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Standing Committee on Environment and Public Affairs  
C/- Ms Margaret Liveris  
Committee Clerk  
Legislative Council  
Parliament House,  
GPO Box A11 Perth WA 6837,  
By email: [lcepac@parliament.wa.gov.au](mailto:lcepac@parliament.wa.gov.au)

17 September 2013

### **Inquiry into the Implications for Western Australia of Hydraulic Fracturing for Unconventional Gas**

Thank you for the opportunity to submit our views on the implications for Western Australia of hydraulic fracturing for unconventional gas to the Standing Committee on Environment and Public Affairs ('the Committee'). Our submission is made on behalf of the institutional investors Regnan represents (details below).

#### **Summary comments**

We recognise the significant investment potential for unconventional gas (UG), but note that rapid growth elevates risks associated with environmental, social and governance (ESG) failures given the numerous unresolved technical, regulatory and stakeholder issues. It is in the interests of investors that the risks and issues associated UG are addressed early to limit potentially negative investment impacts.

In light of significant investor concern about ESG risks for UG, Regnan developed *Unconventional gas best practice ESG risk management principles and recommendations* ('UG principles and recommendations'). These principles are based on analysis of current research, investor initiatives both in Australia and overseas, and initial dialogue with companies involved in UG activities in Australia. We have attached a copy of Regnan's UG principles and recommendations and explanatory document for the Committee's consideration.

Our UG documents were developed to be read alongside IEHN / ICCR's, *Extracting the Facts: An Investor Guide to Disclosing Risks from Hydraulic Fracturing Operations* (available at <http://www.iehn.org/publications.reports.frackguidance.php>), which we also commend to the Committee's attention.

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While these documents focus on UG company practices, they offer important insights into the key risks relevant to the investment case for UG, possible responses to manage risks, and the potential role for government. We draw out some of these insights below.

#### **Levelling the playing field and raising the bar**

UG companies with whom we engage sometimes note difficulty in adopting higher standards than their peers without regulatory prescription. We recommend the Committee give due consideration to the role regulation plays in enabling better practices to be adopted by maintaining a level playing field.

Historical incidents are typically explained by the UG companies we engage as being due to ‘rogue’ operators, whose practices are not reflective of the industry as a whole. In setting and evolving minimum standards (to prevent them falling too far behind industry leaders), Government helps maintain the reputation of the industry, benefitting all operators and increasing investment certainty.

#### **Cumulative and regional impacts**

Some UG impacts are best considered on a cumulative or regional basis. Corporate level practices, however good, may be incapable of fully addressing such risks. A number of our UG principles and recommendations could more easily and more effectively be addressed by government taking a lead role. For example, in relation to impacts on groundwater, the following recommendations (excerpted from Regnan’s UG principles and recommendations) would be best pursued through active government involvement:

- Assess risk by preparing regional scale water modelling for key underground water resources, which predict anticipated impacts to water resources due to dewatering/fracking and include cumulative impacts and state uncertainties that may influence model outcomes.
- Update water modelling when material new information arises affecting modelling outcomes.
- Develop baseline and ongoing groundwater level and quality monitoring for groundwater resources in the affected area, including neighbouring aquifers.
- Publicly state uncertainties regarding understanding of aquifer connectivity potential from fracking and dewatering, and outline respective company, government and/or academic responsibilities and plans, including timelines and funding, to address these knowledge gaps within a reasonable time.

#### **Apply precaution**

We note the Committee’s terms of reference include consideration of the principles of ecologically sustainable development (ESD). In our view, the precautionary principle embedded in ESD is highly relevant to UG, given the emergent nature of the practices involved and incomplete understanding of impacts. We further note that experience from other locations may be limited in relevance due to differences in geologies and evolving technology. Regnan’s recommendation to UG companies to apply precaution in risk management is equally applicable to government in developing industry standards and expectations.



