



PROJECT SUSTAINABILITY REPORT

PERU LNG MARINE FACILITIES



ABOUT THIS PROJECT REPORT

The present report is part of the Sustainability reports that Saipem began 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 have 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 latter 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 Reports, represent the main Saipem tools for communicating its vision for Sustainability to all its stakeholders.

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 Peru, during the CDB Melchorita 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 the companies' operations or from public data made available by recognised Institutions.

This Report illustrates Saipem activities concerning the CDB Melchorita project, which represents the consolidation area of the data. Data are usually reported for the entire period of the project (from October 2006 to May 2010) if not otherwise indicated.

Information and data updated at 2010.

INDEX

- 1 Message from the CEO**
- 2 CDB Melchorita Project Overview**
- 3 From the Project Director**

Part 1

- 4 Introduction to Saipem**
- 5 Saipem's Sustainability Approach**
- 6 Saipem at a Glance**
- 8 Saipem in the World**

Part 2

- 10 Peru**
- 10 Country Overview**
- 10 Economic and Energy Overview
- 12 The CDB Melchorita Project: Peru LNG Export Project Marine Facilities**
- 12 Project Description
- 13 Organisation and Project Management
- 13 The Approach to Sustainability
- 16 Sustainability Performance**
- 16 People
- 16 Total Workforce
- 16 People Management
- 17 Training
- 20 Safety
- 23 Health
- 25 Industrial Relations
- 25 Internal Communication
- 26 Customers
- 26 Suppliers and Subcontractors
- 30 Environment
- 30 Environmental Monitoring
- 31 Pollution Prevention
- 31 Water Management
- 32 Waste Management
- 33 Local Communities
- 33 Social Development
- 34 Economic Development
- 34 Cultural Development
- 35 Environment Protection
- 36 Rewards & Recognitions
- 36 Glossary & Acronyms

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.

CDB MELCHORITA PROJECT OVERVIEW

The project consisted in the construction of a port to load onto ships the Liquefied Natural Gas (LNG), coming from the biggest reserve of natural gas in Peru. This represents the second important port in Peru for gas export and is located in Pampa Melchorita on the central coast of Peru.

The Marine Facilities consist of:

- Main trestle of 1,350 m;
- Auxiliary trestle of 230 m for Rock Loadout and permanent service port;
- Main Breakwater of 800 m;
- Auxiliary Breakwater of 205 m for service port shelter;
- 4 breasting dolphins and 6 mooring dolphins to the ships;
- Channel dredging to LNG Tankers draft requirements;
- Auxiliary navigation systems.

CDB is a consortium led by Saipem which includes an international construction company and an international dredging Contractor.

Client: Peru LNG Srl was created in 2003 to construct a liquefaction plant and export natural gas through a loading port at Melchorita. With a total investment of U.S. \$ 3,800 million, the project is the largest foreign direct investment taken in any history in Peru.

The project started in August 2006 and ended on the second quarter of 2010.



FROM THE PROJECT DIRECTOR

Peru LNG Export Project represents a part of one of the biggest national project to export natural gas from Peru, from a natural reserve of about $3.11 \times 10^{11} \text{ m}^3$, discovered 20 years ago in the country. The construction of the port to load the LNG ship tankers from 90,000 to 165,000 m^3 will achieve a good stability in natural gas prices and higher revenues to the government of Peru for the long-term sales of LNG exports. (Reference EIA)

The construction of Peru LNG Export Project - Marine Facilities developed in an area free of previous human disturbances, known as Pampa Melchorita. This coast of Peru is rich of marine biodiversity, archaeological sites and traditional fishing activity.

From its early development, the Project committed to the best international standards for environment preservation, as well as developed great positive interactions with all stakeholders involved in the cultural heritage promotion and social responsibility development.

This report aims at presenting the concrete activities developed during the Project life, as application of the principles and strategy of Saipem regarding sustainable development, placing local context, culture, conditions and environment as a core value.

Finally, I would like to thank all Project members for their commitment and enthusiasm in converting this challenging Project into a remarkable success.

Thierry Acca
Project Director - Peru LNG Export Project

INTRODUCTION TO SAIPEM

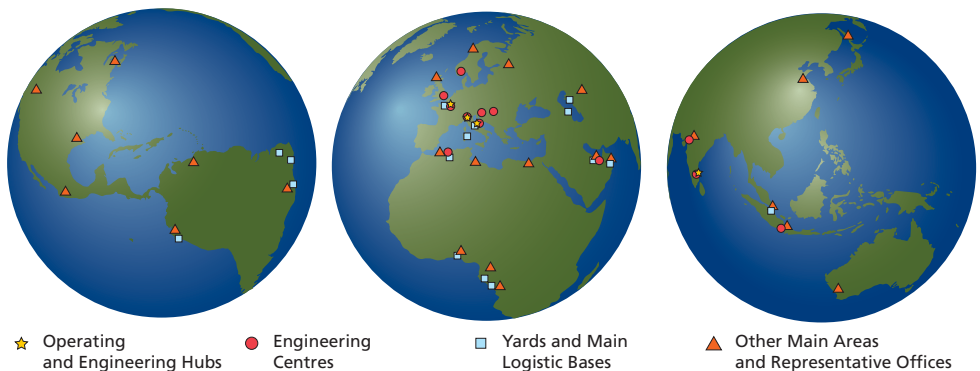
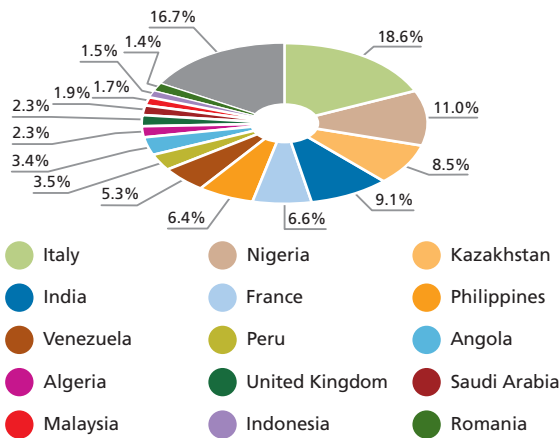
Saipem is an international group with a strong bias towards oil and gas related activities in remote areas and deepwater. The Company began operations in the 1950s and it is now a leader in the provision of engineering, procurement,

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 38,000 people from around 115 nationalities. The major part of its human resources (85% in 2009) is locally employed.

Saipem workforce distribution by nationality (2009)



SAIPEM'S SUSTAINABILITY APPROACH

Saipem believes that a correct, open and cooperative relationship with all 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, and personnel training; 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 are treated with dignity, always respecting their rights, cultural values, local customs and traditions, their diversity and identity.

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



SAIPEM AT A GLANCE

OFFSHORE

Saipem's pioneering work in pipeline installation (a total of 28,000 km laid since late 1950s) is matched by its experience in installing offshore platforms, in which it has mastered both the heavy lift and the float-over techniques.

Saipem has now evolved into an integrated EPCI contractor, having completed some 120 offshore construction projects over the last ten years, including groundbreaking achievements from complex deepwater developments to major trunk line systems.

FPSO (Floating Production Storage and Offloading) units are also part of Saipem's offshore line of products, both as new-built delivered turnkey to the customer, and as tanker conversions leased to and operated for the customer, as well as marine terminals and conventional buoy moorings.

Saipem owns a strong, technologically advanced and highly-versatile fleet and

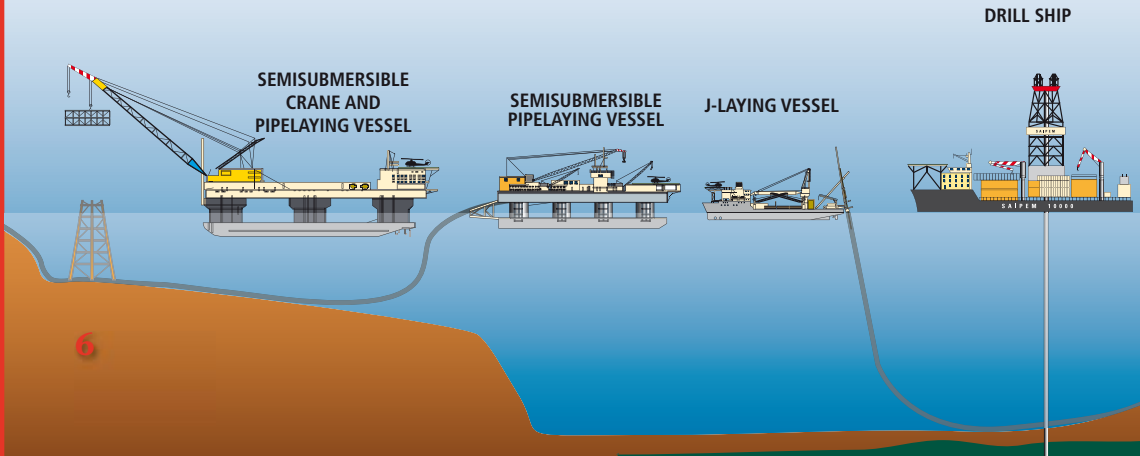
world class engineering and project management expertise.

