

A large flock of sheep is gathered in a field, with a corrugated metal barn visible in the background. The scene is set in a rural, hilly landscape under a clear sky. The sheep are the central focus, with their woolly coats in shades of beige and cream. The barn behind them is a long, industrial-style structure with several dark openings. The overall atmosphere is one of a busy, traditional wool farm.

GOING BEYOND GREASY

The opportunity for local value adding of Queensland's wool



Overview of the opportunity for local value adding



Opportunity to produce worsted yarn locally



Emerging opportunities in South East Asia



Established markets in the UK and Italy



Adds **812 jobs** to the local economy once operational [270 directly]



Generates **\$116m** in additional economic activity [GRP]



Blackall's competitive advantage is access to **Great Artesian Basin** water



Benefit from recent cluster fencing investments



Reduce wool industry's reliance on China as a single market

Contents

Why Blackall	4
The world wool market	6
Queensland's wool industry	8
Wild dog fencing is working	9
Farm economics favours sheep	9
Wool industry processing	10
Viability of local value adding	11
Opportunities for local value adding	13
About the project	14
Example production systems for wool value adding	18
Financial assessment	20
Economic impact assessment	21
Development considerations	22

Disclaimer:

Whilst all care and diligence have been exercised in the preparation of this report, AEC Group Pty Ltd does not warrant the accuracy of the information contained within and accepts no liability for any loss or damage that may be suffered as a result of reliance on this information, whether or not there has been any error, omission or negligence on the part of AEC Group Pty Ltd or their employees. Any forecasts or projections used in the analysis can be affected by a number of unforeseen variables, and as such no warranty is given that a particular set of results will in fact be achieved.

Why Blackall

Located in central western Queensland, Blackall is at the heart of Queensland's wool industry.

Historically, producing in excess of 20 million kilograms of greasy wool, the region surrounding Blackall has played an important role in the development of Queensland's and Australia's wool industry.¹ As the wool industry prospered, so too did regional centres like Blackall.

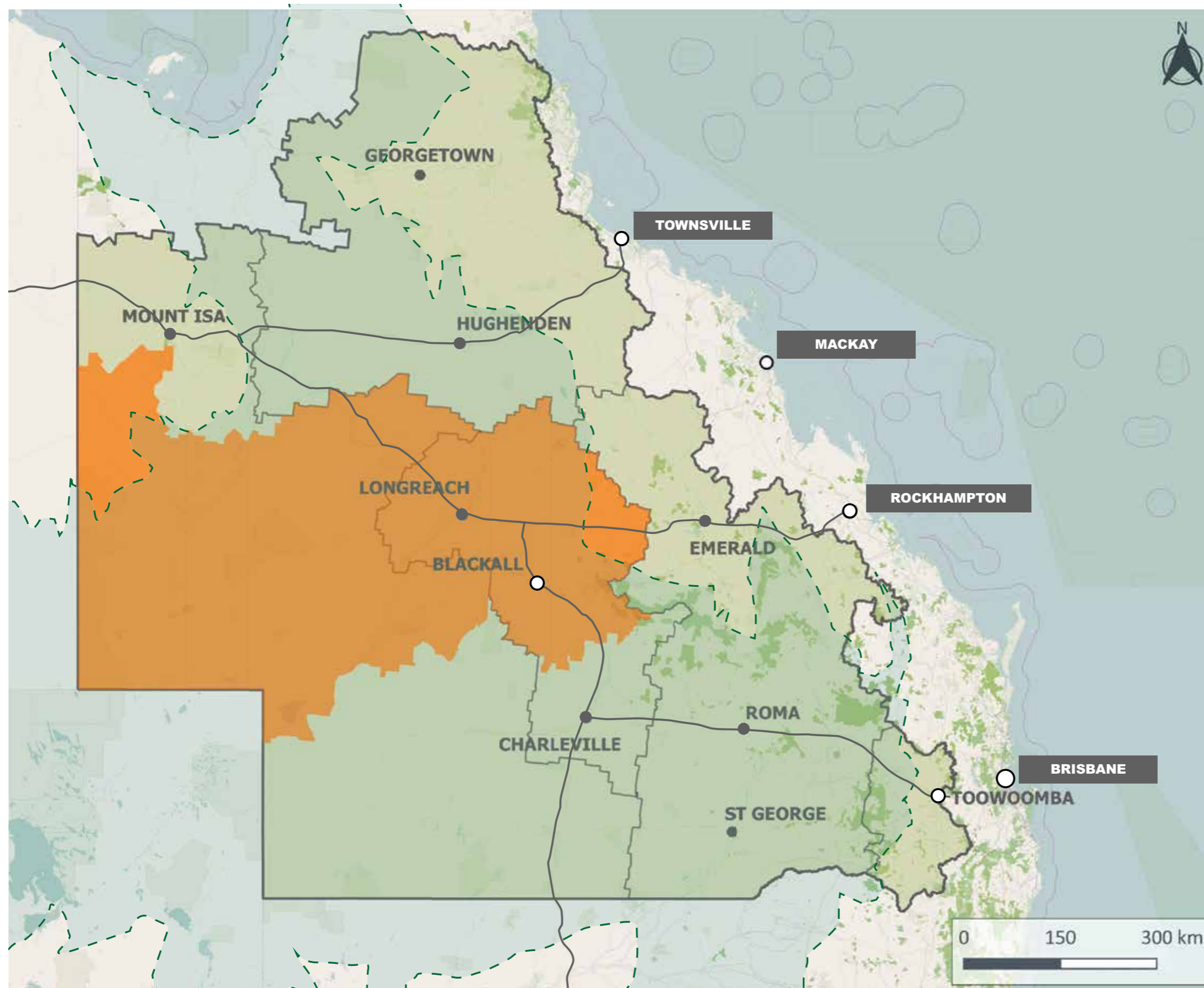
With early success in the cluster fencing program, the region is on the rebound. Lambing rates are increasing and the sheep flock is once again growing. As a result, wool production in the region is expected to considerably increase in years to come.

Blackall is also the logical home of wool processing in Queensland. Its access to the warm waters of the Great Artesian Basin provides considerable cost advantages in wool scouring, and its rural location provides greater opportunities for water re-use through irrigation, which also reduces operating costs. Centrally located, Blackall is in the middle of Queensland's wool producing areas and is on the main road-train enabled route between Melbourne and Darwin, which provides frequent and affordable freight opportunities for wool from southern production areas, if needed.

The industry stands at a cross roads: export the additional wool greasy or export a value-added product to generate additional jobs and economic activity.



¹. region defined as Charleville to Longreach by ABARES and MLA.



Catchment Area

- Townships
- Major Centres
- Main Roads
- RAPAD Regions
- ABARES Region
- - - Great Artesian Basin

Produced by AEC using QGIS 3.4 and Department of Agricultural Shapefiles.

