Monday 27 May 2019

Registration:
8:30am

Seminar:
9:00am–5:00pm

APPEA SEMINAR — INDUSTRY EVENT

APPEA Introduction to Oil and Gas Industry Seminar

Room S1, Sky Level

This seminar will give a broad understanding of the Australian oil and gas industry.

Attendees will gain an appreciation of the geological, technical and economic aspects of the industry, features of the onshore and offshore environments, as well as the exploration, development and production phases. The seminars offer an invaluable opportunity to understand the key characteristics and global context of Australia's oil and gas industry, and come to grips with its key concepts and terminology. These seminars will also be conducted in Perth, Canberra, Darwin, Melbourne and Brisbane throughout 2019. For further information visit www.appea.com.au/event/intro-to-oil-gas-industry-seminars.

11:00am–7:00pm

CONFERENCE REGISTRATION

Main Foyer, Ground Level

Join fellow delegates and collect your registration packs prior to attending the Welcome Reception at 6pm.

Registration:
from 12:00pm

Seminar:
1:00pm–5:00pm

PESA DEAL DAY — INDUSTRY EVENT

Brisbane Convention & Exhibition Centre

The Petroleum Exploration Society of Australia (PESA) 'Deal Day' Seminar is the annual showcase for acreage and farm-in opportunities in Australia and the neighbouring region in a presented papers format. This event will deliver a comprehensive Farm-in Report, containing all the relevant information on each opportunity. Registration is separate from the APPEA Conference and Exhibition and includes lunch and refreshments.

6:00pm–9:00pm

WELCOME RECEPTION

SPONSORED BY AVEVA

Exhibition Hall 3, Ground Level

Join us for a kaleidoscope of colour at the first official social function of APPEA 2019 as we showcase the best Queensland has to offer. The perfect setting to get a taste of the quality networking the next three days will deliver.

- Complimentary to full delegates. $95 per person to all other registration categories and additional guests.
- Includes drinks and light refreshments.
- Smart casual attire.

PROGRAM IS SUBJECT TO CHANGE | *DENOTES PRESENTER IF NOT LEAD AUTHOR

Tuesday 28 May 2019

7:30am–8:20am

Presenters' Breakfast—Technical and Business Program

BY INVITATION ONLY

SPONSORED BY bp

7:30am–5:00pm

Conference Registration

Main Foyer, Ground Level

8:00am–6:00pm

APPEA 2019 Exhibition open

Exhibition Hall, Ground Level

SPONSORED BY wood.

8:00am–6:00pm

APPEA 2019 Technical and Business Poster Presentations open

Exhibition Hall, Ground Level

SPONSORED BY bp

8:00am–6:00pm

KPMG Meeting Zone open

Need a private place to meet and talk business? With two private meeting rooms, seating up to eight per room, this complimentary service is available for one-hour periods.

Exhibition Hall, Ground Level

SPONSORED BY KPMG

8:30am–10:15am

PLENARY

PLENARY: Navigating the future

SPONSORED BY CLOUGH Woodside

CHAIR: **Mr Andrew McConville** Chief Executive, APPEA

The opening session of APPEA 2019 focuses on the conference theme, 'Navigating the future'. This session will set the scene for three days of in depth discussion and debate as the industry considers what it takes to succeed in the new energy market—a market experiencing the most disruptive period in a generation.

Conference Opening Ceremony

Australian Government Address (subject to availability)

Senior Representative, Federal Government

Queensland State Government Address

Hon Dr Anthony Lynham MP, Minister for Natural Resources, Mines and Energy

Lead Industry Address: Leveraging opportunities in a growing but competitive market

Mr Ryan Lance, Chairman and Chief Executive Officer, ConocoPhillips

APPEA Chair's Address

Mrs Zoe Yujnovich, Country Chair and Executive Vice President, Shell Australia

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10:15am–11:00am

MORNING TEA IN THE EXHIBITION HALL

SPONSORED BY TRI-STAR

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Tuesday 28 May 2019

11:00am–12:30pm

PLENARY: The future's not what it used to be—the new energy landscape

FACILITATOR: Ms Jennifer Hewett
National Affairs Columnist, The Australian Financial Review

SPONSORED BY FLUOR

PLENARY

IEA perspectives on the global energy landscape
Mr Paul Simons, Deputy Executive Director, International Energy Agency

Unlocking Australia's natural advantage
Mr Peter Coleman, CEO and Managing Director, Woodside

The role of gas in transforming energy
Mr Frank Calabria, CEO and Managing Director, Origin Energy

No guarantees—setting Australian Energy Policy for 2040
Mr Matt Rennie, Oceania Power & Utilities Leader, EY

12:30pm–2:00pm

NETWORKING LUNCH IN THE EXHIBITION HALL

SPONSORED BY TRI-STAR

All delegates are invited to enjoy lunch in the exhibition halls while exploring the exhibits, poster presentations, and Collaboration Centre.

12:30pm–2:00pm

APPEA Members' Lunch | BY INVITATION ONLY

SPONSORED BY CLOUGH Woodside

1:00pm–2:00pm

Hot Topics Discussion in the EY Collaboration Centre (See p31)

SPONSORED BY EY Building a better working world

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Tuesday 28 May 2019

2:00pm–3:15pm

TECHNICAL AND BUSINESS PROGRAM SESSIONS 1–4

CONCURRENT 1: Queensland—innovation, development and prospectivity

SPONSORED BY Downer Relationships creating success

CHAIR: Mr Anthony Roe, Head of Digital Technology & Innovation—MEI, Downer

New deep crustal seismic data acquisition program for NWQs frontier petroleum basins
S Edwards and B Talebi (Department of Natural Resources, Mines and Energy)

A new spatially-continuous basement heat flow map for NW Queensland
C Jorand, K Connors, L Pryer and C Pietrucha (Frogtech Geoscience)

Adavale Basin petroleum plays | A Troup and B Talebi (Department of Natural Resources, Mines and Energy)

Approaches to data-driven exploration in Queensland | T Knight (Dept of Natural Resources, Mines and Energy)

CONCURRENT 2: Fresh applications for reservoir engineering

CHAIR: Professor Ray Johnson Jr, Professor of Well Engineering & Production Technology, University of Queensland

Investigation of permeability change in the Bandanna Coal Formation of the Fairview Field using time-lapse pressure transient analysis | A Salmachi (University of Adelaide) and J Barkla (Santos)

Impact of capillary trapping on CSG recovery—an overlooked phenomenon
Y Zhu, Z Chen*, H Xing and V Rudolph (University of Queensland)

An Australian first initiative to re-develop the first commercial onshore oilfield into a CO_2 miscible-EOR project
S Barakat, B Cook*, K D'Amore (Bridgeport Energy), A Diaz (Flow Dynamics UK) and A Bracho (Flow Dynamics Australia)

Panel discussion

CONCURRENT 3: National trends—what have we learnt and where are we going?

