

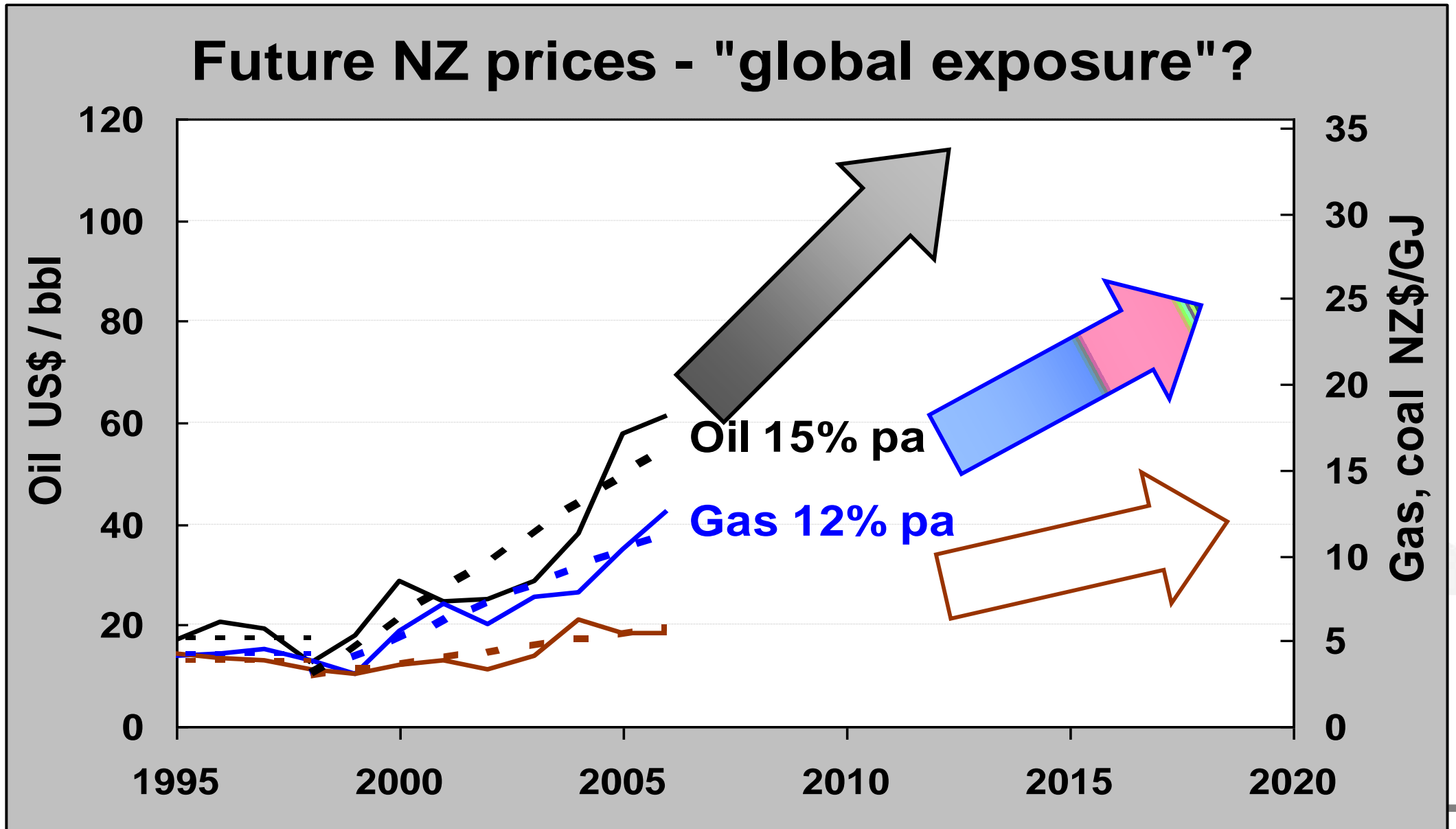
Hopkins Lecture 2006

The economy and energy: are both sustainable?

Don Elder



and coal follow?

