

CSR LIMITED 30 JUNE 2011

# VIRIDIAN PRESENTATION

ANALYST SITE TOUR – CLAYTON



CSR

# Agenda

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**Steve  
Darwell**

- Market overview and key demand drivers

**Lachlan  
Austin**

- Smart Glass

**Alan  
Westwood**

- Clayton

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# 1. Viridian overview

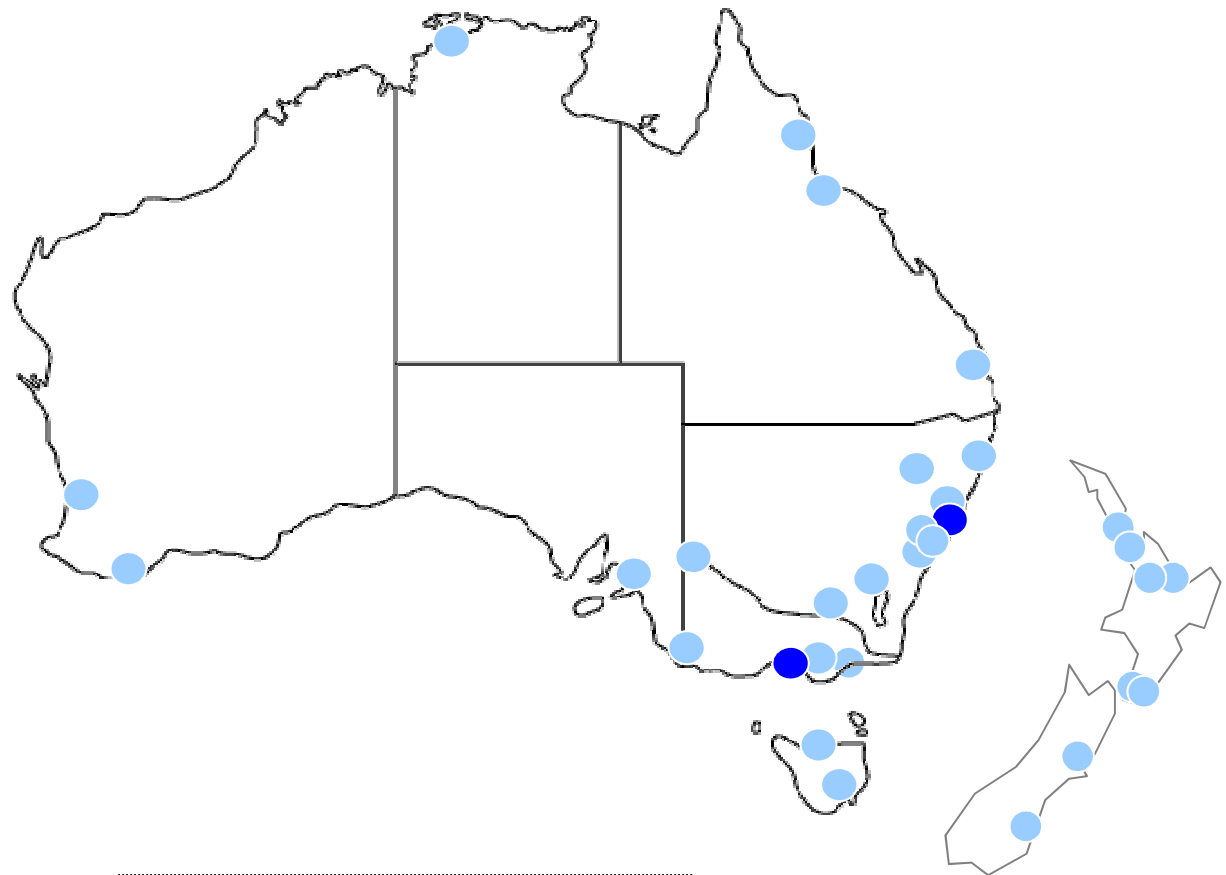
# Market-leading supplier of architectural glass in Australia/New Zealand

## Primary Products

- Only domestic manufacturer of architectural glass in Australia (~60% market share) and NZ (~33%)
- 2 Australian manufacturing facilities
  - Dandenong (Vic) –165,000t
  - Ingleburn (NSW) –105,000t

## Glass Processing and Services (GPS)

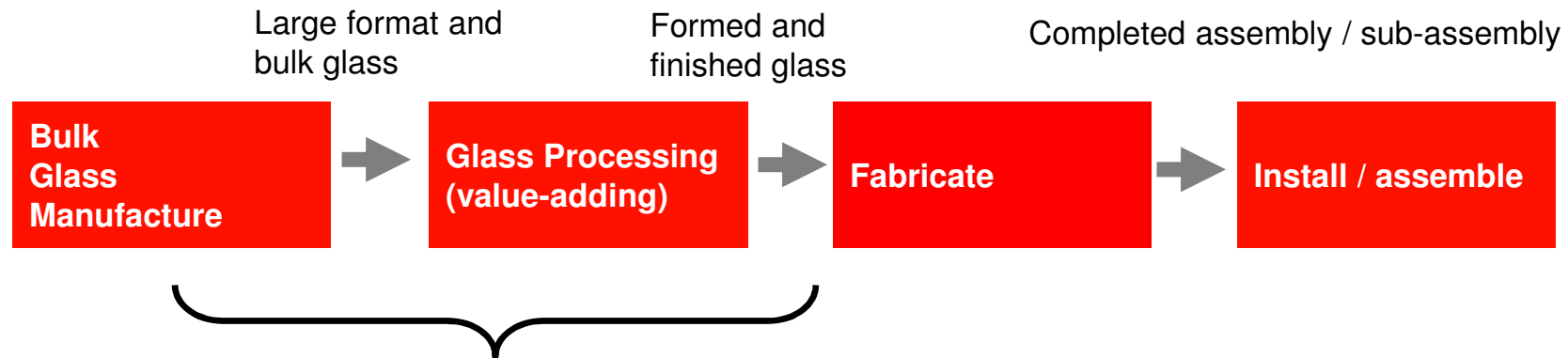
- Leading value added processor of architectural glass in Australia (~30% market share) and NZ (~31%)
- Leading national footprint in Australia across all states
- Locations across New Zealand's North and South Islands



