QUEENSLAND FARMERS' FEDERATION

Intensive Animal Industries
Queensland Roadmap

2025 - 2035

Contents

Foreword

The direct value of the intensive animal industries of eggs, chicken meat, pork, dairy and feedlots to the Queensland economy is close to $1.75 billion annually. It represents more than 50% of the protein intake of Queenslanders. It is important for food security that legislative impacts on agriculture are carefully monitored to prevent food shortages and ensure agricultural business sustainability and growth.

The Intensive Animal Industries Queensland Roadmap is the result of the intensive animal industries coming together to work through the challenges and opportunities facing their industries now and into the future.

The global population is projected to increase from approximately 8.2 billion in 2025 to 9.7 billion in 2050, and there are increasing pressures not only to feed this growing population but also to manage competition for resources including land, water, and energy. There are also growing expectations to manage supply chains and offset greenhouse gas emissions from activities as efforts to reduce our carbon footprint continue.

The intensive animal industries are sophisticated, agile, and incredibly innovative, proactively leveraging the opportunities available to them, but they are operating in a complex environment and are also facing challenges critical to their future viability and sustainability.

Participants in the roadmap development process included representation from the chicken meat, egg, pork, dairy, and cattle feedlot industries, the Queensland Government, Queensland Farmers' Federation (QFF), and a number of Queensland universities.

Food security for the future needs planning now, and the intensive animal industries will play an important role in safeguarding the sustainable production of food for future generations.

This Roadmap provides focus and direction on the issues that are important to Queensland's intensive animal industries, and I commend this collaborative commitment to work together to build a stronger future for the intensive animal industries.

Jo Sheppard
CEO
Queensland Farmers' Federation

Our vision

The vision of the intensive animal industries is to ensure accessible, affordable, healthy and sustainable protein to feed the Queensland population of 2050 and to contribute to the Queensland economy through thriving industries.

Our purpose

The aim of the Roadmap is to strategically align, prioritise, and communicate a pathway for the intensive animal industries to reduce the risk and maximise sustainable growth of the industries. The Roadmap provides the foundation for an industry-led approach and collaboration with government, while setting out the agreed common goals and objectives.

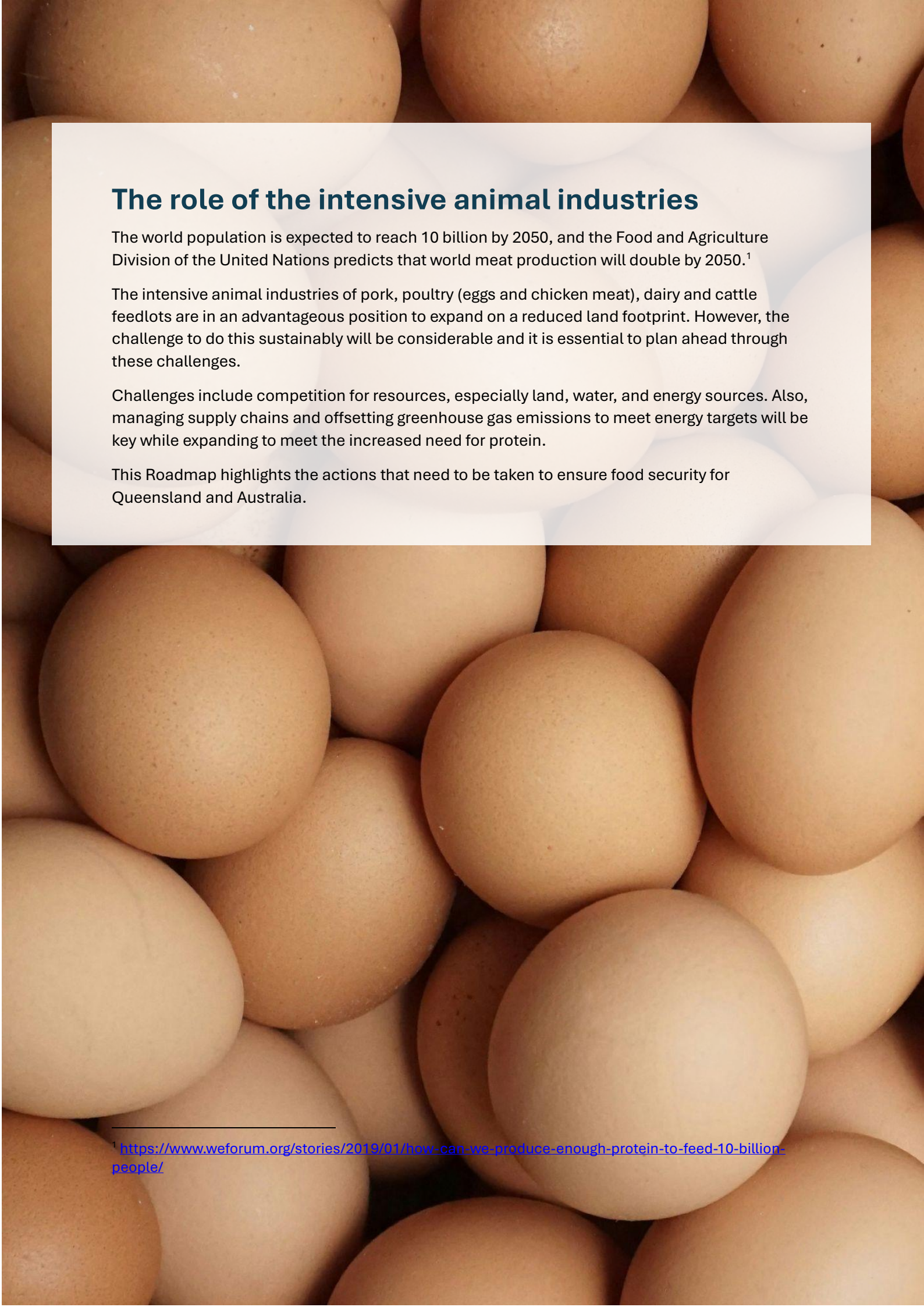
About this Roadmap

This Roadmap began in 2023 when the intensive animal industry leaders came together to discuss opportunities and challenges in the intensive industries. It was quickly realised that the industries shared common challenges and opportunities and that there would be benefit in building a common plan for the future.

