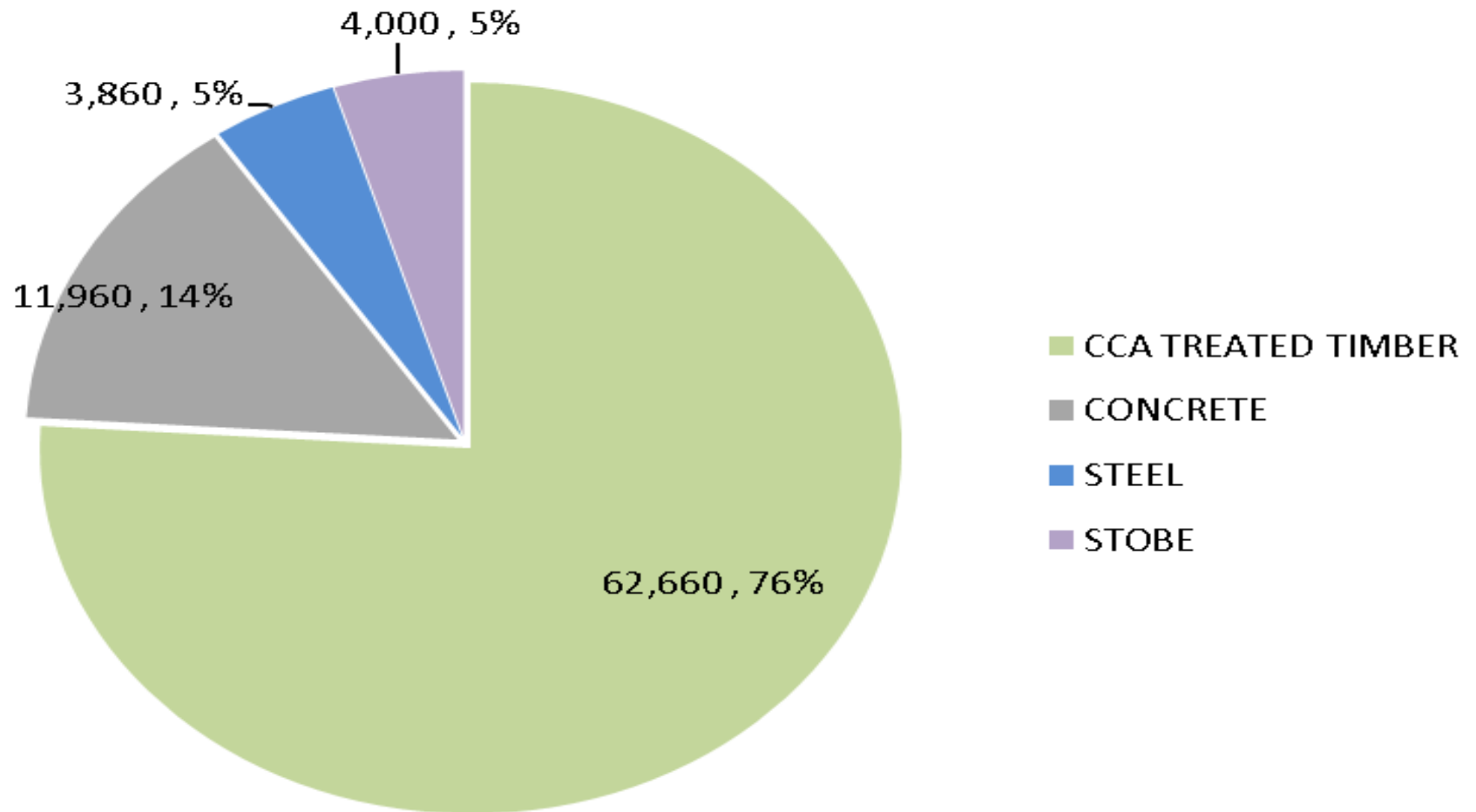


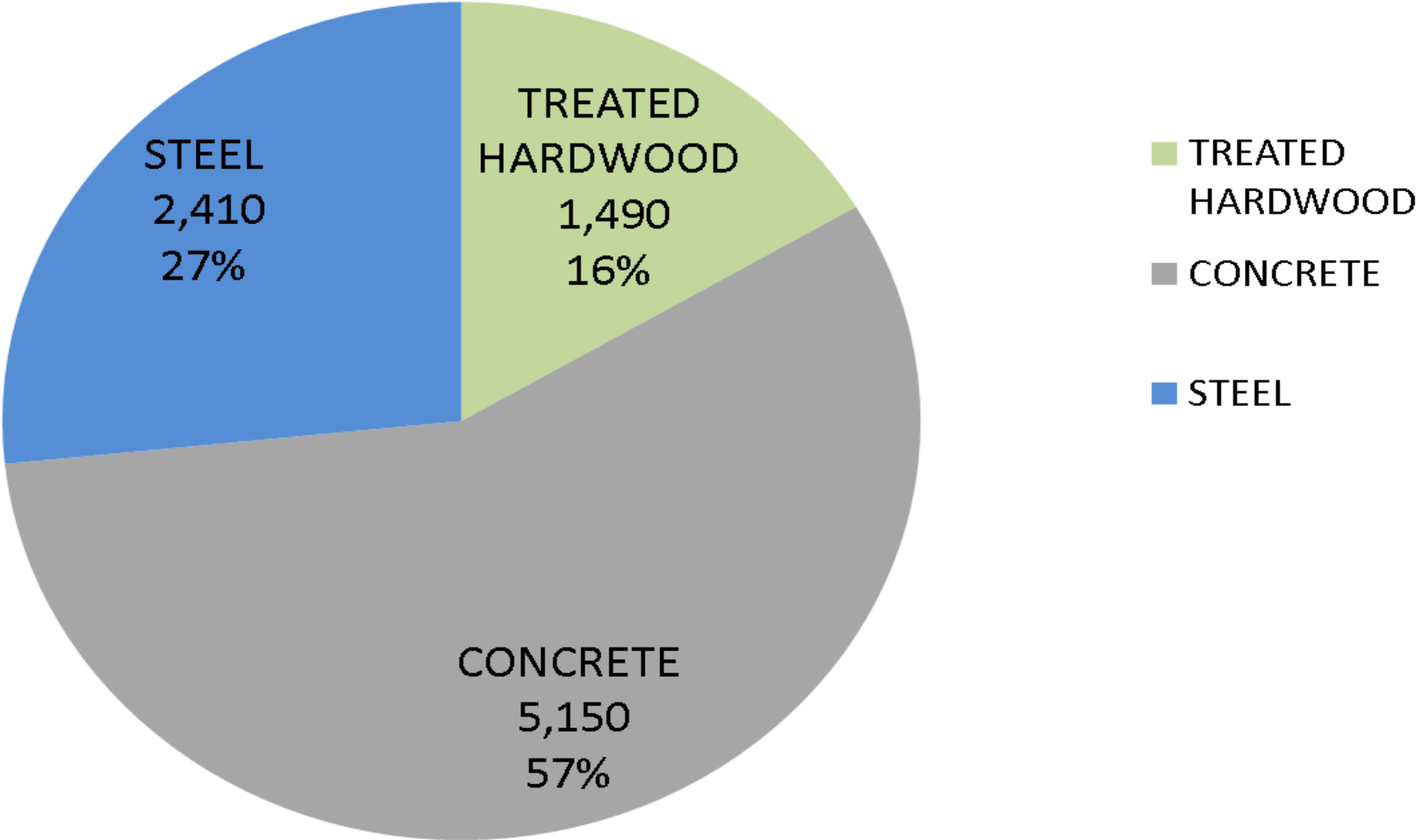
