

LP(17)7793



# Fonterra, Futures Markets & Farmers

Copa-Cogeca

October 2017

Confidential to Fonterra Co-operative Group

# Fonterra value chain – from “grass to glass”



## FARM

- We have 10,500 New Zealand farming families who own Fonterra.
- We collect 18 billion litres of milk in New Zealand, and 4 billion litres across the rest of the world.



## MILK COLLECTION

- A milk tanker can hold about 25,000 litres of milk.
- At peak, more than 500 milk tankers collect up to 87 million litres of milk per day.



## MANUFACTURING

- We have 33 manufacturing sites in New Zealand, with extensive processing capacity in the Middle East, Sri Lanka, Malaysia, Australia and South America.
- We have the largest dryer in the world, capable of processing 200,000 litres of milk every hour.



## INGREDIENTS

- Our natural mozzarella can be made straight from milk, in one day rather than a couple of months taken with conventional processes.
- Our ingredients are used in various products, from baby formula to Specialised proteins for sports and nutritional beverages.



## CONSUMER AND FOODSERVICE

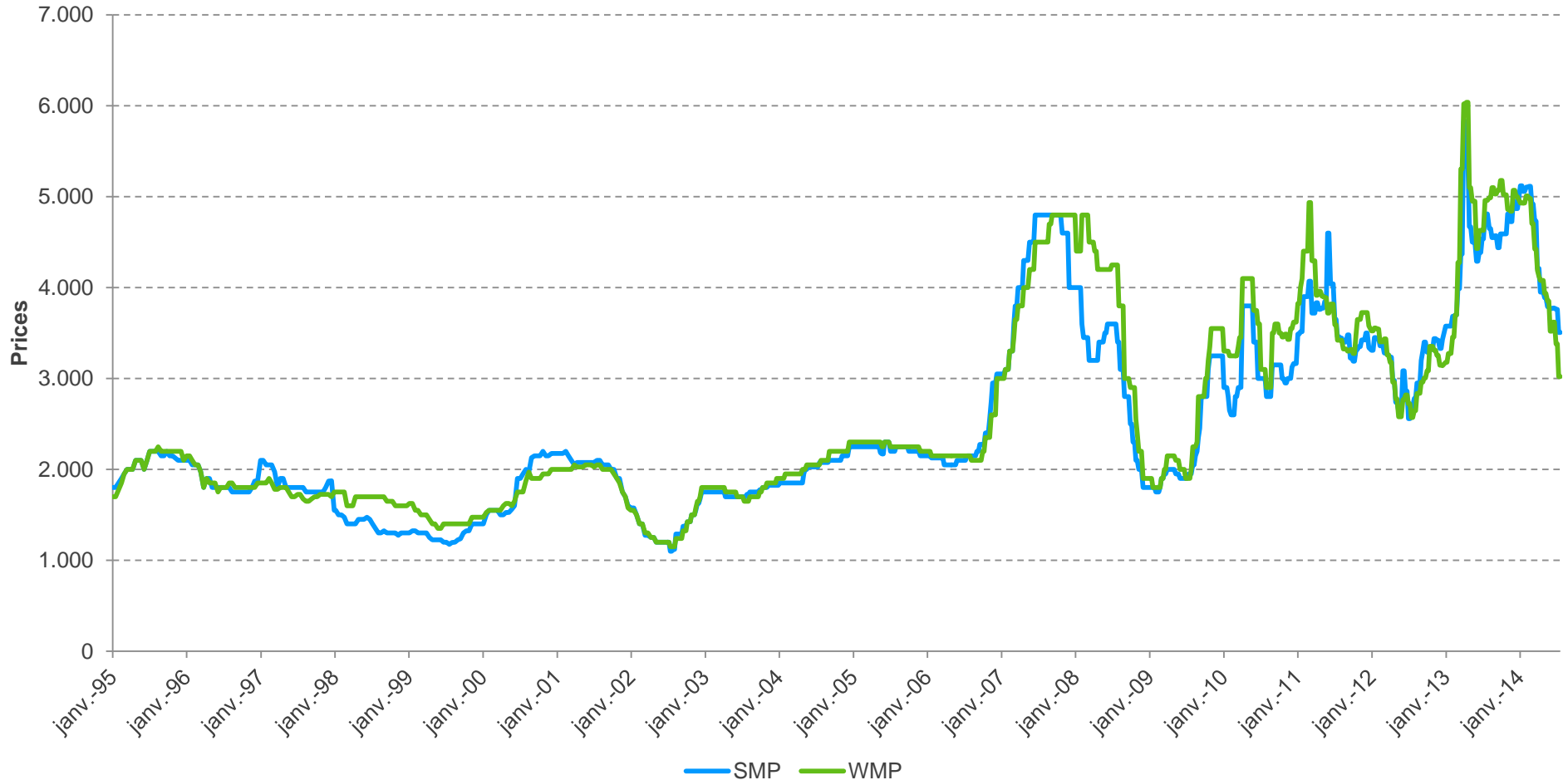
- Our new mozzarella plant creates enough cheese to top more than 300 million pizzas a year.
- We have leadership positions in our consumer and foodservice business in key categories in New Zealand, Malaysia, Sri Lanka and Chile.



