We've Got Gas

New Zealand LPG Supply and Demand to 2030

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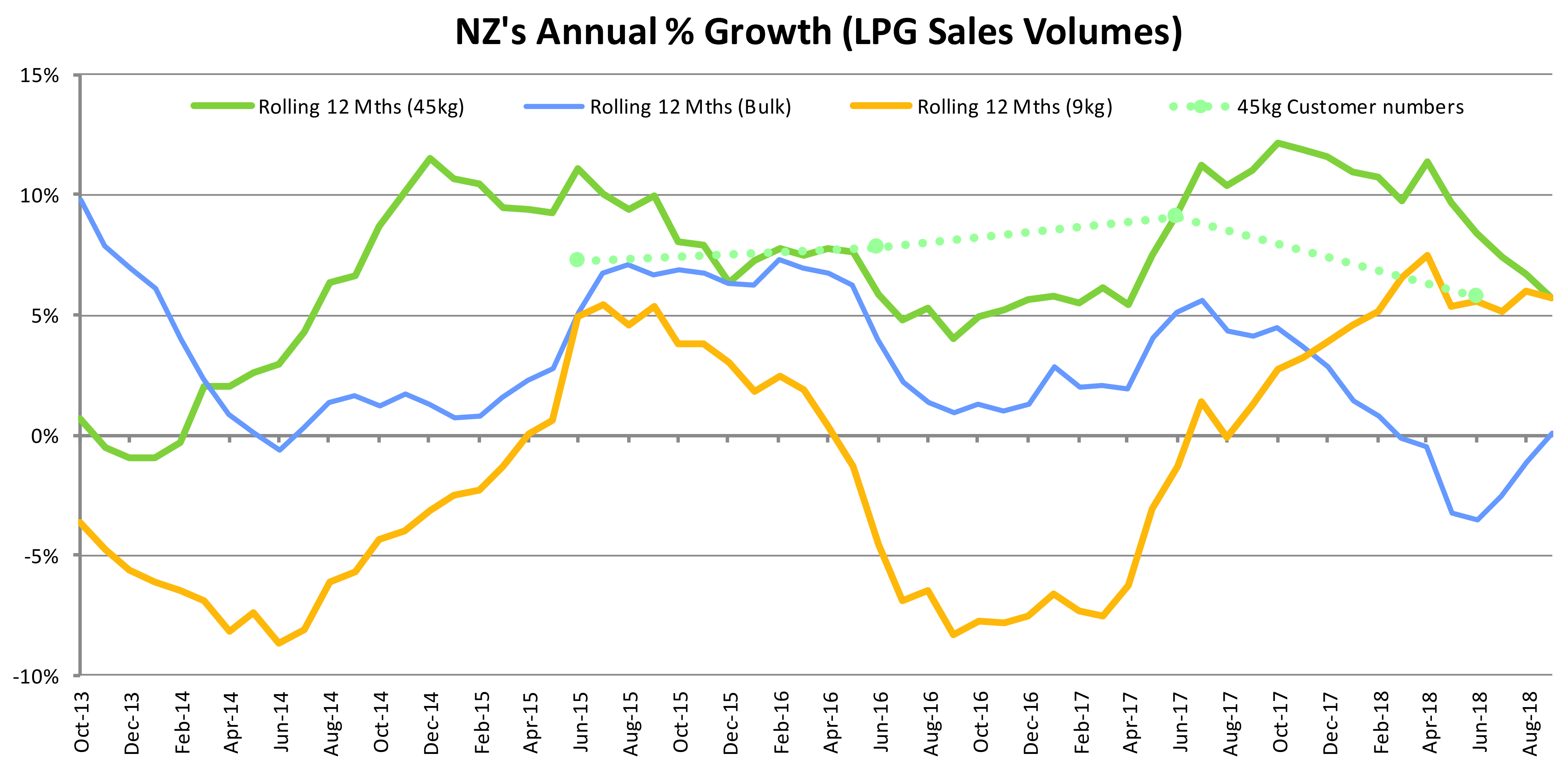
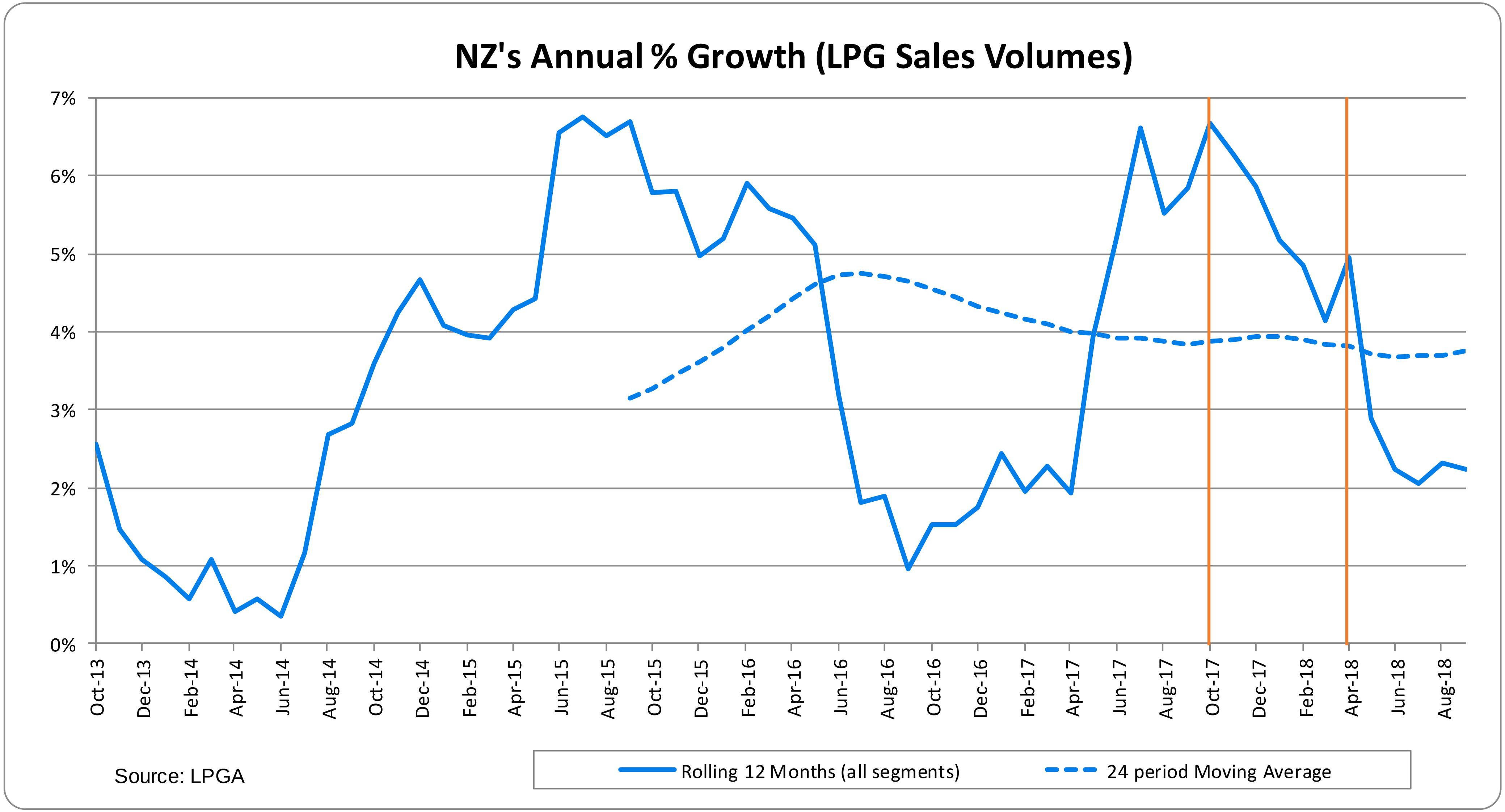
AGENDA