Hardwood Poles

**Central Queensland Plantation
Investment Forum**

AUSTRALIAN DISTRIBUTION POLE MARKET BY TYPE



AUSTRALIAN TRANSMISSION POLE MARKET BY TYPE



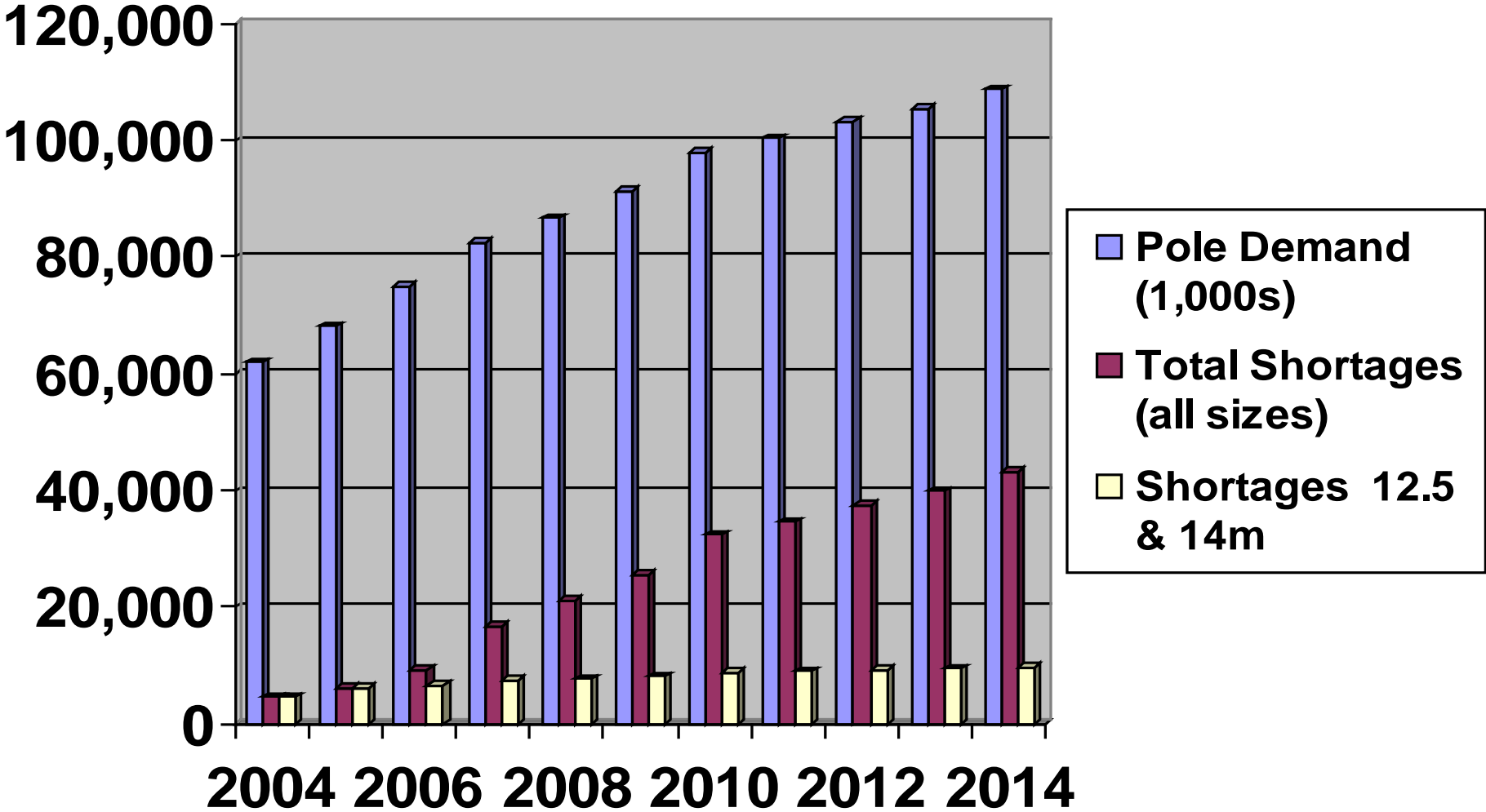