### Scope of Inquiry

We note the Committee's Inquiry is focussed on unconventional gas, in particular, as are Regnan's principles and recommendations. In practice, products produced are often a mixture of liquids and gas. Operators may rapidly shift focus from gas-rich to liquids-rich targets in response to changes in commodity prices. This has been the experience with onshore USA unconventional developments, with the industry focus shifting from gas in 2011 to liquids in 2012. This resulted in some fields (gas-rich) being essentially abandoned in favour of others (liquids-rich). UG activity is likely to remain sensitive to commodity prices, with rushes of activity when prices are high and periods of near dormancy when prices are low. Environmental requirements should be developed with these operating realities in view.

### Concluding remarks

Regnan's submission may be made public at the Committee's discretion and we would be pleased to receive a copy of the Committee's report when available. Should you have any queries in relation to this submission, please contact Alison George on 03 9982 6404 or me on 02 9299 6998.

Yours sincerely,

Amanda Wilson  
Managing Director  
Regnan Governance, Research & Engagement

Att:

*Unconventional gas best practice ESG risk management principles and recommendations and Explanatory document, Regnan, 2013*

### About Regnan

Regnan – Governance Research & Engagement Pty Ltd was established to investigate and address environmental, social, and corporate governance related sources of risk and value for long term shareholders in Australian companies.

Its research is used by institutional investors making investment decisions, and also used in directing the company engagement and advocacy it undertakes on behalf of long term investors with \$45.5 billion invested in S&P/ASX200 companies (at December 2012).

Regnan was launched in 2007 having operated previously as the BT Governance Advisory Service. It is owned by eight institutional investors: BT Investment Management, Commonwealth Superannuation Corporation (CSC) (formerly ARIA), Hermes Equity Ownership Services, HESTA Super Fund, NSW Local Government Superannuation Scheme, Vanguard Investments Australia, VicSuper and Victorian Funds Management Corporation (VFMC).



# Unconventional gas best practice ESG risk management principles and recommendations

## Draft for discussion

### Introduction

The rapid growth of the unconventional gas (UG) industry elevates environmental, social and governance (ESG) risks for investors, given unresolved technical, regulatory and stakeholder issues.

This draft guide ('our principles and recommendations') sets out best practice corporate ESG risk management for UG. These guidelines build on technical guidance on hydraulic fracturing risk management (the **IEHN/ICCR fracking guide**)<sup>1</sup>, which Regnan confirmed its support for in March 2012, to include learnings from Australian coal seam gas (CSG) operations. Our principles and recommendations are based on Regnan's analysis of current research, investor initiatives both in Australia and overseas, and initial dialogue with companies involved in UG activities in Australia.

Regnan considers the scope of ESG risk with respect to UG to include social, environmental, health and safety (SEHS), and reserves and resource estimation risks. Reference to ESG risk in this document includes all of these risks.

Regnan will use this draft guide as a starting point for discussion with other investors, companies involved in UG activities in Australia and their business partners.

**Version 1.0 of this guide will be developed and published in September 2013 taking into account learnings from this dialogue.**

#### **IEHN/ICCR Fracking Guide explanation**

Our principles and recommendations are to be used concurrently with the IEHN/ICCR fracking guide in Appendix A. For each best practice, we have included a box outlining the relationship between the two guidelines to aid use. All goals within the IEHN/ICCR fracking guide are pertinent for Australian UG operations. If we have not referred to a goal, we have not identified a need to amend or adapt the guide to Australian operations.

In the following pages, we group best practice recommendations under a series of principles targeting gaps in current controls to mitigate UG ESG risks. The best practice recommendations included in this document are illustrative of implementation and are not intended to be prescriptive where they do not concur with the specific circumstances of the company. We recognise that each

<sup>1</sup>IEHN and ICCR, 2011, *Extracting the Facts: An Investor Guide to Disclosing Risks from Hydraulic Fracturing Operations*, <http://www.iehn.org/publications.reports.frackguidance.php>.



