

# Not at any cost.

Blueprint for Sustainable CSG Operations



BSA is committed to working with government and industry to achieve a coal seam gas industry that has minimal adverse environmental, economic and social impacts and preserves groundwater resources for future generations.



Photo courtesy of:  
Lyndon Mechielsen, The Australian

## A message for the people of Queensland

The rapid escalation of the coal seam gas (CSG) industry is having a massive impact on regional Queensland. Landholders who were busily working on their own businesses producing food and fibre for the benefit of all Australians, have been thrown into a CSG whirlwind. Out of frustration with the lack of information and support for landholders, and extreme concerns for the impacts of this industry on water resources and the environment, the Basin Sustainability Alliance (BSA) was formed in early 2010. BSA recognises the potential for the coal seam gas industry to deliver jobs and royalties to the people of Queensland. BSA is not against progress. In fact many of the landholders involved in BSA are known for their ability to embrace new industry and new technologies. But when you start talking about extracting vast quantities of underground water, drilling tens of thousands of wells and burying many thousands of kilometres of pipelines, you simply cannot ignore the potential long term impacts and significant environmental risk. We must not be blinded by the promise of jobs and riches. As we have heard many high profile politicians say over the past year, this industry should not be allowed to expand at any cost. There has to be a real balance and it can't be just lip service.

The State Government says it is committed to ensuring that each proposed project undergoes comprehensive assessment to identify and

mitigate any likely environmental impacts but BSA questions this commitment. Many major CSG projects are being approved, and yet there is still a serious lack of understanding of the long term impacts because the necessary research to understand these impacts in many cases has not taken place.

The Government's baseline assessment of existing water levels and quality has not taken place, the Queensland Water Commission ground water model which is supposed to predict groundwater impacts is still being developed and there is also a lot of uncertainty about how the millions of megalitres of groundwater being extracted and millions of tonnes of salt being produced are going to be managed to ensure minimal environmental harm.

Queensland must retain the ability to increase food and fibre production from its farmland in order to meet ever-increasing world demand. The protection of groundwater and the fertile farmlands of Queensland is critical for future generations.

BSA has had good access to government departments over the last twelve months and has had opportunities to have input into policy. While we are disappointed that we have not seen all of our recommendations adopted, we have seen some improvements. We will continue to work hard on behalf of our members and communities. We hope this blueprint clearly identifies the key issues that BSA is taking to government

and the CSG companies. We firmly believe these issues must be addressed NOW in order to ensure minimal environmental, social and economic harm to landholders and communities impacted by CSG development.

I'd like to take this opportunity to thank the members of BSA who have given both moral and financial support and particularly those dedicated individuals who have donated countless hours of their time to help effect change by meeting with government and industry, reading and responding to never-ending pages of research, policy, legislation, environmental impact statements and more, all while trying to manage their own businesses and family lives. Without their commitment we would have little chance of getting these vital issues on the agenda.

BSA is committed to ensuring Government policy and legislation protects the environment and agricultural production, and allows for the development of a sustainable CSG industry.

If you'd like to find out more go to [www.basinsustainabilityalliance.org](http://www.basinsustainabilityalliance.org).

Ian Haylor,  
BSA Chairman





achieve a sustainable future for all Queenslanders

## Why the need for this “blueprint”?

The Basin Sustainability Alliance (BSA) is a community organisation representing rural landholders, regional communities and agribusiness. BSA is committed to ensuring the sustainability of water resources, agricultural land and regional communities for future generations.

BSA acknowledges that the Queensland Government is actively supporting the resources industries and has granted various CSG and other mining companies legal tenure over mineral and gas resources which lie beneath the productive farmlands of the Surat Basin. The Queensland Government has also identified the significant long-term benefit of CSG developments to the State but has failed to deliver on the necessary science required to ensure environmental concerns are adequately addressed prior to the rapid expansion.

BSA has called for a moratorium on any escalation in the CSG industry on numerous occasions but our requests have not resulted in any change to the pace of the CSG development. We have serious reservations that the risks of this massive and rapid development will not be properly managed resulting in environmental harm and a serious reduction in agriculture’s ability to produce food and fibre. A moratorium on development would provide the time necessary to develop the science and capacity to safely develop the CSG industry. This once-in-a-generation opportunity could then be taken with certainty and confidence so that the benefits can flow to current and future generations of Queenslanders and Australians.