- New Zealand Demand – what is happening?
- New Zealand Supply – some scenarios
- World Supply and Demand Balance
- Demand Variables
- Conclusions



NZ's Annual % Growth (LPG Sales Volumes)
Rolling 12 Mths (45kg)
Rolling 12 Mths (Bulk)
Rolling 12 Mths (9kg)
45kg Customer numbers
15%
10%
5%
0%
-5%
-10%
Oct-13
Dec-13
Feb-14
Apr-14
Jun-14
Aug-14
Oct-14
Dec-14
Feb-15
Apr-15
Jun-15
Aug-15
Oct-15
Dec-15
Feb-16
Apr-16
Jun-16
Aug-16
Oct-16
Dec-16
Feb-17
Apr-17
Jun-17
Aug-17
Oct-17
Dec-17
Feb-18
Apr-18
Jun-18
Aug-18

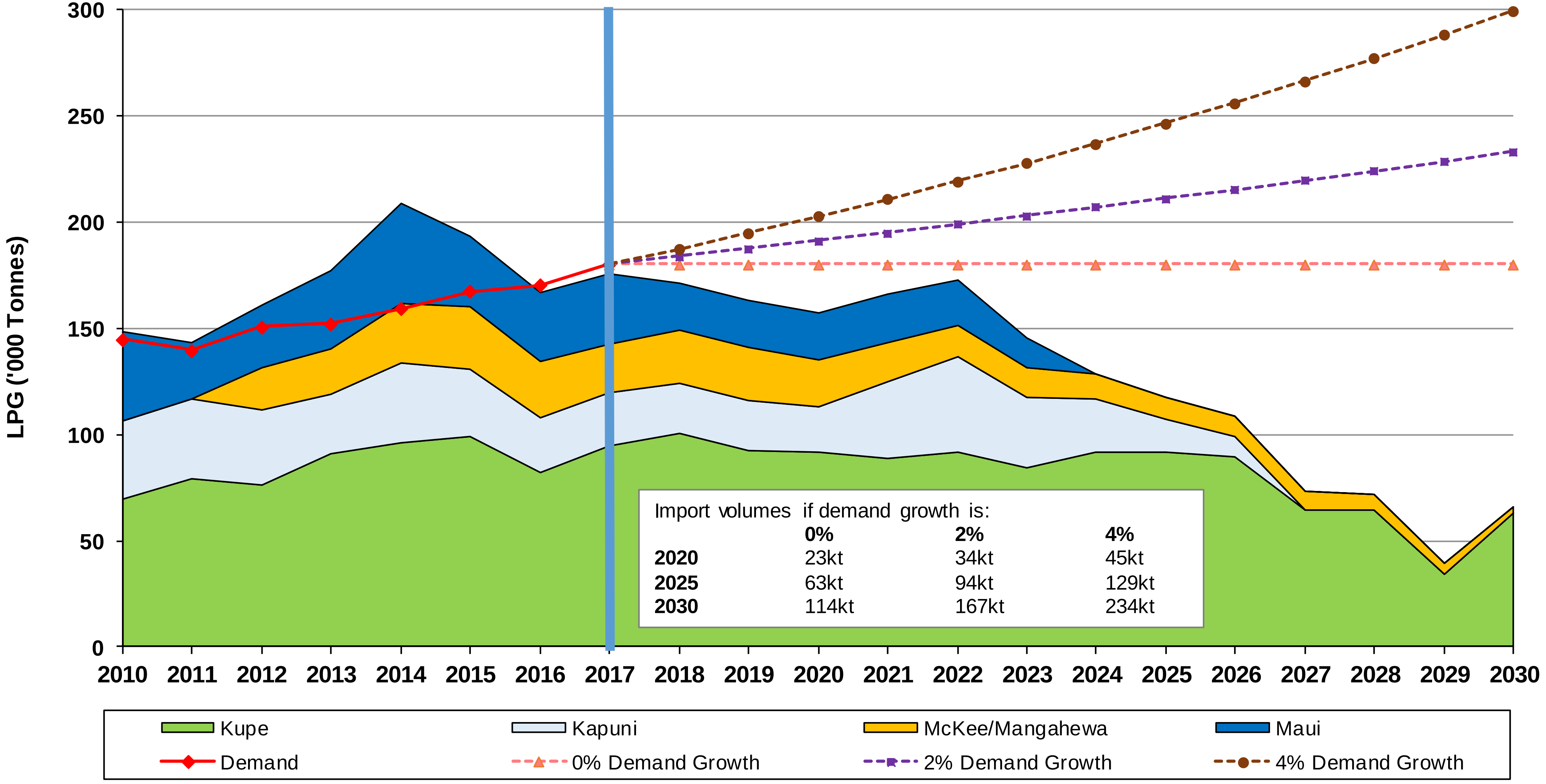
Source: LPGA


NZ's Annual % Growth (LPG Sales Volumes)
7%
6%
5%
4%
3%
2%
1%
0%
Oct-13
Dec-13
Feb-14
