



**Golden Beach  
Gas Production  
and Storage  
Infrastructure  
Project**



# GB Energy

GB Energy is an independent Australian oil and gas company developing the Golden Beach Gas Field to provide critical gas supply and storage infrastructure to the constrained domestic energy market.



Once in operation, the Golden Beach Gas Project will initially increase domestic gas supply, then enhance energy market security and efficiency while supporting Victoria's transition to renewables.

Based in Melbourne, GB Energy is a public, unlisted entity regulated by the Australian Securities and Investments Commission (ASIC).

## Strategy

GB Energy's strategy is to develop the Golden Beach Gas Field to provide critical gas supply and storage infrastructure that will materially benefit the Victorian energy market. It will do so in a manner that respects the environment and the community in which it operates.

Benefits to the Victorian energy market include:

- **Gas Supply:** The Golden Beach Gas Project is expected to produce approximately 43PJ of gas for consumption in the Victorian market. This new supply equates to approximately 18% of all gas consumed in Victoria in 2018 and is likely to reduce pressure on domestic prices.
- **Energy Security:** Once in the storage phase, the Golden Beach Gas Project will provide a reliable and economically efficient source of stored energy by using the naturally occurring features of the Golden Beach Gas Field. This reliable source of stored energy will address volatility in supply and demand, and market disruptions.
- **Transition to Renewables:** By providing a reliable source of stored energy, the Golden Beach Gas Project will also help unlock the potential of renewable energy initiatives. Specifically, the stored energy will guarantee supply to generators and retailers to assist in the management of intermittency associated with renewable power generation.

# Golden Beach Gas Field

GB Energy is the registered holder of Retention Lease VIC/RL1(V) which incorporates the Golden Beach Gas Field. The Golden Beach Gas Field is located 3 kilometres offshore in the Gippsland Basin and 20 kilometres from the Longford Gas Hub and associated strategic pipeline infrastructure.

## History

Discovered by the Burmah Oil Company operated JV with Woodside in 1967, the Golden Beach Gas Field's abridged history is set out (right).

For context, key dates identified to the right are transposed against the average annual gas price in Victoria from March 1999 in the graph below.

## Exploration and Development

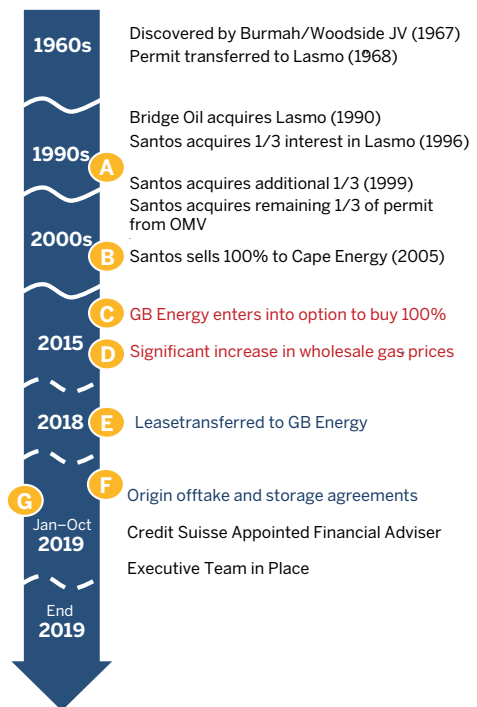
Golden Beach structure delineated  
Golden Beach-1a drilled offshore in 1967  
Several 2D seismic surveys conducted (1988)

Shore based feasibility studies completed  
FEED largely completed based on Santos offtake

3D seismic survey conducted

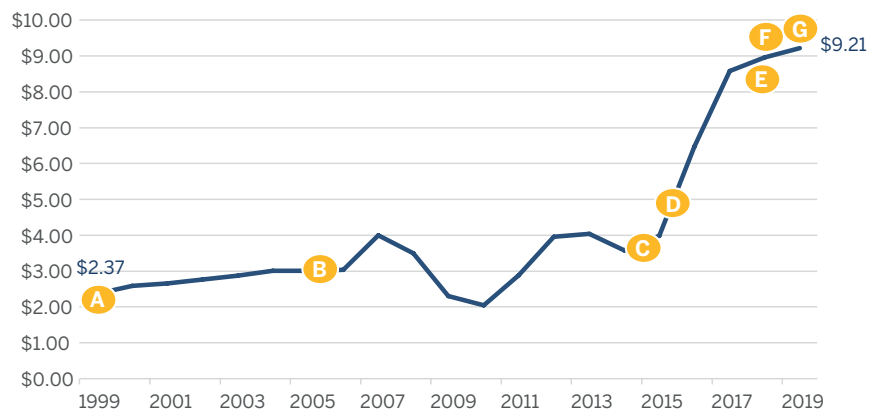
CGG estimates significant increase in resource  
Storage modelled by CGG  
FEED and EPC processes

