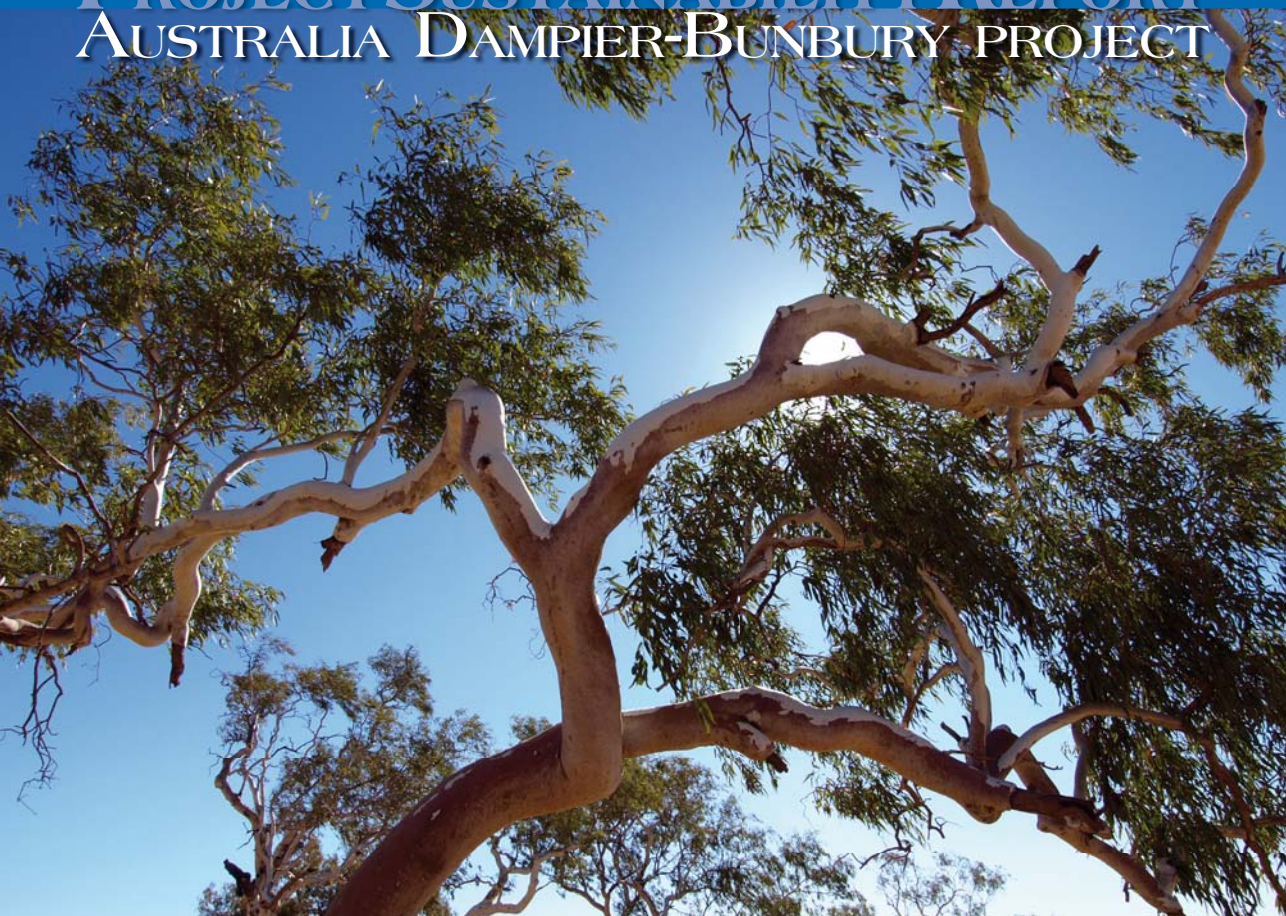




# PROJECT SUSTAINABILITY REPORT AUSTRALIA DAMPIER-BUNBURY PROJECT



## ABOUT THIS PROJECT REPORT

*The present report is part of the Sustainability Reports that Saipem started to publish in 2003, being aware of the importance of informing the stakeholders on the sustainability approach Saipem implements in the projects it conducts and in the areas of the world where it operates.*

*This report focuses on a specific project and describes the principles, activities and performance that has been achieved by Saipem towards sustainable development.*

*The report is structured to provide easy access to key indicators and information. It is divided into two parts: the first part gives an overview of Saipem and its business around the world, while the second part focuses on the project, by giving a description of it, the area where it was conducted and a description of the project's sustainability performance, addressed to different stakeholders.*

*The Project Sustainability Reports, together with the annual Saipem Sustainability Report and the Country Sustainability Report, represent the main Saipem tools to communicate its vision for Sustainability to all its stakeholders.*

## METHODOLOGY

*This Project Sustainability Report has been developed in accordance with the principles of materiality, stakeholder inclusiveness, sustainability context and completeness. As for the yearly Corporate Saipem Sustainability Report, this Report is strongly focused on stakeholders. This Report is intended to describe Saipem performance and its engagement with stakeholders in Australia, concerning the Dampier to Bunbury Natural Gas Pipeline (DBNGP) construction project.*

*A set of Key Performance Indicators (KPIs) was selected to support the information to be provided to stakeholders. Data are taken from the information systems used for the general management and accounting of companies' operations or from public data made available by recognised Institutions.*

*This Report illustrates Saipem activities concerning the Dampier to Bunbury Natural Gas Pipeline (DBNGP) project, which represents the consolidation area of the data. Data are usually reported for the entire period of the project (from February 2007 to February 2008) if not otherwise indicated.*

*Information and data updated at 2008.*

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# MESSAGE FROM THE CEO



*Umberto Vergine*

Saipem is an international Oil&Gas contractor with approximately 48,000 employees and operations in more than 60 countries.

Saipem plays a significant role in its market sector and contributes substantially to the economic development of the countries in which it operates.

We consider business sustainability to be an integral part of our strategy. Our commitment is to create long-term value for all our stakeholders, especially locally, by identifying common goals and agreeing on specific initiatives. Given

the wide range and complexity of our activities, our engagement with local stakeholders requires a comprehensive approach to sustainability. Furthermore, the variety of projects undertaken and the differences between countries where these activities are performed demand that a distinctive local approach be developed.

We publish these Reports on our Local Business Sustainability in order to favour open dialogue and enhance the development of local relationships, helping us to ensure that we operate at all times in an increasingly sustainable manner.

## MISSION

*Pursuing the satisfaction of our clients in the energy industry, we tackle each challenge with safe, reliable and innovative solutions. We entrust our competent and multi-local teams to provide sustainable development for our Company and the communities in which we operate.*



## FROM THE PROJECT MANAGER

In 1984, Saipem participated in the construction of the most important energy infrastructure in Western Australia, building a long segment of the Dampier-Bunbury gas pipeline. More than twenty years later, Saipem has returned to work on the same line for a very special enhancement project, which has required considerable logistical, management and organisational effort. The project has presented some critical issues linked to the protection of the flora and the fauna and, at the same time, to the aboriginal cultural heritage, in view of the presence of about 260 archeological sites along the route. Furthermore, the urban and agricultural areas crossed by the Pipeline route which have required intensive attention to the impact and stakeholders relationship management.

All the efforts given to the different initiatives undertaken during the execution of the project in term of environmental protection, landowner liaison, together with the management and improvement of internal social aspects have been rewarded by the good results achieved.