Apr-14
Jun-14
Aug-14
Oct-14
Dec-14
Feb-15
Apr-15
Jun-15
Aug-15
Oct-15
Dec-15
Feb-16
Apr-16
Jun-16
Aug-16
Oct-16
Dec-16
Feb-17
Apr-17
Jun-17
Aug-17
Oct-17
Dec-17
Feb-18
Apr-18
Jun-18
Aug-18
Source: LPGA
Rolling 12 Months (all segments)
24 period Moving Average

Demand to 2018

- Growth has been strong especially in the bulk and 45kg sectors
- Growth in Demand and 45kg connections have been falling since late 2017
  - Temperature may explain some of it
  - The election, the exploration ban rhetoric?
  - Are our customers being put off gas?

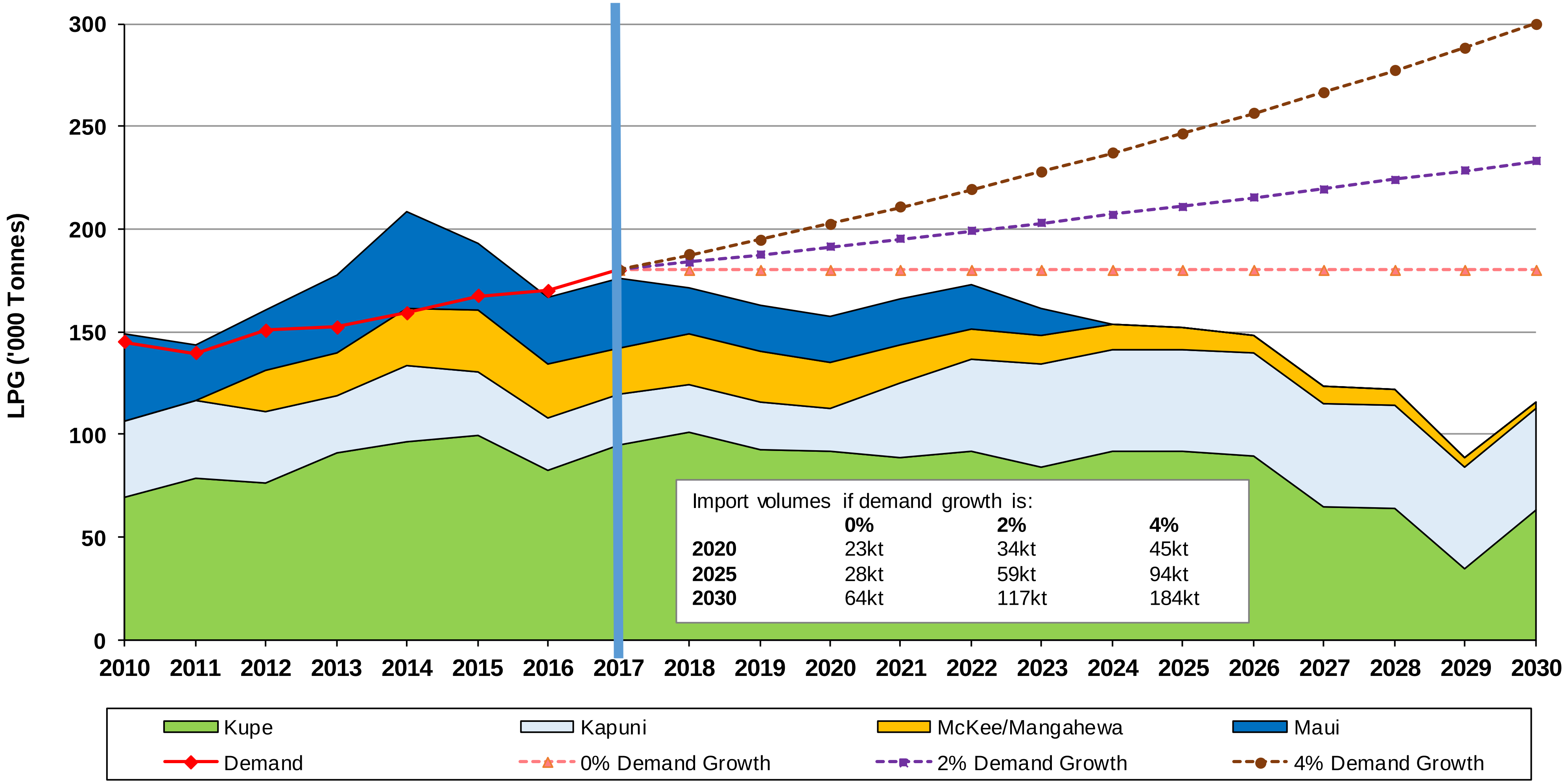
LPG Production (2P NG Reserves) and Demand to 2030
Conservative Scenario



