



QUEENSLAND'S ROADMAP TO RECOVERY:

Regional Perspectives & Opportunities

Consultation Report

Amanda Cahill

May 2020

About The Next Economy:

The Next Economy is a not-for-profit organisation established to transform economic systems to enable both people and planet to thrive. In pursuit of this goal, we provide policy and strategic advice to all levels of government and industry, as well as provide training, planning and project management support to regional areas confronting economic challenges.

For more information on The Next Economy, visit: www.nexteconomy.com.au.

Acknowledgements:

The findings presented in this report were collated through a series of consultation activities undertaken by The Next Economy between May 2019 and March 2020. The consultation team included: Emma-Kate Rose (The Next Economy), Dr Amanda Cahill (The Next Economy), Wendy Farmer (The Transitioning Australia Group), Julie Lyford (The Transitioning Australia Group), Dan Musil (The Transitioning Australia Group), Verity Morgan-Schmidt (Farmers for Climate Action) and Kristy Walters (Community Power Agency).

Table of Contents:

EXECUTIVE SUMMARY	5
ENERGY SECTOR OPPORTUNITIES	7
2.1 Significance of the Energy Sector	7
2.2 Public Support for Renewable Energy	7
2.3 Opportunities to Stimulate and Diversify the Energy Sector	8
2.3.1 Large-Scale Renewable Energy Generation	8
2.3.2 Medium-Sized, Utility-Scale and Decentralised Systems	8
2.3.3 Household Renewable Energy and Storage	9
2.3.4 Energy Efficiency	9
2.3.5 Energy Infrastructure Development	10
2.3.6 Manufacturing Opportunities	10
2.3.7 Workforce Development	10
2.3.8 Policy and Planning	11
2.4 Energy Sector Stimulus Priorities	12
AGRICULTURE AND LAND-USE SECTOR OPPORTUNITIES	13
3.1 Significance of the Agriculture and Land-Use Sector	13
3.2 Public Support for the Agriculture and Land-Use Sector	13
3.3 Stimulus Opportunities in the Agriculture and Land-Use Sector	14
3.3.1 Protecting and Improving Agricultural Productivity	14

3.3.2 Food and Agricultural Processing	15
3.3.3 Protecting and Regenerating Land and Water Resources	15
3.3.4 Indigenous Land Management Programs	16
3.4 Agriculture and Land-Use Sector Priorities	17
MINING SECTOR OPPORTUNITIES	18
4.1 Significance of the Mining Sector	18
4.2 Public Support for the Mining Sector	18
4.3 Economic Stimulus Opportunities in the Mining Sector	19
4.4 Mining Sector Stimulus Priorities	20
MANUFACTURING AND PROCESSING SECTOR OPPORTUNITIES	21
5.1 Significance of the Manufacturing Sector	21
5.2 Economic Stimulus Opportunities in the Manufacturing Sector	21
5.3 Manufacturing and Processing Sector Priorities	22
TOURISM SECTOR OPPORTUNITIES	23
6.1 Significance of the Tourism Sector	23
6.2 Economic Stimulus Opportunities	23
6.3 Tourism Sector Stimulus Priorities	24

ESSENTIAL SERVICES	25
7.1 Education Sector Opportunities	25
7.1.1 Investing in Future Workers and Industries	25
7.3.2 Upgrading Existing Infrastructure	26
7.2 Health and Social Assistance Sector Opportunities	26
7.3 Transport Sector Opportunities	27
7.4 Waste Processing Opportunities	27
7.5 Housing and Construction Opportunities	28
7.6 Essential Services Sector Priorities	29
GENERAL RECOMMENDATIONS	30
8.1 Diversification is Crucial	30
8.2 Self-Determination and Resilience	30
8.3 Business Development Support	30
8.4 Infrastructure Development	31
8.5 Workforce Planning and Development	31
8.6 Policy, Planning and Regulation	32
CONCLUSION	32
APPENDIX A: ORGANISATIONS CONSULTED	33

1. Executive Summary

The Queensland economy is facing its greatest challenge since the Great Depression of the 1930s. Yet compared to many other parts of Australia and the world, we are well placed to not only weather the COVID-19 crisis, but to take advantage of the disruption to build a more resilient, future-focussed economy that delivers outcomes for all Queenslanders.

This report outlines a range of opportunities to protect and stimulate the main sectors that sustain the Queensland economy: energy; agriculture and land-use; mining; manufacturing and processing; tourism; and essential services.

The recommendations in this report are based on research and consultation activities conducted by The Next Economy across regional Queensland over the last 12 months, specifically in the regions of Townsville, Toowoomba, the South Burnett, Gladstone, and Rockhampton. During this period, we have directly consulted with over 400 people on the potential to create new jobs and investment opportunities in a low-carbon economy.¹

Consultation activities included in-depth interviews with people working in economic development agencies; roundtable discussions and workshops with industry and government leaders; meetings with union officials, environment groups and social sector organisations; and open community forums.

The economic opportunities included in the report are those with the greatest potential to:

- Create good, lasting, regional jobs;
- Stimulate and diversify the regional economy as a whole, rather than just one industry;
- Accelerate progress on Queensland's 50% Renewable Energy Target and 2050 Net Zero Emissions Target;
- Increase the resilience of regional areas to external shocks, whether financial, environmental or technological in nature; and that
- Enjoy broad public support.

In applying these criteria to the opportunities identified by regional representatives, the most promising economic recovery ideas to invest in include:

¹ Activities in Rockhampton and Gladstone were funded by the Queensland Government through the Department of Employment, Small Business and Training, as part of the Energy Transition Roadshow project. The Kingaroy, Toowoomba and Townsville forums were supported by private philanthropy. Appendix A includes a list of the main organisations consulted between May 2019 and March 2020.