CHAIR: Mr Ashley Watson, Partner, Piper Alderman SPONSORED BY Piper Alderman

The Australian Government's liquid fuel security review and National Energy Security Assessment
T Wyndham (Department of the Environment and Energy)

From the Northern Territory to Western Australia—fracking, public policy and social licence
M Tannock (Squire Patton Boggs)

Gas markets—a bridge too far? | G Bethune and R Wilkinson* (EnergyQuest)

Sustainability trends in oil and gas | D Dique (ERM)

CONCURRENT 4: Queensland projects from the ground up

CHAIR: Mr Simon Gossmann, Groundwater Manager, Arrow Energy

Building regional strength through supporting social and economic activity in Queensland's gasfield communities | T Quinn (Broadspectrum)

Synergies in the role of the Office of Groundwater Impact Assessment and the Independent Expert Scientific Committee on coal seam gas and large coal mining development in environmental assessments
C Pigram* (Independent Expert Scientific Committee), S Pandey* (Office of Groundwater Impact Assessment, Queensland) and P Baker (Department of the Environment and Energy)

Cumulative groundwater impact assessment and management in the Surat Basin—a journey from framework to implementation | S Pandey (Department of Natural Resources, Mines and Energy)

Panel discussion

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Tuesday 28 May 2019

3:15pm–3:45pm AFTERNOON TEA IN THE EXHIBITION HALL SPONSORED BY TRI-STAR

3:45pm–5:00pm

TECHNICAL AND BUSINESS PROGRAM SESSIONS 5–9

SPONSORED BY Australian Government Geoscience Australia

CONCURRENT 5: Setting the scene: WA basin architecture

CHAIR: Dr Andrew Heap, Chief of Division–Resources, Geoscience Australia

Exploration of an unconventional petroleum resource through extensive core analysis and basin geology interpretation utilising play element methodology
J van Hattum* (Theia Energy), A Bond (Finder Energy), D Jablonski (Finder Energy) and R Taylor-Walshe* (Theia Energy)

Stratigraphic and structural architecture across the central North West Shelf—implications for Triassic petroleum systems
S Abbott, C Orlov, G Bernardel, C Nicholson, N Rollet, D Nguyen and M Gunning (Geoscience Australia)

Tailored acquisition and processing providing an enhanced subsurface image of the basin architecture, Exmouth Sub-basin, North West Shelf, Australia
A Karvelas (Schlumberger Australia), B J Lim (Schlumberger), L Zhang, H Trihutomo (Schlumberger Australia), O Schenk (Schlumberger GmbH, Germany) and S Tewari (Schlumberger Oilfield UK)

Panel discussion

CONCURRENT 6: How well do you know your wells? Impact, management and evolution

CHAIR: Mr Dylan Stringer, Principal Drilling Engineer, Origin Energy

Managing well integrity in Queensland | M Scott (Department of Natural Resources, Mines and Energy)

Impact of in-seam drilling performance on coal seam gas production and remaining gas distribution
F Zhou, G Fernandes, J Luft, K Ma, M Oraby, M Guevara, D Kuznetsov, B Pinder and S Keogh (Arrow Energy)

Roma development drilling—evolution of well design and drilling performance
A Sellars, T Dedigama and M Zaman (Santos)

CONCURRENT 7: Regulation—legislating for success

CHAIR: Mr Shaun Ferris, Acting Deputy Director-General, Department of Natural Resources, Mines and Energy

Groundwater management—working with Queensland and EPBC regulation and processes
J Barker* (Department of the Environment and Energy), S Pandey* (Office of Groundwater Impact Assessment, Queensland), J McKeay* and K Birch* (Department of Environment and Science)

EHS STREAM

SPONSORED BY ABB

CONCURRENT 8: Decommissioning—every end is a new beginning

CHAIR: Mr Michael Vandertuin, Decommissioning Business Development Manager, ABB

Engineering and environmental studies for decommissioning of subsea infrastructure
P Raitt* (Green Light Environmental), A Selman and C Lanoëlle* (Atteris)

Decommissioning—a path forward for Australia | S Barrymore and J Ballard (Herbert Smith Freehills)

Rigorous decommissioning decision making with strong stakeholder engagement using comparative assessment | P Gordon, E Poot (Catalyze APAC) and G O'Connor (Catalyze UK)

Panel discussion

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Tuesday 28 May 2019

CONCURRENT 9: Enhancing productivity through digital solutions

SPONSORED BY ABB

CHAIR: Mr Nathan Tungseth, Senior Vice President, Global Product Group Manager – Onshore Oil & Gas, ABB

A practical guide to IT OT convergence — getting value from your business analytics
R Byfield (Yokogawa Australia)

Big data for smart safety: applying engineering control analytics to predictive safety
H B Tay*, N Marshall*, A McColm, M Wood (Deloitte Risk Advisory)

Digitalisation as a critical tool in resource asset valuations, acquisitions and dispositions
D Hollett and C Phasey (Nova Systems)

Digitalisation driving competitiveness
S Royston (ABB)

5:00pm–6:00pm

HAPPY HOUR IN THE EXHIBITION HALL

Time to network and debrief on the current topics and key discussions of the day.

