



# Emissions Reduction Fund Terms of Reference: October 2013

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## KEY POINTS

### GENERAL

- APPEA supports a national climate change policy that delivers abatement at least cost.
- Reliable, secure and competitively priced energy is crucial to our everyday lives in Australia. Oil and gas plays a key role in meeting many of our energy needs.
- It is vital that Australia's national climate change policy approach, and therefore the design of the Emissions Reduction Fund (ERF) reflects the enormous economic and greenhouse benefit that can flow from a prosperous and vibrant upstream oil and gas industry.
- The major challenge to the industry's continued growth is maintaining Australia's international competitiveness in the face of growing global competition. A high-cost local environment and the emergence of new LNG competitors has increased the level of competition Australia faces as it seeks to win market share and attract investment.
- Australia's national approach to climate change policy is a critical area of policy reform. The ERF should aim to enhance Australia's international competitiveness as a destination for oil and gas investments. It should not add to the cost burden facing the industry.
- The ERF should form a stable and durable foundation for Australia's national climate change policy approach. APPEA does not wish to see a return to the costly hotch-potch of State and Territory as well as national climate change approaches that has historically characterised many aspects Australia's greenhouse policy response.

### THE ERF TERMS OF REFERENCE

- In relation to the specific ERF Terms of Reference, APPEA offers the following preliminary comments:
  - *The design and operation of a mechanism applying to emissions above the business as usual baseline:* The design and operation of a mechanism applying to emissions above an emissions threshold is a key design feature of the ERF. In APPEA's submission it should reflect the following key principles:
    1. Set emissions thresholds at a facility level
      - Emissions thresholds should be set at a NGERs facility level. Thresholds should be set for each LNG project individually.
    2. Determine an efficient methodology for setting emissions thresholds
      - There are a variety of ways in which an emissions threshold for each NGER facility could be established. APPEA does not have a preferred model at this stage but looks forward to working with the Department to develop a potential model that would be appropriate for the oil and gas industry. Very importantly, such an approach will need to accommodate the year-to-year variability in emissions at a facility and will require a process that could be simply and automatically applied each year.
    3. Allow absolute emissions or emissions intensity
    4. Apply emissions thresholds based on operating experience
      - Rather than a 'best practice' approach for a new NGERs facility, a new facility could have an emissions threshold applied once an appropriate number of data points are available from NGERs data.
    5. The mechanism to apply to emissions above this emissions threshold
      - The mechanism to apply to emissions above this emissions threshold should be consistent with the Government's stated objective of applying it only to emissions above business as usual and not as a mechanism for raising revenue. We propose the following approach:



- The Regulator to notify the facility operator that it appears its emissions are above the facility's emissions threshold and ask the facility operator to explain the increase.
  - If no "reasonable explanation" is provided, the facility operator is asked to demonstrate how it intends to restore the facility's emissions to historical levels within a reasonable period of time.
  - If the facility operator fails to demonstrate how it intends to reduce the facilities emission to within historical levels, the facility operator should be given the opportunity to reduce emissions via the purchase of credible offsets to or pay an excess emissions threshold charge.
  - Rights to appeal any finding of the Regulator with respect to the provision of "reasonable explanation" or the imposition of an excess emissions threshold charge should be included in any legislation.
- *The likely sources of low cost, large scale abatement to come forward under the Emissions Reduction Fund:* The Fund should have as wide as is possible coverage of emission sources and emission reduction opportunities, be open to a variety of commercial structures and project development approaches and be open to co-funding arrangements. It should allow for the different nature of bids that may come forward:
    - Specific 'projects' that may be bid into the ERF; and
    - Emissions reductions achieved below the 'emissions threshold' through year-to-year reductions at facilities. An associated mechanism should also apply to emissions above the business as usual emissions threshold.
  - *How the Emissions Reduction Fund can facilitate the development of abatement projects, including through expanding the Carbon Farming Initiative and drawing on the National Greenhouse and Energy Reporting Scheme:* Whichever methodologies are used to underpin the ERF, including any that are built from the existing CFI process, must be underpinned by streamlined, efficient and effective administrative, reporting and compliance arrangements. APPEA also recommends that the Government commission a separate review of the NGER Act. This review should have as one of its core purposes a significant simplification of current reporting obligations, consistent with the Government's overall red tape and green tape reduction program.
  - *The details of auction arrangements to deliver cost effective outcomes:* A number of auction model arrangements are possible and APPEA does not have a preferred option at this early stage of the ERF's development. Whichever auction model is developed should be developed in consultation with stakeholders and be subject to rigorous testing (including through a pilot program) before the first auction.
  - *The governance arrangements that will support the Emissions Reduction Fund, including the role of key institutions such as the Clean Energy Regulator:* APPEA supports the continuation of the Clean Energy Regulator with responsibility for administration of the ERF. APPEA also recommends the Government establish and fund an ongoing Advisory Board to advise on ERF governance and administrative arrangements.
  - *The details of the monitoring, verification, compliance and payments arrangements for successful bidders at auction:* Successful bids into the ERF could result in an 'Offtake Agreement' to be negotiated between the project proponent and the Regulator. Such an 'Offtake Agreement' would include details on the monitoring, verification, compliance and payment arrangements. Where possible, such arrangements should be built from existing (but simplified) infrastructure and could draw on existing and/or previous models.
  - *Transitional issues relating to the existing Carbon Farming Initiative:* Significant administrative streamlining will be required to the CFI to facilitate the development of abatement projects.



## INTRODUCTION

Since 1959, the Australian Petroleum Production & Exploration Association (APPEA) has been the peak national body representing the upstream oil and gas exploration and production industry. APPEA has more than 85 member companies that explore for and produce Australia's oil and gas. In addition, APPEA's more than 220 associate member companies provide a wide range of goods and services to industry. Further information about APPEA can be found on our website, at [www.appea.com.au](http://www.appea.com.au).

APPEA has been engaged in the greenhouse policy debate since its inception and has participated in every major consideration of national climate change policy approaches in Australia. APPEA welcomes the opportunity to provide input on the Emissions Reduction Fund Terms of Reference (ERF ToR) as part of its ongoing engagement with the Government on the development of a long-term, sustainable, national climate change policy.