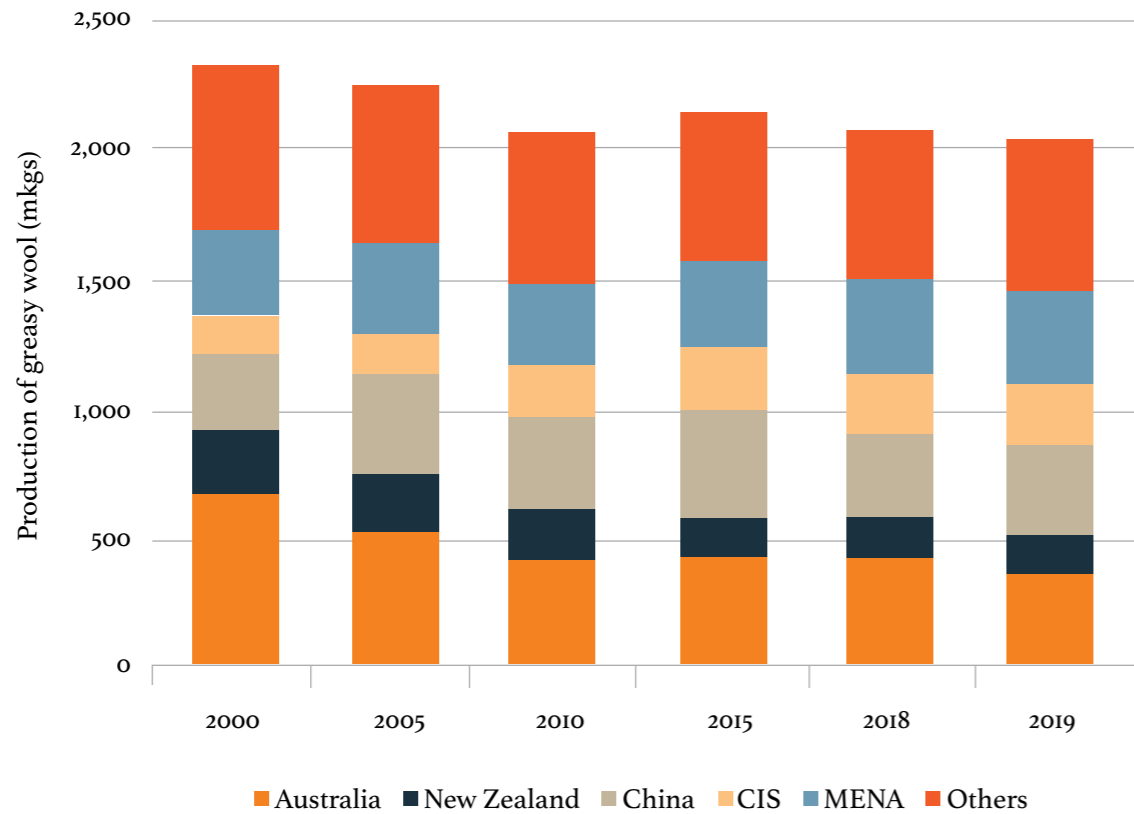
The world wool market

Australia continues to be a dominant player in the global wool market, producing nearly 20% of all greasy wool in the world – the largest volume produced by any single country in the world.

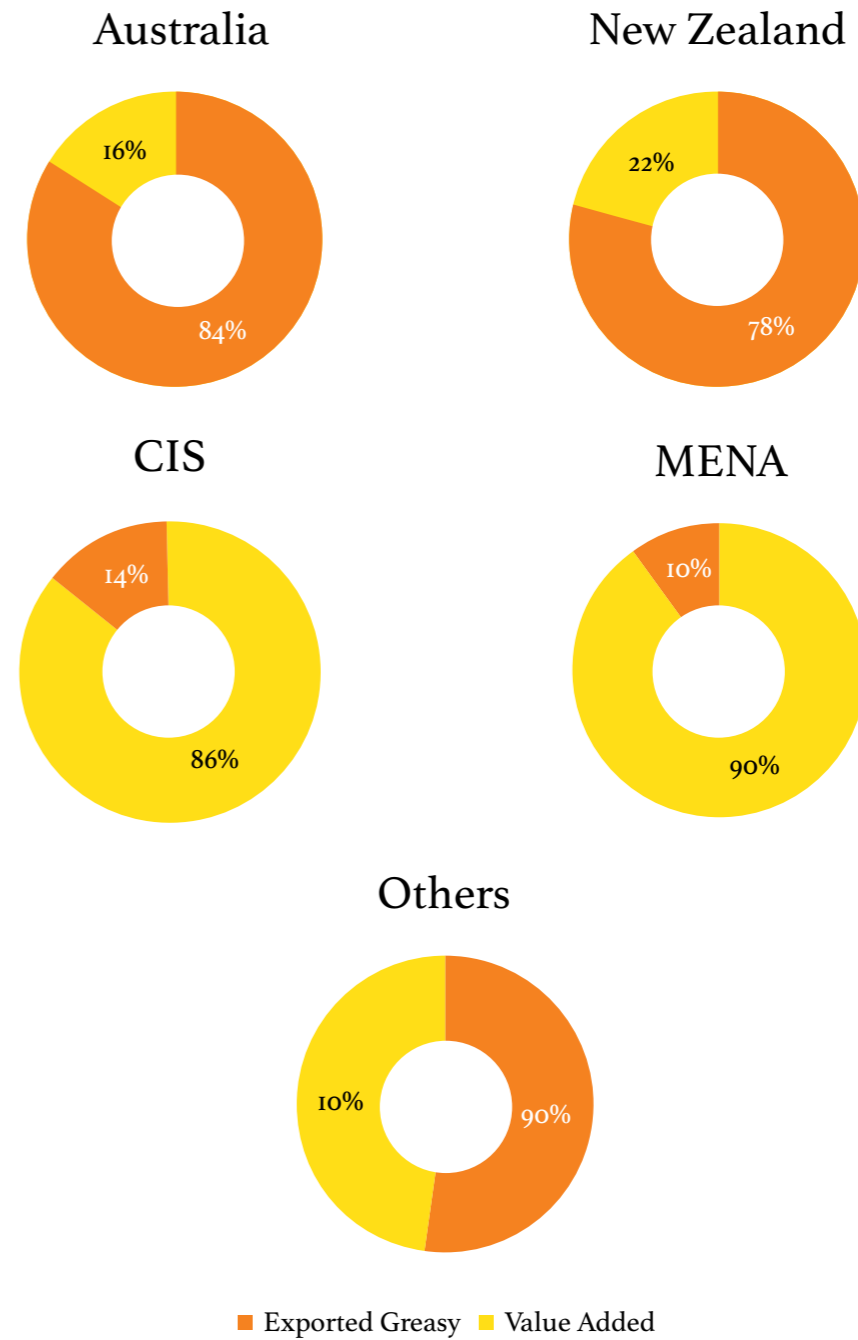
However, Australia is also increasingly exporting its wool without any local value adding. This means not only is the Australian industry exporting high quality wool, but also potential local jobs and economic value by shipping raw wool, instead of a wool top, spun yarn or fabric.



GLOBAL PRODUCTION OF GREASY WOOL



WOOL CLIP EXPORTED AS GREASY (RAW) WOOL



CIS = Commonwealth of Independent States. Includes: Russia, Kazakhstan, Uzbekistan, Turkmenistan, Azerbaijan, Kyrgyzstan.

MENA = Middle East and Northern Africa. Includes: Turkey, Syria, Saudi Arabia, Tunisia, Egypt, Iran and Morocco.

Others include: South Africa, Uruguay, Spain, Romania, Mongolia, Argentina, Italy, Belgium, Peru, France, Ireland, Brazil and others.



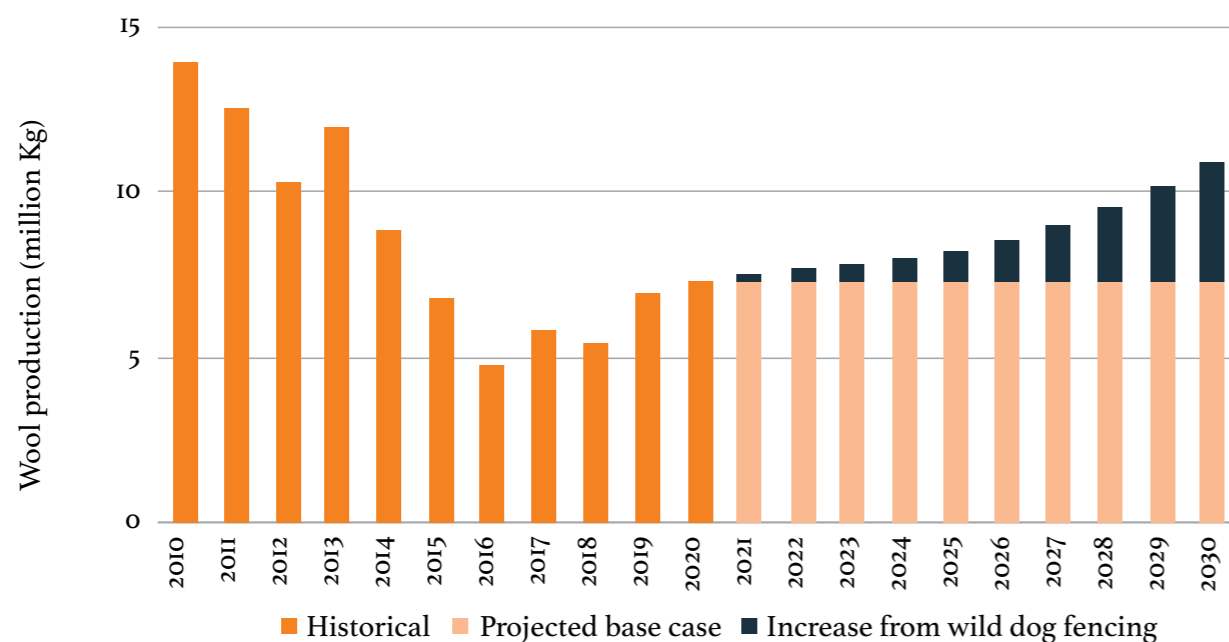
Queensland's wool industry

Western Queensland's landscape is well suited to sheep and wool production.