## Corporate and Market

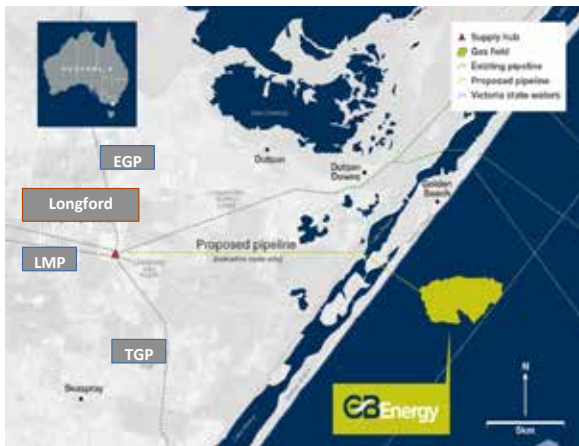


## Average Annual Wholesale Gas Price – Victoria

Source: Australian Energy Market Operator (AEMO)







### Gippsland Basin

The Gippsland Basin is Australia’s most prolific oil and gas province. With more than 400 drilled wells and 55 years of production history, the Basin’s geological characteristics are well understood.

Since the first well was drilled in 1965, approximately four billion barrels of crude oil and eight trillion cubic feet of natural gas have been produced in the Gippsland Basin.

The Golden Beach Gas Field is adjacent to some of the Gippsland Basin’s most significant gas fields, including:

- Barracouta
- Snapper
- Marlin

### Longford Gas Hub and Pipeline Infrastructure

The Golden Beach Gas Field is the closest gas field to Longford, a strategic gas hub with gas processing and pipeline infrastructure. Esso Australia (a subsidiary of ExxonMobil Australia) operates three gas processing plants at Longford, which together supplied 83% of all gas consumed in Victoria and New South Wales in 2018.

As depicted above, strategic pipeline infrastructure running through Longford includes:

- Eastern Gas Pipeline (EGP)
- Tasmanian Gas Pipeline (TGP)
- Longford/Melbourne Pipeline (LMP)

### Resources

The Golden Beach Gas Field is estimated to contain a contingent resource of 69Bcf of gas on a P50 basis (October 2019). This estimate represents a 43% increase compared to a 2006 study commissioned by Cape Energy. The field is also estimated to contain 86Bcf of gas initially in place, a 33% increase to the 2006 assessment.

The October 2019 estimate was conducted by CGG Services (UK) Limited (CGG), a highly regarded international geological and petroleum reservoir engineering consultancy. The increased Resource benefits from a recently completed 3D seismic survey. This survey provides a state of the art representation of the structure and reservoir architecture.

Resource Estimate	Santos 2003	Cape Energy 2006	GB Energy 2019	Increase 2006- 2019
Bcf				
<b>Contingent Resource</b>				
P90	35.3	25.4	52.6	107%
P50	51.3	47.9	68.5	43%
P10	75.8	68.7	88.7	29%
<b>Gas Initially in Place</b>				
P90	53.7	46.7	70.1	50%
P50	76.4	64.9	86.2	33%
P10	114	90.5	106.1	17%

CGG also prepared an independent review of project economics, finding that the project as presented was commercial and that the associated volumes could be considered reserves. GB Energy will make a Reserve statement when a number of outstanding studies and approvals are in place. At this time GB Energy considers the volumes to be Contingent Resources as defined by the Petroleum Resources Management System (PRMS) 2018.

Contingent Resource			
Bcf	1C	2C	3C
100% of Field	52.6	68.5	88.7

For comparative purposes, the 2C estimate of 69Bcf equates to approximately 30% of all gas consumed in Victoria in 2018.

# Golden Beach Gas Project



GB Energy is developing the Golden Beach Gas Field to provide critical gas supply and storage infrastructure to the constrained domestic market.

The Golden Beach Gas Project comprises four elements:

- Project Development
- Gas Production
- Transition
- Gas Storage

Once in operation, the project will directly address market constraints by introducing new gas supply and, over the longer term, a reliable and economically efficient means of storing energy. It will also enhance grid stability and renewable energy initiatives by offering a reliable source of stored energy.

## Project Development

Development of the Golden Beach Gas Project is expected to take approximately 18 months from final investment decision, which is currently anticipated in the second quarter of 2020.