APPEA is committed to working with policy makers as they develop responses to the global risks posed by climate change. With that in mind, APPEA has developed the *Climate Change Policy Principles* document – a copy of which is at [Attachment 1](#)<sup>1</sup> – setting out the principles that APPEA considers should underpin Australia's response to climate change.

Most importantly, APPEA supports a national climate change policy that delivers abatement at least cost.

APPEA is also a member of the Australian Industry Greenhouse Network (AIGN), a network of industry associations and individual businesses that contribute to the climate change policy debate and see value in joint industry action on climate change policy issues in order to promote sustainable industry development<sup>2</sup>. APPEA has contributed to the AIGN submission on the ERF ToR.

In addition to the APPEA submission, a number of APPEA members have made individual submissions to the Government on the ERF ToR. This response should be read in conjunction with submissions from individual APPEA members.

## THE AUSTRALIAN UPSTREAM OIL AND GAS INDUSTRY

It is important to place our views on the issues raised by the ERF ToR within the context of the current state and potential future contribution of the upstream oil and gas industry to the Australian economy and to the welfare of all Australians.

Reliable, secure and competitively priced energy is crucial to our everyday lives in Australia. Within this framework, oil and gas plays a key role in meeting many of our energy needs.

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<sup>1</sup> A copy of APPEA's *Climate Change Policy Principles* can also be found at [www.appea.com.au/industry-in-depth/policy/greenhouse](http://www.appea.com.au/industry-in-depth/policy/greenhouse).

<sup>2</sup> See [www.aign.net.au](http://www.aign.net.au) for further information.

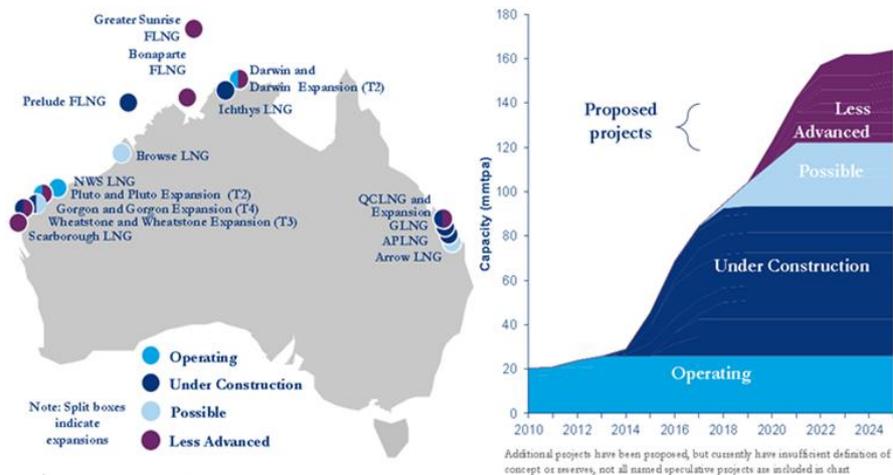


Australia has vast resources of natural gas. Geoscience Australia<sup>3</sup> has estimated that Australia has over 819 trillion cubic feet (tcf) (900,540 petajoules) of natural gas resources. By way of comparison, Australia's production of natural gas in 2011-12 was around 2 tcf (2,200 petajoules), meaning Australia has more than enough gas to service both domestic and export markets for decades.

Our abundant natural gas resources, in particular, place Australia in an enviable position to maintain long-term, cleaner energy security domestically and internationally. Natural gas makes it possible for Australia to meet the world's growing energy needs over the coming decades while incorporating a strategy to curb emissions and address the risk of climate change.

Just as importantly, the industry creates significant wealth for the country, including through the employment of many Australians, underpinning the revenue collections of governments and generating valuable export revenue for the Australian economy. Almost \$200 billion is currently being invested in oil and gas projects including seven major liquefied natural gas (LNG) export projects<sup>4</sup>. According to economic modelling commissioned by APPEA and conducted by Deloitte Access Economics<sup>5</sup>, this will increase Australian GDP by up to 2.2 per cent a year and over the investment phase, will create about 103,000 (full-time equivalent) jobs across the Australian economy. Companies all over Australia are supply goods and services to the oil and gas industry, and the use of fly-in, fly-out staffing is spreading the benefits of the industry across Australia. Figure 1 provides an overview of Australia's LNG projects.

**Figure 1: Australian LNG projects: by liquefaction status**



Source: Wood Mackenzie LNG Tool, August 2012.

<sup>3</sup> Geoscience Australia (2012), *Australian Gas Resource Assessment 2012*, 14 May (available at [www.ga.gov.au/products/servlet/controller?event=GEOCAT\\_DETAILS&catno=74032](http://www.ga.gov.au/products/servlet/controller?event=GEOCAT_DETAILS&catno=74032)).

<sup>4</sup> See Bureau of Resources and Energy Economics (2013), *Resources and Energy Major Projects*, for a listing of upstream oil and gas projects at the Publicly Announced Stage, Feasibility Stage, Committed Stage and Completed Stage (available at [www.bree.gov.au/publications/rempp.html](http://www.bree.gov.au/publications/rempp.html)).

<sup>5</sup> See Deloitte Access Economics (2012), *Advancing Australia: Harnessing our comparative energy advantage*, 25 June (available at [www.appea.com.au/wp-content/uploads/2013/04/120625\\_DAEreportAPPEAfinal.pdf](http://www.appea.com.au/wp-content/uploads/2013/04/120625_DAEreportAPPEAfinal.pdf)).



By 2020, the sector's economic contribution to the national economy will more than double to \$65 billion and taxation paid will rise from \$8.8 billion (\$4.9 billion in corporate taxes and \$3.8 billion in production taxes) to reach almost \$13 billion.