Before wild dogs impacted on the local sheep flock, Queensland produced in excess of 60 million kilograms of wool per year. With the introduction of the cluster fencing, the flock is expected to rebuild and wool production is likely to reach the volumes required to enable viability of local value adding.



Wild dog fencing is working



The wire fences are expected to significantly decrease the number of livestock that are lost to wild dogs each year.

RAPAD expects that over a period of 10 years, sheep numbers will increase by approximately 1 million within fenced areas due to the implementation of the cluster fencing. This will see Queensland wool production increase to approximately 10 million kgs.

Farm economics favours sheep

Farm Gross Margin Analysis (per Hectare in Charleville-Longreach)

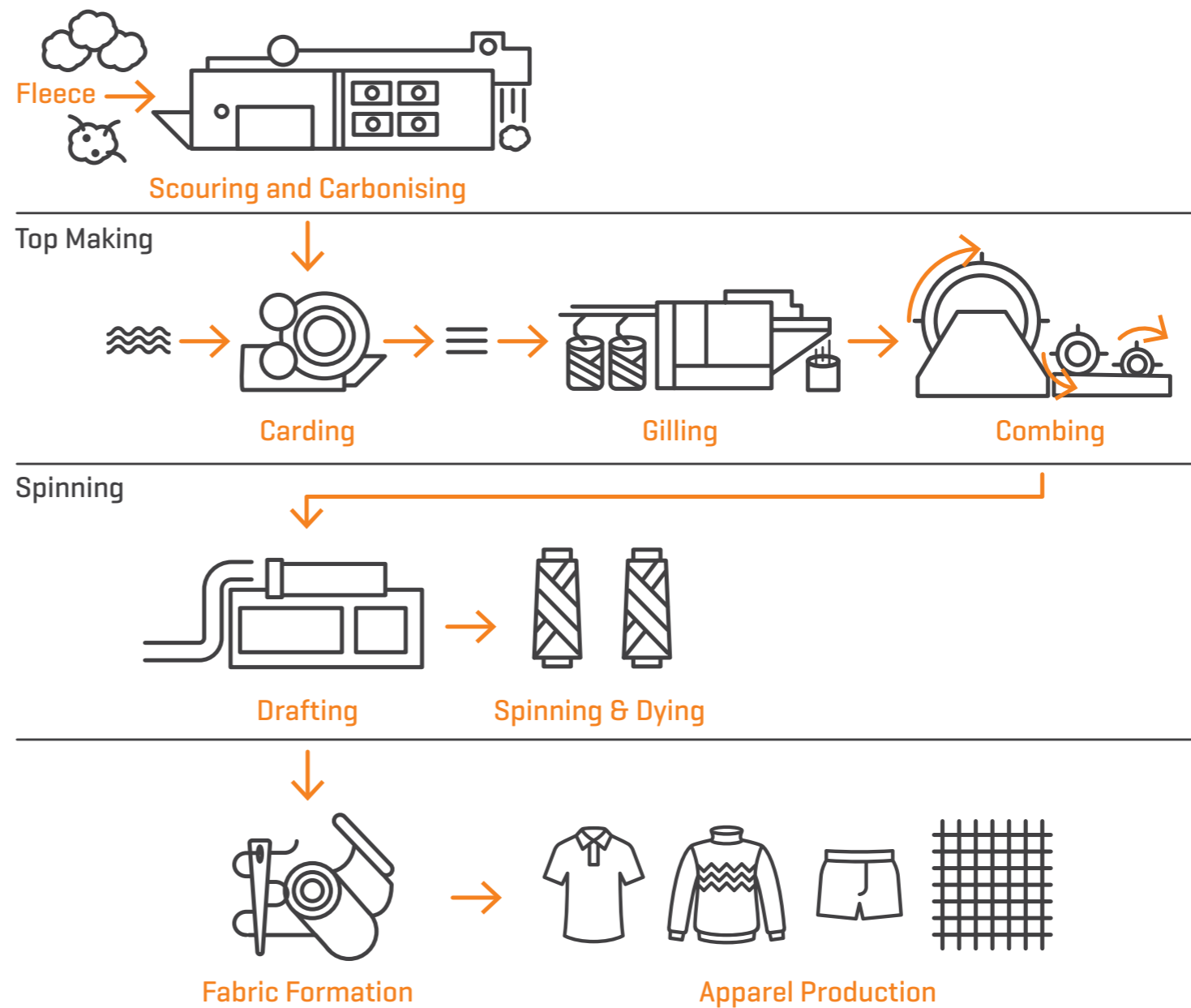
Product	Sheep	Cattle
Cash Receipts	\$45	\$26
Variable Costs	\$9	\$4
Fixed Costs	\$10	\$10
Net operating surplus/deficit	\$25	\$12
Interest cost	\$3	\$3
Net positions after interest cost	\$23	\$10
Value of imputed labour	\$6	\$4
Return after interest and imputed labour	\$17	\$6

A review of ABARES and MLA data shows the farm-level economics also supports the expected expansion of the Queensland sheep flock.

Sheep operations in the Blackall region are estimated to be nearly three times more profitable than comparable cattle operations on a per hectare basis, even after accounting for the higher input and imputed labour costs associated with sheep operations.

Sensitivity analysis also shows that sheep operations are more profitable under nearly all price scenarios, except for scenarios with a high cattle price and a low or medium wool price.

Wool industry processing



Viability of local value adding

Production cost curves were examined across a range of throughput levels at each stage of processing and were compared to the potential marginal lift in the value of the wool at each stage. This highlighted the throughput thresholds requires approximately 10 mkg of greasy wool to be operationally viable.

The viability of producing clean/ scoured wool as a final product is not likely to be a viable option given prevailing market conditions. Key findings from the marginal value adding analysis include:

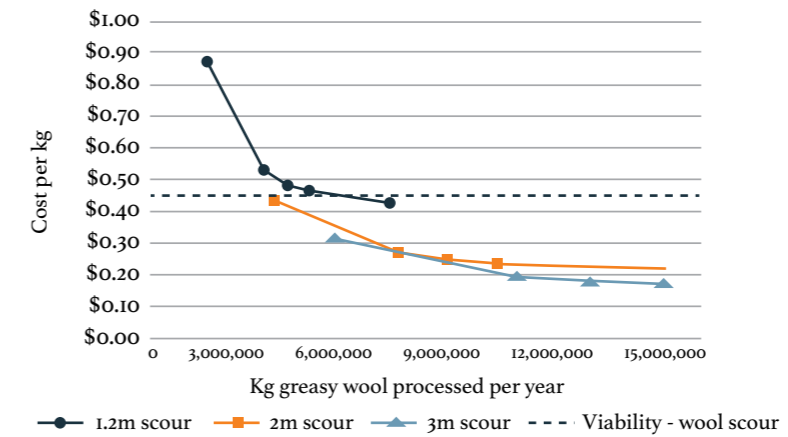
Scouring and carbonising to top making is unlikely to be sufficiently viable as a final product due to the very high volumes required to cover the marginal increase in operating costs.

- Yarn spinning and dyeing increases the operational viability considerably.
- The primary opportunity identified for value adding wool is to produce woollen yarn.

