

The energy transition's leading co-optimal energy modelling tool

The Energy42 Integrated Electricity, Gas and Hydrogen Investment Model co-optimises least-cost investment in production, storage and transmission across each sector, **simultaneously**.

Why use Energy42?

Leveraging 20+ years of energy sector modelling experience, **Energy42** helps make complex investment decisions across Electricity, Gas and Hydrogen sectors. By optimising simultaneously across these sectors, rather than sequentially, Energy42 provides a powerful tool to **model the real-time interactions between Electricity, Gas and Hydrogen production and storages**. It can model scenarios to find the optimal investment outputs, revenues and prices - results which can then be used to inform future policy and investment decisions.

Inputs to Energy42 Model

Data* on existing assets and investment options to consider:

- Fixed and variable costs
- Technical operating parameters
- Capital costs of investment options

General information:

- Demand forecasts
- Policy settings
- Fuel prices

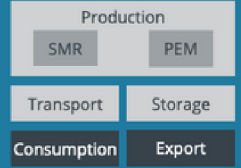
*Using Frontier Economics and/or client data



Gas required for SMR H2 production

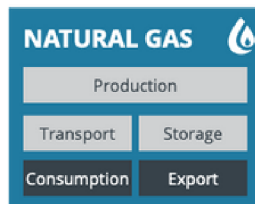


HYDROGEN

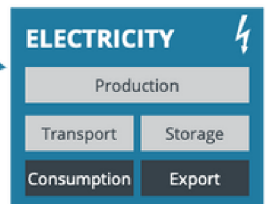


Electricity required for PEM H2 production

H2 required for electricity generation



Natural gas required for electricity generation



Outputs from Energy42 Model

- Optimal investment plan
- Asset retirement
- Sector resource costs
- Network topology
- Nodal prices: \$/kg, \$/GJ, and \$/MWh
- Transmission flows between nodes
- Production and storage utilisation

Request a Demo



+65 9450 5627



frontier-economics.com.sg

Big data energy models and complex modelling software



In 2002, our economic analysis supported the development of the world's **first mandatory broad based emissions trading scheme** for the NSW Government, and we participated in the project behind the **world's first "big battery"** for the South Australian Energy Plan in 2021. **Today, we are pioneering the economic analysis behind the key decisions for the energy transition.**



View Energy42
Case Studies



Our regional Energy42 Team



**EHSON
SHIRAZI**
SINGAPORE



**LIYANA
FAD'L**
SINGAPORE



**ANDREW
HARPHAM**
SYDNEY



**ANDREW
NEWNHAM**
MELBOURNE

For 20+ years, Frontier Economics has been at the forefront of climate change economic consulting. Offering unbiased, independent, analysis and specialist economic modelling to shape public policy, build resilient communities and respond to changes in the market. We pride ourselves on making this complex issue easier to understand and navigate using data and economics.

Frontier Economics Pty Ltd is a member of the Frontier Economics network, and is headquartered in Australia with a subsidiary company, Frontier Economics Pte Ltd in Singapore. Our fellow network member, Frontier Economics Ltd, is headquartered in the United Kingdom. The companies are independently owned, and legal commitments entered into by any one company do not impose any obligations on other companies in the network. All views expressed in this document are the views of Frontier Economics Pty Ltd. None of Frontier Economics Pty Ltd (including the directors and employees) make any representation or warranty as to the accuracy or completeness of this report. Nor shall they have any liability (whether arising from negligence or otherwise) for any representations (express or implied) or information contained in, or for any omissions from, the report or any written or oral communications transmitted in the course of the project.

Request a Demo



+65 9450 5627



frontier-economics.com.sg