- Energy, particularly renewable energy projects, storage and infrastructure; energy efficiency programs; and the manufacturing of renewable energy parts and products.
- Land management practices that restore soil, vegetation and water resources.
- Developing local food markets.
- Developing regional capacity to process agricultural produce and waste products.
- Diversifying mining and developing the capacity to produce green metals.
- Upgrading urban infrastructure and industrial precincts.
- Invest in Queensland's manufacturing capacity by electrifying industry and upgrading digital technology.
- Overhauling the transport sector.
- Increasing funding to health, education and other services that improve regional resilience and wellbeing while generating significant revenue.

This report is structured into two sections. The first section provides an overview of the economic opportunities in each sector, why the sector is regionally significant, and the priorities for investment. The final section includes a list of general recommendations on interventions that can stimulate cross-sector development.

2. Energy Sector Opportunities

2.1. Significance of the Energy Sector

The energy sector is undergoing a massive transformation as it transitions from an electricity system powered by fossil fuels to one powered by renewable energy. This transition has already attracted billions of dollars in investment to regional Queensland that have generated thousands of new jobs.

New data released by Green Energy Markets² shows that renewable energy projects that are currently proposed for Queensland have the potential to:

- Create an additional 50,000 construction and 2,500 ongoing jobs;
- Attract over \$36 billion to regional Queensland;
- Produce enough electricity to power 92% of the Queensland's energy needs; and
- Reduce our emissions by 30%.

The number of jobs in the sector extend beyond the construction and operation of renewable energy projects, with training and employment opportunities in energy efficiency, storage solutions, infrastructure upgrades, manufacturing renewable energy parts, and green hydrogen and ammonia production.

2.2. Public Support for Renewable Energy

There is strong public support for the Queensland Government's goals to produce 50% of the state's energy from renewable sources by 2030 and to achieve net zero emissions by 2050. During the most recent consultation activities conducted in Central Queensland in February and March 2020, many participants, including the majority of industry and local government representatives, questioned why the government is not being more ambitious given the potential for Queensland to become a renewable energy exporter.

Given the rapid expansion of the renewable energy industry, coal-fired electricity plant generators have started to consider the need to start planning now for the inevitable closure of their coal assets. Even though Queensland's plants are relatively young compared

² Available at: <https://www.savecleanenergy.org.au>

to those in other states and existing plants are technically feasible for at least another eight to fifteen years (based on closure dates published by the Australian Energy Market Operator)³, there is a broad acknowledgement across the industry that proper transition planning needs to start many years in advance of any possible closures.

2.3 Opportunities to Stimulate and Diversify the Energy Sector

2.3.1 Large-Scale Renewable Energy Generation

- An interesting, yet consistent finding has been the high level of cross-sectoral support for large-scale renewable energy projects and infrastructure upgrades. Those most vocal in their support have included those representing industry. Heavy industries need certainty in terms of both a stable and affordable energy supply over the long-term to enable them to plan and attract investment. Better coordination in terms of project approvals and timelines, as well as transparency and planning around the closure of existing coal-fired electricity assets would give industry the certainty it needs.
- Industry also highlighted the need to develop large-scale energy storage solutions such as pumped hydro projects, large-scale batteries and working with heavy industry to trial virtual batteries (for example, the Boyne Island Aluminium Smelter).
- Respondents across the board have expressed support for the establishment of CleanCo Queensland, particularly because it is publicly owned and its potential to implement better workplace practices across the industry. There is broad support to increase funding to enable CleanCo to expand their portfolio and increase their renewable energy generation beyond the initial 1000 MW target.
- People across regional Queensland would also like to see better regulation of large-scale projects in terms of planning, workforce development, and ensuring that benefits are shared with communities impacted by the construction of new projects.
- Some have expressed confusion about Federal Government support for the proposed Collinsville Power Station, given that there is more supply than demand for electricity in Northern and Central Queensland, and that this energy cannot currently be exported to other areas.

2.3.2 Medium-Sized, Utility-Scale and Decentralised Systems

- Councils across the state are interested in investing in medium-sized renewable energy projects (whether solar or wind farms; or rooftop solar on council buildings) and

³ Available on the AEMO website at: <https://aemo.com.au/en/energy-systems/electricity/national-electricity-market-nem/nem-forecasting-and-planning/forecasting-and-planning-data/generation-information>

installing batteries to both offset their energy costs and create greater energy resilience across their region.

- Industry representatives want more support (in terms of financing and approvals) to develop utility-scale renewable energy projects and micro-grid infrastructure.
- Many respondents expressed enthusiasm for targeted funding, training and technical support for smaller-scale, decentralised and community-owned renewable energy systems that can generate cheaper power and local jobs. This includes the development of off-grid and micro-grid renewable energy systems.
- Universal support was expressed during the consultation activities for renewable energy projects to be prioritised in areas currently dependent on diesel (eg: Great Barrier Reef Islands and remote Indigenous communities).
- People questioned why there aren't more programs in place for Aboriginal and Torres Strait Island communities to establish community-owned renewable energy projects, particularly in remote areas.
- People were extremely supportive of previous government programs that have funded the installation of rooftop solar, battery and energy efficiency measures for community assets such as schools, hospitals/health clinics and emergency services.
- Since last summer's bushfires, there has been a marked increase in the number of people who have expressed support for the construction of cyclone- and fire-proof refuge centres with independent energy and water systems that can support people in times of emergency.

2.3.3 Household Renewable Energy and Storage

- Queenslanders have one of the highest rates of household level solar in the world. But according to those consulted, installation costs remain a barrier for most households. Schemes that provide direct financial assistance to increase the uptake of household solar and batteries (eg: in the form of grants or feed in tariffs instead of loans) would slash people's energy bills while also supporting small- and medium-sized solar installation companies.
- People in all workshops and events have expressed the need for additional incentives to support the installation of rooftop PV on rental accommodation. Most seem to have been unaware of the Solar for Rentals program. Those who were familiar with the program believed that the financial incentives were not enough to encourage owners and tenants to go to the effort of applying for the scheme.