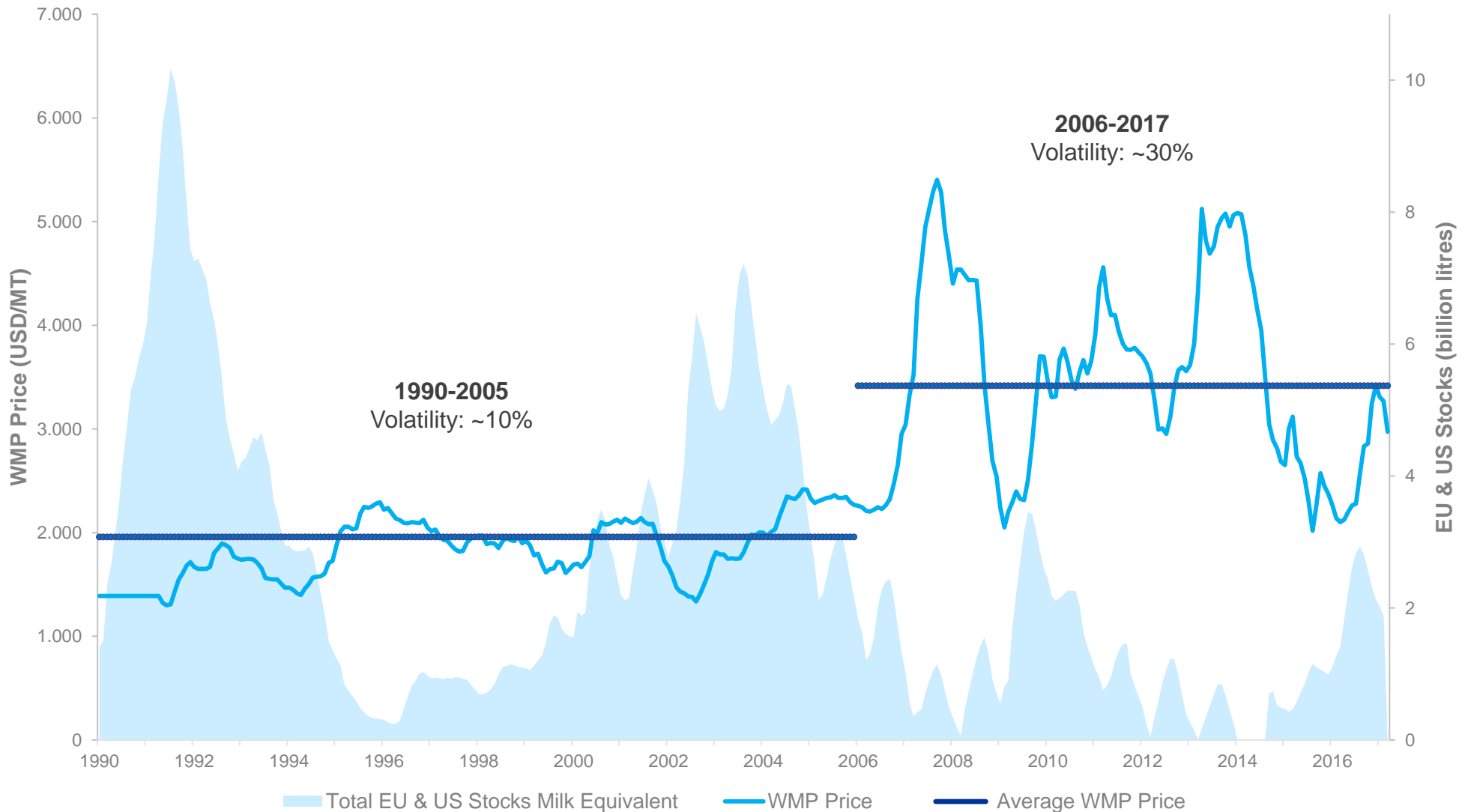
In 2007 Fonterra learned the hard way that it needed to make volatility work in its favour