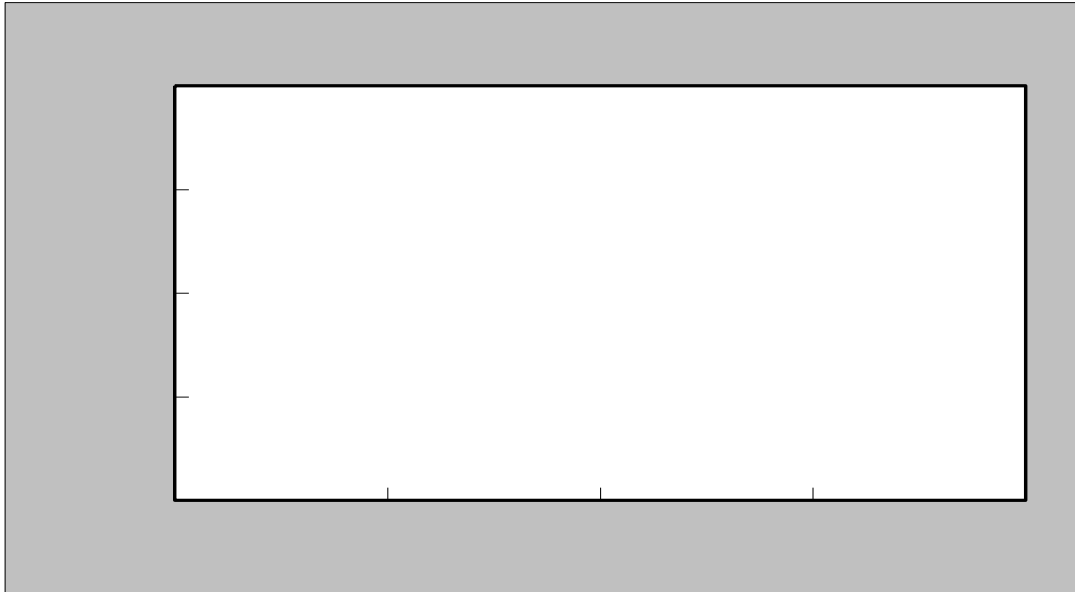


**Under any scenario peak
conventional oil production is likely
between 2006 and 2020 - probably
sooner rather than later**

Deep oil, heavy oil and oil shale will



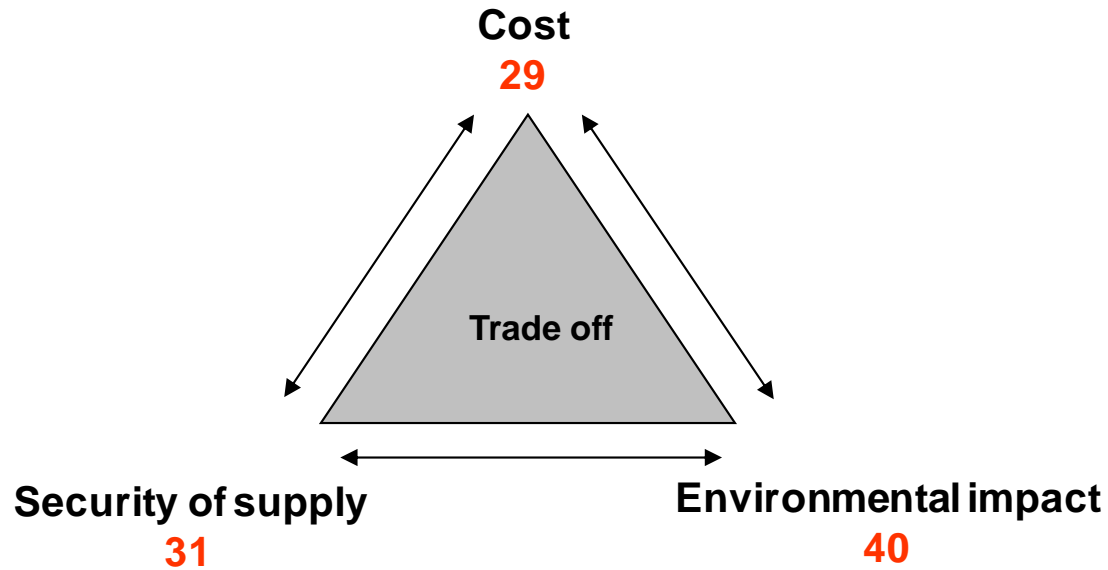
Oil prices are driven like all markets - by the point of intersection of demand and supply