2.3.4 Energy Efficiency

- Long-term employment and training opportunities across a range of trades lie in the area of energy efficiency. To deal with the already severe impacts of heat

Queenslanders are experiencing during the summer months, as well as the high cost of electricity, a significant amount of work needs to be done to undertake energy audits, retrofit buildings and upgrade household appliances to become more energy efficient. This is even more urgent for low-income and Indigenous households, as well as public facilities such as schools and health centres.

2.3.5 Energy Infrastructure Development

For Queensland to take advantage of its full renewable energy potential, existing energy infrastructure is in urgent need of investment. This includes investment in:

- Improving grid connectivity across Queensland to stabilise the system, increase capacity for additional renewable energy generation, and decrease pressure on existing coal plants. A range of industry players support bringing forward the timelines on developing new transmission capacity to connect Northern and Central Queensland with the rest of the National Electricity Market. A project of this scale has the potential to generate a large number of different kinds of jobs over a number of years, starting with jobs in planning, finance, legal and engineering services, through to construction jobs in the later stages of the project.
- Those working in the energy sector noted the need for more investment into the development of the digital systems required to manage the flow of energy and minimise fluctuations in the system.
- Developing 'islandable' renewable energy systems that can continue to operate when access to the centralised electricity grid is cut during emergency situations.

2.3.6 Manufacturing Opportunities

Respondents from across all sectors expressed a high degree of support for expanding Queensland's capacity to manufacture renewable energy related products including:

- Renewable energy parts such wind turbines, solar cells, solar hot water systems, heat pumps, mirrors and batteries;
- Hydrogen and ammonia produced with renewable energy;
- Bio-fuels;
- Processed lithium, copper, nickel and other minerals needed for renewable energy systems; and
- Zero emissions commodities such as green steel and aluminium.

2.3.7 Workforce Development

Many people are concerned about the future of those working in the coal industry, given the short-term nature of most jobs created by large-scale renewable energy projects. Recommendations on how to address this issue include:

- Protecting the rights of workers in the energy sector through regulation, particularly in terms of working conditions, pay, and safety standards;
- Greater planning and coordination of the roll out of renewable energy projects to ensure ongoing work opportunities for workers;
- Increasing investment in skilling energy workers other sectors (for example manufacturing and processing businesses);
- Long-term workforce planning and development that involves all relevant players – TAFE, universities, industries, government and workers to ensure that workers are able to access timely and relevant training;
- Transition planning for workers in the fossil fuel industry, including developing support packages that are ready to support workers during downturn/closure, such as early retirement schemes and redeployment schemes;
- Establishing a publicly-owned labour hire company specifically for the purpose of being able to train and deploy workers to different kinds of renewable energy projects (eg: solar, wind, pumped hydro, etc) across the state as needed.

2.3.8. Policy and Planning

A strong theme across all consultation activities was the need to create greater policy certainty and stronger regulation to facilitate the flow of investment to renewable energy projects. This point was most strongly articulated by industry representatives, including those working at coal fired electricity plants. Recommendations included:

- Facilitating regional transition planning (with the participation of government, industry, unions, universities, and social services) to manage the shift to renewable energy and plan for the closure of coal-fired electricity plants;
- Ensuring that power remains affordable for all (especially low-income households and small businesses) through subsidies and rebates for renewable energy generation;
- Designing and implementing regulations to ensure that renewable energy projects are situated in the most ideal locations to minimise impact on agricultural land;
- Ensuring that energy companies consult appropriately and share economic benefits with communities impacted by new renewable energy projects;
- Facilitating more public conversations with experts to help communities understand and accept the inevitability of the energy transition and manage change;
- Developing bi-partisan support for the 50% RET and 2050 Net Zero Emissions goal; and
- Protecting against the further privatisation of the electricity system.

2.4 Energy Sector Stimulus Priorities⁴

Stimulus Opportunity	Direct Jobs	Indirect Jobs	Timeframe	2030 Target	2050 Target	Resilience	Public Support
Large-Scale Renewable Energy	High	Medium	Medium	High	High	High	High
Med-Scale Renewable Energy	High	Medium	Medium	High	High	High	High
Household Solar and Batteries	High	Low	Short	High	High	High	High
Energy Efficiency	High	Medium	Short	High	High	High	High
Energy Infrastructure	High	High	Med-Long	High	High	High	High
Manufacturing RE Products	High	High	Med-Long	High	Med-High	High	High

⁴ Each stimulus idea is assessed in terms of its potential to:

- Create employment (both in terms of direct and indirect jobs)
- Impact jobs figures in the short (next 6 months), medium (next 18 months) or long term (from 2022 onwards).
- Achieve Queensland's 50% Renewable Energy Target by 2030
- Achieve Queensland's Net Zero Emissions Target by 2050
- Build the resilience of regional areas to external shocks (financial, environmental or technological)
- Generate a broad base of public support

3. Agriculture and Land-Use Sector Opportunities

3.1 Significance of the Agriculture and Land-Use Sector

Investing in the agriculture and land-use sector is crucial, given that it is one of the main sectors underpinning regional Queensland. It employs 76,200 people⁵ of workforce and generates \$17.59 billion in value.⁶ Most importantly, it is the sector that provides the food and fibre on which we all depend.

While the sector has experienced a surge in demand for produce during the COVID-19 crisis, the sector is currently in need of significant investment, given the impact of the drought across more than 60 per cent of the state. Furthermore, the sector is facing a shortage of workers, with an ageing farming population and a dependence on overseas farm workers. The agriculture and land-use sector is ripe for new job creation.

The sector is also important in terms of its scope to protect and revitalise natural resources and to mitigate the impacts of climate change through sustainable vegetation, soil and water management practices. Ramping up efforts to sequester carbon through tree planting, protecting land from clearing, expanding agricultural practices that improve levels of soil carbon and trialling marine permaculture practices can not only reduce Australia's overall emissions, but also create new jobs.