SPONSORED BY YOKOGAWA

Complimentary to delegates and exhibitors.

Includes drinks and light refreshments.

Business attire.

6:00pm onwards

Evening free: Brisbane is a city with an innovative and vibrant edge, a modern, free spirited outlook and a determination to do things just that little bit differently. This is the night to host your clients or take the opportunity to accept invitations from suppliers, clients or fellow delegates to expand your network, reinforce current partnerships and enjoy the vivacious nightlife of this bustling city.

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Wednesday 29 May 2019

7:30am–5:00pm **Conference Registration** Main Foyer, Ground Level

8:00am–6:00pm **APPEA 2019 Exhibition open**
Exhibition Hall, Ground Level
SPONSORED BY wood.

8:00am–6:00pm **APPEA 2019 Technical and Business Poster Presentations open**
Exhibition Hall, Ground Level
SPONSORED BY bp

8:00am–6:00pm **KPMG Meeting Zone open**
Exhibition Hall, Ground Level
SPONSORED BY KPMG
An ideal place for up to eight people to meet for an hour, with two private meeting zones.

8:30am–10:30am

PLENARY

PLENARY: Navigating a cleaner energy future — how does the oil and gas industry survive and thrive?

SPONSORED BY ConocoPhillips

FACILITATOR: Mr Paul Welton
General Manager of Strategy, Planning & Commercial, Chevron Australia

A tale of two gases
Dr Alan Finkel AO, Chief Scientist, Office of the Chief Scientist, Department of Industry, Innovation and Science

The Oil and Gas Climate Initiative — delivering solutions for a sustainable low-emissions future | Mr Gardiner Hill, Vice President Carbon Management, BP and Senior Representative of Oil and Gas Climate Initiative (OGCI)

Riding the green wave: Are oil and gas companies jumping on board? | Ms Marlene Motyka, Principal, Deloitte Transactions and Business Analytics LLP, and US & Global Renewable Energy Leader, Deloitte

Climate change: The investor perspective
Ms Emma Herd, Chief Executive Officer, Investor Group on Climate Change

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Wednesday 29 May 2019

10:30am–11:15am MORNING TEA IN THE EXHIBITION HALL SPONSORED BY KBR

11:15am–12:30pm TECHNICAL AND BUSINESS PROGRAM SESSIONS 10–14

CONCURRENT 10: Advancing Australian exploration

SPONSORED BY Australian Government Department of Industry, Innovation and Science

CHAIR: Ms Lisa Schofield, General Manager, Offshore Resources, Department of Industry, Innovation and Science

Australia — how do we compare as an exploration destination?
M Quinn (IHS Markit)

Australian Government exploration initiatives
Seven government agencies will present on initiatives to encourage exploration in their respective jurisdictions

L Schofield* (Department of Industry, Innovation and Science, Federal Government), T Knight* (Department of Natural Resources and Mines, Queensland), K Erzikov* (Department of Planning and Environment, New South Wales), R McGowan* (Geological Survey of Victoria), B Goldstein* (Department for Manufacturing, Innovation, Trade, Resources & Energy, South Australia), I Scrimgeour* (Department of Primary Industry and Resources, Northern Territory) and J Haworth* (Department of Mines, Industry Regulation and Safety, Western Australia)

CONCURRENT 11: Insights and opportunities for southern basins

CHAIR: Mrs Camilla Aamodt, Exploration Manager, Equinor Australia BV

New insights on Upper Cretaceous stratigraphy and sedimentology of the Bight Basin, Australia from IODP Site U1512
C Wainman, P McCabe* and S Holford (University of Adelaide) and the IODP Expedition 369 Scientific Party

Regional paleodepositional environment of the Cretaceous in the Great Australian Bight — a support for frontier exploration
D Klauser-Baumgärtner, T Reichel and J Hansen (Equinor)

The Bight Basin — a tale of three deltaic megasequences
I Strømsøyen, E Schomacker, B Søderstrøm and B Waagan (Equinor)

The Gippsland Basin: reprocessing reveals new opportunities in a 'mature' basin
P Baillie (CGG), P Carter (PC Energy), J Grahame, J Zhou and N Mudge (CGG)

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Wednesday 29 May 2019

11:15am–12:30pm

TECHNICAL AND BUSINESS PROGRAM SESSIONS 10–14 cont.

CONCURRENT 12: Optimising production from analysis to outcome

SPONSORED BY EIM

CHAIR: Mr Brett Shalders, Executive General Manager, EIM

The use of integrated production modelling to assess network efficiency and production system optimisation
Y Fei (University of Adelaide), G Lydyard, A Mantopoulos, D Marques* and M Rondon (Santos)

Multiphase gas compression to boost non conventional production and reserves
R Perry, J Martini (Hicor Technologies) and P Kulkarni (Equinor)

Rigorous gas field production data analysis | C Evans and A Corrie-Keilig* (RISC Advisory)

Panel discussion

CONCURRENT 13: The value of Australian LNG—global influence and emerging markets

CHAIR: Dr Josh Stabler, Managing Director, EnergyEdge

The emergence of China as an LNG super user | J Norman (Santos)

Signposts to a robust liquid LNG market
B Cullinane (Deloitte Consulting), S Sakmar (University of Houston Law Centre) and N Hill (Deloitte Touche Tohmatsu)

What's your gas worth: a thrilling or a taxing matter? | K Wee (Deloitte)

Finding a home for Australian LNG in developing power markets | C Henderson (Advisian)

CONCURRENT 14: It's a matter of safety—understanding, improving and regulating

EHS STREAM

SPONSORED BY Downer Relationships creating success

CHAIR: Mr Peter Allsopp, Head of Zero Harm - MEI, Downer

What were they thinking? How the brain is wired for Limbic Risk™
R Wentzel and N Wentzel* (The Jonah Group)

Reflections of a contemporary gas regulator in Queensland
B Date (Department of Natural Resources, Mines and Energy)

Eliminating fatalities from the upstream oil and gas industry
C Hawkes (International Association of Oil & Gas Producers)

Current trends in industry safety performance: applying scrutiny to safety issues associated with ageing facilities | D O'Keeffe (NOPSEMA)

12:30pm–2:00pm

NETWORKING LUNCH IN THE EXHIBITION HALL

SPONSORED BY KBR

All delegates are invited to enjoy lunch in the exhibition halls while exploring the exhibits, poster presentations, and Collaboration Centre.