Production Source: MBIE

LPG Production (2P NG Reserves + Kapuni development*) and Demand to 2030

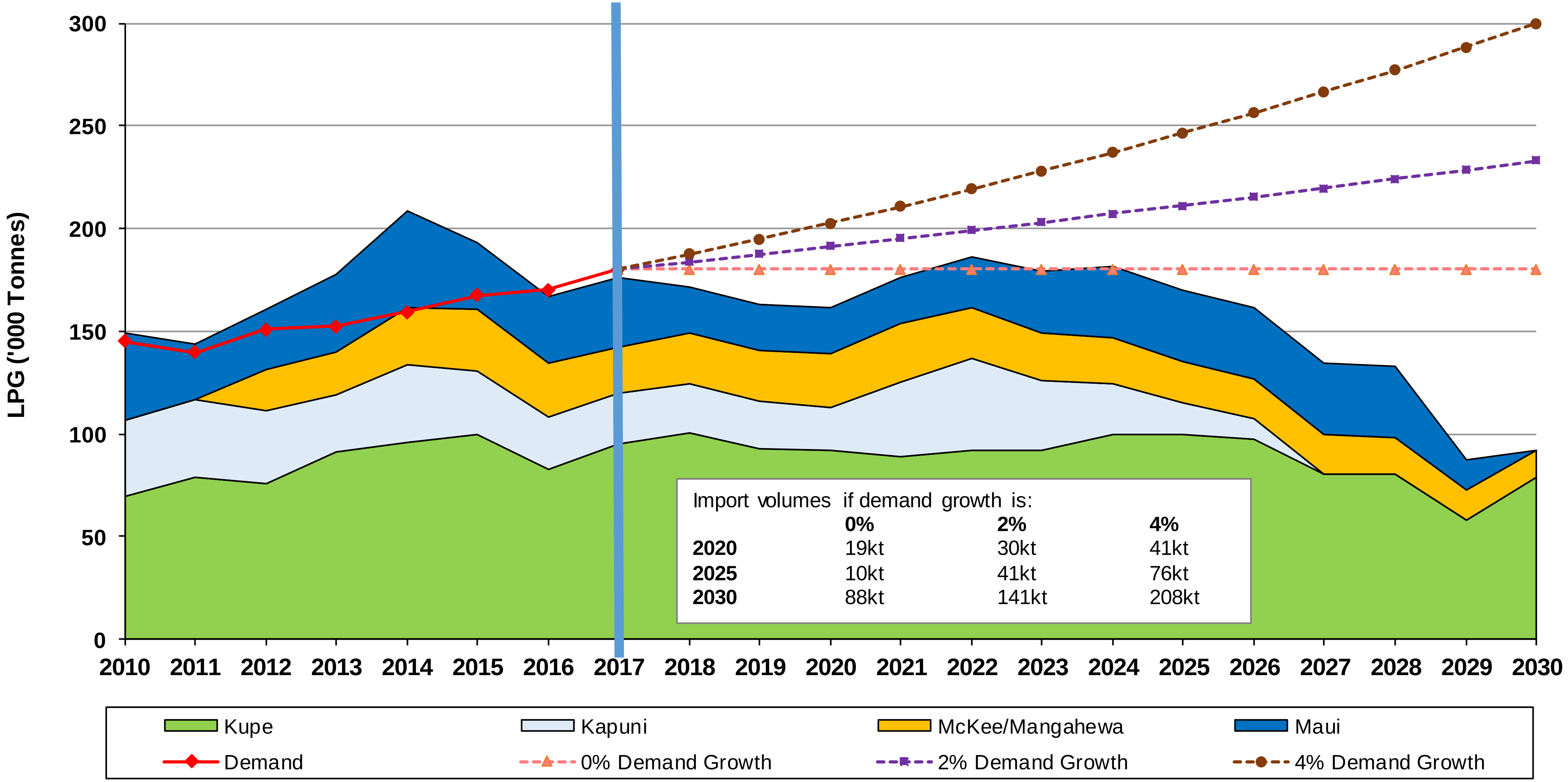
Possible Scenario



* Assumes Kapuni developed to 50kmt annual production by 2023

LPG Production (2P NG Reserves + LPG Contingent Resources*) and Demand to 2030