Project development comprises four programs:

**A Offshore Drilling:** Two conventional horizontal wells will be drilled during a 90-day drilling program. The wells will be adjacent to one another, approximately 3km offshore in water depth of approximately 20m. Drilling will use industry standard best practices performed by a third party contractor.

Top of the reservoir is expected to be encountered approximately 620m below the sea surface.

Drilling is expected to commence in the first half of the 2021 calendar year.

**B Pipeline Installation:** Pipeline installation will comprise approximately 3km of subsea pipeline, an underground shore crossing and approximately 18.5km of underground pipeline connecting the field to the Longford Gas Hub via a gas processing facility. The pipeline will be bi-directional and of sufficient diameter to enable both injection and withdrawal of gas from the field.

**C Gas Processing Facility Construction:** The Gas Processing Facility (GPF) will dehydrate and compress gas from the field. It will be located between the shore crossing and the Longford Gas Hub and will be designed to allow for future expansion.

**D Regulatory Approvals and Land Access:** Regulatory approval and land access activities commenced in 2018. The status of these activities can be found in the Regulatory Approvals and Land Access section below.

GB Energy is likely to engage an Engineering, Procurement and Construction (EPC) contractor to deliver the pipeline installation and GPF construction programs.

The Offshore Drilling program will be managed internally by leveraging GB Energy's highly skilled and well-regarded drilling team. As noted above, drilling will be performed by a third party contractor.

## Gas Production

The Golden Beach Gas Field will initially produce approximately 50% of the estimated gas initially in place (43PJ) for domestic consumption over a two-year period. The field's initial production capacity is anticipated to be approximately 100TJ per day.



# Golden Beach Gas Project

## Commercial Agreements

GB Energy has two commercial agreements with Origin that were executed in February 2019:

- Gas Sale & Purchase and Storage Transition Agreement (GSA)
- Gas Storage Services Agreement (GSSA)

### GSA

Under the GSA, Origin has agreed to purchase all gas from the field during the Gas Production and Transition phases described above. Origin is obliged to purchase the gas at an agreed price.

### GSSA

The GSSA provides for the storage of gas in the field for an array of customers after transitioning to storage. Origin has entered into the GSSA as a foundation customer and also has the option to purchase additional gas storage capacity and, broadly, any excess gas produced.

## Capital Expenditure and Funding

### Capital Expenditure

GB Energy estimates that the overall capital required to develop the Golden Beach Gas Project is approximately \$425m, including contingencies. This estimate is indicative in nature and subject to change.

Components of this estimate include:

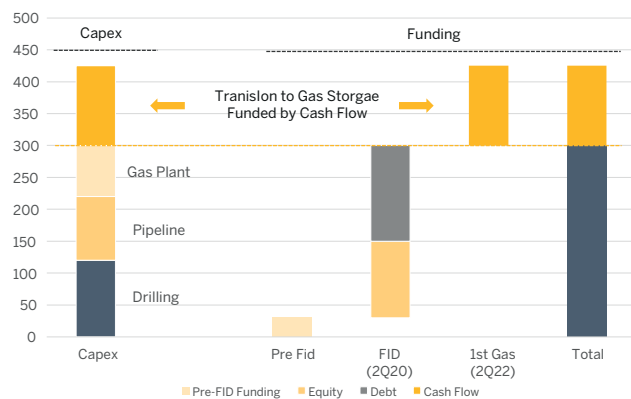
- Drilling
- Pipeline Installation
- GPF Construction
- Transition to Gas Storage

In the above, contingencies are attributed at the individual program level, as are environmental approval and land access costs.

### Funding

GB Energy intends to raise \$300m of new funds to finance the drilling, pipeline installation and GPF construction programs. As illustrated in the following graph, capital required to transition to gas storage will be funded through cash flow generated from gas sales to Origin.

GB Energy has appointed Credit Suisse to lead its fundraising effort. Together with GB Energy, Credit Suisse has conducted a broad market sounding of potential financiers and programs, and has provided a guidance letter to interested parties. The guidance letter seeks proposals to fund all, or a substantial portion, of the ~\$300m in new funds required.



## Community and Sustainability

As noted above, GB Energy’s strategy is to efficiently develop the Golden Beach Gas Field in a manner that respects the environment and the community in which it operates.

### Community

GB Energy is committed to ongoing engagement and consultation with the local community. It is also committed to an open and transparent consultation process with stakeholders, and to providing accurate and timely information as it progresses through the various phases of the project.