### Viridian operations

- Float glass factory
- Downstream processing site

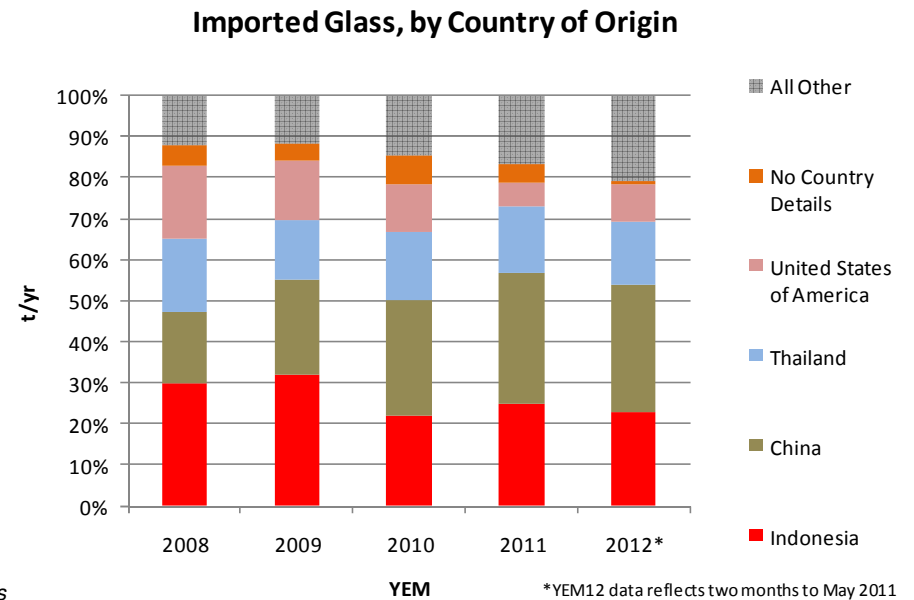
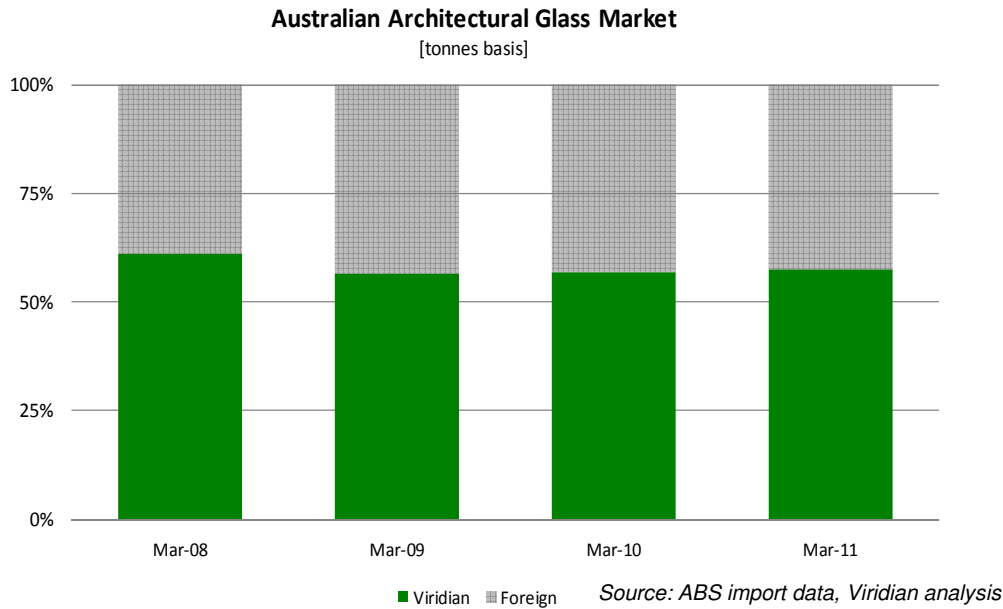
# Glass industry overview



**Viridian – the only fully-integrated participant in these core markets**

- Large format float glass (clear, tints, coated)
- Large format laminates and mirror
- Bulk lots of standard sized units (annealed, toughened)
- Reshaping and finishing glass to meet end-use:
  - Cutting
  - Edging
  - Shaping and drilling
  - Toughening
  - Laminating
  - Painting/printing
  - Creation of IGUs
- Incorporation into higher assemblies:
  - Windows
  - Doors
- Installation of windows, doors, shower screens, splashbacks, balustrades, etc.
- Commercial glazing projects (curtain walls, shop-fronts, partitioning)
- On-site glazing
- Replacements/retrofits

# Foreign glass – country of origin



- At the primary level Viridian has maintained share in a challenging market
- Origins of foreign glass have shifted progressively towards China as supply outstrips regional demand post-GFC <sup>1</sup>
- China is over-represented in processed bulk glass (laminates, toughened doors panels and other toughened glass)

Note 1. Viridian imports are within these figures also, impacting import volumes most strongly through stock building in advance of the Dandenong upgrade (YEM09, multiple countries of origin), followed by our reduced reliance on the US for coated glass (YEM10 onwards)