While the Australian economy has benefited and will continue to benefit significantly from LNG investments committed in the past, there are even more projects under consideration, representing a potential additional investment exceeding \$180 billion. Realising these would benefit the entire nation. Analysis by McKinsey & Co<sup>6</sup> shows GDP would increase by 1.5 per cent, about 150,000 jobs would be created across the Australian economy, and tax revenues created equivalent to nearly half the total federal debt. The benefits of improving productivity would also flow to other sectors.

This means that the stakes are high in realising the industry's potential benefits.

It is vital that Australia's national climate change policy approach, and the central role the ERF will play in that approach, recognises the enormous economic and (as is considered below) greenhouse benefit that can flow from a prosperous and vibrant upstream oil and gas industry.

## THE ROLE OF NATURAL GAS

Greater use of Australian natural gas – in the domestic market, and in Asia as LNG exports – can significantly reduce greenhouse gas emissions.

## THE IMPORTANCE OF NATURAL GAS AS A LOW GREENHOUSE GAS EMISSIONS ENERGY SOURCE IN AUSTRALIA

Australia could generate significant additional national economic, environmental and social benefits through greater utilisation of its substantial natural gas resources.

Using more natural gas in Australia's power generation and resource processing would significantly enhance the nation's ability to meet increasing energy needs while at the same time reducing greenhouse gas emissions.

These outcomes are possible because currently available natural gas technologies produce only 30 to 50 per cent of the emissions produced by current coal technologies in generating electricity.

According to the Commonwealth Scientific and Industrial Research Organisation (CSIRO) (and a range of energy industry analysts), current generation coal-fired power stations produce between 0.8 and 1.2 tonnes of carbon dioxide equivalent greenhouse gas emissions (CO<sub>2</sub>-e) per megawatt hour (MWh) of generation while a combined cycle gas turbine power station produces only around 0.35 to 0.36 tonnes CO<sub>2</sub>-e/MWh<sup>7</sup>.

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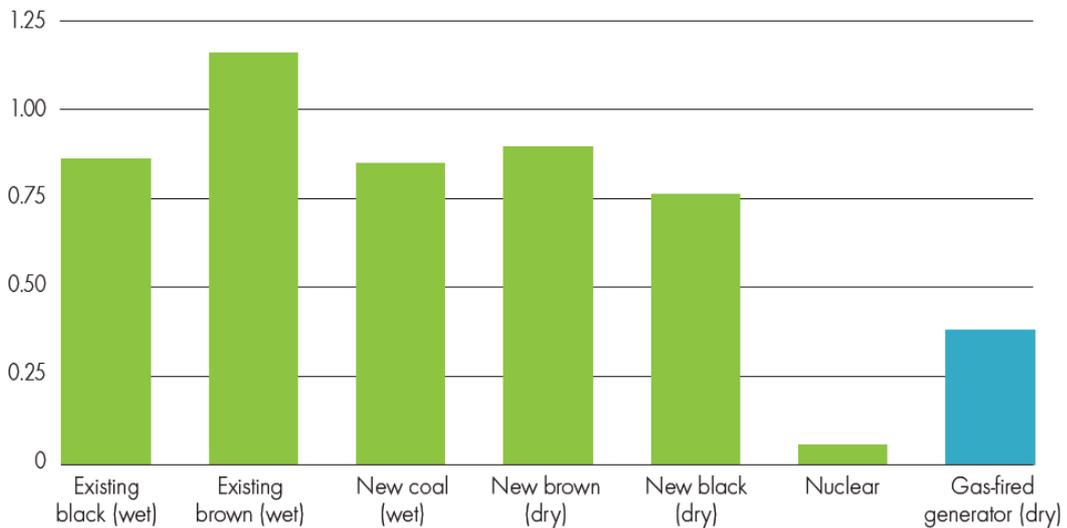
<sup>6</sup> McKinsey & Co (2013), *Extending the LNG boom: Improving Australian LNG productivity and competitiveness*, 28 May (available at [www.mckinsey.com/locations/australia/knowledge/pdf/extending\\_lng\\_boom.pdf](http://www.mckinsey.com/locations/australia/knowledge/pdf/extending_lng_boom.pdf)).

<sup>7</sup> Energy Futures Forum (2006), *The Heat is on: the future of energy in Australia*, December (see [www.csiro.au/Organisation-Structure/Flagships/Energy-Flagship/Energy-Futures-Forum.aspx](http://www.csiro.au/Organisation-Structure/Flagships/Energy-Flagship/Energy-Futures-Forum.aspx) for further details).



This is illustrated in Figure 2, which shows the significantly lower greenhouse gas emission associated with the gas-fired electrical power generation compared to the use of other conventional fuels.

**Figure 2: Emissions intensity of various fuel types for electricity generation (tonnes CO<sub>2</sub>-e/MWh)**



Sources: ACIL Tasman, Company websites/reports, McLennan Magasanik Associates, ROAM Consulting (2009).

Natural gas provides the one of the lowest cost means by which Australia can reduce greenhouse gas emissions in the electrical power generation sector, both through increased use of existing gas-fired power stations and a 'coal to gas shift' (that is, new gas-fired power stations).

Natural gas is also an important safeguard for intermittent renewable energy sources. For example, modelling done by South Australia's Electricity Supply Planning Council notes that every 5,000MW of wind power generation requires around 2,100MW of gas-fired power generation to ensure that a reliable supply of electricity is available to the grid<sup>8</sup>.

The increased use of natural gas also has several additional environmental benefits, such as:

- Reduced emissions of particulates.
- Reduced emissions of sulphur dioxide (an important contributor to smog and acid rain).
- Significantly lower demand for water for power station cooling.

<sup>8</sup> Electricity Supply Industry Planning Council (2008), *Submission to AEMC Review of Energy Market Frameworks in Light of Climate Change Policies*, November (available at [www.aemc.gov.au/Media/docs/Electricity%20Supply%20Industry%20Planning%20Council-51706fed-d681-4e3a-ba64-de54e8de7176-0.PDF](http://www.aemc.gov.au/Media/docs/Electricity%20Supply%20Industry%20Planning%20Council-51706fed-d681-4e3a-ba64-de54e8de7176-0.PDF)).



