



appea

the voice of australia's oil and gas industry

Annual Report 2015–2016



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From the Chairman

In 2015–16, the industry successfully juggled delivering landmark projects while containing costs in a punishing, low price environment.

Two decades ago, Queensland’s coal seam gas industry was no more than a twinkle in the eye of some daring explorers. Now Queensland supplies about 40 per cent of east coast domestic gas and is exporting LNG to our major regional trading partners.

In the second half of 2015, Gladstone LNG and Australia Pacific LNG began production, following in the wake of Queensland Curtis LNG, which shipped its first cargo in January 2015.

In 2015–16, Queensland exported about 12.4 million tonnes of LNG. These new gas projects have transformed the Queensland economy and revitalised regional communities. These exports will continue to grow as will the benefits for the state and the country.

On the other side of Australia, the giant Gorgon project’s first train came online in early 2016.

Other large LNG projects are nearing the end of their development phases. Wheatstone and Ichthys will enter production in 2017, while Prelude is expected to start up in 2018.

These massive, high-tech developments will enhance our prosperity for decades to come. They will provide 40 or more years of substantial export income and significant government revenues. They will also create high-paying, long-term operational jobs and support a vibrant service industry.

There is much to celebrate. But there is no denying that the current low oil and LNG prices have taken a toll on the industry.

After years of blue-sky ambition and startling growth, we are now very much in a period of consolidation, reflection and difficult adjustments.

This is just as true for the APPEA secretariat as it is for the wider industry. Much like our member companies, APPEA has reassessed its priorities and restructured its operations to be leaner and more focused. The Board and the Secretariat appreciate members’ continuing support for APPEA’s policy, advocacy and communications work, and their unwavering commitment to the association’s safety agenda.

In this era of rapid change, activist-driven controversies and fiscal difficulties, APPEA’s role as the voice of the industry is more important than ever. Dealing with all these challenges requires a strong, united industry.

The association continues working with governments to advocate policies that facilitate investment and development of the nation’s oil and gas resources. Increasingly, governments rely on bodies such as APPEA to identify regulatory changes that can boost investment and prosperity. We are expected to make the case for such reforms, both directly to government and via the media to the wider community. APPEA also coordinates efforts to implement best practices in safety, environmental management and community engagement.

Meanwhile—globally and nationally—energy policy is in flux.

The Paris Agreement on climate change was drafted in December 2015 and came into force on 4 November 2016. It creates big opportunities for the natural gas sector, as deploying gas with intermittent renewables is the most effective way for many nations to achieve their targets.

Meanwhile, the Council of Australian Governments has recognised the link between gas supply, emissions reduction and energy security. The Commonwealth, States and Territories have endorsed the principle of ‘more gas supply and more gas suppliers’.

Yet energy policy remains highly contested. In a cynical political step, Victoria has shut out safe, responsible onshore development.

APPEA continues to advocate for timely access to resources, reduced red tape and market-based energy policy. Apart from Western Australia, governments and oppositions across the country reject gas reservations and similar interventions. But some unions, major companies and manufacturing industry bodies are still calling for gas reservation.

This environment poses very real challenges to investor confidence and long-term planning. So it is not surprising that Australia's oil and gas exploration has declined dramatically in recent years. This poses a real threat to the nation's future prosperity and energy security. Reducing the industry's costs and enhancing its confidence are essential to fostering the exploration needed to deliver the next generation of Australian oil and gas production.

However, there are still good reasons to be optimistic about our industry's future. Time and again, we have shown ourselves to be highly adaptable and innovative. Hardship has proven to be a catalyst for new efficiencies.

Long-term forecasts for Asian gas demand remain strong. By the end of this decade, excess capacity in the LNG sector will have been absorbed. New opportunities will emerge, which Australia is well placed to seize.

Our country has vast untapped onshore and offshore gas resources. We are developing new technologies — such as floating LNG — that will let us tap previously inaccessible resources. We now have world-class gas infrastructure and skills sets that can be leveraged for further growth. These assets can be a springboard for new LNG trains. But they can also help expand our domestic oil and gas sectors, foster an expansion of our service sector, and drive the exploration needed to underpin our future energy security.

Farewell and thanks

In 2015 and 2016, APPEA honoured remarkable leaders for their contributions to the industry.

The Hon Ian Macfarlane was awarded APPEA's highest honour — the Reg Sprigg Medal — for outstanding service to the industry. From November 2001 until September 2015, with one brief interval, Ian served as Australia's Minister or Shadow Minister for Resources and Energy — an unrivalled record. Ian was tireless in his support for sound, bipartisan policy to draw investment to Australia. He played a major role in developing the policy environment that attracted more than \$200 billion to develop a new generation of world-class Australian oil and gas projects.

After eight years as Chevron Australia's managing director, Roy Krzywosinski has returned to the US. With Roy at the helm, Chevron invested massively in major Australian projects. Roy also made an outstanding personal contribution to APPEA and the industry in his two years as Chair of the Stand Together for Safety



Committee. He has been a passionate advocate for personal and process safety, and has helped develop a stronger safety culture across the industry.

In September 2016, Origin Energy's founding Managing Director, Grant King, retired. Under his leadership, Origin has become a major energy producer and retailer across Australia, developing new petroleum provinces for both domestic and export markets. Grant's legacy is most evident in the Queensland LNG industry. As an APPEA Board Director for two decades, Grant brought his incisive mind to every major issue facing the industry, to the great benefit of the entire industry.

In August 2015, Michael Lawry from Santos was also awarded a life membership in recognition of his role in developing tax policy and improving tax administration. Michael has been a member of APPEA's tax committees for more than 20 years and has represented the industry on a range of government groups.

APPEA congratulates Ian, Roy, Grant and Michael for their outstanding contributions and wishes them well for the future.

APPEA 2015–16: key achievements

APPEA has made significant progress in several areas of advocacy and industry leadership.

1 Exploration and access

- Advocated effectively for reforms to offshore regulation in response to the Offshore Resource Management Review.
- Secured regulatory and other changes to reduce exploration costs.
- Launched the APPEA template seismic ingress agreement to streamline negotiations with seismic contractors.
- Advocated for continuing industry access—onshore and offshore—in response to numerous government inquiries, including the Federal Government’s review of marine reserves.

2 Safety, health and environment

- Launched the Process Safety Good Practice Guide under the Stand Together for Safety (STFS) program.
- Supported the IChemE Safety Centre in producing guidance on leading process safety metrics and process safety competency.
- Worked with the Western Australian Government and the WA Marine Science Institution to develop the Industry-Government Environmental Meta-data (IGEM) system, which allows rapid data sharing in the event of an oil spill.
- Secured positive results for the oil and gas industry in developing regulations under the new *Biosecurity Act 2015*.
- Worked with the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) to develop industry guidelines on stakeholder engagement.

3 Energy policy

- The Australian Competition and Consumer Commission’s East Coast Gas Market Inquiry Report endorsed APPEA’s position calling for the removal of barriers to further gas market development, including domestic gas reservation and moratoriums on onshore gas operations.

4 Taxation and commercial

- Successfully advocated for retaining the existing thin capitalisation rules that apply to interest deductions against company tax.
- Worked closely with the Australian Taxation Office on the tax treatment of exploration.
- Continued engagement with the Commonwealth Government on the detailed application of the petroleum resource rent tax regime.
- Supported the activities of members on aspects of royalty provisions.

5 Climate change policy

- Continued to promote the low-emissions profile of natural gas and the need to maintain the industry’s competitiveness during development of the Emissions Reduction Fund (ERF).
- Successfully advocated for significant improvements to the operation of the ERF’s safeguard mechanism, improving its flexibility and reducing potential cost impacts on members.
- Proposed and sponsored CSIRO research into gas seeps in CSG fields.

6 State regulation

● **Western Australia:**

- APPEA delivered the first voluntary land access template in Australia after two years of negotiation with the state's peak farming bodies.
- Following extensive engagement by APPEA, the final report of the WA Legislative Council's Inquiry into Hydraulic Fracturing delivered generally positive findings for the industry.

● **Northern Territory:**

- APPEA reached a tripartite agreement on a land access framework with the NT Government and the Cattlemen's Association.
- Lobbied successfully against a fixed four-year moratorium on fracking at the NT Labor conference.

● **South Australia:**

- APPEA opened an Adelaide office, establishing direct industry representation for the first time.
- Made submissions and appeared before the Senate Inquiry into exploration in the Great Australian Bight and the State's Parliamentary Inquiry into Hydraulic Fracturing in South East of South Australia.
- Commissioned modelling into the economic benefits of exploration and development in the Great Australian Bight.

● **Queensland:**

- Initiated development of a standard conduct and compensation agreement to cut costs and improve landholder relations.
- Presented comprehensive evidence to the Inquiry into Unconventional Gas Mining on the science, regulation, and community engagement that underpin Australia's onshore gas industry.
- Developed the first reliable forecast of water demand for hydraulic fracturing in Queensland to ensure government water planning is fact-based.
- Led advocacy and coordinated with other business groups to improve the Chain of Responsibility Act and guideline.



Vision and strategic goals

APPEA's vision is to achieve a growing and internationally competitive Australian oil and gas industry that makes a vital and sustained contribution to the nation's economy.

APPEA's strategic goals are to:

- 1** Promote excellence in safety, health, environmental performance and community engagement.
- 2** Achieve timely and secure access to resources for exploration and development.
- 3** Facilitate access to capital through a regulatory framework that supports investment and industry productivity.
- 4** Enable access to domestic and international markets on globally competitive terms without distortionary and interventionist policies.
- 5** Facilitate the implementation of best practices and core values among members.



Major submissions and reports

Reports and submissions to government are important in APPEA's research, policy formation and advocacy work. In 2014–15, APPEA produced and commissioned a wide range of submissions and reports.

2015 (July to December)

- Comment on *Northern Territory—Our Water Future* discussion paper
- Submission to the East Coast Gas Inquiry
- Submission to the Inquiry into Unconventional Gas in Victoria
- *Economic impact of shale and tight gas development in the NT* (A Deloitte Access Economics report for APPEA)
- Comment on the Draft Royalty Rulings on the Determination of Petroleum Royalty and the Royalty Ruling System (Queensland)
- Submission to the Inquiry into Technical and Service Innovation in Western Australia
- *Climate Change Policy Principles*
- *Submission to Commonwealth Marine Reserves Review*

2016 (January to June)

- *Australia's Bright Gas Future* (A joint publication by APPEA, the Australian Pipelines & Gas Association, and the Energy Networks Association)
- Submission to the House of Representatives Inquiry into Tax Deductibility
- APPEA comment to the Climate Change Authority on the Special Review Second Draft Report: Australia's climate policy options, November 2015
- Submission on the Federal Budget 2016–17
- Submission to the Select Committee on Unconventional Gas Mining (the Lazarus Inquiry)
- Submission on the Mineral and Other Legislation Amendment Bill 2016 (MOLA Bill) (Queensland)
- Submission to the Inquiry into Oil or Gas Production in the Great Australian Bight
- Submission to the Select Committee on Unconventional Gas Mining
- Condamine River gas seeps: APPEA fact sheet
- *LNG in Australia: national and global benefits*
- Emissions Reduction Fund: *Safeguard mechanism, Emissions Intensity Benchmark Guidelines*
- Process Safety: a good practice guide

Most of these documents can be found on APPEA's website: www.appea.com.au/industry-in-depth/appea-submissions-and-reports



Exploration — an overview

Regulatory approaches vary widely between jurisdictions. APPEA continues to advocate for more effective, efficient and streamlined development assessment processes, particularly with regard to environmental regulation.

The numbers of wells drilled each year has been steadily falling. In 2015–16, Australia posted the lowest level of exploration drilling in 15 years. The most recent work programs indicate activity will remain subdued.

Commodity prices remain low and the global business environment remains harsh, which makes capital raising extremely difficult.