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individual company's responses need to reflect its specific UG developments including site considerations, community relations, and control environments.

Given ongoing research into UG ESG risks and evolving regulation, we expect investor, company, and government responses to continue to be shaped by scientific and regulatory developments. Consequently, we will also update this guide periodically to incorporate new research findings and information obtained through dialogue with stakeholders.

Please contact [chris.fayers@regnan.com](mailto:chris.fayers@regnan.com) or [katrina.myers@regnan.com](mailto:katrina.myers@regnan.com) if you wish to participate in the future development of this guide.

### **About Regnan**

Regnan – Governance Engagement & Research Pty Ltd was established to investigate and address environmental, social, and corporate governance related sources of risk and value for long term shareholders in Australian companies.

Its research is used by institutional investors for investment decision-making, and also used in directing the company engagement and advocacy it undertakes on behalf of long term investors with \$47 billion invested in S&P/ASX200 companies (at December 2012), including: ACT Treasury; BT Investment Management; Catholic Super; Commonwealth Superannuation Corporation (formerly ARIA); Hermes (UK); HESTA Super Fund; (NSW) Local Government Super; Vanguard Australia; VicSuper; and the Victorian Funds Management Corporation. This approximates 4.5% of investment within the S&P/ASX200 index.



## Principles and Recommendations

In Regnan's view, UG companies operating within Australia should at a minimum, address the following principles through the recommended best practice UG ESG risk management:

### ***Aquifer connectivity***

#### **1. Minimise groundwater integrity uncertainties:**

Publicly disclose baseline groundwater quantity and quality assessments, predict impacts, and include uncertainties. Maintain or improve groundwater integrity through ongoing monitoring, reducing fracking water requirements, beneficially reusing produced water, and committing to 'make good' water quality and quantity impacts.

#### ***Best practice:***

- Assess risk by preparing regional scale water modelling for key underground water resources, which predict anticipated impacts to water resources due to dewatering/fracking and include cumulative impacts and state uncertainties that may influence model outcomes;
- Update water modelling when material new information arises affecting modelling outcomes;
- Develop baseline and ongoing groundwater level and quality monitoring for groundwater resources in the affected area, including neighbouring aquifers;
- Assess and monitor water extraction amounts;
- Commit to 'make good' impacts to surrounding water resources;
- Treat produced water to enable beneficial reuse wherever possible, including aquifer recharge and virtual reinjection;
- Reduce fracking water requirements through the use of closed loop fracking systems;
- Publicly state uncertainties regarding understanding of aquifer connectivity potential from fracking and dewatering, and outline respective company, government and/or academic responsibilities and plans, including timelines and funding, to address these knowledge gaps within a reasonable time; and
- Assist with investigations into unexplainable contamination events by providing access to wells, data, and any other assistance required.

Corresponds with IEHN/ICCR Fracking Guide Goal 5 Protect water quality by rigorous monitoring

We have extended on IEHN/ICCR Fracking Guide Goal 5, to include learnings from Australian CSG operations on aquifer integrity protection. All of IEHN/ICCR Fracking Guide Goal 5 applies.

### ***Greenhouse gas emissions profile***

#### **2. Reduce greenhouse gas estimation uncertainties and minimise GHG emissions:**

Disclose inherent greenhouse gas (GHG) estimation uncertainties arising from the use of historic fugitive emission factors, particularly venting and leakage assumptions. Continually improve

estimation techniques through the use of direct measurement. Assist with academic/regulatory research into diffuse fugitive emissions sources.