12:45pm–2:00pm

Hot Topics Discussion in the EY Collaboration Centre (See p31) SPONSORED BY EY Building a better working world

1:00pm–2:00pm

MEET THE AUTHORS Poster Presentation Area, Exhibition Hall

SPONSORED BY bp

Enjoy the gallery of technical and business posters inside the exhibition and meet the authors to discuss their work. See p27–29 for the full listing of 2019 Poster Presentations.

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Wednesday 29 May 2019

2:00pm–3:15pm

TECHNICAL AND BUSINESS PROGRAM SESSIONS 15–19

CONCURRENT 15: PESA—2018 in review

SPONSORED BY PESA

CHAIR: Mr Chris Harwood, Federal Treasurer, PESA

PESA Australian exploration review 2018
D Lockhart and D Spring* (Senex Energy)

Australian petroleum production and development 2018
G Bethune (EnergyQuest)

'Back to the Future' a review of Australian reservation and other natural gas export control policies
J Plumb (Carter Newell)

CONCURRENT 16: Australia's potential

CHAIR: Dr Tony Knight, Chief Government Geologist, Department of Natural Resources, Mines and Energy

East coast gas—resource potential at different gas price scenarios (Part 1: Quantification of unconventional gas resource potential) | I Cockerill, J Collins and Z Rasheed (RISC Pty Ltd)

Rock properties and in-situ stress state of the Egilabria Prospect, Lawn Hill Platform, Queensland
A Bailey, L Wang, L Hall and P Henson (Geoscience Australia)

The prospectivity of the Cape Vogel Basin, Papua New Guinea
S Amiribesheli (Discover Geoscience) and A Weller (Searcher Seismic)

Enabling a CCS industry through research at the CO2CRC National Otway Research Facility
M Raab (CO2CRC), C Jenkins (CSIRO Black Mountain), R Pevzner (Curtin University) and A Qader (CO2CRC)

CONCURRENT 17: Fracking the way to fresher findings

CHAIR: Professor Andrew Garnett, Director–UQ Centre for Coal Seam Gas, University of Queensland

Challenges in modelling of hydraulic fracturing in low-permeability coal seams with complex cleat networks and stress regimes | M Aghighi, R Johnson Jr and C Leonardi (University of Queensland)

Pushing the boundaries—development of innovative drilling, completion and production technology to advance a deep coal seam play | R Branajaya, P Archer and A Farley (Strike Energy)

Influence of elastoplastic embedment on CSG production enhancement using graded particle injection
Z You, D Wang, C Leonardi, R Johnson Jr (University of Queensland) and P Bedrikovetsky (University of Adelaide)

CONCURRENT 18: It's a gas

SPONSORED BY ABB

CHAIR: Mr Juergen Zimmermann, Business Development & Technology Manager Microgrids, ABB

Renewables, gas and batteries—reliable and efficient power for industry | T Lukatela (Woodside Energy)

Some economic estimates of gas-fired power generation in a carbon constrained Australia
C McConnell and C Dorgelo (Advisian)

Renewed energy in Asia's upstream | G Farruggio and D Dixon (Rystad Energy)

Moomba reset—breathing new life into a 50 year old asset | V Santostefano (Santos)

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Wednesday 29 May 2019

2:00pm–3:15pm

TECHNICAL AND BUSINESS PROGRAM SESSIONS 15–19 cont.

EHS STREAM

CONCURRENT 19: Environmental approvals—the collaborative approach

CHAIR: Mr Cameron Grebe, Head of Division, Environment, NOPSEMA

A regulator's vision and perspectives on key environmental management challenges
C Sim (NOPSEMA)

Good, bad or ugly—all a matter of perspective?
J Lovell (Seafood Industry Australia)

Critical success factors for achieving environmental approvals
P Raitt (Green Light Environmental)

Reducing the complexity of environmental approvals—learnings from an industry-wide collaborative effort
M Smith (NERA)

3:15pm–3:45pm

AFTERNOON TEA IN THE EXHIBITION HALL

3:45pm–5:00pm

TECHNICAL AND BUSINESS PROGRAM SESSIONS 20–24

CONCURRENT 20: A new Cooper Basin is born

SPONSORED BY ERCE Independent Energy Experts

CHAIR: Dr Tony Knight, Chief Government Geologist, Department of Natural Resources, Mines and Energy

Geological and bioregional assessments—enabling future tight, shale and deep-coal gas development—Cooper Basin case study | D Robinson, ME Gunning, T Evans, L Hall, B Sundaram (Geoscience Australia), A Swirepik, A Stacey, R Dann and K Holland (Department of the Environment and Energy)

Old rocks, new tricks—a re-invigorated Cooper Basin offers growth opportunity
B Ovenden (Santos)

Results of hydraulic fracturing design improvements and changes in execution strategies for unconventional tight gas targets in the Cooper Basin, Australia
R Johnson Jr, R Zhong (University of Queensland) and L Nguyen (Real Energy Corporation)

Panel discussion

EHS STREAM

CONCURRENT 21: Emerging ideas in process safety

SPONSORED BY DUPONT

CHAIR: Mr Andrew Wilson, Principal, DuPont

Reducing maintenance burden on established facilities through a targeted risk review of safety critical equipment
B Innes (Upstream Production Solutions)

The hardy perennials of maintenance
N Clegg (Upstream Production Solutions)

Reduced manning with improved safety and reliability—how classification societies and digital solutions can support operators
M Tipping (Lloyds Register) Presenter only: J Baker (Lloyds Register)

Offshore structures—why all offshore facilities should have a demanning requirement
M Keys (Atkins SNC-Lavalin)

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Wednesday 29 May 2019

3:45pm–5:00pm

TECHNICAL AND BUSINESS PROGRAM SESSIONS 20–24 cont.