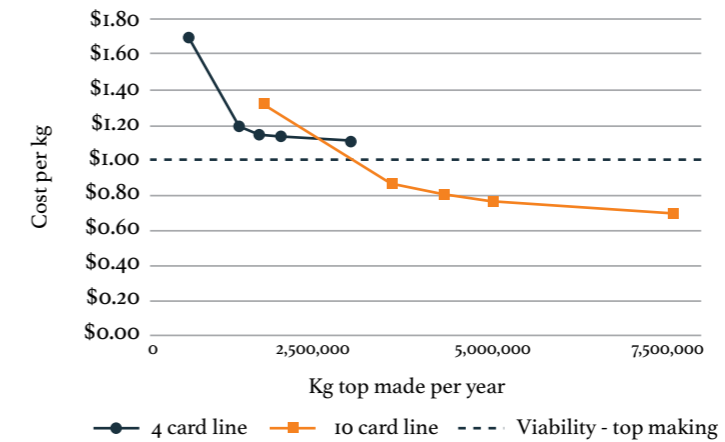
Marginal revenue per kg at optimum throughput (10 million kgs)

Product	Scouring & Carbonising	Top Making	Spinning & Dyeing
Marginal cost	\$0.24	\$0.77	\$2.94
Marginal revenue	\$0.45	\$1.00	\$6.30
Net revenue	\$0.21	\$0.23	\$3.36

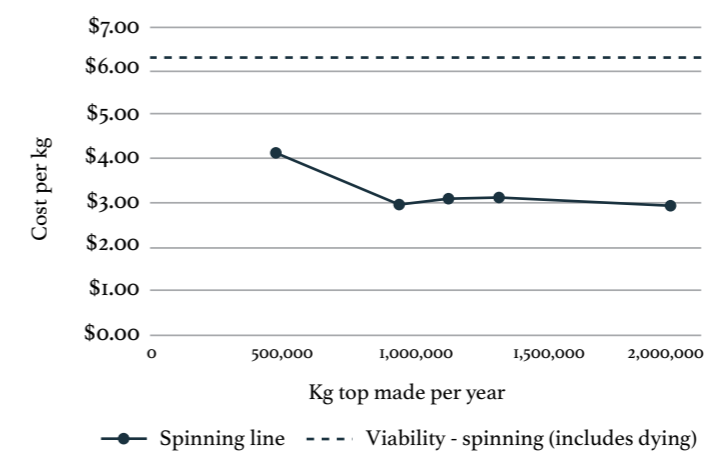
SCOURING



TOP MAKING



SPINNING



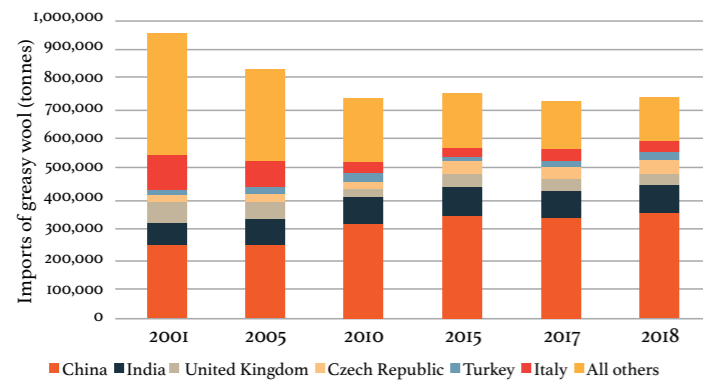
Note: The cost curves do not consider any return on capital and are used to present an initial understanding of the value adding processes which may be viable options.

Australia has the potential to grow
and re-establish prominence in the
wool industry



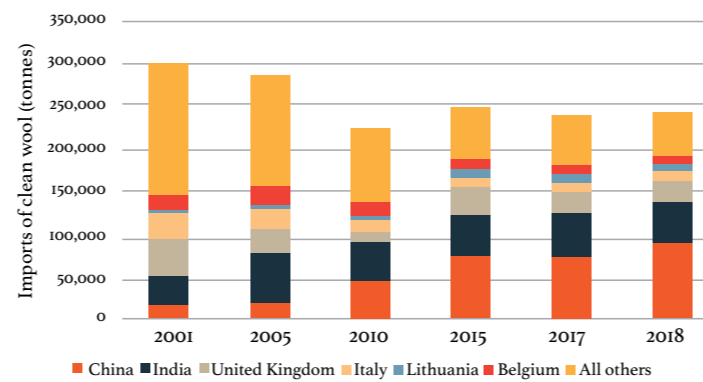
Opportunities for local value adding

GREASY WOOL MARKET - DOMINATED BY CHINA



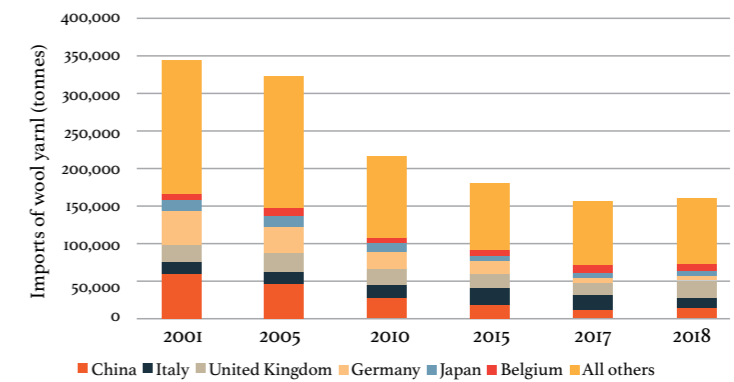
Source: IWTO.

CLEAN WOOL MARKET - INCREASINGLY DOMINATED BY CHINA



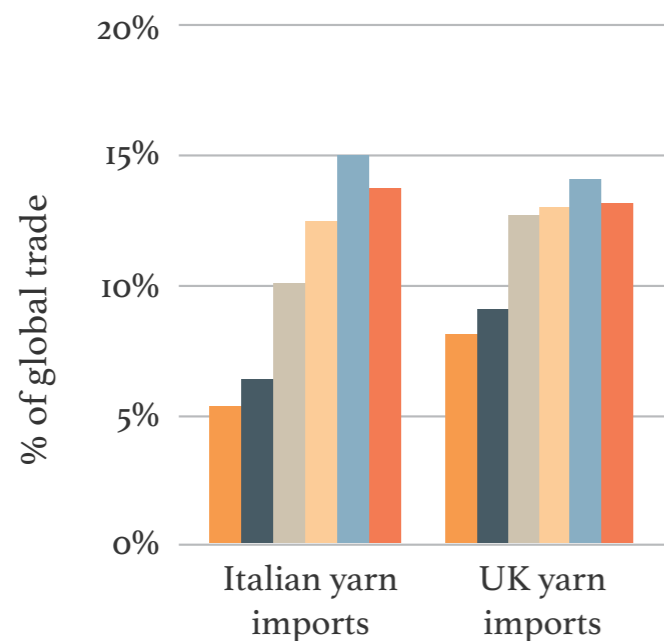
Source: IWTO.

SPUN WOOL MARKET - COMPETITIVE MARKET



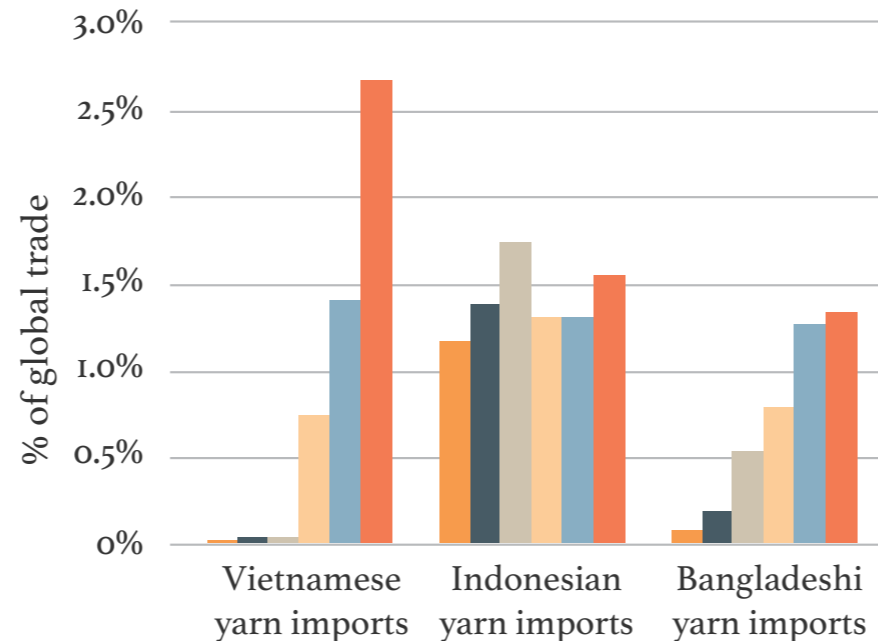
Source: IWTO.