Other factors responsible for declining exploration include growing regulatory barriers, constraints on access and on developing known resources, data gaps and a lack of highly prospective new acreage.

APPEA has been promoting the benefits of oil and gas development and advocating policies that would reduce costs, increase certainty and reduce risk for oil and gas explorers in Australia. But the political and regulatory climate remains difficult.

The amount and value of exploration being undertaken in Australia has decreased dramatically. Indeed, in some jurisdictions onshore operations have all but come to a halt.

Exploration and precompetitive data

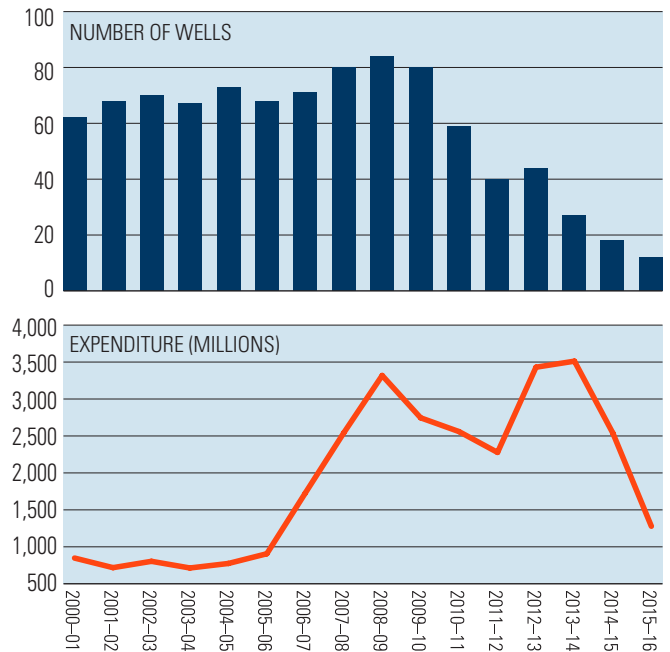
APPEA worked with state and national geoscience agencies to address reporting requirements and reduce duplicate reporting to multiple agencies.

The goal is to develop clear, objective, risk-based and technically justified regulation that is consistent, non-duplicative and streamlined across all regimes, and provided at minimal cost to users.

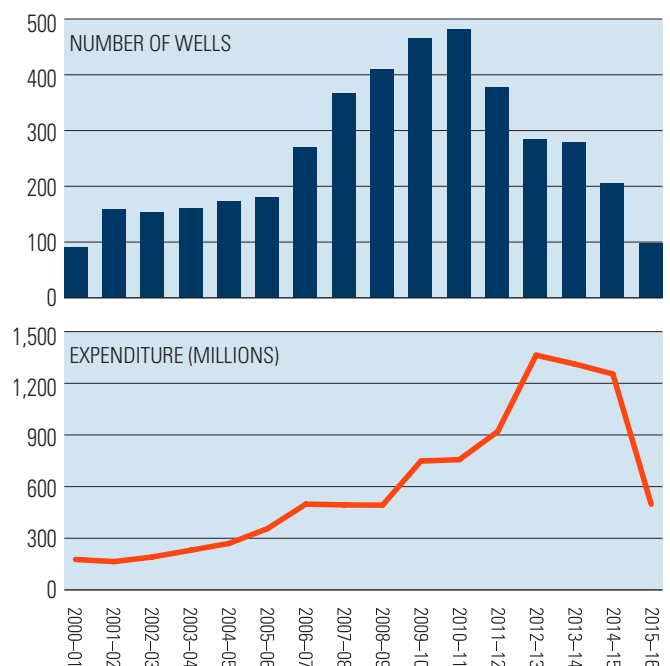
This will ultimately reduce industry costs while also enhancing government management of data.

APPEA welcomed the Federal Budget’s allocation of a \$100 million precompetitive data program for Geoscience Australia aimed at providing more knowledge of onshore northern Australia’s underground resources.

Annual offshore exploration wells and expenditure (nominal — financial year)



Annual onshore exploration wells and expenditure (nominal — financial year)



Policies that undermine the development of energy projects and curtail energy production impose real costs on Australia.

Engagement with regulators

APPEA liaises extensively with oil and gas companies, government agencies and other stakeholders on issues affecting industry operations.

In 2015–16, APPEA worked closely with the Federal Government and the states on regulatory processes with a focus on clarifying expectations and reducing the regulatory burden.

This included targeted consultation on streamlining reporting and assessment requirements, as well as legislative guidelines.

Reducing red and green tape

To ensure exploration continues in tight economic conditions, governments must:

- facilitate access to land
- create a flexible, favourable and stable regulatory environment
- reduce regulatory costs
- enhance customer service and the ease of doing business.

APPEA continues to advocate for more effective, efficient and streamlined development assessment processes, particularly in environmental regulation.

Policies that undermine the development of energy projects and curtail energy production impose real costs on Australia through lost jobs, forgone economic growth, and higher energy bills.

APPEA welcomes the Federal Government's efforts to curb the high costs and inefficiencies associated with project development in Australia.

APPEA has supported the Queensland Gas Supply and Demand Action Plan which is intended to provide a road map for regulatory reform based on quantitative analysis of the cost of regulation. However, this plan's release has been significantly delayed by internal government processes.

Offshore Resource Management Review

Throughout 2015–16, APPEA worked closely with the Federal Department of Industry, Innovation and Science (in collaboration with the National Offshore Petroleum Titles Administrator) on finalising the review into Australia's offshore management framework.

The interim report (released in early 2016) outlined 21 actions, ranging from exploration to decommissioning. The review found that Australia has a mature and generally effective system that may require some tweaks or changes to improve competitiveness. Government has recognised the potential limitations of a 'title by title' system and now prefers a more inclusive process that considers projects across multiple titles and fields.

APPEA has also engaged in targeted consultation with members regarding specific actions that require further work and consideration. The key focuses during this process have been improvements to guidelines and addressing challenges in greenfield areas. APPEA expects the review's final report to be released in 2016–17.

Exploration in the Great Australian Bight

In 2015–16, proposed exploration in the Great Australian Bight, offshore South Australia, attracted a lot of attention from activists, media and politicians. APPEA increased its public advocacy for the exploration effort in the face of an escalating activist campaign against development.

A Senate Inquiry into the potential environmental, social and economic impacts of oil and gas exploration in the Bight was established before the 2016 Federal election and was reinstated by the new Senate. APPEA has used the inquiry to highlight the benefits of development and industry's long track record of successful and safe offshore operations in Australia.

In October 2016, BP decided not to proceed with drilling. But several other major petroleum companies still plan Bight exploration. Chevron, Murphy Oil, Santos and Karoon Gas have exploration rights in the Bight.

Hydraulic fracturing and onshore unconventional gas operations

Hydraulic fracturing — or fracking — is a well-established, tightly regulated technology that has been used safely to enhance oil and gas production for more than 65 years in over 2 million wells worldwide.

Hundreds of studies and decades of industry operations have shown that fracking can be effectively regulated and used safely. Yet it remains contentious in most Australian states. In Queensland public concern has lessened. But fear campaigns and misinformation continue to demonise fracking. As Dr Allan Hawke noted in the introduction to the *Report of the Independent Inquiry into Hydraulic Fracturing in the Northern Territory*, 'there is confusion or poor understanding within the community about some aspects of hydraulic fracturing'.

Victoria

In January 2015, the Victorian Government tasked the Legislative Council Environment and Planning Committee with an *Inquiry into Unconventional Gas in Victoria*. The Inquiry tabled its final report on 8 December 2015. After six months, the Victorian parliamentary inquiry into onshore gas produced four reports with conflicting conclusions. The Committee '... was unable to reach definitive conclusions about whether or not an industry could or should proceed at this time.'

On 30 August 2016, the Victorian Government announced it would legislate before the end of the year to ban unconventional gas operations and would extend the current moratorium on conventional onshore gas development until 30 June 2020.

South Australia

A Parliamentary Inquiry established in 2015 into the impacts and benefits of hydraulic fracturing in the South East of the South Australia has continued its deliberations. The Committee has conducted further hearings and site visits and appears on track to report by the end of 2016. APPEA remains in close consultation with the committee as it concludes its deliberations.

Northern Territory

APPEA is working collaboratively with the new Labor Government to resolve its fracking moratorium and achieve a framework that will enable resource development to resume—and the consequent public benefits to flow to Territorians. Labor has been clear

that the moratorium will be reviewed once three preconditions have been met:

- a review of the science by an independent panel
- an extensive program of community consultation
- upgrading the NT's regulatory framework.

APPEA has argued against the policy since its inception, but has pledged to work collaboratively with Government to enable its timely resolution.

APPEA and key members with onshore NT interests have increased advocacy work to promote the benefits of resource development and respond to community questions on our industry's impacts. This has included increased community engagement activity, including a series of public information seminars, a continued presence at regional shows and targeted interaction with a wide range of stakeholders, including trade unions and business groups. We have also undertaken more proactive and reactive media commentary, a TV advertising campaign and increased our social media activity.

Western Australia

Established in August 2013, the WA Legislative Council's *Inquiry into the Implications for Western Australia of Hydraulic Fracturing for Unconventional Gas* delivered its final report on 17 November 2015. This report proposed stricter regulation but also found that hydraulic fracturing posed negligible risk and any concerns could be addressed through robust regulation and ongoing monitoring.

Yet the WA Labor Party has announced it intends to ban fracking across across large parts of the State's south west. The next state election will be held in March 2017.

New South Wales

Notwithstanding the NSW Chief Scientist and other credible authorities declaring natural gas can be safely developed, unnecessary restrictions on gas exploration and production in NSW have continued to depress investment activity in that State. APPEA continues to advocate for development, highlighting that restrictions impose supply pressures which will have a material impact for households and business.



Gas demand will remain strong. Increasingly, it must be supplied from unconventional sources.

Independent Review of the Water Trigger

In 2015–16, APPEA engaged with the independent review of the water trigger being undertaken on behalf of the Australian Government. In 2013, an amendment to the *Environment Protection and Biodiversity Conservation Act 1999* made 'a water resource, in relation to coal seam gas and large coal mining development' a matter of National Environmental Significance, which means CSG projects now require Commonwealth approvals. APPEA continues to strongly oppose the water trigger.

The justification for the trigger is transparently political, rather than environmental, nor is there any evidence that existing arrangements were broken. The legislation was amended with little parliamentary debate and without the usual regulatory impact assessment. APPEA hopes the review will provide an overdue opportunity to consider this unnecessary legislation's damaging impacts.

Lazarus Inquiry into Unconventional Gas Mining

APPEA's submission to the Lazarus Inquiry provided a comprehensive picture of the vast body of science, research, and regulation that underpins Australia's onshore gas industry. The submission included 48 primary references sourced from a range of leading authorities.

Collectively, these ran to more than 2400 pages.

APPEA's submission made the case that:

- Natural gas is essential for modern Australia. It is needed for power generation and is an indispensable feedstock for manufactured products such as fertilisers, plastics and chemicals.
- Gas demand in eastern Australia will continue to be strong and increasingly it must be supplied from unconventional sources such as coal seam and shale gas.
- The technology used to extract unconventional gas has been widely used for decades.
- Experience in Australia and overseas—as well as independent assessments by leading expert bodies such as the CSIRO, the Australian Council of Learned Academies and the Royal Society—confirms that properly regulated unconventional gas projects do not threaten the environment or public health.
- Developing natural gas resources delivers significant and lasting economic benefits to regional communities and the nation as a whole. The industry generates highly skilled jobs, export dollars, and government revenue.
- Gas developments need not compete with other land uses. The industry's footprint is relatively small and it successfully coexists with a variety of other activities, including intensive cropping, grazing, and organic farming.

Land access and compensation

Australian governments and agencies at all levels have recognised the need to build community engagement systems that facilitate land access while also delivering benefits for landholders.