### SMP & WMP Prices



# Dairy prices are highly volatile



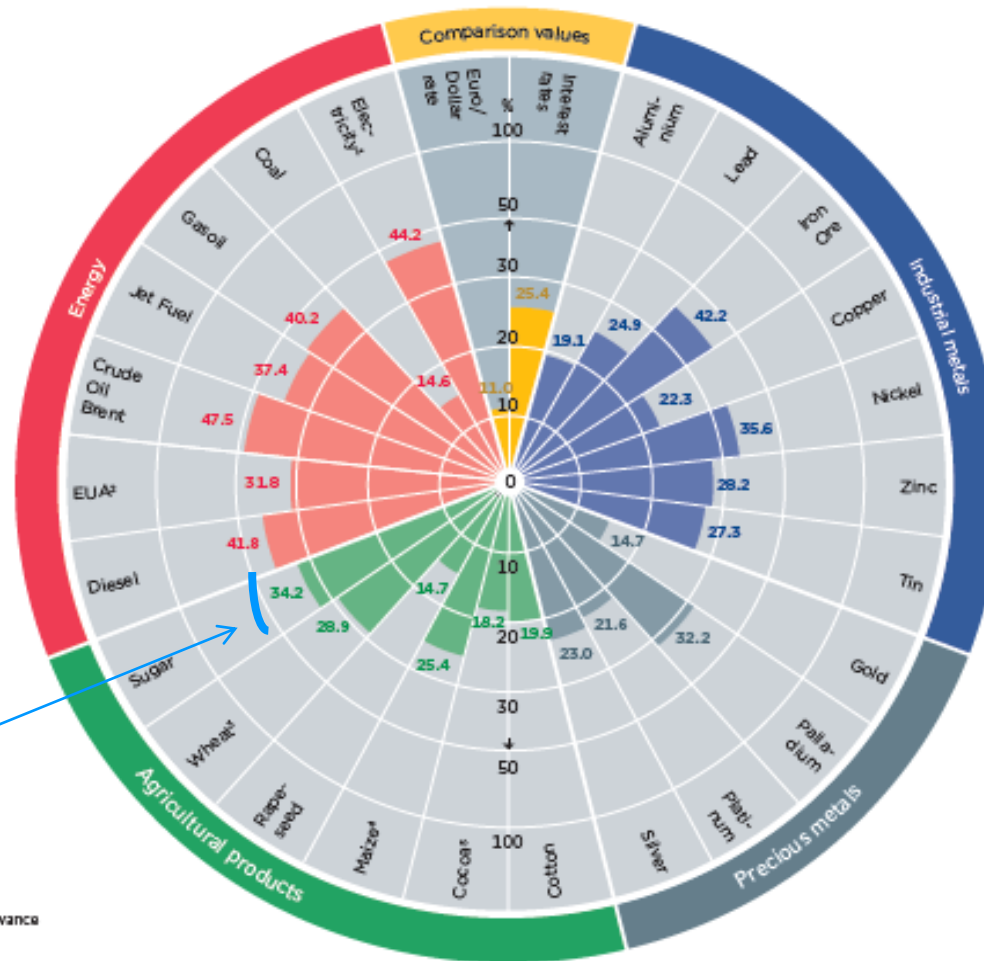


# Agricultural production is naturally volatile



# Why do we manage risk?

Volatilities from: 01 April 2015 to 31 March 2016



WMP 40%

