, INPEX • Andrew Ross, Group Leader, CSIRO • Richard Hinkley, General Manager New Developments, Clean Fuels & CCS, Santos Format: • Alister will be opening with a 5 min discussion on CCS NT Hub development project. • Panelists will provide a 10 minute summary of their involvement in the NT Hub and CCS in Timor Sea. • Q&A: The format of this session will be a combination of highlighted topics, pre-submitted questions and open discussion. • Please submit any questions to panelquestions@globalccsinstitute.com • Please include the specific panel in the email subject line Discussion Notes: • Now; export in middle-arm • Developing a hub • The value of a hub • Storage; 2025-2030 including import opportunities • Future; Onshore & Hydrogen developments
14.00 – 14.20	**Satyavan Reymond, CCUS & Forestry Manager, ENI** "The process of CCUS hubs development – a key element of the energy transition" Eni Operated and non-operated experience in CCUS of relevance for the Darwin Middle Arm CCUS Hub and lessons learned."
14.20 – 14.40	**Brad Lingo, Chairman, Pilot energy** "Progressing approval and development of Cliff Head CCS Project" Outlining progressing the approval and development pathway for the Cliff Head CCS Project from a technical, regulatory and commercial perspectives"
14.40 – 15.00	**Ross Weiter, CCUS SME & Growth Unit Regional Coordinator (APAC Region), Worley** "Top 5 Technical Lessons Learned from CO_2 Projects" The main technical challenges encountered by Worley in the design and operation of CCS projects will be discussed at a high level. Suggestions will be made on how and when to address them in the project development cycle.
15.00 – 15.20	**Greg McDonald, Branch Manager – Resources & Energy, Northern Land Council** "Free Prior and Informed Consent in Action" Social licence to operate presupposed robust processes leading to free, prior and informed consent from traditional Aboriginal owners. An important factor in these processes is establishing long-term partnerships, including face-to-face contact, with a preparedness to support what community wants and how they want it.
15.20 – 15.40	**Break**
15.40 – 16.00	**Graham Winkelman, Head of Carbon Management, BHP** **TBC**
16.00 – 16.20	**Greg Ross, Executive Director, KC8 Capture Technologies** "KC8 Capture's UNO MK3 Solvent – Our Commercialisation Story" Our presentation outlines the path to commercialisation of our carbon capture technology that originated from the CO_2CRC, starting in 2005. The technology is now one of the emerging next generation capture technologies able to deliver sub \$45/t CO_2 capture costs."
16.20 – 16.40	**Benjamin Omlor, Mechanical Product Specialist, MAN Energy Solutions** "Northern Lights CCS Project - process optimisation through CO_2 compression with heat recovery" Based on the Northern Light / Norcem carbon-capture project, presentation of the effective use of heat recovery as integrated part of the CO_2 compression process, based on integrally geared compressor technology"
16.40 – 17.00	**Camile Levy, President Asia Pacific, Howden** "Enabling CCUS" Howden is a world leader in air and gas handling and has been involved in CCUS for over 15 years through demonstration and research projects. How to enable CCUS growth through partnerships will be the focus of this session.
17.00 – 17.20	**Sponsor: Chad Wilson, Vice President Energy Solutions, Santos** "Exploring Santos' 3 CCS hubs"
Evening	**Drinks Reception** Sponsored by SANTOS

THURSDAY 23RD FEBRUARY: STRATEGIC PARTNERSHIPS, ADVICE, ROADBLOCKS, INVESTMENTS & FINANCE	
8:00 – 8:30	Arrival / Welcome Coffee
8.30 – 8.40	Opening Session
8.40 – 9.00	**Matthias Raab, Chief Executive Officer, CO_2CRC Limited** "CCS in Australia's transition to a low emissions future" Over the last year to eighteen months, there has been a shift in the global CCS/CCUS sector, and the strategic landscape is evolving at a higher rate than has been seen in the history of the sector. The advent of widely accepted net-zero 2050 targets, both within Australia and globally, have invigorated the industry, resulting in an unprecedented focus on the potential use of CCS/CCUS to help many industries and companies to meet their emission reduction targets. In Australia, the recent mandating of a 43% emission reduction target by 2030 has acted to accelerate what was an already strong industry response. The next ten years will see a strong project roll-out with a significant number of large (multi-Mt) CCS/CCUS projects already under active development around and within Australia. Significant investment decisions for FEED and construction were already made, while most of the large proposed projects will be "new builds". Australia's major trade partners Korea and Japan have also set ambitious goals of transitioning their energy businesses from imported LNG and safely capture and store any attendant CO_2 emission via overseas storage. Trading CO_2 across international boundaries provides an important solution for countries with limited storage capacity, and the ratification of the Article 6 Amendment of the London Protocol is a needed enabler in Australasia.