Saipem capabilities are also supported by significant fabrication capabilities based at the core of major oil and gas provinces (Angola, Azerbaijan, Congo, Kazakhstan, Nigeria, UAE, Mediterranean Sea and Indonesia), with a potential of fabrication of 130,000 tonnes per year.

These unique capabilities and competences, together with a long-standing presence in strategic frontier markets, represent an industrial model that is particularly well suited to EPIC (Engineering, Procurement, Installation, Construction) projects.

DRILLING

Saipem vast experience in managing drilling activities, associated with an adequate technological and operational level, have progressively developed the Company's actual capabilities. Over many decades of performance, Saipem has drilled over 7,100 wells, 1,750 of



which have been offshore, totalling an overall depth of about 17.8 million m.

Offshore, Saipem operates both in shallow and deep water using jack-ups, semisubmersible units, a tender assisted drilling vessel and a drill ship. For Onshore, Saipem operates with around 100 rigs self-owned.

ONSHORE

Saipem offers a complete range of services, from feasibility and front-end studies to design, engineering, procurement, and field construction, most often on an EPC contractual basis, for complex oil & gas facilities, including production, treatment, liquefaction, refining and petrochemical plants, pipelines, pumping and compression stations and terminals.

Saipem's expertise focuses on the execution of large projects with a high degree of complexity in terms of engineering, technology and operations, with a strong bias towards

challenging projects in difficult environments and remote areas. Land pipeline design and construction has historically been one of the mainstays of Saipem business. The Company has laid a record of 100,000 km of pipelines on five continents.

Saipem Group 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.

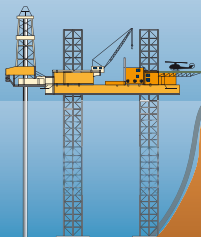
In recent years, the Company has designed and constructed more than 40 power plants and four Integrated Gasification Combined Cycle plants, two of which are the world's largest, with a power output of about 550 MW each.

Saipem plays also 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 and contaminated sites.

SEMISUBMERSIBLE DRILLING RIG



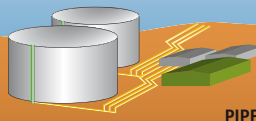
JACK-UP DRILLING RIG



DRILLING RIG



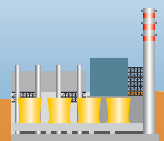
REGASIFICATION PLANT



PIPELAYING



POWER PLANT



SAIPEM IN THE WORLD

REST OF EUROPE		2007	2008	2009
Revenues	(€ million)	954	878	860
Investments	(€ million)	14	9	11
Workforce	(units)	3,618	4,793	4,220
Local Workforce	(% of total)	85	73	81
Energy Consumption	(toe)	44,386	63,095	55,930
HSE Training	(hours)	43,991	29,444	28,602

ITALY		2007	2008	2009
Revenues	(€ million)			
Investments	(€ million)			
Workforce	(units)			
Local Workforce	(% of total)			
Energy Consumption	(toe)			
HSE Training	(hours)			

AMERICAS		2007	2008	2009
Revenues	(€ million)	745	590	598
Investments	(€ million)	188	233	45
Workforce	(units)	4,021	4,562	5,218
Local Workforce	(% of total)	71	87	79
Energy Consumption	(toe)	52,392	115,130	157,889
HSE Training	(hours)	68,401	74,357	113,346

WEST AFRICA		2007	2008	2009
Revenues	(€ million)	1,677	1,950	2,315
Investments	(€ million)	54	49	61
Workforce	(units)	5,814	6,471	8,160
Local Workforce	(% of total)	69	67	70
Energy Consumption	(toe)	52,744	56,633	63,411
HSE Training	(hours)	102,014	146,953	148,707

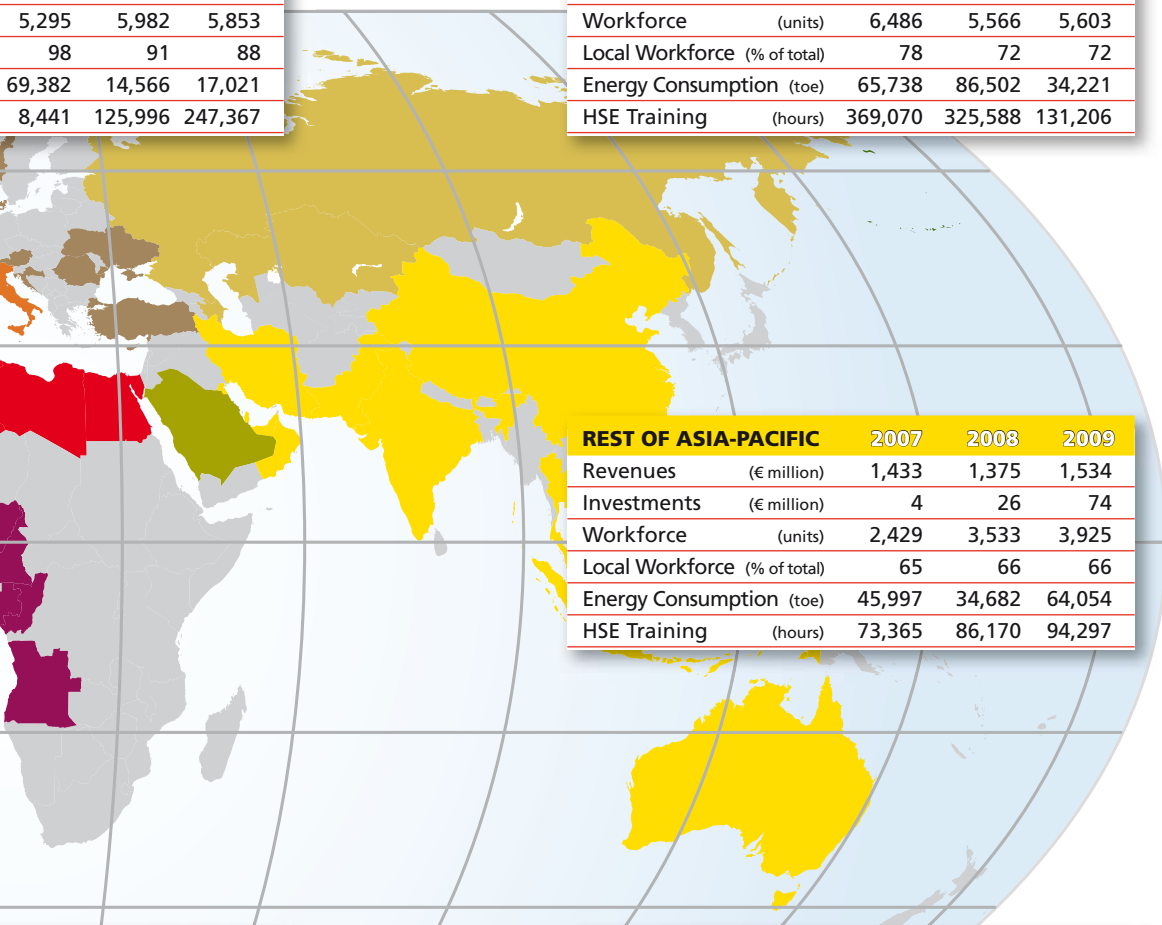
NORTH AFRICA		2007	2008	2009
Revenues	(€ million)			
Investments	(€ million)			
Workforce	(units)			
Local Workforce	(% of total)			
Energy Consumption	(toe)			
HSE Training	(hours)			

Additional data for investments

Further investments not allocated by Areas were (in € million) 1,184 in 2007, 1,463 in 2008 and 1,211 in 2009.