IDENTIFYING THE GAP BETWEEN

DEMAND

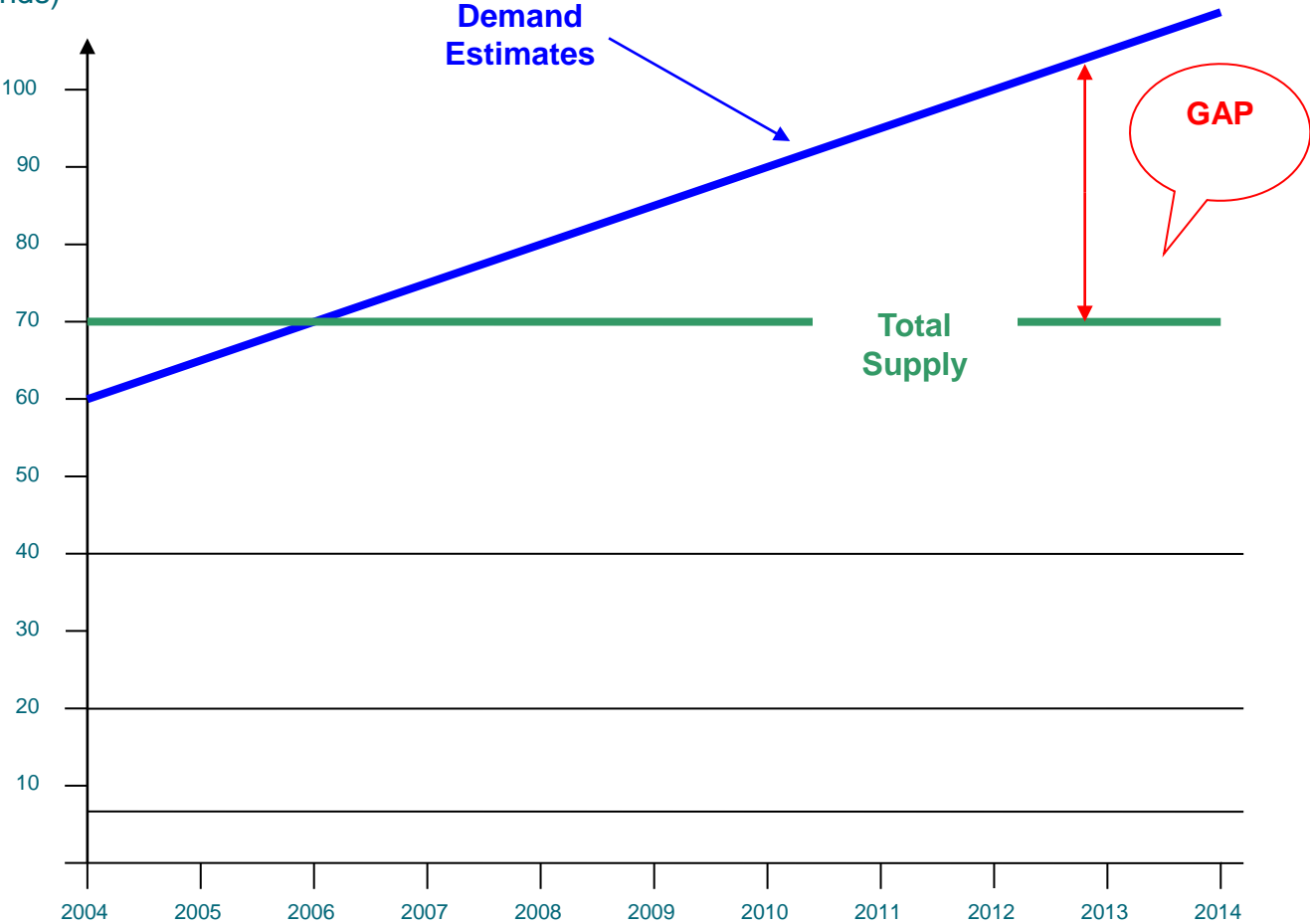