Much greater use of Australia's extensive gas resources will be crucial in meeting the challenge of significantly reducing global greenhouse gas emissions at lowest possible cost whilst enhancing Australia's economic and export performance.

**THE IMPORTANCE OF NATURAL GAS AS A LOW GREENHOUSE GAS EMISSIONS ENERGY SOURCE IN ASIA**

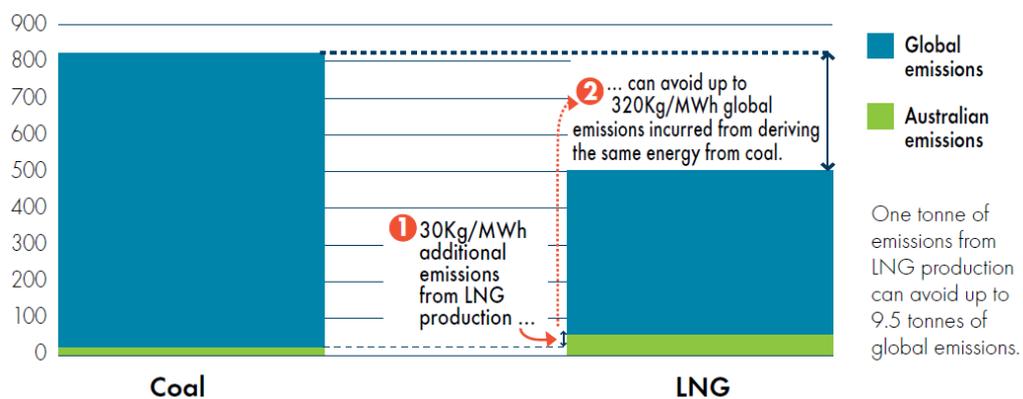
Australia's LNG industry is in a unique position to contribute substantially to the economic development of the nation and reduce greenhouse gas emissions. Australia's vast resources of natural gas and proximity to growing markets make us well-placed to meet the global climate change challenge while substantially contributing to Australia's economic growth.

A 2008 study by WorleyParsons<sup>9</sup>, for example, compares lifecycle greenhouse gas emissions of Australian LNG exports from the North West Shelf Project with Australian east coast black coal exports in terms of lifecycle greenhouse gas emissions: from extraction and processing in Australia through to an end use of combustion (using different power generation technologies) in China for power generation.

Figure 3 below is derived from data within the study, and shows that:

- For every tonne of CO<sub>2</sub>-e emitted in LNG production within Australia, between 5.5 and 9.5 tonnes of emissions from the coal alternative can be avoided globally.
- LNG has a substantially lower greenhouse footprint associated with it compared to coal – not just in combustion emissions, but throughout its lifecycle.
- The lifecycle greenhouse intensity for LNG is about 50 per cent lower than that of coal.

**Figure 3: Displacement of coal by LNG (kg/MWh CO<sub>2</sub>-e by fuel source)**



Source: Derived from data in WorleyParsons (2008; 2011).

<sup>9</sup> WorleyParsons (2008; 2011), *Greenhouse Gas Emissions Study of Australian LNG*, originally prepared August 2008; updated for public release, March 2011 (available at [www.woodside.com.au/Our-Approach/Climate-Change/Pages/Benefits-of-LNG.aspx](http://www.woodside.com.au/Our-Approach/Climate-Change/Pages/Benefits-of-LNG.aspx)).



A similar 2011 WorleyParsons study<sup>10</sup> compared lifecycle greenhouse gas emissions of Australian LNG projects from Queensland using natural gas from coal seams as the fuel source with Australian east coast black coal exports. The analysis considered lifecycle greenhouse gas emissions: from extraction and processing in Australia through to an end use of combustion (using different power generation technologies) in China for power generation.

It found that, in the case of Queensland LNG exports:

- For every tonne of CO<sub>2</sub>-e emitted in LNG production within Australia, between 2.5 and 4.3 tonnes of emissions from the coal alternative can be avoided globally.
- Considering savings from a 30 year 10 million tonnes per year (Mtpa) Queensland onshore gas LNG project, if this gas is combusted in a combined cycle gas turbine (CCGT) plant instead of a subcritical coal plant, the life cycle emissions are 42.7 Mt CO<sub>2</sub>-e per year, the annual savings 37.2 Mt CO<sub>2</sub>-e and the project life savings 1,114 Mt CO<sub>2</sub>-e<sup>11</sup>. For combustion in a CCGT plant instead of a supercritical coal plant the annual savings and project life savings are 21.7 Mt CO<sub>2</sub>-e and 652 Mt CO<sub>2</sub>-e respectively.

There are significant benefits to Australia and internationally from the greater use of gas as a lower greenhouse gas emitting energy source.

#### NATURAL GAS AND REDUCING GREENHOUSE GAS EMISSIONS: THE EXPERIENCE OF THE UNITED STATES

Clear evidence of the greenhouse-related benefits arising from the greater use of natural gas in power generation is provided by the recent experience of the United States.

Recent US Energy Information Agency (EIA) data shows that – largely as a result of a shift from coal to natural gas for power generation – US carbon dioxide emissions declined by more than 700 Mt in 2012, 12 per cent lower than the peak in 2007. The EIA also announced that energy-related carbon dioxide emissions in the US fell 3.8 per cent in 2012, to their lowest level since 1994<sup>12</sup>.

In reporting these findings, the EIA noted:

*The **increase in natural gas-fired generation**, while coal-fired generation decreased, substantially **reduced the carbon intensity** of electricity generation in 2012. [Emphasis added]*

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<sup>10</sup> WorleyParsons (2011), *Greenhouse Gas Emissions Study of Australian CSG to LNG*, April 2011 (available at [www.appea.com.au/images/stories/steve\\_files/appea%20csg%20greenhouse%20gas%20emissions%20study%20executive%20summary.pdf](http://www.appea.com.au/images/stories/steve_files/appea%20csg%20greenhouse%20gas%20emissions%20study%20executive%20summary.pdf)).