ESTABLISHED MARKETS



Source: IWTO.

EMERGING MARKETS



2001 2005 2010 2015 2017 2018

Australia has the potential to grow and re-establish prominence in the wool industry by processing domestically. The largest barrier to Australia realising this potential is competing with its largest customer for greasy wool, China.

Australia will not be able to compete for exporting scoured/ clean wool as there is little incentive for key exporters to buy greasy/ sell scoured wool, largely due to China's competitive advantage in this space and absence of alternative markets.

There is, however, a potential market for Australia to grow its wool processing capabilities beyond scouring to compete in the global market for processed wool further along the value chain to established countries such as Italy and the United Kingdom and emerging markets such as Vietnam, Indonesia and Bangladesh.



About the project

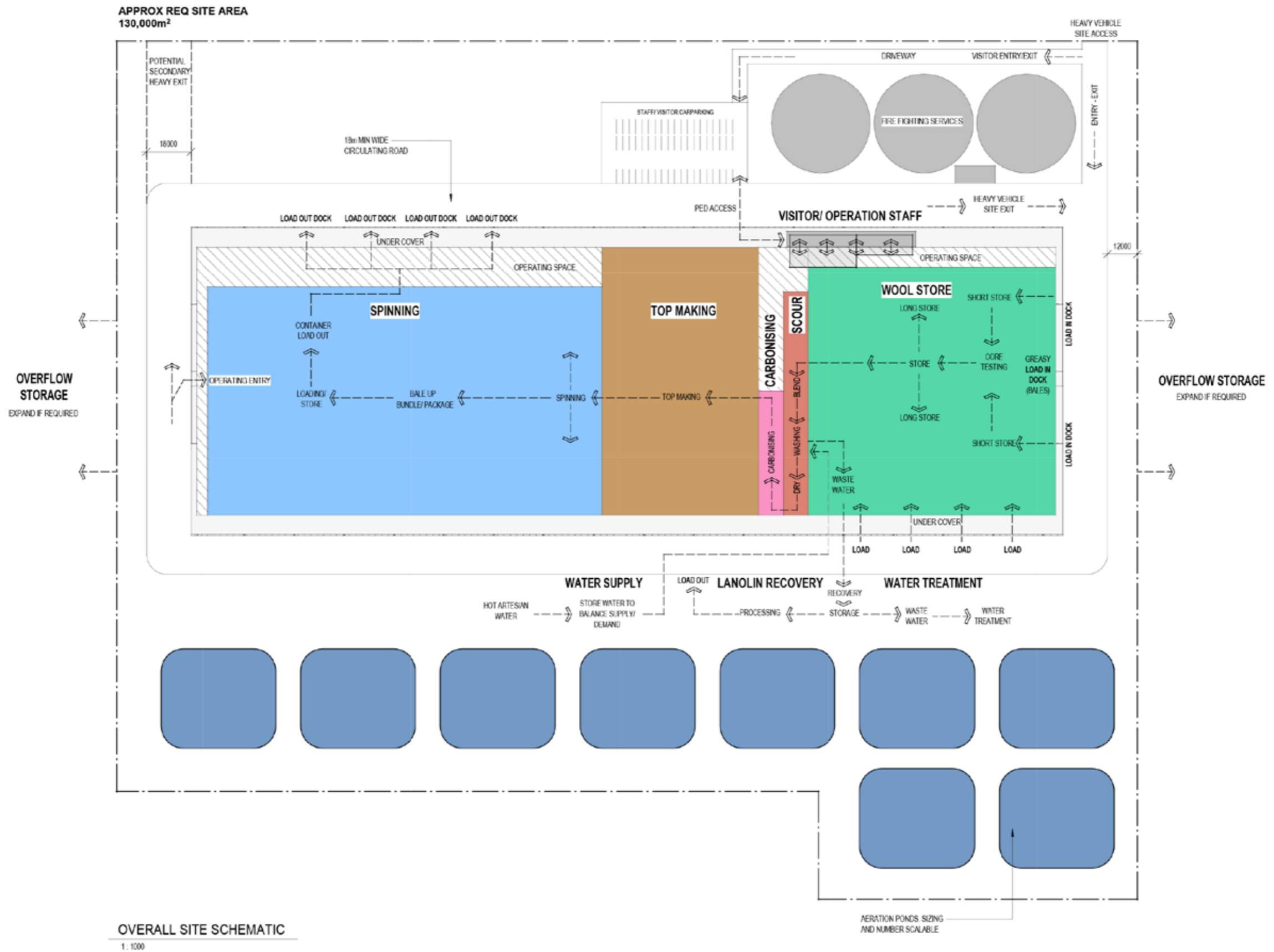
The facility involves transforming a vacant block of land situated at/near Blackall, which is currently owned by Council. The key objectives of the facility in Blackall-Tambo are to provide a value-adding manufacturing complex from wool storage to spun yarn. As a result, the facility will be designed to accommodate the following processes:

- Scouring and carbonising
- Top making
- Spinning and dyeing.

The Blackall-Tambo facility will add 812 jobs to the local economy once operational (with 270 directly)