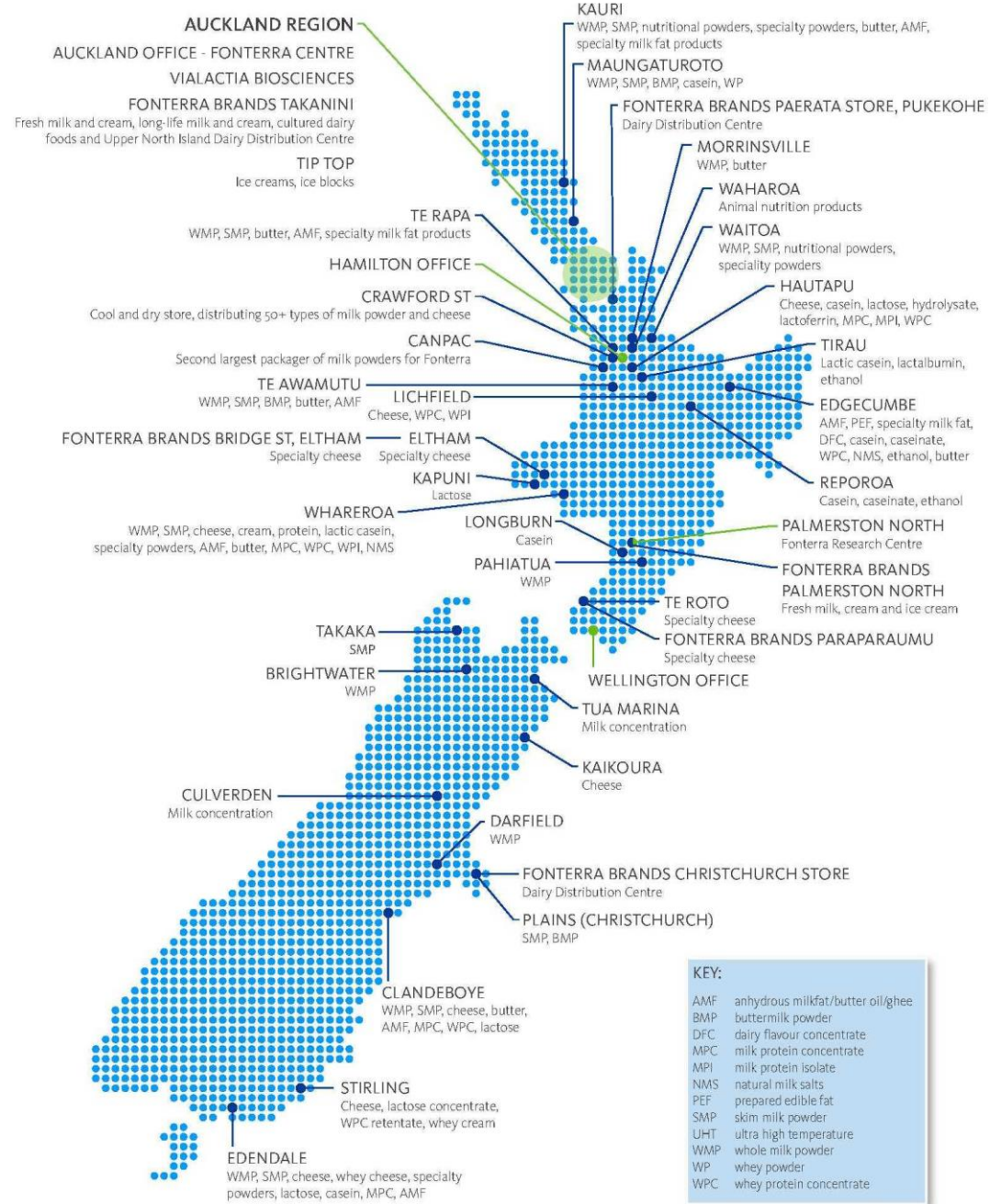
<sup>1</sup> Electricity-Hourly  
Phelix Base Spot - EEX  
<sup>2</sup> European Emission Allowance  
<sup>3</sup> Euronext Milling Wheat  
<sup>4</sup> Maize Euronext  
<sup>5</sup> Liffe Cocoa Euronext