<sup>11</sup> This compares to total Australian annual emissions (over the year ended March 2013) of 557 Mt CO<sub>2</sub>-e (see [www.climatechange.gov.au/climate-change/greenhouse-gas-measurement-and-reporting/tracking-australias-greenhouse-gas-emissions](http://www.climatechange.gov.au/climate-change/greenhouse-gas-measurement-and-reporting/tracking-australias-greenhouse-gas-emissions)).

<sup>12</sup> US Energy Information Administration (2013), *U.S. Energy-Related Carbon Dioxide Emissions, 2012*, October (see [www.eia.gov/environment/emissions/carbon](http://www.eia.gov/environment/emissions/carbon)).



## INTERNATIONAL COMPETITIVENESS: THE MAJOR CHALLENGE

The major challenge to the industry's continued growth is maintaining Australia's international competitiveness in the face of growing global competition. A high-cost local environment and the emergence of new LNG competitors in East Africa, North America and other locations has increased the level of competition Australia faces as it seeks to win market share and attract investment.

The industry and governments must do everything possible to ensure the \$200 billion in projects under construction commence production in a timely manner and that Australia secures future oil and gas investment opportunities.

Some factors affecting current and future investment, such as the high Australian dollar, are beyond the ability of industry to influence. However, other key challenges must be addressed. In particular, the industry and its suppliers need to work harder at constraining cost growth and to meeting skilled labour requirements. Industry is investing in technology and reducing costs.

There are also critical policy areas that require genuine reform. Australia's national approach to climate change policy is one of those critical areas. The development of the ERF should be aimed at enhancing Australia's international competitiveness as a destination for oil and gas investments. It should not add to the cost burden facing the industry in its design.

## GENERAL COMMENTS ON THE EMISSIONS REDUCTION FUND TERMS OF REFERENCE

As noted above, Australia has substantial natural gas resources and developing these resources for domestic use and for export can provide significant national economic and social benefits. The relatively low-cost emissions abatement opportunity offered by the increased use of natural gas means that developing these resources can also deliver significant environmental benefits.

In order to realise these benefits, APPEA will continue working with the Australian Government through the development of the ERF (and associated Direct Action Plan initiatives) to:

- Support a long-term sustainable national climate change policy response. Oil and gas projects are generally long-term – often 40 years or more. Policy stability (including in Australia's climate change policy response) is therefore very important.
- Support market conditions that allow the efficient use of natural gas for electrical power generation and in direct applications in the domestic economy, for example in resource processing, thereby lowering the emissions intensity of Australia's electricity supply sector and consequent reduction in the emissions intensity of resource processing.
- Increase the export of Australian LNG to help Australia's Asian trading partners lower their greenhouse gas emissions, thereby contributing to a potential significant reduction in global emission compared to the use of higher emitting fuels.

The ERF should be the fundamental and durable policy basis of Australia's national climate change policy approach. We cannot afford a return to the costly hotch-potch of State and Territory as well as national climate change approaches that has historically characterised many aspects of Australia's greenhouse policy response.

If the ERF is to form the basis of Australia's national response, it should be accompanied by a program across all governments to remove the red tape and regulatory burden imposed by other greenhouse (or greenhouse-related) programs and policies across every Australian jurisdiction.



This will also require a longer-term funding commitment from the Government, to fund the ERF beyond the Federal Budget's 'forward estimates' period to provide the necessary investment and policy stability required to underpin low cost large scale emissions reduction opportunities, a number of which may operate for many years.

#### SPECIFIC COMMENTS ON THE EMISSIONS REDUCTION FUND TERMS OF REFERENCE

APPEA offers the following as preliminary comment on aspects of the ERF ToR. APPEA does not, at this stage, offer detailed comments on each of the ToR, but only on those aspects that are of most interest/relevance to the Australian upstream oil and gas industry.

APPEA looks forward to further consultation with the Government and the Department as the ERF is developed.

#### THE DESIGN AND OPERATION OF A MECHANISM APPLYING TO EMISSIONS ABOVE THE BUSINESS AS USUAL BASELINE

The design and operation of a mechanism applying to emissions above an emissions threshold<sup>13</sup> is a key design feature of the ERF and an issue of importance to APPEA and its members.

Set out below are a number of issues that will require further consideration as this aspect of the ERF is developed together with some preliminary recommendations on possible approaches to some of the key issues.

Issues that will require further consideration as this aspect of the ERF is further developed include:

- How individual emissions thresholds will be determined. The setting of activity definitions under the previous Government's approach was a contentious and unsatisfactory process and produced outcomes with which the industry continues to disagree (particularly the definition of 'LNG production' under the Jobs and Competitiveness Program (JCP), which was inappropriately narrow, focussing on the liquefaction plant only, rather than the whole of the LNG production process).
- How 'business as usual' is applied in the context of individual facilities. In the case of LNG, for example, the industry is currently investing \$200 billion in projects that will see its overall production levels rise from 24 Mtpa in 2012-13 to around 89 Mtpa by 2020. The 'business as usual' for the industry is therefore one of significant growth and this should be reflected in the approach taken to setting emissions thresholds.
- The use of the NGERs Act is intended to determine proposed emissions reductions beyond overall 'business as usual levels' already determined for individual firms. How this will operate for firms that produce multiple products with differing emissions profiles (such as LNG, domestic gas and crude oil).

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<sup>13</sup> APPEA recommends use of the term "emissions threshold" rather than "baseline" – emissions threshold is a more appropriate term fitting the policy intent of this aspect of the ERF.



- How baselines will be set for new projects that do not have five years' worth of NGERs data.
- Related to this, whether the use of a 'best practice' is appropriate for new facilities or if alternative and more appropriate approaches are possible. As noted above, the setting of activity definitions under the JCP was a contentious and unsatisfactory process, and the industry is very keen to ensure that such a process is not repeated in the approach taken to this aspect of the ERF:
  - For example, what is 'best practice' in the LNG industry is very difficult to determine. Even with the current growth in the industry, it remains the case that there are only a relatively small number of LNG projects around the world (and as a result, only a small number in Australia).
  - Proposals to establish a baseline considering best practice will by definition involve value judgments and administrative discretion that in the past have been demonstrated to be complex to administer and apply consistently.
  - While there is some commonality in the LNG, crude oil or domestic gas production facilities themselves, the differences in geology, distance from the field to the plant, field composition, ambient air temperature, customer requirements and the associated (in the case of LNG) specification of the regasification facility in the customer country and a range of other factors mean that most projects are 'bespoke' facilities designed to produce, for example, domestic gas and/or LNG from particular gas fields and deliver them to particular markets.