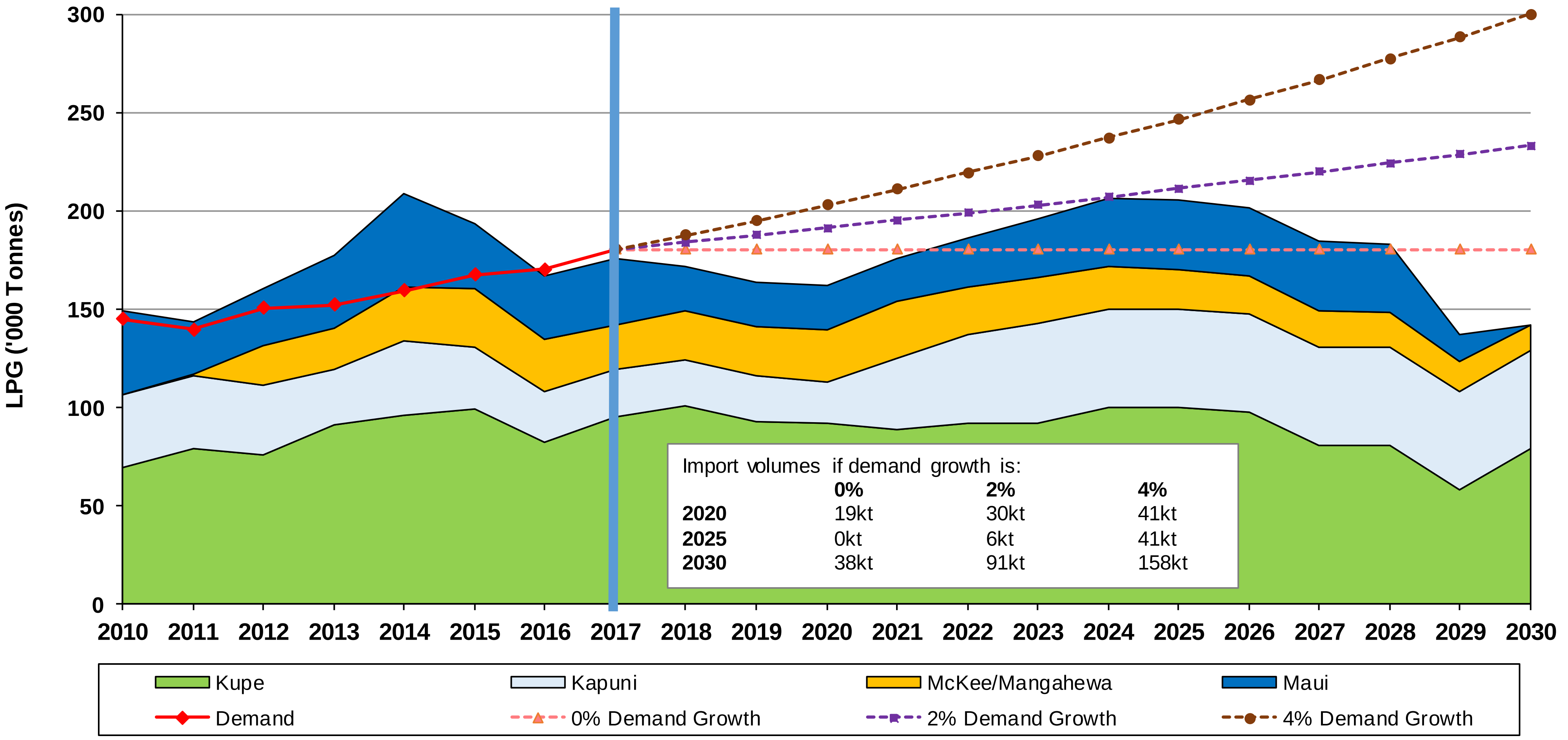
Possible Scenario



* Assumes Maui and Kupe LPG Contingent Resources and LPG extracted from Pohokura NG Continent Resources are recovered by 2030

LPG Production (2P NG Reserves + LPG Contingent Resources + Kapuni Development*) and Demand to 2030

