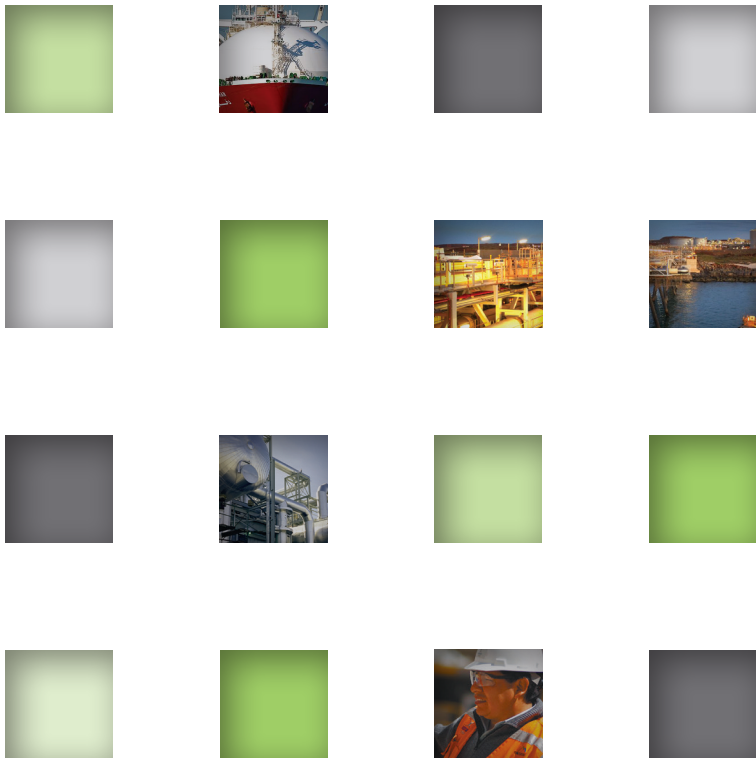# PIT CREW
Labour Market Reports

- Thorough Methodologies
- Proven Formula
- Exceptional Service

LNG Maintenance and Shutdown Workforce Report - Australia

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Welcome To Pit Crew

Pit Crew Management Consulting Services is a specialist consulting firm based in Perth, Western Australia predominantly servicing clients who operate in the resources and energy sector.

Since 2004 Pit Crew has worked with some of the most significant organisations - private, industry and government - in the Australian and Canadian resources and energy sectors, providing labour market forecasting and analysis for major projects. Our client list includes: BHP Billiton, Rio Tinto, Woodside, Chevron, APPEA, Santos, Arrow Energy, QGC, Inpex, LNG Canada, Bechtel, KBR and Fluor as well as the Western Australian, Northern Territory and British Columbian governments.

Pit Crew bring a valuable combination of skills, knowledge and experience to their client base. An intimate understanding of resources and energy projects, as well as the engineering and construction industries come together with hands-on experience and the broad network of Pit Crew, enabling the provision of accurate and insightful labour market analysis.

Pit Crew is recognised in Australia and Canada as an authority in labour market analysis for major projects.

Pit Crew now provide LNG sector stakeholders the opportunity to access reports and analysis relating to the maintenance and shutdown workforce requirements for all downstream Australian LNG facilities. This analysis also includes forecasts of future LNG workforce demographics, addressing age and gender demographics.

Pit Crew Managing Director – Peter Dyball
Keynote presentation - LNG in BC Conference, Vancouver

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Labour Is A Key Input For Cost Effective LNG Maintenance And Shutdowns

In the very near future, Australia will have 21 LNG trains in operation, becoming the largest producer in the world. While an accomplishment in itself, what will be even more impressive is that the construction and commissioning of 15 trains will have been within just one decade.

The shift in phases from construction and commissioning to operations is also providing an evolving environment in terms of risks and challenges, while some challenges diminish, others moderate and of course, new challenges emerge.

Cost is one of the most significant current challenges for the Australian and global LNG sector. The prevailing environment in the global energy market necessitates a focus on cost management and reduction by all Australian LNG sector stakeholders, including owners, suppliers and service providers. While the impetus to reduce costs is driven by the global competitiveness and long-term sustainability of the Australian LNG sector, cost reduction targets must be achieved with an unwavering commitment to safety and health performance.

When it comes to the LNG maintenance and shutdown workforce, it is evident that the number of adequately skilled and experienced personnel in Australia is limited. Demand for maintenance and shutdown workforce resources is increasing as the sector moves towards 21 operating LNG trains. While a key element is the quantum of the available resources, timing of the demand is even more critical.

If the Australian LNG sector takes a fragmented approach towards demand for maintenance and shutdown resources, shortages of suitably skilled and experienced labour are highly likely to occur. Demand spikes will result in a recurring series of periodic skills shortages within maintenance and shutdown resources, resulting in significant costs for LNG producers. These costs will be the end result of below par performance in safety, productivity, quality and schedule.

To avoid this the sector will need to optimise demands for maintenance and shutdown resources on a national basis, reducing demand spikes and promoting continuity of work for a valuable workforce. A key planning component will be forecasting potential demand spikes long before they occur, allowing the risks to be managed and mitigated for little or no cost.