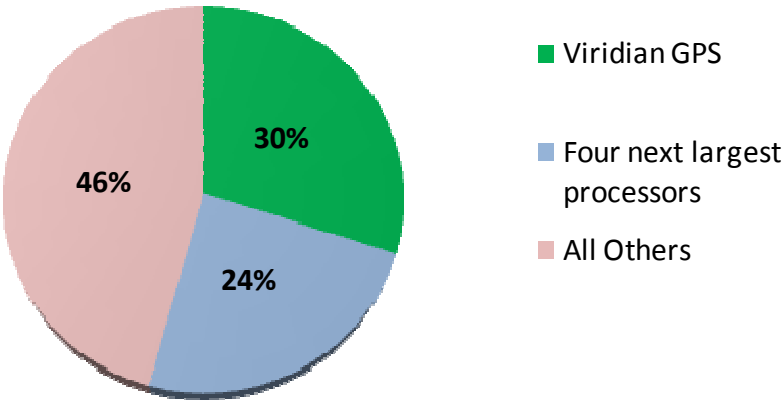
# Glass processing market

- Viridian GPS is the largest processing network in Australia
- Viridian GPS is the second largest processing network in NZ

	QLD	NSW	VIC	WA	SA	TAS	ACT	NT	NZ
Viridian	✓	✓	✓	✓	✓	✓	✓	✓	✓
GJames	✓	✓	✓		✓				
AGG Group	✓	✓	✓						
FGI Group		✓	✓						
Chevron					✓				
Metro (NZ)									✓

### Processor Share

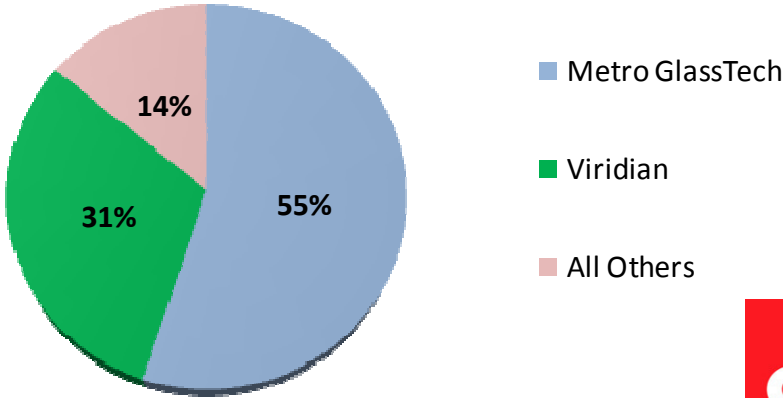
Australian Architectural Glass Market, YEM11



Source: ABS import data, Viridian analysis

### Processor Share

NZ Architectural Glass Market, YEM11

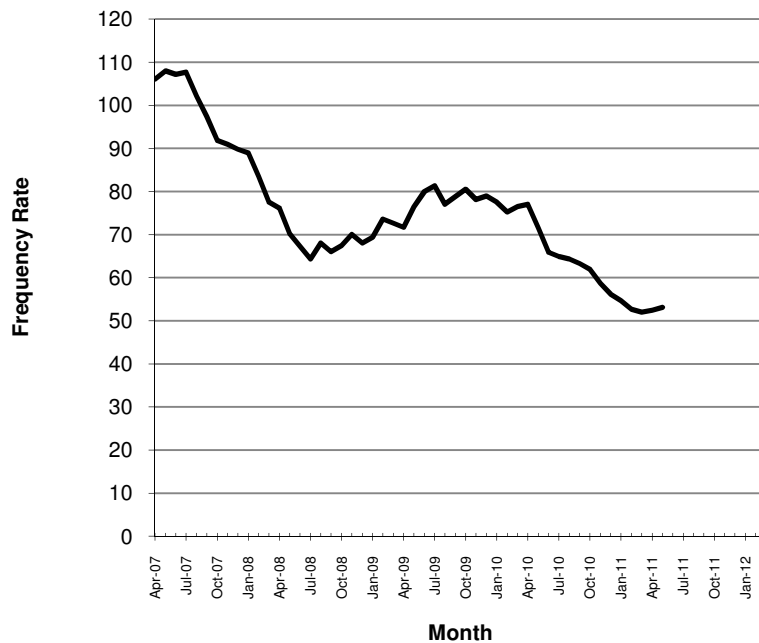


Source: ABS import data, Viridian analysis



# Safety

## TOTAL RECORDABLE INJURY FREQUENCY RATE (MAT)

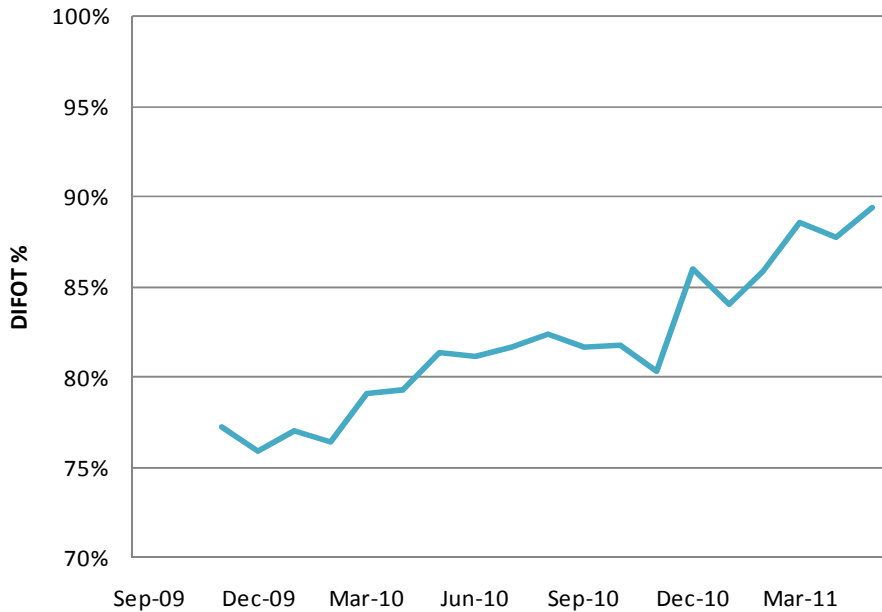


- Proactively addressed safety issues through implementation of “Cardinal Rules”
- Number of recordable injuries down 45% YEM11 versus YEM10
- Significant reduction in severity of injuries.
- Cuts dramatically reduced through better processes and PPE
- Key issue to be addressed is manual handling – through mechanisation and improved training