SITE SCHEMATIC



BUILDING DESIGN



CONCEPT PERSPECTIVE

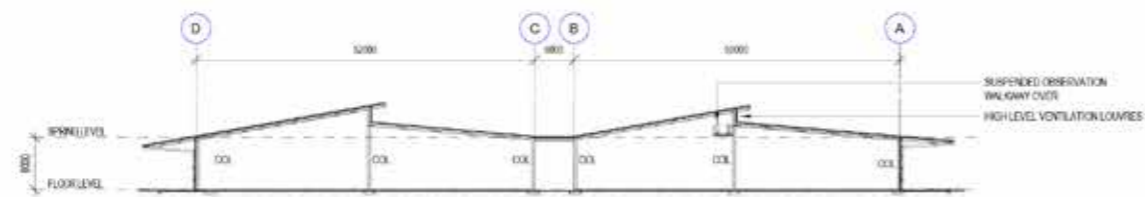


CONCEPT PERSPECTIVE



E01 BUILDING ELEVATION
1:500

E02 BUILDING ELEVATION
1:500



A BUILDING SECTION A
1:500



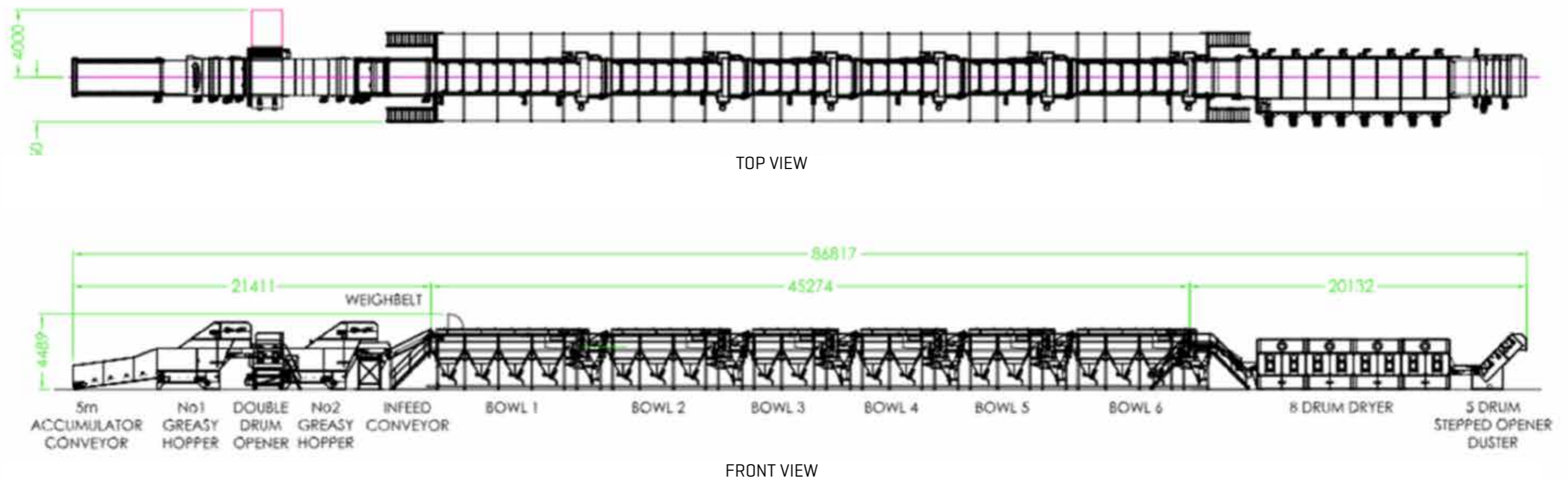
E03 BUILDING ELEVATION
1:500



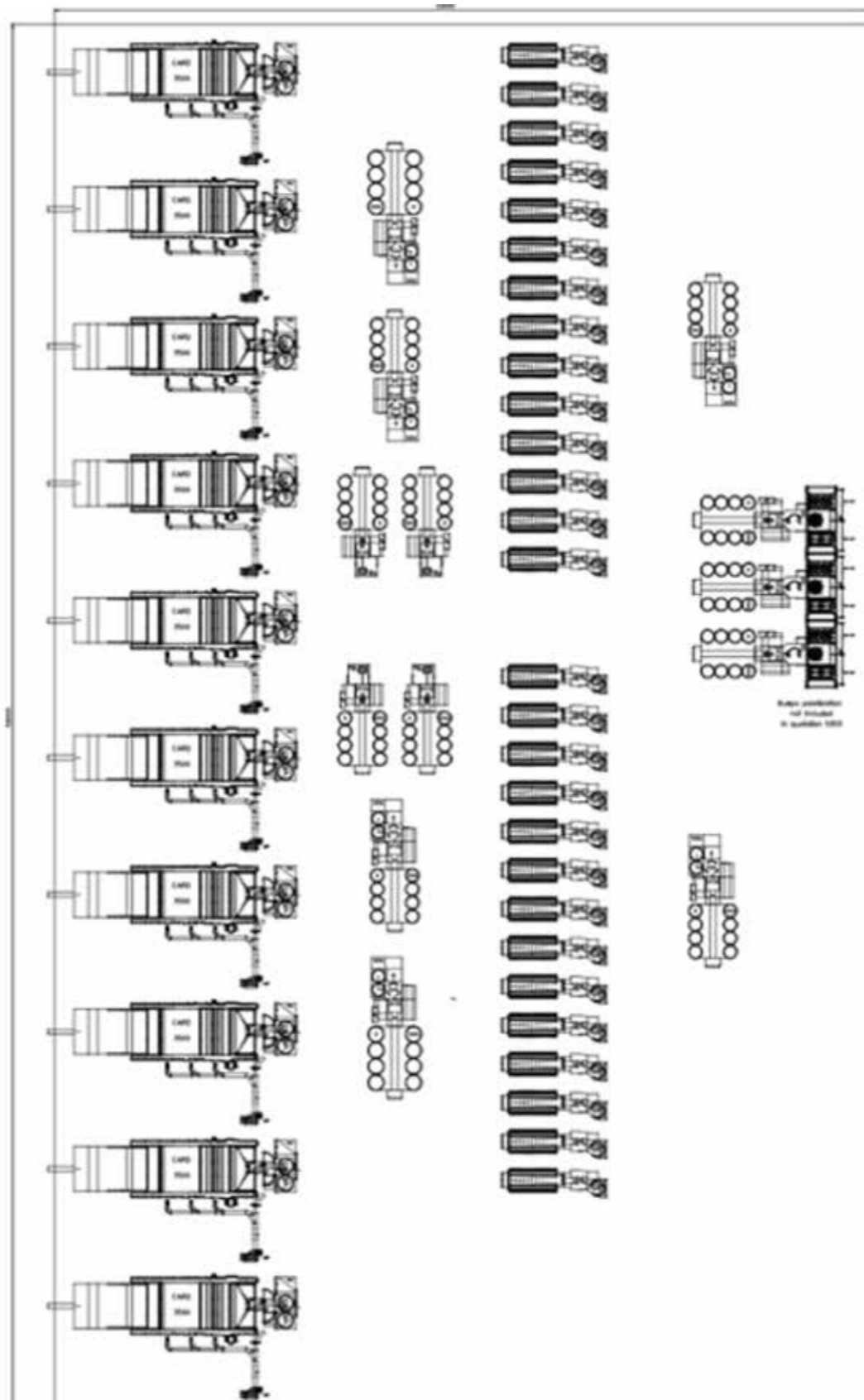
E04 BUILDING ELEVATION
1:500

Example production systems for wool value adding

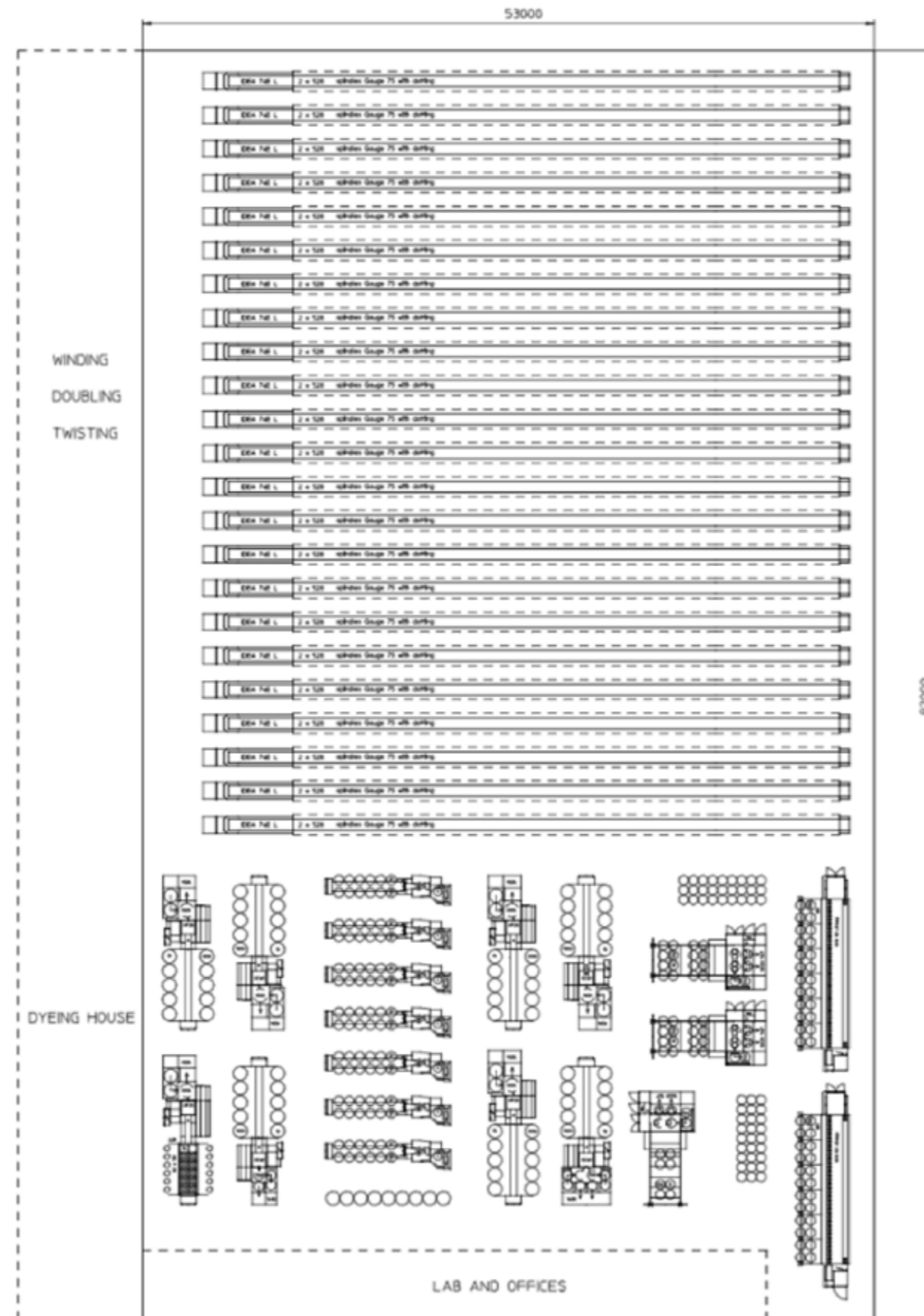
SCOURING



TOP MAKING



SPINNING AND DYING



Financial assessment

The facility, including all of the required machinery, is estimated to cost a total of \$198 million.