A Productivity Commission report, *Examining barriers to more efficient gas markets* (March 2015) recommended developing codes of practice for community engagement as well as template agreements for conduct and compensation.

The *Report of the Inquiry into Hydraulic Fracturing in the Northern Territory* (February 2015) also stressed the need for land access templates that facilitate coexistence.

Queensland Conduct and Compensation Agreement

In 2016, APPEA initiated and has led the development of a Standard Queensland Conduct and Compensation Agreement (CCA) and discussions with peak farming bodies to secure their support.

The CCA is being developed to provide a standard set of terms and conditions that is consistent with legislation and provides a balanced starting point for land access negotiations.

Given the diversity of landholder and industry arrangements, the CCA is intended to provide a base set of conditions that facilitate the detailed discussion on conduct and compensation conditions needed to tailor individual agreements to individual circumstances.

The CCA is drafted to be as simple as possible but is also accompanied by a plain-English explanatory guide. The explanatory guide and CCA will be complemented by a *Guide to Land Access* that will provide landholders with reliable information about the land access process, the matters they may wish to consider, and how to access support and guidance including specialist legal and professional advice. The CCA and guides are expected to be finalised in early 2017.

NT land access and compensation

Calls by the NT Cattlemen's Association for greater government regulation of access agreements have prompted extensive discussions on options for improving communication between resources explorers and pastoralists. APPEA has liaised closely not only with the NT Cattlemen's Association, but also with the NT Department of Mines and Energy and the Minerals Council.

In December 2015 the Government announced a new land access process. APPEA welcomed the new model as fostering positive outcomes for both pastoralists and petroleum explorers seeking access to properties.

Under the new process, both parties will be required to reach a land access agreement before exploration activities are approved and can begin. New notification and consultation requirements must also be followed as petroleum titles are being assessed and granted.

Landholders' Right to Refuse Bill

On 4 March 2015, the Australian Greens (Queensland Greens Senator Larissa Waters) re-introduced the Landholders' Right to Refuse (Gas and Coal) Bill 2015 into the Australian Senate. The Bill would have prohibited any new exploration or mining for gas without the consent of 'each person with an ownership interest in the land', and would also have made it an offence for a commonwealth corporation to engage in hydraulic fracturing operations.

APPEA made a submission to the Inquiry and gave evidence in July 2015. The Committee report—released on 30 September 2015—recommended that the Senate not pass the Bill on the basis that it was 'an excessive and unworkable response to concerns of landholders'.

Energy policy

APPEA members provide reliable, competitively priced energy for Australia and for Asian export markets.



Natural gas must be allowed to compete effectively and on a level playing field for power generation and process energy in Australia. Any final decision on the choice of fuel inputs should be based on a fuel's intrinsic economic and technical merits, not political considerations.

To encourage continued investment to enhance energy security, energy policy must:

- allow the proportion of energy produced by natural gas to reflect market conditions and recognise the role natural gas can play in complementing intermittent renewable energy sources.
- address fiscal, greenhouse and other policy issues affecting the competitiveness of Australia's LNG exports.

Domestic gas

In all sectors of the economy—not just oil and gas—Australia benefits from open and competitive markets. Australia's gas industry is delivering substantial, economy-wide benefits through investment, jobs, and regional development. To sustain these benefits, governments must resist calls for policy interventions that impose non-commercial outcomes.

Some domestic gas buyers—citing concerns over tightening supply as Queensland LNG exports grow—continue to press for energy market interventions.

A gas reservation—in effect—taxes domestic gas production while subsidising domestic gas consumption. Like all taxes and subsidies, gas reservation distorts economic decisions and generates an unequivocal economic loss—one that compounds over time as future investment decisions are affected.

In 2015–16, the Australian, Queensland, NSW, South Australian, Victorian and Northern Territory governments all announced or reaffirmed that they would not implement energy market interventions, such as domestic gas reservation.

The April 2016 report of the Australian Competition and Consumer Commission's *East Coast Gas Inquiry* also rejected interventions such as domestic gas reservation, stating 'gas reservation policies should not be introduced, given their likely detrimental effect on already uncertain supply'.

But the Australian Labor Party's policy at the 2016 Federal Election was to introduce a 'national interest test' on LNG export approvals.

APPEA made the case that this was poor policy that would discourage rather than stimulate the investment needed to develop Australia's gas reserves. Western Australia already has a domestic gas reservation. This scheme's impact is still emerging, but overseas experience indicates such policies have unintended adverse economic consequences.

AEMO Gas Statement of Opportunities

On 10 March 2016, the Australian Energy Market Operator (AEMO) released its *Gas Statement of Opportunities* (GSOO) publication. This reports on the eastern Australian gas market's ability to supply maximum demand and annual consumption over a 20-year outlook period.

The 2016 GSOO warns that developed gas reserves in eastern Australia can only meet forecast demand until 2019. Rapid development of new gas resources is needed to guarantee supply.

APPEA has long argued that more gas must be produced to achieve a more competitive market, put downward pressure on prices and ensure stable, adequate supply. Unfortunately policy indecision, restrictive regulations and politically motivated bans and moratoriums have stifled onshore gas operations. Sound policies are needed to provide greater certainty and investor confidence to support exploration and reduce the high cost of development and production.

ACCC East Coast Gas Market Inquiry

On 22 April 2016, the Australian Competition and Consumer Commission (ACCC) released its *East Coast Gas Market Inquiry* report. The findings and recommendations cover three major areas:

- 1 Gas supply
- 2 Gas transportation
- 3 Market operation and level of market transparency.

The Inquiry found Australia is benefitting economically from Queensland's three large LNG projects. These developments are boosting GDP and employment and providing a particular benefit to the Queensland economy, especially in some rural and regional areas. The Inquiry also found there are sufficient east coast reserves to meet likely demand for the foreseeable future (the report claims until about 2025). But it is unclear whether these reserves will be developed in a timely manner.

The Inquiry recommended that:

- Rather than using blanket moratoria, governments should consider regulatory regimes that manage the risks of gas projects on a case-by-case basis.

- Governments should consider significant effects that moratoria and other restrictions on gas development might have on gas users.
- Gas reservation policies should not be introduced, given their likely detrimental effect on already uncertain supply.

Both recommendations concur with APPEA's longheld policy positions.

The Inquiry also found that several pipeline operators have engaged in monopoly pricing. This increases delivered gas prices and impairs the economic efficiency of the east coast gas market and upstream and downstream markets. Ultimately, consumers bear the increased costs. The ACCC argued that information about gas reserves, commodity and transport prices is partial, provisional and mostly private. This lack of transparency means expected supply problems are not effectively signalled, which impairs bargaining and hinders efficient market responses to changing conditions.

The ACCC recommends that:

- AEMO should develop and publish a monthly LNG netback price to Wallumbilla, with a clear explanatory framework and inputs.
- The Australian Energy Market Commission should consult with gas users about the potential benefits of requiring AEMO or the Australian Energy Regulator to publish a periodic price series of actual commodity gas prices paid to producers, either for eastern Australia generally or for Victorian and Queensland gas hubs. Any price series should be weighted by volume and be based on commonly observed take or pay percentages and load factors.

APPEA engaged directly with the Government and with key jurisdictions, as well as the Council of Australian Governments (COAG) Energy Council and its associated Standing Committee of Officials, as they considered responses to the Inquiry's recommendations. The recommendations regarding information provision (resource and reserve reporting and the development of price indexes and other price information) were a particular area of focus. Consultations are continuing.

East Coast Wholesale Gas Market and Pipeline Frameworks Review

APPEA was heavily involved in the Australian Energy Market Commission's East Coast Wholesale Gas Market and Pipeline Frameworks Review. The Final Report—released in July 2016—provided useful recommendations to increase the trade and transportation of gas on the east coast. APPEA also supports moves to improve market transparency, efficiency and liquidity. But reforms to the wholesale gas market can only achieve so much; urgent policy and regulatory reform is vital to increase supply, enhance competition and put downward pressure on prices.

The final report's recommendations focused on:

- Concentrating wholesale gas trading at two hubs in Queensland and Victoria, with improved trading arrangements and price discovery in Victoria. This will reduce market complexity and concentrate trading at key points of demand and supply, allowing for increased liquidity and more risk management options for gas users.
- Facilitating short-term pipeline capacity trading markets, including a short-term auction for unused capacity and improved capacity trading platforms. Access to pipeline capacity is a key enabler of wholesale market trading.

- Improving information provided through the Gas Bulletin Board so market participants can make better-informed decisions about gas use, trading and investment.

In 2016–17, APPEA will consult closely with the Gas Market Reform Group, which the COAG Energy Council formed to consult with industry on the implementation of COAG's response to both the ACCC and AEMC reports.

ABS Natural Gas Price Index

On 16 December 2015, the Australian Bureau of Statistics (ABS) released *Developments in Producer Price Indexes for Natural Gas, Dec 2015*. This information paper sets out a proposal to develop a gas price index, focusing on prices received by producers, excluding taxes, transport and trade margins. The aim is to produce an index for Australia, and if possible for the East Coast and Western Australian gas markets.

The index is primarily intended to be an input to the National Accounts. But the ABS claims it will also make the domestic gas wholesale market more transparent as most gas is traded under confidential bilateral contracts. The ABS has begun collecting price data from sampled gas producers. If there are no significant statistical issues with the data, it intends to publish the new natural gas extraction component of the Producer Price Index by April 2017.



Rapid development of new gas resources is needed to guarantee supply in eastern Australia.

Victoria

In January 2015, the Victorian Government tasked the Legislative Council Environment and Planning Committee with an *Inquiry into Unconventional Gas in Victoria*. The Inquiry tabled its final report on 8 December 2015. After six months, the Victorian parliamentary inquiry into onshore gas produced four reports with conflicting conclusions. The Committee ‘... was unable to reach definitive conclusions about whether or not an industry could or should proceed at this time’.

On 30 August 2016, the Victorian Government announced it would legislate before the end of the year to ban unconventional gas operations and would extend the current moratorium on conventional onshore gas development until 30 June 2020.

Western Australia

On 27 November 2015, WA’s Independent Market Operator (IMO) released its annual Gas Statement of Opportunities (GSOO), which presents a 10-year outlook for the supply and demand drivers likely to affect the state’s gas market. Key findings include:

- The WA gas market is likely to be ‘oversupplied’ at the end of the forecast period.
- Domestic gas supply has been affected by falling oil prices but will grow over the forecast period.
- Domestic gas demand is forecast to grow very slowly (0.1 per cent per annum).
- The end of joint marketing in the North West Shelf Joint Venture will bring greater competition to the supply market and could allow gas market participants to rebalance their gas requirements.
- There is more opportunity for gas suppliers in northern WA than in the South West.
- The domestic gas market will benefit from greater transparency.

This was the final WA GSOO to be released by the IMO. On 30 November 2015, the Australian Energy Market Operator (AEMO) assumed the wholesale electricity and gas market operations functions previously undertaken by the IMO.

AEMO is now responsible for operating WA’s Gas Bulletin Board (GBB) and for developing the GSOO. AEMO currently operates a GBB and GSOO covering the East and South Eastern gas markets.

APPEA has advocated that AEMO and the WA Government work towards a streamlined, efficient set of national gas information services. Consolidating the GBBs and GSOOs will be a key medium-term focus.

Northern Territory

In October 2014, the NT’s Country Liberal Party Government started a formal bidding process for building and operating a gas pipeline to link Territory gas resources to the eastern states market. In November 2015, it selected Jemena to construct and operate this infrastructure.

The 622km Northern Gas Pipeline (NGP) will run between Tennant Creek, NT and Mt Isa, Queensland, connecting gas fields in the Territory with customers in the Eastern Gas Market.