2007	2008	2009
1,051	1,135	1,139
18	68	106
5,295	5,982	5,853
98	91	88
69,382	14,566	17,021
8,441	125,996	247,367

CIS		2007	2008	2009
Revenues	(€ million)	1,031	1,092	1,186
Investments	(€ million)	75	107	95
Workforce	(units)	6,486	5,566	5,603
Local Workforce	(% of total)	78	72	72
Energy Consumption	(toe)	65,738	86,502	34,221
HSE Training	(hours)	369,070	325,588	131,206



REST OF ASIA-PACIFIC		2007	2008	2009
Revenues	(€ million)	1,433	1,375	1,534
Investments	(€ million)	4	26	74
Workforce	(units)	2,429	3,533	3,925
Local Workforce	(% of total)	65	66	66
Energy Consumption	(toe)	45,997	34,682	64,054
HSE Training	(hours)	73,365	86,170	94,297

2007	2008	2009
727	1,475	1,791
42	8	4
1,690	1,783	1,749
43	55	69
33,160	35,991	32,766
36,765	47,626	45,258

SAUDI ARABIA		2007	2008	2009
Revenues	(€ million)	1,912	1,599	869
Investments	(€ million)	65	81	8
Workforce	(units)	4,937	5,300	3,324
Local Workforce	(% of total)	97	96	96
Energy Consumption	(toe)	59,322	64,439	47,402
HSE Training	(hours)	89,275	210,281	50,112



COUNTRY OVERVIEW

Peru is the South America's third-largest country and is located in the Pacific coast, with a total coastline of 3,079 km. Geographical conditions, such as its tropical latitude, the presence of the Andes Mountains and two ocean currents (Humboldt and El Niño) gives Peru a variety of climate conditions, ranging from arid deserts, passing through cold highlands to tropical rainforests. Its population is about 28.2 million and has grown, since last Census of 2007,

at a 1.6% annual rate¹. Lima is the most populated city with 7.6 million inhabitants. Peru has three main ethnic groups: Mestizo (mixed Amerindian and white) 57.6%, Amerindian 26.9%, and White 4.8%; the other 9.1% is composed by groups like Asian and African descendants. According to 2007 Census, Peruvian Economic Active Population is of 10,637,880 persons, of which 95% is currently employed, but not necessarily adequately employed nor earning the

minimum subsistence wage. In 2007, the Government expenditure on Social programs has been 5.6% of GDP. Attendance to basic education institutions is 94% in children of primary level age and 75% in those of secondary level age. Rates of attendance tend to be lower in rural areas because it is usual that children help in family farms. Tertiary education only reaches 31% of population.

ECONOMIC AND ENERGY OVERVIEW

Peruvian economy has been through a period of sustained growth at rates above 4% since 2002. In recent years, from 2006 to 2008, economic growth has sped up: real Gross Domestic Product (GDP) has grown 8.8% annually

(compared to 2.2% average of OECD countries²). This growth is explained by the significant raise of international prices of metals, aggressive trade liberalization policies and a big push of the construction sector.

Peruvian refining capacity is divided among seven refineries, the largest of

Economic indicators

Gross Domestic Product (GDP) ^(a)	(billion \$)	Purchasing Power Parity - 253.4
GDP per capita ^(a)	(\$)	8,600
Inflation rate (consumer prices) ^(b) (2009)	(%)	0.25
Labour force by sector: ^(a)		
- agriculture	(%)	0.7
- industry	(%)	23.8
- services	(%)	75.5

Sources:

- (a) CIA World Factbook (www.cia.gov/library/publications/the-world-factbook/).
 (b) BCRP, Weekly Note Statistical Charts, Chart 49 'Price Indexes'.

- (1) National Institute of Statistics and Informatics - INEI (www.inei.gob.pe).
 (2) Organization for Economic Cooperation and Development - OECD (www.oecd.org/statsportal/).



The desert coastal area of pampa Melchorita

which is La Pampilla with a crude oil throughput capacity of 102,000 bbl/d. Other refineries are placed in Talara (62,000 bbl/d); Iquitos (10,500 bbl/d); Conchan (15,500 bbl/d); Shiviayacu (5,200 bbl/d); Pucallpa (3,300 bbl/d) and El Milagro (1,700 bbl/d). Another important economic activity is connected with the natural gas extraction and production. The average production was about 9,280,788 m³/d in 2008 and 9,478,121 m³/d in

2009, mainly in the rainforest area. In particular the Camisea reserve, a natural reserve of about 3.11x10¹¹ m³, produces almost 70% of the total gas production. The Camisea Project is actually the biggest national project related to natural gas exploitation. The gas extracted is intended to be distributed and used in Peru as well as exported. To export the natural gas, two different ports needed to be built in Pisco and Melchorita, in the southern part of Peru.

Supply and consumption

	Production	Import	Export	Consumption
Coal and Peat	78	877	-	699
Crude Oil	5,550	5,569	(1,383)	-
Petroleum Products	-	1,301	(2,598)	6,223
Gas	2,336	-	-	482
Hydro	1,681	-	-	-
Geothermal, Solar, etc.	7	-	-	7
Combustible Renewable and Waste	2,561	-	-	2,333
Electricity	-	-	-	2,313
Total	12,214	7,747	(3,981)	12,056

All values are expressed in thousand tonnes of oil equivalent (ktoe) on a net calorific value basis. Source: IEA Energy Statistics, 2007 (http://www.iea.org/stats/balancetable.asp?COUNTRY_CODE=PE).

Peru oil and gas reserves and production

	Units	2003	2004	2005	2006	2007	2008
Oil Reserves	(M bbl)	323	285	953	930	930	383
Oil Production	(M bbl/d)	96	99	116	121	121	n.a.
Gas Reserves	(G m ³)	247	247	325	338	335	458
Gas Production	(G m ³)	0.66	1.03	1.74	1.96	n.a.	n.a.

Source: Eni World Oil and Gas Review 2008.

THE CDB MELCHORITA PROJECT: PERU LNG EXPORT PROJECT MARINE FACILITIES

PROJECT DESCRIPTION

The Peru LNG Export - Marine Facilities Project consists in the construction of a port for the towing and loading of gas tankers for the exportation of Liquefied Natural Gas (LNG). The project is located at 167 km in the southern part of Lima on the Pan-American Highway, between Lima department and Ica, on the centre coast of Peru Pacific Ocean. Peru LNG Srl is the owner company of the liquefaction plant and related marine facilities.

CDB Melchorita (a Consortium led by Saipem) has been contracted by Peru LNG for the detailed engineering, design, procurement and construction of all marine facilities, which consist in: a gas loading platform, temporary lighting, emergency stairs, disembarking walkways, dolphins, a dredged channel, 1,350-metre long marine trestle, a 800-metre long breakwater located at 1,500 metres offshore, in-between other adjacent works. The project includes opening, developing and closing a quarry to be used as the source of

Marine Facilities
Project completed



quarry material for the breakwater, placed approximately 22 kilometres east of the marine site.

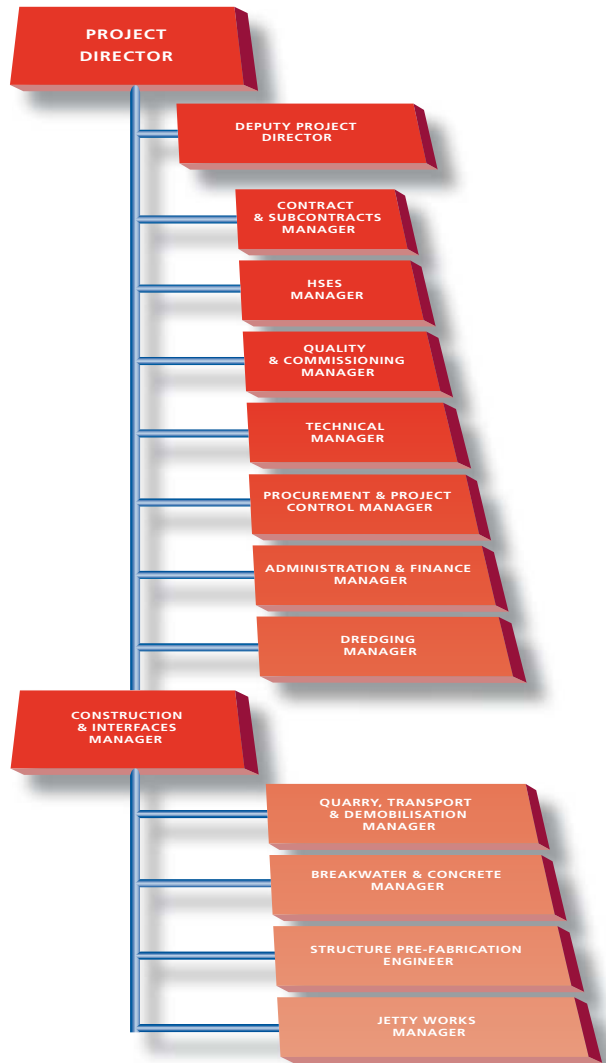
The marine facilities are designed for LNG ships from 90,000 to 165,000 cubic metres capacity size. The natural gas liquefied and exported comes from the Camisea gas fields in the Camisea region, located at 500 km in the east of Lima. The Peru LNG Export Project is part of the national large project to develop Camisea.