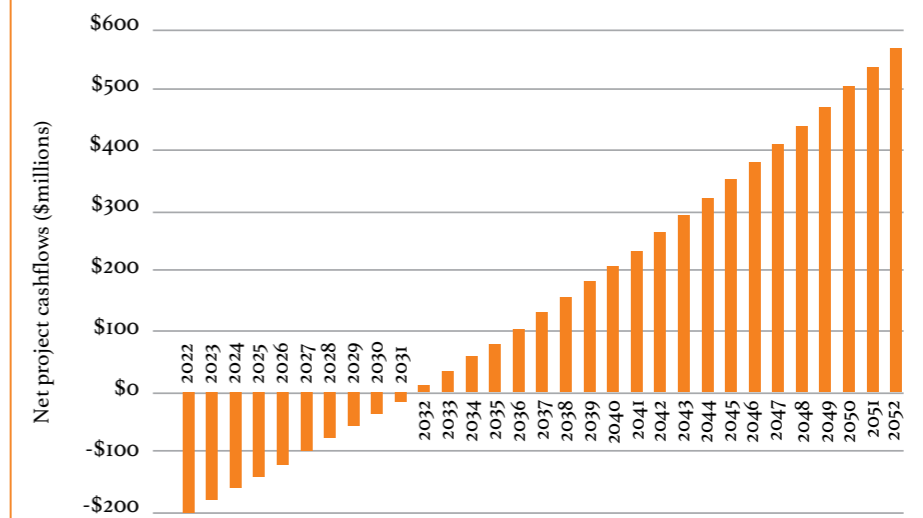
The financial assessment highlights that the closing cash balance is negative in the first 10 years due to the significant capital cost requirements. However, the closing cash balance grows substantially each year to reach a closing cash balance of \$539.5 million in 2051-52.

Capital Costs, Operating Costs and Operating Revenue

Item	\$M
Capital costs	\$198.0
Operating revenues	\$133.2
Operating costs	\$114.5

Source: AEC.

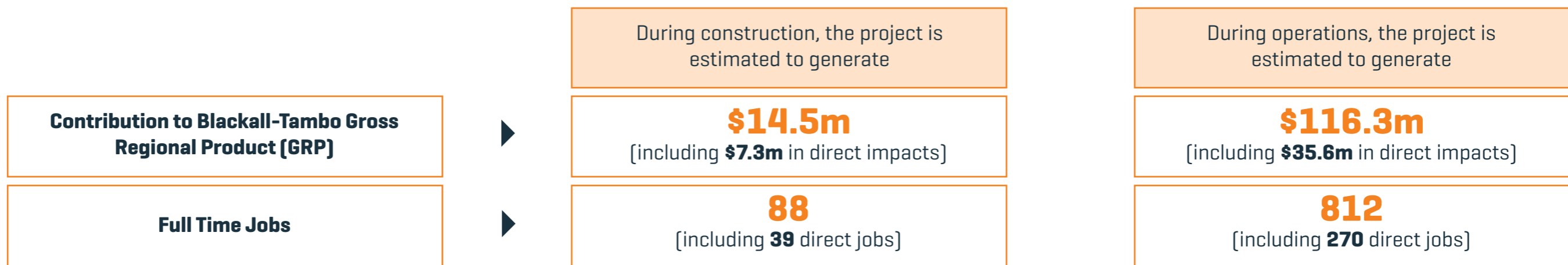
NET PROJECT CASHFLOWS



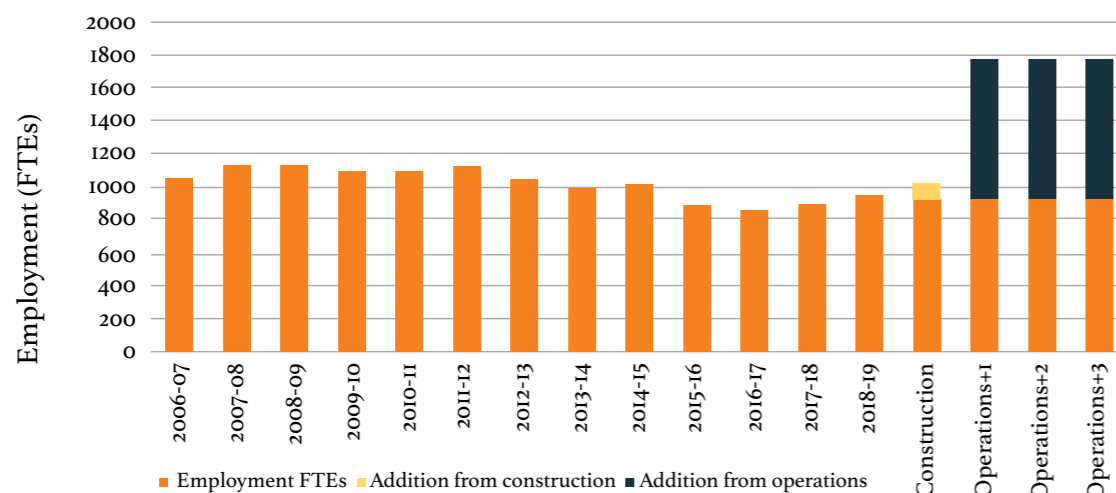
Source: AEC.

Economic impact assessment

The development of the wool processing facility will have significant impact upon the Blackall-Tambo economy:

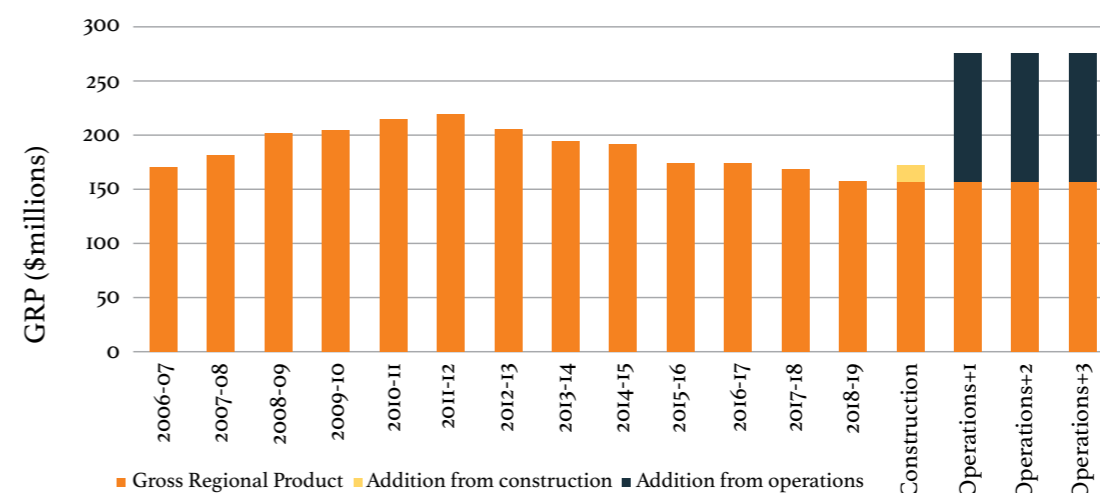


IMPACT ON LOCAL EMPLOYMENT



Source: AEC.

IMPACT ON LOCAL ECONOMY



Source: AEC.



