

GB Energy is an independent Australian resource company focused on the development of a domestic gas resource in a safe, efficient and environmentally friendly manner that meets all stakeholder expectations.

The Golden Beach Gas Project presents an opportunity to bring local, conventional gas to market while establishing valuable infrastructure that will support Australia's long-term renewable energy targets.



FREQUENTLY ASKED QUESTIONS (FAQs)

Q: What is the Golden Beach Gas Project?

A: The Golden Beach Gas Project (Project) involves the development of an offshore gas field with a submerged or buried pipeline and sub-sea completions that will connect to a gas plant located in the vicinity of the Longford Gas hub.

The Project will initially deliver natural gas into the domestic market for a period of approximately two years and will later transition to providing underground gas storage services.

Q: Where is the gas field located?

A: The Golden Beach gas field is located 3km offshore from the Ninety Mile Beach, just south of Golden Beach. The size of the field is approximately 3km east to west and 2.5km north to south.

The top of the gas field is approximately 620m beneath the seabed and the gas column is about 32m thick.

Q: What is the timeline for the Project?

A: The Project is aiming for first gas into the domestic market during the second half of 2021. Storage services are planned to commence in 2023.

Under the development program we are looking to undertake initial offshore geophysical and geotechnical work later this year/ early next year.

Other offshore work, including the drilling of two production wells will be subject to regulatory approvals and the availability of a suitable rig drill.

Currently, this major offshore work is not expected to be undertaken until early 2021.

THE GOLDEN BEACH GAS FIELD

Q: Is it commercial?

A: The volume (amount of gas) and nature (dry gas, no oil) of the gas accumulation has meant that the field has not previously been considered commercially viable. However, GB Energy believes that given the objective of a gas sales and storage development, the Project is commercial although a final investment decision (FID) is yet to be taken.

Q: What impact will producing the Golden Beach gas have on local aquifers?

A: Minimal, if any at all.

The Project will produce a negligible amount of gas compared with the total oil and gas (and water) production that has occurred in the Gippsland basin. There is no intention of producing free water. The transition to gas storage, requires gas to remain in place, minimising possible impact to the aquifer.

Q: Is gas storage safe?

A: Yes.

It has been extensively used world-wide for nearly 100 years and the technology is well understood.

Victoria has had a commercial gas storage operation in the Otway Basin (Iona) which has operated safely for 20 years.

Q: Are you fracking?

A: There will be no fracking undertaken in the Project.

Q: Where is the storage gas coming from?

A: The storage gas will come out of the interconnected gas transmission system that operates in eastern Australia. Practically speaking the gas is most likely to have been produced in the Gippsland Basin.

GAS STORAGE

Q: How does gas storage work?

A: Gas storage services involve reinjecting natural gas back into the ground during periods where the primary gas producers produce more gas than is required by the market and then on days where the gas demand is greater than can be met by the producers, stored gas is produced to meet the shortfall.

Q: What is the value of underground gas storage to the community?

A: In simple terms, it allows for the development of a more efficient, lower cost system of delivering gas, enhances system security of supply and supports the development of renewable power generating capacity

1. Underground gas storage allows for the development of a more efficient, lower cost system of delivering gas.

The need for gas varies dramatically over the seasons of the year with less gas required in summer and far more required in winter, primarily for heating. Peak demand in Victoria is generally associated with very cold days.

On peak days, we use approximately 50% more gas than we do on an average day and about twice as much gas as we do on low demand days. It is very expensive and inefficient for the gas producing infrastructure (offshore platforms, pipelines and wells) to be sized to meet peak demand, so purpose-built gas storage facilities, capable of very high rates of production are used to meet the shortfall.

This allows primary producers to produce at near constant rates during the year and on days when the primary production is in excess of market needs, the excess gas is injected into storage. As a result, primary infrastructure is made more efficient and the purpose-built storage facility is fully utilised, reducing the overall cost of delivering gas to the market.

2. Underground gas storage enhances system security of supply.

Should there be an outage at a primary producer's facility, underground gas storage provides an alternate source of gas while supply is re-established.