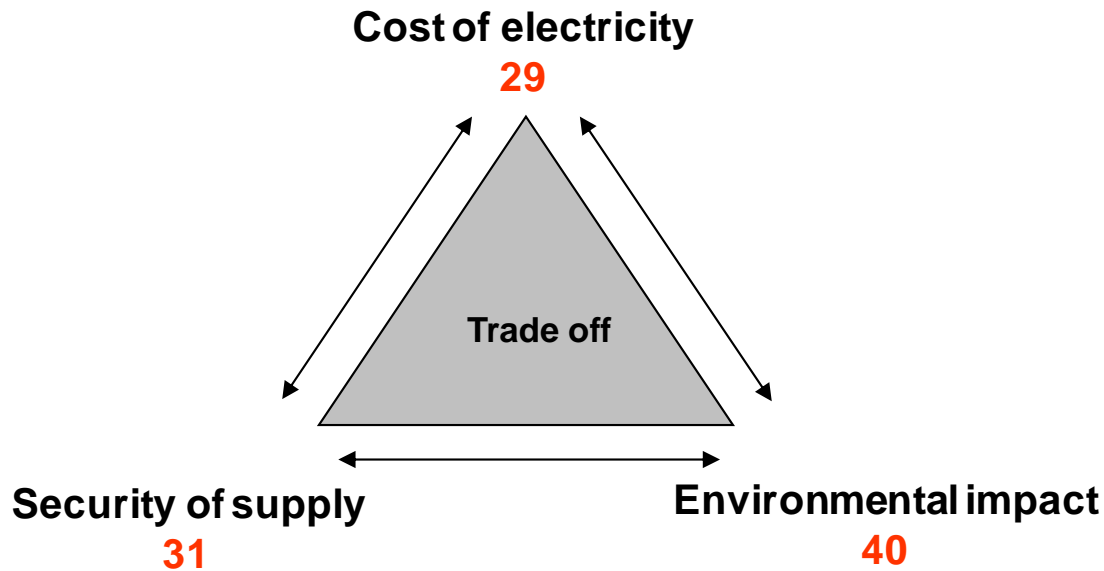
From 1980 to 1993 production capacity exceeded underlying

Since 1998 the rate of underlying demand growth has exceeded the rate
have risen, increasingly steeply

NZers say they rate electricity cost and security evenly, and reduced environmental impact highly



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But only

20% would pay \geq \$10/week (8%)
for increased security

26% would pay \geq \$10/week to
reduce environmental
impacts

And 59% would not support a
carbon tax being passed on to
consumers by generators

