

GasMark Global — Australian and international gas market models

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GasMark is a key plank in ACIL Tasman's energy market analysis and gas industry modelling, as a tool for strategy development and testing.

GasMark Global (GMG) is a model for the international gas and LNG market. GMG is a generic gas modelling platform, developed by ACIL Tasman, which has the flexibility to represent the unique characteristics of gas markets across the globe. Its potential applications cover a broad scope — from global LNG trade, through to intra-country and regional market analysis. The Australian version of the model is known as GMG Australia. There is also GMG New Zealand.

GMG is a partial spatial equilibrium model. The market is represented by a collection of spatially related nodal objects (supply sources, demand points, LNG liquefaction and receiving facilities), connected via a network of pipeline or LNG shipping elements.

The equilibrium solution of the model is found through application of linear programming techniques which seek to maximise the sum of producer and consumer surplus across the entire market simultaneously.

The solution results in an economically efficient system where lower cost sources of supply are utilised before more expensive sources and end-users who have higher willingness to pay are served before those who are less willing to pay. Through the process of maximising producer and consumer surplus, transportation costs are minimised and spatial arbitrage opportunities are eliminated. Each market is cleared with a single competitive price.

Contact ACIL Tasman economic consulting for more information on the application of the GasMark Model.