Unlike a primary producer, underground gas storage does not have the long-term underlying resource base, but it can significantly assist in maintaining supply to essential services during unforeseen events.

3. Underground gas storage supports the development of renewable power generating capacity.

The growth of renewable energy, especially wind and solar generated power is displacing high CO₂ emitting generation such as coal. The problem with wind and solar is their intermittent nature – the wind does not always blow, and the sun does not always shine.

Short term use of fast start gas fired power generation uses natural gas that has far lower CO₂ emissions than coal, is cheaper to build than hydro power, does not require the construction of more dams and has far greater endurance than current battery supply.

Due to the intermittent nature of the renewable sector, underground gas storage facilities are a far more reliable source of contracted gas supply when compared to primary producers who are better placed at selling to base load gas fired power generators.

OFFSHORE DEVELOPMENT AND OPERATIONS

Q: When will the initial offshore work commence?

A: The geophysical and geotechnical programs will commence later this year or early next year and will take approximately one week each to complete (weather permitting).

The geophysical program will require some low intensity seabed investigation works over an area of approximately 4 square kilometres. This information is required to ensure that it is safe to locate a drilling rig at this location.

The geotechnical program will also include some coring work along the proposed sub-sea pipeline route closer to shore.

Q: How many vessels will be involved in the geophysical and geotechnical programs?

A: One vessel for each of the campaigns, both under 35m in size.

Q: How big is the offshore footprint for the Project?

A: Typically, the seabed architecture is approximately 10m x 10m for a single well. The Project anticipates having two sub-sea wells.

Q: Will there be an exclusion zone when the Project becomes operational?

A: Yes. There will be vessel restrictions around the well-head locations and across the pipeline route.

Typically, there is a 500m exclusion zone but recreational fishing should not be impacted.

Q: What impact will the Project have on professional fishermen in the area?

A: The Project footprint is small and all facilities will be designed to minimise potential impacts. We are in frequent dialogue with fishermen about the Project and will discuss any concerns they may have and how to minimise them.

Q: How far above the seabed will the subsea well-heads extend?

A: The sub-sea architecture will extend approximately 6m above the seabed. This equates to a depth of approximately 12m below sea level.

Q: Will the pipeline to shore be trenched or rock-armored?

A: This will not be known until we complete the pipeline design studies.

Q: What sort of seabed conditions are there in the area?

A: Benthic studies conducted in the area show the seabed has a sandy bottom and few significant formation structures.

Closer to the beach there is nearshore reef which will be avoided, wherever possible.

Q: How will installation of the facilities and ongoing operation impact the local environment?

A: The installation and operation of the facility is designed to have minimal impact on the environment and amenity. Once the sub-sea equipment is installed there will be no visible signs of the Project.

The pipeline will be drilled or tunneled under the nearshore and shore crossing area and will not be visible.

Q Will there be contracting opportunities for local marine operators in this and later installation activities?

A: GB Energy are developing a Local Content Plan which requires all our contractors to source goods and services locally, wherever possible.

Q: Do you have a drilling rig identified?

A: The water depth mandates that we will use a jack up rig. This is a mobile drilling rig that floats onto location and then jacks up on 3 legs to provide a stable drilling platform. A formal tendering process will be conducted to contract a rig and a rigorous regulatory acceptance process will follow.

The use of a jack-up rig is one of the primary reasons that GB Energy will be undertaking geophysical and geotechnical surveys at the drilling site to ensure safe drilling operations given the nature of the seafloor.

Q: How long will the rig be on location?

A: Approximately 3 months, subject to weather and operational progress.

Q: Are there procedures that must be followed to prevent a loss of well integrity?

A: Yes, all drilling rig activities will be conducted in accordance with regulatory approved processes and procedures.

They will also be conducted in accordance with the rig contractors approved standards and our well management system.

Q: What if you have an oil/diesel spill?

A: Golden Beach is a dry gas field and does not contain oil.

We have in place an oil pollution emergency plan (OPEP) including rapid response deployment capabilities from ORCA and other measures which are coordinated with Victorian and Commonwealth response agencies should a spill occur from a service boat or the drilling rig during development operations.