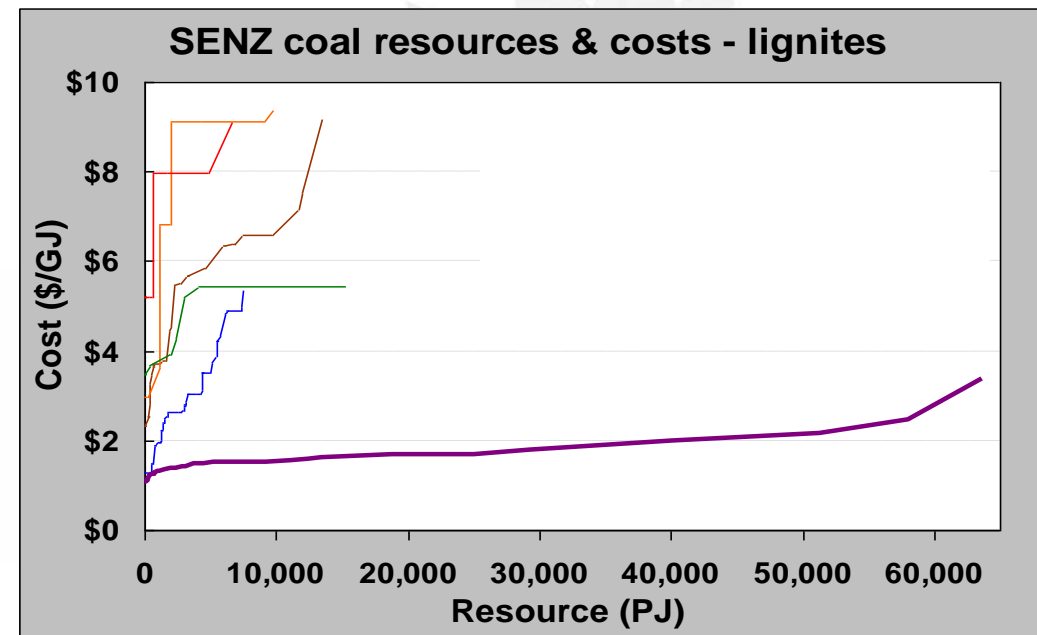
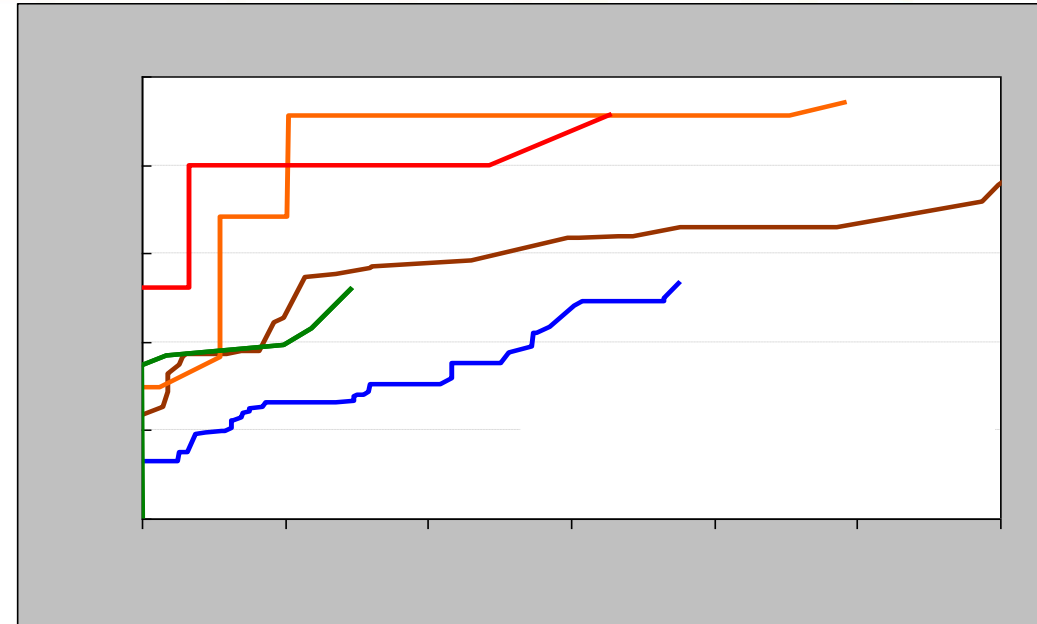
Can coal be a NZ option?

NZ has the largest per capita thermal coal resource of any country (similar to Australia):

>6,000 PJ in each of 5 regions

50-100,000 PJ lignites <\$3/GJ

150-200,000 PJ <\$5/GJ(??)