ORGANISATION AND PROJECT MANAGEMENT

The activities respond to a strategy set up by the project director, who is supported by the management team, which is formed by representatives of HSE, QA/QC, Construction, HR, Procurement, Logistic and other departments. Weekly meetings were carried out during the entire project execution, led by the project director with all members of the team participating. In each meeting, the first theme discussed about was related to facts about safety, health and environment which occurred during the week, with eventual feedbacks and identification of ways to improve. The review of HSE aspects as first point of the agenda was set up for all coordination meetings inside the consortium or with the subcontractors as well. This strategy enables the HSE Manager to assure that all construction activities would be done according to the sustainability strategy of Saipem, considering the responsibility of CDB for environment protection, the safety and health of the workers, and the direct and indirect benefits that the project can give to local communities. On other hand, considering the local population as one of the main stakeholders, the Project Director himself directly and actively participates in the Community Affairs activities, assuring a high visibility and continuity of the sustainability programs developed for the local communities living close to the area of the project.

THE APPROACH TO SUSTAINABILITY

The context evaluation and the right identification of all stakeholders is one of the most important activities to develop sustainability programs. In that



sense, CDB Melchorita identified local communities and its workers as the main stakeholders and the environment as an important aspect, all of them influencing and being influenced by the project. Each of them has singular characteristics and singular needs; therefore the focus of the sustainability program is based mainly on bringing the workers to internalise human values, and local communities to become aware of environmental protection.

The environment around CDB Melchorita had peculiar quality conditions for marine water, air and marine biodiversity. Also, artisan fishery is conducted by local fishermen, mainly for their own subsistence. Because of this particular context, several activities to prevent pollution and perturbation

have been developed in the frame of local and international standards.

Local communities influenced by the project were mainly those settled in Cañete and Chincha in Lima and Ica Departments respectively, and needed special attention and support to develop sustainability programs. In the province of Cañete, 66% of its population is rural and 34% is urban, its main economic activities are farming, animal husbandry and, in coastal towns, fishing; the employment rate was 51.5%, distributed in agriculture (43%), services (43%) and industry (50%). The province of Chincha has more urban population (82.3% of the total), its main economic activity is based on sustainable farming for the production of basic food products and fishing at domestic



Marine ecosystem of the Peruvian coast in Melchorita





The desert area in pampa Melchorita

and industrial level, some agricultural industries, such as the production of wine and pisco, are present in the area. From a cultural perspective, Cañete and Chincha have a mixed population between Afro-Peruvian and Andean descendants. Both Afro-Peruvian and Andean folklore are taught in different schools of Cañete and Chincha.

CDB Melchorita consortium shares a long term vision with Chincha and Cañete local neighbourhood, and recognises itself as an 'influencing subject', incorporating the Social Responsibility, as a transversal management tool. Within that framework, main commitment is to understand and include, in an equitable and rational way, the expectations of Consortium's related stakeholders, so as

to improve the quality of life of project vicinity, promoting and contributing to sustainable development, avoiding a charitable approach.

The Consortium's social responsibility program is composed of four components:

- Social development, promoting a health program and managing the access to health services;
- Economic development, facilitating tools for the inclusion in the labour market;
- Environmental protection, incorporating environmental management, knowledge and practices;
- Cultural development, through a cultural identity repossession sustaining program and schools which encourage the art and sport culture.

SUSTAINABILITY PERFORMANCE

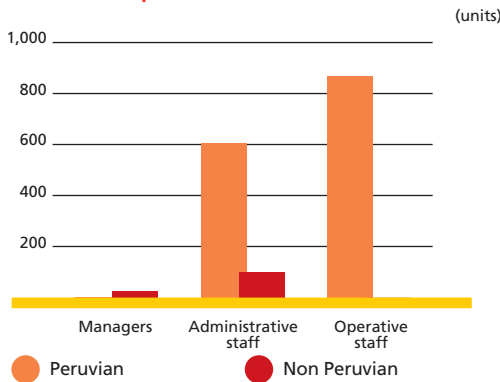
PEOPLE

Total Workforce

The total workforce was gradually increased along the duration of the project. During the peak period, the total workforce reached a total of about 1,600 people, of which 92.7% were national.

Of the total national contracts, the non-qualified workforce was mainly from Chincha and Cañete, whereas the technical and specialised workforce came from different parts of the country.

Workforce composition



People Management

The Consortium implemented a Personnel Development Plan, which was developed with the aim of contributing to the professional upgrading of young trainees, through the knowledge of different processes and working areas in order to prepare them to the execution and the management of future projects of high level. Besides, the plan aimed at providing the participants with adequate tools that may generate positive change in their attitude, seeking to integrate organisation's values within their own ones.

The personal development policy to improve the capacity of all workers has the objective to develop new skills to face new challenges. This policy is implemented in all departments of the consortium.

The Consortium conducted for all its employees a management and conflicts resolution programme: 'we listen to you' program, undertaken by the Human Resources department and the Social Assistant going on different work areas to directly meet the workers addressing questions, identifying and solving work and/or family problems whenever there are, checking project work environment (transport, food,

'We listen to you' program



Interview with Mr Carlos Negrón Casas



What was your first occupation in CDB Melchorita?

'I live in Cañete, and when I started working for the Consortium I did not have any qualification, therefore I was working as an attendant in the Environmental department'.

What was your experience working for the Consortium?

'I received a training course in environmental monitoring

and handling of environmental monitoring equipments, carried out by the HSE department and by external certified laboratories. Then I started a course on the use of PC and data computation.

These training activities helped me to be promoted to technical worker; nowadays I am conducting environmental monitoring activities and preparing the environmental reports'.

accommodation, etc.), promoting the safety vision to the workforce.

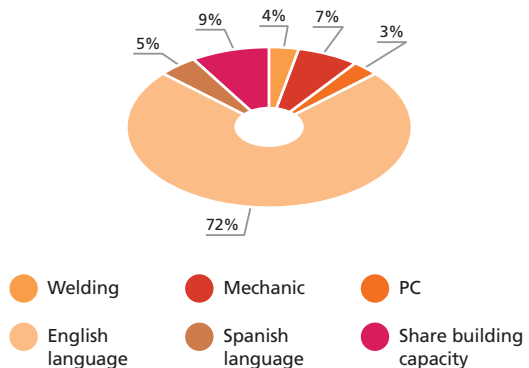
In the last phase of the project, a Demobilisation Program was launched for all personnel called 'Give your hand to CDB Melchorita' (De la mano a CDB Melchorita). It was mainly directed to reinforce the self esteem of the employees and to give them knowledge and tools to face the project demobilization. The program is conducted through lectures and workshops, included CV and interviews training; a training on 'Marketing staff' to get knowledge on how to offer their own capacities and knowledge in the job market, and other activities like campaign about personal improvement. During the demobilization phase some particular cases have been identified, in particular those workers that along the duration of the project, have improved their basic technical skills, thanks to an ad-hoc training plan conducted by the CDB professional staff. To certify and document this gained expertise, they conducted an assessment and evaluation test in order to obtain a recognised certificate in welding, according to the AWS D1.1 code. They were then able to use this certificate as a distinctive element of their ability, useful to be more competitive in the labour market.

Training

Employees' development training

The Human Resources department developed a training program for all CDB Melchorita workers, at different levels of performance, with 2 objectives. The first one was to 'Reinforce capacities', addressed to workers and foremen who already had a specific skill. This group received technical courses in 'Welding', 'Mechanical', and 'Revision and mechanical repair', to update

Training activities per main theme



Note: Data up to November 2009.



CDB Melchorita
people

their knowledge, skills and practice to achieve greater competitiveness at workplace. This course was dictated by SENATI, the Technical Institute located at Chincha. This program included also an English language course, addressed to employees. The second objective was 'Building Capacity', directed to workers who have not knowledge or technical skills. The courses are designed also to give tools to find new job opportunities, mainly focusing on the use of PC. The training activities involved 283 workers, with a total of 10,096 manhours.

HSE Training

Saipem policy requires that every employee, subcontractor, visitor and supplier must be trained in HSE working practices and processes, personal

protection equipment, identification and evaluation of potential and existing hazards on every construction jobsites, and the procedures to be followed in order to deal with these identified hazards in a safe and environmentally responsible manner. Applicable training requirements may be achieved through verification of previous experience or on-the-job orientation and training.

In addition, personnel must be instructed on the potential impacts and consequences of deviating from established procedures in relation with the project's environmental, social, health, and safety performance. All employees of CDB Melchorita and their subcontractors were trained to perform their own job responsibilities considering health, safety, social and environmental aspects.

Additional or refresher training was done if the supervisor, H&S engineer, environmental engineer, or any supervisor or manager from Saipem on site think that the worker need to be trained again by the HSE department in case of (but not limited to):

- Poor performance of work;
- Unsafe acts or unsafe conditions of work;
- Change in the work condition or procedure;
- After unexpected accident/incident (lessons learned).

'TC Sys' system

Along the project all workers received training in HSE to realise properly their work in a safe environment.

Each worker received general training such as 'Induction', but some of them received specific training according to their competence and job.