At this stage, Jemena has advised that the recently elected Territory Labor Government’s moratorium on hydraulic fracturing for exploration and extraction across the whole of the Territory does not affect the construction of the NGP, which will use existing onshore and offshore NT gas reserves.

However, in April 2016 Jemena announced it would reduce the diameter of the pipeline from 14 inches to 12 inches. Territory Labor was then in opposition but expected to win the upcoming election.

It is unclear whether its moratorium policy had a material impact on Jemena’s decision to downsize the pipeline’s capacity.

APPEA supports developing infrastructure that will foster the growth of Australia’s gas markets, providing such infrastructure is commercially viable.

Governments have an important role to play in attracting investment by eliminating unnecessary costs and regulation and providing positive policy frameworks and timely and efficient approvals processes.

Climate change policy

Greater use of Australian natural gas—domestically and in export markets—offers significant global environmental benefits.

Using more Australian natural gas can significantly reduce greenhouse gas emissions—while also enhancing energy security and delivering other environmental, economic and social benefits—both in Australia and in LNG customer nations.

A national climate change policy should recognise the greenhouse emission benefits of natural gas and should deliver carbon abatement at least cost. This means it should not hinder the Australian gas sector's domestic or international competitiveness.

In 2015–16, APPEA worked with the Commonwealth, the states and the Northern Territory on a range of climate change policy issues. In particular, APPEA contributed to climate change policy arrangements in Queensland, Tasmania and Victoria.

APPEA has continued to advocate a nationally consistent climate change policy approach that streamlines the hotchpotch of programs regulating greenhouse gas emissions across Australia. APPEA continues to advocate that states avoid duplicating national policies and remove policies that do not complement the national approach.

International developments

The Intergovernmental Panel on Climate Change's Fifth Assessment Report found that:

- The human influence on the climate system is clear.
- The more we disrupt our climate, the more we risk severe, pervasive and irreversible impacts.
- Humans can limit climate change and build a more prosperous, sustainable future.

In August 2015, the Australian Government released its final 2030 emissions reduction commitment—a 26–28 per cent reduction in emissions on 2005 levels. This requires reducing emissions by about 900 million tonnes from 2020 to 2030.

The 2015 United Nations Climate Change Conference—held in Paris from 30 November to 12 December—negotiated the Paris Agreement.

This is a global commitment to holding the increase in the global average temperature to well below 2°C above pre-industrial levels and to pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels.

The agreement will become legally binding if joined by at least 55 countries that together represent at least 55 per cent of global greenhouse emissions. Such parties must sign the agreement between 22 April 2016 and 21 April 2017, and also adopt it within their own legal systems.

Those requirements were met in October 2016, and the agreement came into force on 4 November 2016. The Australian Government has started a process to adopt the agreement before the end of 2016.

Fugitive emissions

During 2015–16, APPEA continued discussions with the CSIRO and the Department of the Environment about further research on fugitive emissions.

A 2014 CSIRO report found greenhouse gas emissions from Australian coal seam gas production wells were very low, especially when compared to the volume of sales gas these wells produced. After measuring fugitive methane emissions from many wells, CSIRO found that actual measurements for identified equipment leaks yield emission factors consistent with those used in the National Greenhouse and Energy Reporting (NGER) methodology.

The *National Greenhouse and Energy Reporting (Measurement) Amendment Determination 2016 (No. 1)*—made on 4 May 2016—clarifies and streamlines various provisions of the NGER regulations. This determination:

- Makes minor technical corrections to methods for estimating fugitive emissions from CSG operations, energy, municipal solid water and some industrial processes.



The Moomba gas plant in South Australia. Natural gas offers a relatively low-cost emissions abatement opportunity.

- Reinserts provisions to support estimating emissions from legacy waste at landfills.
- Finalises additional methods to complete NGER system guidance for estimating emissions from carbon capture and storage.
- Makes an annual update of scope 2 emission factors reflecting changes in the National Electricity Market in the last financial year.

The *National Greenhouse and Energy Reporting Amendment (2016 Measures No. 1) Regulation 2016* was made on 5 May 2016. This clarifies and streamlines reporting requirements in relation to scope 1 emissions and electricity production. It also reduces administrative and regulatory burdens.

APPEA's Climate Change Policy Principles

Following the December 2015 Paris Climate Change Conference, APPEA developed a second edition of its *Climate Change Policy Principles* document to further assist policymakers in developing efficient and effective responses to this major global issue.

APPEA supports a national policy that delivers greenhouse gas emissions reductions at least cost and facilitates broad-based investment decisions consistent with there being an international price on carbon.

Natural gas is integral to effective climate policy. Gas complements renewable electricity generation because gas generation plants can be rapidly turned on and off to respond to changes in intermittent wind and solar generation. Climate policy must be fully integrated and consistent with policies in other areas—including

APPEA climate change policy: key points

- 1 International engagement is crucial.
- 2 Climate change and energy policies must be integrated and harmonised.
- 3 Climate change adaptation strategies are necessary.
- 4 Climate policy must not compromise national or global economic development or energy security.

energy, international trade, taxation, economic growth, population, and environmental and social responsibility.

Societies around the world face two major, interdependent challenges:

- Maintaining and expanding affordable, secure energy supplies to meet growing consumer demand.
- Addressing social and ecological risks posed by climate change.

Reliable and competitively priced energy underpins economic growth and stability and modern living standards. Therefore, policies must reduce greenhouse gas emissions at the lowest possible cost without undermining energy security.

Companies and governments must act to manage emissions while also meeting growing energy demand. Genuine progress requires integrated solutions: increasing energy efficiency, advancing lower-carbon energy technologies, and supporting effective national and international policies.

Emissions Reduction Fund (ERF)

The Emissions Reduction Fund is a voluntary scheme aimed at providing incentives to adopt new practices and technologies that reduce emissions.

Several activities are eligible under the scheme and participants can earn Australian carbon credit units (ACCUs) for emissions reductions. One ACCU is earned for each tonne of carbon dioxide equivalent (tCO₂-e) stored or avoided by a project. ACCUs can be sold to generate income, either to the government through a carbon abatement contract, or in the secondary market.

Two elements of the ERF—crediting emissions reductions and purchasing emissions reductions—started on 1 July 2014. The first three ERF Auctions—in April 2015, November 2015 and April 2016—saw the Clean Energy Regulator award 348 Carbon Abatement Contracts to deliver a total of 143 million tonnes of abatement. The total value of contracts awarded was more than \$1.7 billion; the average price per tonne of abatement was \$12.10. A fourth ERF Auction will be held in November 2016.

During 2015–16, APPEA worked with the Department of the Environment and Energy to develop a methodology to provide ACCUs for reducing fugitive emissions from venting at oil and gas extraction, production, transport and processing facilities. The method works to reduce emissions by using gas capture equipment to reroute fugitive emissions to a flare device for combustion. This cuts emissions because when methane is flared it is converted into carbon dioxide.

One tonne of methane has a global warming potential equivalent to 25 tonnes of CO₂, therefore each tonne of methane flared generates the equivalent of about 24 tonnes of CO₂ emissions reductions.

The third element of the ERF—the safeguard mechanism—is aimed at ensuring that emissions reductions are not displaced by significant increases in emissions elsewhere in the economy. It involves setting emissions baselines based on the highest emissions over the past five years and ensuring that a facility's emissions do not exceed this baseline. The mechanism will be restricted to facilities with direct CO₂ emissions of 100,000 tonnes or more per year.

In December 2015, Parliament passed rules to establish the mechanism, which started operating on 1 July 2016.

During the mechanism's development, APPEA had many meetings with the Minister, his office and the Department to improve its operation and its application to the industry.

APPEA worked to ensure the mechanism did not impose inappropriate cost burdens on the industry and that its further development would make Australia more competitive in attracting oil and gas investment.

In early 2016, APPEA also liaised with the Clean Energy Regulator to ensure that the mechanism's administration is as low-cost and efficient as possible.

On 6 April 2016 the Government released its *Safeguard Mechanism Emissions Intensity Benchmark Draft Guidelines*.

The draft guidelines set out, at a high level, a process for setting emissions intensity benchmarks under the safeguard mechanism for facilities that are new or significantly expanded after 1 July 2020. APPEA lodged a detailed submission and also met with the Office of the Minister for the Environment to discuss the mechanism.

APPEA's submission outlines shortcomings with the proposed approach and recommends delaying finalising these guidelines until these concerns have been accommodated and more appropriate guidelines have been developed.

APPEA will engage in the 2017 review of the ERF to ensure the system does not impose inappropriate cost burdens on the industry and that it makes Australia more attractive for oil and gas investment.

Australian Industry Greenhouse Network

APPEA is part of the Australian Industry Greenhouse Network (AIGN), a group of industry associations and businesses that coordinates industry action on climate change policy issues to promote sustainable industry development. In 2015–16, APPEA provided input to numerous AIGN submissions, with a particular focus on the development of the Emissions Reduction Fund and its safeguard mechanism.

Taxation and commercial

A stable and internationally competitive taxation system is crucial for oil and gas investments in Australia. Major oil and gas projects invariably require decades to generate positive economic returns.

The level of tax and the deductibility of business costs are fundamental in determining whether companies will commit the funds needed for ongoing exploration and production operations.

The industry is operating in a period of low commodity prices that has followed many years of high and escalating project costs. This has dramatically affected project economics and industry profitability. The taxation system's response to this operating framework will be a key factor in determining future growth in the industry.

Engagement with regulators

Throughout 2015–16, APPEA worked in an open and collaborative manner with oil and gas companies, government agencies and other stakeholders on many tax policy and administration issues. APPEA is represented (directly and through member companies) on numerous governmental groups, including the Oil and Gas Taskforce (which provides a formal interface with Federal Treasury); the Australian Taxation Office Energy and Resources Working Group and the ATO/APPEA PRRT Sub-Committee; and the Queensland Office of State Revenue's Resource Consultative Committee Petroleum Sub-Group. APPEA is also represented on several other groups.

Tax transparency

The Federal Government is placing an increased focus on tax transparency.

Legislation requires the Australian Taxation Office to publish information about corporate tax entities with annual total income of \$100 million or more. The ATO is required to report these entities' total income, taxable income and income tax payable each year. It is also required to publish information about companies' petroleum resource rent tax payments. The first such report, released in late 2015, covered the tax year 2013–14.

APPEA worked with other representative bodies and the ATO to ensure that the final reporting framework enables presenting material in context and providing adequate

supporting documentation so that interested parties can understand the operations of both the income tax and PRRT regimes. The ATO and APPEA have published webpages that explain key elements of how the taxation system operates, as well as factors affecting the level of taxation paid.

Tax transparency is receiving increased attention as governments and non-government organisations call for scrutiny of the tax affairs of many companies operating in Australia, including resources companies. Several inquiries, reviews and processes undertaken during 2015–16 directly affect APPEA member companies. APPEA has worked closely with Parliamentary representatives, government officials and interested parties to ensure the industry's views are understood and that policy settings reflect the commercial framework facing the industry.

APPEA and the Australian Taxation Office are continuing discussions on a project aimed at consolidating the ATO's engagement with taxpayers on LNG compliance activities. This project is intended to align a range of work programs, extend the coverage of audit activity and improve the ATO's overall level of industry capability. APPEA has raised several concerns with the project's scope and detail, in particular the obligations it might impose on project operators.

Cash bidding for exploration acreage

APPEA remains opposed to the Federal Government's use of cash bidding to award selected offshore acreage. The work program bidding system should be the basis for the release of all Australian exploration acreage—onshore and offshore. This system has served Australia well and has helped the nation become a leader in supplying gas to domestic and global markets. Results from recent rounds of cash bidding raise serious questions about whether the regime is too complex and if it can meet the Government's expectations for revenue.

Company tax

Definition of exploration — income tax

What constitutes exploration for income tax purposes is critically important in determining whether companies commit funds to explore in Australia. Extended discussions with the ATO led to the release of a comprehensive draft taxation ruling in late 2015 that provided important clarity on this issue.