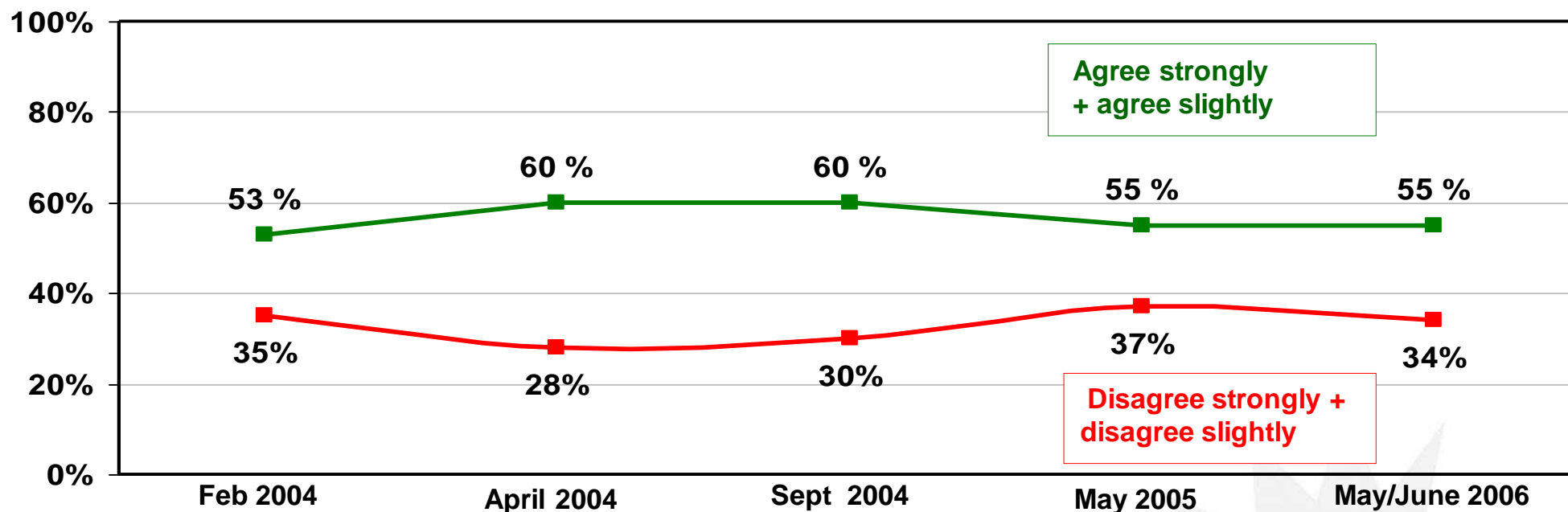




Can coal address all three energy objectives?

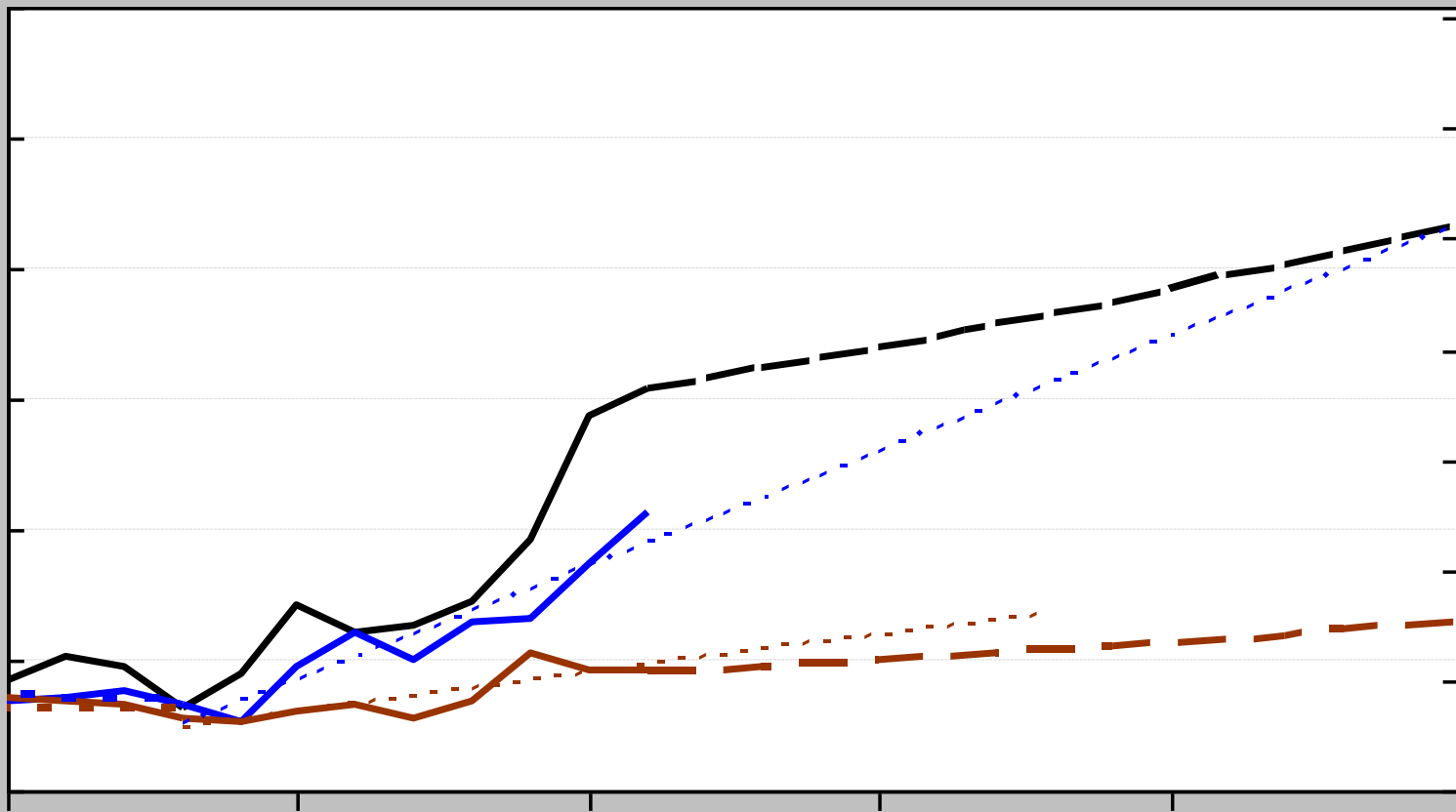


55% of NZers currently think we should be making greater use of our coal resources