**Best practice:**

- Include within GHG estimate disclosure:
  - GHG measurement risks and uncertainties including those arising from the use of historic emissions factors based on conventional gas production;
  - Methane emissions estimate risks and uncertainties arising from the use of historic methane global warming potentials (GWP), e.g., IPCC fourth assessment report (4AR) vs. Kyoto Protocol; 20-year vs. 100-year;
- Commence the direct measurement of greenhouse gas emissions for key emissions activities where it is uncertain whether direct emissions monitoring would result in emissions profiles that are materially different from estimates using historic conventional emissions factors; Assist with academic/regulatory research into atmospheric methane concentrations by providing access to land, data and any other assistance required, preferably prior to well drilling;
- Reduce GHG emissions as per IIGCC, IGCC, and INCR fugitive methane emission disclosure guidance.<sup>2</sup>

Corresponds with IEHN/ICCR Fracking Guide Goal 8 Minimise and disclose air emissions

We have extended on IEHN/ICCR Fracking Guide Goal 8, to include the reduction of GHG estimation uncertainties. All of IEHN/ICCR Fracking Guide Goal 8 applies.

**Community agreements**

**3. Obtain and maintain active and informed community agreement:**

Facilitate fully informed and timely community participation within SEHS impact assessment prior to exploration drilling, via two-way dialogue to build community trust. Support community decision making and provide mechanisms for complaint/dispute resolution.

**Best practice:**

- Fully identify relevant stakeholders within the community;
- Identify SEHS impacts;
- Ensure that key stakeholders are fully informed of all relevant risks and uncertainties in a timely manner by providing needs-appropriate, two-way dialogue;
- Support the community through relevant knowledge gathering/decision-making processes, by allowing sufficient time and resources for decisions/consultation, including the nomination of representatives (if required);

<sup>2</sup> IIGCC, IGCC and INCR, 2012, *Controlling fugitive methane emissions in the oil and gas sector*, accessed at <http://www.igcc.org.au/Resources/Documents/Fugitive%20Methane-Consultation-Draft.pdf>

- Where stakeholder concerns are not sufficiently addressed via regulatory processes, extend participatory processes to protect the integrity of community decision-making;
- Publicly report stakeholder concerns and consultation outcomes within corporate/project strategy, policies and plans;
- Periodically monitor performance against agreed outcomes and include learnings within management plans; and
- Provide appropriate mechanisms for complaint/dispute reporting and resolution, including independent third-party mediation if required.<sup>3</sup>

Corresponds with IEHN/ICCR Fracking Guide Goal 11: Secure Community Consent

We have extended on IEHN/ICCR Fracking Guide Goal 11, to clarify best practice implementation for companies negotiating agreements with non-indigenous populations. All of IEHN/ICCR Fracking Guide Goal 11 applies.

### ***Contractor and partner performance***

#### **4. Ensure best in class contractor, operator, and joint venture partner performance:**

Actively oversee and seek to mitigate UG ESG risks arising from activities performed on behalf of the entity by business partners including contractor, operator, and joint venturer activities.

##### ***Best practice:***

- Manage contractor and operator performance in line with IEHN/ICCR fracking guide.

Corresponds with IEHN/ICCR Fracking Guide Goal 10: Assure Best in Class contractor Performance

We have amended IEHN/ICCR Fracking Guide Goal 10 to extend the BMPs to all business partners, including operators. All of IEHN/ICCR Fracking Guide Goal 11 applies.

### ***Reserves estimation and production reliability***

#### **5. Disclose reserves and resource estimation risks:**

Publicly disclose reserves estimation assumptions, methodology, and uncertainties to provide investors with meaningful information to assess estimation risk, commercial in confidence permitting.

<sup>3</sup> IPIECA, 2012, *Human rights due diligence process: A practical guide to implementation for oil and gas companies and Operational level grievance mechanisms: IPIECA good practice survey*, accessed at <http://www.ipieca.org/library>. Also see *RIO's Community Agreement Guidance 2012*, [http://www.riotinto.com/documents/Community\\_agreements\\_guidance\\_2012\\_2014.pdf](http://www.riotinto.com/documents/Community_agreements_guidance_2012_2014.pdf).