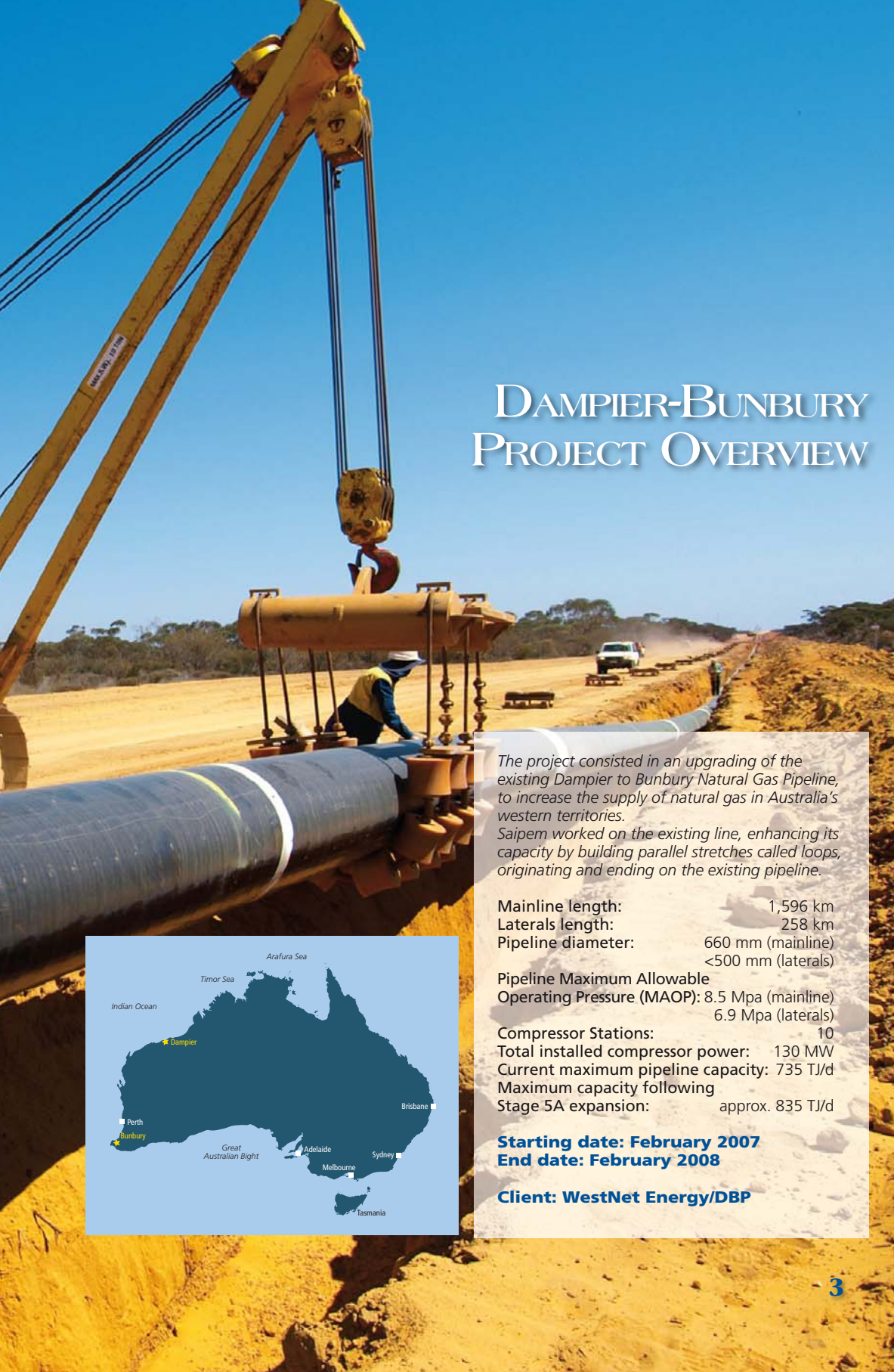
It is therefore with pride that Saipem is submitting to your attention the present report providing description of the approach in respect of the above mentioned commitment, and detailed evidences of our performance in term of social, economic and environmental responsibility, as tangible proof of our commitment to sustainable development.

I hope that our Local and International stakeholder will find this report useful to understand our way to operate in such challenging environment.

Finally, I would like to take this opportunity to thank all the project team and the HSE head department for the co-ordination and support to prepare this report.

**Stefano Grandino**  
DBNGP Stage 5A Project Manager

# DAMPIER-BUNBURY PROJECT OVERVIEW



*The project consisted in an upgrading of the existing Dampier to Bunbury Natural Gas Pipeline, to increase the supply of natural gas in Australia's western territories.*

*Saipem worked on the existing line, enhancing its capacity by building parallel stretches called loops, originating and ending on the existing pipeline.*

Mainline length: 1,596 km  
 Laterals length: 258 km  
 Pipeline diameter: 660 mm (mainline)  
 <500 mm (laterals)

Pipeline Maximum Allowable Operating Pressure (MAOP): 8.5 Mpa (mainline)  
 6.9 Mpa (laterals)

Compressor Stations: 10  
 Total installed compressor power: 130 MW  
 Current maximum pipeline capacity: 735 TJ/d  
 Maximum capacity following Stage 5A expansion: approx. 835 TJ/d

**Starting date: February 2007**  
**End date: February 2008**

**Client: WestNet Energy/DBP**







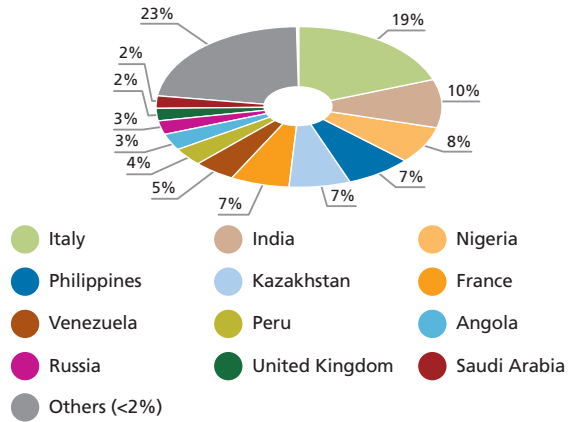
# INTRODUCTION TO SAIPEM

Saipem, 43% owned by Eni, is an international group with a strong bias towards oil and gas related activities in remote areas and deepwater. The Company began operations in the 1950s and it is now a leader in the provision of engineering, procurement, project management and construction services with distinctive capabilities in the design and the execution of large-scale offshore and onshore projects.

The organisation, since providing many different kinds of services, has been rationalised into three global Business Units: Onshore, Offshore, Drilling. It enjoys a superior competitive position for the provision of EPIC/EPC services to the oil industry both onshore and offshore; with a particular focus on the toughest and most technologically challenging projects – activities in remote areas, deepwater, difficult oil. The Group is a truly global contractor, with strong local presence in strategic and emerging areas such as West Africa, Americas, Central Asia, Middle East, North Africa and South East Asia.

Saipem is an international company employing over 37,000 people from around 115 nationalities. The major part of its human resources (85% in 2008) is locally employed.