CONCURRENT 22: Project management 101—fail to prepare, prepare to fail

CHAIR: Mr Carl Titchmarsh, Head of Business Development, West Coast and NT, Clough

Australia's shale industry—how we can become globally competitive
P Cox (Worley)

Better project delivery—Australia's value opportunity
A Rodger (Wood Mackenzie)

Industry 4.0 and the digital transformation journey
D Makin and E Boyle (Worley)

Integrated activity planning—a proven approach to optimising operations outcomes
B Farrell and V Mulgund (EY)

CONCURRENT 23: One industry, one workforce, one goal

SPONSORED BY BHP

CHAIR: Ms Libby Ferrari, Manager Indigenous Affairs Australia, BHP

Diversity and inclusion—moving the needle in Indigenous employment and engagement
M Williamson* (Broadspectrum) and M Wilson* (INPEX Operations Australia Pty Ltd)

Enhancing Indigenous partnerships in an increasingly digitised oil and gas sector
M Lynn* (Deloitte Consulting) and D Wirrpanda* (Wirrpanda Foundation)

How diversity can alleviate sharks and bandwagons in the gas sector
J Spanjaard* and S McAlister-Smiley* (Deloitte Touche Tohmatsu)

Panel discussion

EHS STREAM

CONCURRENT SESSION 24: Environmental monitoring—a dip in the ocean

CHAIR: Ms Debbie Morrow, Vice President of HSEQ, Woodside

Innovation and technology in marine science: AIMS' North West Shoals to Shore research program—an update
M Parsons, K Miller, M Thums, J Gilmour, L Ferreira (Australian Institute of Marine Science), R McCauley (Curtin University) and M Meekan (Australian Institute of Marine Science)

Biofouling risk management for the importation of a floating, production, storage and offloading (FPSO) facility and the central processing facility (CPF); the world's largest semi-submersible platform
N Gust*, A Coutts, P Lewis, R Tigges (Biofouling Solutions), J Prout* and S Carter (INPEX Operations Australia)

Demonstrating an acceptable level of impact: An assessment of noise impacts to fishes from a seismic survey in an Australian marine park
J Edgell, J Colman (ERM Australia), S Jarvis (S2 Services) and O Glade-Wright (Cooper Energy)

Monitoring marine effects of produced formation water discharge in Bass Strait
L Barnes* (Cardno), K Hall* (Esso Australia), C Blount, M Hooper, D van Senden, A Costen, C Scraggs, D Provis and D Pygas (Cardno)

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Wednesday 29 May 2019

5:00pm–6:00pm

HAPPY HOUR IN THE EXHIBITION HALL

This event provides another excellent networking opportunity for all delegates, exhibitors and invited guests. Meet with colleagues and share ideas over a refreshing drink before you prepare for the Conference Dinner.

SPONSORED BY

Petrofac

- Complimentary to delegates and exhibitors.
- Includes drinks and light refreshments.
- Business attire.

7:00pm for
7:30pm–midnight

CONFERENCE DINNER

Plaza Ballroom, Brisbane Convention & Exhibition Centre

Join us as a 'Confetti of Light' rains down on the annual APPEA Conference Dinner — the hottest ticket in town!

Whether you book a single ticket or a table, this event will impress!

SPONSORED BY

BROADSPECTRUM

- Cocktail/lounge suit.

Thursday 30 May 2019

7:30am–3:00pm

Conference Registration
Main Foyer, Ground Level

8:00am–6:00pm

APPEA 2019 Exhibition open
Exhibition Hall, Ground Level
SPONSORED BY wood.

8:00am–6:00pm

APPEA 2019 Technical and Business Poster Presentations open
Exhibition Hall, Ground Level
SPONSORED BY bp

8:00am–6:00pm

KPMG Meeting Zone open
Exhibition Hall, Ground Level
SPONSORED BY KPMG
With two private meeting zones, seating up to eight people, this is not a space to be missed.

8:30am–10:30am

PLENARY

FEDERAL OPPOSITION ADDRESS

Senior Representative, Federal Opposition (subject to availability)

PLENARY: Staying the course — east coast gas market challenges and opportunities

SPONSORED BY ExxonMobil

FACILITATOR: Ms Ticky Fullerton

Esso Australia's long-term contribution to the east coast gas market
Mr Nathan Fay, Chairman, ExxonMobil Australia

State of the east coast gas industry
Mr Rod Sims, Chair, Australian Competition and Consumer Commission

Unlocking the next wave of Australia's natural gas resources
Mr Kevin Gallagher, Managing Director & Chief Executive Officer, Santos

East coast gas — finding balance
Mr Andrew Hodge, Associate Director – Energy, Macquarie Securities

10:30am–11:15am

MORNING TEA IN THE EXHIBITION HALL
BROUGHT TO YOU BY THE APPEA JOURNAL

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Thursday 30 May 2019

11:15am–1:00pm

TECHNICAL AND BUSINESS PROGRAM SESSIONS 25–28

CONCURRENT 25: Acquisition, processing and interpretation—a job of seismic importance

CHAIR: Dr Steve Mackie, Petroleum Advisor, Geosim Consulting

Offshore data acquisition in shallow water—challenges and opportunities
S Molyneux (Molyneux Advisors), S Jarvis (S2 Services) and J Dirstein (Total Depth)

The evolution of FWI and its perceived benefits | T Martin (PGS UK) and A Long* (PGS Australia)

High frequency full waveform inversion as an interpretation solution
L Letki, M Lamont and T Thompson (DownUnder GeoSolutions)

Application of deep learning for seismic horizon interpretation | J Lowell and J Smith (GeoTeric)

Panel discussion

CONCURRENT 26: Baselines, benefits and bridging—a closer look at environmental engineering

CHAIR: Mr Jason King, General Manager – Contracting, Procurement and Logistics, Arrow Energy