A letter recently presented to the Prime Minister and signed by over 70 farming, conservation and land-management groups stated that land-management and conservation efforts alone could employ up to 24,000 workers during the post-COVID recovery period.⁷

3.2 Public Support for the Agriculture and Land-Use Sector

Strengthening the agriculture and land-use sector as an economic priority featured heavily throughout the regional consultations. Even before COVID-19, people from across regional Queensland expressed concern about food security and declining productivity. Concern was also expressed for the impact of the drought and bushfires on farmers and questions were raised about what support was in place to make farming practices more 'climate resilient'.

⁵ ABS (2019) Labour Force Survey November 2019. Available: <http://www.abs.gov.au/AUSSTATS/abs%40.nsf/allprimarymainfeatures/5F60A449AE6DE5F6CA258090000ED52A?opendocument>

⁶ QFF (2019) Annual Report 2018-19. <https://www.qff.org.au/wp-content/uploads/2016/06/QFF-Annual-Report-18-19.pdf>

⁷ https://www.beefcentral.com/wp-content/uploads/2020/04/20.04.02_Prime-Minister_Economic-Stimulus-in-conservation-and-land-management1221.pdf

3.3 Stimulus Opportunities in the Agriculture and Land-Use Sector

Recommendations to strengthen the agriculture and land-use sector fall into four main categories: Improving Productivity; Processing Opportunities; Regenerating Land and Water Resources; and Indigenous Land-Management Activities.

3.3.1 Protecting and Improving Agricultural Productivity

Nearly all of those consulted wanted to see more done to address concerns about falling productivity and to ensure long-term food security. Recommendations included increasing efforts to:

- Protect agricultural land and water resources by:
 - Prioritising agriculture over mining and urban development;
 - Advancing ways for renewable energy projects and agriculture to co-exist;
 - Regulating to protect against land grabbing by large companies at the expense of local farmers; and
 - Ensuring that mine sites are rehabilitated progressively and to a high standard.
- Provide adequate resources to research and extension programs at universities, agricultural institutions and the CSIRO to help land managers adapt to changing climate patterns and seasons. This includes providing support to farmers to explore more intensive, regenerative and climate resilient farming techniques.
- Build on growing consumer awareness and interest in ethical, local food to support local food resilience.
- Expand the range of training opportunities and incentives to attract and support young people to work in the agriculture and land-use sector, including innovative farming schemes such as the Cultivate Farms or Future Feeders programs.
- Provide adequate and timely training opportunities and financial support to manage the increasing automation and digitalisation of the sector.
- Support the development of fresh food precincts near major transportation hubs, as well as establish regional food hubs, farmers markets and community supported agriculture programs to strengthen local food production, on-farm processing and distribution networks.
- Ensure fair prices for farmers by increasing the level of transparency and accountability across the food supply chain.
- Support the installation of renewable energy projects to reduce irrigation costs and generate new forms of income.

- Diversify sources of farm finance by exploring emerging financing mechanisms such as carbon credit schemes, blockchain technology, community finance and cooperative loans.
- Fund research, market and supply chain development to rapidly expanding, lower carbon industries such as the alternative meat/proteins industry.

3.3.2 Food and Agricultural Processing

- Support food processing initiatives, including the processing of food and agricultural waste into nutraceuticals, bio-fuels, bio-plastics, packaging and other products to generate additional jobs and revenue.
- Increase producer access to renewable energy, digital and automation technologies to make regional processing more competitive.
- Support the agricultural equipment manufacturing industry.

3.3.3 Protecting and Regenerating Land and Water Resources

There was a marked increase in interest among participants in improving land restoration approaches during the second half of the 12-month consultation because of the impact of recent natural disasters on the Australian economy. While people were divided on the relative economic benefits of conservation efforts, there was strong support for measures designed to:

- Restore land and improve soil quality through carbon farming, regenerative agriculture and other approaches.
- Provide economic incentives to protect land and water through complementary income generating activities such as installing renewable energy projects on farms; carbon farming, tree planting initiatives, water quality schemes and other eco-system services programs.

There was also strong agreement that more needs to be done to manage land that was not under active cultivation because it was either: damaged by natural disasters; part of a carbon farming initiative or designated for conservation efforts. This is an area of potential job growth as the work needed to be undertaken in this area is extensive and varied, including:

- River and wetland restoration, including fencing, revegetation and erosion control;
- Improving and constructing national park infrastructure;
- Bushfire recovery and resilience activities;
- Weed and invasive animal control;
- Tree planting and habitat restoration;

- Coastal habitat restoration and monitoring; and
- Plastics and marine debris clean up.

3.3.4 Indigenous Land Management Programs:

Participants expressed a high level of support for land management programs that create meaningful employment opportunities for Indigenous communities, including ecosystem services and ranger programs.

Indigenous-owned business opportunities are key to rural and regional renewal, particularly in the food and agriculture sector, including:

- Eco-tourism enterprises;
- Native foods production and processing;
- Native botanicals production and processing; and
- Traditional food education and training.

3.4 Agriculture and Land-Use Sector Priorities

Stimulus Opportunity	Direct Jobs	Indirect Jobs	Timeframe	2030 Target	2050 Target	Resilience	Public Support
Research & Extension	Low	Medium	Short	Low	High	High	High
Agricultural Training	Low	Medium	Medium	Low	Med-High	High	High
Local Food Markets/Infra	Medium	Medium	Medium	Low	Medium	High	High
Food/Ag Processing	Medium	Medium	Med-Long	Low	Low-Med	High	High
Land /Water Restoration	High	High	Short	Low	High	High	High
Renew Energy on Farms	Low	Low	Short-Med	Medium	Medium	High	High
Upgrade Farm Technology	Low-Med	Medium	Med-Long	Low-Medium	Low-Medium	High	High
Indigenous Land Care	Low	Low	Short	Low	High	High	High

4. Mining Sector Opportunities

4.1 Significance of the Mining Sector

The mining sector is a significant contributor to the state economy, generating around \$38bn in revenue in 2017-2018⁸ and employing around 3% of the Queensland workforce.⁹

The coal and gas industries are facing an increasingly uncertain future with global demand fluctuating significantly in recent years, as most recently demonstrated during the current COVID-19 crisis when plummeting oil prices rendered Australian gas uncompetitive on the global market.