AND

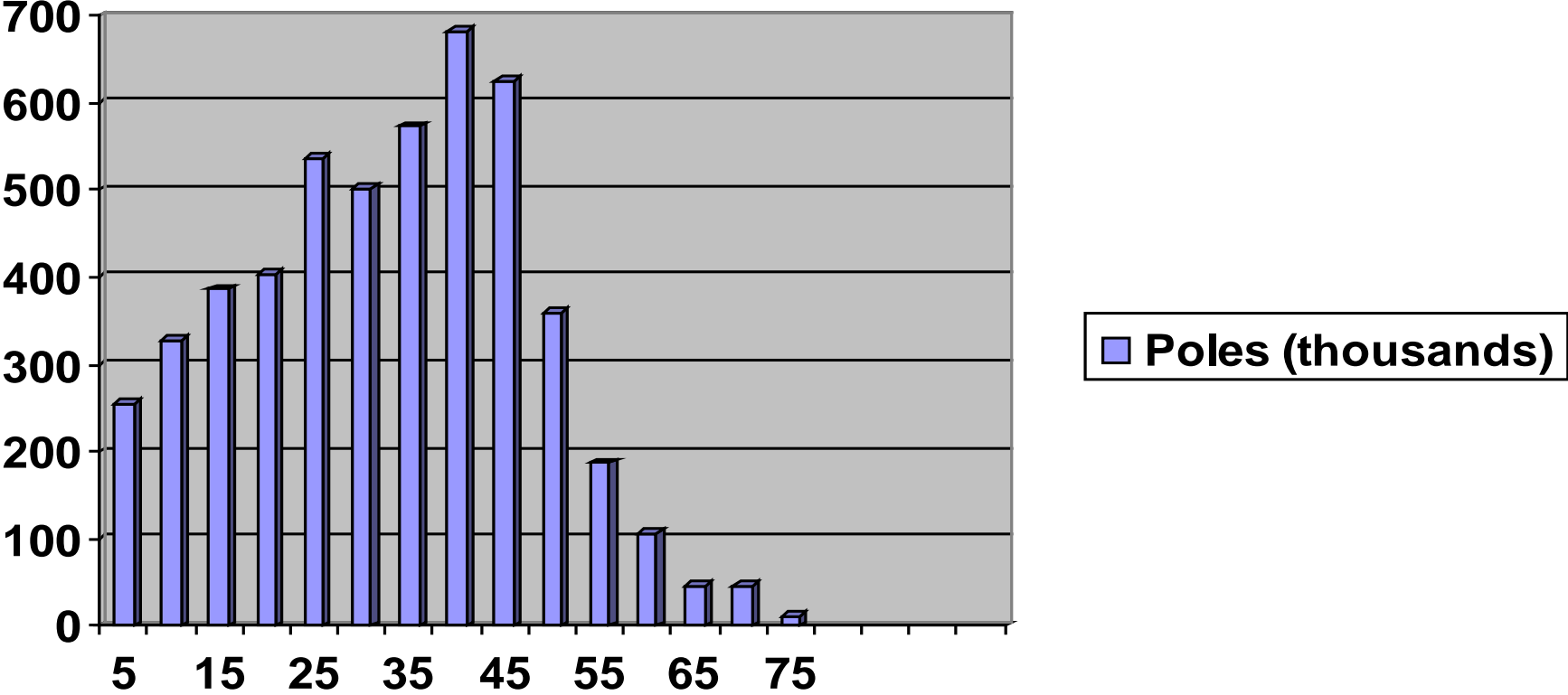
SUPPLY

ENA Projections



Poles
(thousands)