The Great Australian Bight Right Whale Study, 1991–2018—bridging the gap between science and industry to provide baseline data for impact assessment and approvals in oil and gas
C Charlton, R McCauley* and R Ward (Centre for Marine Science and Technology)

Zero Waste Well—the beneficial use of produced water from CSG projects | P Wybrew (Santos)

From the Beetaloo to West Texas—similarities, differences and lessons learned from water management in coal seam and shale field developments on either side of the Pacific
B Webster*, H Churman*, C Benjamin, J Long and B Goebel (GHD)

Towards the development of a baseline for surface movement in the Surat Cumulative Management Area
M Masoudian, C Leonardi*, Z Chen and J Underschultz* (University of Queensland)

Panel discussion

CONCURRENT 27: Community engagement—working with our host communities

CHAIR: Mrs Justine Neep, Special Projects Manager, Senex Energy

Gladstone Harbour—a case study of building social license-to-operate in a multi-use area
L Llewellyn, R Brinkman (Australian Institute of Marine Science), E McIntosh (Department of Geography and the Environment), N Marshall (CSIRO), U Pinto (Office of Environment and Heritage), J Rolfe (Central Queensland University) and B Schaffelke (Australian Institute of Marine Science)

Ahead of the game—working with local communities in frontier resource basins
W Squire and J Braithwaite (Department of Natural Resources, Mines and Energy)

360-degree stakeholder management driving successful CO_2 storage research
A De Fina* (CO2CRC), M Chable* and C Wills (Upstream Production Solutions)

Social license has changed. It is time to build trust with society using the tools of today
A Johnston-Billings, L Pogmore* and M Kaiser* (KPMG Australia)

Constructivism: an answer to activism
T Diamond (Australian Mines and Metals Association)

Panel discussion

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Thursday 30 May 2019

11:15am–1:00pm

TECHNICAL AND BUSINESS PROGRAM SESSIONS 25–28 Cont.

CONCURRENT 28: The next chapter of Australian energy

CHAIR: Ms Bernadette Cullinane, Partner and National Oil and Gas Leader, Deloitte

Meeting demand in a new era of east coast gas supply | W Pulsford (Poten & Partners)

Australia's unconventional future—where next? | C Meredith (Wood Mackenzie)

Commercial realities of the proposed LNG import terminals on the east coast of Australia
N Mumford (Mumford Commercial Consulting)

Has the 'Golden Age of Gas' bypassed Australia? | J Stabler (Energy Edge)

East coast gas—resource potential at different gas price scenarios (Part 2: Commercialisation of unconventional gas resources) | J Collins, I Cockerill and Z Rasheed (RISC Advisory)

Panel discussion

1:00pm–2:30pm

NETWORKING LUNCH IN THE EXHIBITION HALL BROUGHT TO YOU BY THE APPEA JOURNAL

1:00pm–2:30pm

Authors' Lunch | By invitation only

SPONSORED BY ExxonMobil

1:45pm–2:30pm

Hot Topics Discussion in the EY Collaboration Centre (See p31)

SPONSORED BY EY Building a better working world

2:30pm–4:15pm

PLENARY

PLENARY PANEL: Perceptions of the modern industry

SPONSORED BY Brightr

CHAIR: **Mr Brett Woods** Executive Vice President Development, Santos

Opening comments from facilitator Ms Ticky Fullerton

Onshore gas industry coexistence in Queensland
Dr Damian Barrett, Research Director, Onshore Gas Program, CSIRO Energy and Director, CSIRO Gas Industry Social and Environmental Research Alliance, CSIRO

The face of energy
Mr Peter Bennett, Chief Executive Officer and Managing Director, Clough

Meeting the advocacy challenge
Mr Ian Davies, Managing Director and Chief Executive Officer, Senex Energy

Securing competitive gas supply—a manufacturing perspective
Ms Melissa Perrow, General Manager Energy, Brickworks

It's time to get emotional with your customers
Ms Christine Corbett, Special Advisor, PwC

CEO's Closing Conference Address Mr Andrew McConville, Chief Executive, APPEA

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Thursday 30 May 2019

4:15pm–6:15pm

FAREWELL COCKTAILS

The Charming Squire will host delegates for a final farewell after a thought provoking week of technical innovations, discussion and debate, networking and exhibition engagement. Enjoy this last opportunity to connect with new colleagues and old acquaintances as we say so long at Southbank.

- Complimentary to full delegates. $50 per person to all other registration categories and additional guests.
- Includes drinks and light refreshments.
- Smart casual attire.

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Lidiar Group

Friday 31 May 2019

2019 AUSTRALIAN OILFIELD GOLF TOURNAMENT

Organised by the AOGT 2019 Committee

The Australian Oilfield Golf Tournament (AOGT) has been a staple feature that follows the APPEA annual conference and is brought to you by a committee of dedicated volunteers from the oil and gas industry.

This one-day tournament at Indooroopilly Golf Club will be a 4-ball Ambrose, with both team and individual registrations available.

Further information: Kylie Carre **t** 0424 582 049 **e** kyliecarre@live.com.au

The APPEA Journal

YOUR OFFICIAL RECORD OF APPEA 2019

The APPEA Conference continues to distribute world-class information to the industry through *The APPEA Journal*—the official record of this flagship event.

The APPEA Journal (2019) will be published online three weeks after the conference. Delegates who receive the proceedings as part of their package, will be issued a password to access the highly sought after conference material. It will contain peer-reviewed full papers and extended abstracts of oral and poster presentations, all plenary presentations[1], PESA industry reviews[1] and a selection of material from the social functions.

Abstracts from all available presentations will be accessible to view pre-conference via the APPEA 2019 Mobile App.

APPEA is proud to continue to deliver a conference proceedings that is internationally acclaimed and distributed world-wide.

For more information on accessing the 1961–2018 journal articles online, please contact:
Georgia Toirkens, **e** gtoirkens@appea.com.au, **t** 02 6267 0908

[1] Where consent has been given.

