

## Appendix 3

# REMPLAN Economic Impact Modelling: New Energy – Port Hedland Waste to Energy Project

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Government of **Western Australia**  
Pilbara Development Commission

## REMPPLAN ECONOMIC IMPACT MODELLING

# NEW ENERGY – PORT HEDLAND WASTE TO ENERGY PROJECT



March 2012

Making the PILBARA *the place to live, work, visit and invest*



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### REMPPLAN ECONOMIC IMPACT MODELLING

The Pilbara Development Commission has licensed the REMPLAN (Regional Economic and Planning) tool from Compelling Economics.

REMPPLAN provides economic information at the 4 Local Government Areas in the Pilbara and the ability to model impacts in these economies.

The primary datasets of REMPLAN at January 2011 is the:  
2006 ABS Census  
2007/2008 National input and output tables  
June 2011 ABS Gross State Product

REMPPLAN uses localised input / output tables to describe relationships between sectors in the economy. Multipliers are calculated and used to estimate potential economic impacts of increased or decreased activity.

Input / output modelling has strengths and weaknesses for further information refer to:  
[http://www.latrobe.edu.au/csarc/publications/reg\\_eco\\_model.pdf](http://www.latrobe.edu.au/csarc/publications/reg_eco_model.pdf)  
[http://en.wikipedia.org/wiki/Input-output\\_model](http://en.wikipedia.org/wiki/Input-output_model)

### BACKGROUND TO THE PILBARA ECONOMY

The Pilbara economy is dominated by the mining sector and those supporting sectors such as the construction sector. The Pilbara economy has an estimated output of over \$29 billion and a Gross Regional Product in the order of \$14 billion.

For further background information refer to the paper 'Pilbara Regional Economy' on the PDC website [www.pdc.wa.gov.au](http://www.pdc.wa.gov.au)

The Town of Port Hedland has an estimated total output of \$4.4 billion and a Gross Regional Product (GRP) of \$2.06 billion annually. The economy in the Town centers on the following activities, Mining 58%, Construction 13%, Manufacturing of 6.4% Rental Hiring and Real-estate 5.1%, Transport, Postal and Warehousing of 4.0%. The New Energy Power plant project in the Town of Port Hedland is classified as part of the Electricity, Gas, Water and Waste Services sector which currently is estimated to make up 0.7% of the Town of Port Hedland economy.

## **THE PROJECT DESCRIPTION – PILBARA WASTE TO ENERGY PROJECT**

Building and operating a power plant that uses waste diverted from landfill. At full capacity the power plant can service 15,000 homes.

The project will impact the local economy in two waves, the construction and then the operation. There is currently no data available detailing expenditure on local goods and services during the construction phase. The total project construction is estimated to be \$12 million.

The operation of the plant is expected to provide ongoing employment for 20 local people.

The impact modelling will concentrate on the operational impacts on the local economy of the Town of Port Hedland.

## **DATA COLLECTION METHODOLOGY**

Data has been sourced from the new energy website  
<http://www.newenergycorp.com.au/projects/pilbara-wa/>

**IMPACT IN THE PILBARA REGIONAL ECONOMY – REMPLAN RESULTS**

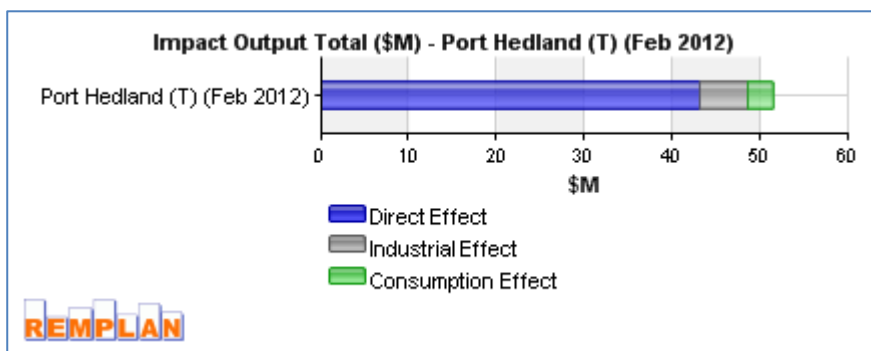
**OUTPUT**

The Town of Port Hedland has an estimated total output in 2011 of \$4.4 billion.

20 operational jobs in the Power Plant represent \$43 million of direct annual Output into the economy of the Town of Port Hedland.