Four common themes became evident:

1. Land Use Planning and Management
2. Animal Health, Welfare and Biosecurity
3. Market Demand and Supply
4. Value Based Food Production – sustainability, best practice and trust

These themes became the focus of discussions for workshops held in 2024 and have formed the foundations on which this Roadmap has been developed. It is a dynamic roadmap that will be responsive to changes but it is also a solid framework to guide the intensive animal industries in Queensland on how to build a prosperous future in a sustainable and value-based way.



The role of the intensive animal industries

The world population is expected to reach 10 billion by 2050, and the Food and Agriculture Division of the United Nations predicts that world meat production will double by 2050.[1]

The intensive animal industries of pork, poultry (eggs and chicken meat), dairy and cattle feedlots are in an advantageous position to expand on a reduced land footprint. However, the challenge to do this sustainably will be considerable and it is essential to plan ahead through these challenges.

Challenges include competition for resources, especially land, water, and energy sources. Also, managing supply chains and offsetting greenhouse gas emissions to meet energy targets will be key while expanding to meet the increased need for protein.

This Roadmap highlights the actions that need to be taken to ensure food security for Queensland and Australia.

[1] https://www.weforum.org/stories/2019/01/how-can-we-produce-enough-protein-to-feed-10-billion-people/

Value of Queensland's intensive animal industries

Queensland's agriculture sector is a powerhouse of the state's prosperity and is central to its economy, regions, and communities. The gross value of production forecast for all of Queensland primary industries for 2024-25 is $24.48 billion[2].

The direct value of the intensive animal industries of eggs, chicken meat, pork, dairy and feedlots to the Queensland economy is close to $1.75 billion annually. It represents more than 50% of the daily protein intake of Queenslanders. It is important for food security that legislative impacts on agriculture are carefully monitored to prevent food shortages and ensure agricultural business sustainability and growth.

[2] https://www.dpi.qld.gov.au/news-media/campaigns/data-farm/primary-industries

The egg industry

The egg industry

The egg industry caters to Australia's domestic market primarily, with a small amount of produce exported internationally. The egg industry was worth an estimated $407 million to the Queensland economy in 2023 but has decreased to $375 million in 2024. This is possibly due to proposed regulatory changes requiring a change in housing and egg farms exiting the industry. The forecast for 2024-25 is $390 million.[3] Queensland has the largest layer industry in Australia with more than 30% of the market share. The majority of egg production in Queensland is done on a few farms. These larger farms supply both the local and national market. Eggs are a low cost, affordable, and high quality protein balanced with minerals and vitamins.

Due to biosecurity risks, shell eggs are not imported into Australia to ensure we do not introduce and spread diseases prevalent in other countries but not in Australia. The egg industry is concerned with any import of liquid egg or egg products that do not meet Australian standards. Queensland egg farms generally have large distances between them which helps to reduce biosecurity risks. Export of Specific Pathogen Free (SPF) eggs for vaccine production and day-old chicks is important and can be halted should the industry be impacted by diseases such as High Pathogenic Avian Influenza (HPAI).

Farmers are required to meet the Model Code for Poultry with state and territory governments considering new standards for animal welfare.

Risks and opportunities

Risks

- **Supply**: The egg industry has been having difficulty keeping up with the demand for eggs in 2024. Overlaying that are recent disease outbreaks e.g. 2024 HPAI avian influenza outbreaks in Victoria, NSW and ACT which have impacted on egg supplies.
- **Legislation:** The review process of the Australian Animal Welfare Standards and Guidelines for poultry (10 years) has been finalised but implementation by the jurisdictions has not been consistent. This is causing a lot of uncertainty in planning for the future. Investment is unattractive with no certainty of return on investment. Banks value-down the worth of current infrastructure further reducing borrowing power. With the proposed change to cage requirements, there is a significant capital investment required to build new infrastructure for free range birds. Modifying cages would mean the number of birds that can be accommodated would decrease significantly and further compound the egg shortage.
- **Housing:** Multiple drivers including legislation changes driven by community and welfare organisations and the major retailers are driving the transition to cage free eggs. Contrary to this, the current global HPAI avian influenza outbreaks have caused some overseas countries to order all poultry to be housed indoors until the HPAI risk is lowered. In the 2024 Australian outbreaks, housing order requirements, including keeping hens indoors have been issued in some of the in the emergency declared zones surrounding the outbreaks.

[3] Dashboard, Value of Production – Queensland agriculture, forestry and fisheries sectors https://www.dpi.qld.gov.au/news-media/campaigns/data-farm/primary-industries

- **Biosecurity:** A disease outbreak is the single biggest biosecurity risk which would be catastrophic to large egg enterprises. High pathogenic avian influenza H5N1 is the huge risk especially with the northern hemisphere outbreak which has seen 200 million birds worldwide die. Also, a potentially longer and larger risk is *Salmonella Enteriditis* (SE) whose effects could last from 3-5 years. SE is a major public food safety risk.
- **Food insecurity** caused by disease or loss of businesses due to inability to finance legislative changes is a major threat. Two enterprises supply 97% of the Queensland market for eggs and constitute over 30% of the Australian egg supply.

Opportunities

- **The demand for eggs** is outstripping supply and there are big opportunities if other factors can be managed in the industry's favour.