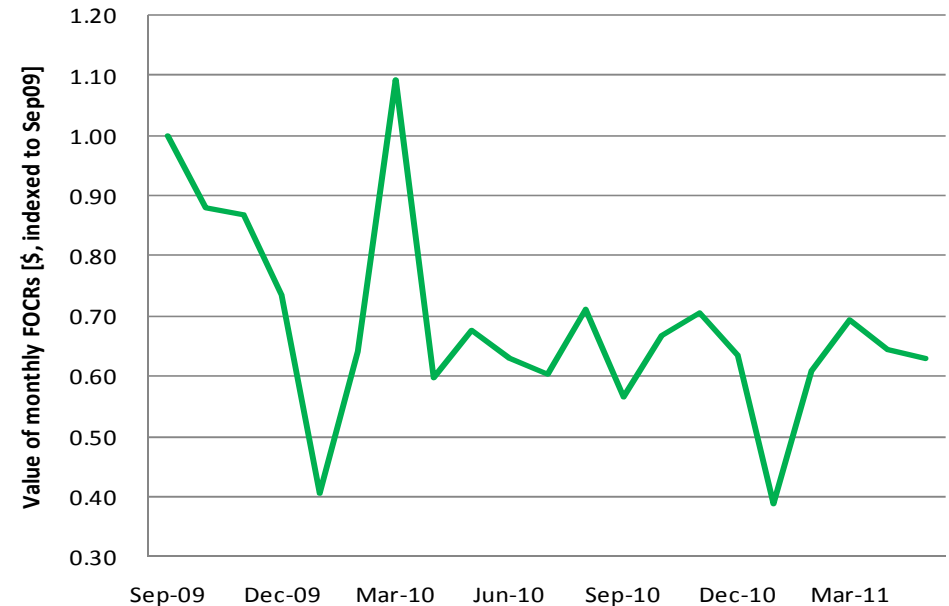
# Customer service

**Delivered in Full on Time (DIFOT) Performance**  
[house/lot basis]



- Consistent DIFOT is a critical service element
- On-going focus on developing DIFOT measure matched to customer needs (house-lot basis, not item basis), and driving performance to market-leading levels throughout our network
- Investments in processing software ensures up to the minute understanding of status of all items to optimise DIFOT performance

**Free of Charge Replacements**



- FOFRs measures first time product quality failures
- First time quality is critical to customer satisfaction and success
- 40% reduction in FOFRs due to investment in equipment, automation and employee training

# Operational focus

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Service target segments at high quality and low unit cost

## Market segment focus

Residential fabricators

Commercial fabricators

Partitioners, shop fitters,  
commercial glaziers

Shower screens &  
wardrobes



## Aligned operational processing focus

### Energy efficient windows — IGUs and cut-to-size glass

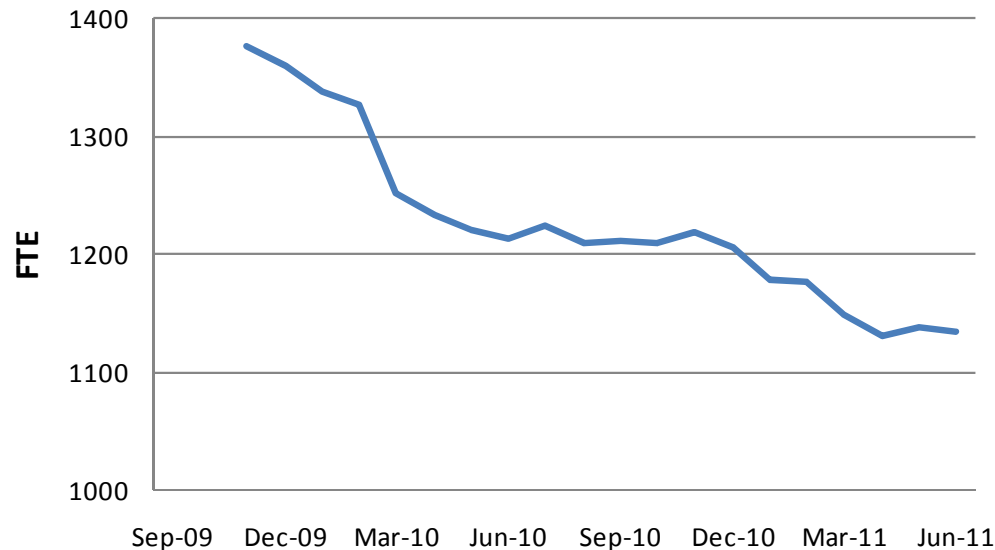
- High volume processing operation – long runs of similar / simpler shapes
- Relatively lower value glass
- Customer demands reliable DIFOT

### Complex / quality customised glass

- Batch shop operation — Shorter runs of more complex shapes
- Thicker glass — safety and feature glass
- Lower volumes / higher value
- Customer demands high quality (defect free, correct dimensions and finishes etc) one stop shop