4.2 Public Support for the Mining Sector

Mining was probably the most controversial topic explored during the consultation activities, with many different and sometimes contradictory views put forward by participants.

While nearly all acknowledged the economic benefits to their region and that most had learned to live with the negative impact of the resources industry, some expressed concern about growing climate impacts. Many participants also expressed concerns about the growing divide in public opinion as to whether Queensland should continue to invest in the expansion of the coal and gas industry.

Given that the demand for coal and gas over the long term is increasingly uncertain as renewable energy expands across the globe, many of those consulted expressed confusion as to why the government continued to provide subsidies, approvals and other support to develop new projects. Some highlighted the opportunity cost of continuing to invest in new projects and infrastructure that have the potential to become 'stranded assets' at the expense of developing renewable energy generation and storage capacity that hold a greater potential for long-term energy security and lower electricity prices.

There was a general consensus among the majority of respondents (including those working in the resources sector) that a plan is needed to manage the economic transition away from

⁸ Department of Treasury (2020) About the Queensland Economy. Available at: <https://www.treasury.qld.gov.au/queenslands-economy/about-the-queensland-economy/>

⁹ ABS (2019) Available at: https://quickstats.censusdata.abs.gov.au/census_services/getproduct/census/2016/quickstat/3?opendocument#employment

fossil fuels; diversify regional economies to reduce their vulnerability to global market volatility; and give other industries the certainty they needed to invest in the future.

Even before COVID-19, many respondents from Central Queensland and the Darling Downs (including some who had worked to establish the coals seam gas industry and LNG export terminal) expressed a degree of disappointment about the legacy of the gas industry in that:

- The jobs created during the boom were short-term and often filled by FIFO workers;
- The boom had created skills shortages and pushed up wage prices, making it difficult for non-mining related industries to recruit and retain staff;
- Investment and infrastructure spending over the last decade had favoured mining at the expense of other industries;
- The temporary surge in housing prices had left some locals in severe debt;
- There has been a lack of long-term workforce development in other industries;
- Increased gas production had not led to a fall in gas prices;
- The majority of profits had flowed to capital cities and international companies, rather than the local community; and
- There was long-term and irreversible damage to water quality, land resources and the climate that cannot be repaired through rehabilitation.

Similar challenges were noted in relation to the ongoing boom and bust cycle of the coal industry.

4.3 Economic Stimulus Opportunities in the Mining Sector

There was widespread agreement among those consulted on the following stimulus ideas:

- Regardless of the future global demand for coal and gas exports, regional communities need concerted and targeted support to diversify their economies so that they are less dependent on the mining sector and more economically resilient to external shocks.
- Develop a transition plan to manage the shift in domestic energy production from coal to renewable energy generation and to support workers and others in the community with training, new employment opportunities, financial support and redeployment.
- Diversify the mining sector by investing in the exploration, mining and processing of other commodities such as lithium, copper, zinc, nickel and rare earth minerals.
- Develop Queensland's capacity to use renewable energy to refine and recycle metals to meet domestic demand and develop new, value-added export commodities. Many

were excited by the potential to produce green steel and other metals and were inspired by the example of Sun Metals in North Queensland. Some expressed concern about the future of the aluminium smelter in Gladstone if it cannot find a way to compete with zero emissions aluminium being produced in other countries.

- Capture the economic benefits generated by mining for the benefit of regional areas. There was a general perception in a number of consultation forums that companies are not paying their fair share of tax and that royalties are not being properly invested to support the development of regional infrastructure and services.
- Ensure mining jobs and training opportunities are local.
- Create jobs by ensuring companies rehabilitate mine sites progressively and tackle the hundreds of abandoned mine sites across Queensland.
- Change the current rehabilitation regulations to enable easier construction of solar and pumped hydro on rehabilitated land.
- Protect water resources from the impacts of mining, particularly gas extraction.

4.4 Mining Sector Stimulus Priorities

Stimulus Opportunity	Direct Jobs	Indirect Jobs	Timeframe	2030 Target	2050 Target	Resilience	Public Support
Diversify Mining	High	High	Long	Low	Medium	High	High
Gas Expansion	Med-High	Medium	Med-Long	Low	Low	Low	Medium
Green Metals	Med-High	Medium	Med-Long	Medium	Medium	High	High
Rehabilitation	High	High	Short-Med	Low	High	High	High

5. Manufacturing and Processing Sector Opportunities

5.1. Significance of the Manufacturing Sector

A consistent finding across all consultation activities (even before the COVID crisis) has been the high level of support expressed for improving the state's capacity to manufacture more products to improve our self-sufficiency; reduce our reliance on imports; diversify our export base; increase local job opportunities; and improve our ability to cope with unexpected external shocks.

The manufacturing and processing sector is well positioned to create a range of jobs and economic opportunities during the recovery period, as new digital technology, increased automation, and the availability of cheap renewable energy to electrify manufacturing processes means that Australia is more globally competitive than we have been for a long time.¹⁰

5.2. Economic Stimulus Opportunities in the Manufacturing Sector

To take advantage of the current opportunity to expand and develop the manufacturing capacity across regional Queensland, those consulted recommended that more investment is needed to:

- Upgrade industrial precincts with the latest technology and renewable energy systems, micro-grids and batteries.
- Establish regional manufacturing hubs and maker labs to encourage local experimentation and innovation.
- Electrify industrial processes to avoid the high cost of gas and utilise the abundant supply of renewable energy in Central and Northern Queensland to stabilise the grid and reduce pressure on coal plants.¹¹
- Invest in the research efforts of universities and the CSIRO to develop, trial and commercialise new products.

