Mr Tony Windsor MP
Chair
Standing Committee on Regional Australia
House of Representatives
Parliament of Australia
Canberra ACT 2600

7 October 2011

Dear Chair

Inquiry into the use of ‘fly-in, fly-out’ (FIFO) work practices in Australia

The Shire of Roebourne (the Shire) is located in the Pilbara which is recognised internationally as a major resource hub, with a reputation as the ‘powerhouse’ of the nation, accounting for 35 percent of mineral and petroleum production and 23 percent of merchandise exports. The Shire covers a land area of 15,882 square kilometres and has a population of approximately 20,000 people. It includes Karratha, the primary hub of the West Pilbara; the historic town of Cossack; coastal town of Point Samson; Roebourne, a centre for local Indigenous communities; Wickham, with its origins in mining; and Port Dampier, a major export harbor for iron ore and hydrocarbons.¹

The Shire of Roebourne views the conduct of this Inquiry by the House of Representatives and in turn, the Standing Committee on Regional Australia (the Standing Committee) as timely in the context of the constrictive impact of the management of fly-in, fly-out workforces by some resource companies on established communities, and the Federal and State Government’s commitment to growth and investment, in the Pilbara Region.

GOVERNMENTS’ VISION FOR THE PILBARA

Federal and State Governments’ focus on the development of sustainable communities and economic growth and diversification for the Pilbara Region is evident in the following key initiatives, plans and related funding commitments:

- The Commonwealth Government’s Regional Development Australia (Pilbara) initiative, underpinned by the Pilbara Plan and funded by the Regional Development Australia (RDA) Fund for community infrastructure and economic development; and
- The State Government’s Pilbara Cities Initiative operated locally by the Pilbara Cities Office, underpinned by the Pilbara Infrastructure and Planning Framework, Karratha City of the North Plan and related implementation documents, and jointly funded through the State’s ‘Royalties for Regions’ program, Commonwealth Government and business investment.
- The Pilbara Regional Council (PRC)\(^2\) formally constituted under the Local Government Act 1995 (WA) and comprising membership of, and funded by, the four Pilbara Shires.\(^3\) The PRC is centrally focused on leadership and good governance and regional approaches to advocacy, strategy, funding and procurement. The PRC ensures that a coordinated and integrated approach occurs in relation to achievement of outcomes under the Pilbara Cities initiative.
- The Pilbara Development Commission (PDC),\(^4\) a statutory authority established under the State Government’s Regional Development Commissions Act (1993) and reporting to the Minister for Regional Development. The PDC’s strategic priorities are congruous with the objectives of the Pilbara Cities initiative and focus on working collaboratively with business and government to deliver quality infrastructure and programs that support economic and social development across the Pilbara. The PDC is particularly focused on leveraging the State Government’s Pilbara Cities investment for long-term benefits.

There is a strong nexus between Federal and State Policy positions in relation to the Pilbara with the RDA endorsing the Pilbara Cities Initiative and operating in part as the conduit by which the Federal Government’s resources and requirements are brought into the partnership with the State.\(^5\) Therefore both the Commonwealth and State Governments have a joint vision for the Pilbara involving a key focus on transforming regional centres from towns that have grown and fluctuated according to resource investments and projects to more normalised and sustainable centres that can support a skilled workforce, improving the efficiency and delivery of economic projects in the Pilbara and having a flow on effect in terms of creating a diverse economy.

The achievement of ‘modern regional centres’ is seen to be contingent on the delivery of up-to-date services and facilities that promote regional living and which develop strong growth communities. The approach lends itself to creating opportunities for Indigenous people and affordable lower cost living

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\(^3\) Shire of Ashburton, Shire of East Pilbara, Town of Port Hedland and Shire of Roebourne.

\(^4\) Pilbara Development Commission, WA. Available at: http://www.pdc.wa.gov.au/.

and/or investment for community, businesses and government. Success in achievement of this vision is dependent on the joint contribution of the private sector, business and government.

