

KIT 4.1

Support research to advise policy and investment decisions that lead to reduced post-farm-gate costs



Impact	Growers realise increased farm gate returns by accessing lowest-cost pathways for grain storage and transport logistics and other post-farm-gate costs.
Summary	<ul style="list-style-type: none">• While the GRDC cannot and will not undertake advocacy on behalf of growers, it can invest in research and development (R&D) to inform debate and policy.• GRDC focuses on R&D that provides information that informs investment in road, rail and grain-handling infrastructure to enable competitive, low-cost movement of grain between producers and end-users.• There may be some limited opportunities to invest in R&D that leads to equipment, technologies and work practices that reduce post-farm-gate costs.

OVERVIEW

The problem

Post farm gate costs, such as those incurred through grain handling, storage and transport, have a large impact on the profitability of Australian grain growers.

Modelling undertaken by CSIRO using their Transport Network Strategic Investment Tool (TraNSIT) was applied to Australia's 2015-16 winter crop production data and from this they estimated the total cost of truck and rail freight¹ was as high as \$2.43 billion; or 27.5 per cent of the gross value of production. This result is consistent with results from research undertaken by the Australian Export Grains Innovation Centre, where they estimated that export supply chain costs contribute on average 30 per cent of an Australian grain grower's cost of production (Australian Export Grain Innovation Centre 'AEGIC' 2014).

Because Australia is primarily an exporter of grain, in an average production year the price offered to Australian grain growers is largely determined by export price parity; that is the price the grain is sold to an international customer, less the cost of handling and transport from farm to export port. While a large domestic market for grain exists in the east coast, in an average production year this grain is priced based on its relativity to export markets, with domestic users (millers, crushers, stockfeed manufacturers, livestock producers etc.) having to compete against the export market when buying grain.

Australia's supply chain costs directly impact on the global competitiveness of Australian grain in export markets. When Australian grain lands in export markets the price paid by the importer has already accounted for both the cost base of the farm gate price and the cost of the supply chain (see Figure 1). Australia's global competitiveness is further exacerbated by the historically low cost of sea freight, which provides a competitive advantage to grain exporting nations with lower land supply chain costs.

In the same way, supply chain inefficiencies within specific grain growing locations; *eg low rail line capacity, restricted road train and b-double access*, impact on the profitability of grain growers within these localities. These impacts are felt through decreased competition for grain produced from that origin, lower site pricing and an increase in direct transport costs borne by grain growers.

¹Including truck movements from paddock to on-farm storage; excluding storage and handling charges.

The net outcome of all of this and other productivity factors is a cost curve that sees the Black Sea and Argentina ahead of the average WA grower.

Wheat Export Cost Curve Into Indonesia

(AUD Per Tonne, Delivered Indonesia, Wheat contestable market)

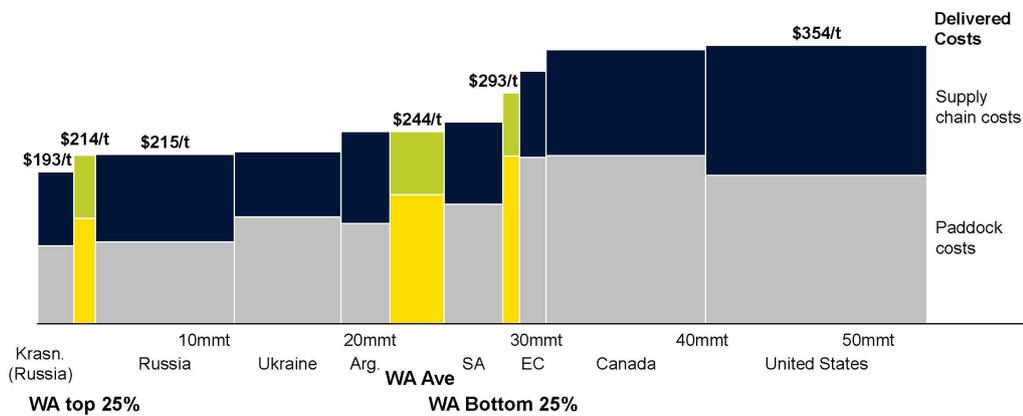


Figure 1: International Competitiveness of Western Australian wheat exports into Indonesia (used with permission of CBH)

Australian grain supply chains

The supply chains that service the Australian grains industry (see Figure 2) vary dependent on whether:

- The grain is destined for end use in an export market or domestically.
- The grain is transported by road or a combination of road and rail.
- The grain is delivered to a bulk handling site or container packer off farm or to export/end user directly from farm.