¹⁰ Sector specific manufacturing opportunities identified during the consultation (for example: food processing, hydrogen, renewable energy parts, etc) have been listed in each of the relevant sectors included in this report.

¹¹ While the Federal government is currently promoting a 'gas fired recovery', industry representatives expressed support for the expansion of manufacturing industries as a way to channel the abundant supply of renewable energy being generated in Queensland to reduce the impact of the daily 'duck curve' on coal plants.

- Invest in tertiary education and increase the number of traineeships and apprenticeships in regional areas.
 - Provide training and funding to support business development activities such as the feasibility studies, developing supply chains and market development.
-

5.3 Manufacturing and Processing Sector Priorities

Stimulus Opportunity	Direct Jobs	Indirect Jobs	Timeframe	2030 Target	2050 Target	Resilience	Public Support
Research & Training	Low-Medium	Medium	Med-Long	Low	Medium	High	High
Industrial Precincts	Med-High	High	Med-Long	High	Medium	High	High
Electrify Industry	Medium	Medium	Short-Med	High	High	High	High

6. Tourism Sector Opportunities

6.1 Significance of the Tourism Sector

Tourism has been one of the worst hit industries during the COVID-19 crisis, which is concerning given it is one of Queensland's largest export earners and directly employs over 140,000 Queenslanders each year.¹² Tourism is particularly important to regional economies, with 45 cents of every tourist dollar spent in regional Australia.¹³

An important aspect to build on during the recovery phase is that domestic visitors account for 70% of all tourism¹⁴ and that domestic visitors tend to spend twice as much as international visitors.¹⁵

6.2 Economic Stimulus Opportunities

The tourism industry has been able to adapt and diversify to changing market demands in recent years, offering an increasingly diverse range of opportunities that attract visitors to regional areas.

During the consultation activities, respondents identified a range of tourism opportunities that would not only continue to diversify the industry, but that would attract domestic travellers including:

- Festivals and events (music, art, cultural and sporting);
- Agri-tourism;
- Eco-tourism and conservation volunteering;
- Renewable energy tourism;
- Adventure tourism;
- Cultural tourism; and
- Food and wine tourism.

¹² Tourism and Events Queensland (2020) Tourism Economic Key Facts. Available: <https://teq.queensland.com/~media/C05455DBF0A24B3F854401383B78BE13.ashx>

¹³ Department of Infrastructure and Regional Development (2017) Regions 2030: Unlocking Opportunity. Australian Government, Canberra: p. 6. Available: <http://regional.gov.au/regional/publications/files/regions-2030.pdf>

¹⁴ https://www.destq.com.au/_data/assets/pdf_file/0008/1257857/destination-success-20-yr-plan.pdf

¹⁵ Tourism Research Australia (2017) State of the Industry Report. Australian Trade and Investment Commission, Canberra: p.11. Available at: <https://www.tra.gov.au/tra/soi/2017/index.html>

Not only are most of these activities offered by small and medium sized businesses, but they also generate business for other sectors including food and beverage; retail; marketing; transport, health, education and construction.

Supporting the industry financially over the next nine months will be critical to the ability to tourism businesses to re-open as Australia does. Any incentives to encourage Australians to travel would also help to secure the future of the industry.

Other suggestions to support the tourism industry that emerged during the consultation process included:

- Ensuring the protection of the Great Barrier Reef.
- Funding effective conservation volunteering programs to help restore areas damaged by drought, fires and other natural disasters.
- Upgrading accommodation and other facilities with renewable energy and battery installations; energy efficiency programs; and refurbishing older buildings.
- Upgrading transport infrastructure, including building a high speed rail network along the East Coast of Australia.
- Developing local procurement processes.
- Upgrading essential urban infrastructure such as roads, health services, parks and other public amenities.

6.3 Tourism Sector Stimulus Priorities

Stimulus Opportunity	Direct Jobs	Indirect Jobs	Timeframe	2030 Target	2050 Target	Resilience	Public Support
Retrofitting Facilities	High	Medium	Short	High	High	High	High
High Speed Rail	High	High	Long	Low	High	Med-High	High
Infrastructure Upgrades	High	High	Med-Long	Low	Low-Medium	Medium	Med-High
Conservation/ Eco-Tourism	Low-Med	Low-Med	Med-Long	Low	Medium	Medium	Medium

7. Essential Services

A repeated theme throughout the consultation activities was the importance of maintaining and expanding essential services such as education, health and social assistance, transport, housing, waste and emergency services. Participants emphasised that not only do these services underpin the liveability of a region, and therefore the overall health of the economy, but they are also the biggest employers in regional Queensland. Essential services employ local people; attract long-term residents and also tend to be low-carbon jobs.

7.1 Education Sector Opportunities

The overwhelming majority of those consulted emphasised the importance of higher education and research institutes such as TAFE, Universities and the CSIRO play to regional economies because of their role as:

- Major employers;
- Important contributors to local decision making, planning and project management processes;
- Providing timely research support tailored to the needs of regional communities;
- Attracting both International and Australian students to the region, who also contribute to the economy by buying local goods and services;
- Providing access to important community facilities and equipment (eg: conference/event spaces, sporting and scientific facilities); and
- Anchor institutions that spend significant amounts of money on services provided by local businesses (eg: cleaning, catering, trades, etc).

Recommendations to maintain and strengthen the capacity of the education sector to contribute to regional economies included:

7.1.1 Investing in Future Workers and Industries

Expand the capacity of tertiary education and research institutions such as universities, TAFE and the CSIRO to:

- Train workers in the skills they need to adapt to changes in existing industries (eg: digital skills) and/or work in emerging fields such as renewable energy manufacturing.
- Undertake research to help industries adapt and expand.
- Work with local governments, industries, unions and other key stakeholders to plan and manage economic change.