Commonwealth\textsuperscript{6,7} and State Government\textsuperscript{8,9} commitment to the realization of this vision is not insubstantial, in brief involving:

- Planned population growth for Karratha and Port Hedland to 50,000 by 2035, requiring approximately 50,000 new dwellings across the region and employment growth to 23,000 (currently there are approximately 8,000 permanent jobs in the Pilbara);
- Economic development and diversification from largely resource dependent communities to an economy that addresses global fluctuations involving supply chain completion in the first phase and then encompassing knowledge-based industries with an increased capacity to export goods and services;
- A significant upgrade and replacement in utilities and transport infrastructure and delivery of community services/facilities congruous with the demands posed by a significantly increased residential and FIFO population;
- Realising this 'transformation' within the context of environmental considerations; and
- Forming partnerships between Government and Indigenous communities for outcomes that respect, and build on, Indigenous culture and community.

The Commonwealth and State Governments, in partnership with the four Pilbara Shires have, and will continue to, invest substantially in initiatives to underpin this growth, and where possible partner with the private sector. Indicative figures pertaining to the Shire area include several million invested in planning under the Karratha City of the North Plan and the Western Australian Planning Commission's Pilbara Planning and Infrastructure Framework; $15 million in Regional Development Australia Funding for the Karratha Leisure Centre; approximately $200 million by Landcorp for two housing developments and social infrastructure; $65 million in Royalties for Regions funding for the Karratha town centre upgrade; $36.3 million in Royalties for Regions Funding for other projects; and $3.6 million in Country Local Government Funds.

Two surveys conducted by the Shire\textsuperscript{10} since the announcement of the Pilbara Cities vision show community support for the growth vision intended for the region, including expanded facilities and services.

\textsuperscript{6} Regional Development Australia, Pilbara Regional Plan, Available at: http://www.rdapilbara.org.au/Assets/Documents/Preliminary_Pilbara_Regional_Plan.pdf
\textsuperscript{7} Infrastructure Australia, Communicating Imperative for Action: A Report to the Council of Australian Governments, June 2011.
\textsuperscript{8} Western Australian Planning Commission, Pilbara Planning and Infrastructure Framework, WA, February 2011.
\textsuperscript{9} Shire of Roebourne and Government of Western Australia, Karratha City of the North Plan (and related planning documents), 2010, Available at: http://www.roebourne.wa.gov.au/City%20of%20the%20North.aspx.
\textsuperscript{10} Karratha 2020 Vision and 2010 Shire of Roebourne Annual Community Needs and Satisfaction Survey (included a survey of 120 FIFO).
THE EXTENT AND IMPACT OF FIFO

The growth of sustainable, livable, economically diverse, and culturally sensitive communities is reliant on a critical mass of permanent residents and is substantially impacted by an ongoing reliance on FIFO, particularly during the operational phase of a project.

The distinction between resource companies' use of FIFO for construction and for operations is a critical one. Construction and maintenance based FIFO workers are usually accommodated in a remote on-site camp or a camp on the periphery of an urban centre. These camps are considered 'short term' with the period of operation linked to the construction period of the project e.g. 3 – 5 years. However these camps tend to remain indefinitely, accommodating FIFO during maintenance shut downs, coining the expression 'the TWA [Transient Workforce] beds are permanent but the occupants transitory'.

On the other hand, operational FIFO tend more often reside in a house or apartment in an urban centre. These residents therefore use community facilities and services (including waste management, footpaths, building and planning approvals) but cannot be counted (are not generally captured by Census) in accessing funding for community growth initiatives.