In addition, the way in which emissions thresholds in the industry may change over time will need to be taken into account:

- For example, some of the factors that determine the emissions intensity of a project over time are outside the control of the project proponents
  - Amongst other things, the level of impurities in the gas field and the carbon dioxide levels in particular gas fields many change over the life of the project, and generally deteriorate, rather than improve.
  - This can see the emissions intensity of an oil and gas project increase over time, for reasons, as noted above, outside the control of the project proponents.

#### A possible solution

Given these issues and the need to ensure the process for establishing thresholds is as streamlined, efficient, administratively simple and sustainable as possible, the design and operation of a mechanism applying to emissions above an emissions threshold should in APPEA's submission have the following key features:

##### 1. Set emissions thresholds at a facility level

- Emissions thresholds should be set at a NGERs facility level, consistent with the approach taken under NGERs and each LNG project should have an emissions threshold set individually:
  - NGERs is underpinned by facility level reporting:



- An emissions thresholds baseline set at an industry level is inequitable, creating 'winners' and 'losers' within that industry.
- An emissions thresholds set at a company/firm/corporation level will be problematic to administer as companies grow, divest, merge and so on.

## 2. Determine an efficient methodology for setting emissions thresholds

- There are a variety of ways in which an emissions threshold for a NGERs facility could be established.
- APPEA does not have a preferred model at this stage but looks forward to working with the Department to develop a potential model that would be appropriate for the oil and gas industry. Whichever methodology is chosen, it would need to accommodate the year-to-year variability in emissions at a facility requiring a process that could be simply and automatically applied each year. This could involve, for example, determining emissions threshold by considering the last five years NGERs data, and picking an appropriate point (for example, a certain level above the mean<sup>14</sup>) on a normal distribution curve that has been built using the five data points provided by the facility level NGERs data. Such an approach would be updated each year to enable the emissions threshold to reflect a rolling historical view based on the previous five years' data. This alleviates discrimination against facilities that by their nature have increasing emissions intensity over time<sup>15</sup> and allows new data to be simply and automatically incorporated into thresholds.

## 3. Allow absolute emissions or emissions intensity

- Emissions thresholds could be set on an 'absolute emissions' basis or an 'emissions intensity' basis, as is appropriate for the facility. For example, an absolute emissions approach may be more appropriate for a facility that produces multiple products, while an emissions intensity approach (based on business as usual production) may be more appropriate for a facility that produces a single product.

## 4. Apply emissions thresholds based on operating experience

- Rather than a 'best practice' approach for a new NGERs facility, or additions/expansions to an existing NGERs facility, that new facility or addition/expansion could have an emissions threshold applied once an appropriate number of data points are available from NGERs data (once the facility has been fully commissioned and is operating in a business as usual state). During this period the facility operator would not have access to the ERF (in relation to that facility). The facility would also be required to measure itself against emissions forecasts to demonstrate that it is performing at or as close to design as possible.

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<sup>14</sup> For example, one or two standard deviations.

<sup>15</sup> For example, because of changes in the composition on the gas field over time that see a greater level of impurities and associated additional processing requirements later in the life of the field.



## 5. The mechanism to apply to emissions above this emissions threshold

The Government's stated objective is as follows:

*... we aim to reduce the costs of low emissions sources of electricity through incentives rather than penalties.<sup>16</sup>*

As the relevant ToR makes clear, the mechanism only applies to emissions above business as usual and is not a mechanism to be used to raise revenue to provide funding for the ERF.

The mechanism should not be referred to or called a penalty. A 'penalty' may imply a legal breach and many firms have internal controls that prevent them from knowingly doing anything that could incur such an inferred legal breach. Many commercial contracts do not allow 'penalty costs' to be passed through and this may cause contractual difficulties where it is appropriate for these costs to be passed. For example, this may have particular implications where the facility is operated on behalf of a joint venture as it will expose the facility operator to unreasonable risk if these costs cannot be met by the respective joint ventures.

An appropriate mechanism could be applied through the following process:

- The Regulator to notify the facility operator that it appears its emissions are above the facility's emissions threshold and ask the facility operator to explain the increase, for example, has there been an increase in plant throughput, has the quality of facility inputs materially degraded, have there been any unusual process upsets that have increased emissions? If there is a "reasonable explanation"<sup>17</sup> for the increase in emissions then no further action is taken.
- If no "reasonable explanation" is provided, the facility operator is asked to demonstrate how it intends to restore the facility's emissions to historical levels within a reasonable period of time.
- If the facility operator fails to demonstrate how it intends to reduce the facilities emission to within historical levels, the facility operator be given the opportunity to reduce emissions via the purchase of credible offsets to or pay an excess emissions threshold charge.
- Rights to appeal any finding of the regulator with respect to the provision of "reasonable explanation" or the imposition of an excess emissions threshold charge should be included in any legislation.

The emissions threshold charge could be set in a variety of ways but, in keeping with the Government's overall approach that emphasises incentives rather than penalties, it should be set at a low level.

Access to all bona fide permits, including international permits, could be available to meet the emissions charge, noting that schemes do not need to be linked to achieve this.

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<sup>16</sup> Hunt MP, the Hon. Greg (2013), *The Coalition Government's plan to tackle climate change, reduce emissions and reduce pressure on electricity prices*, paper by the Minister for the Environment to the Carbon Market Institute Workshop, Melbourne, 24 October (available at [www.environment.gov.au/minister/hunt/2013/sp20131024.html](http://www.environment.gov.au/minister/hunt/2013/sp20131024.html)).

<sup>17</sup> With the meaning/criteria for what constitutes "reasonable justification" to be determined through further consultation.