- Meet current skills shortages in the areas of health and aged care, construction, financial services and agriculture.
- Develop new online and short courses suited to the needs of local industry and small- and medium-sized enterprises.

7.1.2 Upgrading existing education infrastructure so that it is:

- Energy efficient and powered by renewable energy and batteries;
 - Equipt with the latest technology and community facilities; and
 - Able to withstand the impact of natural disasters.
-

7.2 Health and Social Assistance Sector Opportunities:

The Health and Social Assistance Sector employs more people than any other sector in Queensland, with over 364,000 employed in 2019.¹⁶ Not only is the sector the largest employer in the state, but it is also going through a period of expansion due to the implementation of the National Disability Insurance Scheme, a growing demand for workers in the areas of childcare and aged care services; and now the Coronavirus pandemic. Health is also one of the state's biggest export earners and is a low-carbon industry.

Stimulus ideas identified during the consultation included:

- Upgrade hospitals and health centres across the board so that they are:
 - Able to meet most of the local health needs and deal with emergencies; and
 - Energy efficient and powered by renewable energy with batteries and generators.
- Reinvest in public health and primary health care programs.
- Increase health research funding.
- Increase the number of placements in Rural and Remote Health training programs.
- Increase funding to mental health services and training programs.
- Increase the number of childcare and aged care facilities in regional areas and fund training opportunities accordingly.
- Invest heavily in emergency services. This includes investing in training and recruiting new staff and volunteers; and improving equipment and facilities.

¹⁶ ABS (2019) Labour Force Survey November 2019. Available at: <http://www.abs.gov.au/AUSSTATS/abs%40.nsf/allprimarymainfeatures/5F60A449AE6DE5F6CA258090000ED52A?opendocument>

7.3 Transport Sector Opportunities

The importance of transport infrastructure to regional economic development and achieving net zero emissions was emphasised throughout the consultation activities.

Recommendations to strengthen and develop the transport sector included:

- Start planning for future transport needs, including:
 - Installing electric vehicle charging infrastructure;
 - Converting all modes of transport (cars, trucks, buses, trains and ferries) to either electricity, bio-fuels or green hydrogen;
 - Urban planning to prepare for future transport needs, including autonomous vehicles and more active transport modes;
 - Adapt public transport services and develop the digital capacity and infrastructure needed to support increased ride-sharing and on demand mobility services.
- Support electric vehicle manufacturing, retrofitting and servicing.
- Invest in the development of alternative, low-emissions fuels.
- Develop regional transport hubs and supply chain infrastructure to strengthen both domestic and export market linkages.
- Undertake long-term planning to diversify port facilities (eg: containerisation).
- Leverage existing infrastructure (eg: coal trains) for use by new industries.
- Reduce food miles by developing local food markets.
- Extend the Inland Rail project and develop high speed rail to service passengers along the East coast of Australia.

7.4 Waste Processing Opportunities

Many people who participated in the consultation activities expressed a high level of support for local councils who were investing in waste processing as an economic activity and applying circular economy principles.

Economic stimulus ideas in the waste sector included:

- Convert waste into a range of products including: bio-fuels/alternative fuels; composite building materials, compost, nutraceuticals, bio-plastics and packaging, road base;

- Invest in the infrastructure needed to recycle glass, plastics, paper rubber, metals, waste oil and other materials locally;
 - Explore alternative uses for coal ash, including concrete;
 - Develop the infrastructure and transport facilities to enable councils to aggregate organic waste to convert it to energy, compost and other products;
 - Upgrade sewerage treatment plants and install renewable energy systems to reduce running costs;
 - Recycle batteries and solar cells; and
 - Invest in water recycling programs.¹⁷
-

7.5 Housing and Construction Opportunities

Housing and construction were not explored explicitly during the consultation activities however respondents noted the following recommendations:

- Increase the availability of community housing;
- Support the development of cooperative and other affordable housing approaches, including retrofitting empty hotels and other properties;
- Address the housing shortage in Indigenous communities and ensure that all housing is culturally appropriate and energy efficient;
- Remove perverse incentives that lead to existing housing stock remaining empty;
- Upgrade the energy efficiency of existing housing stock; and
- Undertake construction projects to improve the climate resilience of our regional centres (eg: seawalls).

¹⁷ While it was acknowledged that recycled water programs have been unpopular with local residents in the past, those working in councils and industry felt that popular opinion may have shifted and wanted to see more investment in water recycling, especially given the impact of the recent drought. Those working in water management emphasised that water recycling and upgrading urban water infrastructure should be explored thoroughly before the approval of new dam infrastructure.

7.6 Essential Services Sector Priorities

Stimulus Opportunity	Direct Jobs	Indirect Jobs	Timeframe	2030 Target	2050 Target	Resilience	Public Support
Sustaining Tertiary Education & Research Institutions	High	High	Short-Med	Low-Med	Medium	High	High
Expanding Health and Social Assistance Programs	High	High	Short-Med	Low-Med	Low	High	High
Building a Low-Emissions Transport Sector	High	High	Med-Long	High	High	High	High
Expanding Regional Waste Processing Capacity	Med-High	Medium	Med-Long	Medium	Med-High	High	High
Housing and Construction Improvements	High	Med-High	Med-Long	Med-High	Med-High	High	High

8. General Recommendations:

In addition to sector specific recommendations, a number of general themes emerged during the consultation activities regarding what government can do to stimulate regional economies while meeting the state's energy and emissions reduction goals. These included:

8.1 Diversification is Crucial:

- Facilitate comprehensive and place-based economic planning to identify ways to diversify regional economies in ways that build on the existing strengths, assets and industries in the area.