The following figures are indicative of an increased reliance by resource companies on FIFO:

- from 1996-2006 direct employment in the mining industry in Perth grew by 105 percent but only by 26 percent in regional Western Australia;\(^\text{13}\)
- as at 2011, nearly 50 percent of Australia’s mining workforce (of 56,000) are FIFO workers;\(^\text{14}\)
- Shire issued Lodging House Licenses in Karratha currently stand at 4944 rooms and 5020 beds with a total of 11010 rooms and 11184 beds for the Shire in total (the figures exclude unlicensed beds that may be occupied by FIFO such as hotels); and
- figures tendered in the attached table relating to the West Pilbara (adapted from a broader table released by the Australian Bureau of Agriculture and Resource Economics giving current and predictive figures for major mineral and energy projects in Australia), reveal that FIFO numbers are likely to double in the next four years.\(^\text{15}\)

\(^\text{11}\) FIFO 'swamping' facilities was perceived as a major issue in a 2011 survey conducted to underpin the development of a Transient Workforce Housing Policy. See RPS, Transient Worker Accommodation: Policy Consideration, WA, April 2011, pp.12-13.


\(^\text{14}\) RPS, Transient Worker Accommodation: Policy Consideration, WA, April 2011, p.8.

\(^\text{15}\) Australian Bureau of Agricultural and Resource Economics and Sciences, Minerals and Energy: Major Development Projects - April 2011 listing. Available at: http://www.abares.gov.au/publications_remote_content/publication_series/minerals_and_energy_- _major_development_projects?sq_content_src=28dXJsPWh0dHAlM0EImkYIMkYxNDMuMGh4LjE3JiwTJGyW5y
There are a number of reasons why mining companies rely on FIFO, not least the Commonwealth Fringe Benefit (FBT) Tax levied on non-salary type benefits provided to employees such as low cost on-site accommodation, subsidised utilities and so forth. Paid by the employer, FBT is only applied to permanent residents, not FIFO. This combined with low cost airfares provides an incentive for resource companies to continue reliance on FIFO.\textsuperscript{16}

The impact of large numbers of temporary residents, a considerable volume in close proximity to townships, is multi-dimensional. In brief, it creates:

- a long-term transient workforce that limits resident population growth (including the attraction of permanent residents), a sense of community belonging, participation and ownership;
- an over-reliance on community services and ageing infrastructure that is already struggling to meet demand, with limited financial contribution to off-set costs;
- an over-inflated housing and business investment market;
- a reliance on service provision and/or contractors external to towns impacting negatively on economic diversification and growth; and
- other community social, economic or cultural impacts that have otherwise not been ascertained in the absence of studies\textsuperscript{37} and/or a legislative requirement in the State of Western Australia for detailed social, economic or cultural impact assessments for major FIFO projects and related settlements.

\textbf{The limiting effect of FIFO on community growth and the sustainability of the Shire}

State Agreements with resource companies provide little direct benefit to local government authorities. Royalties are paid directly to Government and where rate concession clauses exist, local government authorities are limited in their capacity to levy rates or other normal charges. Except for accommodation (which is levied at a lower rate than if those residents were permanent) and some administrative buildings, resource projects subject to rate exclusion clauses can only be rated on minimum unimproved values. While the Government of Western Australia on lobbying from local government authorities and the Western Australian Local Government Association committed in December 2009\textsuperscript{18} to exclude rate concession clauses from future State Agreements pertaining to resource projects and to remove the exclusion clauses from current State Agreements (to be determined on a case-by-case basis), State


\textsuperscript{17} The Department of Planning in Western Australia is silent on the issue of the long-term impact of short-term camps which often transition from Construction to Operational workforce accommodation.

Government introduced legislation in December 2011 relating to 11 State Agreements, all of which included rates concession clauses.

The inability to account for FIFO in lobbying Government for funding for existing and planned facilities and services or to receive adequate income to offset FIFO usage will likely impact the Shire's sustainability and capacity to meet its obligations under its Strategic Plan and Governments' growth vision for the Pilbara. This is indicated by the following:

- Population projections undertaken on behalf of the Shire of Roebourne show a projected population increase to 38,010 by 2031 with a population for Karratha of 31,430 which accounts for a 166 percent population increase for the Shire and 150 percent for Karratha.20
- Assessment undertaken by the Shire of its facilities reveals that 28 percent require renewal, upgrade or decommissioning in the short-term with three percent no longer providing an acceptable level of service. A $28 million shortfall in funding exists to bring those facilities up to standard and charges cannot be levied on existing investments to meet that cost.
- Development Contribution Modelling conducted by the Shire in 2011 shows the Shire's forward capital requirements for the Community Facilities Plan to 2031 amounts to approximately $269 million, or $587 million to meet the requirements of the Karratha City of the North Plan under the Pilbara Cities Initiative. That requires a contribution of approximately $18,000 or $26,000 per new dwelling or per new seven Transient Workforce Housing beds respectively. The modeling also reveals that the Shire's ability to manage the proposed growth under the Pilbara Cities vision is marginal and likely unsustainable.
- The Shire's total Capital Works expenditure for the next 10 years is $442 million (excluding upgrades to the Shire owned airport) which includes additional projects not subject to potential development contribution. The Shire has a 33 percent shortfall in capacity to meet its Capital Works expenditure after receipt of subsidies and development contributions.

The difficulty for the Shire is that facilities are being built ahead of time in anticipation of growth (under a joint Government vision) and the Shire is investing in infrastructure and services that may or may not be required. An increasing shift to FIFO (as per the current trend) means that these facilities and services could become unviable due to lack of threshold and insufficient demand (essentially the community would have the FIFOs but not their families) or a lack of sustainable income with which to maintain and operate them.

**FIFO community participation and ownership**

A sense of community belonging, participation and ownership is critical to the sustainability and livability of communities, both being key goals for moving forward with Governments’ vision.\(^{21}\) A survey undertaken by a consultant for the Shire in relation to a Transient Workforce Housing Policy in 2011 showed considerable community concern about the integration of FIFO.\(^{22}\) The lack of a resident workforce and a recent shift from 8-12 hours denies the community access to potential leaders, volunteers and community participants in local organisations, particularly sporting facilities, and may be attributable to a level of anti-social behaviour.

In 2009 following the results of the Shire’s annual Community Needs Survey which identified concerns about crime prevention, the Shire and Western Australia Police established a CleanSweep Taskforce\(^{23}\) with Woodside and Rio Tinto to address anti-social behaviour. In the context of FIFO it is generally perceived that contractor workforces (indirect workforce) are not as well-controlled or organised as those directly employed by resource companies (direct workforce).\(^{24}\) The CleanSweep Taskforce, in part, has intervened as follows:

- in 2009 following an increase in anti-social behaviour at the Shire owned airport bar a six month trial was introduced (with Council’s endorsement) to reduce bar opening hours and the serving of full strength alcohol. On completion of the trial in June 2011 while some displacement issues were noted in the form of illegal drinking and littering in the airport car park, a reduction in incidences of anti-social behaviour resulted in permanent enforcement of reduced hours and the ban on serving full strength alcohol, including spirits.
- Western Australia Police have as part of the initiative issued infringements for street drinking in the carpark of the main shopping centre on a Thursday evening when busloads of FIFO come in from the mines.

As part of a separate initiative, the Pilbara Industry Road Safety Alliance, Police and mining companies are addressing drink driving (a combination of police enforcement powers associated with a system of escalating penalties imposed by industry) which has been determined as an issue in the Pilbara.

**Affordable Housing**

Growth under the Pilbara Cities Vision is reliant on the normalisation of the property market and the provision of the full spectrum of housing options, in particular affordable housing. As the resources boom increased in scale, the demand for housing and accommodation escalated, the availability of labour and land diminished and construction costs increased, resulting in unprecedented housing prices.


\(^{22}\) RPS, *Transient Worker Accommodation: Policy Consideration*, WA, April 2011, p.11/12.


\(^{24}\) RPS, *Transient Worker Accommodation: Policy Consideration*, WA, April 2011, p. 10
As at 2010 the median house price in Karratha was $761,000 for a three bedroom home rising to $1012,785 for a four bedroom home and the average rent was $1308.00 and $2000 respectively. The Regional Price Index shows the cost of living in the Pilbara is the highest in the state and far exceeds Perth (120 percent). In the 2011 Shire of Roebourne Community Needs and Satisfaction Survey 1 in 5 respondents claimed that affordability and the cost of living had made them consider leaving and in the survey conducted to underpin the Transient Workforce Housing Policy it was held that the cost of living restricted the number of people taking advantage of employment opportunities.