Because our call for a moratorium has not been accepted, we have prepared this blueprint to clearly articulate the concerns and expectations of rural landholders and regional communities.

The rapid and unprecedented expansion of the CSG industry demands urgent action on the issues raised in this document to enable the possibility of any co-existence between the CSG industry, agriculture and regional communities. We expect that this blueprint will help provide the foundation for a workable co-existence.

The State and Federal Governments, and the Resource

Companies must commit to ensuring the ongoing viability of agricultural production for the broader community and satisfy the ever-increasing world demand for food and fibre.

In the past, the Government and agricultural industries may have made mistakes in managing the environment. Many of these mistakes have resulted from Government Legislation aimed at quickly developing the resource. But we have learnt from these mistakes by investing in the necessary science and adopting substantially better management practices. Agriculture is now much more sustainable and ready to meet the challenge of the growing demand for food and fibre.

We know there are problems with the CSG industry. We also have the benefit of overseas experience where problems have already arisen. We must use this information together with new local knowledge to ensure the CSG industry operates at best practice for everyone’s benefit.

We expect the resources companies to invest in gaining the necessary knowledge to minimise any risk to the environment. This requires investment in independent, credible science and a willingness to adopt sustainable practices which will flow from this scientific work.

### **Main concerns**

BSA’s main concerns are as follows:

1. Over exploitation of water in the Great Artesian Basin (GAB) and impacts on the sub artesian aquifers – water depletion and contamination.
2. Land impacts – contamination, loss of productivity, loss of amenity and reduction in land value.
3. Land access and compensation – unfair rights of entry and compensation, inadequate make good arrangements for groundwater impacts and uncertainty about the extent of future CSG developments.
4. Social impacts – uncertainty, increased costs of living to sections of the community and increased demand on community resources such as roads and health services.



## Once-in-a-lifetime opportunity

We have a once-in-a-lifetime opportunity to cooperatively develop a major new, world-class energy sector by ensuring all environmental and social impacts are identified and addressed. We must preserve Queensland's agricultural land and groundwater reserves for future food and fibre demand. Only by investing in relevant science and continually improving our understanding of new and emergent risks, can we develop adaptive management strategies that ensure minimal environmental and social impact. A better understanding of the risks and sufficient legislated make-good arrangements will also remove uncertainty for agriculture and reduce community anxiety about the escalation of the CSG industry.

### Principles

1. Environmental sustainability of water and land resources is to be of the highest priority. Scientific studies must precede any development.
2. More certainty and transparency is required (by all parties).
3. Fair compensation must be offered to any and all affected landholders. CSG companies must be able to pay full compensation and have the capacity to fund make-good arrangements.
4. Make-good arrangements must be enforceable, provide for future generations and for all affected parties. They must be transparent and fair for the benefit of the wider community as well as current individual landholders.
5. A substantial bond (or some other form of environmental insurance) must be held by Government to ensure the capacity to pay for serious environmental impacts that may occur at any time and for as long as the impacts may endure.
6. Landholders also want protection against unforeseen on-farm impacts. CSG Companies must carry insurance or have some other surety to be able to meet any such contingencies in future. We also demand public disclosure of bonds and insurance policies.
7. Recognition of and a commitment by CSG companies to respect the landholder's tenure rights associated with the land. Whilst petroleum and gas tenures in Queensland give CSG companies the right to extract CSG, current landholders enjoy the right to utilise the surface resources of their land. CSG companies must avoid unreasonably interfering with a landholder carrying out their lawful business.



Photo courtesy of:  
Russell Shakespeare, Q-Weekend





## Water

Landholders and the many communities that rely on groundwater must not have their access to water compromised.

Cumulative impacts on groundwater aquifers must be understood on a local, regional and catchment basis to minimise the risk of over-exploitation of current water reserves. This must apply to both GAB and Sub-artesian aquifers. Farmers and communities are already facing severe cutbacks in water allocations because of previous Government reluctance to manage water resources sustainably. Current groundwater utilisation has exceeded recharge and as a result has been unsustainable. All groundwater systems are in deficit and therefore all CSG water extraction must be regulated and accounted for in the same way as it is for existing users.