Saipem workforce distribution by nationality (2008)



- ★ Operating and Engineering Hubs
- Engineering Centres
- Yards and Main Logistic Bases
- ▲ Other Main Areas and Representative Offices

# SAIPEM AT A GLANCE

## OFFSHORE

Having handled ground-breaking projects ranging from inter-field flowlines to major trunk line systems totalling some 23,000 km in length since the late 1950s, the company has continually updated and advanced its capabilities to anticipate the ever increasing demands of the market. Saipem's pioneering work in pipeline installation is matched by its experience in installing offshore platforms around the world, in which it has mastered both the heavy lift and the float-over techniques. Over the last ten years, Saipem has completed some 120 offshore construction projects – including modular deck drilling and production platforms, integrated deck platforms, wellhead platforms, accommodation platforms, FPSOs (Floating Production Storage and Offloading) – increasingly often in an integrated contractor role. Since the 1970s, Saipem has also been involved in the construction of marine terminals, conventional buoy moorings, jetties and piers. Saipem's offshore construction EPIC capabilities are also supported by significant and growing fabrication capabilities

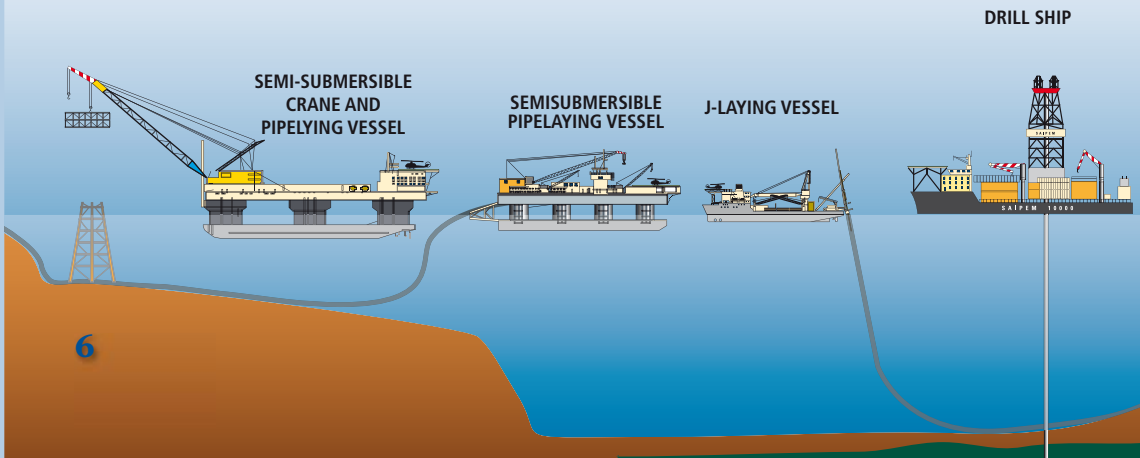
based at the core of major oil & gas provinces. These encompass its wholly owned subsidiary Intermare Sarda in Italy, the Rumuolumeni yard in Nigeria, the Petromar Soyo yard in Angola, the Boscongo Pointe Noire yard in the Republic of the Congo, the Kuryk yard in Kazakhstan, the BOS Shelf yard in Azerbaijan, and the Sharjah yard in the UAE. The current potential of Saipem fabrication facilities exceeds an aggregate of 130,000 tonnes per annum.

FPSO units are part of Saipem's offshore construction line of products, both as new-builds, delivered turnkey to the customer, and as tanker conversions leased to and operated for the customer.

## DRILLING

Saipem is presently contracted to a number of major oil companies, carrying out important drilling programs in Europe, FSU, North and West Africa, Middle and Far East and Americas. It has operated for several oil companies and government agencies, gaining international and qualified recognition.

Drilling services continue to be distinctive, working in many of the oil





& gas industry's 'hotspots', frequently in synergy with the group's onshore and offshore activities.

Over many decades of performance, Saipem has drilled over 6,400 wells, 1,600 of which have been offshore, totalling an overall depth of about 16 million metres.

Saipem operates both in shallow and deep water using jack-ups and semisubmersible units.

## ONSHORE

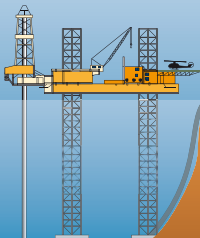
Saipem offers a complete range of project definition and execution services, from feasibility and front-end studies to design, engineering, procurement and field construction (EPC). It offers these services in virtually every world market, leveraging its specialised skills across the most significant product lines in the oil, gas, refining, chemical and power industries. The company offers integrated solutions ranging from upstream engineering to turnkey delivery of complex facilities, including onshore production, gas treatment and processing plants, pumping and compression stations and terminals. Land pipeline design

and construction, particularly cross-country, has historically been one of the mainstays of Saipem's business. In this market, Saipem ranks among the largest contractors in the world, having laid a record 62,000 km of pipelines on five continents. Onshore activities include also oil refining and the monetisation of gas through processing and into chemicals. The former Snamprogetti business has designed and built 37 grass-roots refineries, more than 500 process units and more than 400 plants worldwide to produce chemicals from natural gas. In recent years, the company has also designed and constructed more than 40 power plants, applying various process solutions and turbines, as well as three Integrated Gasification Combined Cycle plants, two of which are the world's largest, with a total capacity of approximately 5,000 MWe. Saipem plays a significant role in the design and execution of a large-scale civil infrastructure projects and also offers integrated environmental remediation services, such as those relating to soil and ground water, for contaminated sites of all types, both decommissioned and operational.

SEMISUBMERSIBLE  
DRILLING RIG



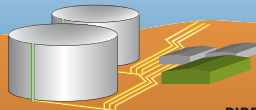
JACK-UP  
DRILLING RIG



DRILLING RIG



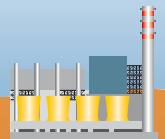
REGASIFICATION PLANT



PIPELAYING



POWER PLANT



# SAIPEM IN THE WORLD

REST OF EUROPE		2006	2007	2008
Revenues	(€ million)	1,093	954	878
Investments	(€ million)	17	14	9
Workforce	(units)	5,610	3,618	4,793
Local Workforce	(% of total)	86	85	73
Energy consumption	(toe)	12,222	44,386	63,095
HSE Training	(hours)	27,105	43,991	29,444

ITALY		2006	2007	2008
Revenues	(€ million)			
Investments	(€ million)			
Workforce	(units)			
Local Workforce	(% of total)			
Energy consumption	(toe)			
HSE Training	(hours)			

AMERICAS		2006	2007	2008
Revenues	(€ million)	545	745	590
Investments	(€ million)	14	188	233
Workforce	(units)	2,730	4,021	4,562
Local Workforce	(% of total)	74	71	87
Energy consumption	(toe)	12,222	52,392	115,130
HSE Training	(hours)	60,497	68,401	74,357

WEST AFRICA		2006	2007	2008
Revenues	(€ million)	1,570	1,677	1,950
Investments	(€ million)	31	54	49
Workforce	(units)	5,170	5,814	6,471
Local Workforce	(% of total)	69	69	67
Energy consumption	(toe)	10,043	52,744	56,633
HSE Training	(hours)	37,861	102,014	146,953

NORTH AFRICA		2006	2007	2008
Revenues	(€ million)			
Investments	(€ million)			
Workforce	(units)			
Local Workforce	(% of total)			
Energy consumption	(toe)			
HSE Training	(hours)			

## Additional data for investments

Further investments not allocated by Areas were (in € million) 458 in 2006, 1,184 in 2007 and 1,463 in 2008.