To ensure this kind of training, the HSE department has developed the 'TC Sys'

system (Training and Course System). The 'TC Sys' maintains and organises all subjects and courses that a worker should receive according to their work responsibility, based on a matrix that correlates the work place with the training courses. The system stores all data concerning training and courses received for each worker and those that the workers shall follow according to its job positions and the relevant training needed.

The system also provides reports for each department responsible, indicating the number of personnel in charge that should update their training.

This report is used to improve the internal management among the HSE department and different areas of the project, in order to efficiently schedule each training session without affecting the production work.

All training activities and themes are registered in the system together with the participants and manhours.

HSE training activities (entire project duration until December 2009)

Area	Theme	No. Participants
Safety	Safety procedures for type of work	2,280
	Excess of self confidence	688
	Defensive driving course	2,336
	Emergency response	4,651
	Safety inspection	879
	Hazard Identification and Risk Assessment	1,979
	Safety format	1,941
	Leadership in Safety	368
	Safety PPE	4,346
Health	First Aid	643
	Occupational Health Training	1,811
Environmental	Cultural Heritage	367
	Flora & Fauna Protection	314
	Housekeeping	2,272
	Spill Prevention and Response	3,178
	Waste management	5,092
	Water saving and pollution	612
Total		33,757



People at work

Safety

Safety of workers and subcontractors is a priority for the CDB Melchorita project. The company has a strong commitment to minimise the risk for its workers and ensure the integrity of its workforce. The HSE management has implemented several programs in coordination with other departments and supported by the Project Director. These activities have assured working in team, considering the safety as the main subject, achieving the goal of no fatality and no lost time during the entire construction phase.

The programs developed by HSE department were mainly addressed to prevent incidents; including weekly coordination meetings among all

managers, definition of procedures for every type of work, daily meetings before starting any work (Toolbox), daily application of formats such as STARRT before starting any work, Job safety analysis (JSA) to identify any possible risk, inspections in the work site, use of PPEs, trainings and drills.

The 'safety awareness' has been also one important activity to motivate all workers to cooperate in the management of HSE. Training courses have been carried out in different HSE subjects, addressed to all workers and mainly to all new staff.

As a strategy to motivate the participation, prizes were given (caps, backpacks, cups, watches) to all workers when the goal of thousand of hours

Safety performance 2006-2010

Worked Man Hours	7,805,344
LTI Frequency Rate	0.00
TRI Frequency Rate	3.59

Leading indicators

HSE training hours	34,174
SHOC Cards	86
Tool Box Talks	28,381
HSE meetings	11,413
Job Safety Analysis	6,654
HSE Inspections	197
HSE Management visits	54

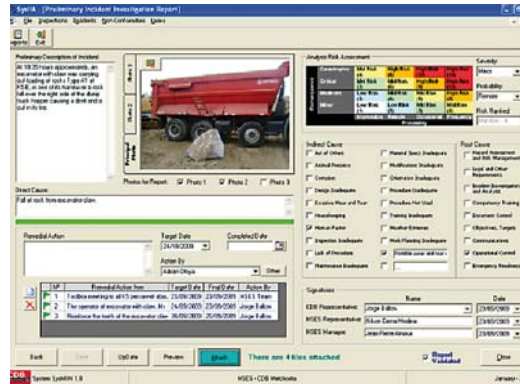
without LTI was achieved. It was given also public recognition through the program 'Employee of the Month', which considers the behaviour of the worker concerning safety and environment protection in the work site. Each month, the worker that showed a high commitment and engagement with the values and the vision of the company, received a prize from the General Manager as a compensation for the good work. This recognition was also published in the magazine of CDB 'La Ventana de Melchorita'.

Improvement Opportunities Card

This program was implemented to be informed about the unsafe conditions that could occur in different areas of the project, to then define and implement corrective actions. Record cards were distributed in 8 boxes placed in different pits, to allow every worker to describe eventual unsafe conditions, place and date, anonymously. On average, 6 record cards were collected weekly and analysed by the HSE department. The most frequent types of unsafe conditions were identified in temporal workshops areas and corrective actions were set up in order to improve the inspection and training during the installation of different temporal workshops to comply with all standards. This mechanism was an effective communication channel, anonymous but direct, between workers and the HSE department, to give suggestions in order to improve safety.

SysMin System

The SysMin system records the incidents, inspections (daily, weekly, management walking, audits) and the non-conformities. It was developed by the HSE department of CDB Melchorita, as an integrated management tool for safety among HSE department and the other departments and the Client. This system allowed: to optimise the delivery time of incident reporting to the Client, to improve the internal communication with all departments of CDB about unsafe conditions in the construction site, and to record



SysMin System

all corrective actions, inspections and eventually sanctions for not meeting the standards.

The system has also an 'Alert' to close any corrective action by means of an automatic and interactive report about the state of the corrective actions addressed to the responsible person of the action.

Emergency response drills

An emergency response drill has been carried out every month during the entire project duration.

Emergency response drill



The communication mechanism was evaluated to ensure a properly emergency response when a real incident will be presented.

In each drill, a scenario was created according to the emergency response procedure, such as 'worker fall into the sea', 'vehicle collision', 'worker suffer an injury', 'oil spill', 'fire', 'collision among barges' and others.



Leadership in Safety (LiS)

Apart from the safety procedures, protocols, standards of work, training activities and supervision, it is important to consider 'the worker behaviour'. In fact, it is known that the biggest cause of accidents is an unsafe behaviour. In this sense, the LiS program, developed by Saipem, is an important tool to change the workers' behaviour concerning safety at work, in order to

reduce accidents and eliminate fatalities.

The program consisted in a 4 hours workshop directed to every level of workers, considers analysis of the behaviour, leadership in safety, intervention methods. The workshop is developed through videos, analysis, group exercises, with the objective to conveying the message 'The safer the better'.

The HSE department developed the LiS workshops for all levels of workers, such as managers, work areas responsables, supervisors, foremen and workers. It also concerned, subcontractors, the Civil Construction Works Union, and the Client 'Peru LNG'. These training workshops were carried out during the construction phase, and continued during the demobilisation phase, because in this phase the workers are not completely concentrated thinking to the end of the project, but it is important to continue working with the

Daily meetings with the workforce





safety behaviour until the last days of the projects.

The results of the LiS program in CDB were:

- 19 sessions in total for 1,182 man-hours of training;
- 368 people participated;
- 98% of participants declare to have obtained confidence to intervene against an unsafe condition, as well as to require safety measures in their work;
- Client satisfaction with respect to the improvement activities in safety;
- satisfaction of the Civil Construction Workers Union, for the activities carried out aimed at improving workers' safety.

L-LiS Training

To strengthen the global objective of creating safety awareness and changing behaviour, the family influence was considered, especially the role of children toward their parents.

A special LiS workshop was designed and carried out for workers' children, to teach them about the importance of their parents' safety through the message 'Be careful daddy'.

Besides, the workshop was directed to teach simple safety measures that the children can apply at home: some subjects were 'Safety Harness', 'Postures', 'Housekeeping', 'signage'.

Training and awareness rising among children is considered of high relevance, not only



because they will influence their parents' behaviour but also because they can have a 'multiplier' effect, informing other children in school or people in their own families.

58 children were nominated 'little leaders in safety' and the message 'Be careful daddy' was properly understood. Workers commented that their children frequently warn them 'Daddy, remember to use a harness if you work at height'; 'Daddy, always use your safety helmet' and they are very grateful.

The Client Peru LNG was satisfied by the several activities carried out aimed at improving safety in the Project.

Health

During the entire project, several measures were implemented to protect employees' health, not only on site but also at their home. The activities conducted focused both on the prevention and promotion of health, as well as to a permanent support and response to emergencies.

Health organisation

The project medical team, composed of 2 doctors, 4 nurses and 4 paramedics, had the responsibility to provide medical assistance and promote health prevention. The team had 2 ambulances (class III and class II) fully equipped and mechanically ready for any intervention. 14 first aid kits were distributed in the different work areas, and equipped with standard medical supplies, which were permanently verified by the medical team. There were also 3 rescue



Construction activities

stretchers and 1 floating stretcher with harness for sea rescue. Additionally, the project counted a Sea Rescue team, constituted of 5 senior and trained rescue swimmers, which were on duty 24h a day for 7 days/week to intervene in any emergency occurring in offshore activities. This team was equipped with an inflatable dinghy.

Health prevention

Campaigns were carried out to raise awareness among workers about prevention measures against diseases, accidents and the culture of health. The medical unit, according to its vigilance task on worker's health, developed a Health Plan, with the aim to detect, prevent and correct dangerous actions that could affect Melchorita's workers. This program included, among others, 3 monitoring activities inside the construction site in order to detect on

time the presence of Pneumoconiosis among the workers. Specific programs were developed such as 'Ergonomic Risks', 'Drivers fatigue evaluation', as well as 'Inspections of the canteen and lodgings'; 'Monitoring of occupational noise', 'Alcohol and Drugs test' and monitoring of the concentration of silica dust, according to the NIOSH recommendations and the national regulations. These activities have allowed maintaining a permanent contact with workers to remind them all preventive activities to take care for their health.