Baseline monitoring of water quality and quantity is an absolute priority and must be implemented by the State Government immediately. Monitoring should be carried out by an independent accredited body and detailed reports provided to individual landholders. The development of groundwater models by the Queensland Water Commission is essential. Landholders must be regularly informed of the results of this modelling.

By understanding the water balance we expect to understand all water inputs, outputs and movements and long-term impacts of any change. This is so that future water security can be achieved. Our current understanding is that many of the aquifers are inter-connected as are the surface water resources. Further research must quantify transmissivity between aquifers and between aquifers and surface water. Individual aquifer assessments and modelling should be a pre-requisite to any activity which might adversely impact on the aquifer and where risks are apparent they should be assessed and appropriately addressed before activity commences.

'Make good' provisions must include making good any adverse impacts on water quantity and water quality whether the "trigger thresholds" have been reached or not and must compensate all affected parties, not just the bore owner (i.e. sharefarmer, lessees, neighbours etc.).

- Make good obligations should apply to the water resources accessed by the wider community as well.

- Subject to appropriate scientific research, purified CSG water must be re-injected into associated aquifers or substituted for existing groundwater use wherever possible. Managing and maintaining the local water balance is important because current users will rely on this water into the future.
- Wherever possible, water must be beneficially used in the area of extraction and not piped kilometres away.
- CSG Companies must continue to co-contribute to the science enabling the understanding of impacts of CSG activities on the water balance. The community must be kept fully informed of the outcomes of these water balance studies.
- All CSG Companies must provide a Water Management Plan detailing the quantity and quality of water extracted and how it will be beneficially treated to prevent environmental harm. The industry should not progress until these plans are shown not to contain unacceptable risks.





## Land

CSG operations must not result in any permanent land contamination and they must not have any serious impact on productivity. The following points also need to be addressed:

- Any mining or CSG operation must not unreasonably interfere with normal farming and livestock operations.
- All CSG Companies must provide a Land Impact Statement which details the total area of land in the gas fields, the quality of this land and how much land will be temporarily disturbed and how much will be removed from productive agriculture for the life of the project. This information must be provided to all affected parties.
- CSG infrastructure must not be located closer than 500 metres from residences, schools, or intensive livestock operations without specific landholder agreement. Allowances should be made to enable landholders to negotiate greater separation distances where topography or particular circumstances warrant it.
- Well spacing and infrastructure must not be intensified without landholder agreement.
- No CSG operations to be conducted on the Condamine Alluvium flood plain or any like susceptible area or aquifer until scientific studies and CSG technologies (directional drilling etc), can assure all stakeholders that there will be no adverse impacts on the aquifer or overland flow of the flood plains.
- Developments must be planned area-wide and all stakeholders fully informed and allowed to have input.
- Landscape function must be understood in order to protect the land from erosion and to avoid adverse impacts on native flora and fauna.
- Subsidence risks must be clearly understood.
- No land should be accessed while ever issues remain unresolved in the Land Court.
- After CSG operations cease, land must be fully rehabilitated to a pre-CSG development standard to ensure full productivity.

## Salinity

Any salt derived from CSG activities must not have any detrimental impact on the environment.

Brine should be removed from the surface environment and preferably used for industrial purposes.

## Drilling Standards

Robust well construction standards must be developed, legislated and rigorously enforced. These standards need to clearly demonstrate the Government's determination that wells must not become a source of unintended inter-aquifer leakage or contamination. The development of these standards must have landholder input. The current standards for water bores can be used as a guide to developing the standards for drilling CSG bores.

## Social Impacts

CSG companies must commit to minimising adverse social impacts. Some of the issues of concern include the high costs of living in mining towns, competition for skilled labour, stretched government services (e.g. health and local councils) and increased demand on infrastructure (e.g. Warrego Highway). Social impacts must be properly assessed (at both the personal and community level) and any adverse social impacts must be adequately addressed and/or compensated. Gas field development in rural residential areas such as Tara must be managed with care and consideration and the residents treated with respect. Some areas should be "off limits" to CSG operations.