9.00 – 9.20	**Nicholas Horan, Manager, Domestic CCUS Policy, Australian Government** "CCUS in the Australian Government's climate change response" The Australia Government's view on the role of CCUS within its broader climate change agenda. It will focus on the Commonwealth's policy and regulatory framework relevant to CCUS deployment within Australia.
9.20 – 10.20	**Law and Regulation - Critical Issues for Australia and the Asia-Pacific region** The session will examine the legal and regulatory issues that are critical for the deployment of CCS projects in Australia and the Asia Pacific region. Moderator: Ian Havercroft, Principal Consultant Policy, Legal and Regulatory, Global Carbon Capture & Storage Institute Panelists: • Victoria Mendes Da Costa, Permitting Director for the CarbonNet Project, Victorian Government • Guy Dwyer, Special Counsel, King & Wood Mallesons Format: • Ian will be opening with a 10 min discussion on CCS Legal, Regulatory and Policy (LRP) overview & recent developments in Australia & SEA • Panelists will provide a 10 minute summary of their thoughts on the LRP outlook in Australia & SEA • Q&A: The format of this session will be a combination of highlighted topics, pre-submitted questions and open discussion. • Please submit any questions to panelquestions@globalccsinstitute.com • Please include the specific panel in the email subject line Discussion Notes: • Lessons from the development and implementation of CCS-specific regulatory frameworks • Addressing outstanding issues - completing Australia's legal and regulatory landscape • Transboundary movement of GHGs - international and domestic considerations • Recent developments on CCS regulation in the Asia-Pacific region
10.20 – 10.50	Break
10.50 – 11.10	**Linda Stalker, Senior Principal Research Scientist, CSIRO and Science Director of the National Geosequestration Laboratory** "Bursting bubbles: closing gaps in public perceptions of CCS" The CCS project pipeline is growing rapidly, and with it the need to communicate what it actually is. What is a CCS Hub, its footprint, the value chain (i.e., how it "works"), who benefits and what are the risks – these are some of the questions that require open, honest and transparent answers, with examples, images and case studies to demonstrate to community and stakeholders where CCS remains novel and unfamiliar.

11.10 – 12.10	**Social License (Issues, Lessons, Action)** Social license to operate (SLO) has been a key consideration in energy innovation and development for decades. Although there are lessons to be shared, learned, and applied from other industries, CCS development faces a unique set of social license challenges in an increasingly volatile communications environment. This panel will examine community understanding and sentiment toward CCS, explore lessons that can be applied from industry experience, and discuss potential approaches to SLO for CCS proponents. Moderator: Matt Steyn , Advocacy and Communications Manager APAC, Global Carbon Capture & Storage Institute Panelists: • Greg McDonald, Resources and Energy Branch Manager, Northern Land Council • Andrew Garnett, Director UQ Centre for Natural Gas, University Queensland • Damian Barrett, GISERA Director, CSIRO Format: • Matt will be opening with a 10 min discussion on Social License considerations in Australia & SEA. • Panellists will provide a 10 minute summary of their thoughts on the considerations required in Australia & SEA. • Q&A: The format of this session will be a combination of highlighted topics, pre-submitted questions and open discussion. • Please submit any questions to panelquestions@globalccsinstitute.com • Please include the specific panel in the email subject line Discussion Notes: • "What do we know about community perceptions of CCS and what are the blind spots where further research is required? • What are the major issues facing CCS from a communications perspective? • What are the lessons from energy development (fossil fuels and renewables) that can be applied here? • Does CCS require a unique SLO approach? What might that look like?"