Development considerations

For a private proponent:

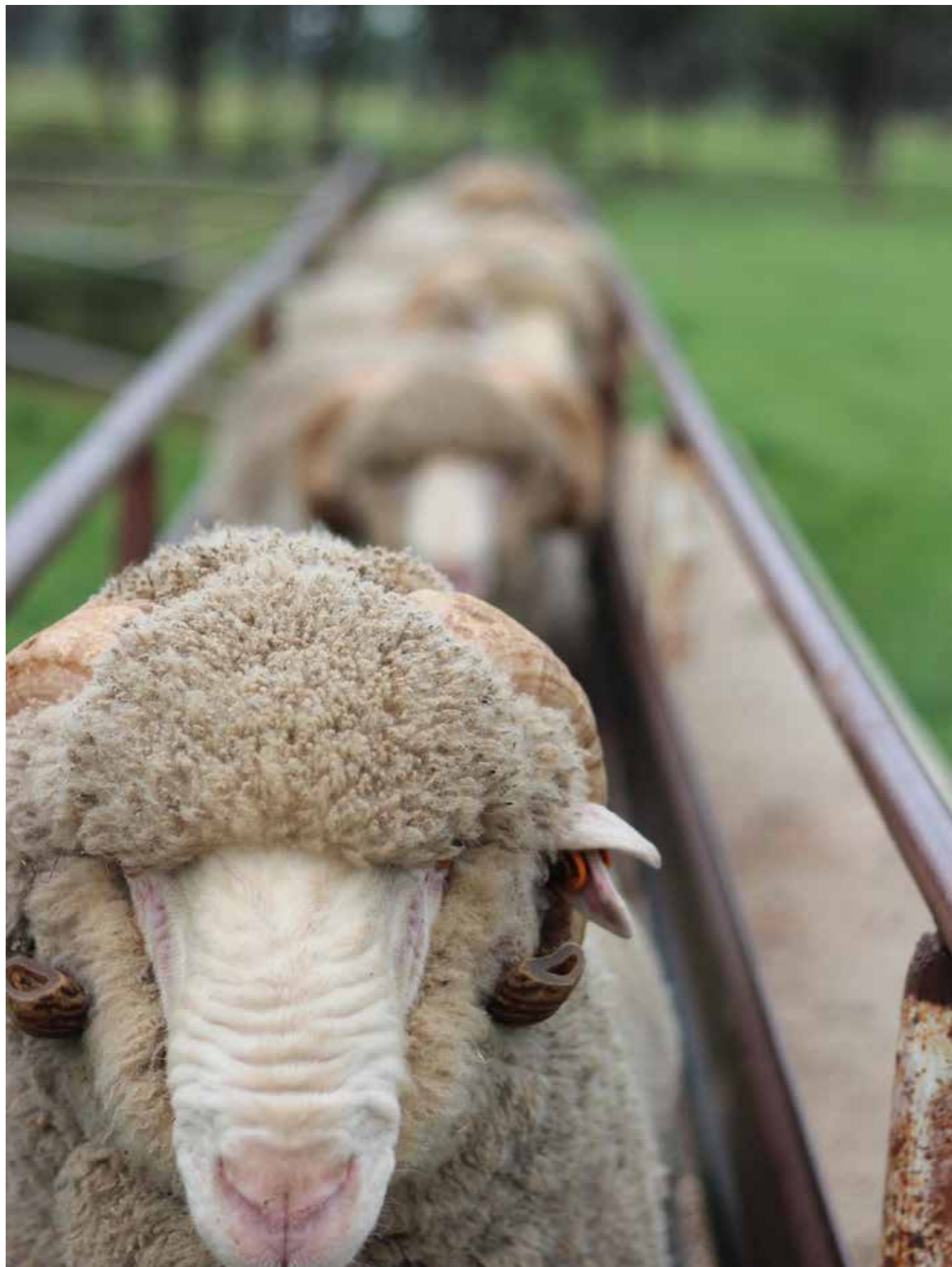
- Establish a development company with a private proponent (or consortia of proponents).
- Identify and secure commercial sales contracts with both wool producers and overseas fabric weavers.
- Undertake commercial due diligence on factory operations and financial feasibility.

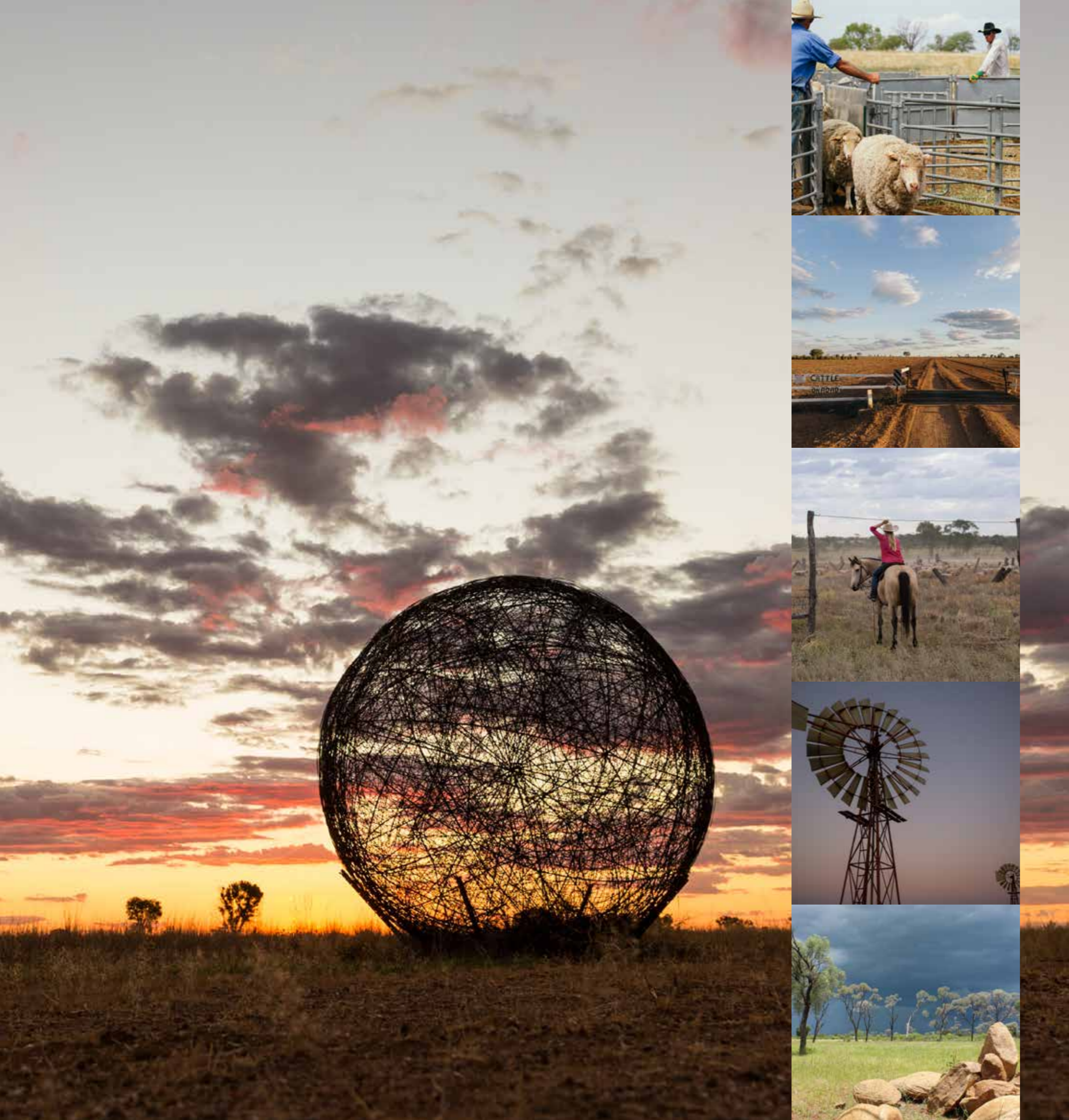
For the Queensland Government:

- Issue water licenses for scour operations and town growth.
- Engage with landowners to communicate the benefits of sheep and wool production systems.
- Expand wild dog fencing funding to expand protection areas.
- Develop local skilling strategy to ensure adequate supply of skilled labour for farming and manufacturing.
- Upgrade local electricity supply to enable factory operations and town growth.
- Review regulatory and tax exemptions to enable development.

For the Federal Government:

- Assist with identifying commercial opportunities in target markets.
- Support commercial establishment through the Modern Manufacturing Strategy.





85 Shamrock Street, Blackall QLD 4472
Phone: [07] 4621 6600
Email: admin@btrc.qld.gov.au