- 86 would have a more positive opinion if they knew technology was being used to reduce pollutant gases from power stations
- 72% would have a more positive opinion if they knew CO₂ capture and storage technology could be used within 10-

Our coal resources can offer energy security for all fuels and economic security for centuries



Technology based approach to climate change

Price based measures in the short term:

- will not incentivise investment in technology R&D
- will reduce economic growth

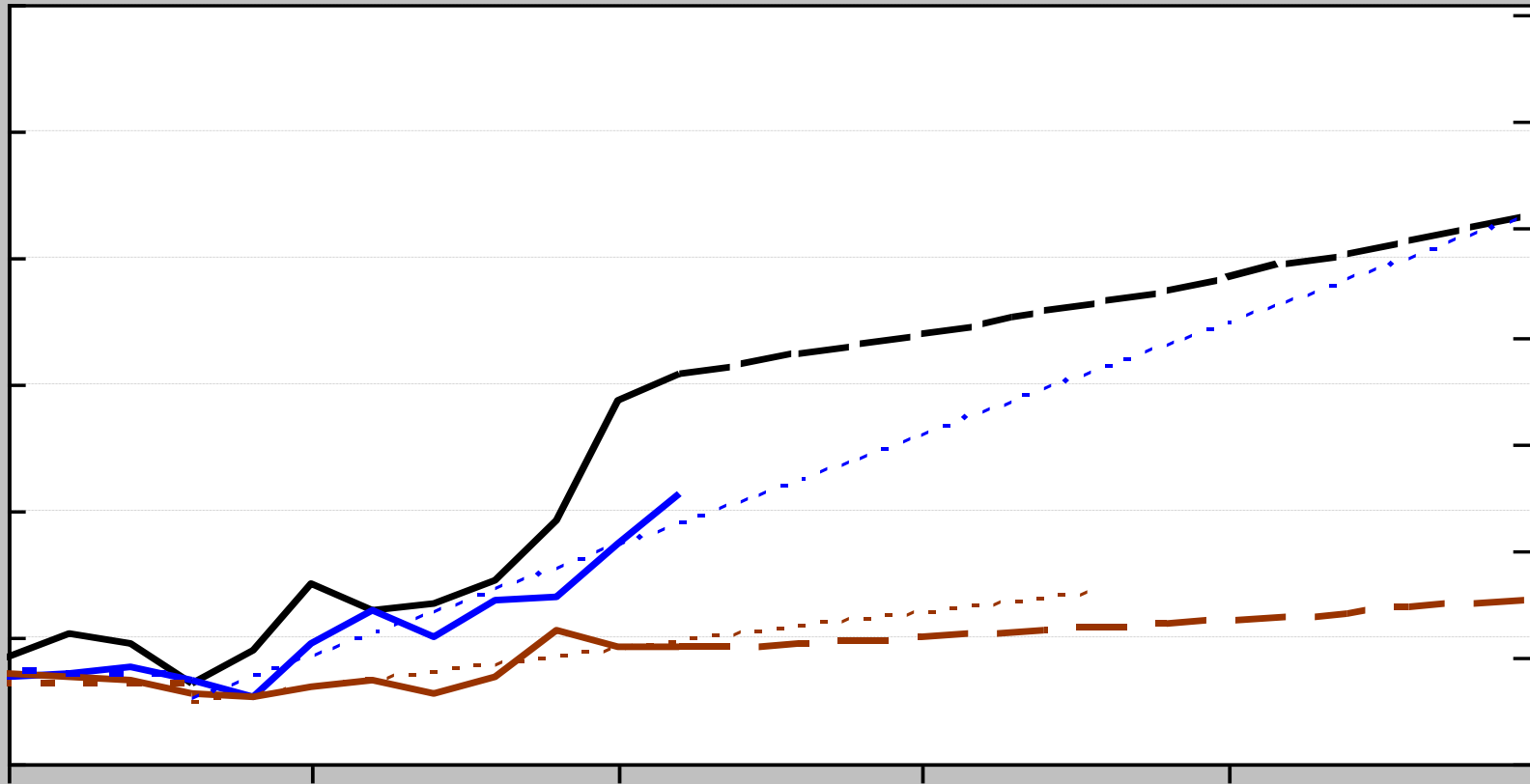
R & D is critical

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- NZ could lead the way in agricultural methane emissions
 - ∅ No mainstream country has significant investment earmarked for agricultural methane R & D