The chicken meat industry

The chicken meat industry

Queensland's poultry gross value of production was an estimated $700 million in 2023-24. Poultry production in Queensland is supplied by approximately 90 farms with 90% of these located in the state's Southeast. The industry remains one of the fastest growing in Queensland with a 20% increase in value from 2018 to 2023.[4]

The relatively low cost of chicken meat compared to other meats is expected to continue the growth of consumption and the industry. Chicken meat is the most consumed meat by Australians with the average individual eating 50kg every year. It is critical for food security that this supply remains available to the Australian population. Nationwide, the chicken meat industry has an estimated retail value of over $8 billion and employs approximately 58,000 FTE directly and indirectly.[5]

The Australian Chicken Meat Federation (ACMF) strategic priorities cover eight key areas. These are animal welfare, animal health, workforce, food safety, sustainability, trade, research and development and governance.[6]

Risks and opportunities

Risks

- **High pathogenic avian influenza**, especially H5N1, and other emergency animal diseases: Apart from the death of birds, and the consequent shortage of chicken meat, there is the possibility of avian influenza mutating to strains that can infect humans.
- **Workforce shortages**: There is a megatrend of increasing urbanisation with an aging demographic and unskilled workers finding the hard work unappealing and skilled workers such as farm managers being tied to the farm. Migration policies for poultry workers do not have a pathway to permanent residency unlike other industries.
- **Input costs and supply reliability**: Feed costs are high with ongoing uncertainty of supply, especially with imported feed ingredients (mostly in times of drought). There are carbon dioxide supply issues.
- **Social licence to operate**: Persistent myths of hormones in chicken meat have persisted over decades but are lessening with the younger generation showing some evidence of increased understanding of the facts. Perceptions of the misuse of antimicrobial drugs remains despite the industry being very transparent and publishing its regular testing for antibiotic resistance. Animal welfare expectations are increasing.
- **Environmental requirements and state and local government**: Regulations and restrictions can cause difficulty in progressing development. For example, waste management requirements for practices such as on-farm composting can restrict the potential adoption of practices to value add to poultry businesses.
- **A major food safety incident** could impact consumer demand.

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4 https://www.dpi.qld.gov.au/news-media/campaigns/data-farm/primary-industries

5 https://chicken.org.au/our-industry/industry-overview/

6 Strategic Priorities of The Australian Chicken Meat Federation https://chicken.org.au/

Opportunities

- Product demand: The chicken meat industry is still growing (Queensland is planning an extra 300 sheds by 2030). Growth is estimated at 2-4% growth per annum.
- Cost of living pressures: Consumers favour more affordable protein and chicken is the most affordable.
- Leveraging competitive advantages in sustainability, new technologies, vertical integration and collaborative industry networks: This will ensure food security and sustainable industries. There are opportunities in the circular economy and waste management/resource recovery areas.
- Access to research expertise and capability in Queensland: Research in poultry production and food safety from the Department of Primary Industries (DPI) and the Queensland Alliance for Agriculture and Food Innovation (QAAFI) will support adoption of the latest advances in poultry production.

The pork industry

The pork industry

The Queensland pork industry has an estimated value of $473 million in 2024 financial year and is forecasted to be valued at $475 million in 2025.[7] The industry includes approximately 76 commercial pig herds (50 sows to 1000 sows or greater) and has undergone significant growth in the last 10 years. Most pork production is for the domestic market, however Australian pork products are exported to 37 countries, including Singapore, Hong Kong, Germany, Papua New Guinea and Belgium. Queensland has around 22.4% of the national herd with 61,624 sows. Pork production is typically located close to grain growing areas. The Darling Downs has 56% of the states total pig herd while the next largest region is Wide Bay which has 30% of the state's pigs and the Fitzroy region 9.5%.

Risks and opportunities

Animal Welfare:

Risks

- **Animal welfare**: While waiting for new science-based Standards and Guidelines, the pressure from activist groups to make substantial changes to current farrowing systems and space allowances is creating investment uncertainty. The industry continues to invest in research into appropriate enrichment activities and this presents an opportunity for pork to further demonstrate its high animal welfare standards. It is worth noting that up to 70% of the ham, bacon and small goods products in Australia are made from imported pork[8], where animal welfare may not be as high as Australian standards.
- **Animal Health:** Preservation of Australia's health status, reduced reliance on antimicrobials and capacity to prevent and manage responses to emergency animal diseases (EAD's) will be key priorities for the future.

  A) Biosecurity: Foot-and-Mouth Disease (FMD) and African Swine Fever (ASF) are looming. Biosecure premises are critical to maintaining operations if there is an emergency animal disease (EAD). Maintenance of closed borders to genetic imports is a vital pillar in the prevention of disease.

  B) Traceability and quality assurance: The National pork industry has made progress to counter biosecurity risks through PigPass and the Australian Pork Industry Quality Assurance Program (APIQ✓®).

  - PigPass is the national traceability system which provides information on the movements of pigs in Australia. It was integrated with the National Livestock Identification System (NLIS) in 2016 to ensure traceability of pigs for disease control and food safety purposes.
  - APIQ is the Australian pig industry's nationally recognised and independently audited quality assurance program. The program covers food safety, animal

[7] Dashboard, Value of Production – Queensland agriculture, forestry and fisheries sectors https://www.dpi.qld.gov.au/news-media/campaigns/data-farm/primary-industries

[8] https://animalhealthaustralia.com.au/wp-content/uploads/dlm_uploads/2018/11/Antimicrobial-stewardship-in-Livestock-Report-2021-.pdf

welfare, biosecurity, environmental management, and traceability. It supports PigPass with the supporting quality assurance framework.

C) Vaccine development: Advances in vaccine development for COVID-19 and other pathogens could revolutionise future access to vaccines for livestock. More timely vaccine development and production capability for diseases like Japanese encephalitis, ASF, other EADs and endemic pathogens would be welcomed.

D) Antimicrobial stewardship: Strategies aligned to ASTAG guidance and to the 5Rs (responsibility, review, reduce, refine, replace) including elimination of in-feed medication, increased availability and use of vaccines, strategic medicine use, detailed monitoring and traceability, and no use of "high importance" antibiotics or antibiotics for growth promotion are effective and will continue.

Opportunities

- **Australian Pork Sustainability Framework:** The framework will continue to build a socially accepted industry based on community expectations. The industry is deeply committed to the care of its pigs, the environment, people, and communities, providing Australians and overseas markets with safe, reliable, and nutritious food. The recently released Australian Pork Sustainability Framework Baseline Report found that pork producers have embraced the circular economy with 78% of pork producers reusing effluent on crops, 49% using solar power, 44% recycling water on farm and 58% composting bedding and manure.