Consultation with key stakeholders, including people living, working, recreating and visiting near the project location, community groups and the Victorian and Australian governments, has been ongoing since October 2018.

Since October 2018, GB Energy has compiled a database of project stakeholders through responses to widely advertised community meetings and information sessions, informal conversations and email exchanges. Community meetings and information sessions held in December 2018, March, May and September 2019 were widely publicised through the local ratepayer’s association, local media and direct e-mail and provided the opportunity for all other interested community members to attend and register their contact details. Relevant government representatives, agencies, industry and community groups have been identified and contacted by our team.

GB Energy has also consulted with the Shire of Wellington, GLaWAC and Gippsland Water.



### **Sustainability**

A core objective of the Golden Beach Gas Project is to support renewable energy initiatives once in storage operations. Developing the project in a sustainable manner is not only consistent with this objective, but also in keeping with the Company's core principles.

GB Energy will assess the potential environmental, economic and social impacts or effects of the project through an Environment Effect Statement (EES) process. It is in the final stages of engaging an EES partner to assist with the EES process.

GB Energy also holds an approved Environment Plan with respect to offshore geotechnical and geophysical investigations.

The status of these efforts is described in the following section.

### **Regulatory Approvals and Land Access**

The status of regulatory approvals as of 15 October 2019 are summarised below. Note that the Golden Beach Gas Field is in Victorian waters.

#### **Environment Effects Act (Vic)**

The project was referred by GB Energy to the Minister for Planning under the Environment Effects Act (Vic) on 7 August 2019. On 8 September 2019, the Minister for Planning determined that an Environment Effects Statement is required for the project.

Following engagement of the EES partner, GB Energy anticipates submitting a draft study plan and draft EES consultation plan to the Department of Environment, Land, Water and Planning (DEWLP) for consideration in early December 2019. GB Energy anticipates that the EES process will take approximately 14-16 months.

#### **Environment Protection and Biodiversity Conservation Act (Cth)**

The project was also referred under the EPBC Act to the Commonwealth Minister for Environment and Energy on 6 September 2019. GB Energy is yet to receive the Minister's decision with respect to this EPBC referral.

If a decision is made that the project requires assessment under the EPBC Act, reliance will be had on the bilateral agreement between the Commonwealth and the State of Victoria that allows the EPBC process to be combined with the EES process referred to above.

### **Environment Plans**

An Environment Plan has been approved by the relevant authority with respect to the offshore geotechnical and geophysical investigations to be undertaken to assess seabed conditions and shallow geology for drilling rig location and offshore pipeline.

#### **Pipeline Licence**

A Pipeline Consultation Plan has been approved by DEWLP (Pipeline Regulations). Negotiation and discussion with landowners regarding access arrangements are ongoing in accordance with the approved Pipeline Consultation Plan.

Survey access has been granted to GB Energy in respect of all affected land along the proposed pipeline route. Surveys are ongoing including spring/summer ecological surveys which will form part of the required study plan for the EES process.

#### **Marine and Coastal Act (Vic)**

The project received consent under the Marine and Coastal Act (Vic) to undertake onshore and offshore geotechnical and geophysical activities within Coastal Crown Land being the Gippsland Lakes Coastal Park.

#### **Renewal of Retention Lease VIC/RL1(V)**

GB Energy acquired the Retention Lease VIC/RL1(V) from Cape Energy in May 2018. The Golden Beach Gas Field lies within the Retention Lease area.

The Lease is to be renewed every five years, with the current term due to expire in October 2019. A renewal application was lodged by GB Energy with the Minister for Resources on 9 April 2019.

On 2 October 2019 and in accordance with the Retention Lease conditions, GB Energy submitted the statutory Annual Report for the part year ended 18 October 2018 and the full year ending 18 October 2019 to the compliance department at the Department of Jobs, Precincts and Regions (Earth Resources Regulation).

It is understood that a decision will be made in the week commencing 28 October 2019.

# Management



**Tim Baldwin**

Chief Executive Officer  
B Bus, MBA (INSEAD)

Has held senior management and board positions in a number of companies over the past 10 years. Has supported fundraising activities, debt and equity, in private and public companies as well as private equity funds.

Commenced oil and gas career at BP working in multiple roles across operations, trading, strategy, corporate finance and investment management. Has spent the past 10 years in oil and gas private equity roles, assessing opportunities, executing transactions and managing investments.



**Charles McGill**

Chief Financial Officer  
B Eng (Honours), MBA (Harvard)

Prior CFO and COO of ASX-200 businesses with broad capital markets, strategy, M&A and investor relations experience gained at Morgan Stanley, Wesfarmers and Incitec Pivot.