Technology transfer will be critical for NZ

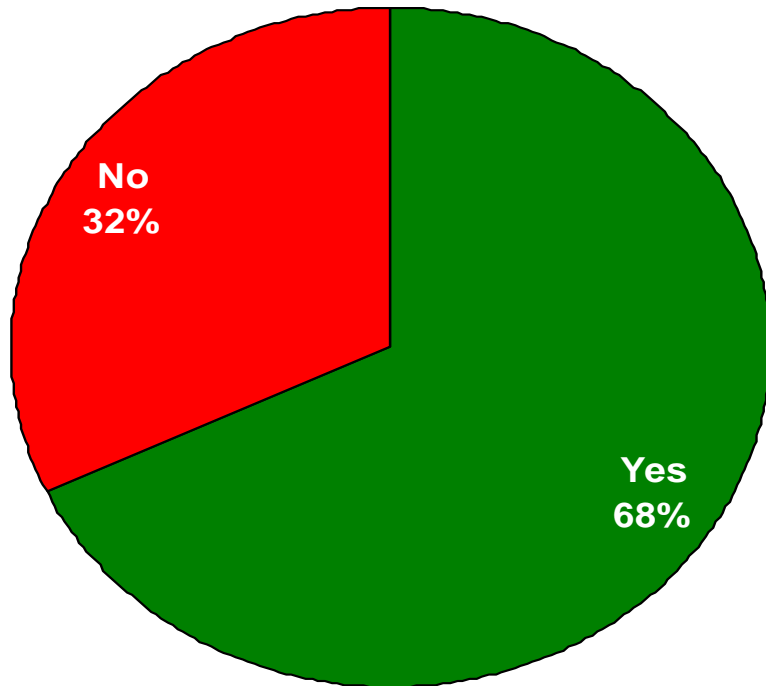


Our coal resources can offer energy security for all fuels and economic security for centuries

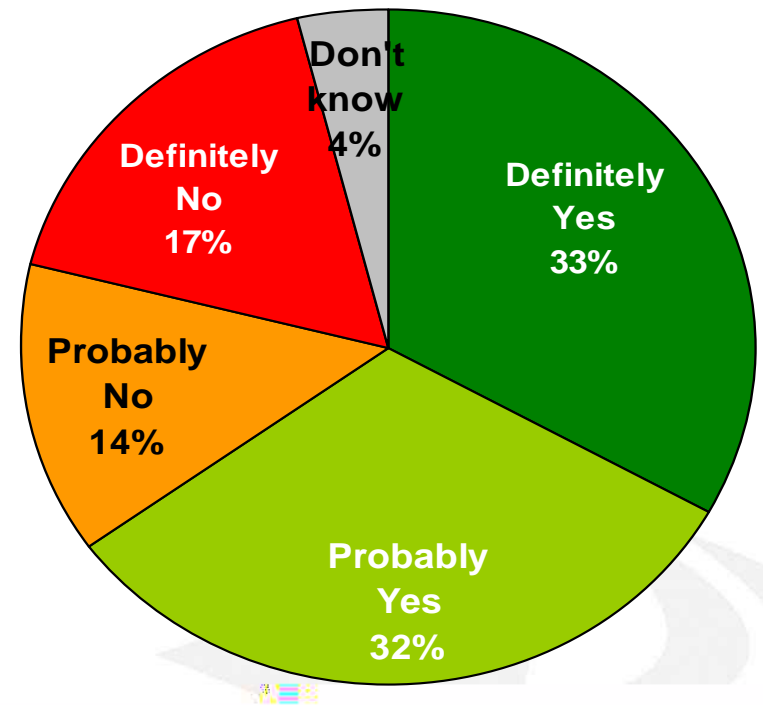


over 80% were supportive

Had heard/read anything about granting a Wildlife Permit to move snails



Think outcome is reasonable



Of those who did not think the outcome was reasonable, over half thought it was a waste of time/money etc