Priorities

- **Priorities for the next 10 years:** Priorities include enforceable trespass laws, welfare leadership (farrowing alternatives), access to and protection of water resources (essential), a wider range of practical effluent management options and a streamlined development approval process. Investment in Queensland-based research and facilities is also needed.

The dairy industry

The dairy industry

The Queensland dairy industry produces over 289 million litres of milk annually and is valued at more than $250 million to the state's economy. The dairy industry continues to be the mainstay of many regional Queensland communities.

Australian dairy production is 8.3 billion litres per annum with a value of $4.7 billion. The Australian dairy industry enriches regional Australian communities; however milk production has declined from more than 9.5 billion litres in 2006-07 to 8.3 billion litres in 2023-24. All states have experienced a decline except for Tasmania. In Queensland, milk production has almost halved dropping from 537 million litres to 280 million litres in 2023-24.

Dairy is one of Australia's leading rural industries in terms of adding value through downstream processing. Much of this processing occurs close to farming areas, thereby generating economic activity in country regions.

Queensland milks 70,000 cows on approximately 240 farms located throughout southeast Queensland, including the Darling Downs and Scenic Rim regions, as well as the Burnett region, the Sunshine Coast and North Queensland. Within the northern dairy region there are seven major processing plants and more than 50 minor processing factories.

The majority of dairy production in Queensland goes directly into providing fresh white milk. The Queensland industry produces approximately half of the fresh white milk sold in Queensland.

There is a significant challenge for Queensland milk processors with low-profit margins threatening their viability. It is anticipated that this will be particularly prevalent for those operating in North Queensland over the next five years. If the major factory in North Queensland were to close, this would have devastating impacts for local dairy farmers and the community. There would be no opportunity for almost all farmers supplying that factory to continue dairy farming and they could be forced into alternate industries with lower turnover and labour requirements. This could also potentially mean the loss of hundreds of jobs, on-farm, in the factories, and in the regional community.

Risks and opportunities

Risks

Current challenges include:

- retail market issues
- biosecurity – National Livestock Identification System (NLIS)) tag reconciliation, will compromise any disease outbreak if not addressed
- rising input costs, and
- animal welfare activism.

Opportunities

- Biosecurity – uptake of innovation e.g. cow collars to detect early health issues.
- Welfare – utilise bobby calves, increase welfare standards to create a positive industry image with higher value placed on product.
- Environment – use food miles as opportunity to minimise carbon footprint.
- Production – greater uptake of technology and efficiencies.

The cattle feedlot industry

The cattle feedlot industry

There are 356 National Feedlot Accreditation Scheme (NFAS) accredited feedlots in Australia. These feedlots have capacities ranging from under 500 to more than 50,000 head. The majority (60%) of feedlots in Australia are located in Queensland.

The cattle feedlot industry continues to go from strength to strength with the number of cattle on feed exceeding 1.4 million head and feedlot capacity breaking 1.6 million head for the first time in June 2024. This represents seven consecutive quarters of growth in the number of cattle on feed, and a 5% year-on-year increase in feedlot capacity.

Risks and opportunities

- **Biosecurity: Build feedlot capability to respond to an Emergency Animal Disease (EAD) threat**
    - Build feedlot enterprise capability through the creation of a suite of resources including operational procedures for preventing and responding to an EAD incursion that will be delivered by an infield extension activity nationally.
    - Review the AUSVETPLAN Manual for beef feedlots to ensure a modern, fit for purpose manual.
    - Build the feedlot industry service providers knowledge and understanding of EAD preparedness.
    - Build Australian Lot Feeders Association's (ALFA) EAD response capacity through training and other opportunities.
- **Labour and skill shortages: Attract, retain and grow the feedlot workforce**
    - ALFA enhances capacity building through training on Feedlot TECH. The hub showcases careers in the lot feeding industry, job opportunities and training opportunities.
    - The plan is to promote careers in the lot feeding industry on Feedlot TECH, social media, and career days and to provide core feedlot training courses (eLearning) covering all aspects of feedlot operations.
    - The hub has trained 1291 individual and 265 feedlot users. It has released core e-learning training courses in feeding and milling, livestock handling, pen riding and NFAS fundamentals with more courses in the pipeline.
- **Animal welfare: Shade initiative**
    - ALFA is proud of its initiative that encourages all Australian feedlots to make a pledge to provide cattle under their care with access to shade. With 70.4% of cattle on feed at any time under shade, the feedlot industry is making strides towards this goal.
    - This initiative builds on the feedlot industry's already strong commitment to animal welfare and positions the sector for long term sustainability.
    - MLA feedlot Research and Development Program is investing in feedlot shade trials and a best practice shed design and construction manual. The plan is to demonstrate production and welfare benefits through research and development and to communicate solutions.

- **Animal health: Antimicrobial resistance - protecting the efficacy of our medicines**

  Currently, there is a three-pillar approach to antimicrobial resistance. This includes:
  - Stewardship – reduce and replace
  - Usage monitoring – understand usage patterns and
  - Resistance surveillance.

  Stewardship has been mandatory under the National Feedlot Accreditation Scheme (NFAS) from 1 January 2022. Two resistance surveillance studies have shown Australia is doing well.

- **Grain security:** Last drought domestic supply of grain came close to being exhausted. Import protocols need to be explored further and tested in preparation for future droughts.

Key pathways for success

Key pathways to success

Four pathways have been identified as key to success for the Intensive Animal Industries:

1. Land use planning and management.
2. Animal health, welfare and biosecurity.
3. Market demand and supply.
4. Value based food production – Sustainability, best practice and trust.

How we will get there

Our pathways will be integrated with a:

- shared vision
- collaborative approach
- problem solving attitude to overcome challenges.

Pathway 1: Land use planning and management

Our priority pathway, 'Land use planning and management' is driven and guided by:

- The need to produce more food by 2050 requiring planning in an environment that is becoming increasingly competitive.
- The need for expansion of current industries to meet the demand for more food. This will require new prioritised areas to build enterprises, possibly with a larger land footprint due to legislation changes on livestock housing requirements.
- The need to manage the critical factors of land management and planning vital for the future of the intensive animal industries in Queensland including legislation, improved access to water and energy and streamlined approval processes.