# Volatility





# New Zealand Processing Sites



**KEY:**

AMF	anhydrous milkfat/butter oil/ghee
BMP	buttermilk powder
DFC	dairy flavour concentrate
MPC	milk protein concentrate
MPI	milk protein isolate
NMS	natural milk salts
PEF	prepared edible fat
SMP	skim milk powder
UHT	ultra high temperature
WMP	whole milk powder
WP	whey powder
WPC	whey protein concentrate



# Asset footprint



## Cost of Milk

Milk Price  
Products

WMP

SMP

AMF

Butter

BMP



## Fonterra Assets

Milk Price  
Products

Non Milk Price  
Product

- Fonterra passes the spot price through to the farmer in the form of *Milk Price*
- Due to the mix of assets not all sales return *Milk Price*



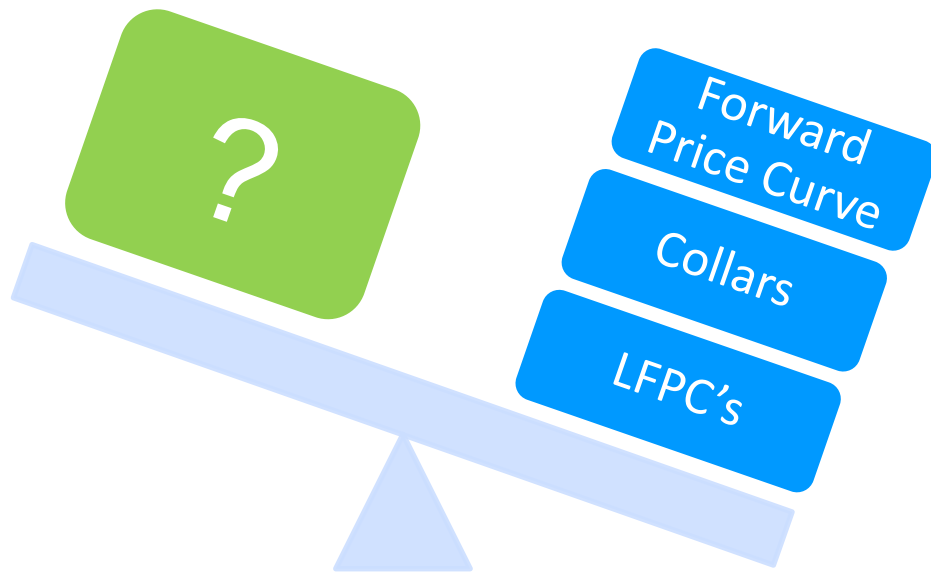
# Forward contracting

**Buy**

*(long)*

**Sell**

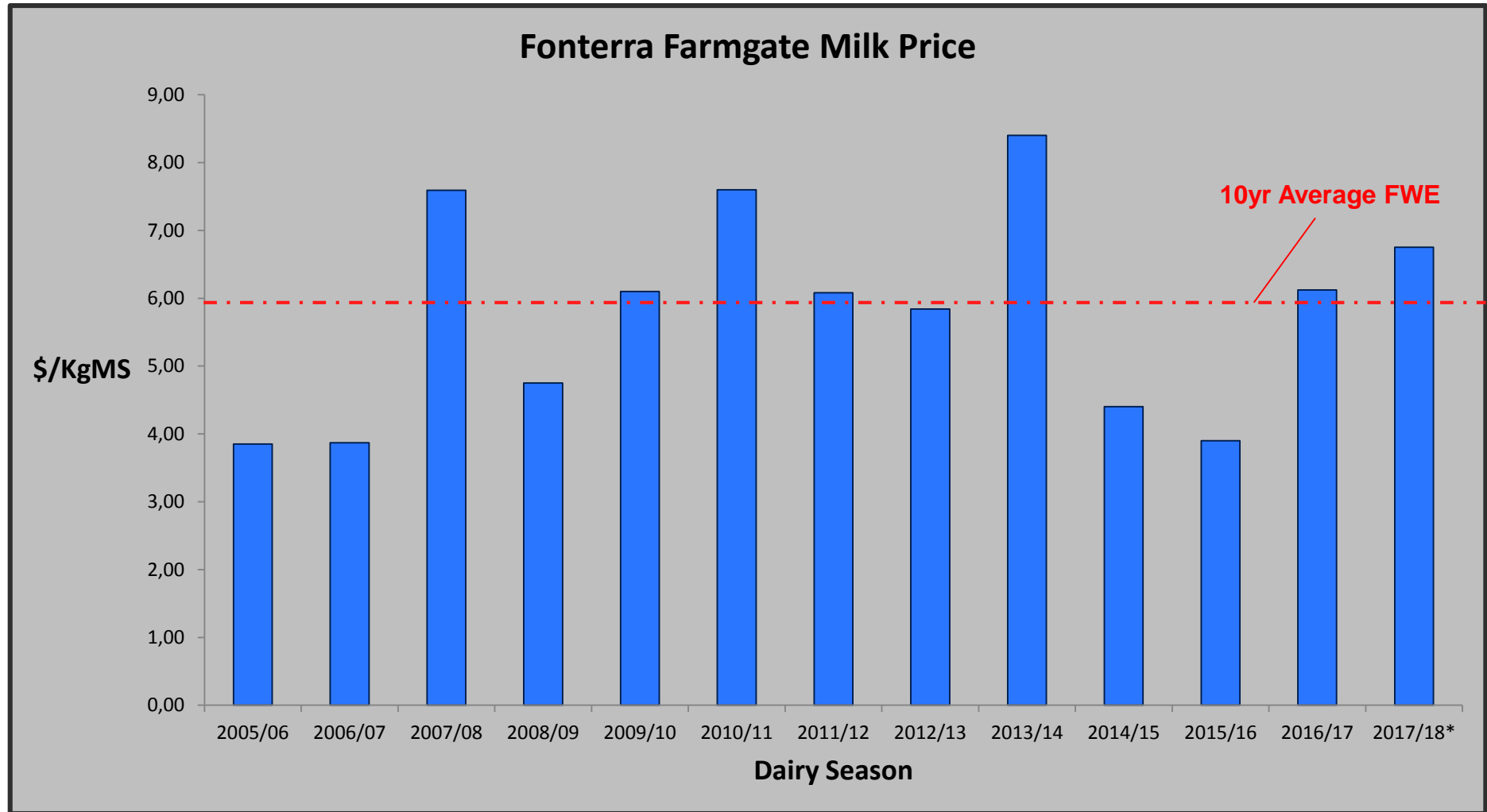
*(short)*



- Customers require certainty in order to value their COGS when making pricing decisions for end users.
- When Fonterra provides a long dated price for a customer it exposes itself to rising commodity prices.
- Commodity Risk and Trading (CR&T) assume and manage the risk on Fonterra's behalf.