Q: How visible will it be from shore?

A: The drilling location will be approximately 3km from the nearest shoreline. The jack-up will therefore be visible from the beach whilst it is undertaking offshore work for approximately 3 months.

Q: Will lights be visible?

A: During the drilling campaign the jack-up rig will be lit at night.

Q: What about drilling cuttings, mud and cement?

A: Drilling related waste material will be treated in accordance with the regulatory approved Environmental Plan.

All drilling related liquids pumped down the wells and returned to surface will be water based.

PIPELINE BEACH/ SHORE CROSSING

Q: What is the diameter of the sub-sea pipeline?

A: The pipeline is likely to be 28 inch or 700mm diameter.

Q: Where will the pipeline cross the beach?

A: Subject to finalising the route selection work, we expect it will come ashore approximately 3kms south of Golden Beach towards Glomar Beach, possibly at Delray Beach near to an existing wastewater outfall.

Q: How will the pipeline come ashore without impacting the beach?

A: The Project development includes a shore crossing that goes under the beach via a trenchless pipe-laying method.

Horizontal directional drilling (HDD) is commonly used with the main operations taking place behind the sand dunes.

Another common approach is the Direct Pipe drilling method.

Q: What are HDD and Direct Pipe methods?

A: Horizontal Directional Drilling and Direct Pipe methods are construction techniques used to enable pipelines to be installed under sensitive or inaccessible areas, in this case the beach and dunes. A conduit is created through which a pipeline can be threaded such that it connects the onshore and the offshore sections with minimal environmental impact.

Once onshore, it will be trenched and buried through to the gas plant then connected into the Victorian Transmission System and/or Eastern Gas Pipeline.

Q: Will the offshore pipeline have any impact for onshore recreational fishermen?

A: The pipeline is expected to break out of the seafloor 1km to 1.5km beyond the shoreline and have no impact on recreational fisherman.

PIPELINE AND GAS PLANT DEVELOPMENT AND OPERATIONS

Q: How will the pipeline cross Lake Reeve?

A: Further studies will determine the appropriate installation manner to minimise environmental impact. There is an existing Gippsland Water waste-water outfall line easement across this area and GB Energy is looking to install the pipeline adjacent to this in a way that any impact on the area is as short and least invasive as possible.

Q: How many pipeline route options are there?

A: There are currently two pipeline route options. The preferred route will be confirmed once GB Energy has completed environmental impact studies and land access arrangements.

Q: Will you be accessing private properties?

A: Yes and we have already been actively engaged with the owners of these properties.

Q: Will you be compensating landowners for project impacts either in development or operations?

A: We will be discussing all matters that concern landowners with the appropriate landowner.

Q: Do you have any agreements in place with landowners?

A: We have been consulting with landowners along the pipeline route(s) for access to undertake survey studies since earlier this year.

All necessary landowners have provided their written consent to access their properties for initial project flora and fauna studies.

Q: Will you be undertaking heritage surveys of the pipeline route and gas plant site options?

A: Yes. We have commenced engagement with the Traditional Owners in relation to all relevant matters.

Q: What are the options for the gas plant site?

A: A number of suitable areas in the general vicinity of the Longford gas plant are being investigated along with possible sites along the pipeline route.

Our aim is to ensure the location of a gas plant has minimal environmental and social impacts.

Q: How much land is required for the gas plant?

A: It will be a small facility compared to the Longford gas plant involving minor gas processing, compression and control systems.

Q: How is the gas processed?

A: The gas does not contain any hydrocarbon liquids so will be dehydrated and compressed.

Q: Will the gas plant compressors be noisy?

A: The compressors will be housed in insulated, sound-proof enclosures and have silencers fitted to the exhausts.

Q: Will there be a flare at the gas plant?

A: Flaring is not planned but there will be some form of “safety valve” as part of the gas plant’s safety system.

Q: Are there any residential properties near the gas plant site options?

A: The plant will be located well away from residential areas.

COMMUNITY ENGAGEMENT

Q: When did your community engagement program begin?

A: We commenced consultations in late October 2018, and we are in the first stages of an extensive and ongoing stakeholder engagement program.