The ATO's willingness to commit the time and resources needed to fully understand the complexities of the industry's exploration activities led to the release of the draft ruling. This will provide more certainty for companies and taxation authorities. The next phase involves finalising guidance material that will help shape how key elements of the ruling will operate. APPEA is optimistic that a final ruling will be released during 2016–17.

Treatment of debt

Developing Australia's gas industry has required massive investment by both domestic and international companies. The current wave of gas investment required more than \$250 billion in capital expenditure.

In most OECD economies, and in most of the emerging economies with which Australia competes, interest expense is treated as a tax-deductible business cost. Business tax systems around the world, as well as international accounting standards, recognise the differences between debt and equity and provide for

the payment of returns to debt holders to be treated differently than payments to equity holders.

Most jurisdictions limit corporations' scope to use debt. Australia's thin capitalisation rules specify a maximum amount of 'Australian' debt that an entity can have before the thin capitalisation rules are breached. If the entity's debt exceeds this maximum amount, it cannot deduct a proportion of its otherwise allowable debt deductions.

APPEA has strongly advocated for retaining the current restrictions. These strike a balance between protecting the integrity of the tax system and encouraging the capital investment needed to underpin the industry's ongoing growth. The May 2016 Federal Budget made no changes to the current provisions.

Transfer pricing — marketing arrangements

As part of the ATO's increasing focus on transfer pricing and possible profit shifting to low tax countries, discussions have begun on how the company tax regime deals with the use of marketing hubs. The ATO is reviewing issues such as risk mitigation processes for taxpayers, documentation requirements and disclosure obligations.

APPEA has stressed to the ATO that marketing processes are critical to generating value in the petroleum industry (including the LNG sector). The actual value such activities create must be recognised when determining pricing and deduction provisions.



The Gorgon LNG project. Developing Australia's gas industry has required massive investment.

Petroleum resource rent tax (PRRT) and royalties

PRRT—deductible expenditure

A key area of uncertainty associated with the PRRT regime is the general question of what constitutes 'deductible expenditure'. This is critical for several reasons, including determining the types of expenditure that are 'excluded' and therefore are not deductible. The definition of 'excluded' expenditure has been unresolved for more than a decade.

Throughout 2015–16, discussions progressed on developing ATO guidance to assist taxpayers to better understand what constitutes deductible expenditure and how administrative and compliance obligations could be simplified. The ATO is expected to release final material in 2016–17.

PRRT—other deductible costs

APPEA and member companies are discussing key aspects of categories of deductible expenditure with the ATO as part of the industry's desire to clarify the operation of the regime. Areas that were the focus of attention in 2015–16 include:

- The definition and treatment of social infrastructure costs.
- What constitutes closing down expenditure for PRRT purposes.
- The treatment of costs where a project reverts from a production licence to a retention lease.
- A number of costs relevant to onshore operations, including exploration and hydraulic fracturing activities.

Discussions on these matters will continue during 2016–17.

APPEA has continued to work closely with the ATO on PRRT-related issues.

Extension of PRRT onshore

APPEA continued to work closely with the ATO during the year regarding aspects of the extension of PRRT to cover onshore permits and activities.

The decision to extend the regime has produced a range of complexities that were not anticipated when the decision was announced in 2010.

Importantly, the existing onshore royalty regimes (together with Commonwealth royalty and production excise systems for the North West Shelf project) remain the primary resource taxation tools in these areas. It is unlikely that projects in these areas will pay PRRT for well into the foreseeable future.

Queensland petroleum royalties

During 2015–16, APPEA and member companies with operations in Queensland worked closely with the Office of State Revenue (OSR) on several important interpretative aspects of the petroleum royalty regime.

Areas of discussion and negotiation included:

- Deductions restrictions that impose very narrow and unrealistic direct connections between activities and deductions. A highly legalistic approach is seeing some costs that are integral to petroleum operations being denied as deductions.
- The application of royalty to gas that is **not** sold or marketed (including flared and vented gas).
- The treatment of capital costs is for depreciation purposes.
- Compliance and penalty provisions are complex and costly, and penalties are now being applied for treatments that were previously deemed accepted.

To improve the consultation process, a formal group has been created with representation drawn from companies with Queensland projects. The Resource Consultative Committee Petroleum Sub-Group meets regularly and is chaired by the OSR Commissioner. The industry remains concerned about OSR's general approach in interpreting several key royalty provisions.

Safety and health

The oil and gas industry continues to experience one of Australia’s lowest injury and fatality rates.

APPEA programs support excellence in the Australian oil and gas industry’s health and safety performance.

APPEA works with its members and key stakeholders to improve the efficiency and effectiveness of safety regulation, share good practices to address health and safety risks, and develop new programs and initiatives to continuously improve the industry’s health and safety performance.

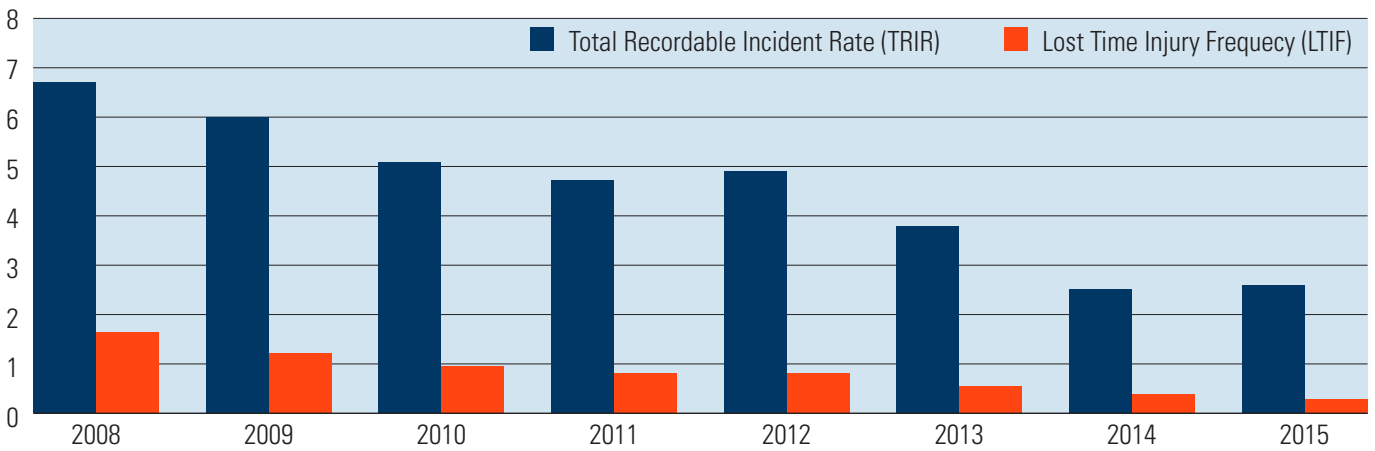
Since 2007, APPEA has worked with the industry on a collaborative strategy to foster continuous improvement in safety performance.

This has seen personal safety performance dramatically improve while work hours have tripled.

The oil and gas industry continues to experience one of the lowest injury and fatality rates of any industry in Australia.

In the 2015 calendar year, APPEA’s member companies achieved parity with the International Oil and Gas Producers Lost Time Injury Frequency rate of 0.29 incidents per million work hours, in line with the global benchmark.

In 2015–16 APPEA achieved significant progress in fostering consistency of safety data by establishing an online portal for safety performance reporting. This will facilitate the production of industry-wide data and benchmarking by individual companies.



IOGPTRIR 1.21 in 2015 vs 1.5 in 2014. IOGP LTIF 0.29 in 2015 vs 0.36 in 2014.

The oil and gas industry continues to experience one of Australia’s lowest injury and fatality rates.

Process safety

Industry leaders have developed a leadership program for addressing process safety challenges.

In safety management, the industry's priority remains improving process safety and preventing major accident events.

Process safety involves the controls or barriers that ensure containment of hydrocarbons and chemicals in plants, pipes or wells and prevent major accidents occurring. It requires the application of sound engineering, design and operating practices.

The industry faces some major challenges in process safety:

- critical assets are ageing, requiring decommissioning or plant-life extensions
- new technologies are being deployed
- several new large projects are becoming operational
- in some locations, construction and production are occurring simultaneously
- cost pressures are mounting.

Industry leaders have applied the lessons and experience gained from the industry's persistent and successful focus on personal safety to develop a leadership program for addressing process safety challenges.

APPEA's strategic improvement program is delivered in three ways:

- leadership via the CEO Safety Leadership Forum
- process safety expertise via the IChemE Safety Centre
- industry engagement via the Stand Together for Safety program.

At the 2015 APPEA HSE Conference, the CEO Safety Leadership Forum agreed to meet more often and focus on sharing lessons from high-potential process safety events.

CEO Safety Leadership Forum meetings were held in November 2015, April 2016 (in conjunction with

the LNG 18 conference in Perth) and June 2016 (in conjunction with APPEA 2016 in Brisbane).

The CEO Safety Leadership Forum identified various oil and gas industry safety groups in Australia and resolved to bring the four front line safety groups— Safe Ops, DrillSafe, Marine Safe and Offshore Project Safe together for the first time. This took place alongside APPEA's 2016 HSE Forums.

This Forum, held in October 2016, coincided with another meeting of the CEO Safety Leadership Forum.

Process safety documents

In the second half of 2015, the IChemE Safety Centre—founded by nine APPEA member companies—produced two key documents.

- *Process Safety Competency—a Model*. This document outlines a generic process safety framework for different types of roles in an organisation. It is guiding the development of a process safety module for the Common Safety Training Program, which will be delivered in 2017.
- *Lead Process Safety Metrics*. This document defines 21 lead process safety metrics that will be applied by industry as part of a trial program in 2017.

At the APPEA 2016 Conference, the Stand Together for Safety project released *Process Safety—a Good Practice Guide*.

This document uses the proven successes from personal safety management approaches to define rules for process safety and the behaviours associated with them.

It also includes benchmarks of “what good looks like” in process safety, and provides a series of assurance questions to direct effective barrier verification discussions across the industry. All of these documents can be found at www.stfs.com.au—the Stand Together for Safety website.

Regulatory effectiveness and efficiency

APPEA commissioned a safety case working group to identify opportunities to make safety cases more effective and efficient. This working group met with the WA Department of Mines and Petroleum, to provide suggestions for developing the Workplace Health and Safety (Resources) Regulations.

APPEA is engaging with government and industry on how to better use a safety case for regulatory approval and operational implementation. Possibilities include separating the document into a technical section (which describes an activity's risk profile) and an operational section (which describes the control measures operations staff are required to implement). APPEA believes this would enhance communication with regulatory and operational stakeholders.

APPEA also worked with the Department of Industry, Innovation and Science to update Part 5 of the Offshore Petroleum and Greenhouse Gas Storage Act and associated regulations dealing with well integrity. This

influenced the reporting and transition provisions and the required structure of new Well Operations Management Plan documents to meet the revised legislation's requirements.

APPEA's Australian Drilling Industry Steering Committee also engaged with NOPSEMA to determine the appropriate response to the March 2015 incident when several mooring lines on the Atwood Osprey rig snapped during wild weather caused by Cyclone Olwyn.

An industry study was commissioned to inform the appropriate risk management approach for Australian tropical waters. This led to the publication on 1 November 2016 of *MODU Mooring in Australian Tropical Waters: A Guideline*, which provides a consistent and common approach to mooring mobile offshore drilling units (MODU) that are exposed to cyclonic conditions in Australian tropical waters.

This document is available on www.appea.com.au and www.stfs.com.au.

Drilling in 2007 at Shell's Prelude field.



Environmental management

APPEA has coordinated efforts to further improve the industry's environmental performance.