# What does this volatility look like for NZ farmers?

## The volatility effect on Fonterra Farmgate Milk Price



# Risk is managed using exchange traded contracts

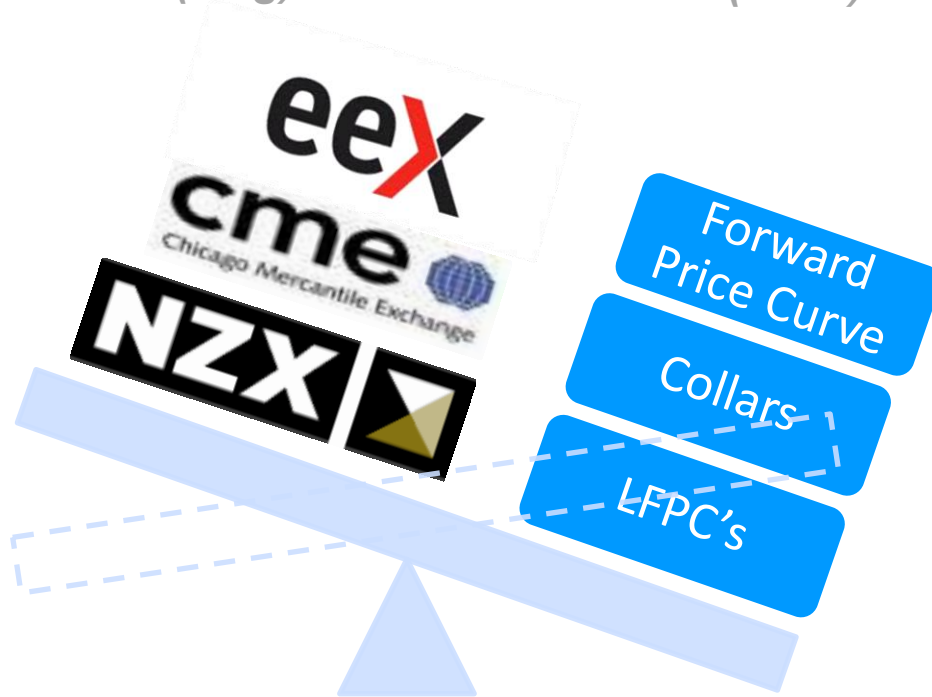


**Buy**

*(long)*

**Sell**

*(short)*



- CR&T inherits the portfolio of long dated physical commodity products from Fonterra.
- The financial markets are used, where possible, to offset exposure, lock in margin and reduce risk for Fonterra.



*In general, the dairy industry is still developing the capability to price risk*

# The world of dairy derivatives



SMP, Butter,  
Whey



SMP, Butter,  
Whey



International  
WMP, SMP,  
AMF, butter



Cheese,  
Butter, Whey,  
NFDM

# Milk Price Futures



# GDT was the enabler..



GLOBAL DAIRY TRADE™

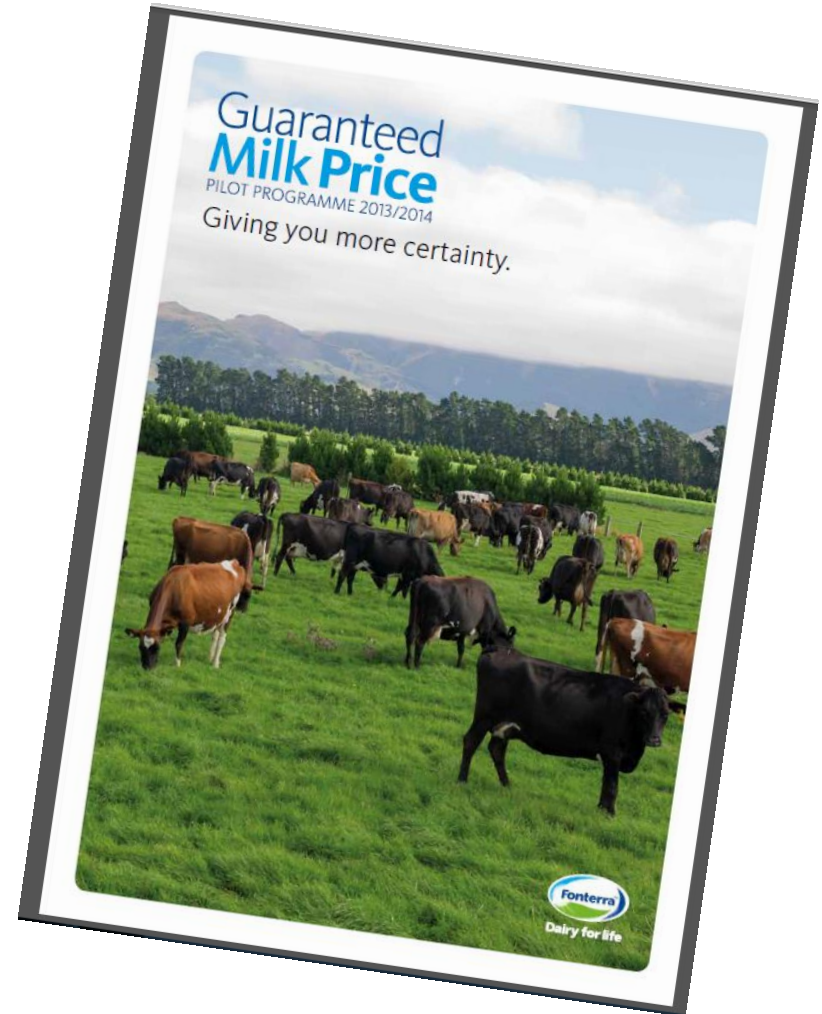
- Established by Fonterra in 2008
- Twice monthly auctions
- Helps discover the 'benchmark price'
- Major volumes transacted
- Hundreds of bidders from more than 80 countries
- Other major global suppliers have joined: Arla, Murray Goulburn and Dairy Farmers of America
- [www.globaldairytrade.info](http://www.globaldairytrade.info)