Our priority pathway, 'Land use planning and management' aims to ensure:

- Harmonised and well-planned legislation changes which are consulted, co-developed and communicated well in advance so that there is optimal time adjustment for changes and investment in infrastructure.
- Increased priority land availability for expansion to feed the expected needs for 2050 and beyond.
- Sufficient reliable water access for intensive animal production's current and future needs, including in drought times.
- Streamlined development approval processes as shown by simplified systems adopted that meet agencies and industry need.
- Manage urban encroachment and buffering issues where urban development impedes intensive livestock operation, particularly in south- east Queensland (SEQ).
- Utilise legislative framework to manage nuisance complaints for established operations where new development does not adhere to essential buffer zones.
- Ensure consistency in SEQ region Priority Agricultural Areas (PAA's) offered to agricultural land uses with those in PAA's in the Wide Bay Burnett.

Pathway 2: Animal health, welfare and biosecurity

Our priority pathway, 'Animal health, welfare and biosecurity' is driven and guided by:

- The need to minimize the risk of large disease outbreaks which would cause closure of businesses, interrupted food supply chains and loss of international markets.
- The need for preservation of Australia's animal health status for export markets, reduced reliance on antibiotics and capacity to manage emergency animal diseases.
- The need to safeguard human health through ensuring safe, nourishing and wholesome foods.
- The need for animals to be healthy and kept in best welfare standards.

Our priority pathway, 'Animal health, welfare and biosecurity' aims to ensure:

- Increased preparedness with:
    - Increased number of skilled and trained personnel to respond to disease outbreaks.
    - Increased percentage of farms with bio secure premises and practices.
    - Increased awareness of biosecurity in the general community.
    - Updated and maintained essential tools to support disease emergency responses.
- Recognition of high animal welfare standards by the community.
- Maintenance of low use of antimicrobials.
- Research and introduction of the latest technologies e.g. mRNA vaccines to allow rapid production and scalability of vaccines to control disease.

Pathway 3: Market demand and supply

Our priority pathway, 'Market demand and supply' is driven and guided by:

- The need for access to skilled workforce and accommodation in regional areas.
- The need to ensure stable input costs and supply reliability.
- The need for feed and production efficiencies.
- Investment in Queensland based research and efficiencies.
- Effective marketing and promotion.

Our priority pathway, 'Market demand and supply' aims to ensure:

- Workers will be attracted to the sector for access to training, housing, and regional services, enhancing farm business productivity and prosperous regional communities.
- Input costs will stabilise with better understanding of the impacts of legislative changes and government support and incentives for essential change. Shortages and rising costs will be managed by proactive identification of alternatives.
- The intensive animal industries will see increased investment in research incentives and infrastructure.
- Intensive animal industries grow and continue to supply high quality food to the Australian public in an environment where import policies ensure that exotic disease entry and unfair competition do not jeopardize Australian food industries.
- Food labelling will be clear and transparent ensuring consumers are not misled by food labelling that misrepresents their actual content e.g. 50% of people in an Australian Pork Limited survey considered 'plant based roast pork' to contain pork.

Pathway 4: Value based food production - Sustainability, best practice, and trust

Our priority pathway 4, 'Value based food production' is driven and guided by:

Consumers, stakeholders and financial capital providers are looking to understand and trust how entities identify and manage sustainability risks and opportunities.

- **Environment credentials:** Premium markets in Europe and the United States require credentials. Consumers demand sustainable products.
- **Social licence to operate**: Values expected by the community including animal welfare, sustainable food production and reduced anti-microbial use.
- **Good governance:** Companies, supply chains and organisations require effective governance provisions for their operations to demonstrate integrity, transparency and trust in their food production and supply.

Our priority pathway 4, 'Value based food production' aims to ensure:

- **Environment:**
  - Increased efficiencies without undoing sustainability gains.
  - Sustainability goals are reached through adopting latest technologies.
  - Increased number of farms accessing funding to adopt sustainable practices.
  - Reduced overall emission targets in accordance with goals.
- **Social:** Community and welfare groups are not opposed to the intensive animal industries.
- **Governance:** No complaints or concerns raised about the intensive animal industries with trust, integrity and transparency being cornerstone values.

Table 1: Action plan for 'Land use planning and management'

Issue	Aspiration	Actions	Impacts	Performance Indicator
Legislation uncertainty - long lag times in the development of standards and guidelines (S & G's) may delay investment in new farms pending final decisions by government. Further uncertainty is added in implementation timelines following the S & G's being decided upon. In 2012, FAO estimated that there will need to be 60%[9] more food by 2050 and legislation uncertainty delays new investments.	**1.1** Changes to legislation that require infrastructure changes should have a long lead in time to allow adjustment by the industry. If the legislation change is required more quickly, then government assistance should be available to enable industry to make the structural adjustment.	**1.1** Maintain active engagement with legislators and decision makers.	**1.1** • Legislators have a better understanding of the needs of intensive animal industries and the impacts uncertainty may cause. • More confident investment in infrastructure will ensure food security into the future.	**1.1** • Industry has input into proposed changes. • Legislation changes are well planned and communicated so that there is optimal time to adjust to changes.
Land for industry growth - some priority areas are approaching capacity and limited by availability to water. New land for development is getting harder to find with urban encroachment, local council inconsistency lengths of times to get	**1.2.** Suitable land for producing more food from the intensive industries is identified with proximity to water, energy and feed.	**1.2.1** Review previous reports and reviews e.g. Land Availability Survey. **1.2.2** Identify future sites.	**1.2.1** Information and reports will establish a baseline on which to build plans for future expansion. **1.2.2** Site identification supports proactive planning for food production and regional growth.	**1.2** Intensive agriculture has increased land availability for expansion to feed the expected needs for 2050 and beyond.