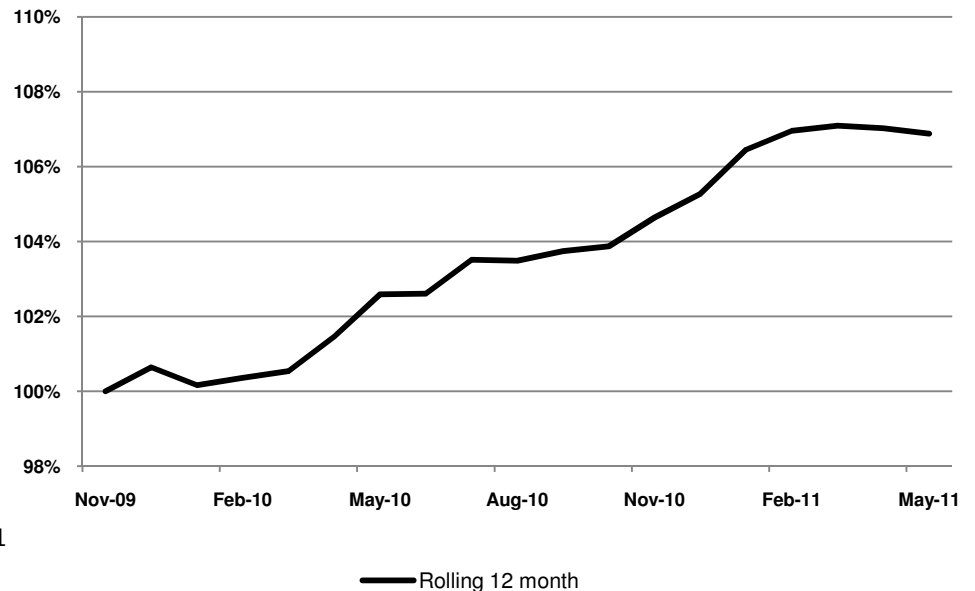
# Improving cost position

## VGPS Full Tme Employees



- 20% reduction in headcount achieved through
  - higher levels of process automation
  - improved mgt and processes
  - site consolidation
  - workforce resizing to match market slow down in demand

## Yield Improvement

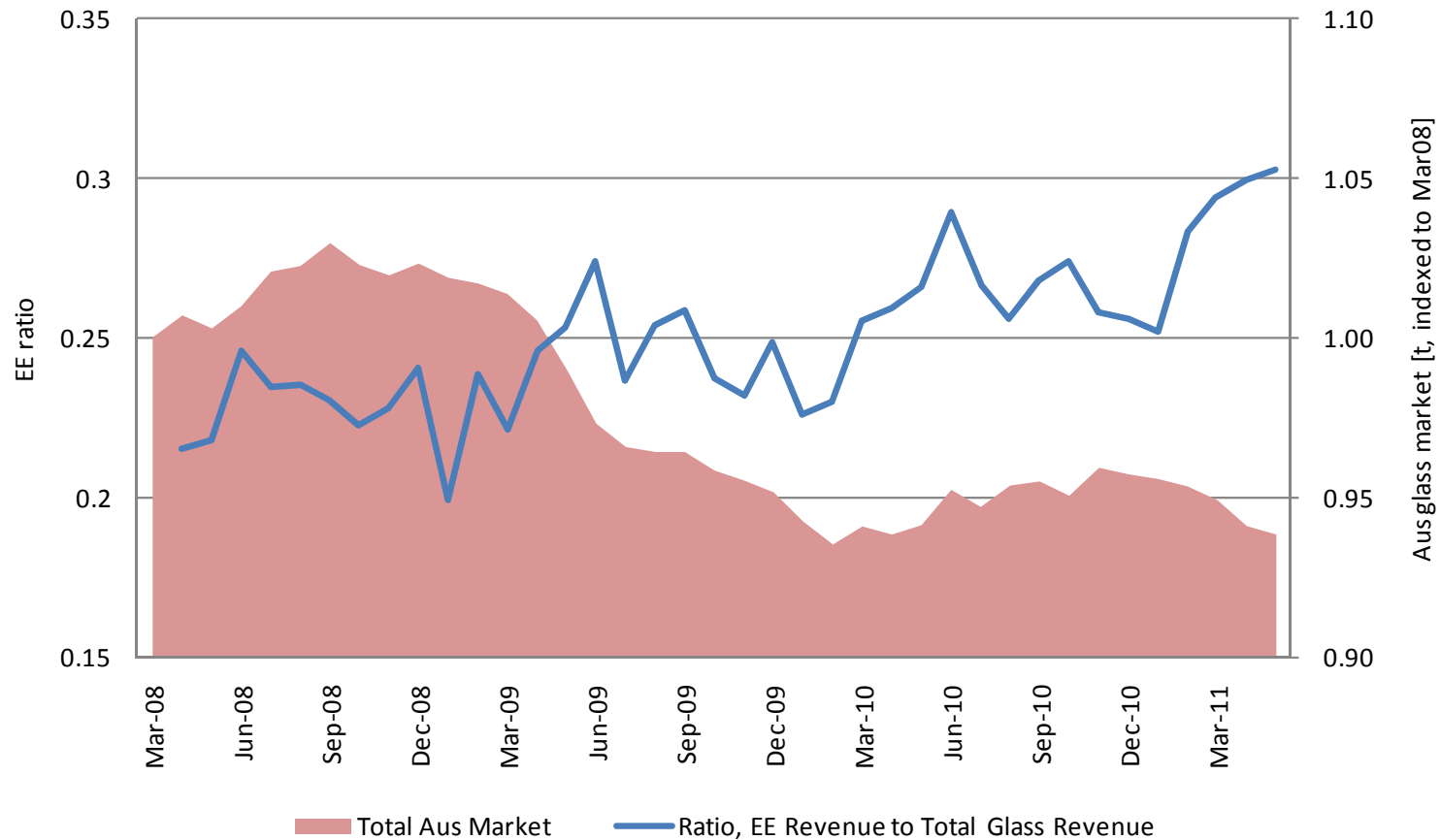


- Yield is a measure of saleable glass produced as a percentage of bulk glass input to the process
- 7% improvement in yield achieved through
  - Improved production planning processes and software
  - Investment in new equipment and process automation
  - Improved plant maintenance processes & programmes

# Growth in energy efficient glass

- Growth in the energy efficient glass category has partly offset the decline in overall market volume
- Combination of regulatory drivers, promotional activities and general market awareness