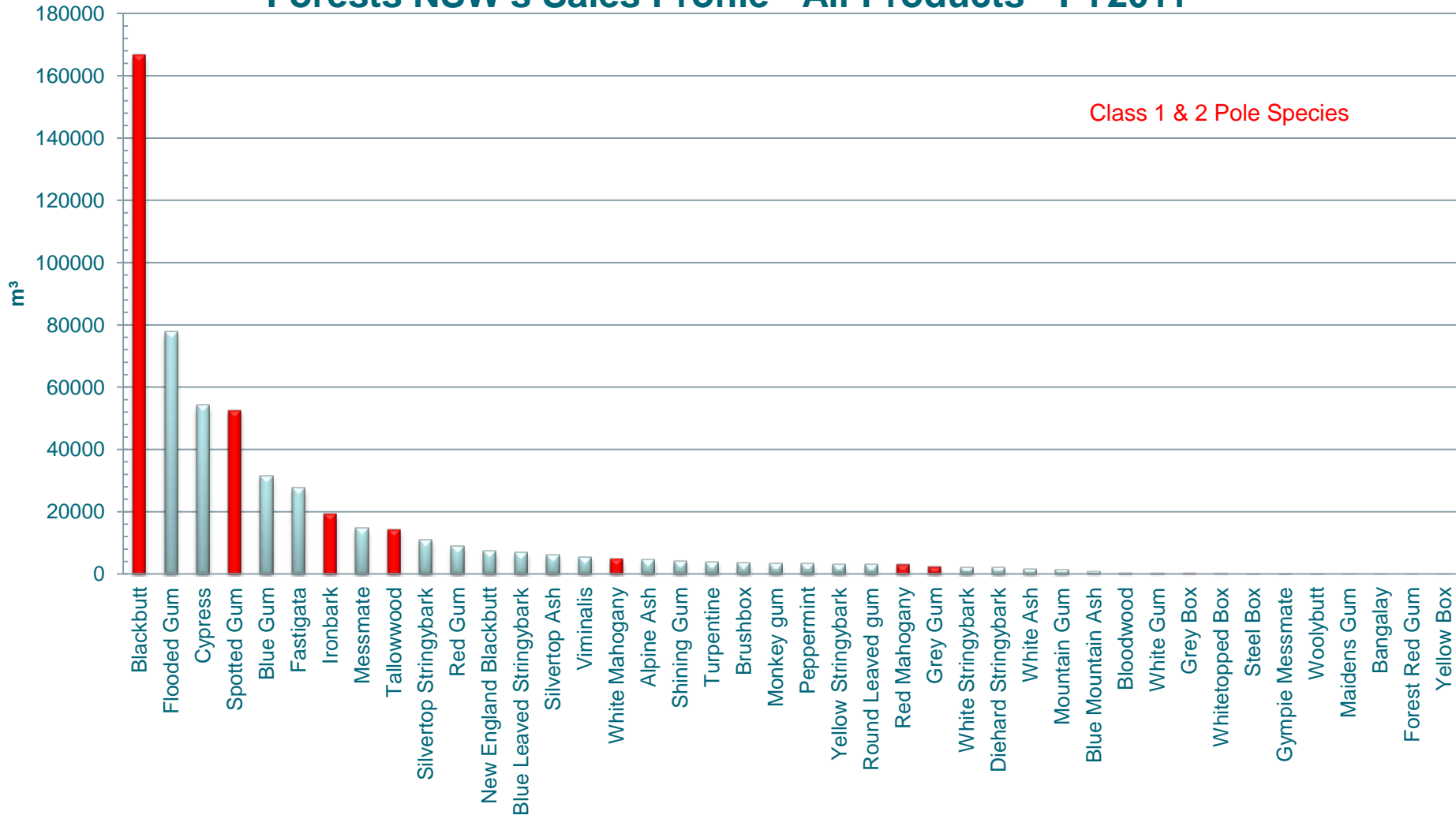




Pole Age Profile
(Durability Class 1 & 2 Hardwood)
Data provided by Australian Utilities
Total Installed Power Poles (5,066,000)

Class 1 & 2 Pole Species

Forests NSW's Sales Profile - All Products - FY2011



Environmental message about hardwood

IT'S NOT JUST
A POWER POLE.
IT'S A HELPING HAND IN
CLIMATE CHANGE.



BECAUSE IT'S
MADE FROM WOOD

Using treated hardwood poles is naturally better for our environment because it helps tackle climate change in two very important ways.

First, growing trees absorb carbon dioxide from the atmosphere and store the carbon so efficiently that about half the dry weight of a tree is carbon. The carbon remains 'locked up' for the whole of the life of the wood even when we use it for building products, furniture

or power poles. It is released into the atmosphere again only when the wood decays or is burnt.

Second, forestry is one of the most greenhouse-friendly sectors of the Australian economy. In fact, it was the only industry sector to be carbon positive when last measured in 2005. So increased use of wood in utility overhead line networks and construction will help Australia to offset our overall greenhouse gas emissions.

What's more, wood is a truly renewable resource because millions of new trees are planted each year and

Australia has a well-established framework to support the conservation and sustainable management of our forests.

So when we choose carbon positive wood for power poles, foundation and marine piling, house framing or landscaping we are also lending a helping hand in climate change. To find out more visit us at our websites or email Koppers at poles@koppers.com.au.

The wood used in these 3 power poles stores approximately 1800kg of carbon.



TREATED HARDWOOD POLES
The preferred choice is natural



TREATED HARDWOOD POLES
The preferred choice is natural



New brochures to promote our theme of marketing messages

SUSTAINABILITY GUARANTEED WITH KPOLE INNOVATIONS



In February Koppers set up their horizontal test rig at Grafton, NSW and tested 20 of their new KPOLE TSJ (Timber Steel Joint) poles in a range of four sizes. The tests confirmed the design capacities and preferred embedments of the steel joiner and timber embedment.