Oil Spill Response capacity and preparedness review

APPEA's Oil Spill Response (OSR) Forum was established in 2013 to support joint industry initiatives and enhance information sharing between OSR specialists. In 2015, the OSR Forum commissioned a review of the upstream offshore industry's oil spill response capacity and preparedness. The review's report highlighted the importance of increased collaboration, not only at a regional level between operators, but also at a national level—between operators, APPEA, the Australian Institute of Petroleum and the Australian Marine Oil Spill Centre.

Marine Environmental Science Program

The industry's Marine Environmental Science Program has commissioned several research projects, including:

- *Underwater Sound and Vibration from Offshore Petroleum Activities and its Potential Effects of Marine Fauna: an Australian perspective*—awarded to Curtin University's Centre for Marine Science and Technology
- *Understanding the potential consequences of unplanned discharges: the Australian context*—awarded to BMT Oceanica
- *Scientific Literature Review of Environmental Impacts of Decommissioning Options*—awarded to Advisian.

The projects' findings are expected by the end of 2016.

IGEM meta-database system

The Industry-Government Environmental Meta-database (IGEM) system enables quicker identification of data sets for environmental planning and spill response following an oil spill. Subscribers can search for relevant environmental studies by: research activity in a specific area; the date it was collected; the organisation that collected the data; type of data; and key words. IGEM's development was fast-tracked for completion, thanks to funding made available from the APPEA Marine Environmental Science Program. The WA Marine Science Institution – which hosts IGEM – developed the system in collaboration with the Pawsey Supercomputer Centre. IGEM went live in February 2016. Nine APPEA members have signed up to access the system.

Industry stakeholder engagement

Consultation and Engagement Guidelines

In 2015 NOPSEMA initiated a Work Program to improve its guidance and practices in relation to the Stakeholder Consultation and Engagement requirements under the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009. Aiming to deliver a solution based on the practical experience of companies undertaking stakeholder engagement, APPEA proposed that industry be given the opportunity to develop stakeholder consultation guidelines similar to existing US and UK guidelines. NOPSEMA agreed, and APPEA and a steering group of industry representatives have since developed a draft consultation methodology to improve the consistency, transparency and predictability of consultation associated with environment plans. Preliminary consultation has also been undertaken with NOPSEMA. This project is well underway and APPEA aims to have these guidelines available in 2017.

Commercial fishing industry

In November 2015, APPEA attended the Seafood Directions Conference (the national conference for the commercial seafood and aquaculture sector). This included a presence on the trade floor, and a concurrent presentation with the Commonwealth Fishing Industry Association on developing the joint industry memorandum of understanding. APPEA also sponsored a delegation from the Scottish Fisherman's Federation, which addressed the conference and also spoke at a gathering of APPEA member companies' external affairs representatives. This delegation offered insights into the longstanding relationship between Scotland's fishing and petroleum industries.

Decommissioning

In June 2016, the APPEA Board formed the Decommissioning Committee. This Committee will provide strategic advice to the Board in this increasingly important area, enabling a consistent approach by industry—particularly in engaging with regulators and stakeholders.

In July 2016, APPEA finalised its *Offshore Oil and Gas Decommissioning Decision-making Guidelines*.

Environmental regulation

Throughout 2015–16, APPEA worked with governments to achieve more efficient environmental regulation regimes.

APPEA continues to advocate for eliminating regulatory overlap and duplication between Commonwealth and state/territory jurisdictions.

Regulatory reform can deliver significant efficiency changes without impairing environmental outcomes. Achieving streamlined regulation and reducing inefficient duplication and inconsistency between regulators will redirect resources and efforts to actual environmental benefit in place of bureaucratic process. APPEA will continue to advocate in all jurisdictions for the continuation of this significant national regulatory streamlining process.

Biosecurity Act 2015 and Regulations

Important changes to Australia's Biosecurity System came into effect on 16 June 2016 when the *Biosecurity Act 2015 (Cmwltth)* replaced the *Quarantine Act 1908*.

Under the new legislation, the international waters classification shifts from the Exclusive Economic Zone (200 nautical miles from the coast) to Australian waters (12 nautical miles from the coast). This put numerous Australian offshore oil and gas facilities outside the new boundary, which had the potential to significantly increase compliance costs for operators and contractors.

APPEA's Biosecurity Reforms Working Group liaised closely with the Australian Department of Agriculture and Maritime Industry Australia as the department drafted its regulations. The final regulations enabled operators and contractors to reduce their compliance burden, either by entering an approved arrangement with the department, or through prescribed exemptions that require an activity-by-activity risk-based self-assessment.

Commonwealth Marine Reserves Review

The Commonwealth Marine Reserves Review was completed in December 2015. Its report—released in September 2016—recommends changes to the zoning of the Commonwealth Marine Reserves as they were proclaimed in 2013.

For the most part, APPEA succeeded in minimising the impact on industry operations in producing and highly prospective regions.

The Government is now considering the management plans for the reserves, which will outline what activities are allowed and the required approvals processes.

APPEA continues to advocate for an evidence-based process for managing these reserves. The debate on marine reserves must take into account an area's actual environmental values and whether an industry activity can occur without compromising these values.

APPEA—through its Exploration Committee and the newly-formed Health, Safety and Environment Committee—continues to work closely with the Australian Government to ensure marine reserves protect the environment without unnecessarily increasing the regulatory burden.

NT environmental regulations

In June 2016, the Northern Territory Government introduced new petroleum environment regulations that deliver a best-practice regulatory system for the NT.

These regulations embrace the principles of ecologically sustainable development (as defined in the Commonwealth's Environment Protection and Biodiversity Conservation Act) and focus on minimising environmental impacts to as low as reasonably practicable.

The new regulatory framework is based on recommendations from the Independent Inquiry into Hydraulic Fracturing in the NT and energy law expert Dr Tina Hunter.

APPEA and members operating in the Territory were heavily engaged with government on the development of this framework. The new regulations are an important part of the NT's evolving onshore oil and gas regulatory system, and are crucial to ensuring environmental protection and enhancing community confidence.

APPEA HSE Awards

The APPEA Health, Safety and Environment Awards were presented on 8 September at the 2015 APPEA HSE Conference and Awards Dinner, held at Crown Perth, Burswood.

The Environment Award and the Health and Safety Award were judged by two panels of industry practitioners with expertise in the respective fields. There were also two Delegates' Choice awards—one for Health and Safety and another for Environment. These allowed all conference delegates to vote for the work of their peers based on the finalists' posters on display in the exhibition area.

Woodside Energy won the 2015 APPEA Health and Safety Award—and also the Delegates' Choice Award for Health and Safety—for 'Use of Remote Digital Video Inspection in a novel LNG turnaround application'. This initiative used existing remote digital video inspection (RDVI) technology to reduce risks for workers by minimising the need for confined space entry. Eliminating the need for 36 confined space entries saved almost \$4.5 million and reduced the turnaround from 35 days to 25 days, with zero recordable

injuries. Coupling RDVI with non-intrusive inspection techniques during the 2015 Pluto turnaround not only eliminated the requirement for confined space entry but also enhanced inspection in hard-to-access areas.

Chevron Australia won the 2015 APPEA Environment Award for 'Gorgon Project domestic gas pipeline construction and rehabilitation'. Gorgon's 90 km domestic gas pipeline traversed sensitive mangrove and samphire communities. The route was planned to minimise environmental disturbance and preserve 100-year-old trees. Creeks and water courses were rebuilt back to natural contours to ensure they flowed at their natural capacity. Chevron also planted more than 4000 mangrove seedlings.

The winner of the 2015 Delegates' Choice Award for Environment was Woodside Energy for 'Managing marine biofouling in the petroleum industry'.



The first cargo leaving Gladstone LNG, October 2015. In a busy year, Santos delivered an outstanding safety performance.

The Safety Excellence Award and the Environment Excellence Award are given to APPEA full member companies for displaying organisational excellence in a calendar year. These are presented at APPEA's annual conference.

Safety Excellence Award

Santos received the APPEA Safety Excellence Award at the APPEA 2016 Conference Dinner in Brisbane on 7 June.

The award recognises responsible management of risk based on sound science; application of new systems and technologies; and constructive engagement with the workforce, project partners, government and the wider industry in enhancing workplace health and safety.

Santos maintains that no business objective will take priority over safety, and no task is so important or urgent that it cannot be done safely.

Santos has enhanced its tracking and measurement of safety culture and critical controls management, enabling it to systematically and effectively minimise risks.

In 2015, Santos recorded a lost time injury frequency rate of just 0.12, and a total recordable case frequency rate of 2.8.

These are company's best injury figures in the last 15 years. Indeed, this is considered to be a world-class safety performance, and this was achieved during a phase of potentially high-risk operations—including the commissioning of major operational CSG and LNG hubs.

Santos has also shown leadership in oil and gas industry safety initiatives, including Queensland's Safer Together Forum.

Environment Excellence Award

Woodside Energy was presented with the Environment Excellence Award at the APPEA 2016 Conference Dinner. The judges found that Woodside has consistently shown excellence across all facets of environmental performance.

Woodside minimises its footprint by integrating world-class environmental management into its exploration and its facilities. Its streamlined environment systems minimise complexity and enable standardised, risk-based management of all kinds of projects around the world.

Woodside also emphasises the importance of sound science and understanding local environments. It identifies key scientific partners and global service providers to enhance local knowledge, and works to build long-term relationships.

Woodside's scientific collaborations include partnerships with:

- the Australian Institute of Marine Science to study the causes and effects of coral bleaching off the WA coast.
- the Western Australian Museum in a Kimberley marine biodiversity survey program that has recorded more than 16,000 species—including almost 180 previously unknown to science.
- the Western Australia Marine Science Institution to deliver a massive marine research program to find ways to reduce environmental risks associated with dredging.

At its Annual Conference and Exhibition in June 2016, APPEA honoured two outstanding individuals for their contributions to the Australian oil and gas industry.

Ian Macfarlane

Australia's longest-serving Minister for Resources and Energy, Ian Macfarlane, has received APPEA's highest honour—the Reg Sprigg Medal—for outstanding service to the industry.

From November 2001 until September 2015, with one brief interval, Mr Macfarlane served as the Minister or Shadow Minister for Resources and Energy.

He became known for his determination and willingness to tackle the difficult issues; his commitment to bipartisan policy; his understanding of business and its role in delivering prosperity; and his ability to combine principles with pragmatism to produce results.

Mr Macfarlane has been an energetic and effective advocate for the Australian oil and gas industry who earned the respect of both sides of parliament and of the Australian business community. He helped develop the positive policy environment that attracted more than \$200 billion to develop a new generation of world-class Australian oil and gas projects.



APPEA Chairman Bruce Lake presents Ian Macfarlane with the Reg Sprigg Medal.

Roy Krzywosinski: APPEA for life

APPEA presented a life membership to Chevron Australia's outgoing managing director Roy Krzywosinski shortly before he returned to the US to take up the position of vice-president of engineering in Chevron's Houston office.

In his eight years as head of Chevron Australia, Mr Krzywosinski contributed enormously to Australia's oil and gas industry.

Under his leadership, Chevron committed massive levels of investment in major Australian oil and gas projects and helped make Australia's oil and gas industry a major pillar of the Australian economy.

Mr Krzywosinski also made an outstanding personal contribution to APPEA and the industry in his two years as Chair of the Stand Together for Safety Committee.

He has been a passionate advocate for personal and process safety, and has helped develop a stronger safety culture across the industry.

Scholarships

In 2015–16, APPEA awarded scholarships to five outstanding students from across Australia.

Tony Noon Scholarship

The 2015 Tony Noon Memorial Scholarship was presented to Curtis Armstrong, a PhD candidate at the University of Tasmania's Australian Maritime College.

His research is intended to develop response-based analysis of floating systems' riser flow lines and their coupled systems. This would help prevent loss of assets while also reducing costs by enhancing design.