**Economic Diversification**

Economic diversification becomes a difficult task when contractors and support services are flown in or FIFO workers repatriate their income back to their place of residence. The Pilbara has been labelled as a 'hollow economy' because despite significant economic activity, there is a high level of leakage. A residential workforce has less leakage of income and private spending from the region and local spending creates opportunities for local businesses to be established to service demand. It is acknowledged that given centralised purchasing arrangements in capital cities and prequalification requirements that supply direct to resource companies may be limited but not totally unfeasible. A local resident workforce will also increase demand for infrastructure and service developments envisaged under the Karratha City of the North Plan such as health care, schools, community facilities, roads and service professionals.

**The effect of mining operations on the local community**

While mining contributes significantly to the Australian economy and therefore the broader community there is limited legislative consideration given in Western Australia to the effect of the management of mining operations on the local community. While Western Australia has a Sustainability Code of Practice for Government Agencies which specifically states that 'development, and particularly development involving extraction of non-renewable resources, should strive to provide net environmental, social and

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economic benefit for future generations', economic, social, and indeed cultural impacts are not legislatively incorporated into the decision-making process for resource projects in this State.

While there has been some significant Social Impact Assessment work, including cultural assessment, undertaken by the Western Australian Department of State Development (DSD) in relation to the Browse Liquefied Natural Gas processing precinct on the Dampier Peninsula 60 km north of Broome, this was conducted under terms of reference of a Commonwealth/State Agreement not State legislation. DSD is also currently conducting a social impact assessment in relation to the Anketell Iron Ore operation to be located near Roebourne and involving 5000 plus construction beds, however, there is no legislative basis by which to ensure proponents or their contractors (which are often considered a separate component by mining companies) comply with related conditions. This is extremely problematic in the context of the site's close proximity to a predominantly Indigenous community where cultural concerns are paramount and where Shire facilities are designed to cater to a smaller population base. The failure of the Western Australian Legislature to recognise the regional impacts of FIFO settlements prevents government, local government and community from realising strategies to determine better regional outcomes and to plan to remediate shortcomings.

The Regional Development Council, the peak advisory body to the Minister for Regional Development, contracted ACIL Tasman in 2009 to undertake an analysis of economic models and modeling and analysis techniques and their suitability for application to Western Australia. That document recommends a suggested approach to economic modeling and establishes a range of issues to be considered for FIFO economic analysis. Notably it references the Queensland Government's Project Assurance Framework which ensures that Government achieves value for money from its significant investment in project activity, assessing direct State Budget impacts as well as benefits to the community (in the context that these could outweigh the net financial costs to government).

In Queensland a social impact assessment is required for all projects declared under the State Development and Public Works Organisation Act 1971 and for projects requiring an environmental impact assessment under the Environmental Protection Act 1994. The assessments are reviewed by the Coordinator-General's Social Impact Assessment Unit. Through these assessments, government and proponents adopt a focused approach to managing growth for the future by:

- collecting and analysing 'information about key social and cultural issues, population change and community and social relationships that are likely to occur as a direct or indirect result of a development project;' and

• developing 'strategies for mitigation, management, monitoring, and review.'

Critical elements of the process/assessment include:
• it commences during the planning and design stages;
• it includes dialogue with affected parties, including vulnerable elements of the community, and is culturally and linguistically sensitive;
• it is underpinned by a robust methodology providing clarity in relation to tactics and assumptions, data collection and analysis, and ensures that social equity considerations are accurately identified and described;
• it forecasts social change that can result from the project (and the significance thereof) which can be identified according to project phase; and
• identifies and manages potential impacts and develops a monitoring plan to track implementation.