8.2 Self-Determination and Resilience:

- Many participants emphasised that the focus of economic development should be to build local resilience and self-sufficiency, especially with regards to essential products and services such as food, health and education, energy, digital connectivity and emergency services.
- Economic planning (particularly during times of crisis or change) needs to be led by local decision-makers, through committees made up of representatives from government, industry, unions, environment groups and community/social service organisations.
- Maintain public control of essential services such as energy, health and education.
- New initiatives should build on local assets and strengths in a sustainable way.
- More investment is needed in programs, services and infrastructure that can help regions to adapt to changes in the climate and recover from severe weather events.
- Fund processes that address the growing social division in regional communities fuelled by misinformation in the media and social media (particularly with regards to the energy transition).

8.3 Business Development Support:

Additional support is needed to develop and sustain local businesses across all sectors in terms of:

- Providing incubator programs and feasibility study support to get new concepts 'investment ready'.
- Investing in market and supply chain development.

- Developing and extending social and local procurement programs to encourage government and other large institutions to support local businesses, social enterprises and Indigenous enterprises.
- Incentivising and prioritising support for businesses and projects that can reduce and absorb emissions across all sectors.
- Providing access to programs and expertise to help locals explore alternative business models such as social enterprise, cooperatives, community-owned businesses.
- Facilitating access to more diversified sources of funding for local business, including equity crowdfunding and impact investment.
- Ensuring government grants and investment funds such as the Northern Australia Infrastructure Facility are available at a scale that is accessible and appropriate to the needs of small- and medium-sized enterprises, not just large industry players.
- Finding new ways to leverage private investment for public-private partnerships in regional areas. This includes encouraging greater investment by Australian superannuation funds in regional initiatives.

8.4 Infrastructure Development:

- Invest in renewable energy infrastructure, digital technologies (such as high-speed internet, remote sensing, ITC, robotics and 3D printing) and transport infrastructure that would support both existing and new industries to develop.

8.5 Workforce Planning and Development:

- Create new jobs by first addressing the current skills shortages in regional areas, especially in the health, aged-care, child-care, financial services, construction and agricultural sectors.
- Provide skills-based education and training, not only in renewable energy, but across all sectors, including health and aged-care, land-use and agriculture, construction, transport and small-scale manufacturing.
- Commit to a Local Jobs Guarantee¹⁸ to ensure that those already largely excluded from stable, well-paid employment opportunities (eg: Indigenous people, youth, older people, women and the long-term unemployed) are not further disadvantaged by economic change.

¹⁸ It is interesting to note that a jobs guarantee, shorter working hours and UBI were raised before the COVID-19 crisis, during the public forums held in Townsville and Central Queensland.

- Trial new approaches to 'work', to prepare regions for the impact of other threats to full-time employment (eg: increasing automation, power station closure, etc). Examples include shorter working hours experiments and Universal Basic Income trials.
- Ensure that every household has adequate access to food, housing and energy, regardless of their employment status.

8.6 Policy, Planning and Regulation:

- A strong theme throughout the consultation process was a surprising level of support for government to coordinate economic planning, develop enabling policy and legislation, and protect the rights of workers and the environment.
- There was a strong level of support across the board for government to play a more active role in supporting regions to undertake transition planning to manage changes in the energy sector; undertake energy workforce planning and development activities; and facilitate the flow of investment to renewable energy and storage projects.

9. Conclusion

There is plenty of work to do to not only help the Queensland economy to recover, but to take advantage of the current disruption to build long-term resilience and prosperity.

All of the ideas presented in this paper hold the potential to create good, lasting jobs that are suited to regional areas. But there is an important choice to make: will we continue to invest in the future and achieve our goals to reach net zero emissions by 2050, or will we double down on industries that have served us well in the past but are facing inevitable decline?

The choices we make now will impact on generations to come, in terms of the scale of climate impacts; the accessibility of reliable and affordable energy; agricultural productivity levels; and whether we are resilient to a whole range of external shocks.

Now is not the time to abandon regulations that protect people and the environment. Instead, it is time to invest in the industries and jobs that will build both the wealth and wellbeing of regional areas for generations to come.

Appendix A: Organisations Consulted

State Government Agencies:

- Department of Employment, Small Business and Training
- Department of State Development, Manufacturing, Infrastructure and Planning
- Department of Energy, Natural Resources and Mining
- Department of the Treasury
- Department of the Premier and Cabinet
- Department of Environment and Science

Local Government:

- Rockhampton Regional Council
- Gladstone Regional Council
- Livingstone Shire Council
- South Burnett Regional Council
- Toowoomba Regional Council
- Townsville City Council

Economic Development Organisations:

- Regional Development Australia
- Chambers of Commerce
- Townsville Enterprise Limited
- Burnett Inland Economic Development Organisation
- Red Earth Community Foundation
- Toowoomba and Surat Basin Enterprise
- Gladstone Area Promotion and Development Limited

Industry:

- Stanwell Energy
- CS Energy
- Ergon Energy
- CleanCo
- Rio Tinto
- RES Group
- Energy Estate
- Batchfire
- ConocoPhillips Australia

- Gladstone Engineering Alliance
- Renew
- Gladstone Ports Corporation
- Port of Townsville
- Agforce
- Queensland Farmers Federation
- Grazing Best Practice
- Calliope Cattle, Economic Development Services

Universities:

- Central Queensland University
- University of Southern Queensland
- James Cook University

Environment Groups:

- Australian Conservation Foundation
- Gladstone Conservation Council
- Darling Downs Environment Centre
- North Queensland Conservation Council
- Capricorn Coast Land Care
- Solar Citizens
- Australian Youth Climate Coalition
- Farmers for Climate Action

Unions:

- Electrical Trades Union
- Queensland Council of Unions
- National Tertiary Education Union
- Services Union
- Australian Workers Union

Social Service/Community Organisations:

- Australia Council of Social Services
- Queensland Council of Social Services
- Queensland Community Organising Alliance
- Kingaroy Concerned Citizens Group
- Australian Red Cross

Members of the General Public (approx. 300)