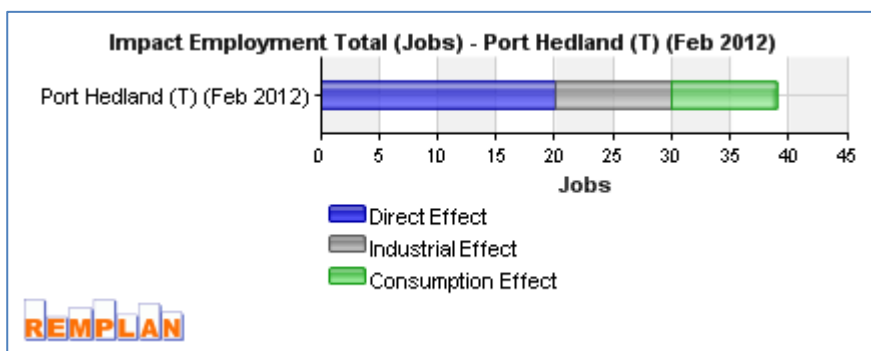
The impact of \$43 million of output in the local economy further stimulate industries and consumption, this output can be estimated at \$8.471 Million. This is an Output multiplier of 1.197.

Total impact on Output that can be attributed to the establishment of the Waste to Energy Project including the direct, industrial and consumption effects is estimated to be worth \$51 million



**EMPLOYMENT**

The employment of 20 people at the proposed power plant results in the employment of new people in the regional economy as support business gear up and expenditure of wages makes its way through the economy. The indication is that an extra 18 jobs will be supported in other industries outside the Project, this represent a multiplier of 1.95.



## REMPPLAN ECONOMIC IMPACT MODELLING

Below details the sectors likely to benefit from the Projects employment multiplier effect. The analysis is at the 111 sector level. According to REMPLAN of the 18 additional jobs the full time jobs are likely to be in the following sectors.

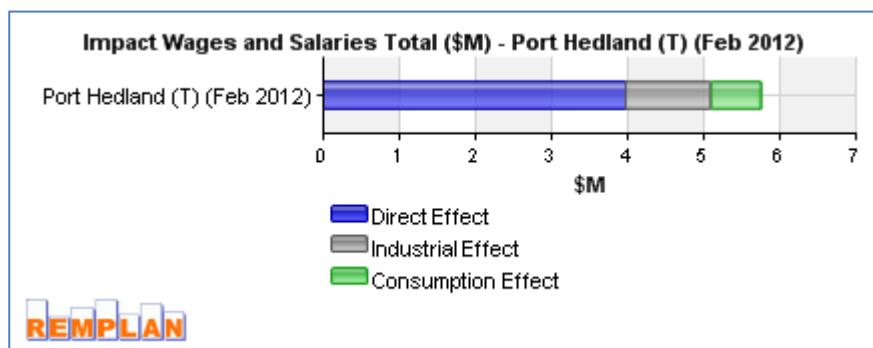
Employment	Industrial Effect (Jobs)	Consumption Effect (Jobs)	Total (Jobs)*
Electricity Generation	0	0	20
Electricity Distribution	1	0	1
Construction Services	2	0	2
Wholesale Trade	0	0	1
Retail Trade	0	2	3
Accommodation	0	0	0
Food & Beverage Services	0	1	1
Road Transport	1	0	2
Finance	1	0	1
Professional, Scientific & Technical Services	1	0	1
Administration & Support Services	1	0	1
Education & Training	0	1	1
Health Care Services	0	1	1
Automotive Repair & Maintenance	0	0	1
Other Repair & Maintenance	0	0	0

\*only full time jobs are detailed

### SALARIES AND WAGES

It is estimated by the REMPLAN system that 20 people at the Waste to Energy Project will receive a total of approximately \$3.986 million in salaries and wages.

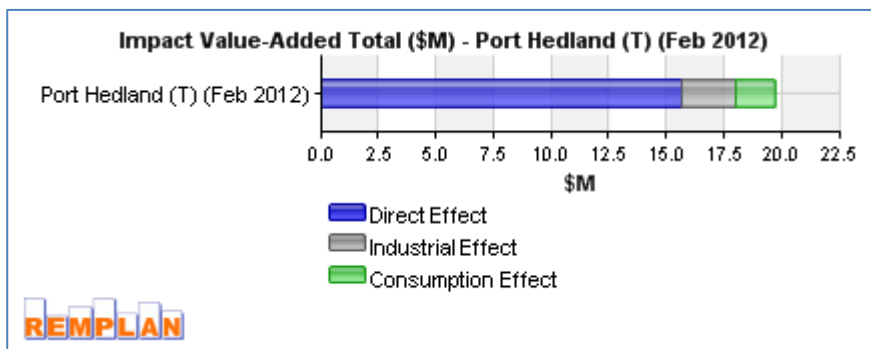
The flow on effect of supporting an additional 18 jobs elsewhere in the local economy will mean these businesses can pay their employees up to \$1.762 million in Salaries and Wages. This represents a wage and salaries multiplier of 1.442



**VALUE ADDED**

The Port Hedland local economy is estimated to have a Value Added of \$1.989 billion annually. The Waste to Energy Project is estimated to generate direct Value Added of \$15.673 million. Due to purchasing and expenditure in the local economy the projects gives other businesses a chance to also add value, this is estimated to be worth \$4.03 million of value added. A Value Added multiplier of 1.257

The Waste to Energy Project can be attributed to a total of \$19.699 million of Value Added across the sectors.