**Viridian GPS, Energy Efficient Sales to Total Sales**  
(overlaid on total architectural glass market demand)

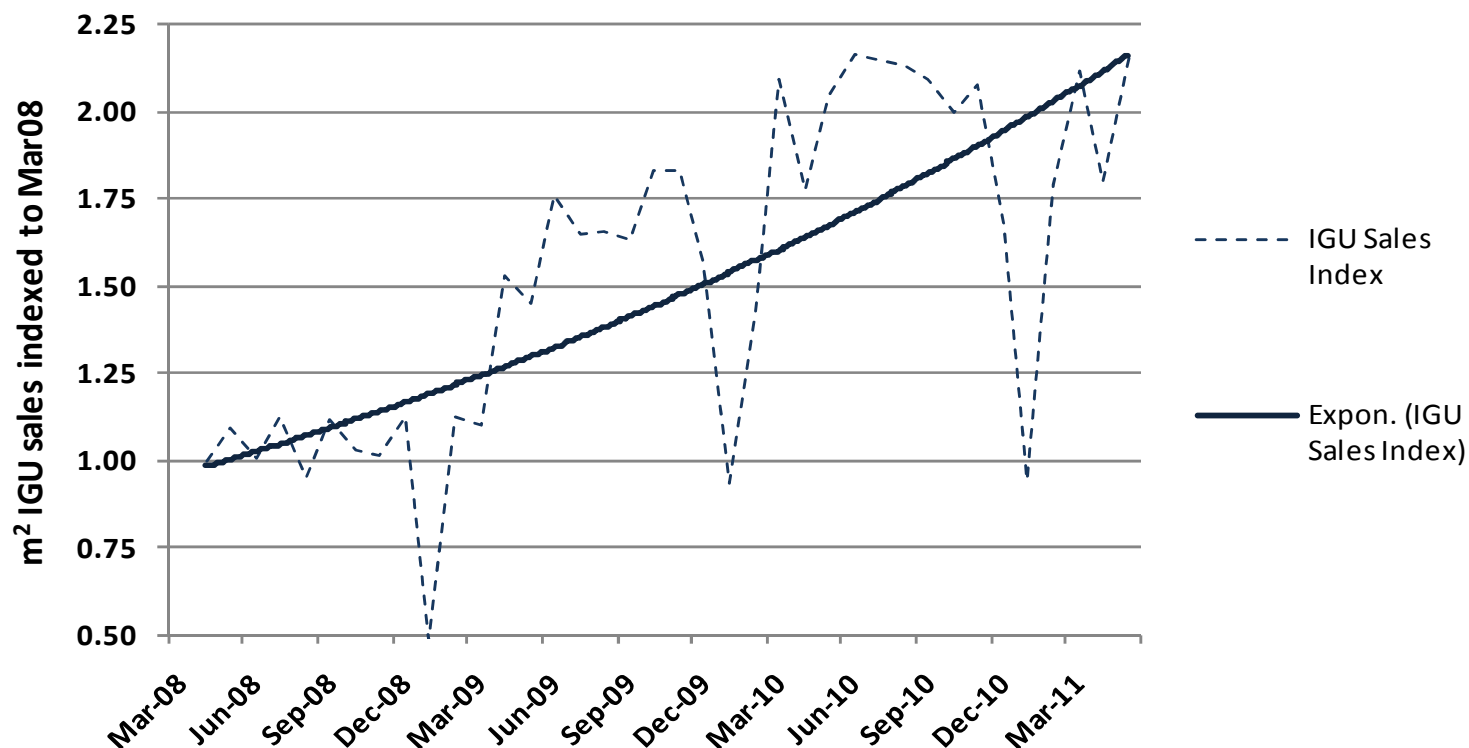


Source: ABS import data, Viridian analysis

# Increase in insulating glass units

- .Twofold increase in IGU production since March 2008 (despite significant market slowdown)
- Sales predominately in cool climates and residential sector
- Data does not include Erskine Park (brought online Jun 2011)

## VGPS Insulating Glass Units Sales, ANZ



## Viridian GPS - strategic summary

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- **Industry leading safety performance**
- **Industry leading customer service**
- **Leverage high volume capability**
- **Lift customised solution capabilities**
- **Actively manage costs**
- **Drive growth in energy efficiency**
- Targeting 25% improvement YoY
- DIFOT & quality focus
- Target volume fabricator / builder needs
- Commercial, residential fit-out and retail
- Labour efficiency and glass yield focus
- Via SmartGlass and SeeBeyond campaigns and support of regulatory change

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## 2. SmartGlass





## Premise: unique to Viridian, compelling for volume res builders

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- Displace commodity float glass with higher-functioning coated glass
- Entry-level energy efficient glazing product - lift awareness and acceptance of high-performance glass amongst Australian builders and home-buyers
- Lift the performance and value of glass into one of the highest volume channels to market
- Grow share of Viridian glass entering the market
- Define and “own” a new glass category –the basis for an on-going series of range extensions
- Platform for differentiation of Viridian business

# Timing – regulatory environment

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Insulation here,

And in here.



But what about these?