## THE LIKELY SOURCES OF LOW COST, LARGE SCALE ABATEMENT TO COME FORWARD UNDER THE EMISSIONS REDUCTION FUND

A variety of low cost, large scale abatement opportunities may come forward from the oil and gas industry, particularly if the ERF design is designed with streamlined, efficient and effective administrative, reporting and compliance arrangements.

The exact nature of the projects to come forward under the ERF is, however, a matter that will largely be a commercial decision for member companies and will be revealed through the auction process.

We note various studies have already been completed examining potential energy savings or emissions reduction opportunities within the upstream oil and gas industry<sup>18</sup>. APPEA's review of these studies has revealed they are often based on inappropriate assumptions and the use of data collected for other purposes. They do not appropriately measure energy savings or emissions reduction opportunities. In general, they have overestimated available opportunities, in many cases by underestimating the costs associated with implementing these opportunities or double-counting the opportunities that may be available. In our view, the Government should not use data as a basis for policy development.

To facilitate projects coming forward under the ERF, APPEA recommends the Fund have as wide a possible coverage of emission sources and emission reduction opportunities. It should be open to a variety of commercial structures and project development approaches and be open to co-funding arrangements.

The ERF should allow for the different nature of bids that may come forward. This would include:

- Specific 'projects' that may be bid into the ERF [and which may or may not be reported through the existing infrastructure provided by the *National Greenhouse and Energy Reporting Act 2007* (NGER Act)].
- Reductions achieved below the 'emissions threshold' through year-to-year reductions – through operational improvements, for example – in emissions at existing facilities (as defined in the NGER Act). The associated mechanism applying to emissions above the business as usual emissions threshold is considered further below.

APPEA recommends the first of these types of emissions reduction opportunities be focus of this ToR and that in the short-term, this be the key area of focus in ERF development.

The development of the second of these types of emissions reduction opportunities could proceed on a slightly longer timeframe.

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<sup>18</sup> For example, the recent Industrial Energy Efficiency Data Analysis Project by ClimateWorks and the former Department of Resources, Energy and Tourism (see [www.climateworksaustralia.org/project/current/industrial-energy-efficiency-data-analysis](http://www.climateworksaustralia.org/project/current/industrial-energy-efficiency-data-analysis)). The shortcomings identified with this analysis have resulted in the removal of the draft reports relating to oil and gas.



This means the ERF will need to be designed to allow for the likelihood that differing types of emissions reduction opportunities could come forward at the same time, but may result in different payment mechanisms:

- Where a proponent has identified an emissions reduction opportunity (a 'project'), a successful bid into the ERF by this proponent would result in an 'Offtake Agreement'. This would be negotiated between the Regulator and the proponent for the future supply of emissions reductions and payments would be made as verified emissions reductions are realised. This could include a facility upgrade or an investment in a Carbon Farming Initiative (CFI) project. Individual 'Offtake Agreements'<sup>19</sup> will need to accommodate issues such as the life of agreement, the process for verification and so on (this is considered further below).
- Where a NGERs facility has managed to reduce emissions below the emissions threshold (as was considered further above) due to, for example, improved operational practices and wishes to bring forward under the ERF the already achieved emissions reduction – acceptance of this bid would result in payment for emissions already achieved
  - In either case the use of accredited external auditors to verify the emissions reductions had been achieved could be used as part of the verification process agreed with the Regulator or through the use of existing infrastructure, such as NGERs.
  - Different projects may have different requirements and therefore differing arrangements may be negotiated with the Regulator, to mobilise the low cost large scale abatement sought under the ERF.

#### HOW THE EMISSIONS REDUCTION FUND CAN FACILITATE THE DEVELOPMENT OF ABATEMENT PROJECTS, INCLUDING THROUGH EXPANDING THE CARBON FARMING INITIATIVE AND DRAWING ON THE NATIONAL GREENHOUSE AND ENERGY REPORTING SCHEME

Significant administrative streamlining will be required to both the CFI and NGERs to facilitate the development of a diverse and 'deep' range of emissions reduction opportunities under the ERF.

##### Expanding the Carbon Farming Initiative

A cumbersome and time-consuming process underpins the development of CFI methodologies. This process, which has involved a number of APPEA member companies, will be too complex to support the diverse range of low cost large scale abatement projects that may be bid into the ERF. Indeed, use of the current CFI methodology approach would constitute a barrier to entry to the ERF for many potential participants, leading to a lower level of participation and a 'thinner' range of bids than would be the case if a simplified process was utilised.

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<sup>19</sup> Examples of agreements of this type exist (or have existed) through various programs. Recent examples include the Department of Industry's Solar Cities program (see [ee.ret.gov.au/energy-efficiency/solar-cities/solar-cities-program-resources](http://ee.ret.gov.au/energy-efficiency/solar-cities/solar-cities-program-resources)) or the Department of the Environment's National Carbon Offset Standard Carbon Neutral Program (see [www.climatechange.gov.au/climate-change/carbon-neutral/carbon-neutral-program](http://www.climatechange.gov.au/climate-change/carbon-neutral/carbon-neutral-program)).



APPEA recommends whichever methodologies are used to underpin the ERF, including any that are built from the existing CFI process, should involve streamlined, efficient and effective administrative, reporting and compliance arrangements.

In reporting a facility's emissions, firms should be able to use recognised credible offsets to reduce the level of emissions reported. This should include Australian offsets generated under the CFI including the use of Australian Carbon Credit Units (ACCUs) purchased on market. It will be important that the Green Paper clarify the role ACCUs will play within the ERF framework, including whether CFI projects funded by the ERF will still receive ACCUs.

Where a facility operator uses offsets to reduce the emissions reported, it should be facility emissions that determine the emissions threshold. Offsets should not be considered when establishing a future emissions threshold for that facility.

#### Drawing on the National Greenhouse and Energy Reporting scheme

APPEA supports the use of a simplified NGERs as the basis for reporting of emissions under the ERF, particularly for emissions thresholds and to underpin the ability for NGERs facilities to bid below emissions threshold reductions into the ERF. As part of this, APPEA recommended in its 4 November 2013 submission<sup>20</sup> to the Government on the carbon tax repeal Bills that, following the repeal, the NGER Act will still require a thorough review to ensure it is achieving its objectives in the most effective way. It should minimise reporting burden for those required to report under the Act.