Oil and gas experience includes leading Incitec Pivot's offtake negotiations with Arrow and NGP operators; leading Wesfarmers investment in Quadrant Energy; and establishing Austal's Oil & Gas service business in Perth, Darwin, Oman, Spain, the UK and Trinidad & Tobago.



**Paul Bilston**

Chief Operating Officer  
B Eng, PhD Eng

More than 25 years experience delivering large scale projects. Led the delivery of the \$400m Northern Gas Pipeline to an on time and significantly under budget result, despite significant access challenges during execution

Set the strategy, managed the exploration and appraisal, then ultimately the sale of the Gloucester Gas project.



**Peter Fennessy**

Chief Commercial Officer  
B Sc (Geology – Honours)

Commenced working life as an exploration geologist with BP Oil and Gas Exploration. Has spent the last 20 years in commercial roles, transacting in both the oil and gas exploration and infrastructure space and the establishment of gas markets.

Worked with companies including TXU and Alinta, and has consulted to a series of large international oil and gas exploration, production and infrastructure businesses in Australia and South East Asia. Played a major role in successfully establishing the Iona Gas Plant, the first merchant underground gas storage facility in Australia.



**Jade Rowarth**

General Counsel  
B Law (Honours), B Business Mgmt

Broad legal background in corporate, M&A, restructuring and banking and finance gained at Corrs Chambers Westgarth, Allen & Overy LLP (London) and Maddocks, with the last seven years as a partner.

Oil and gas experiences includes engagement as legal advisor to companies undertaking energy and resource operations in the Timor Sea and the Latrobe Valley.

Has significant board experience advising boards and directors and is currently deputy chair of Musculoskeletal Australia.



**Trevor Slater**

Company Secretary  
B Bus (Acc), FCPA, FCIS, FGIA

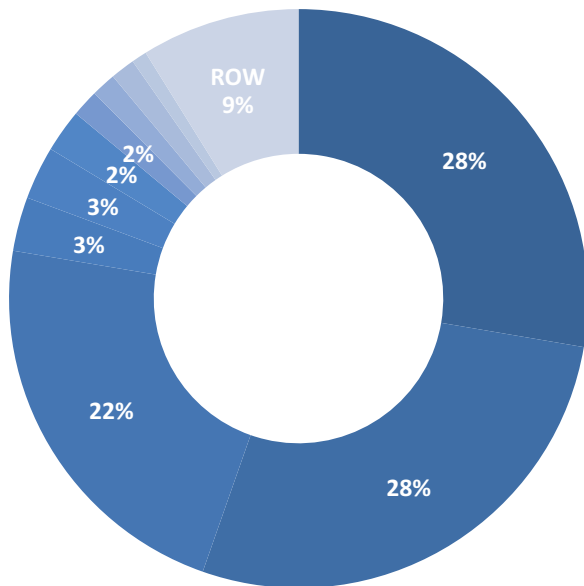
More than 35 years experience as a company secretary, corporate manager and project manager, working for listed and unlisted public companies in Australia and South East Asia.

Has been engaged at senior levels with companies undertaking energy and resource project development including: Oil & Gas exploration projects in the Timor Sea, Brunei and Indonesia; the Ballarat Gold Project; the Coal Corporation of Victoria; and the construction of the Loy Yang power station.

# Shareholders

GB Energy is a public, unlisted company incorporated in Australia and regulated by ASIC.

GB Energy has more than 50 shareholders. As set out below, GB Energy's 10 largest shareholders hold 91% of all shares outstanding.



Shareholders can access their holdings via Registry Direct: [www.registrydirect.com.au](http://www.registrydirect.com.au)

## 2019 Activities

As described in greater detail above, key activities during the 2019 financial year included:

- Securing a Gas Sales & Purchase and Storage Agreement with Origin.
- Securing a Gas Storage Services Agreement with Origin.
- Acquiring new 3D Seismic Survey
- Completing the Resource and Reserves estimates with CGC
- Appointing Credit Suisse to lead fundraising efforts
- Developing a detailed concept plan
- Recruiting key executives and operational management

## Competent Person Statement Information

The resource and reserve estimates outlined in this report were compiled by GB Energy's, Sub-Surface Manager Mr Gordon Wakelin-King. Mr Wakelin-King has over 34 years' experience in petroleum exploration and engineering. Mr Wakelin-King holds a Bachelor Degree in Science (geology & mineralogy) (Hons) and is a member of the Society of Petroleum Engineers and the Petroleum Exploration Society of Australia. Mr Wakelin-King has consented to the form and context in which this statement appears.