A range of KPOLE TSJ sizes were tested in the horizontal test rig at Koppers Grafton plant in February 2007

Koppers Marketing Manager, Damien McCue, explains: "The TSJ pole follows on the KPOLE theme of utilizing shorter length hardwood poles to create not only bay size poles of 12.5m and 14.0m length, but also long length poles such as 18.5m or 20m which may be supplied in two parts for logistics and handling advantages and the steel joint area has a number of in-built design considerations for fixing the timber and steel together, providing drainage, inspection and locating the expected point of failure".

In testing the poles all exceeded their expected load bearing capacities, and when failure occurred it did so in a predictable manner – with progressive collapse. As with the KPOLE TSJ's these poles sustained a significant load capacity even after initial yield, and in some cases where our rig allowed further loading the poles experienced a further increasing of capacity before final rupture.



The KPOLE TSJ features hot dip galvanized steel joint with M20 flange and hexagon bolts

The TSJ can therefore be used as a very safe pole, with a predictable performance under extreme loading conditions.

IN-GROUND SECTION EXTREMELY DURABLE

What Koppers are offering with the TSJ is a pole with two timber parts. The lower, in-ground section can be treated to high hazard levels, for example H5 (1.2% m³/m³) or to an even higher level if needed. This in-ground section could also involve selection of higher durability (Class One) species such as tamarack. This combination would make the in-ground section extremely durable with at least a 70+ year service life expectation. The above ground section could then be selected from either Class One or Class Two species timbers, and because it sits above ground in a much lower hazard condition could be treated to lower treatment intensities.

MACHINED PERFECT ROUND PRIOR TO TREATMENT

The steel joint is free-draining, while minimizing the ingress of water by sealing the top of the connection with industrial grade sealant. The poles are machined perfect round prior to treatment to ensure a tight fit to the internal diameter of the steel. For ventilation and inspection there are holes located in the 100mm section void between the two timber ends. On each end of the steel joint a series of coach screws, or through bolts secure the timber and steel together. There are also a series of sealed inspection holes for in-field core sampling of the timber during the life of the pole should this be required.

"Our range of KPOLEs combines the proven benefits of timber with a joining system and engineered design to increase the availability of bay size poles such as 12.5m and 14.0m lengths, creating greater value for shorter length hardwood material which would otherwise be channelled into lower grade outcomes from the forest. In this way we are enhancing the sustainability of hardwood poles and providing our customers with an 'insurance policy' for security of supply into the future," says McCue.