6 star energy efficiency – windows & glass matter

*'With most other building elements at practical limits of thermal performance, glazing is the remaining pathway to better ratings'* Australian Building Codes Board 2009

## Update on Six Star regulation in Australia

**NSW:** ~5 (Approximate, BASIX)

**WA:** 5 (6 in May 2011 but w 12 mth "honeymoon" to 2012)

**QLD:** 6 (rapid move from 3.5 to 5, now 6, but carries generous concessions for certain design inclusions).

**VIC:** 6 (approvals from 01May2011, following 12mth honeymoon)

**SA:** 6 (went in Sep 2010)

**ACT:** 6 (May 2010, but transition out to Jan 2011)

**TAS:** 5 (went in Jan 2010)

**NT:** 5 (May 2010)

## SmartGlass – target markets

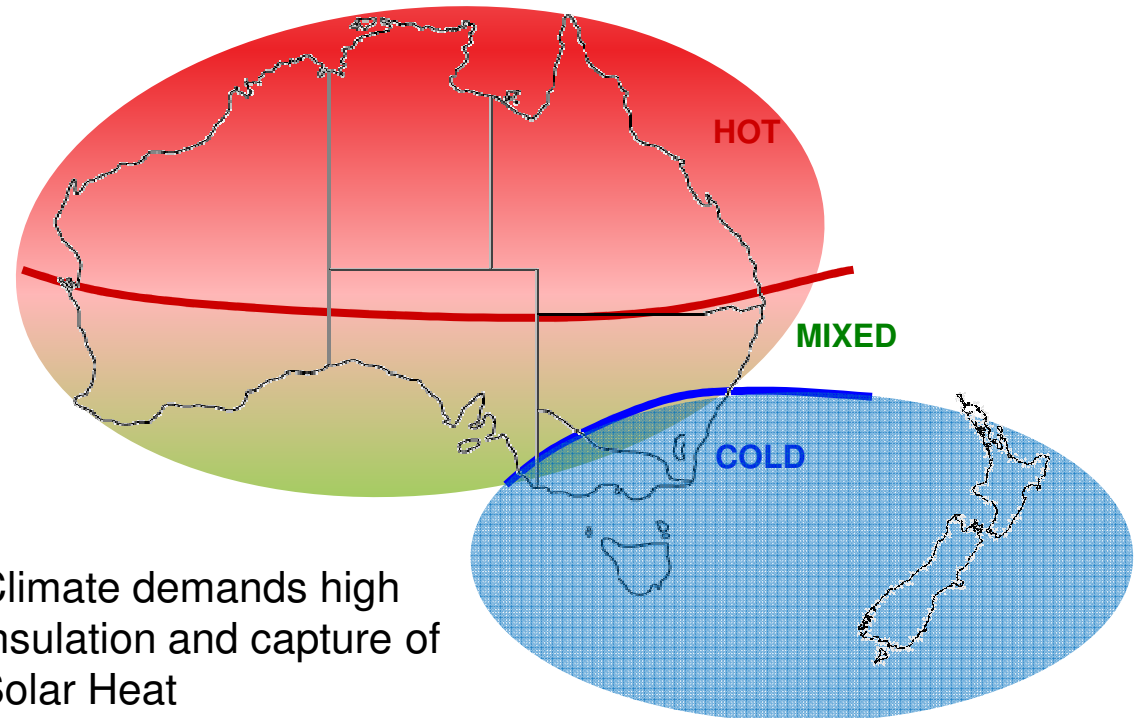
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BCA driving new build to higher energy efficiency levels

States with “more pleasant” climates slower to move

Economic case for higher insulation performance is stronger in colder climates

Climate demands  
combination of Solar Heat  
control and insulation



Climate demands high  
insulation and capture of  
Solar Heat

# Target market - volume res in hot/mixed climates

## Building Window Market (tonnes basis)

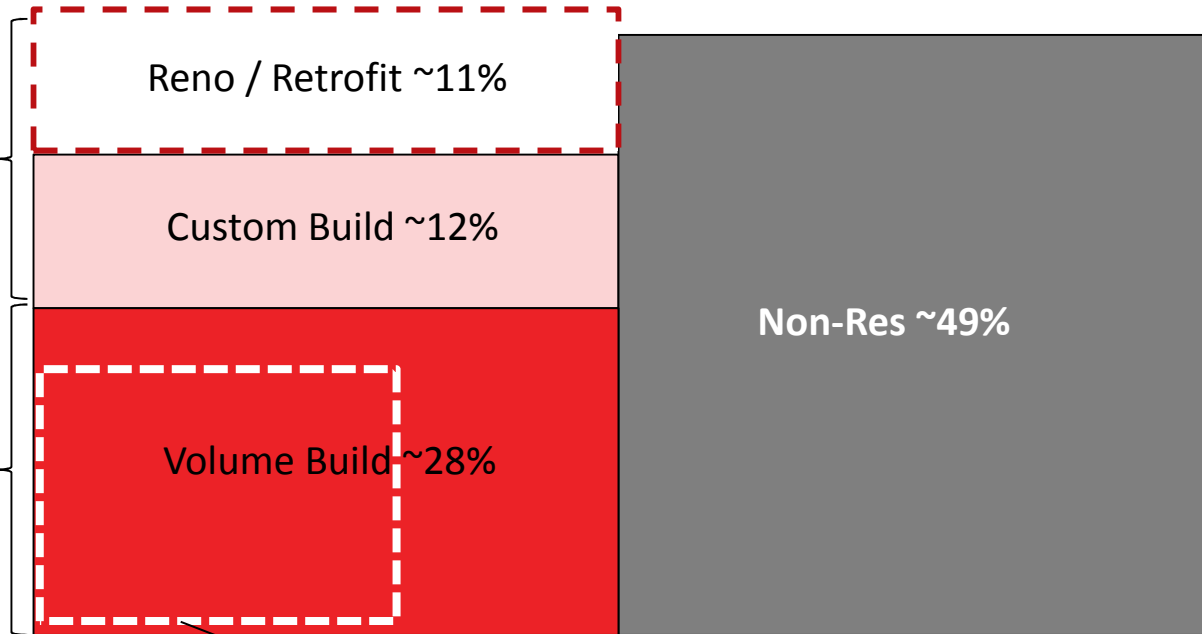


**SeeBeyond™**  
SeeBeyondWindows.com

**Owner / Arch-Specified Res ~45% of Res**

**Builder-Specified ~55% of Res**

**SmartGlass™**  
Active insulation technology



Target – Warm and mixed climates, metro bias



# SmartGlass Benefits



## SmartGlass Benefit\*

	Melbourne	Sydney	Brisbane
	<b>SmartGlass SP10 <i>Polaris</i></b>	<b>SmartGlass SP40 <i>Oasis</i></b>	<b>SmartGlass SP50 <i>Stellar</i></b>
Incremental Stars	0.5	0.7	1.1
Heating and Cooling Load [MJ/yr]	12.2%	15.6%	26.7%
Energy Costs [\$ /yr]	12.2%	16.1%	27.1%
Greenhouse Gas Emissions [t/yr]	0.56	0.29	0.30
[Camry km/yr]	2,650	1,390	1,420

**\*Notes:**

Benefit of using SmartGlass in place of ordinary 4mm clear float in an industry-typical unimproved aluminium frames (estimated performance data for different SmartGlass products)

•Results Based on SWA Technical Report (2009) data derived using NFRC-compatible version 1.1.4.1 of AccuRate.

