

## Ban on oil and gas exploration

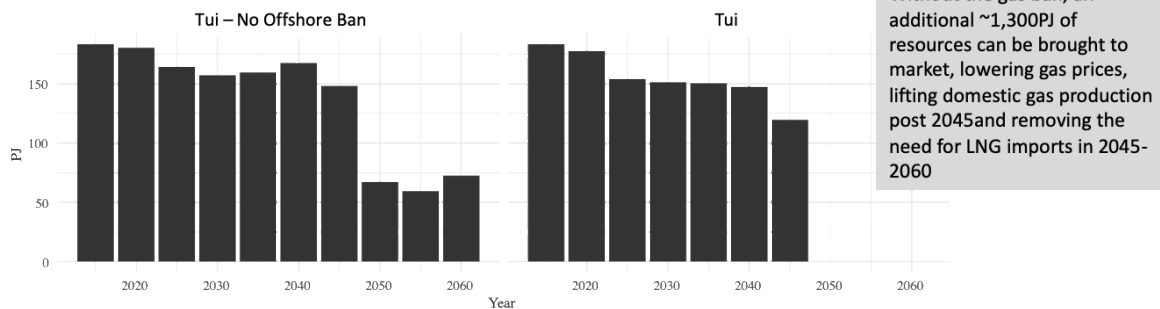
During the development of the narratives, there was a considerable amount of discussion about whether the current ban on offshore gas exploration should remain in both scenarios, or whether further distinction could be achieved by assuming a future reversal of this policy.

The group concluded that the ban should remain in both scenarios. However, in order to understand the effect of the ban, we undertook a sensitivity run on the Tui scenario where the ban was assumed to be removed, and additional offshore resources came to market.

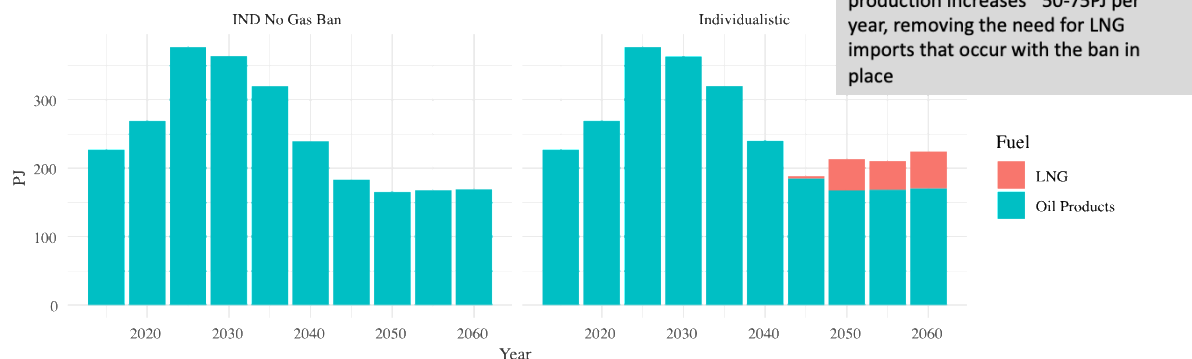
This limited the economic reserves of gas that the model had access to, to 4,300PJ of current 2P1 + 2C2 reserves, and a further 700PJ of as-yet undiscovered onshore resources. The Tūi scenario exhausts all 5,000PJ of these gas resources in 2045, and the country supplies its gas demand through imported LNG.

We also investigated a variation of the Tūi scenario where the offshore ban was lifted. We modelled this by including an additional 1,300PJ of offshore resources.

### Domestic Gas Production



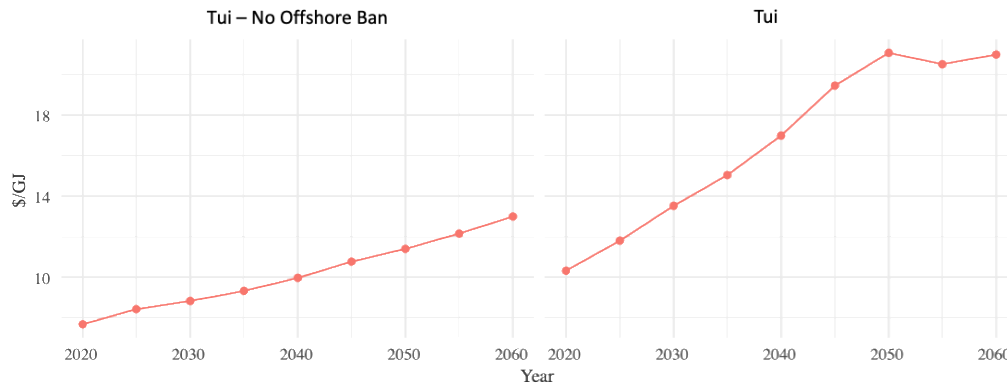
### Fuel imports



<sup>1</sup> Proved and Probable reserves

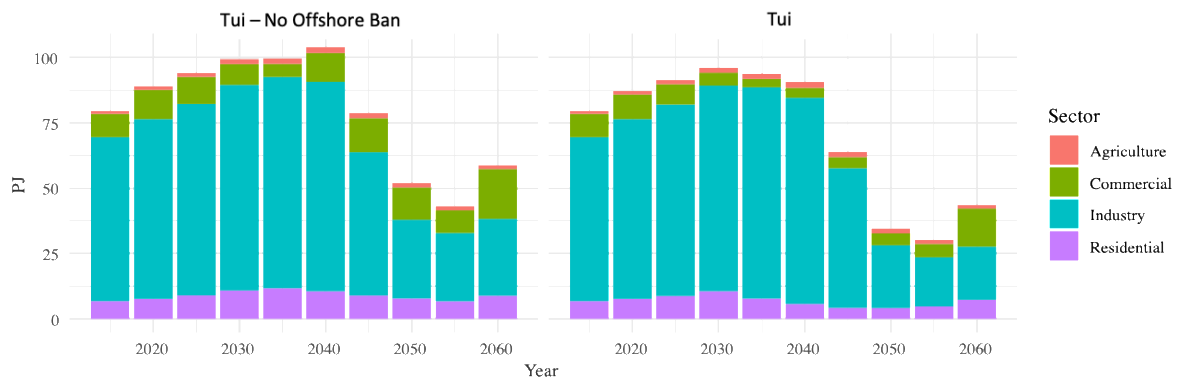
<sup>2</sup> Contingent resources

## Domestic Gas Prices



The effect on gas prices is substantial; in the gas ban scenario (right), prices must rise to the cost of LNG imports by 2045; the presence of additional offshore resources without the ban keeps domestic gas prices below \$14/GJ throughout the 40 year horizon.

## Natural Gas usage by Sector



With the additional offshore gas resources, it is the commercial and residential sector which respond by increasing gas usage; from 2035, commercial gas usage more than doubles, primarily offsetting electricity and some bioenergy. The effect is similar in residential; interestingly, energy efficiency decreases as a result of the ban lifting, as it diminishes the (price-based) incentives for the model to switch to high efficiency heat pumps for space/water heating.