2006	2007	2008
773	1,051	1,135
8	18	68
5,080	5,295	5,982
98	98	91
13,371	69,382	14,566
5,143	8,441	125,996

RUSSIA		2006	2007	2008
Revenues	(€ million)	1,052	1,031	1,092
Investments	(€ million)	68	75	107
Workforce	(units)	6,641	6,486	5,566
Local Workforce	(% of total)	83	78	72
Energy consumption	(toe)	77,183	65,738	86,502
HSE Training	(hours)	405,012	369,070	325,588

REST OF ASIA		2006	2007	2008
Revenues	(€ million)	2,112	1,433	1,375
Investments	(€ million)	2	4	26
Workforce	(units)	2,575	2,429	3,533
Local Workforce	(% of total)	54	65	66
Energy consumption	(toe)	11,166	45,997	34,682
HSE Training	(hours)	46,824	73,365	86,170

2006	2007	2008
372	727	1,475
7	42	8
1,231	1,690	1,783
47	43	55
11,435	33,160	35,991
7,441	36,765	47,626

SAUDI ARABIA		2006	2007	2008
Revenues	(€ million)	-	1,912	1,599
Investments	(€ million)	9	65	81
Workforce	(units)	2,730	4,937	5,300
Local Workforce	(% of total)	97	97	96
Energy consumption	(toe)	35,125	59,322	64,439
HSE Training	(hours)	7,432	89,275	210,281

#### Additional data for 2006

In 2006, some data were allocated to vessels (seaworld), including a total workforce of 3,147 units, an overall energy consumption of 187,598 toe and a total 64,595 hours of HSE training.



# SAIPEM'S SUSTAINABILITY APPROACH

Saipem's business strategy is based on the creation of long-term value by contributing to the development of local communities where the Company operates.

The Company believes that a correct, open and cooperative relationships with all the stakeholders is vital for the success of each complex project Saipem carries out, frequently in very remote and most challenging areas.

Saipem has a presence in many locations around the world, operating with a decentralised organisation in order to respond to local needs and sustainability issues. Everywhere it works, the

Company plays an active role in the local communities, mainly offering employment opportunities, personnel training, etc.; by working effectively with local suppliers and subcontractors, creating economic and social value, and finally by contributing

to infrastructures construction (e.g. access roads, construction camps with all the facilities such as hospitals, power generation, etc.).

Saipem's international workforce and breath of internationalism is another facet of sustainability: all personnel is treated with dignity, always respecting their cultural values, local customs and traditions, their diversity and identity.

The decentralised Saipem structure, with the strong empowerment of local operations and management, ensures that the 'voice of the customer' is heard throughout the organisation, and that the overall project strategy is aligned with the local project needs.

For each project, social, economic and environmental effects are continuously monitored, as well as the satisfaction of customer's requirements.

## Sustainability Principles

*Saipem has defined a framework for its Corporate Responsibility towards sustainability based on principles defined in the Code of Ethics and the Sustainability Policy.*

*In 2008, Saipem SpA has defined and issued a new Organisation, Management and Control Model, which includes the new Saipem **Code of Ethics** which has replaced the one formerly in force.*

*The new Code includes general principles for sustainability and corporate*

*responsibility, defines behaviour rules and relations with Stakeholders, and identifies the tools and the internal structure for the implementation of the new Code.*

*In conducting its activities, Saipem stands up for the protection and promotion of human rights inalienable and fundamental prerogatives of human beings and basis for the establishment of societies founded on principles of equality and solidarity. Besides, in 2008 a new Corporate **Sustainability***

***Policy** has been approved by the Saipem's CEO. The Policy, in line with the principles defined in the Code of Ethics, brings together the Group's common framework of values and provides the foundation of the Saipem Sustainability culture. It expresses the Group's vision on sustainability and incorporates this concept into the company's day-to-day operations as well as its long-term planning. Therefore, it is a practical guide for the way that the Group and its employees conduct business.*

## SUSTAINABILITY ORGANISATION

In 2007 the Sustainability Committee was created, joining together all Corporate Vice Presidents (representing Human Resources, QHSE, Procurement, Assets, Corporate Affairs and Administration Finance and Control, Legal Affairs, Risk & Opportunities Knowledge Management), the Chief Operating Officer and the Chief Executive Officer of Saipem, thus representing the entire top management. It now includes also BUS Directors. The Committee provides strategic guidance on aligning business strategy with a sustainable approach.

Besides, a Sustainability Team has been established, at Corporate level, directly supporting the Committee and

coordinating the sustainability activities of all relevant functions and operating units around the world.

The Team focuses on reporting, planning, in cooperation with reference people in Corporate functions, assessing social impacts, performing stakeholder engagement, identifying opportunities and providing advice on global scenarios and trends and on local sustainability initiatives as well.

In the relevant geographical areas, a Sustainability Facilitator is responsible for the coordination of sustainability initiatives at local level. The Facilitator promotes and develops initiatives for the increase and improvement of local content, for the good relationship with the local stakeholders and the sustainability accounting.



# AUSTRALIA OVERVIEW

Australia is the earth's biggest island and the sixth-largest country in the world in land area (more than 7 million sq km). Australia has a population of more than 20.6 million.

Australia has 10 per cent of the world's biodiversity and a great number of its native plants, animals and birds exist nowhere else in the world.

The Country is rich in natural resources with significant petroleum, natural gas and coal reserves. Most of Australia's initial commercial crude oil reserves are offshore in the Gippsland Basin. Additional major oil reserves have been discovered in the Carnarvon and Bonaparte basins. The most significant gas reserves are located in the Carnarvon,

Gippsland, Browse, Bonaparte and Cooper Basins.

Estimates by Geosciences Australia of future crude oil plus condensate production suggest a decline to between about 25.0 mml/d or 157,000 bbls/d and 54.2 mml/d or 341,000 bbls/d by 2025.

Australia has a geographically large oil and gas pipeline network. Due to the size of the country the network is divided by geographical region. In the East, the network joins the large conurbations of Sydney, Melbourne, and Brisbane to the oil and gas fields in the centre and the South. In the West the network links the oil and gas producing regions in the Northwest to the conurbations in

the Southwest and the mining areas in the central Southwest.

Australia is one of the few countries belonging to the Organization for Economic Cooperation and Development (OECD) that is a significant net energy exporter.

Australia's energy consumption is dominated by coal, which fuels most of the country's power generation. Petroleum accounts for a large share of energy consumption, but due to declining output, Australia is facing a growing dependence on petroleum imports. Over the past two decades, Australia has steadily consumed increasing amounts of natural gas, which is likely to continue over the medium term.

## Economic indicators

Gross Domestic Product (GDP) (2007 est.)	(\$ billion)	Purchasing Power Parity - 766.8
GDP real growth rate (2007 est.)	(%)	4.2
GDP per capita (2007 est.)	(\$)	37,500
Labour force (2007 est.)	(million)	10.9
Unemployment rate (2007 est.)	(%)	4.7