**GROSS REGIONAL PRODUCT**

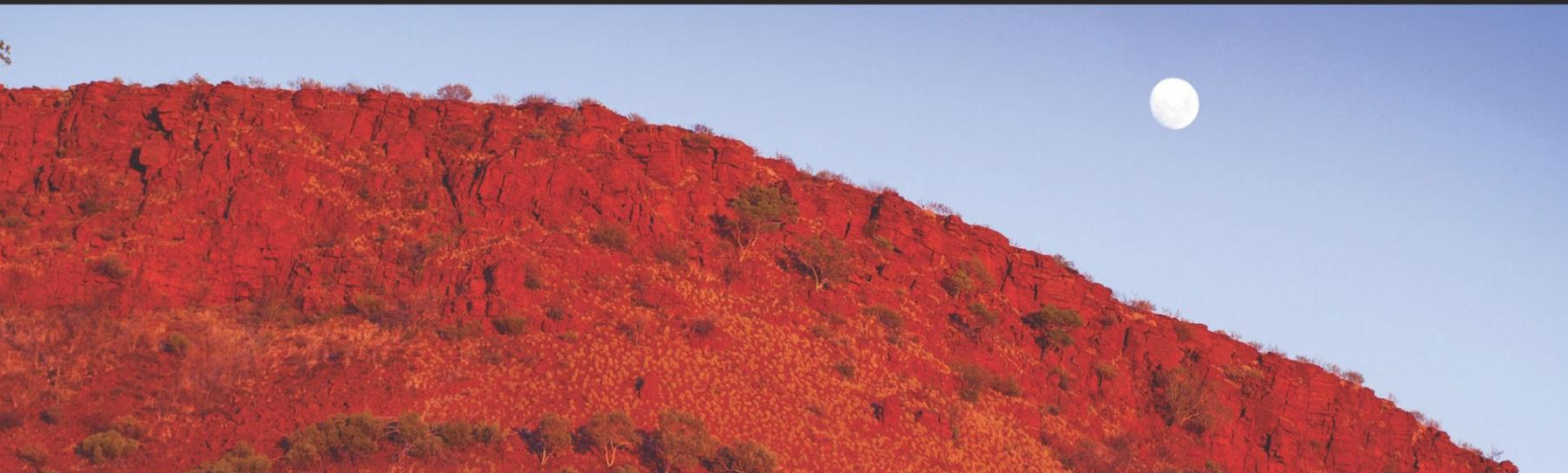
The Gross Regional Product of the Town of Port Hedland is estimated to be \$2.067 billion.

With an identified 38 jobs and output provided by the PHPA, the PHPA represent 0.95% of the Town of Port Hedland’s Gross Regional Product.

Below is a table detailing the impact on local Gross Regional Product of the Waste to Energy Project in the Town of Port Hedland economy.

GRP Expenditure Method	Before \$M	Impact \$M	Change %
Household Consumption	\$720.374	\$736.090	2.18 %
Government Consumption	\$220.683	\$220.975	0.13 %
Private Gross Fixed Capital Expenditure	\$343.159	\$344.869	0.50 %
Public Gross Fixed Capital Expenditure	\$64.067	\$65.066	1.56 %
Gross Regional Expenses	\$1,348.283	\$1,366.999	1.39 %
plus Exports	\$3,090.351	\$3,091.647	0.04 %
minus Domestic Imports	-\$2,135.524	-\$2,161.012	1.19 %
minus Overseas Imports	-\$235.228	-\$235.634	0.17 %
balancing item	\$0.000	\$25.581	
<b>Gross Regional Product</b>	<b>\$2,067.881</b>	<b>\$2,087.580</b>	





[fdc@fdc.wa.gov.au](mailto:fdc@fdc.wa.gov.au) | [www.fdc.wa.gov.au](http://www.fdc.wa.gov.au)



**KARRATHA OFFICE**  
Cnr Searipple Road  
& Welcome Road  
Karratha, WA 6714  
Tel: (08) 9185 0600

**PORT HEDLAND OFFICE**  
Shop 2, 6 Wedge Street  
Port Hedland, WA 6721  
Tel: (08) 9173 8400

**NEWMAN OFFICE**  
Newman House,  
Iron Ore Parade  
Newman, WA 6753  
Tel: (08) 9175 9936

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