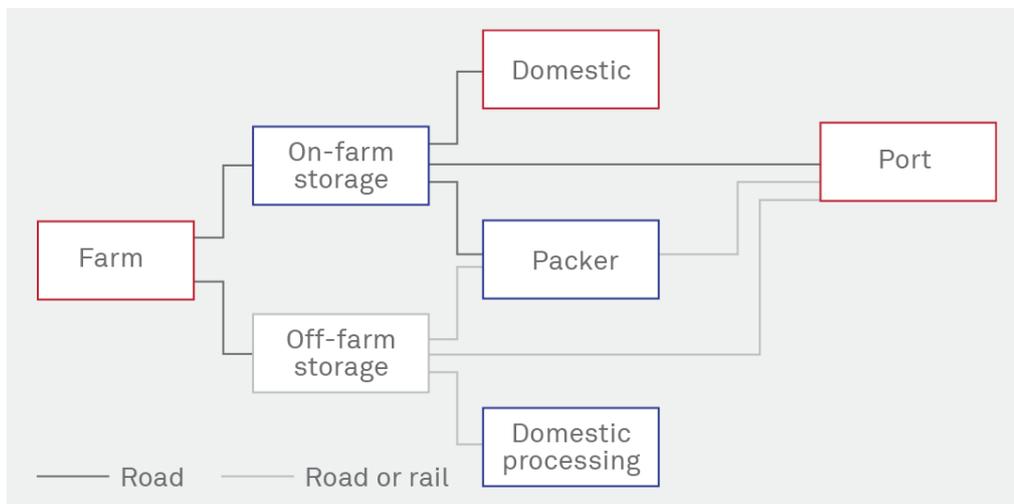


Figure 2: Overview of Australian Grains Supply Chains (Deloitte 2019)

Major drivers of cost in Australia’s export grain supply chains have been identified by AEGIC as:

- Rail and road costs, including access costs to below rail infrastructure, capital costs of train rolling stock and trucks and the impact of inefficiency on the operational costs of train sets and trucks.
- The cost of grain handling services upcountry and at port.

The current state of freight infrastructure planning and decision-making in Australia

Australia’s grain supply chains operate within Australia’s broader freight network, sharing common access infrastructure with other freight, competing with other freight priorities for public investment and subject to many of the same laws governing infrastructure planning and operation of other freight.

With the aim of better understanding Australia's freight priorities and guiding public investment for supply chain efficiencies, the Australian Government tasked the Transport and Infrastructure Council with developing and overseeing a National Freight and Supply Chain Strategy. The strategy's imperatives were identified as:

- Facilitating smarter and targeted freight-related infrastructure investment;
- Enabling improved supply chain efficiency;
- Better planning, coordination and regulation;
- Better freight location and performance data to support planning and investment.

The initiatives proposed under the plan that can impact on grain freight and logistics include:

- The development of regionally based planning and investment frameworks for key freight corridors and infrastructure that connect the regions to export markets.
- Development of targeted infrastructure investment with local governments to maintain and upgrade freight assets that support community sustainability.
- Facilitating the use of digital technologies to improve operational efficiencies and allow the use of innovative technologies such as connected and autonomous vehicles.
- Reform of road user charging models for heavy vehicles.
- Removing inefficient regulatory barriers, harmonising rules around road access and utilizing new technologies that improve cooperation across supply chains to improve operational efficiency.
- Building community acceptance of freight operations.

The implementation of this National Freight and Supply Chain Strategy by State and Commonwealth Governments and industry stakeholders will be important in setting the scene for improvements to the efficiency of Australia's post farm gate grain supply chain. Consequently, this national supply chain strategy needs to be considered in the context of GRDC's analysis of research opportunities aimed at reducing the burden of post farm gate costs on Australia's grain growers.

GRDC's role in improving the cost effectiveness of Australia's grain supply chains

The high costs borne by industry through grain transport and logistics and how much this is reliant on public infrastructure, government investment and policy settings in infrastructure are the subject of close attention by industry representative organisations. It is not GRDC's role to undertake advocacy to seek change in government policy or investment strategy. GRDC will however, invest in research and development that informs the development of industry and public policy that supports beneficial planning, investment, regulation and operation of Australia's grain supply chains.