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Technical and Business Poster Presentations

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The APPEA Conference technical and business program incorporates an extensive poster series comprising of 49 outstanding papers. The extended abstracts or full papers of these posters will be included in *The APPEA Journal* (conference proceedings) provided online after the conference.

The poster series will be on display within the Exhibition Hall of the Brisbane Convention & Exhibition Centre from 8:00am to 6:00pm Tuesday and Wednesday, and 8:00am to 3:00pm Thursday. Delegates are encouraged to attend the special 'Meet the Authors Session' in the poster area during lunch on Wednesday 29 May, 1:00pm–2:00pm to meet the authors and discuss their work.

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GEOSCIENCE

G01 **How can we reduce the environmental impact of marine seismic surveys?**
A Long, M Bastard, E Asgedom, J F Wisloff and M Christiansen (PGS)

G02 **The Roebuck Basin, Beagle and Barcoo Sub-basin well folio**
D Nguyen, N Rollet, E Grosjean, D Edwards, S Abbott, C Orlov, G Bernardel, C Nicholson*, A Kelman, K Khider and T Buckler (Geoscience Australia)

G03 **Proxy modelling for multi-well simulations—enabling identification of major input variables and reduced computation time over Monte Carlo sampling**
T McCourt (Craigslea State High School), R Blackmore (Cyber and Electronic Warfare Division), I Rodger, S Hurter, H Thompson, M Reilly and D Donovan* (University of Queensland)

G04 **Revisions to the chronostratigraphic framework of the Upper Jurassic Walloon Coal Measures of the Surat Basin, Australia**
C Wainman and P McCabe* (University of Adelaide)

G05 **Integration of biostratigraphy into a sequence stratigraphic framework for the Surat Basin, eastern Australia**
C LA Vieira Filho*, S Hurter, M Reilly* and Z Hamerli (University of Queensland)

G06 **An integrated approach to the Surat Basin stratigraphy**
M Reilly*, S Hurter, Z Hamerli*, and C LA Vieira Filho, A LaCroix and S Gonzalez (University of Queensland)

G07 **Prediction of groundwater impacts from coal seam gas extraction in the Surat Basin**
K Phillipson (Department of Natural Resources, Mines and Energy)

G08 **Well log data analytics—overview of applications to improve subsurface characterisation**
I Emelyanova, C Dyt*, MB Clennell, JB Peyaud and M Pervukhina (CSIRO Energy)

G09 **Coal permeability stimulation by NaClO oxidation**
R Balucan, Z Jing, J Underschultz and K Steel (The University of Queensland)

G10 **Integrating multi-disciplinary data for building fit-for-purpose 3D mechanical earth model**
P Boothby (Chevron), R Puspitasari (Schlumberger), S Thakur* (Chevron), Z Pallikathekathil (Schlumberger) and C Walton (Chevron)

G11 **An integrated approach to determining 4D stress development at Castle Cove**
H Burgin, K Amrouch, P Robion and D Kulikowski (University of Adelaide)

G12 **Effect of the number of water alternating CO_2 injection cycles on CO_2 trapping capacity**
E Al-Khdheeawi, S Vialle, A Barifcani, M Sarmadivaleh (Curtin University) and S Iglauer (Edith Cowan University)

G13 **Estimating smectite content from seismic data**
R Beloborodov, M Pervukhina, V Shulakova (CSIRO), D Chagalov, M Josh, MB Clennell (CSIRO), G Ward, M Waugh (Chevron Australia) and J Hauser (CSIRO)

G14 **Variation of vertical stress in the onshore Canning Basin, Western Australia**
A Bailey and P Henson (Geoscience Australia)

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ENGINEERING

E01 **Improving decision making through data analytics to drive best-in-class CSG rig performance**
K Koziol (Easternwell)

E02 **Coal identification using neural networks with real-time coalbed methane drilling data**
R Zhong, R Johnson Jr, Z Chen and N Chand (University of Queensland)

E03 **Real-time drilling optimisation — driving drilling excellence**
A Barhate, P Patel (Drill Insight) and E Abrahamsen (Sekal AS)

E04 **Lined tubing performance in CSG wells operated in Australia**
J Martin and R Carmichael (COHO Resources)

E05 **A practical fracability evaluation for tight sandstone reservoir with natural interface**
R Feng, R Chen and M Sarmadivaleh (Curtin University)

E06 **Experimental investigation of fluid thermal effects on fracture brittleness**
A Rezagholilou, H Salemi, N Tarom, P Behnoudfar and M Sarmadivaleh (Curtin University)

E07 **Walk to work systems as an enabler of reduced maintenance and manning**
D McCarthy (Granherne)

E08 **Safe autonomous systems require changes in business relationships**
M Shadbolt (Nova Systems)

E09 **Natural gas separation at CO2CRC's Otway National Research Facility**
A Qader and J Pandit* (CO2CRC)

E10 **Subsurface engineering of CCUS in Australia (case studies)**
M Bagheri and M Raab* (Cooperative Research Centre for Greenhouse Gas Technologies)

E11 **Drilling fluid waste treatment using polysaccharide-grafted copolymers**
GP Karmakar and K Chandan (Indian Institute of Technology)

E12 **Flowing gas material balance — a useful tool to revise subsurface maps**
B Haq (King Fahd University of Petroleum and Minerals)

E13 **Risk-based asset performance management in CSG production operations**
P Carydias and J Gregory* (Wood)

E14 **Decision making through Bayesian network for a pipeline in design**
F Ayello, G Liu (DNV GL Columbus) and J Zhang (DNV GL Australia)

E15 **LNG production revenue enhancement**
M Vines (Esso Australia)

E16 **Application of computerised radiography in lieu of film radiography to streamline on-site pipe weld quality inspection process**
M Fernando* (McConnell Dowell Constructors) and H Fard* (Bureau Veritas)

E17 **Managing escape, evacuation and rescue (EER) risk on aging offshore facilities**
N Netscher (ExxonMobil Australia) and J Thompson (Advisian)

E18 **Asset management — listening to your asset**
D Walker (Yokogawa Australia)