The additional changes required to be made to the NGER Act post the passage of the repeal Bills include:

- Removing the need to report uncertainty (as currently required under Section 19 of the NGER Act). While Australia may have an obligation under the United National Framework Convention on Climate Change to report uncertainty in Australia's national inventory, it is not clear how the uncertainty obligations applied to individual reporting entities add to the utility of this data.
- The reporting of small energy uses (and users) should be greatly simplified.
- The need to simplify (and clarify) energy-related reporting obligations. For example, in addition to the energy reporting requirements in the NGER Act, APPEA member companies still face reporting obligations under oil and gas licences and to the Australian Bureau of Statistics on a range of energy production and consumption-related data series.

The Government should commission from the Department of the Environment a separate review of the NGER Act and associated reporting obligations. This review should have as one of its core purposes a significant simplification of current reporting obligations, consistent with the Government's overall red tape and green tape reduction program.

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<sup>20</sup> Available at [www.environment.gov.au/carbon-tax-repeal/consultation.html](http://www.environment.gov.au/carbon-tax-repeal/consultation.html).



## THE DETAILS OF AUCTION ARRANGEMENTS TO DELIVER COST EFFECTIVE OUTCOMES

APPEA notes a number of auction model arrangements are possible and does not have a preferred option at this early stage of the ERF's development.

The ultimate auction model should be developed in consultation with stakeholders and be subject to rigorous testing (including a pilot) before the first ERF auction process is conducted.

It will also be important that any auction system developed be able to accommodate the diversity of bids that may come forward for funding under the ERF. Bids are likely to vary, potentially significantly, in terms of scale, timing, deliverability, technical and commercial complexity, degree of co-funding and a variety of other metrics.

The auction design must be able to accommodate these variations as well as providing a well understood methodology to allow differing bids to be prepared. This will be important to ensure the auctions appropriately identify (and subsequently fund) genuine low cost large scale abatement projects and below emissions threshold emissions reductions.

To assist price formation and market development, aggregated data on the volume and nature of emissions abatement and the price bid, along with the auction closing price should be made publicly available while protecting any commercial sensitive information, particularly relating to individual bids.

APPEA looks forward to further consultation on the specifics of auction design as the ERF is further developed.

## THE GOVERNANCE ARRANGEMENTS THAT WILL SUPPORT THE EMISSIONS REDUCTION FUND, INCLUDING THE ROLE OF KEY INSTITUTIONS SUCH AS THE CLEAN ENERGY REGULATOR

One of the key ways in which the ERF can bring forward a range of bids for low cost large scale emission reduction opportunities is to ensure the ERF is underpinned by streamlined, efficient and effective administrative, reporting and compliance arrangements.

APPEA supports the continuation of the Clean Energy Regulator and the assignment to it of key responsibilities for administration of the ERF in addition to its ongoing responsibilities around the administration of NGERs.

APPEA recommends, as is usual practice, ongoing policy responsibility remain with the Minister and with the Department.

The Government should establish and fund an ongoing Advisory Board to work with the Department and the Regulator on governance and administrative arrangements for the ERF. This can ensure the Regulator has access to an ongoing source of advice on ERF experiences and can ensure both the ERF and NGERs operate in an effective, effective and 'fit for purpose' manner.

## THE DETAILS OF THE MONITORING, VERIFICATION, COMPLIANCE AND PAYMENTS ARRANGEMENTS FOR SUCCESSFUL BIDDERS AT AUCTION

As noted above, successful bids into the ERF (particularly through the specific 'projects' that may be bid into the ERF) could result in an 'Offtake Agreement' to be negotiated between the project proponent and the Regulator.



Such an 'Offtake Agreement' would include details on the monitoring, verification, compliance and payment arrangements.

Where possible, such arrangements should be built from existing (but simplified) infrastructure and could draw on existing and/or previous models of funding arrangements of this nature.

To recognise (and encourage) a large and diverse range of low cost large scale emissions reduction opportunities to be bid into the ERF, a number of standard 'Offtake Agreements' is likely to be required.

While a 'one size fits all' Agreement may aid in simplifying the operation of the ERF, such simplification is likely to come at the expense of significantly limiting the range of low cost large scale emissions reduction opportunities that may otherwise be able to bid into the Fund. APPEA recommends the Government design a flexible set of 'Offtake Agreement' arrangements to avoid this outcome.

#### TRANSITIONAL ISSUES RELATING TO THE EXISTING CARBON FARMING INITIATIVE

As was noted above, significant administrative streamlining will be required to the CFI to facilitate the development of abatement projects. A cumbersome and time-consuming process underpins the development of CFI methodologies. This process, which has involved a number of APPEA member companies, will not support the diverse range of low cost large scale abatement projects that may be bid into the ERF.

Specifically, for opportunities related to emissions reductions for facilities that report under NGERs, it provides the appropriate methodology for measuring and reporting emissions and associated reduction opportunities and a new methodology is not required.

With that in mind, APPEA recommends whatever the methodologies that are used to underpin the ERF, including any that are built from the existing CFI methodologies; they should be underpinned by streamlined, efficient and effective administrative, reporting and compliance arrangements.

#### CONCLUSIONS/NEXT STEPS

Our abundant natural gas resources place Australia in an enviable position to maintain long-term, cleaner energy security domestically and internationally. Natural gas makes it possible for Australia to meet the world's growing energy needs over the coming decades while incorporating a strategy to curb emissions and address the risk of climate change.

APPEA will continue to participate in the further development of the ERF and looks forward to ongoing consultation with the Government and the Department as the ERF is further developed, ahead of the release of the ERF Green Paper later in 2013.

In particular, APPEA recommends detailed consultation on the proposed legislative provisions to implement the ERF, the further development of the mechanism applying to emissions above business as usual and detailed 'road testing' and 'stress testing' of the administrative provisions that will need to be developed to implement the ERF.