•Modelled energy/GHG savings within each climate zone shown are based on an otherwise adequately insulated 240m<sup>2</sup> detached house. Energy cost savings assume non-ducted reverse-cycle electrical heating and cooling used in all cases, at power prices typical of retail tariffs for the applicable metro area.

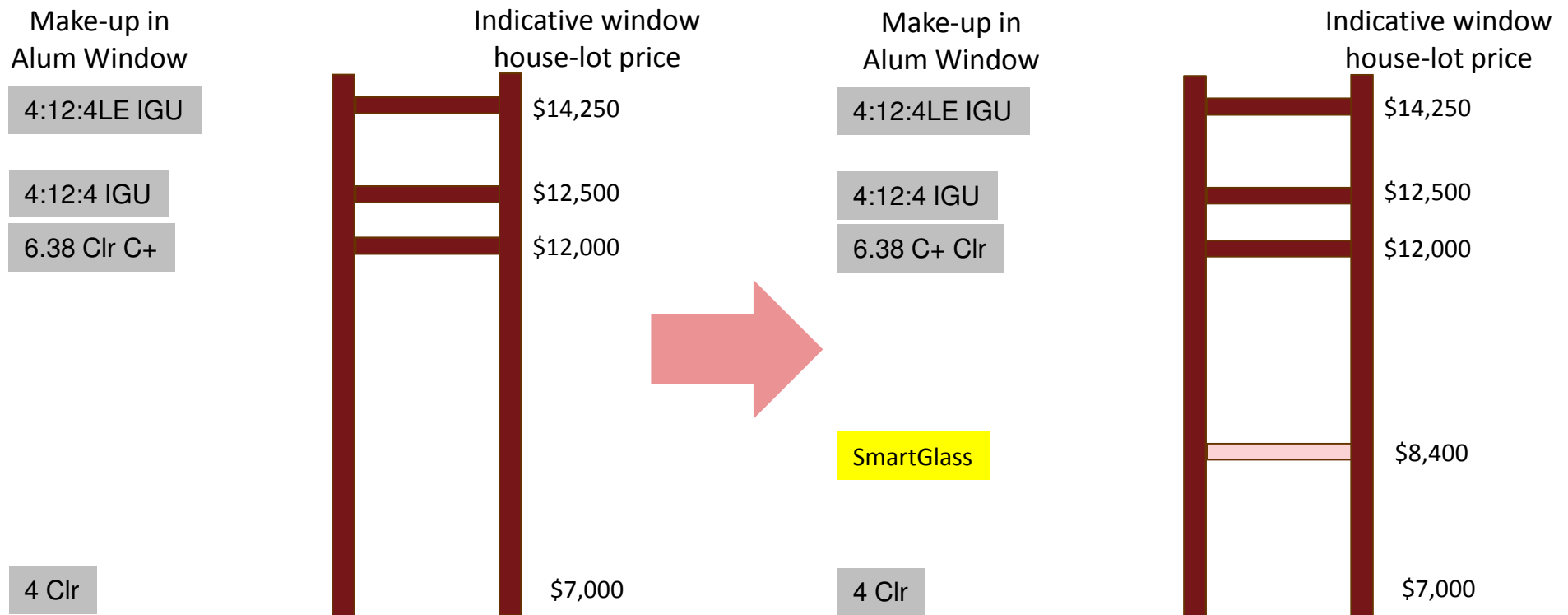
•Results vary with climate, home design, and orientation, glazed area and distribution, heating and cooling appliance mix, and local energy prices.

•“Camry km/yr” denotes the CO<sub>2</sub> savings expressed as the equivalent emissions generated by driving a 2006 Camry sedan (ADR 81/02 combined cycle). Source emissions data can be found at <http://www.toyota.com.au/camry-hybrid-camry/features/fuel-economy/fuel-economy-calculator>

# The benefit ladder

Two important benefits of an entry-level product:

- Help convert from ordinary float
- Create basis for consideration of better glass forms



Indicative window pricing based on house-lot pricing to major builders for aluminium windows with different glazing configurations



This window  
includes

**SmartGlass**<sup>TM</sup>

Energy Efficient  
Glass

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## 3. Clayton



## Clayton site

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- Total of 34,579 square metres
  - 22,605 sq. mtrs at Whiteside Road
  - 11,974 sq. mtrs at Brear Street
- 24hr / 5 day operation
- 322 employees
- World first fully automated double glazing line

# Capabilities at Clayton

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- Single cut to size annealed glass
- Double glazing
- Toughened glass
- Laminate glass (Bulk and custom products)
- Seraphic painting
- Processed glass (Polished, holes, shapes etc.)
- Specialty products (Digiglass, Pyroguard, Security)

## Key KPIs achieved

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- Safety
  - 62% reduction in TRIFR over prior year
  - Introduction of automation and delivery systems to reduce manual handling
- 35% increase in productivity over prior year
- 30% reduction in staffing numbers c.f. Jan 2010
- Increase in delivery performance and quality to meet and exceed customer expectations