



Cumulative Modelling, Surat Basin, QLD

In 2010, the Queensland Government faced the challenge of planning for an energy boom. This included the development of a massive new liquefied natural gas (LNG) industry based on coal seam gas from the State's Surat Basin as well as several major mining projects. Seven large-scale LNG projects had been announced, promising more than 50 million tonnes per annum of LNG for export from Queensland.

The massive new industry spanned much of the State with coal seam gas fields in the south and west fuelling several LNG processing plants in Gladstone on the central Queensland coast and one in Bowen in the State's north. In addition, major new coal projects and associated rail and port infrastructure had been proposed.

The State Government considered a medium-sized LNG industry producing around 28 million tonnes per annum to be feasible. This suggested the industry would deliver:

- more than 18,000 direct and indirect jobs in Queensland
- private sector investment of more than \$40 billion
- around \$850 million a year in royalty returns.

Although this assessment provided useful information in isolation, it could not anticipate the cumulative impacts of several major projects being developed concurrently. It also lacked the necessary flexibility to support planning and decision making across the State.

The Government needed a responsive and rigorous planning framework.

Evans & Peck's role

The Queensland Department of Employment, Economic Development and Innovation engaged Evans & Peck to develop a new approach to cumulative impact assessment and planning in the context of rapid resource development in the Surat Basin.

Evans & Peck brought together a cross-disciplinary team from across its Australian operations to:

- develop a probabilistic model of Surat Basin developments capable of mapping cumulative impacts
- consider potential capacity, infrastructure and planning constraints (such as transport networks and skills availability) and advise on the development of policy and regulatory frameworks.

Results

Evans & Peck delivered a probabilistic model that provided the Queensland Government with a robust and rigorous planning framework that reduced uncertainty. Rather than relying on intuition, the model allowed decision makers to run thousands of iterations of possible future scenarios. Decision makers could interrogate the model, narrow the band of future scenarios and identify the most probable outcomes.

This enabled the Government to analyse complex scenarios and support sensible decision-making. It also enabled the State Government to engage with its local government counterparts across the Surat Basin on likely impacts.

FACTS AND FIGURES

Client: Queensland Department of Employment, Economic Development and Innovation

Area: 100,000 square kilometres

E&P involvement: 2010

The State Government has drawn on Evans & Peck's analysis as the basis of its ongoing planning in the Surat Basin. Most recently this has included the State Government's *Surat Basin Regional Planning Framework: A framework for a prosperous and sustainable community, July 2011*.

Delivering a probabilistic model that provided the Queensland Government with a robust and rigorous planning framework that reduced uncertainty.