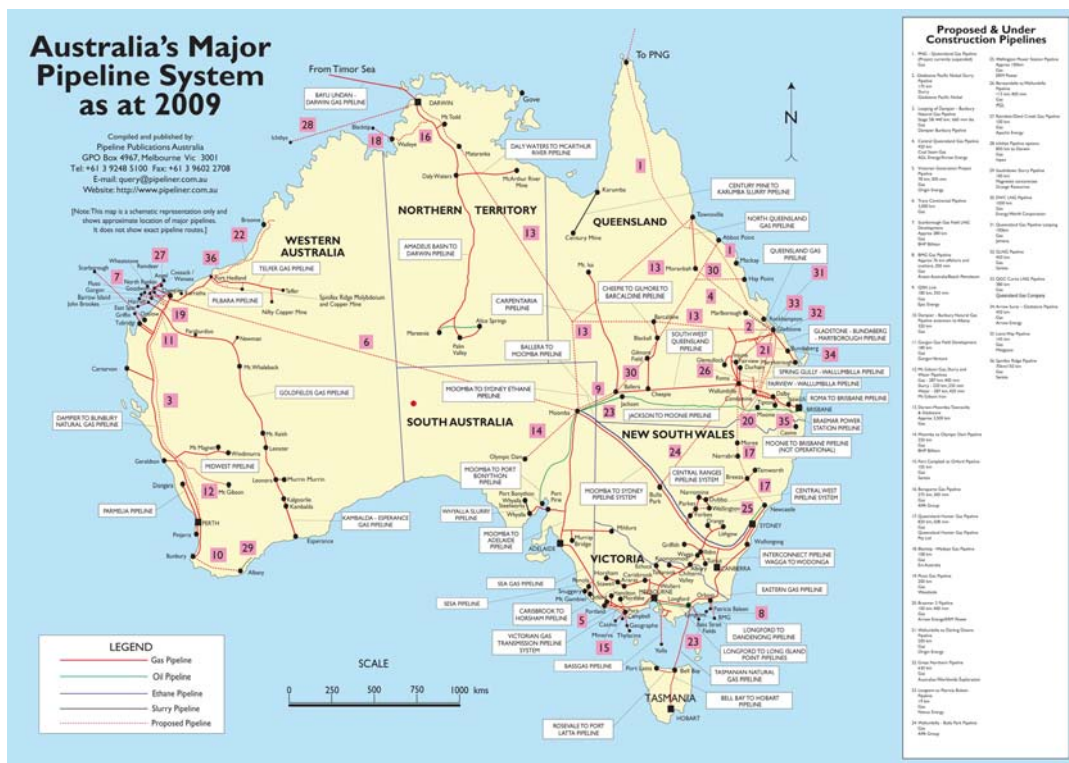
Source: CIA the World Fact Book, Australia. The Energy Information Administration.

## Australia's oil and gas reserves and production

	Units	2001	2002	2003	2004	2005	2006	2007	2008
Oil reserves	(mmbbls)	2,895	3,500	3,500	3,500	1,491	1,437	1,592	1,500
Oil production	(kbbbls/d)	739	717	612	537	541	526	553	
Gas reserves	(bcm)	2,203	2,667	2,528	2,594	2,403	2,429	2,485	2,455
Gas production	(bcm)	34.73	36.19	37.34	38.17	42.26	44.55	46.06	

Source: Eni World Oil and Gas Review 2008.





*Australian Pipeline Network  
 Map courtesy of The Australian Pipeliner magazine  
 (www.pipeliner.om.au)*

**Supply and consumption**

	Production	Imports	Exports
Coal and Peat	201,355	31	(150,034)
Crude Oil	23,079	20,026	(12,550)
Petroleum Products	-	11,957	(1,776)
Gas	36,825	1,209	(14,607)
Nuclear	-	-	-
Hydro	1,350	-	-
Geothermal, Solar, etc.	206	-	-
Combustible Renewables and Waste	4,978	-	-
Electricity	-	-	-
Heat	-	-	-
<b>Total</b>	<b>267,794</b>	<b>33,226</b>	<b>(178,968)</b>

Source: 2006 Energy Balances for Australia, IEA Energy Statistics.  
 In thousand tonnes of oil equivalent (ktoe) on a net calorific value basis.

# THE DAMPIER TO BUNBURY NATURAL GAS PIPELINE (DBNGP) STAGE 5A EXPANSION PROJECT

## DESCRIPTION OF THE PROJECT

The Dampier to Bunbury Natural Gas Pipeline (DBNGP) is the only natural gas pipeline connecting the Carnarvon and Browse Basins on Western Australia's North-West Shelf to the industrial, commercial and residential customers in Perth and the Southwest. The pipeline

runs from the Burrup Peninsula, near Dampier, to Bunbury in the Southwest of the State.

The pipeline was originally commissioned in 1984, with an extension South to Bunbury commissioned in 1985.

Due to a large increase in demand for gas in Perth and the Southwest, the original pipeline was at maximum capacity. A decision was made to increase the pipeline by a series of expansion (loops) stages with the final objective to duplicate the pipeline. The Stage 4 expansion project (200 km of Loops) was approved in May 2005 and completed in December 2006.

After Stage 4 a new expansion project was announced by DBP the 1<sup>st</sup> September 2006, which was named Stage 5A.

Stage 5A consisted of ten new sections at the concluding point of the Stage 4 loops. The additional ten loops had a total length of approximately 571 km; however, they were spread over a length of about 1,600 km characterized by different environmental, geological and social conditions.

The DBNGP project Stage 5A was awarded in December 2006 and successfully completed on February 2008 with the commissioning of the last Loop on the 21<sup>st</sup>.



*The DBNGP  
Stage 5A  
Expansion Project*

## COMPANY ORGANISATION AND PROJECT MANAGEMENT SYSTEM

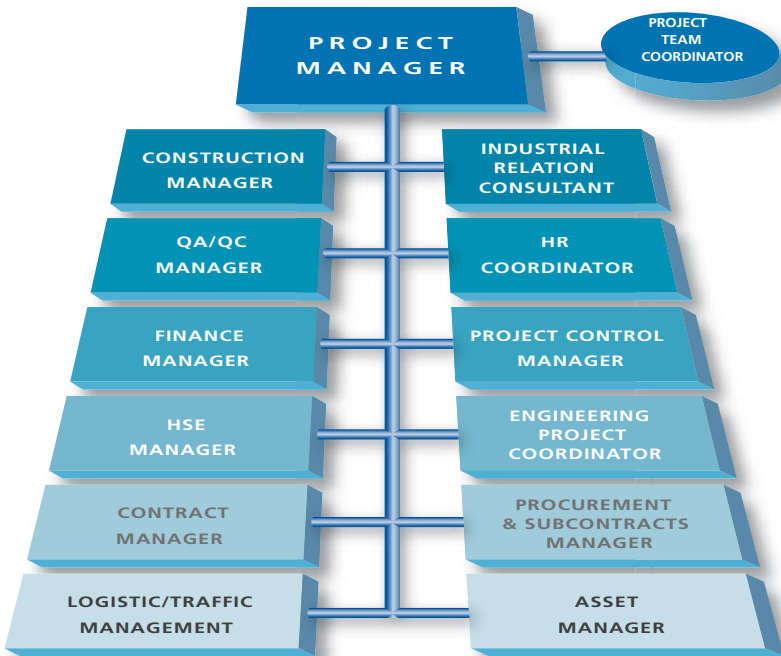
The project has been coordinated by a Project Manager, who was supported by a well organised structure aimed at managing the different project's activities. In line with the overall approach, even in the staff structure the presence of Australian personnel was impressive, functions like HR, HSE, QA/QC, Contract, Logistic and Industrial Relations has been managed by Local Personnel. This managerial approach was directly turned in a quick and accurate reply to the stakeholders' requirements and expectations. Saipem considered good environmental and social performance to be a core value of its operations. In order to manage the performance of the

activities effectively, Saipem Australia developed an Environmental and Social Management System which was based on the international ISO 14001 standard.

Besides, with the purpose to provide the best services and the continual improvement of Saipem performance, the Project Management Team had conducted weekly Construction Meeting. During this meeting all the achievement along with the problems and issues raised during the week have been accurately analysed in an optical of continual improvement.

This system provided clear guidance on the roles and responsibilities of all staff, compliance management, stakeholder relationships, and sustainability. It also provided information on goal setting and performance measurement.

### Project Management Team





## THE APPROACH TO SUSTAINABILITY

A clear and direct relationship with all type of stakeholders is one of the core values that characterize Saipem's way of doing its business. This is especially true for those projects or activities such as the DBNGP that have a huge impact on the daily life of thousands people. Usually the possibility of interaction

and cooperation with the stakeholders during a pipeline construction are extremely narrowed. Each of the 10 Loops on the DBNGP has 'unique features' starting from the type of land use, type of environment, location, etc. However, Saipem has built a friendly relationship with all its stakeholders and endeavoured to involve the stakeholders in all aspects of the construction activity.