This scholarship provides a one-off grant to the value of \$3,000 and is aimed at assisting students who are aspiring to a career in the upstream petroleum industry. Applicants must be enrolled in honours, Masters or PhD programs at an Australian university and may come from a range of disciplines, including, for example, geology, safety, engineering, economics, law or environmental management.

The scholarship is open to Australian citizens and permanent residents.

KA Richards Scholarship

APPEA presenting its KA Richards Scholarship to Jon McCullough, a PhD student at the University of Queensland's School of Mechanical and Mining Engineering.

Mr McCullough's thesis on heat transfer in hydraulic fracturing fluids is highly relevant to unconventional gas operations. This kind of ground-breaking research will be crucial in providing reliable energy to the world over the next few decades.

The KA Richards Scholarship is tenable in the fields of petroleum engineering or petroleum geoscience. The scholarship offers a maximum of \$10,000 per year for one year of Masters study or three years for a doctoral degree (or part-time equivalent). It cannot be renewed or extended but may be held in conjunction with other scholarships or grants. This scholarship is open to Australian citizens and permanent residents.

Undergraduate engineering scholarships

Western Australia's Minister for Mines and Petroleum, Bill Marmion presented Yasmin Smith with an Oil and Gas Industry Engineering Scholarship at a function following APPEA's 2015 Annual General Meeting in Perth. Yasmin is completing a Bachelor of Mechanical Engineering at Curtin University.

She has excellent grades and her extra-curricular activities are also impressive. She is active in the Curtin chapter of the Society of Petroleum Engineers. She is also the Secretary of the Curtin University Division of Engineers Without Borders, which promotes awareness about humanitarian engineering in remote Australia and developing countries. Yasmin has also volunteered with several charities and has worked as an undergraduate mechanical engineer at SPIE Oil & Gas Services.

Two indigenous students also received Oil and Gas Industry Engineering scholarships.

Jordan Carter is a third-year Bachelor of Engineering student at Monash University who has worked as an intern for Shell and Viva Energy Australia. As an Indigenous Officer with the Monash Student Association, he organises the Indigenous University Games and other events for indigenous students.

Michael Keenwe is undertaking a Bachelor of Chemical Engineering (Honours) and a Bachelor of Business Management at Monash and RMIT. He is the Campus Coordinator of the Monash branch of Engineers Australia. In the summer of 2014–15, he undertook vacation work with Woodside Energy.

These scholarships are intended to support undergraduate engineering students working towards careers in the Australian oil and gas industry. The recipients are awarded \$10,000 each—\$5000 upon winning the scholarship and \$5000 upon completing their studies.

APPEA 2016: Competing for Growth

5–8 June, Brisbane

APPEA 2016's agenda was largely defined by sustained low oil prices and the 2015 Paris Climate Change Summit.

The 2016 APPEA Conference and Exhibition was held at the Brisbane Convention and Exhibition Centre. It drew more than 2000 registered attendees from 26 countries and 865 organisations. This was a strong result in a difficult period for the industry, especially as it was held only two months after LNG 18.

In this era of financial pressure and rapid change, the APPEA Conference and Exhibition is more important than ever as a forum for industry, policymakers and media.

Plenary and concurrent sessions examined industry challenges; major policy issues; and the enormous opportunities for energy security, regional development and economic growth that the gas industry offers.

Every year, the conference and exhibition features federal and state government ministers, as well as influential experts and industry leaders from across Australia and around the world. It facilitates networking and the exchange of ideas and information in a fast-moving industry. It also conveys news about company projects and APPEA's industry advocacy messages to policymakers and media.

About 40 journalists and other media personnel, representing 28 Australian and international outlets, covered the event. Several stories made the front pages of major newspapers.

APPEA 2016 featured 19 plenary speakers across five sessions. Plenary speakers included:

- Oxford University Environmental Economics, Professor Cameron Hepburn
 - Center for Climate and Energy Solutions Executive Vice President, Elliot Diringer
 - Origin Energy Managing Director, Grant King
 - Woodside Managing Director, Peter Coleman
 - Rice University and University of Western Australia professor of economics, Peter Hartley
 - Shadow Minister for Resources, Gary Gray
 - MIT Energy Initiative Director of Research, Francis O'Sullivan
 - Clough Chief Executive, Peter Bennett
 - Oil Search Managing Director, Peter Botten
 - GasFields Commission of Queensland Chairman, John Cotter
 - INPEX President Director Australia, Seiya Ito.
- The technical program was one of the largest at an APPEA event with 86 presentations spread across 24 sessions. These included specialist analyses, technical know-how and case studies that covered a wide range of issues, including:
- implications of the 2015 UN Climate Summit
 - technology and innovation
 - gas science, technology and operations
 - liquefied natural gas operations and markets
 - project development
 - energy policy
 - updates from regulators
 - tax, financial and commercial issues
 - prospectivity of frontier basins
- Federal Minister for Industry, Josh Frydenberg
 - Queensland Minister for State Development and Minister for Natural Resources and Mines, Dr Anthony Lynham
 - Shell Australia Country Chair, Andrew Smith



- scientific and technological reports
- workforce management, including building diversity
- tax, commercial and financial management
- diversity
- community and stakeholder engagement
- skills, environmental, safety and operational issues.

The concurrents also included the Commonwealth Government’s annual release of exploration acreage and the Petroleum Exploration Society of Australia’s annual review of the previous year’s exploration and production figures and highlights.

The conference concluded on Wednesday afternoon with a lively panel discussion on stakeholder engagement.

The Exhibition Hall — industry showcase and networking hub

The Exhibition Hall covered more than 12,000 square metres and hosted 165 organisations.

It also included spacious networking lounges, full catering facilities, charge zones and a technology and business centre. With numerous stands competing to offer quality coffee and happy hour events at the end of each afternoon, the exhibition area offered plenty of

opportunities for delegates to exchange news and ideas with industry colleagues and to simply catch up with old friends.

The conference social events were also well attended. Almost 1200 people registered for the welcome reception; more than 700 came to the conference dinner; and almost 1000 registered for the farewell cocktails.

Delegate feedback

Delegate feedback forms showed that:

- 93% said they made new business contacts at APPEA 2016
- 74% said the APPEA Conference and Exhibition is a key event in their company’s strategic planning for the year
- 94% said the quality of presentations was ‘good’ or ‘excellent’
- 70% said the APPEA Conference was among the top three most valuable of all the conferences they attend.

The APPEA Conference and Exhibition is the largest annual upstream oil and gas event in the southern hemisphere.

APPEA conferences and forums



APPEA National Health, Safety and Environment Conference and Exhibition

5–9 September 2015 – Perth, WA

More than 400 delegates attended the APPEA HSE Conference, which delivered a world-class program of presentations, panel discussions, and key networking events.

More than 80 top-quality international and local presenters (industry leaders, regulators, safety staff and frontline workers, and technical and other experts) addressed critical issues facing the industry and discussed relevant research, science, technology innovations and operational processes.

HSR Forum

The 2015 HSR Forum was held at Crown Perth, immediately preceding the APPEA National HSE Conference. The forum enabled health and safety representatives to discuss issues and share their safety experiences, lessons and good practices. It also focused on helping them develop safety leadership and representative skills.

OSR Forum

The Oil Spill Response Forum was held as an adjunct to the APPEA National HSE Conference. A diverse group of guest speakers—including regulators and technical experts—presented on a range of issues. Participants shared regional, national and international oil spill response and oil pollution research findings and best management practices, as well as lessons from company operations.



2015 APPEA Taxation and Commercial Conference

29–30 October 2015 – Sanctuary Cove, Qld

APPEA's biennial Taxation and Commercial Conference brought together oil and gas industry taxation, legal, accounting and commercial professionals to discuss issues affecting the financial performance of upstream petroleum companies.

The two-day event featured keynote addresses, concurrent sessions on specific issues, and ample networking opportunities. Speakers and delegates included industry experts, representatives from advisory and legal firms, and government officials.

The next APPEA Taxation and Commercial Conference will be held in the second half of 2017. A call for papers will be released in early 2017.

Introduction to the Oil and Gas Industry Seminars

Delivered across all mainland capital cities, these half-day seminars give participants a broad understanding of the Australian oil and gas industry.

Attendees 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.

Developed and delivered in partnership with Curtin University, these seminars are facilitated by Professor Peter Moore with guest APPEA presenters. This material can also be delivered through in-house seminars.

For more information, see www.appea.com.au.

APPEA member companies at 30 June 2016

Full members

American Energy Global Partners
 Armour Energy
 Arrow Energy
 AWE
 Beach Energy
 Benaris International
 BHP Billiton Petroleum
 Bounty Oil & Gas
 BP Developments Australia
 Bridgeport Energy
 Buru Energy
 CalEnergy Resources (Australia)
 Carnarvon Petroleum
 Central Petroleum
 Chevron Australia
 Comet Ridge
 ConocoPhillips Australia
 Cooper Energy
 Cue Energy Resources
 Dart Energy
 Drillsearch Energy
 Empire Oil & Gas
 Eneabba Gas
 ENGIE Bonaparte
 Eni Australia
 Esso Australia (ExxonMobil)
 Finder Exploration
 Galilee Energy
 Hess Exploration Australia
 Hydra Energy (WA)
 Icon Energy
 Inpex
 ITOCHU Minerals & Energy
 of Australia
 Japan Australia LNG (MIMI)
 Japan Energy E&P Australia
 KUFPEC Australia
 Lakes Oil
 Latent Petroleum
 MEO Australia
 Metgasco
 Mitsubishi Australia
 Mitsui E&P Australia
 Murphy Australia Oil
 Nido Petroleum
 Norwest Energy
 Oilex

OMV Returning Zealand
 Origin Energy
 Pangaea Resources
 Papuan Oil Search
 Petronas Australia
 PTTEP Australasia
 QGC (a BG Group Company)
 Quadrant Energy
 Roc Oil Company
 Santos
 Senex Energy
 Shell Development (Australia)
 Statoil ASA
 Strike Energy
 Tap Oil
 Tokyo Gas Australia
 Tokyo Timor Sea Resources
 Total E&P Australia
 Tri-Star Petroleum Company
 Vermilion Oil & Gas Australia
 WestSide Corporation
 Woodside Energy

Associate members

Accenture
 Access Human Talent
 Accutherm International
 ACEPT—Challenger TAFE
 Achilles Supplybase
 Acting Consulting Training Australia
 Add Energy Australia
 AECOM Services
 AGR Asia Pacific
 Allens
 AMC Management (WA)
 ANZ Banking Group
 Archimedes Financial Planning
 Arthur J Gallagher
 Ashurst Australia
 Aspermont
 Atkins Australasia
 Atwood Oceanics Australia
 Australasian International Petro-
 Consultants
 Australian Maritime College
 Australian Rig Construction Holdings
 Aventus Consulting
 Bain and Company
 Barker Wentworth
 BDO
 BMD Group
 BMT Group
 BNJ Consultants
 Board of Professional Engineers in
 Queensland
 BOC
 Boston Consulting Group
 Broadspectrum
 Brunel Energy
 Bureau Veritas Australia
 CAC Gas & Instrumentation
 Cadgile
 Cameron Australasia
 CareFlight
 CGG Services (Australia)
 Chamber of Commerce & Industry WA
 Charles Darwin University, North
 Australian Centre for Oil & Gas
 CHC Helicopters
 Chemostrat Australia
 Chicago Bridge & Iron Company
 Clayton Utz
 Clifford Chance

membership

Clough
CO2CRC
Corrs Chambers Westgarth
Croomo
Cummins South Pacific
Curtin University
Dare Contract Services
Deloitte Touche Tohmatsu
DNOW Australia
DNVGL
Dockwise Shipping Australia
DownUnder GeoSolutions
EcOz Environmental Consulting
EDG Australia
EIG Global Energy Partners
Enerflex Process
Energy Power Systems Australia
Energy Publications
EnergyQuest
EnerMech
ENPOINT Environmental Asset Management
Ensign International Energy Services
Environmental Resources Management Australia
ERGT Australia
Ernst & Young
Exada
Fluor Australia
FMC Technologies Australia
Fugro Holdings (Australia)
Gas Today
GASCO
GHD
Golders
Gunggari Energy Services
Halliburton Australia
Hatch
Herbert Smith Freehills
Honeywell Process Solutions
IDE Technologies
IFAP—Industrial Foundation for Accident Prevention
IHS Cera
Independent Oil Tools
Informa Corporate Learning
Institution of Chemical Engineers
Intertek
ITC Global (Australia)