Health promotion

Activities were addressed to all workers and their families to promote healthy habits and lifestyle. Campaigns were developed such as 'Don't smoke your life', guidelines in 'Nutrition', 'Cardiovascular campaign', 'Prevention

of sexual transmission diseases and AIDS'. Also, a social assistant of the Human Resources department was in charge of taking care of all personal requirements of the employees. As a complementary activity a permanent 'Medical Assistance' was maintained inside the construction site together with a program of 'Pre-employment Medical Evaluation' and 'Post-employment medical Evaluation' to assure that the health of the worker was not affected.

Fatigue Evaluation

The labour fatigue is a serious threat for a normal performance of the workers and therefore of their safety. An ambitious program of control, identification and classification of the fatigue was implemented in order to recognise and treat it on time. Besides, techniques such as 'Surveys', 'Somnolence tests', 'Stress test' have been implemented in order to minimise the risk of fatigue incidents.

Alcohol and drugs test

As a measure to prevent incidents, the HSE department has developed a 'Drug and alcohol procedure', which set up unannounced and random test, mainly on festive days. This measure is communicated to all new workers in an induction speech, clearly describing the objective of the test, aimed at eliminating the risk of human-induced incidents.

Industrial Relations

The Human Resources department has developed a system for a permanent and transparent communication with the employees and the workers' Union, through monthly meetings

to verify the compliance with local labour laws concerning employment rights and benefits and to answer to workers' requests. Besides, the workers' Union has a complete freedom to communicate with any manager and coordinate specific themes to benefit to all workers.

The project's workers have elected their representatives in the Union, considering their different communities of origin. Therefore the Union is composed of 2 representatives from the Union of Chincha community, 2 representatives from Cañete community and 1 representative of the workers on site. Furthermore, to guarantee better coordination between the Union and the workers, the company has installed a coordination office in the project site, as well as a vehicle for the transport of Union's representatives to different project's sites for daily communications with workers. All workers were allowed 2 free hours per month to participate to a general meeting, organised by the Union.

Internal Communication

CDB Melchorita ensures the communication of the sustainability policy through a monthly magazine called 'La Ventana de Melchorita' (Melchorita's window). This publication is issued in two languages (English and Spanish) and reports on project different activities such as works progress, health, safety and environment measures, 'Employee of

La Ventana de Melchorita



Alcohol and drugs test	
Total of drug test	268
Total of positive drug test	4
Total of alcohol test	7,251
Total of positive alcohol test	22

the month', social responsibility activities undertaken every month.

This publication is widely distributed amongst the Consortium companies, suppliers and subcontractors, and the Client. It is a vehicle of sustainability messages about all subjects that are of importance for the present and the future.

As an example, messages about the importance of saving water and electricity are regularly included in this bulletin, as well as information on the works progress and employees' birthdays.

The company culture is promoted by inclusion of extracts from the company vision and entrepreneurial technologies, giving employees a common set of culture references.

CUSTOMERS

Customer satisfaction and Customer care is the highest priority for the project. Customer's requirements are defined in the contract agreed between the Client and the Consortium.

Product and service requirements not specifically defined, but necessary for the intent or specific use, are integrated in project specifications. Together with regulatory, health, safety and environmental and legal requirements, they guarantee compliance of the final

product to the Client's expectations. In spite of difficulties encountered at the beginning of the project, for which the Consortium provided solutions to the Client, the customer satisfaction rate stayed at high level. The QHSE system has been a great contributing factor of these good results.

To evaluate customer satisfaction, two questionnaires have been developed, about management, organisations, attitude to problem solving, technical quality, corrective actions, etc. The results of the first and the second surveys (conducted respectively in April 2008 and March 2009) showed an increased satisfaction in environmental, safety and health activities, from 83 to 86% as well as for quality from 57 to 75%. In general, the satisfaction rate increased from 70% to 72%. For items for which a lower degree of satisfaction emerged, specific actions have been carried out to continue improving the Customer satisfaction.

SUPPLIERS AND SUBCONTRACTORS

During the entire duration of the project, CDB Melchorita maintained contact with national suppliers, considering also small suppliers from local communities and mid-size suppliers from the national territory.

Results from the second Customer Satisfaction survey conducted in March 2009

	Number of results received					Satisfaction rate
	N/A	Stormy	Cloudy	Cloudy & Sunny	Sunny	
Customer focus	-	-	-	5	-	75%
Organisation and management	-	-	1	5	2	74%
Contract management	-	-	2	3	-	53%
Quality management	1	-	-	5	-	75%
HSE management	-	-	-	5	4	86%
Documentation system	1	1	-	3	-	56%
Engineering	-	2	-	3	-	45%
Procurement	1	-	-	5	-	75%
Construction/Installation	-	-	-	7	2	81%
Total	3	3	3	41	8	

In general, in the direct area of the project (meaning the Province of Cañete and the one of Chincha), a total of 3,827,223 USD was spent. In these Provinces only general services such as lodging, restoration and fuel provision were available. For this kind of purchase, it was given a preference to local suppliers.

The mid-size suppliers were generally from different areas of Peru. Compared to the local suppliers, they were characterised by a higher economical

stability and capacity to supply materials and goods for construction activity. The total purchase was 33,478,838 USD. All purchases spent in Peru represent 49% of the total expenditure that CDB made.

For purchases to suppliers placed in the local area, measures were taken to avoid a relevant impact on normal local economic movement, to avoid increasing temporally the local economy and prices that, when the project leaves the local area, can generate a problem.

Interview with Leon & Russo

The Company, formed by Peruvian investors, conducts non destructive assays and quality control in construction and facilities. The Company had 9% of its production related to CDB Melchorita Project during 2007, 20% in 2008 and 11% in 2009.

How do you consider the influence of CDB Melchorita regarding the improvement of your technical skills and way of working?

'The demand of CDB for a properly technique, quickly and reliable, pushes us to develop and apply the Multichannel technique. It was the first time for us, but with the permanent application in CDB, today is our main technique, which has served us to provide additional services'.

Do you consider that CDB Melchorita has influenced the improvement of your procedures in term of quality assurance, evaluation analysis, and capacity building?

'In working with CDB, our procedures has passed for a standardisation process,

our management system is also today more orderly, our system of building capacity has improved due the inclusion of regulations required by CDB. Regarding training, today we consider that our technicians are more trained as a consequence of the demand from professional staff and the respect of demanding standards. Now we have a calibration system and a personal certification system'.

How CDB Melchorita has influenced the improvement of the workers security management, with the incorporation of standards, risk analysis, incidents minimization, environmental management?

'Today, we have increased our environmental awareness. For example we now prefer using water and seaweed gel instead of oil for couplings. The technique we use is ultrasound, and we don't use radiography. Our technicians have worked so close with CDB Melchorita for long time, that now the environmental and safety principles and rules are here very important. Our Technicians that worked at CDB are now

the most important 'teachers' for the others since they are influencing the attitude of the other workers'.

Do you consider that the work with CDB Melchorita improved your business (new client and contract acquisition, increased of business volume?)

'Definitely. To have a long and stable contract with CDB allowed us to develop the multichannel technique; this allows increasing our services. Besides, working with CDB served us as a presentation card that could open many doors. Our technicians are best trained, before I went to do the inspections but now I trust in my technicians and can send them to do any inspections in any project. We have worked with several important companies, but the experience with CDB has been of high relevance for us, not only for complying with all requests of safety, environmental protection, and health; but also for the attitude of CDB towards contractors to improve and be better'.

**Erich Macher
Director Project Management
Leon & Russo**



JB-108
BELIZE
Installation of jacket

The intention was to give an undirected economic benefice without causing a destabilization in the economy of the local towns.

The subcontractors have a considerable influence on the project activities and the quality of final products. Therefore, they are considered as partners. This close partnership has effectively been implemented through assistance to the subcontractors for the preparation of

their QHSE documents, joint efforts in the preparation of the fabrication areas and production line organisation. Experienced inspectors and engineers on quality, HSE and production were present in subcontractors' sites, to guarantee the final product quality and to transfer to subcontractors all best practices and standards for their own continuous improvement.

Some interviews to subcontractors' managers have been carried out during

Type of Suppliers	Types of purchase	Purchased (USD)
Local	Restaurant, Fuel Station, Lodging and others	3,827,223
National	Purchase of material and goods	33,478,838
International	Import of materials and goods	38,576,722
Total		75,882,783

Note: Total amount accumulated. September 2009.

the final period of the project with the intention to understand how they see the relationship and partnership with the Consortium and to understand if and how this influenced their way

of working. Two subcontractors were chosen (Leon & Russo and Técnicas Metálicas) due to their importance in term of relevance of activities they have conducted in the project.