12.10 – 12.30	**Sponsor: Ricky McNally, Project Director, Victorian Government** "CarbonNet – Our Final Investment Decision Pathway" Requirements for CarbonNet to achieve an FID submission towards the end of 2023. Outlining the recent change in government, organisation required, process and procedures with a government department, as well as the commercial aspect.
12.30 – 13.30	**Lunch:** Sponsored by Victorian Government
13.30 – 14.30	**Strategic Partnerships (CCS Hubs, Commercialisation & Measuring Success)** Widespread deployment of CCUS will mean that every plant that is capturing CO_2 will also need transport and storage capacity to move large volumes of CO_2 to distant sites where it can be stored or used in other industrial processes. This would mean that carbon intensive industries will need to collaborate with companies responsible for pipelines, specialized shipping as well as injections in under-surface formations. Such collaborations are not inherent to industrial players and will require additional efforts as well as assistance with partnerships building. Development of hubs and clusters could be helpful in reducing infrastructure costs and would also rely on partnerships among industry players, infrastructure providers and governments. Close collaboration with government entities are also needed to address issues of infrastructure permitting and financing, CO_2 monitoring as well as liability. Thus, mainstreaming CCS would require close cooperation across industry players and between industry players, policymakers and the investment community. Moderator: Matthew Loughrey, Acting Principal Consultant CCS Technology, Global Carbon Capture & Storage Institute Panelists: • Ricky McNally, Director CarbonNet Project, Victorian Government • Brian Howarth, Project Director - Yara Clean Ammonia, Yara Australia • Brendan Beck, Director Net Zero Technologies, APPEA • Matthias Raab, Chief Executive Officer, CO_2CRC Limited Format: • Matt will be opening with a 10 min discussion on global partnerships and outlook in Australia & SEA. • Panelists will provide a 10 minute summary of their thoughts on partnerships in Australia & SEA. • Q&A: The format of this session will be a combination of highlighted topics, pre-submitted questions and open discussion. • Please submit any questions to panelquestions@globalccsinstitute.com • Please include the specific panel in the email subject line Discussion Notes: • The challenges of scale • The challenge of partnerships across different industries and diverse backgrounds • Coordinating collaboration across different sectors for a united CCS Network • The value of partnerships & measuring success • Use of CO_2 and collaboration along the value chain if CO_2 is used as a feedstock (CCU).

14.30 – 15.30	**Finance & Funding** This session will aim to consider the enablers and barriers to capital investment in CCS in Australia & the wider Southeast Asian region. Moderator: Ian Havercroft, Principal Consultant Policy, Legal and Regulatory, Global Carbon Capture & Storage Institute Panellists: • Han Phoumin, Senior Energy Economist, ERIA • Kentaro Sakaguchi, Deputy General Manager, Mizuho Bank • Masaru Yamazaki, Business Manager, Sumitomo Corp. Format: • Ian will be opening with a 10 min insight on the enablers and barriers to capital investment in CCS in Australia & SEA. • Panellists will provide a 10 minute summary of their thoughts on investments & funding in Australia & SEA. • Q&A: The format of this session will be a combination of highlighted topics, pre-submitted questions and open discussion. • Please submit any questions to panelquestions@globalccsinstitute.com • Please include the specific panel in the email subject line Discussion Notes: This session will consider a range of issues including: • What makes projects bankable? • How to finance CCS projects? What role for multilateral organisations/international banks/climate finance? • How to drive capital investment in CCS? • How might public-private-partnerships accelerate investment? • What are the instruments governments have made available to fund CCS? (conditions of funding)
15.30 – 16.00	**Break**
16.00 – 17.30	**David Fallon, Energy Transition General Manager and Robert Root, Subsurface Producing Assets Manager, Chevron Australia** "Gorgon CCS technical presentation" Carbon capture and storage (CCS) is a critical technology to reduce carbon emissions in our economy. We're proud that the world's largest CCS system designed to capture carbon emissions is located at the Gorgon liquefied natural gas (LNG) facility on Barrow Island. Chevron is committed to sharing the lessons we've learned to support the deployment of CCS technology in Australia.
19.00 – 22.00	**Gala Dinner** Sponsored by INPEX **19.00 – 19.20 Steve Ovenden, General Manager Growth, INPEX**

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