The strategic focus of KIT 4.1 is to identify and invest in research that informs policy deliberations that leads to reform which removes grain supply chain constraints and in turn creates downwards pressure on post farm gate costs; or invests in research that informs public and private investment decisions that will improve supply chain efficiency.

If this KIT strategy is successful, the outcomes of RD&E investment strategy will enable:

- Higher site price (silo or ex-farm as opposed to port price) due to more of the total price paid by the end purchaser flowing back to the farm gate as a result of;
 - lower deductions in fobbing costs,
 - lower deductions from the port price of grain, and
 - reduced risk borne by others involved in the supply chain;
- Lower costs of transport that growers pay directly.

The strategy will seek to create these outcomes primarily through focusing on:

- RD&E investment that furthers industry and government understanding about the constraints impeding the efficiency of grain supply chains across Australia.
- Providing the grains industry with an understanding of the potential economic benefits of options to overcome constraints to supply chain efficiency and the technical and economic feasibility of delivering these options.
- The opportunity to partner with post farm gate participants in the development of technologies that improve transport, handling and logistics where Australian grain growers will receive a clear benefit in return for GRDC's investment.

FUTURE RD&E FOCUS

SCOPE – Identification of major constraints to efficient grain handling and transport

Government investment in freight infrastructure and the development of policy that impacts on the freight sector is driven by long-term strategies developed with key stakeholders and based on the best available evidence. Well planned strategic public investment in infrastructure as well as the development and implementation of enabling transport and freight policies (eg heavy vehicle road access) will in turn stimulate commercial investment in the grain transport, storage and handling services. Government infrastructure investment and policy development combined and integrated with commercial infrastructure investment will be required to deliver efficient grain supply chains.

Investment Outcome 4.1.1 – Growers and policy makers are aware of the major constraints on the efficiency of supply chain logistics.

RD&E investment from this KIT will target improving the understanding of industry stakeholders and government of existing and forecasted freight flows from farm to end-user, be they domestic or international. These R&D outcomes will assist industry stakeholders and government in identifying, prioritising and mitigating existing and future constraints to the efficient operation of Australia's grain supply chains.

Other R&D targeted at identifying major constraints to the efficiency of Australia's grain handling and transport networks could include focus on the following:

- The risks of system reliability, such as the risks of demurrage or underutilisation of assets such as trains or ships
- Ensuring grain parcels meet end user requirements.
- The impact of power and fuel costs on post farm gate costs borne by farmers.
- The future workforce needs of the grain handling and transport industry.

SCOPE – Assessment of the options available to overcome constraints and inform debate

This will include modelling the potential economic benefits, associated costs and technical feasibility of different constraint mitigation options.

Modelling the impact of potential infrastructure projects and regulatory reform will also assist commercial businesses to develop their own business case for complementary investment in infrastructure and service delivery.

Investment Outcome 4.1.2 – The grains industry understands the potential economic returns from different options for overcoming the most important constraints to supply chain efficiencies.

Because Australia's grain supply chains compete with other freight priorities for public investment, it is important that the grains industry can identify priority infrastructure projects that overcome major constraints, and that these projects include well-articulated value propositions for national, state and local governments. Likewise, where inappropriate regulation impedes efficient operation of grain supply chains, the grains industry needs to precisely define the market or policy failure that creates the inefficiency and develop proposed interventions that will generate benefit without unintended additional costs.

GRDC will invest in research that identifies and models the economic benefits of different infrastructure investment and policy options to address the major constraints identified in Investment Outcome 4.1.1.

Investment Outcome 4.1.3 – The grains industry understands the technical and economic feasibility of options to address priority constraints.

GRDC will also invest in research that identifies the associated costs and technical feasibility of different constraint mitigation options. Modelling the cost and impact of potential infrastructure projects and regulatory reform will also assist commercial businesses to develop their own business case for complementary investment in infrastructure and service delivery.

SCOPE – Development of technologies that improve transport, handling and logistics efficiencies where the benefit flows back to growers

Investment Outcome 4.1.4 – The grains industry has access to innovative freight, storage and grain-handling technologies and solutions that result in efficient supply chain logistics.

GRDC is open to approaches from industry stakeholders to co-invest in the development of equipment, technologies or work practices that improve transport, handling and logistics efficiencies where Australian grain growers will receive a clear benefit in return for GRDC's investment.