*On the Right Of Way of Sustainability*



# SUSTAINABILITY PERFORMANCE

## PEOPLE

### Total Workforce

The workforce gradually increased over the duration of the project to a peak of just over 600 in November 2007. According to the Australian legislation, the DBNGP project employed a large number of local personnel. In the peak period about 576 employees were local. Most of these employees (84%) were part of the construction crew. However, Saipem Australia's commitment to QHSE can be seen as the QHSE Department represents 6% of the total workforce.

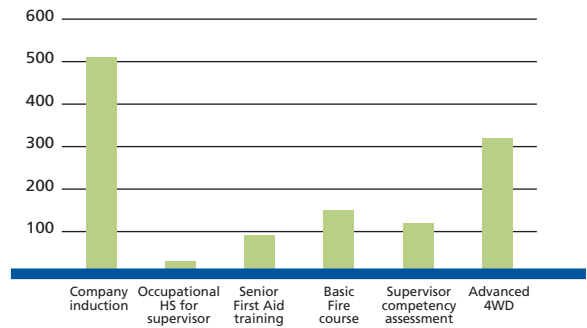
### Training

Saipem Australia encouraged employee development during the project. This included on the job training and specific external training courses. Some of the external courses attended and the

### Training of employees

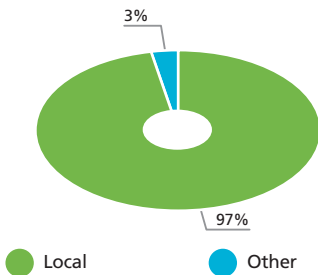
(entire duration of the project 2007-2008)

(No. of attendants)

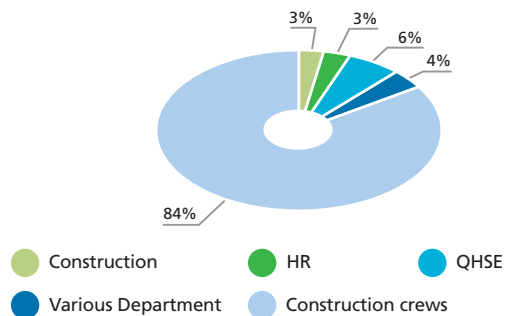


number of attendees is shown above. This shows that a very high percentage of the workforce received external training.

### Employees by nationality



### Qualifications of employees





Our people  
at work

## Safety

Saipem is committed to the protection and welfare of all personnel, our assets, those of our clients and of the general public. Resources are dedicated to ensure the risks from the activities performed by Saipem and our subcontractors are reduced to the lowest practicable level.

Other than managing, monitoring and advising on relevant issues, the HSE (Health, Safety, Environment) team strives to promote awareness in HSE over the duration of the project.

Safety awareness campaign is conducted weekly to promote the importance of

### Safety results

Worked Man Hours	1,635,814
Lost Time Injury Frequency Rate	1.83
HSE training hours	6,891

workplace safety. Safety topics covered to date include safe driving, manual handling, personal protective equipment (PPE), heat stress, fatigue, and trips & falls and other safety relevant topics.

Safety initiatives on the project ranged from positive reinforcement in the way of vouchers, Saipem knives, caps, shirts, bags and watches for proactive HSE behaviours, educational sessions, and safety awareness days run by the client.

Main results about safety concerning the entire duration of the project are hereby reported:

### HSE team building forum

Friday February 9, 2007 saw 164 people attending the DBNGP HSE Forum including WestNet Energy (formerly Alinta), Saipem, HPS and associated contractors.

The forum was an initiative that arose through the development of the DBNGP Safety Improvement Plan. The objectives of the day were to demonstrate to all Project's major contractors and operations and expansion project personnel, the commitment of senior management to safety and the environmental protection, and the achievement of zero harm. The day revolved around personal commitments from each of the key senior managers associated with the DBNGP.

It was agreed that whilst zero harm was an ambitious target it was also accepted as the only target that could be set, as to consider anything less would mean accepting people not returning home the same way they started the day or damage to the environment, equipment or the asset. Feedback from the day was very positive with an extremely high level commitment to working towards the target of zero harm. In addition to discussion of the target, effective team work was also role played with tables being set a tight time line to complete a project.

### Emergency Response

Saipem set up comprehensive Emergency Response procedures to

ensure that all personnel were covered in the case of an Emergency.

As part of the Construction Safety Case and Safety Management Interface Plan, Saipem was required to conduct an Emergency Response exercise within two weeks of the establishment of a camp. The HSE team conducted Emergency Response training during the construction of the pipeline with the assistance of construction personnel who took part in the exercises which ranged from camp emergency Evacuations, Man down on the ROW, Accident incident response, fires, environmental fuel/chemical spills, etc.

### Fire Fighting Training

Fire fighting training was provided to crews via both internal and external training. Internal training is conducted by an experienced fire-fighter. The objectives of the training session were to gain an understanding of the different classes of fire, basic fire fighting principals and skills.

The pipeline crossed through fire sensitive areas such as large farming properties during peak fire seasons. All hot work such as welding, grinding and cutting had to be under a controlled environment with a fire watch and fire fighting unit available.

The training also provided an opportunity for the trainees to use different types of fire suppression equipment such as 9 kg portable fire extinguishers and mobile fire fighting units. A total of 214 personnel were trained in basic fire fighting on site.



*Emergency response exercise*



4WD training



**4-Wheel Drive Training**

The project involved extensive travel on unsealed roads. It was identified that 4WD Training would be essential for all designated drivers due to the long distances to be driven during the execution of the activities. Saipem contracted Aust racks 4WD Training to ensure that all drivers were equipped to deal with the potentially hazardous outback driving required on the project. Saipem have trained a total 438 personnel with advanced 4WD.

**HSE Committee**

The HSE aspects need to be managed at any level and the improvements has to be suggested at any level, because it is everyone's responsibility. With this purpose, HSE monthly forum have been organised during the execution phase. During the forums, the crews' personnel had the possibility to meet with the Project Management representatives and Client representatives to discuss about HSE issues, eventual improvement and best practices.

**Health**

To meet health and well being needs of the workers a comprehensive and flexible first aid, health and medical service was set up to accompany and support the work crews from loop to loop. Besides providing first aid and simple medical services on a day to day basis, the service was also responsible for the monitoring of the drinking water and camp hygiene.

Besides, the health promotion team has organised several health campaign to motivate healthy lifestyle. These campaigns include 'Long terms effects of alcohol', 'Anti-smoking awareness', 'Men's cancer program' and 'Hypertension', etc. Regular appropriate health education sessions were presented at the weekly Tool Box Meetings. As part of the employment contract employees had to sign agreement with a zero drug and alcohol tolerance and agree to participate in random alcohol and drug testing. The health team was expected to assist and support the alcohol and drug policy.

**Pre-employment Medical**

Each employee had to undergo a comprehensive pre-employment medical check. The results were posted to the project nurse and health coordinator for assessment and recommendations with the aim to employ people fitted to the work. The pre-employment medical also serves as a baseline assessment in case of a worker's compensation claim.

**Drug and Alcohol Testing**

Saipem Safety department conducted random breath tests for alcohol and

<b>Results of Drug and Alcohol testing conducted during the project</b>	
Number of total Drug tests Saipem	1,787
Number of positive drug	30
Number of total Alcohol tests Saipem	4,051
Number of positive alcohol	48

drug tests throughout the project. Overall, the testing was well accepted and employees cooperated with the random tests. The testing was increased towards the end of the project and especially before the Christmas break as problems with increasing alcohol consumption appeared with the closer location of commercial hotels to the camps.