[9] Food and Agriculture organisation of the United Nations https://www.un.org/en/chronicle/article/feeding-world-sustainably

approvals, agency and compliance requirements and development costs.		**1.2.3** Monitor impacts of legislated changes in stocking density which if decreased may lead to expanded environmental footprints. **1.2.4** Engage with government for a dedicated planning process for the future development of the intensive animal industries in line with land suitability assessments. • Develop protected agricultural areas for southeast Queensland and progress this with State government via legislative change. • Examine potential for zoned/gazette areas for priority areas in the rural landscape. • Engage QFF/industry in the land planning process with State gov. • Engage with councils (local) re SEQ Regional Plan to protect agricultural land.	**1.2.3** Monitoring of variables such as legislated changes to stocking density requirements will ensure no costly last-minute alterations to enterprises. **1.2.4** • A dedicated planning process will minimize set up costs and ensure harmony with competing needs from other land sector uses. • Protected agricultural areas will allow intensive animal industries to plan with confidence.	

Water, energy and the environment Access to water is essential for establishing and maintaining new enterprises. It is vital for business sustainability and essential for animal welfare.	**1.3** Water supply is reliable, clean and affordable to guarantee food production and essential for animal welfare.	**1.3.1** Maintain active engagement with State government of the requirements of intensive animal industries for water. Early engagement in water planning processes from industry. **1.3.2** Introduce more simplified way to access water and continuity. Identify efficiencies e.g. self-assessment for water access where suitable. **1.3.3** Ensure water security and resilience with contingency planning to ensure supply in drought (e.g. access to bore water).	**1.3.1** Good working relationships provide security for farmers to plan ahead. **1.3.2** Streamlined and more efficient processes will enhance productivity. **1.3.3** Contingency plans ensure continuity of food supply during times of drought.	**1.3** Intensive animal industries have sufficient water access for their current and future needs, including during drought.
Streamlined development approval process Planning for new enterprises can take decades and investment costs significant. Uncertainty and delays in the process can make or break new businesses, especially if applying for loans.	**1.4** Complexity of approval processes are reduced without reducing the rigor of the process.	**1.4.1** As far as possible, rationalize and harmonize regional processes with local government (often extremely difficult in some council areas). **1.4.2** Industry to engage with government in planning: • Reduce cumulative requirements of the	**1.4.1** Local councils have a consistent approach for development applications. **1.4.2** Relevant and timely outcomes of development applications	**1.4** Simplified consistent systems adopted that meet the needs of all agencies and industries.

		process from different agencies. • Climate action needs to be expressed that are relevant to the intensive animal industries – each has different requirements and mitigation strategies developed. **1.4.3** Engage QFF/industry in the land planning process with State government for the sustainable development of intensive animal industries.	**1.4.3** Agencies requiring specific outcomes will be able to ensure their priorities are met but in a one stop shop that makes it easy for all.	

Table 2: Action plan for 'Animal health, welfare and biosecurity'

Issue	Aspiration	Actions	Impacts	Progress Indicator
Disease outbreak preparedness and extension. A disease outbreak which requires the destruction of livestock and potentially loss of markets for months and years is the most devastating of outcomes for intensive animal industries. Preventing, preparing, early detection and effectively responding are the highest priorities for intensive animal industries.	**2.1** All farms and enterprises are aware of risks and have biosecure properties and plans. Skilled personnel in both industry and government can detect early, respond and efficiently manage biosecurity risks.	**2.1.1 Capacity and capability to respond** • Regular industry specific exercises – improve skills and capacity. • Continue to work on solutions in large enterprises in destruction, disposal and decontamination. • Interface between State and Local governments, resources in those local communities. **2.1.2 Prevention** Ensure biosecure premises. Feedlots are auditable under EAD preparedness. The pig industry is encouraging adoption of Voluntary Enhanced Biosecurity Standards (VEBS) which would allow premises to be recognised for enhanced standards of biosecurity.	**2.1.1** Skilled industry and government personnel will manage risks and outbreaks competently mitigating impacts on the supply chain. **2.1.2** Biosecure properties will minimize likelihood of being infected even if the viruses are in the area.	**2.1.1** Increase in the number of skilled and trained personnel to respond to outbreaks. **2.1.2** Increase in the percentage of farms with biosecure premises.

		2.1.3 Education and awareness Prioritise education and awareness particularly in smaller/medium producers; however, producers of all sizes need to be engaged. • On-farm adoption – online and on farm training courses in welfare, EAD and biosecurity, industry. • Peer based promotion of good biosecurity systems by local leaders taking into account concerns about potential targeting by activists. **2.1.4 Systems and innovation for preparedness and early detection** • Traceable systems for all industries - development of movement permit system in poultry • Up to date AUSVETPLAN manuals - regularly review(AHA)	**2.1.3** Education and awareness are the first prerequisites of adoption of good biosecurity. Increasing awareness will strengthen defences against disease outbreaks. **2.1.4** Good traceability, effective up to date manuals and prioritizing early detection are critical tools for managing disease outbreaks.	**2.1.3** Biosecurity awareness is increased for the intensive animal industries. General biosecurity understanding by the community by promoting the good stories preferably by farmers and also by other strategies. **2.1.4** Essential tools to support disease emergency responses are maintained and updated.

		• Monitor progress in 2-year Grain fed levy funded project for feedlot enterprise manual to develop model operational procedures to respond to disease incursion. • Prioritise early detection through awareness, targeted and general surveillance and uptake of innovative ways to monitor animal health including AI, machine learning, hot spots via cameras and cow collars to detect early health issues.		
Anti-microbial resistance (AMR) reduction	**2.2** The use of antibiotics in livestock can lead to resistance which affects both the human and animal population as simple	**2.2 Continue current strategies** • Commit to Australia's Animal Sector Antimicrobial Action Plan 2023 to 2028[10]	**2.2** AMR surveillance in the pork, chicken meat and egg sectors are monitored and have previously shown that the level of	**2.2** Australian animal industries will continue to be one of the lowest users of antimicrobials in the world.