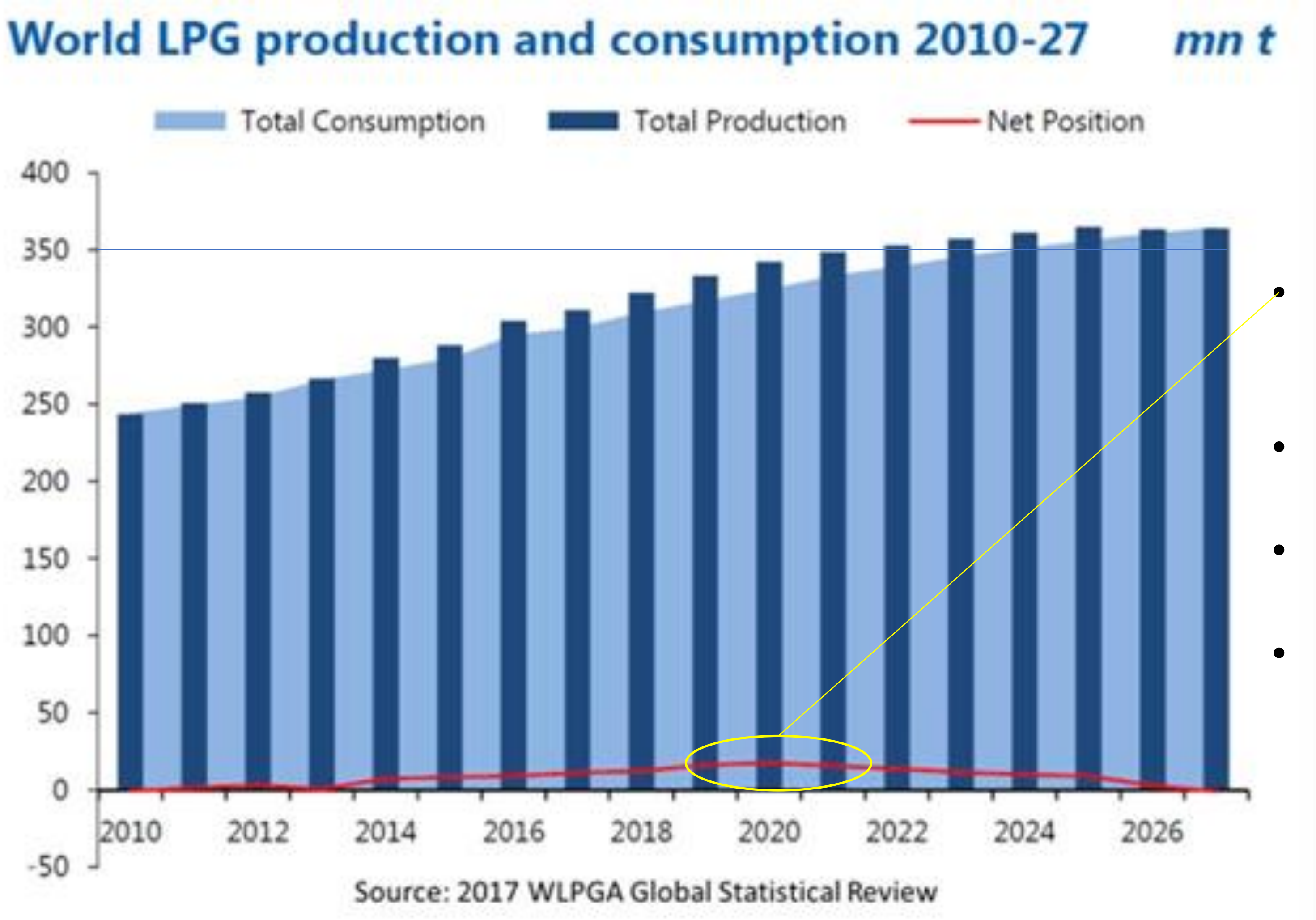
Optimistic Scenario



* Assumes Maui and Kupe LPG Contingent Resources and LPG extracted from Pohokura NG Continent Resources are recovered by 2030, and Kapuni developed to 50kmt annual production by 2023

Supply to 2030

- New Zealand is likely to be a net importer of LPG
- There is room in the market for a new LPG project
- Imports of 30 to 50% of demand may be required as early as 2025
- Is a growth rate of 2-4% sustainable?



- World supply current exceeds demand by more than 10m tonnes per annum
- The surplus will continue until 2026
- New Zealand uses 180k tonnes per annum
- **Virtually unlimited supply for New Zealand**

Import Price Shock? Not this time

2007/8 was a shock

- Imports went from 0 to 90kt per annum in <2 years
- Wholesale prices to 2006 were fixed and low
- In 2007/8 wholesale prices more than doubled
- CP volatility was introduced to pricing
- Demand fell 22%

The next transition to significant imports should be smoother

- The cost of importing is significantly less
- Current average producer pricing is close to import parity and mostly based on CP
- Importing is part of normal operation

Demand Variables

Consumer sentiment

- Views of climate change
- Social attitudes
- Is gas good or bad?
- In the balance

Are we doing enough to tip the debate our way?

Demand Variables

Government Policy

- Carbon charge
- Renewable subsidies
- Barriers for non- renewables – conditions, costs?
- Consenting policy
- Non-consenting policy

How does the government **really** view gas?

- An important lower carbon fuel
- A transitional fuel or
- A “crutch” preventing transition

Other Demand Variables

The Relative Rate of Technology Development

- Fuel cells vs batteries
- Electrical heating technologies – boiler economics
- Hydrogen generation, transport and storage
- Biofuel technology – biopropane, biodiesel etc.

Conclusions

- Without a significant new development New Zealand will increasingly be a net importer of LPG.
- There is an opportunity for investment in new LPG production
- The world surplus of LPG is huge so importing need not be a bad thing
- In the longer term the growth in LPG demand depends on number of uncertain factors - as it always has
- The government's attitude and consumer sentiment are probably of most concern.