As a support to the Social Impact Assessment process, the Coordinator-General's Office has developed a Social Impact Assessment: Guideline to preparing a social impact management plan, together with a Social Impact Management Plan (SIMP) template. This clearly establishes the roles and responsibilities of proponents and other stakeholders during the life of the project in mitigating and managing social impacts and opportunities. The SIMP identifies projected positive and negative impacts of the project including impacts on social infrastructure and services, and accommodation and housing market impacts, as well as identifying strategies to mitigate negative social impacts and maximise social benefits.

Under the Social Impact Assessment process, where a FIFO workforce is proposed, the proponent must work with the Shire, communities, State Government and other key stakeholders to ensure that the livability and sustainability of towns is protected. To assist with assessment, the Coordinator General has released a Major Resource Projects Housing Policy: Core Principles to Guide Social Impact Assessment which provides guidance to proponents in considering and mitigating the impacts of housing developments as part of the Social Impact Assessment process. This importantly points to the requirement to consider the relativity of the size of the village to the nearest resource town and issues emerging from this; the capacity of existing infrastructure; locate a proportion of the workforce in the town to support local growth; and consider the impact of such developments on the housing market.

In New Zealand the Resource Management Act 1991 (RMA) introduced the concept of sustainable management of natural and physical resources. This purpose which is central to the RMA, the integrated

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framework for resource management, influences all other related policies, standards and decision-making under the Act. Section 5 of the Act defines sustainable management is defined as:

'tmanaging the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural well-being and for their health and safety while—

  o (a) sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and
  o (b) safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and
  o (c) avoiding, remedying, or mitigating any adverse effects of activities on the environment.'

The RMA establishes matters that must be recognised and provided for in achieving the purpose of the RMA; matters that shall be given particular regard to; and references that 'account shall be taken' of the principles of the Treaty of Waitangi (relevant to Maori culture). In this manner, while the RMA recognises impacts across a number of domains, it gives strong recognition to Indigenous cultural rights in the mitigation process. While there is no statutory obligation to prepare a Cultural Impact Assessment per se, the Quality Planning website New Zealand provides useful best practice guides for practice under the RMA, including guidelines for the conduct of cultural impact assessments.

**Conclusion**

It is evident from the discussion in this submission that there has been a massive policy and funding commitment by both the State and Commonwealth Governments to the realisation of the Pilbara Cities Initiative. In the context of envisaged growth, the ability of the Shire to fund in a sustainable manner is marginal, particularly in the absence of a capacity to appropriately rate the resources sector and in the context of impacts imposed by Transient Workforce Housing and an increasing shift to the use of FIFO.

While it is acknowledged that Transient Workers are necessary to the resource sector and the national economy, there are negative trickle down effects that impact local government authorities and the functioning of local communities. The Commonwealth in partnership with State Governments, in this case, the Government of Western Australia, need to examine the use of FIFO holistically.

**Recommendations**

In consideration of the above discussion, the Shire requests that the Standing Committee give consideration within its jurisdiction or in consultation with the Government of Western Australia to:

**Better aligning Government legislation and policies around the management of FIFO and Governments' growth vision for resource centres in Australia, with particular reference to:**

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• Reviewing the impact of FBT on the establishment of a permanent residential population in regional growth centres;
• Recommending that the Government of Western Australia review its position in relation to the inclusion of rate exclusion clauses in State Agreements pertaining to resource companies in order to ensure equity in the application of rates to business and industry;
• Acknowledging and mitigating the financial strain imposed by FIFO on community facilities and services and the capacity of local government authorities to continue to meet associated costs, in the absence of significant contribution from resource companies;
• Acknowledging and mitigating the effect of FIFO on community sustainability, liveability and affordability;
• Acknowledging and mitigating the impact of FIFO on economic diversification and regional capacity to manage global economic fluctuations; and
• Recommending that Australian State and Territory Governments (where relevant) legislate for economic, social, and cultural assessment as part of the resource (or construction) project approval process.