Pit Crew's LNG Maintenance and Shutdown Workforce Report is a valuable resource available to LNG sector stakeholders, providing a concise, detailed and regular review of the LNG maintenance and shutdown environment in Australia.
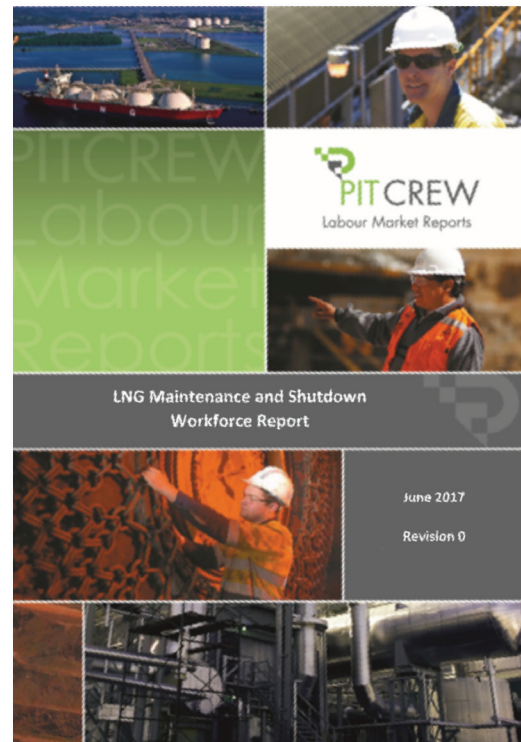
LNG Maintenance and Shutdown Workforce Report

Insightful, regular labour market data and information is a critical tool in facing the challenges which will be experienced in resourcing LNG maintenance and shutdown workforces. Comprehensive and accurate labour market analysis and forecasting is paramount to workforce planning, strategy and risk management. As part of our long term presence in the market, Pit Crew has invested years in researching and modelling Australian and international LNG sectors, developing a comprehensive and second-to-none understanding of the increasing demand for LNG maintenance and shutdown resources locally and globally.

As LNG assets come on-line over the next 3 years, the increase in demand for maintenance and shutdown resources will require specific strategies in order to harness the most experienced resources available, as well as deal with the impact of workforce demographics, particularly aging. Pit Crew has a raft of knowledge in this area.

Australian facilities will be challenged by the speed and volume of growth, the current demand vs. future demand for maintenance/shutdown workforce in the Australian LNG sector and the geographic spread of LNG facilities in Australia.

By identifying potentially very costly spikes in demand for resources, the data and information available to stakeholders in Pit Crew's LNG Maintenance and Shutdown Workforce Report is a valuable resource in the planning of LNG maintenance and shutdowns.

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LNG Maintenance and Shutdown Workforce Report

June 2017
Revision 0

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LNG Maintenance And Shutdown Workforce Report – Typical Scope

Australian LNG Environment

- Provides an overview of the Australian LNG environment.
- Identifies established and operating LNG facilities, LNG facilities which are under construction and are partly operational, as well as facilities which are in the full construction phase.
- Covers how the projects are positioned and are anticipated to progress.

Australian LNG Maintenance/Shutdown Workforce Demand Forecast

- Forecasts and analyses the demand for maintenance and shutdown workforce resources across all downstream LNG facilities in Australia.
- Identifies and forecasts maintenance/shutdown activities which could result in conflicts of timing, spikes in demand, or other less than optimal utilisation of labour resources.
- This base data can be used by stakeholders to identify where their activities lie in comparison with the rest of the market, from which mitigating plans or revised strategies can be developed.

Demographic Analysis

- Identifies, forecasts and analyses LNG workforce demographics and also provides a summary of trends and challenges in the LNG operations workforce, facilitating workforce planning and development strategy.
- Delivers estimates of future LNG workforce demographics. Includes age and gender demographics

Additional Scope – If Required

In addition to the standard features of our reports, Pit Crew have the capability to report a range of other aspects related to potential sourcing from allied industries and a view of the global LNG environment and the future demand for global LNG operations resources. Providing the most comprehensive view available for the global LNG labour market.

Global LNG Project Environment

- Provides an overview of the global LNG project environment and how the different countries are positioned and might progress over a 5 year look-ahead

Global LNG Operations Workforce Demand Forecast

- Provides a forecast of the global LNG operations workforce demand for a 5 year look-ahead.

How Do Clients Use Pit Crew Labour Market Reports?

Pit Crew Labour Market Reports are used as an independent source of labour market data and information, providing foundation data for a wide variety of purposes, including:

- Construction, operations and maintenance workforce planning

- Skill requirement identification for training plans

- Industry-based evidence for training program development and funding

- Development of contracting and project delivery strategies

- Development of recruitment and retention strategies and plans

- Obtaining a detailed understanding of the competitive pressures on major resources, energy and infrastructure projects and operations

- Providing background data to meet tender submission requirements and as data during contract strategy negotiations

- Evidence for project specific labour market analysis component for Labour Agreements and Migration Agreement submissions

Benefits Of Using Pit Crew

Benefits of using Pit Crew Labour Market Reports and labour market analysis capabilities include:

- Rapid ramp up time. This means that clients can focus on facing the skills shortage challenge rather than redefining or reanalysing it

- No drain on valuable internal resources

- No issues with confidentiality or perceived anti-competitive behaviour

- Delivers a planned, strategic and efficient approach to the labour analysis process

- Data is current and up-to-date. Regular update periods ensure the data is relevant and the most current available

- Provides a platform which assists workforce planning and development strategies

- Existing intellectual property, not "re-inventing the wheel". Pit Crew's proven models, developed in-house - have been in use in the industry for 12 years

- Providing an objective, quantitative platform upon which future strategy may be developed

- The Pit Crew labour model processes provide data which is updated at regular intervals, facilitating the development of industry trending and analysis

- The added ability for Pit Crew to quickly produce client-specified scenarios through the labour models

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