BUSINESS

B01 **Forecasting growth of the Australian unconventional oil and gas services market**
R Carbrey (Rystad Energy)

B02 **SEAR JIP: the value of sharing of lessons learned on subsea integrity and reliability**
A Botto (Wood)

B03 **Blockchain in oil and gas—a collaborative approach**
L Gallacher (Deloitte Consulting) and D Champion (Nottingham Trent University)

B04 **Securing industrial systems in a digital world**
B Dickinson and D Wilkinson (ABB) Presenter only: E Barrett (ABB)

B05 **Oil and gas project management and success—a critical evaluation of oil and gas project management success in Australia**
C Ikediashi and B Bjeirmi (Robert Gordon University)

B06 **The tax profile of different models of infrastructure asset ownership and funding**
M Chang (EY)

B07 **Opportunities for collaboration in the Australian oil and gas industry**
J Peacock* and S Dow* (KPMG Australia)

B08 **Blue hydrogen production: a case study to quantify the reduction in CO_2 emission in a steam methane reformer based hydrogen plant** | N Kritzinger (Fluor Australia), R Ravikumar, S Singhal (Fluor Daniel India Private), K Johnson (Fluor AV) and K Singh (Fluor India) Presenter only: Marc Humm (Fluor Australia)

B09 **From initial advice statement to export—a 10 year retrospective of Queensland's liquefied natural gas industry**
P Downey, J Thomas* and M Stone (Department of Natural Resources, Mines and Energy)

B10 **Darwin Harbour—a partnership approach to understanding and evaluating environmental challenges**
R Brinkman, E Butler (Australian Institute of Marine Science), T O'Connor (Darwin Port) and C Streten* (Australian Institute of Marine Science)

B11 **Competency framework: environmental approval specialists**
P Raitt* and S Fidgeon* (Green Light Environmental)

B12 **Western Australian marine oil pollution risk assessment—identification of protection priorities**
R Morgan (Advisian), E Gifford (WA Department of Transport), A Jacobs (GFC Alliance) and K Swain (Woodside Energy)

B13 **'Lawfare' and the oil and gas industry**
X McMahon and J Williams (Clayton Utz Brisbane)

B14 **The power of digital—workplace tools to modernise safety compliance**
N Shibi and K Ahlgren (Techs4biz)

B15 **Use of concept risk assessment for field development certainty**
C Crowley, D Ashton and D Callus (Atkins Global)

B16 **Northern Gas Pipeline project—a case study in safe, professional gas pipeline construction**
L Richards and T Green (McConnell Dowell Constructors)

B17 **Safe and efficient delivery of logistics solutions to coal seam gas well sites, utilising our 'Well in a Box' methodology**
J King and B Yeong (Arrow Energy)

APPEA**2019** YOUTH PROGRAM: Fostering the next generation

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Chevron Santos Woodside

The next generation of talent will be the one to Navigate the Future of our industry, using the Internet of Things, Artificial Intelligence, big data, machine learning, and 3-D printing as part of the everyday toolkit.

APPEA 2019 delivers an education program designed to connect high school students with the best of our industry, showcasing the digital revolution that is currently underway.

Proudly supported by Chevron, Santos and Woodside, students will participate in tailored workshops and interactive activities with industry leaders, learn about the many career pathways available to them now and in the coming decades, and have the unrivalled experience of a guided walk through the APPEA Exhibition.

APPEA MENTOR PROGRAM: Cultivating our new oil and gas professionals

The APPEA 2019 Conference Mentor Program sponsored by BHP aims to encourage, enable and empower undergraduate tertiary students by linking them with successful peer role models.

APPEA has a strong commitment to the next generation of oil and gas professionals, and BHP's own graduates will act as mentors to the selected students for their time onsite at APPEA 2019 — sharing their experiences and advice on entering the industry.

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APPEA 2019 ONSITE CHILDCARE

NEW FOR 2019

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Nurturing a partnership between family and work

New for 2019 and proudly sponsored by BHP, APPEA is delighted to offer a complimentary childcare facility for registered APPEA 2019 attendees, onsite at the conference venue.

The childcare accommodates children aged 0–5 years and operate 8:00am–6:00pm, Tuesday 28 – Thursday 30 May during the conference. Attend conference sessions knowing your child is having fun, learning and in safe hands.

EY COLLABORATION CENTRE

Now in its second year, this featured area hosts scheduled 'hot topics' where the industry can explore current industry challenges at the pre-arranged times noted below. This will connect delegates interested in the same topics and provide an opportunity to meet and discuss specific industry issues. Join fellow delegates, APPEA and EY specialists, along with conference speakers (subject to availability) for lively discussion and networking.

HOT TOPICS DISCUSSIONS

Full details on the APPEA Conference website

REIMAGINING THE ENERGY FUTURE

1:00pm, Tuesday 28 May

Participants will discuss the impact on oil and gas companies and what you can do now to prepare for the new energy future.

HOW IS YOUR BUSINESS CLIMATE CHANGING IN A WORLD OF CHANGING CLIMATE?

12:45pm, Wednesday 29 May

This Hot Topic session will explore the current state of climate change reporting for the sector and where it needs to move to, to meet the needs of investors.

IS CULTURE A SPRINGBOARD FOR SUCCESS OR AN ANCHOR WEIGHING YOU DOWN?

1:45pm, Thursday 30 May

Join us for a practical and case-study based perspective on how to drive cultural change in your organisation through coordinated, fundamental change

KPMG MEETING ZONE

Need a place to meet for an hour? Take advantage of the KPMG Meeting Zone in the Exhibition Hall. You can book one-hour meetings for up to eight people.

The Meeting Zone is open:

Tuesday 28 May 8:00am–6:00pm
Wednesday 29 May 8:00am–6:00pm
Thursday 30 May 8:00am–3:00pm

Please note as the Meeting Zone is located in the exhibition hall, all meeting participants must be registered attendees or registered guests of APPEA 2019. All meeting room bookings are for 55 minutes. This allows for cleaning and tidying before the next meeting commences on the hour.