[10] Australia's Animal Sector AMR Action Plan 2023 to 2028 (DOCX 648 KB)= https://www.agriculture.gov.au/agriculture-land/animal/health/amr/animal-sector-plan

	infections may not be able to be treated potentially resulting in death in the worst-case scenarios. The intensive animal industries have been very active in strategies to manage the responsible use of antibiotics and have achieved some impressive results.	• Monitor global developments. • Continued use of strategies such as elimination of in feed medication, more reliance on vaccination, targeted medication, detailed traceability and records, no use of "high importance' antibiotics[11]	AMR was either low or negligible against medicines that are important for humans. Strategies for reduction in all food producing animals will contribute significantly to human and animal health.	
Animal welfare Good animal welfare is essential for social licence and community perception of how animals are raised is important in maintaining that social licence.	**2.3** Animal welfare standards and guidelines reflect best practice supported by both industry and community.	**2.3.1 Standards and guidelines** • Ensure good quality standards of animal welfare to meet animal needs and community expectations. • Finalise and shorten the length of time in the S & G development process. • Legislative Framework flexibility as intensive industries evolve (national coordination & consistency).	**2.3** **Implemented Standards and guidelines** that protect animals and meet industry and community expectations will ensure stability and high standards of welfare that will benefit the sustainability of food producing animal industries.	**2.3** Recognition of high animal welfare standards and harmonious relationships with welfare organisations.

[11] Antimicrobial Stewardship in Australian Livestock Industries 2021 = https://animalhealthaustralia.com.au/antimicrobial-stewardship-in-australian-livestock-industries/

		2.3.2 Implementation and monitoring • Ongoing 3rd party industry accreditation programs on welfare. • On farm and online training programs. **2.3.3 Communication** • Demonstrate production and welfare benefits through research development and communication of solutions. E.g. MLA feedlot shade trials and shade forums. • Community education about the industry.		
Research and vaccine development Vaccine developments allow for more timely responses for disease such as JE, ASF and FMD. AI and LSD vaccine development using miRNA vaccine technology is likely to have tangible benefits for the future in preventing catastrophic situations.	**2.4** The Queensland and Australian intensive animal industries will research and adopt the latest technologies to prevent disease	**2.4.1** • Continue to advocate for vaccines to minimise disruption during an outbreak. • Ensure equitable access to vaccines for producers.	**2.4** Many animal diseases that can have a devastating impact on animals can be prevented through vaccination.	**2.4** Introduction of the latest technologies e.g. mRNA to allow rapid production and scalability of vaccines.

Table 3: Action plan for 'Market demand and supply'

Issue	Aspiration	Actions	Impacts	Performance indicator
Workforce and accommodation shortages	**3.1** Workers will be attracted to jobs in the intensive animal industries and want to stay because of access to: • affordable accommodation options, • good training and career paths, • regional infrastructure and services • supported government incentives (e.g. visas).	**3.1.1** Keep up to date with the latest information from consultants specialising in workforce supply. **3.1.2** Engage with local government for common housing approach for on-site accommodation; state government to supply information regarding changes in the setting up and construction of accommodation at key regional sites for workers. Explore options for capital support for return on investment. **3.1.3** Training for staff – capacity building through training (e.g. feedlots) Enhance career pathways in the intensive industries. Ensure access to RTOs for specific skills.	**3.1.1** Up to date information will give intensive animal industries agility and foresight to manage unexpected factors affecting workforce supply. **3.1.2** Flexible housing options such as on-site accommodation increases supply and puts less pressure on the availability of rentals in the regional community. **3.1.3** A skilled workforce will increase job satisfaction, enhance career paths and allow for more productive workplaces.	**3.1** Workers will be attracted to the sector for access to training, housing, and regional services, enhancing farm business productivity and prosperous regional communities.

		3.1.4 Dialogue with local and state government on improved regional services (attract staff). **3.1.5** Provide tangible certainty around work and holiday visa provisions; explore the possibility to permanent residency (retention of staff).	**3.1.4** Good regional infrastructure will retain workers and their families and enhance regional communities. **3.1.5** More pathways for staying in Australia will mitigate worker shortages.	
Input costs and supply reliability.	**3.2** Input costs from legislated requirements (animal welfare, biosecurity and the environment) will be supported by government incentives to avoid passing on to consumers. Feed additives and general supply fluctuations will be foreseen and managed to ensure no supply chain disruptions or animal welfare implications.	**3.2.1** Continue to tell the stories of the impact on environmental and other legislative requirements and flow on effect of increasing costs. **3.2.2** Request the Commonwealth to review taxation incentives. **3.2.3** Identify alternate products for feed and essential production components (e.g. CO2) when in short supply. **3.2.4** Review current assistance and advocate for changes	**3.2.1** Better community and government understanding on the impact of legislative requirements on costs. **3.2.2** Government incentives will assist producers in the adoption of best practice. **3.2.3** Increased options for feed products will enhance resilience during drought and climatic changes. **3.2.4** Continued review of available assistance will	**3.2** Input costs will stabilise with better understanding of the impacts of legislative changes and government support and incentives for essential change. Shortages and rising costs will be managed by proactive identification of alternatives.

		re: Drought Funding guidelines. **3.2.5** Advocate for improved road access along supply chain routes, including the South Burnett to ensure product movement.	ensure that government aid during drought maximizes best use of the available funding. **3.2.5** Good roads will ensure access to farms, processors and essential parts of the supply chain.	
Investment in infrastructure and research to support industries	**3.3** Future expansion of the intensive animal industries will depend not only on the availability of land but also access to infrastructure and services, processing capacity, connectivity etc. Research facilities will support the intensive animal industries' issues and needs. There will be no disconnect of the R & D incentive scheme and the tax office.	**3.3.1** Work with government and key industry stakeholders to increase infrastructure investment in Queensland around the intensive animal industries. **3.3.2** Engage with the Commonwealth government and national farming bodies in relation to provision of R & D tax credits.	**3.3.1** Infrastructure upgrades for areas where intensive animal industries are located and planned will support attraction and retention of skilled workforces. **3.3.2** Incentives for research will enhance best practice, improve productivity and mitigate biosecurity risks.	**3.3** The intensive animal industries will see increased investment in research incentives and infrastructure.
Market competitiveness - affordability, border decisions on imports	**3.4** The intensive animal industries, except for feedlots, mostly support the domestic market and are vulnerable to imports of meat products from overseas countries. This competitiveness requires	**3.4.1** Continued engagement with Commonwealth Biosecurity on the risk assessments of imported product.	**3.4.1** Import policies do not jeopardise Australian food industries through exotic disease entry and unfair competition.	**3.4** Intensive animal industries grow and continue to supply high quality food to the Australian public who know what they are buying and see