The Shire would also appreciate consideration being given by the Standing Committee to involvement in any evidential hearings conducted in the Pilbara or via videoconference to Canberra.

Yours sincerely

Ms Collene Longmore
Chief Executive Officer
<table>
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<tr>
<th>Project</th>
<th>Company</th>
<th>Location</th>
<th>Status</th>
<th>Expected Startup</th>
<th>New Capacity</th>
<th>Capital Expend. Billion S Aust</th>
<th>Emp Construct</th>
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<td>Coniston (tie back to Van Geel) LNG</td>
<td>Apache Energy / Inpex</td>
<td>50 km N of Exmouth, Carnarvon Basin, WA</td>
<td>Expansion, committed</td>
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<td>22 kbdp</td>
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<td>Gorgon LNG</td>
<td>Chevron / Shell / ExxonMobil</td>
<td>Barrow Island, WA</td>
<td>New project, under construction</td>
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<td>15 Mt LNG, 110 PJ pa domestic gas</td>
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<td>Carnarvon Basin / Burrup Peninsula, WA</td>
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<td>Cape Preston, WA</td>
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<td>40 km N of Karratha, WA</td>
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<td></td>
</tr>
<tr>
<td>Balmaves LNG</td>
<td>Apache Energy / KUFPEC</td>
<td>NW of Dampier, WA</td>
<td>New project, awaiting FID</td>
<td>2014</td>
<td>30 kbd</td>
<td>0.459</td>
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<tr>
<td>APACHE</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Brunello / Jullimar (supply for Wheatstone LNG project)</td>
<td>Apache / Kufpec</td>
<td>NW of Dampier, WA</td>
<td>New project, feasibility study under way</td>
<td>2016</td>
<td>120 PJ pa</td>
<td>3</td>
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<tr>
<td>Gorgon LNG T4</td>
<td>Chevron / Shell / ExxonMobil</td>
<td>Barrow Island, WA</td>
<td>Expansion, EIS under way</td>
<td>na</td>
<td>5 Mt LNG</td>
<td>43</td>
<td>3500</td>
<td>300</td>
</tr>
<tr>
<td>Pluto (train 2 and 3)</td>
<td>Woodside Energy</td>
<td>Carnarvon Basin / Burrup Peninsula, WA</td>
<td>Expansion, FEED studies completed</td>
<td>late 2014</td>
<td>2 x 4.3 Mt LNG</td>
<td></td>
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<tr>
<td>Scarborough Gas - EXXON</td>
<td>ExxonMobil / BHP Billiton</td>
<td>280 km NW of Onslow, WA</td>
<td>New project, prefeasibility study under way</td>
<td>na</td>
<td>6 Mt LNG</td>
<td></td>
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<tr>
<td>Wheatstone LNG</td>
<td>ExxonMobil / KUFPEK, Tokyo Electric</td>
<td>145 km NW of Dampier, Carnarvon Basin, WA</td>
<td>New project, FEED studies under way</td>
<td>2016</td>
<td>8.6 Mt LNG (initially) 25 Mt LNG (ultimately)</td>
<td>18.4</td>
<td>5100</td>
<td>400</td>
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<tr>
<td>CHEVRON</td>
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<tr>
<td>Balla Balla project (Phase I)</td>
<td>Atlas Iron</td>
<td>90 km E of Karratha, WA</td>
<td>New project, govt approval received</td>
<td>2013</td>
<td>6 Mt iron concentrates, 280 kt TiO₂</td>
<td>1.3</td>
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<tr>
<td>Balla Balla project (Phase II)</td>
<td>Atlas Iron</td>
<td>90 km E of Karratha, WA</td>
<td>New project, feasibility study under way</td>
<td>2016</td>
<td>4 Mt iron concentrates, 190 kt TiO₂, 7 kt FeV</td>
<td>0.72</td>
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<tr>