### Health Education and Promotion

Health education and promotion sessions were delivered at Tool Box Meetings on a regular basis at each loop by some health staff. About 15 appropriate topics were covered, including dehydration and heat stroke, bites and stings, eye injuries, skin cancer, noise induced hearing loss, driver fatigue, personal hygiene, drug and alcohol, men's health, safe sex, diabetes, etc. Many sessions were well received and especially towards the end the sessions were more innovative, interactive and followed up.

### Camp Hygiene

The camp facilities were regularly inspected at each loop at least once. These inspections included the kitchens, laundries, accommodations and waste water treatment plants. The aim of the inspections was to maintain high hygiene standards throughout the camps. Identified problems were usually addressed immediately and followed up. The inspections proved beneficial and the overall cleanliness of the facilities was good, despite dusty conditions.

### Drinking Water Testing

Bore water was tested at the establishment of each new camp and on a monthly basis including bacteriological, chemical and physical analysis.

Water was tested at each camp by Australian Portable Camp (APC) staff on a daily basis. Saipem stipulated that control tests should be conducted on a daily basis including nitrite and chlorine. Due to the locations and lack of water sources there were no real health issues with the water or quality of the water.

### First Aid Training

A total of 281 people were first aid trained. Saipem Australia maintained a minimum of 10% of the workforce as first aiders with a minimum of one first aider per crew (less than 10 people). First aid training was provided through external accredited service providers, Prime Health and Paramedic & Safety Services.

### Industrial relations

Saipem has drafted an Employee Relations Management Plan (ERMP) with the purpose to outline the policy, objectives, strategies, methods and actions that Saipem has utilised and implemented to ensure the successful management of employee and industrial relations for the DBNGP Stage 5A Project. The ERMP had set out the strategy and tactics for managing of industrial relations and the approach to subcontractor selection and management.

Furthermore, the plan included specific protocols concerning communications, interfaces and dispute resolution and provided a framework of reference for the management of the workforce throughout the Project.

During the execution of the Project only one strike (one day and a half) has been registered. The strike was solved modifying, in accordance with the Unions, the rotation of site personnel from 35 days (28 working days/7 off) to 37 days (28 working days/9 off).



*First Aid training on site, Loop 9*

## ENVIRONMENT

The Customer prepared a 'Construction and Environment Management Plan', which provided for the constant presence of teams dedicated to controlling and removing any animals present in the excavation trench before the pipe was laid.

The plan also provided for restoring vegetation, the dunes in the interior areas near Carnarvon, and particular procedures to be adopted for transiting through farming areas and sites near towns, to minimise inconvenience to the residing population.

In this regard, Saipem was responsible for all these activities to preserve the area and its environmental

characteristics by minimising post-construction impacts.

## Protection of biodiversity

Impacts to the environment were controlled and closely monitored to ensure minimal disturbance to the flora and fauna affected. The installation of the DBNGP required experts in fauna identification and fauna handling to clear the open trenches of animals and identify the fauna to species level. These Fauna Handlers worked in pairs and walk along the open trench removing all fauna, recording their location, identifying their species, and

*Examples of fauna collected*



relocating them. The Fauna Handlers covered approximately 4,500 km whilst undertaking trench inspections.

The Fauna Handlers caught and relocated 12,282 animals over a period of eight months, representing some 154 species. These species were divided into 12 categories, the most numerous ones were Dragons. Of the 12,282 animals collected, 11,738 were alive and 543 were dead, representing a very low mortality rate (4.6%), compared to other pipeline operations in Australia.

The recording of species was undertaken using hand-held computers with integrated GPS units. This used a unique software combination that allowed each species to be logged using a 'drop-down' menu while automatically recording its location. This has been added to a GIS to produce spatial maps.

Saipem Australia provided AUD \$10,000 to assist in research of short range endemics at Museum of Western Australia. This assistance will help provide Western Australia with greater information on these elusive animals. Saipem Australia also assisted in this research by recording and vouchering any short range endemics found in the open trenches. This amounted to 64 scorpions and 28 spiders, which were given to the Museum of Western Australia.

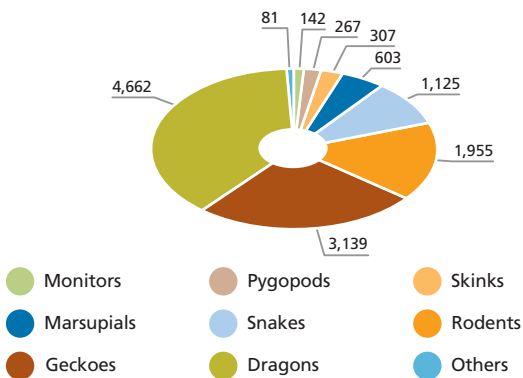
**Sensitive areas**

Loop 8 is located between the Swan Coastal Plain and Irwin Botanical District. Loop 8 was characterised by four environmentally sensitive areas:

- Hill River Nature Reserve.
- Twyata Nature Reserve.
- Badgingarra National Park.
- Minyulo Nature Reserve.

In each of these areas particular attention was given during the clearing of vegetation to mark and avoid significant flora. In addition, further controls were established like: cleaning all vehicles prior to entering the reserves (Clean On Entry) to reduce the likelihood of transferring weeds, no refuelling

**Numbers of animals collected per category**



and reducing the working width to reduce the amount of vegetation being removed.

**Agricultural land**

The pipeline also crossed areas of agricultural land. The proposed schedule for clearing the land coincided with the maturation of the crops in the area. This is particularly critical in this area as the land had been subject to several years of drought. 2007 had provided enough rainfall to produce a viable crop so the

*Pipeline crossing agricultural land*







The preservation of biodiversity as fundamental principle

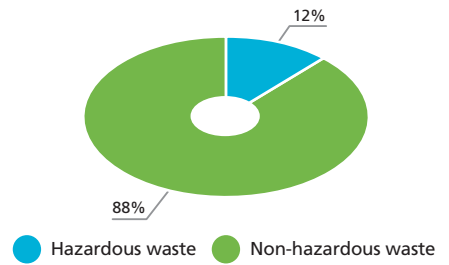
landowners were keen to harvest as much as possible. Saipem therefore coordinated with the Landowners to ensure that land clearance did not take place until after the crops were harvested.

**Waste**

Main objective, during the project, was the minimisation of waste. Where possible, equipment was brought to site in reusable bulk containers. This not only reduced the number of containers on site, it also reduced the number of vehicle movements. In addition, any waste generated on site

was segregated for recycling and reuse, wherever possible.

**Waste production per type**



Total energy consumption		
Diesel	(tonnes)	5,428
Electric Energy	(kWh)	14,393
GHG Emissions	(tonnes CO <sub>2</sub> eq)	17,300

Some examples are:

- Wooden skids used to support the pipe after welding were sold for reuse, a few were reused to built the sediment traps and for bounding.
- The cans, contained in special and labelled bins were recycled.
- In each office, on site or in the main office: some bins, were used to collect toners, cartridges and used paper for recycling purposes.
- Pipe end caps were used as temporary drip trays for 220L drums.

Unfortunately, due to the remote location of the pipeline and the associated construction camps, it was not possible to segregate waste for offsite disposal. An impact assessment was undertaken and it was determined that greater emissions and discharges would be generated by transporting waste up to 1,000 km for recycling. During the entire realisation of the project, the overall production of waste was of about 220 tonnes.