	marketing solutions and accurate and transparent food labelling to ensure that Australia maintains a vibrant intensive animal industry and is not reliant on overseas food supply.	**3.4.2** Market and promote intensive animal industries (pork and poultry) as a sustainable affordable food source with a low carbon footprint. **3.4.3** Engage with Commonwealth government and industries to develop clear transparent labelling that identifies the source and processes involved in developing the product. Overseas products also need a reference of their welfare standards with possibly a barcode linking their product to more information.	**3.4.2** Food labelling is accurate, transparent and allows consumers to make informed choices.	Queensland intensive animal industries as a trusted provider of nutritious and ethically produced protein.

Table 4: Action plan for value-based food production - Sustainability, best practice, and trust

Issue	Aspiration	Actions	Impacts	Progress Indicator
Environment Consumers, stakeholders, and financial capital providers are increasingly looking to understand how entities identify and manage sustainability risks and opportunities. There are increasing requirements to maintain access to premium markets in Europe and the United States. Consumers demand sustainable products. Policy drivers include government and industry targets, the 2032 Olympic Games and access to finance. Market drivers include consumer and retail expectations and future trade barriers.	**4.1.1** Efficiencies in production such as growth rates are not limited by emission reduction targets so that the amount of food that will be needed can be affordably produced for consumers. **4.1.2** Science and technology will identify cost effective emission reductions.	**4.1.1 Food security** Balance competing market priorities (e.g. lower cost of sourcing animal food from land use change (LUC) areas in times of low supply; animal welfare demands to limit growth rate) against sustainability gains from higher food conversion. **4.1.2 Science and Technology** • Advocate to CRC for research in emissions reduction. • $63 mill Ag and land package – advocate that intensive animals are included. • Identify what sort of research is useful to reduce emissions. • Work with ag food providers to provide solutions.	**4.1.1** Intensive industries will be able to increase food production affordably for increasing domestic needs. **4.1.2** Research and technology will be adopted by the intensive industries to reach sustainability goals.	**4.1.1** Increased efficiencies without undoing sustainability gains. **4.1.2** Sustainability goals are reached through adopting latest technologies.

	4.1.3 Intensive animal industries will have a light footprint on the environment ensuring food security and be a preferred supplier for emerging and existing markets.	• Digital innovation grants. • Agtech and Logistics Hub. • Measuring of farm emissions may be added. **4.1.3 Lowering emissions greenhouse gases** • Let government know of impediments. • Be aware of funding that is out there. Leveraging the large amount of money that is available. Pond coverings at meatworks has funding from Commonwealth Government. • Undertake scan as to what support is available. Suite of activities not being taken up by industry (bio processing – subsidisation in EU) • Scan projects already there in advisory under the implementation plan (broad themes). Individual businesses	**4.1.3** • Sustainable production will be achieved through knowing what support is there and adopting activities and trials to lower emissions.	**4.1.3** • Increase in the number of farms accessing funding to adopt sustainable practices. • Overall emission targets will reduce in accordance with goals.

		have numerous trials on initiatives. • Improve sustainable production, with increased uptake of circular economy, including waste reduction, solar power, water recycling and composting. • Promotion of initiatives. Time in a feedlot is a lot less than grass fed cattle.		
	4.1.4 Environmental credentials of lowered emissions and offsets will allow access to premium markets.	**4.1.4 Access to premium markets** Work through supply chain to minimise transmissions.	**4.1.4** Domestic markets are enhanced by good environmental credentials, premium markets needs are met.	**4.1.4** Increased market access.
	4.1.5 Legislation and policy settings will be effective, adaptable to different sectors and fully consulted with industry	**4.1.5 Legislation and policy settings** • Ongoing cost to industry and consumer – look at policies – one size does not fit all. • Effective consultation processes on policy and legislation.		

Social	**4.2** The intensive animal industries will have a social licence to operate through their commitment and implementation of best practice social values including animal welfare and environmental protection.	**4.2.1** • Communication to whole community will promote awareness of practices and commitment. • All sectors will identify common goals e.g. meat chickens over 90% RSPCA approved. Welfare accreditation program. • Community of practice options to keep up to date on new aspects and issues. • Success stories: e.g. feedlots fertiliser waste – researchers in Too-woomba. Narrative of what is being done and how industries oper-ate.	**4.2.1** Recognition of high standards will gain community support for intensive animal industries.	**4.2.1** Welfare groups support the intensive animal industries.
Governance	**4.3** Intensive animal industries will operate ethically, adhere to relevant Codes of Conduct and practice and communicate transparently with community and government.	**4.3.1** Companies, supply chains and organisations will have effective governance provisions for their operations.	**4.3.1** Communities, industries and government will have trust and confidence in the integrity of organization processes in the intensive animal industries supply chain.	**4.3.1** No complaints or concerns raised about the intensive animal industries.

Where to from here?

The action plan will be reviewed annually and adjusted to reflect current and emerging priorities.

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Pork Queensland Inc	SunPork Group
East*AUS*milk	Sunny Queen Farms
Australian Chicken Meat Federation	Woodlands
Egg Farmers Australia	Darwalla Group
Australian Lot Feeders Association	Ingham's
Australian Pork Ltd	Tommerup's Dairy Farm
Department of Primary Industries, Queensland Government	Maleny Dairies
Department of Local Government, Water and Volunteers, Queensland Government	Norco
	Rosetta Management Consulting Pty Ltd
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