# Guaranteed Milk Price

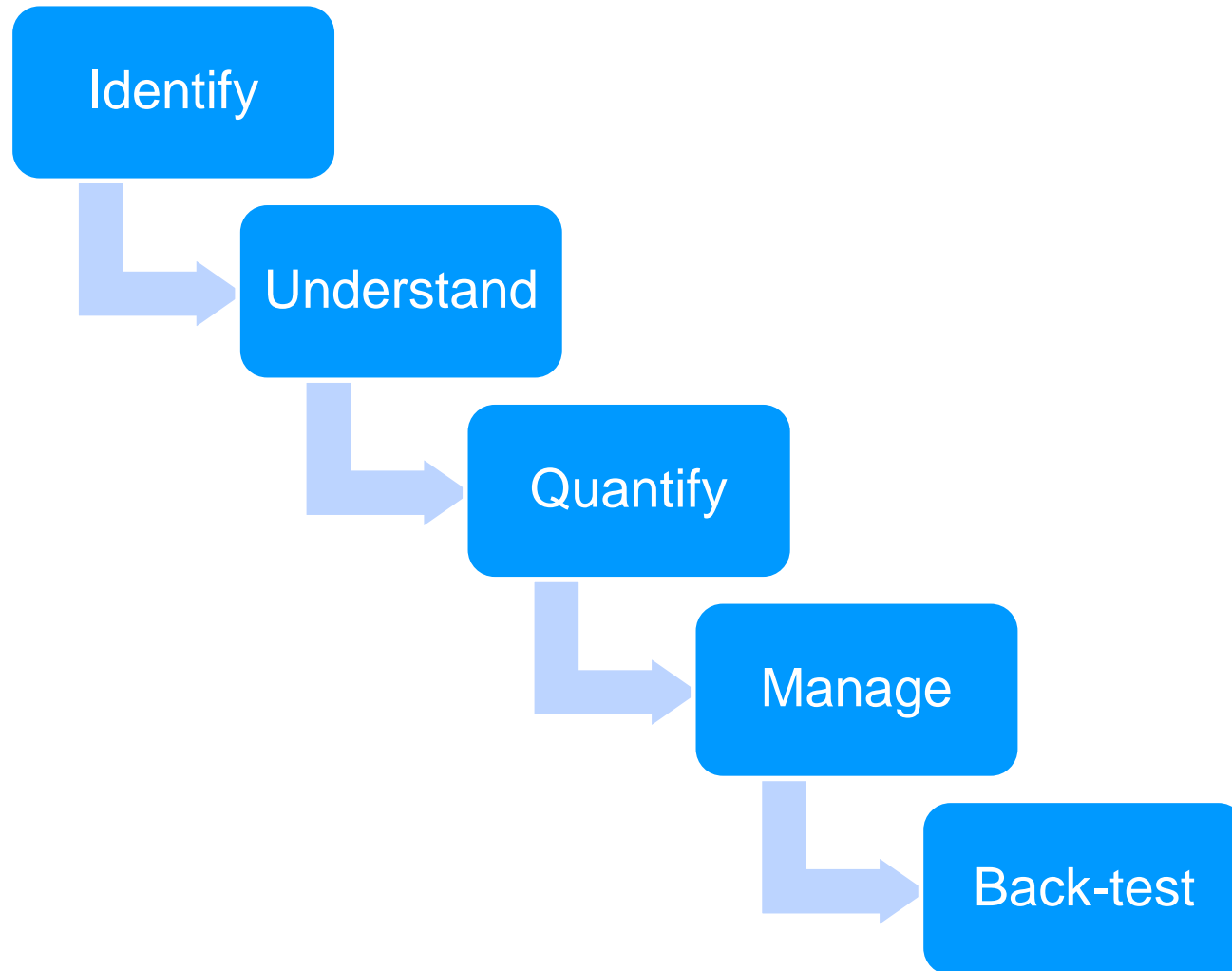


# The contract



Milk Price Futures - Individual Contract Specification		
Unit of Trading	6,000 kilograms of milk solids (kg MS)	
Price Basis	NZD / kg MS	
Minimum Price Movement (Tick Size and Value)	0.01 NZD per kg MS (NZD 60)	
Daily Price Limits by Contract	<p>Contract 1 in the current Expiry Calendar: 10% above or below the previous Trading Day's Daily Settlement Price.</p> <p>Contracts 2-3 in the current Expiry Calendar: 15% above or below the previous Trading Day's Daily Settlement Price.</p> <p>Contracts 4-5 in the current Expiry Calendar: 20% above or below the previous Trading Day's Daily Settlement Price.</p> <p>Price Limits only apply to a Contract once a Trade has been executed in that contract on the Market. Price Limits do not apply for 5 Trading Days preceding and including the Last Trading Day.</p>	
Contract Months	Every September such that up to 5 calendar years are available for Trading.	
Trading Hours	As determined from time to time by NZX by notice to the Market in accordance with the NZX Derivatives Market Rules and Procedures.	
Last Trading Day	<p>Trading shall terminate at the Close of Trading on the second Thursday of September each calendar year, or such other time as specified by NZX in accordance with the Contract Terms and Administrative Procedures for Derivatives Market Contract No 8 ("<b>Contract T&amp;Ps</b>").</p> <p>The Last Trading Day is the day specified in the Expiry Calendar for NZX Derivatives Market Contract No 8, or such other day specified by NZX in accordance with the Contract T&amp;Ps.</p>	
Final Settlement	Cash settled to the Final Settlement Price determined by NZX by reference to the relevant Farmgate Milk Price, in accordance with the Contract T&Ps.	
Clearing House	New Zealand Clearing Limited	