Public meetings have been held in Golden Beach on:

- 8 December 2018
- 2 March 2019
- 25 May 2019.

It is our intention to continue to hold regular community meetings.

Q: How are you going to engage with the community?

A: We have embarked on a project information program which involves regular face-to-face meetings with stakeholders and the provision of project information, updates and a 1800 community information line.

Q: How will community concerns be dealt with?

A: Issues raised by the community through the meetings will be responded to by GB Energy. A similar feedback process will be available via the 1800 community number.

Q: When will the community get a chance to formally comment on the Project?

A: There are a number of opportunities for the public to comment on the Project. These include during community information sessions, ringing the 1800 community information phone number and when environmental plans are displayed throughout the approvals process and prior to the State granting any works approval.

At all key stages during this process there will be an opportunity for public comment.

Q: What benefits are there for the Golden Beach community and surrounds?

A: The Project is keen to support local community projects and will be seeking those inputs during our consultations with community groups.

The Project recently supported two community events held over the Easter weekend.

We are also talking with the community about longer-term and sustainable community initiatives.

Q: Are their potential business opportunities for locals?

A: We will encourage our contractors to use local goods and services, wherever possible.

CARBONNET CO2 SEQUESTRATION

Q: Is this Project part of the CarbonNet Project?

A: No. The GB Energy Project is independent of the CarbonNet project.

The CarbonNet project is sponsored by both the State and Federal governments and relates to the capture and sequestration of CO₂.

It is a fundamentally different business from GB Energy's production and storage of natural gas.

Q: What is the separation between the projects?

A: The geological focus of CarbonNet is in a reservoir about 600m deeper than the Golden Beach gas field.

The CarbonNet project is focused on offshore operations in Federal waters about 7 kilometres from GB Energy's focus.

Q: Do you talk with CarbonNet?

A: Yes. As a neighbor to our permit area, we communicate with CarbonNet on a regular basis, as we do with all stakeholders in our project.

Q: Do you pursue development efficiencies where you can with CarbonNet?

A: At times we may share resources and services with CarbonNet where there is local community and commercial benefit.

To date we have undertaken activities at different times and have not had the opportunity to share services or operations.

COMMERCIAL AGREEMENTS

Q: Have you had any interest from gas buyers for Golden Beach?

A: GB Energy has signed agreements for the sale of gas and the provision of long-term storage services from the Project with Origin Energy.

These agreements provide significant support for the development of this key piece of energy infrastructure.

It allows GB Energy to develop the existing resource and then transition to underground gas storage services.

Q: What does it mean for GB Energy?

A: The commitment by Origin Energy to both the purchase of the gas and the ongoing gas storage services means GB Energy can focus on the delivery of a facility that will provide significant benefits to the energy market.

Q: When will it transition into a gas storage facility?

A: Once the field has produced gas for about two years, it will transition to the provision of underground gas storage services.

The initial production of the field will create space in the reservoir to store gas. The production will also provide information on reservoir performance that will allow GB Energy to optimise its operation as an underground gas storage facility.

While GB Energy has entered into only one set of contracts at this stage, we anticipate additional gas market players will look to utilise gas storage services from 2023.

Q: What will it mean for the East Coast energy market?

A: The location of the gas processing facility near Victoria's principal gas supply hub at Longford will enhance efficiency and security of domestic gas supply.

Underground gas storage fields are developed in such a way that gas can be easily stored during periods of low demand and promptly produced during periods of peak demand.

Gas fired generation is a flexible form of energy supply that in turn supports the development of renewable energy generation, such as wind and solar. Gas fired power generators can run when there is insufficient wind, or sunlight, to make electricity available into the grid.

GB ENERGY

Q: Who is GB Energy?

A: GB Energy is an independent Australian resource company, with its head office located in Melbourne.

It is an unlisted, public company owned by sophisticated and knowledgeable investors.

Management has a deep understanding and experience in the Eastern Australian gas market and considerable experience in developing gas projects.

Q: Is it a publicly listed company?

A: No, it is not listed on the Australian Stock Exchange or any other stock exchange.