Interview with Técnicas Metálicas

Técnicas Metálicas is a company in the metal-mechanics sector. The Company has progressively increased its production from 1,500 ton/month to 2,500 ton/month, with an increase of 40% in the workforce.

How do you consider the influence of CDB Melchorita regarding the improvement of your technical skills and way of working?

'We have definitely improved a lot in term of processes and procedures: one of them is the Methods Statement regarding quality and production, which we have implemented. From a technology point of view, we had a strategic plan to acquire a high-technology machine, but with the CDB Melchorita project this process was accelerated. To comply with the requests from CDB we have purchased new cutting machines, plasma, automatic machines of blast cleaning. With these equipments, we are now more competitive in the market. Concerning infrastructure, we have done the installation of bridges, cranes, ceilings; all of these things improved our production'.

Eng. Víctor Fortuna
Chief of Plant

Do you consider that CDB Melchorita has influenced the improvement of your

procedures in term of quality assurance, evaluation analysis, and capacity building?

'When we began with CDB we found that you have high quality standards, from the beginning to the end of the contract, and we had to work hard in all processes to comply with your standards. We achieved the implementation of new standards in painting controls, the issue of tracing was hard but we succeed to comply with it. Definitely we have improved some aspects in quality control.

Regarding infrastructure and equipments, we had to acquire quality control equipments for painting activities such as salinity and pH metres. Our staff was trained and acquired experience; we carried out a training program with the Human Resources Department. Regarding documentation, we had already in place a documentation structure, but CDB asked about specific cases such as Method Statement, welding book, assays, which we have implemented and are still applying'.

Angel Aliaga
Chief of Quality Control Area

'In our process of ISO 9001 certification, we choose CDB Melchorita as a model, due to its high quality standard. This was successful and we achieved the certification for our Quality Assurance System'.

Silvia Aguilar
QHSE System Responsible

How CDB Melchorita has influenced the improvement of the workers security management, with the incorporation of standards, risk analysis, incidents minimization, environmental management?

'Yes, CDB has led us to improve in many aspects such as safety, implementation of QHSE management, recruitment of more field inspectors and supervisors, and also implementation of some processes; all of them were analysed during the weekly meetings. Also for the environment, we have implemented a noise monitoring system and improved our system for waste management'.

Victor Fortuna
Chief of the Plant

Do you consider that the work with CDB Melchorita improved your business (new client and contract acquisition, increased of business volume)?

'Yes, definitely. Working for metal manufacturing for CDB Melchorita, enabled us to enlarge our business opportunities. We are now working also for the supply of materials for the project conducted by Saipem in another country with more technical implementation and international requirements'.

Mario Cruz
General Manager



Waste Water
Management
Systems



ENVIRONMENT

Melchorita has been identified as an area of special attention from an environmental point of view, due to its high environmental quality, the important marine fauna and the original landscape. Therefore an Environmental Monitoring Plan has been set up together with a Pollution Prevention Plan.

The results of the environmental monitoring during the entire project duration showed that the environmental management has guaranteed to maintain the project area in similar conditions to those found when the project began; no ution penalties have been received by environmental watchdog and two external prizes were won by the most important activities of the project, the waste recycling and the ecological treatment of wastewater.

Environmental Monitoring

The environmental monitoring was addressed to environmental quality evaluation as well as ensuring the water quality for human consumption

in the project. In that sense the '**Water quality monitoring**' has been carried out to monitor possible contamination, in compliance with applicable standards requirements such as National standard, World Bank to wastewater treated, EPA and WHO for drinking water.

To assess the effectiveness of the activities of pollution prevention in the marine area, a '**Sea water monitoring**' has been developed. 28 samplings were conducted in the marine construction areas, to check eventual contamination.

No contamination was encountered: the 32 parameters of sea water quality were according the national legislation and the EPA standard. While performing dredging activities at site, a specific and daily monitoring of sea water was implemented.

In other side, the '**Environmental Noise Monitoring**' and '**Air Quality**' showed the effectiveness of the application of control measures.

Also, an '**Ecological monitoring**' was developed to evaluate the abundance of the lizard '**Microlophus Tigris**' in the area of the project and along the road between the operational site and the quarry. The technique consisted in

a visual observation in three different areas: sandy beaches (near project site), the area with *Tylandias* vegetation (along the road) and the area with cactaceae near the quarry. In each area, 5 transects of 100x4 m were identified and used for monitoring. The results showed that this species was not affected by the activities.

CDB Melchorita has implemented the '**Advice for fishermen program**'. Everyday an HSE department representative was in charge of going to the beach to advise all local fishermen about the weather conditions and give them the minimal safety information and conditions to develop their fishing activities, mainly for those that used to go fishing near or below the pier of Melchorita. The HSE official used to record the number of fishermen working each day and the conditions in which they were doing their activities. Through this monitoring, it has been verified that fishing activity was not affected during the construction phase.

During the last phase of the project different monitoring activities have been carried out in several areas, such as the '**Soil monitoring**' in the mechanical pits, oil storages, and fuel stations. The results were in compliance with the national standard, thanks to the numerous activities developed to protect the soil such as containment system, spill-proof kits and training. Another activity consisted in the control

Ecological monitoring



and rescues of natural vegetation like cactaceae, through the creation of a greenhouse to conserve the plants during the extraction activities, and then to return them to the original place. At the beginning of the project, a campaign of cactus transplantation has been handled to prevent fauna destruction by the works. Replanted vegetation is conducted under the control of CDB Melchorita environment team.

Pollution Prevention

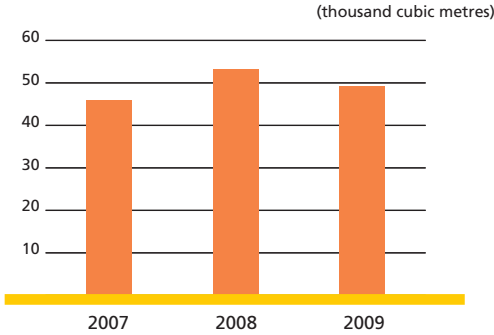
A Pollution Prevention Plan has been implemented during the entire duration of the project. It includes, among others, spill prevention, water treatment recirculation, waste management, dust control, flora and fauna protection, and the archaeological zones protection. To effectively implement these activities, it emerged that creating awareness among workers was fundamental; therefore a continuous training of all project staff and subcontractors has been carried out.

Water Management

To improve the domestic wastewater treatment system, which consisted of an activated sludge treatment plant, a '**Reed Bed Sewage Treatment System**' was installed. It is a system with a biological treatment, based on the absorption of nutrients by vegetables, which are able to bioaccumulate, avoiding the use of chemicals for the treatment. The system uses the 'Papyrus', which is a plant that consumes mainly phosphorus and nitrogen from the wastewater. This treatment system enabled to guarantee the compliance with all water quality parameters according to the law. Additionally the 'papyrus' was used to improve the landscape of the project area and the final treated water was recycled, used for dust control and watering of green areas.

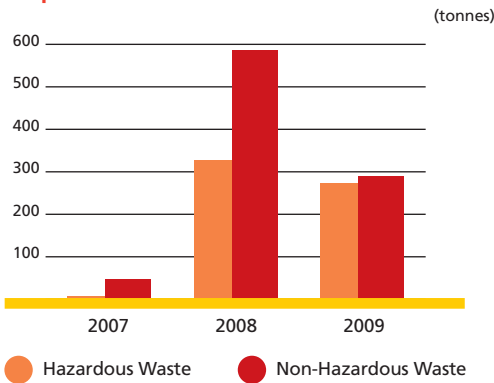
Besides, in order to treat the 'surplus sludge' generated by the activated

Water consumption

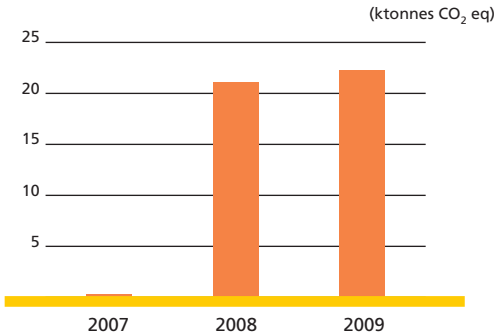


Despite the improvement of the wastewater treatment system and the reuse of water, the overall water consumption increased during the second year according to the increase of the construction activities and the need of dust control. The application of a constant training during the entire project and the change of the water system to reduce the time of opening of the tap water generate a reduction of the water used in 2009.

Waste production



GHG



sludge treatment plant, which was previously brought to a landfill for final disposal, a new 'Sludge drying bed' was installed. The treatment consists of dehydration of sludge into the environment, by using 2 pools of drying with a dual drainage of water to speed up drying. The system is designed to transform the sludge from the treatment plant in dried mud with abundant organic matter that could be used as soil fertilizer. The liquid from the pool returns to the beginning of the treatment plant.