Common Trading Facilities	Block Trading Facility	√
	Exchange for Physicals Facility	√
	Exchange for Swaps Facility	√
Common Trading Facilities Minimum	Minimum Volume Thresholds for each Contract or Class of Contracts are specified in Part C, Appendix One of the Procedures.	

# Risk management is a process





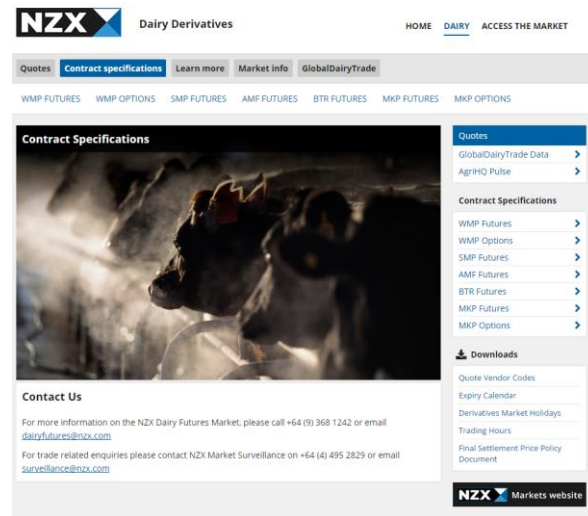
# Managing price risk

- The quick wins
  - Sell the way you buy
  - Contract book governance
  - Start pricing the risks you take on as a seller

# Managing price risk



Building trading capability



**NZX Dairy Derivatives** HOME DAIRY ACCESS THE MARKET

Quotes Contract specifications Learn more Market info GlobalDairyTrade

WMP FUTURES WMP OPTIONS SMP FUTURES AMF FUTURES BTR FUTURES MKP FUTURES MKP OPTIONS

**Contract Specifications**

Contract Specifications

- WMP Futures
- WMP Options
- SMP Futures
- AMF Futures
- BTR Futures
- MKP Futures
- MKP Options

**Downloads**

- Quote Vendor Codes
- Expiry Calendar
- Derivatives Market Holidays
- Trading Hours
- Final Settlement Price Policy Document

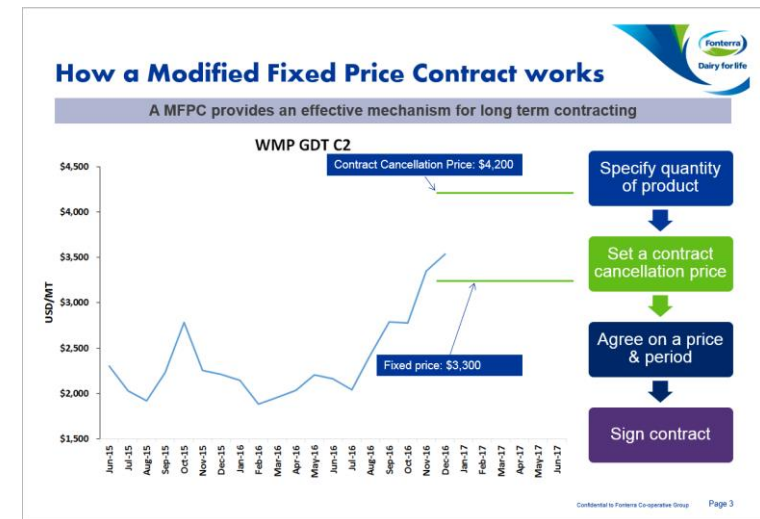
**Contact Us**

For more information on the NZX Dairy Futures Market, please call +64 (9) 368 1242 or email [dairyfutures@nzx.com](mailto:dairyfutures@nzx.com)

For trade related enquiries please contact NZX Market Surveillance on +64 (4) 495 2829 or email [surveillance@nzx.com](mailto:surveillance@nzx.com)

NZX Markets website

Developing the tools



Preparing for the future

# Fonterra is developing its central portfolio management capability



- Lessons learned from other industries
  - Price risk management
  - Leading practices around separation of duties, controls and governance
  - Active portfolio management
- Integrated physical and financial portfolios
- Capability to price risk, options and structures
- Selling dairy ingredients solutions



Thank You