<td>Cape Lambert magnetite project</td>
<td>MCC Mining</td>
<td>20 km E of Karratha, WA</td>
<td>New project, government approval under way</td>
<td>2015</td>
<td>15 Mt concentrates</td>
<td>30</td>
<td>3000</td>
<td>1000</td>
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<tr>
<td>Hardey IRON ORE</td>
<td>Aquila Resources</td>
<td>180 km SW of Pannawonica, WA</td>
<td>New project, prefeasibility study completed</td>
<td>2016</td>
<td>10 Mt</td>
<td>1.6</td>
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<tr>
<td>Nammuldi expansion IRON ORE</td>
<td>Rio Tinto</td>
<td>Pilbara, WA</td>
<td>Expansion, feasibility study under way</td>
<td>2013</td>
<td>26 Mt</td>
<td>1.65</td>
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<tr>
<td>Pilbara Project IRON ORE</td>
<td>Flinders Mines</td>
<td>70 km NW of Tom Price, WA</td>
<td>New project, feasibility study under way</td>
<td>2014</td>
<td>5 Mt (up to 15 Mt)</td>
<td>0.488</td>
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<tr>
<td>Solomon Hub (Stage I) IRON ORE</td>
<td>Fortescue Metals Group</td>
<td>Pilbar, WA</td>
<td>New project, awaiting final approval</td>
<td>2013</td>
<td>60 Mt</td>
<td>2.37</td>
<td>1000</td>
<td>3000</td>
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<tr>
<td>Solomon Hub (Stage II) IRON ORE</td>
<td>Fortescue Metals Group</td>
<td>Pilbar, WA</td>
<td>Expansion, feasibility study under way</td>
<td>na</td>
<td>50 Mt</td>
<td>7</td>
<td>4800</td>
<td>2650</td>
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<tr>
<td>West Pilbara IRON ORE</td>
<td>Aquila Resources / AMCI</td>
<td>Pilbar, WA</td>
<td>New project, feasibility study under way</td>
<td>2014</td>
<td>30 Mt hematite</td>
<td>5.8</td>
<td>2500</td>
<td>500</td>
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<tr>
<td>Anketell Point port</td>
<td>Fortescue Metals Group / MCC / Aquila</td>
<td>Pilbar, WA</td>
<td>New project, EIS under way</td>
<td>2013</td>
<td>30-40 Mtpa</td>
<td>3.1</td>
<td>396</td>
<td>321</td>
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<tr>
<td>Cape Lambert port expansion</td>
<td>Rio Tinto / Robe River</td>
<td>40 km N of Karratha, WA</td>
<td>Expansion, feasibility</td>
<td>late 2015</td>
<td>50 Mt (to 183 Mt)</td>
<td>3.3</td>
<td>300</td>
<td>300</td>
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<tr>
<td>Project Name</td>
<td>Company/Location</td>
<td>Location</td>
<td>Progress</td>
<td>Year</td>
<td>Material</td>
<td>Capacity</td>
<td>Distance</td>
<td>Operating Costs</td>
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<td>----------------------------------</td>
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<tr>
<td>Sherlock Bay Nickel</td>
<td>Australasian Resources</td>
<td>100 km E of Karratha, WA</td>
<td>New project, prefeasibility study under way</td>
<td>na</td>
<td>9 kt Ni</td>
<td>0.034</td>
<td>202,408</td>
<td>29246</td>
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<tr>
<td>Burrup ammonium nitrate plant</td>
<td>Burrup Holdings / Yara International</td>
<td>Burrup Peninsula, WA</td>
<td>New project, awaiting govt approval</td>
<td>2013</td>
<td>350 kt ammonium nitrate</td>
<td>0.6</td>
<td>600</td>
<td>65</td>
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<tr>
<td>Dampier Nitrogen project</td>
<td>Incitec Pivot</td>
<td>Burrup Peninsula, WA</td>
<td>New project, feasibility study under way</td>
<td>2014</td>
<td>272 kt ammonia, 235 kt ammonium nitrate</td>
<td>400</td>
<td>65</td>
<td>10301</td>
</tr>
</tbody>
</table>

**Total:**

- 202,408 km
- 29246 km
- 10301 km