Considering that the water resource is scarce in the area of the project, two water recirculation systems were installed in areas with high water demand, such as the 'Mixer car-washing' (concrete mixer truck) and the 'Car-washing'. A sedimentation treatment system has been installed, which consisted of three levels, to separate particles from water and re-use water for the following washing.

'Dust control and water re-use' are closely related considering that Melchorita is in a desert area with low humidity, high dust generation and no water supply system. Water is taken from river and treated to potable water. The system for waste water treatment allow a reuse of residual water, mainly for spreading on the roads to reduce dust emission, to minimise the use of water and watering of green areas.

Waste Management

The waste management is mainly based on the segregation of waste with the objective of a proper disposal and recycling. All waste generated during the project are classified according their utility and hazard, recycling activities are conducted for all non-hazardous waste such as paper, plastic, concrete and metal, with the objective of minimising the generation of waste inside the construction site and obtain a better use of them. In particular, all waste of concrete were recycled and used to make temporary

Energy consumption		2007	2008	2009
Diesel	(tonnes)	103	3,707	3,818
Electric Energy	(kWh)	-	-	-
Gasoline	(tonnes)	6	40	31
Natural gas (methane)	(m³)	-	3,961,857	4,344,300

During the project execution (2008 and 2009) the electricity was self-produced by using diesel generators and a natural gas power plant.

containment walls on project access roads to reduce vehicle risk of accident. These temporary walls were poured

with residual concrete generated by the project construction.



LOCAL COMMUNITIES

The local communities are considered an important stakeholder, with their limited socio-economic conditions, difficulty of access to basic services like health, water, waste removal. On the other hand, the local economic activity is mainly based on agriculture, basic food production and artisan fisheries, which represents a very important local cultural history.

CDB Melchorita is working with a strict and direct relation with the local communities involved in the project, through direct employment or as local suppliers and subcontractors, but also through a direct engagement with the local communities around the areas of operation, mainly represented by the provinces of Chincha and Cañete. The engagement with local stakeholders

helps to identify their needs and their expectations and to define series of activities to support their socio-economic development and improvement of their living conditions.

The activities carried out by CDB Melchorita were mainly directed to four areas of improvement:

- Social development;
- Economic development;
- Cultural development;
- Environmental protection.

Social Development

CDB Melchorita facilitated the access to health services and preventive health campaigns for vulnerable population, from marginal urbanised and rural areas. Besides, the Consortium managed and sponsored preventive health campaigns according to local needs.

Areas involved in the 189 preventive health campaign events

Local state	Towns	People involved
Chincha	Sunampe, Pueblo Nuevo, Grocio Prado, Tambo de Mora, Chincha Alta	14,980
Cañete	San Vicente	16,498
Total beneficiaries		31,478

During the period of execution of the project, 189 health related activities took place in all districts being in the direct influence area, impacting 31,478 persons being short of resources, as direct beneficiaries.

Apart of this program, the internal Health team of CDB Melchorita conducted special trainings on 'healthy habits to prevent illnesses' or 'the importance of cleaning the hands', addressed to the communities, especially children, as a complement of the activities of the social development programs.

Besides, a series of events have been organised to prevent any type of violence in vulnerable population (children, teenagers and women). The activities took place in public institutions like MINSA (Ministry of Health) of Cañete and MIMDES (Ministry of Woman and Development), and have been supported by CDB Melchorita. More than 5,000 people participated to 51 events, with the participation of 85 policemen coordinators, 180 coordinators of justice and 30 women who sponsored the events.

Economic Development

In addition to employment opportunities offered to local people, through fair and equitable process for selection, and the support to local market through the use of local vendors, CDB Melchorita developed a series of initiatives to support the economical development of local communities. In a context where there is especially a lack of work, it emerged a need to enable people to develop competencies and enterprising attitudes that could enable them to enter the labour market, as dependent

or independent workers or by starting enterprises that generate jobs.

In coordination with the local government and the Union's workers, theoretical and practical technical training focusing on grinding, painting, and concrete was performed to a total of 1,220 participants.

Together with the Association of Women and the local government, 8 productive workshops have been organised focusing on: Cooking, Pastry, Jewellery, Shoes, Sewing, Balloon Decoration, Fabric and Cosmetics. These courses and workshops were mainly addressed to women who otherwise have no resources to sustain themselves, helping them to start micro-enterprises.

This program was also supported through the implementation of a 'Buy local' program. More than 675 women participated to the initiative, and the products created were showed in 5 different events.

Cultural Development

Activities have been conducted to support local communities with a





'Listening to the people'

program for improving their personal development with activities like the 'Reader Plan' program and the 'Teaching of basic literacy' program. These activities, that achieved more than 300 persons, were organised with the Association of Women and the local government.

Besides, CDB Melchorita conducted a 'Cultural Identity Repositioning Sustaining Program' through the CDB Melchorita schools 'CDB Sports' and 'CDB Afro', which includes a series of initiatives to develop personal capacities (self-esteem and leadership) and social values to beneficiaries. The CBD Afro school aimed to preserve the cultural identity through practice and dissemination of music and dancing from the local culture; while CBD Sport increased values through sport in local children (Chincha and Cañete). More than 200 boys and girls together with their families participated to the initiatives. Main themes were physical and mental health, culture of peace and citizenship, interculture and local history, sport and healthy life.

Environment Protection

Respect and care for the environment constitutes one of CDB Melchorita's

main areas of community support. In a context where there is otherwise a lack of care for the environment and health in daily practices, the project focuses on training and promotion of local development. The purpose of this initiative is to:

- sensitize the population to take care of the environment;
- to make participants conscious of the need to assume an active role in the care of the environment of their own town/village;
- to enable the local population to develop environment and health care practices.

The training, including 12 courses, was developed in national schools, involving 480 students.

Another initiative was a beach cleaning campaign that took place on the beaches of three districts in Chincha province. The local population, public institutions, authorities and private companies contributed to this experience with the support of young students who participated as voluntary brigades during the summer season. The campaign provided information to people on appropriate waste management, collection of residues and other activities.

REWARDS & RECOGNITIONS

From the Client Peru LNG

2009 Special recognition for the achievement of 5 millions WMH without LTI by CDB.

Special recognition for the achievement of 10 millions WMH without LTI in the total Peru LNG Project.

2009 Special Recognition for 'CBD Melchorita Schools', an integral human development program for the children of Chincha and Cañete.

Various Institutions

2009-2010, the Municipality of Chincha gave a special recognition to CDB for the development and promotion of 'Verano Negro' local cultural festival.

2009, REMAR NGO gave an International Award to CDB for its Social Responsibility Program on 'Recycling'.

2008 and 2009, the Municipality of Chincha gave a special recognition to CDB for its 'Development of African-American culture'.

2009, the Municipality of Pueblo Nuevo

gave a special recognition to CDB for its 'Development of social works'.

2008, the Municipality of Cañete gave a special recognition to CDB for its 'Activities for preservation of the cultural identity'.

2008, the Sports Journalists' Circle of Cañete gave a 'Diploma for the support and dissemination of sport'.

2007, the Rotary Club of Peru: 'Special recognition to CDB for the support provided and the social works realised after the earthquake in Pisco'.

Saipem Group

Saipem QHSE & Sustainability Award 2008: 'Winner' in the Environment Category for 'Reed Bed' Biological wastewater treatment plant.

Saipem QHSE & Sustainability Award 2008: 'Winner' in the Sustainability Category for Social and Economic development program.

Saipem QHSE & Sustainability Award 2008: 'Special Mention' in Overall category.

Saipem QHSE & Sustainability Award 2007: 'Winner' in the Safety Category.

GLOSSARY & ACRONYMS

EPIC

Engineering, Procurement, Installation and Construction

EPC

Engineering, Procurement and Construction

GHG

Green House Gas

LTI

Lost Time Injury. Any work-related injury, which renders the injured person temporarily unable to perform any regular job or restricted work on any day/shift after

the day on which the injury occurred. In this case 'any day' includes rest day, weekend day, holiday. The day of the accident is not counted when calculating lost workdays. Fatalities and permanent total disabilities are included in the calculation of the total the number of Lost Time Injuries.

LTIFR

Lost Time Injury Frequency Rate.

$$LTIFR = \frac{\text{No. LTI} \times 1,000,000}{\text{Total worked man hours}}$$

TRI

Total Recordable Incident. Term to define the sum of Lost Time Injuries (including Fatalities and Permanent Disability Cases), Work Restricted Cases and Medical Treatment Cases.

TRIFR

Total Recordable Incident Frequency Rate.

$$TRIFR = \frac{\text{No. TRI} \times 1,000,000}{\text{Total worked man hours}}$$

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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

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

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