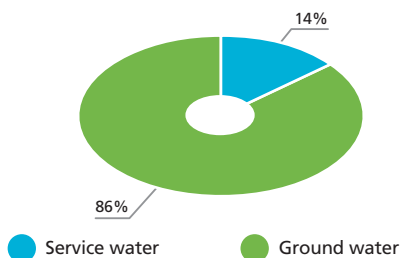
## Water

The use of water during the Project was related to hydrotest activities, dust suppression, road maintenance, and camp use. The overall consumption was about 138,118 m<sup>3</sup> for the entire project. Saipem was committed to reduce, as much as practicable, the use of water with the implementation of mitigation measures such as the followings:

- Design, engineering and dimensioning of Turkey nests in order to contain only the water necessary for testing activities and to reuse, where possible, the same water for consecutive sections of a Loop.
- Use of recycled water for dust suppression activities.
- Posters and awareness sessions on water use and water saving measures.

Most of the length of Loop 9 is located on low-lying acid soils. To install the trench in dry conditions dewatering of the trench was required prior to installation. A specialist dewatering crew was appointed to prepare the trench prior to backfilling. The water pumped out from the trench was piped into Acid Treatment Units

## Consumption of water per type



that increased the dewater to a neutral acidity. This treated water was discharged with the landowners consent to assist in watering their pastures.

## CUSTOMERS

Saipem has a strong customer-oriented approach, which means that Saipem Management ensures that Customer requirements are fulfilled with the aim of achieving and increasing their satisfaction. This approach was followed during the execution of the DBNGP Project by implementing the following actions:

- Establishment of a QHSE program focused on contractual requirements and monitored by measuring its established objectives (KPI).
- HSE audit on all Loops. Saipem has acquired an high score during all HSE Audits.
- Reduction of the number of inspections by performing quality & safety walk-arounds in conjunction with the Customer's representatives who were present onsite.
- Collection of all Customer's complaints for further analysis and definition of relevant corrective and preventive actions.
- Performing joint internal audits with Customer's representatives.
- Weekly meeting between the two Project management teams (Customer and Saipem) in order to discuss about the progress achieved during the week and eventual opportunities of improvement.
- Monthly, Weekly and Daily reports

sent to the Customer. These reports conveyed information about the progress, QHSE KPI and other relevant information such as: camps location, Manpower, Equipment, etc.

## SUBCONTRACTORS & SUPPLIERS

Due to the logistical challenges of the project, the relationship with the suppliers and subcontractors was paramount. Before any supplier or subcontractor was allowed to the project site they were required to attend an HSE induction. This induction was a one-day training course that covers all the HSE aspects related to the Project. For subcontractors that required a direct presence on site, an additional site induction was provided. This second step of training was aimed to provide the attendees with the knowledge about the potential impacts and dangers and the good practices to follow once on site.

Saipem Australia endeavoured to utilise the local workforce and equipment, wherever possible. The local economic expenditure accounted for 96% of the total expenditure on the project.

The breakdown of local expenditures shows that the main items were subcontracts (i.e. welding) and construction camps.

## LOCAL COMMUNITIES

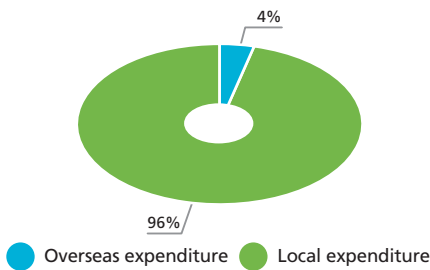
Despite the limited duration of the DBNGP project, Saipem was committed to build relationships with the local communities. With these kind of relationships, common practice in the Saipem's way to operate, the Company was able to minimise the impacts of its activities thanks to an effective involvement of stakeholders.

## Local Authorities

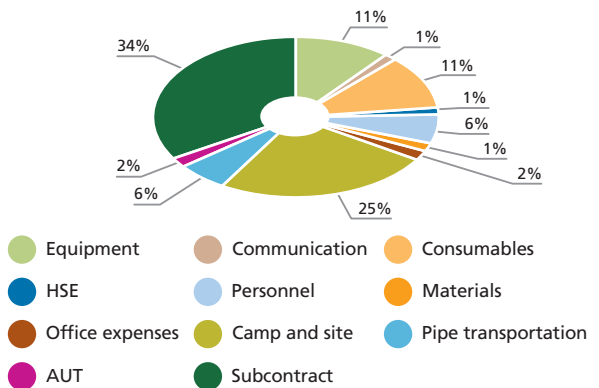
During the execution of the project Saipem has built a relationship with all the authorities. This included various Shires and State Government Departments. The West Australian Department of Industry and Resources stated:

*"The environment team was observed to be effective, dedicated, well funded and supported by a robust system and procedure. There is good promotion of environmental awareness on site through inductions, posters and visual aids, toolbox items and reinforcement of environmental procedures".*

Local and global expenditures



Breakdown of local expenditures





*Our  
commitment  
for protecting  
culture and  
land*

## Aboriginal sites

Australian Interaction Consultants (AIC) undertook an Aboriginal heritage assessment of the Stage 5A Expansion. The searches of the Register of Aboriginal Sites, which is maintained

by the Australian Department of Indigenous Affairs (DIA), indicated that over 260 archaeological and ethnographic sites have been recorded along or within 100 m either side of the pipeline corridor. These sites are



comprised mostly of artefacts/scatters, which refers to locations where a range of activities has occurred such as the manufacture and maintenance of tools and the processing of foods. Some sites were associated with watercourses of mythological significance. A small number of sites consisted of grinding patches/grooves, quarries, modified trees, and man-made structures.

In order to avoid disturbance of aboriginal heritage sites a dedicated procedure was issued. This document ensured the presence on site of aboriginal heritage monitors during any activity that may be seen to potentially cause disturbances, such as: clear and grade, trenching and crossings. Furthermore, a direct relationship with the Department of Indigenous Affairs was consolidated in order to keep an updated site list which would outline any new site discovered during the construction activities.

### Relation with Landowners

Landowner liaison was one of the most challenging and sensitive activities for the DBNGP Project. This was especially true for the Loops where the activities were very close or took place through residential areas, like Loop 9 and 10. It meant that the activity impacted on the daily habits of people whose properties were located directly on the pipeline

Right of Way. In some cases the pipeline had to go directly through their front gardens.

To this extent, Saipem employed specialist Land Liaison Officers, who were responsible for the day-to-day communication with all landowners.

These individuals identified the key issues of concern for the land owners and helped to mitigate any impacts.

They also assisted the landowners through direct communication of construction activities and, wherever possible, altering the construction schedules to reduce the impact.

### Beautification of Davern St, Muchea

Loop 9 was the most challenging Loop of the entire project. It is located on the Swan Coastal Plain Region and crosses the towns of GinGin, Muchea and Bullsbrook. This affects approximately 62 landowners. Particular attention was given to construction activities in order to minimise the impact and disturbance.

In addition to this, Saipem coordinated the reinstatement activities in Davern St in Muchea town. In this area the pipe ran very close to the houses causing some unavoidable disruption to residents. A program of 'beautification'

involving the Landowners was established during reinstatement, and included the landowner's preferences in terms of the type of vegetation to be replaced and/or special requirements regarding the work.



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**Feedback**

What you think of this Case Study matters to us.  
As we are constantly striving to improve our reporting, we would very much welcome your feedback. We will also be pleased to answer any questions you may have.

Contact us at: [sustainability@saipem.com](mailto:sustainability@saipem.com)

Special thanks to all those who contributed to the elaboration of this report

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