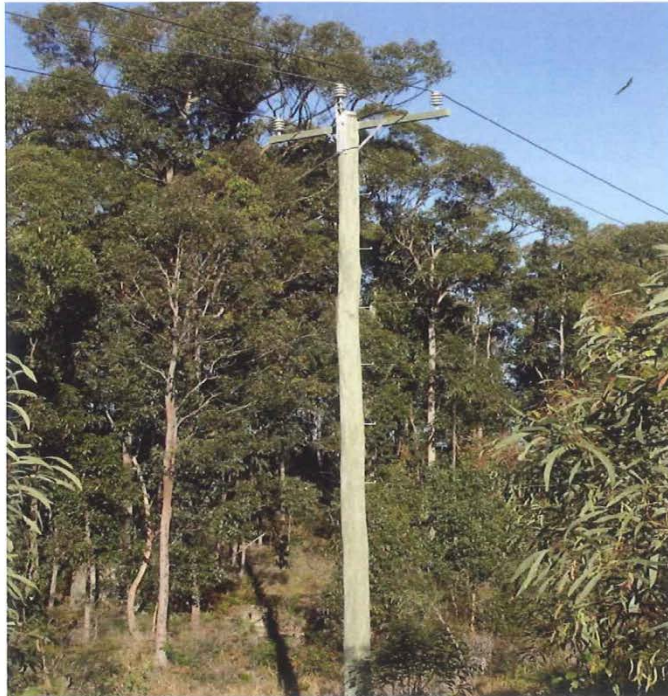
NOW POLE PROCUREMENT STRATEGY

Koppers has invested strongly in their hardwood pole procurement operations in the last two years which has greatly improved the supply of poles into the business, while providing support and greater value to the forest owners, including Forests NSW. "As a result of our new pole procurement strategy Koppers procured 14% more poles in 2007 than 2005 and is now operating at close to our highest levels in history, providing the electricity industry with the confidence that increased forecast demand can be serviced". In addition to Koppers plant at Grafton, NSW, Longford, Tasmania and Bimbury, WA the recent commencement of hardwood pole operations at Koppers Takura plant near Hervey Bay in Queensland provides further capacity to pole inventory and service levels, particularly for supplying the northern market. "Combined with the success of our hardwood procurement strategy, the KPOLE range allows Koppers to meet existing and future demand growth for new poles, and now with stock coming on line in Queensland we have capacity to service 100% of the national market."

If you would like a quote or more information about KPOLE TSJ please email poles@koppers.com.au

Editorial placed in
Transmission &
Distribution Magazine
Aug/Sep Pole Feature
Edition

Proven Performance: 60 Years and Counting



Revision 0
4 September 2009

WHY HARDWOOD POLES

- Market for Hardwood poles is strong and expanding, both in replacement and new infrastructure development
- Distribution market is not subject to variability of the building/construction market.
- Stable and growing demand from Utilities supported by relatively long term contracts

WHY HARDWOOD POLES

Proven and preferred product by Utility Customers

- Safe Timber is a natural insulator
- Adaptability High utility of wood
- Strength Group 1 & 2
- Durability Class 1 & 2 (NSW & Qld)
- Tough & Hard
- Longevity 60 years + (Rotation Length x 2)
- Price Competitive Cost Effective

WHY HARDWOOD POLES

- Exacting Specification for Utility Poles - AS3818.11

EARLY HIGH CASH FLOW OPPORTUNITY

- Smaller Export Poles, Telstra Poles and 5Q size Poles from 6m+ with GL about 200mm offer the opportunity for harvest @ T1 say age 8-12 years.
- High demand for 9.5m and 14.0m poles with GL diameter of 240 to 450mm (60% of pole demand) available @ T2 say age 15-20 years

Superior Returns to the Plantation Grower with Poles



- All Key Sizes can be grown within 20-30 years
- Pole stumpage prices are 50-100% above sawlog prices.
- Up to 40% of poles contain wood too small for sawing or is solid wood graded as salvage or chip eg solid limby heads.
- In this scenario the price differential is even greater (pole vs Z log price is 5:1 or better)

Prospects/impediments for region – Markets, Politics & Environment



- Strong and stable demand for hardwood poles both domestically and internationally
- Poles part of critical infrastructure for electricity supply and has strong bipartisan political support
- Native Forest Logging on private and public land is in decline in all States
- Secure wood supply must come increasing from plantations of significant scale.

Processing Capacity.

- Current specialised pole processing facilities on the Frazer Coast to meet additional pole volume demand sourced from PNF & plantations.
- Additional non pole processing facilities to complement existing facilities (saw logs, salvage log and chip log for export or domestic use)

Factors required for viable processing



Pole Catchment Area

- Freight of forest products can be up to 350klms from specialised processing facilities and still be viable. Transport by road or rail with access to strategic ports for value-added exports

Skilled and Mobile Contractor Capacity

- Contractor capacity and pole knowledge is critical
= TRAINING
- Attracting skilled contractors vs mining industry

SUITABLE SPECIES

Stick with what you know works

- Suitable pole species incl fast growing species like BBT, GMM and SPG are endemic to the region, have a wide range of timber uses, are in high demand and familiar to the processing industry and consumers.
- Simple seed selection for form and vigour from elite trees and tree breeding program for enhanced pole value.

General Prospects/impediments for region



- Large scale plantations are most likely to attract investment if they have a focus on early cash flows via high value early thinnings, secondary markets or other government incentives for environmental services.
- Land cost and availability and return on investment for timber growing v's other industry production

General Prospects/impediments for region



- Legacy of failed MIS plantations.
- “Build it and they will come” approach not good enough
- New plantation investment mechanisms.
- Poor price information for hardwood
- High \$AUS and currency market volatility impacting on competitiveness in export markets

General Prospects/impediments for region



- Consistent and supportive Government policy set to encourage long term private sector investment in plantations
- Carbon status of plantations – needs to be neutral or better to be competitive with other industry and land uses.