**Best practice:**

Publicly report at least annually on the following indicators:

- Resource type by geographic breakdown (e.g., cooper basin shale etc.);
- Estimate assumptions and/or methodology for each resource type, commercial in confidence permitting; and
- Resource estimation risk and uncertainties for UG.

**Relationship to IEHN/ICCR Fracching Guide**

There is no corresponding goal within the IEHN/ICCR Fracching Guide. We have included an additional goal to cover reserves and resource estimation uncertainty.

**Overarching Governance Controls**

**6. Integrate within strategic decision making ESG risks specific to UG:**

Encourage board, executive, and management to integrate UG ESG risks within strategic decision making through formal responsibilities, resource allocation, and ESG-linked performance criteria.

**Best practice:**

- Board responsibilities include oversight of ESG risks specific to UG, either at board level or through board sub-committee(s);
- At least one executive’s responsibilities include management of UG ESG risks, dependent on organisational structure;
- Resource internal controls and reporting to assist board and executive(s) in fulfilling their responsibilities for UG ESG risks; and
- Link executive and management KPIs to UG ESG performance.

Corresponds with IEHN/ICCR Fracching Guide Goal 1: Manage risks transparently and at Board level

This section extends the IEHN/ICCR Fracching Guide Goal 1, through additional best practice guidance focused on encouraging management and directors to oversee ESG risk. All of IEHN/ICCR Fracching Guide Goal 1 still applies.

**7. Apply precaution in risk management systems:**

Within the risk management system adopt specific policies on the management of uncertainties and extreme risks, including those that are of very high consequence even where low likelihood. Actively monitor key warning signs and use adaptive risk management processes.

**Best practice:**

- Identify and assess uncertainties associated with UG ESG risks;
- Adopt specific risk management strategies for extreme risks including very high consequence but low likelihood risks;

- Establish baselines for reasonably anticipated key impacts/warning signs;
- Publicly disclose key uncertainties and outline plans, including timelines and funding, for either the company or academic/regulatory bodies to address knowledge gaps within a reasonable time; and
- Assist with academic/regulatory research into uncertainties by providing access to wells, data, and any other assistance required.

Corresponds with IEHN/ICCR Fracching Guide Goal 1: Manage risks transparently and at Board level

This section extends the IEHN/ICCR Fracching Guide Goal 1, through additional best practice guidance focused on applying precaution in risk management systems. All of IEHN/ICCR Fracching Guide Goal 1 still applies.

#### **8. Establish policy and management plans specific to UG SEHS risks:**

Publicly disclose policies (preferably in one place) and management plans outlining management response to technical SEHS risks arising from emerging technology/processes used to extract UG.

***Best practice:***

- Policy statements in line with IEHN/ICCR fracching guide and Regnan’s additional recommendations identified above.

Corresponds with IEHN/ICCR Fracching Guide Goal 1: Manage risks transparently and at Board level

Extending the IEHN/ICCR Fracching Guide Goal 1, we have included an additional goal focused on disclosure of policy and management plans. All of IEHN/ICCR Fracching Guide Goal 1 still applies.

#### **9. Measure and publicly report ESG performance indicators:**

In addition to the specific disclosure recommendations outlined in the sections above, publicly report on indicators that provide investors with a meaningful indication of the effectiveness of risk mitigation strategies over time and allow for the comparison among industry participants.

***Best practice:***

Publicly report at least annually on the following indicators:

- Baseline and ongoing groundwater level and quality monitoring results for groundwater resources in the affected area including neighbouring aquifers;
- Produced/flow back water volumes and reuse;
- Details of fracching operations and fracching fluid ingredients; and
- Stakeholder complaints, disputes, and resolutions during the reporting period.

There is no corresponding single goal. We have included a standalone goal to highlight key investor needs in performance disclosure.



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**Appendix A – Extracting the facts: An investor guide to disclosing risks from hydraulic fracturing operations (the IEHN/ICCR fracking guide)**

<http://www.iehn.org/publications.reports.frackguidance.php>