Jemena
Jet Financial
Just Country Australia
KBR
Kentz Oil & Gas
KJM Contractors
Kleinfelder Australia
KPMG
Labrador Petro-Management
Laing O'Rourke Australia
LogiCamms
McConnell Dowell Constructors
McKinsey & Company
Media Dynamics
Minter Ellison
Miro Advisors
MMA Offshore
Monash University (Department of Chemical Engineering)
Murphy Pipe and Civil Constructions
Nalco Champion
Neptune Marine Services
NETZCH Australia
Newpark Drilling Fluids
Nova Systems
Oceaneering Services Australia
OSD
Ostwald Bros
P&R Geological Consultants
Pacific Environment
Palantir Australia
Payne Partners
Performance on Hand
Peroni Pumps Australia
Petroleum Exploration & Production Association NZ
Petroleum Exploration Society of Australia (PESA)
Petrospection
Petrosys
PGS Australia
Piper Alderman
Pitney Bowes Business Insight
Platform Communications
Polarcus DMCC
PricewaterhouseCoopers Services
Programmed Marine
R & D Solutions
Resource & Land Management

Service
RISC Operations
RPS
RSM Bird Cameron—Chartered Accountants
S2V Consulting
Safety Leaders Group
Schlumberger Australia
Sealink International Berhad
Searcher Seismic
Sharpe Engineering
Siemens
Site Skills Training
Strategic Human Resources
Subsea 7 Australia Contracting
Superior Energy Services
Surepipe
SVT Engineering Consultants
SWA Water Australia
T.I.E.C (Texas International Engineering Consultants)
TCA Partners
Technip Oceania
Teekay Marine Services
Tenaris Global Services Australia
TGS-NOPEC Geophysical Company
Toll Energy Logistics
Toowoomba & Surat Basin Enterprise
Total Depth
Tox Free Solutions
Training Prospects
UCL School of Energy and Resources, Australia
University of Western Australia
UNSW School of Petroleum Engineering
Upstream Production Solutions
Valmec
Valve Technology Australia
Velseis
Veolia Environmental Services
Veritas Engineering
WDS
Western Australian Energy Research Alliance (WA:ERA)
Wood Group Training
Wood Mackenzie (Australia)
WorleyParsons Services
Yokogawa Australia

APPEA Board and Corporate Governance



APPEA's Board is responsible for the company's business planning and strategic direction.

The Board's governance obligations are defined under the *Corporations Act 2001*.

In addition, the APPEA Corporate Governance Charter defines the respective roles and responsibilities of the Board, the directors, and senior management in setting the direction, management and control of the association.

This provides structure and clear guidelines for board processes, decision making, company policy and strategies that support good governance and control practices.

The APPEA Board

Under APPEA's constitution, the APPEA Board must comprise at least six and no more than 16 directors elected by APPEA's full members.

Half of the APPEA Board's members are required to resign at each annual general meeting.

Members of the Board immediately following the 2015 annual general meeting were:

- Bruce Lake (Chairman), Vermilion Oil and Gas Australia Pty Ltd
- Richard Owen (Vice Chairman), ExxonMobil Affiliates in Australia
- Michael Abbott, Woodside Energy Ltd
- Brett Darley, Quadrant Energy
- Ernie Delfos, Eni Australia Ltd
- Claire Fitzpatrick, BP Developments Australia Pty Ltd
- Gerry Flaherty, Chevron Australia Pty Ltd
- Doug Handyside, BHP Billiton Petroleum Pty Ltd
- Seiya Ito, INPEX
- Grant King, Origin Energy Ltd
- Frank Krieger, ConocoPhillips Australia Pty Ltd
- Andrew Smith, Shell Australia Pty Ltd
- Peter Stickland, MEO Australia Ltd
- Eric Streitberg, Buru Energy Ltd
- Petter Udem, Total E&P Australia
- Brett Woods, Santos Ltd

On 1 February, Doug Handyside resigned. On 17 March, he was replaced by Rob Jellis—Senior Manager, BHP Billiton Petroleum.

On 1 March, Gerry Flaherty resigned. On 17 March, he was replaced by Peter Fairclough—Policy, Government and Public Affairs General Manager, Chevron Australia.

Management and administration



APPEA
Chief Executive
Malcolm Roberts

APPEA has about 30 staff working in areas such as policy, events, administration and communications.

Its head office is in Canberra. It also has offices in Perth, Brisbane, Darwin and Sydney.

Senior management

Malcolm Roberts, Chief Executive

Dr Roberts was previously Chairman of the Queensland Competition Authority. He has held senior roles at several industry associations and has worked as a ministerial policy adviser and in the Department of the Prime Minister and Cabinet.

Noel Mullen, Deputy Chief Executive — Access, Fiscal and Corporate

Noel is responsible for reviewing and providing recommendations on commercial, fiscal and access issues. He was a previously a senior officer in the Department of Primary Industries and Energy's petroleum taxation division.

Stedman Ellis, Chief Operating Officer — Western Australia

Stedman leads APPEA's WA onshore and offshore policy, regulation and advocacy work. He has a senior role in APPEA's national work on stakeholder engagement and access to resources and has held senior government and industry roles in regulation and policy, stakeholder engagement and advocacy for more than 25 years.

Matthew Doman, Director — South Australia/ Northern Territory

Matthew is a former journalist and press secretary to federal Cabinet Ministers. He has also held senior corporate affairs roles at Santos and has worked closely with industry, government and regional communities in South Australia and the NT.

Damian Dwyer, Director — Economics

Damian is responsible for APPEA's economic, trade, climate and energy markets analysis and policies. His 20-year public policy career includes positions as an economist at another industry association and in the Australian Public Service.

Julie Hood, Director — Events

Julie joined APPEA in 2001. She is responsible for delivering top-quality oil and gas industry events, in particular the APPEA Conference and Exhibition.

Kieran Murphy, Acting Director — External Affairs

Kieran is responsible for APPEA's external communications, media and government relations and stakeholder engagement. He is a former journalist and a former senior media advisor in government and the resources sector.

Cath Sutton, Company Secretary and Director — Support Services

Cath heads APPEA's finance and administrative team. She was previously Chief Financial Officer at the Real Estate Institute.

Statement of Comprehensive Income for the year ended 30 June 2016

	Notes	2016 \$	2015 \$
Revenue			
Conferences and seminars income	3	9,553,705	7,407,046
Common Safety Training program		194,828	256,062
CSG public campaigns – Queensland and New South Wales	15	568,444	1,180,126
IchemE Process Safety Centre project	15	209,000	546,250
Interest		185,908	303,492
Marine Environment Science Program	16	268,322	188,120
Membership fees		6,136,336	6,378,328
Our Natural Advantage project	15	30,181	2,251,962
Publications		6,997	10,715
Other income		80,754	79,679
		17,234,475	18,601,780
Expenditure			
Auditor's remuneration		19,135	22,482
Conferences and seminars expenditure	3	3,522,470	4,313,371
Communications		147,608	143,458
CSG public campaigns - Queensland and New South Wales	15	568,444	1,213,899
Depreciation of plant and equipment	7	201,052	199,963
Amortisation of make good allowance	7	25,000	25,000
Education and professional development		3,750	8,886
IchemE Process Safety Centre project	15	209,000	546,250
Industry growth strategy costs		30,338	185,928
Industry operations consultancy costs		117,532	268,586
Loss on disposal of assets		-	(423)
Marine Environment Science Program	16	818,711	188,120
Office rental		625,190	691,237
Our Natural Advantage project	15	30,181	2,251,962
Other costs		447,566	1,327,876
Provision for employee entitlements		(60,272)	10,215
Publications		44,380	42,311
Running costs		437,688	451,347
Salaries and associated costs		5,833,285	7,071,460
Superannuation		455,853	527,390
Travel and associated costs		220,729	335,572
		13,697,640	19,824,890
Surplus / (deficit) for the year		3,536,835	(1,223,110)
Total comprehensive income		3,536,835	(1,223,110)

Statement of Financial Position as at 30 June 2016

	Notes	2016 \$	2015 \$
Current assets			
Cash and cash equivalents		734,970	524,685
Trade and other receivables	4	941,279	2,015,878
Other	5	4,334,107	398,915
Other financial assets	6	7,595,495	7,943,348
TOTAL CURRENT ASSETS		13,605,851	10,882,826
Non-current assets			
Property, plant and equipment	7	264,640	478,212
TOTAL NON-CURRENT ASSETS		264,640	478,212
TOTAL ASSETS		13,870,491	11,361,038
Current liabilities			
Trade and other payables	8	1,015,810	981,178
Provisions	9	651,426	711,698
Other	10	1,909,910	2,911,652
TOTAL CURRENT LIABILITIES		3,577,146	4,604,528
Non-current liabilities			
Other	10	200,000	200,000
TOTAL NON-CURRENT LIABILITIES		200,000	200,000
TOTAL LIABILITIES		3,777,146	4,804,528
NET ASSETS		10,093,345	6,556,510
Accumulated funds			
Accumulated surplus		10,093,345	6,556,510
TOTAL ACCUMULATED FUNDS		10,093,345	6,556,510

Statement of Changes in Equity for the year ended 30 June 2016

	2016 \$	2015 \$
Opening balance	6,556,510	7,779,620
Add: Total comprehensive income for the year	3,536,835	(1,223,110)
Closing balance	10,093,345	6,556,510

Statement of Cash Flows for the year ended 30 June 2016

	2016 \$ Inflows/ (Outflows)	2015 \$ Inflows/ (Outflows)
Cash flows from operating activities		
Receipts from members and others	11,904,095	16,912,897
Payments to trade creditors, other suppliers and employee	(12,252,162)	(21,384,839)
Interest received	222,979	314,264
Net cash provided by / (used in) operating activities	(125,088)	(4,157,678)
Cash flows from investing activities		
Payments for property, plant and equipment	(12,480)	(28,362)
Proceeds from sale of property, plant and equipment	-	2,132
Uplifts / (payments) for investments	347,853	3,963,350
Net cash provided by / (used in) investing activities	335,373	3,937,120
Net increase / (decrease) in cash held	210,285	(220,558)
CASH AT THE BEGINNING OF THE FINANCIAL YEAR	524,685	745,243
CASH AT THE END OF THE FINANCIAL YEAR	734,970	524,685



The Australian Petroleum Production & Exploration Association is the peak national body representing Australia's oil and gas exploration and production industry.

At 30 June 2016, APPEA had 68 full member companies and 184 associate members. The full members are oil and gas explorers and producers active in Australia. APPEA members account for an estimated 98 per cent of the nation's petroleum production. APPEA's associate members are companies that provide a wide range of goods and services to the upstream oil and gas industry.

APPEA works with Australian governments to help promote the development of the nation's oil and gas resources in a manner that maximises the return to the Australian industry and community.

APPEA aims to secure regulatory and commercial conditions that enable member companies to operate safely, sustainably, and profitably.

It also seeks to increase community and government understanding of the upstream petroleum industry by publishing information about the sector's activities and economic importance to the nation.

In addition, APPEA hosts conferences each year to exchange ideas and contribute to the development of the industry's policy positions.

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