Preserve water resources for our children + grandchildren

## Compensation

Compensation should be attractive to landholders. Landholders must be fully compensated for their time (including time taken to do the necessary research to be informed), for any loss in productivity, for any loss of amenity, for any reduction in land or business value and for any costs of legal representation. CSG companies must commit to adopting best management practices in all aspects of exploration and production activities as and when they become available or understood. The following points must also be taken into account:

- Compensation should be for a term and be subject to review to allow for unforeseen impacts that may arise;
- Compensation must make allowance to reflect the compulsory nature of the imposition ( i.e. allow a premium to reflect the compulsory nature of the acquisition and the social dislocation and upheaval it causes) ;
- Compensation must account for interference;

CSG companies must compensate for their infrastructure's impact on preventing landholders adopting innovation (new and more efficient agricultural practices).

### **Review of existing agreements**

Where current compensation agreements are considered by the landholder to be unfair, the Government must appoint an independent commissioner to allow review of these agreements. The following circumstances warrant such review:

- Landholders didn't have independent legal advice;
- Age, language, lack of understanding etc. can be shown to have been a factor warranting review;
- Older agreements, regardless of whether legal advice was obtained;
- Where older highly objectionable clauses were inserted (e.g. where these agreements have compromised all make-good obligations, all future rights, all material change rights etc);
- Where misleading or deceptive conduct led a landowner to error or mistaken impression without which they would not have entered into the agreement;

- Where reasonably unforeseeable consequences/ interference to the landowner have manifested after the agreement; or
- Any other circumstances where justice reasonably requires.

This review process should be enacted in the legislation and the right for review guaranteed.

## Well Stimulation

### ***such as hydraulic fracturing (fracking)***

All chemicals used in CSG operations must be safe, must be registered and must be disclosed to landholders and State Government. The unknown effect of well stimulation on the interconnectivity between coal seams and other aquifers is a major concern. More research in each particular gasfield must be undertaken before fracking or other techniques are used to stimulate gas flows.

- CSG companies must provide detailed information on proposed well stimulation including the chemicals to be used, quantities injected, and the fate of these chemicals throughout the stimulation process. Landholders require this information to meet their Quality Assurance obligations.
- Companies must inform landholders at least 10 days prior to any scheduled well stimulation activity and must provide a full report on completion.
- The results of any ground water quality monitoring program must be promptly provided to landholders. Any water contamination must be immediately advised to landholders and emergency water supplies implemented immediately if necessary.
- Ten percent of all CSG gas wells must be fully and independently audited each year, by suitably trained personnel, to ensure compliance with all obligations. Results of these audits must be publicly available.



safeguard farmlands for future generations

## Conclusion

BSA acknowledges the commitment the Government has recently given to developing policies on Strategic Cropping Land, Land access and Compensation, management options for produced water and the management of salt. We also acknowledge the potential role the Queensland Water Commission can play in effectively monitoring and managing ground water impacts of the CSG industry. To achieve this, the Commission must be adequately funded and resourced with qualified staff.

BSA also acknowledges the renewed efforts by some CSG companies in community consultation and we acknowledge that some CSG companies have already met a number of the demands we are making. Affected communities require more information on the technical workings of the CSG industry, on groundwater modelling and water management, on drilling operations and fracking and on any other likely impacts of CSG operations on the environment.

Landholders will not subsidise the CSG industry. The CSG industry must meet the full costs of their operations and they must not cause long-term environmental harm. Co-existence of agriculture and CSG activities is possible but CSG companies must be prepared to understand and address issues of community concern, many of which are raised in this document.

### Disclaimer

This "Blueprint" is intended to provide a basis for discussion as to how co-existence may be progressed only. It will in no way bind BSA to or its constituents from time to time to a particular position or to particular policies and we reserve at all times the right to change our position on any issue or raise new issues as information becomes available.

*For further information contact*

Ian Hayllor, Chairman  
[Basin Sustainability Alliance](http://Basin Sustainability Alliance)

Eml: [chairman@basinsustainabilityalliance.org](mailto:chairman@basinsustainabilityalliance.org)  
or visit [www.basinsustainabilityalliance.org](http://www.basinsustainabilityalliance.org) or [www.notatanycost.com.au](http://www.notatanycost.com.au)



### Committee members

Ian Hayllor *Chairman*  
Dave Armstrong  
Ruth Armstrong  
Jeff Bidstrup

Anne Bridle  
Bernie Caffery  
Ashley Geldard  
David Hamilton

Geoff Hewitt  
Katie Lloyd  
Wayne Newton  
Scott Seis

Thanks also to Andrew Rushford who has retired from the committee and to Solicitor Peter Shannon for his advice and support.