



# KARACHAGANAK SUSTAINABILITY REPORT 2008

## THE ENDURING BENEFITS OF KARACHAGANAK





# Contents

Letter from the General Director	1
Karachaganak in context	2
Corporate Governance at KPO	4
Delivering environmental performance	6
Investing in our people	12
Our operation and highlights	14
Delivering with the community	16
Economic development	20
Safety and security	22
Data table and GRI indicators	26
Targets	28
Verification statement	29



## A demonstration of our commitment to sustainable development

This report is the first sustainability report to be issued by Karachaganak Petroleum Operating B.V. (KPO), and is a demonstration of our commitment to sustainable development. It is also, we believe, the first time a company based in Kazakhstan has produced an independently-assured sustainability report to international standards.

### REPORT PROFILE

This report is for the 2008 calendar year. As this is KPO's first sustainability report, it also includes information relating to 2006 and 2007. We intend to produce sustainability reports annually in future.

### REPORT SCOPE AND BOUNDARIES

This report includes all KPO activities as described in the section entitled 'Karachaganak in Context'. The content covers the most material aspects of our environmental, social and economic performance.

### ASSURANCE

The data in this report has been independently assured by PricewaterhouseCoopers, as described in their independent assurance report on page 29. This process provides both KPO and the reader of the report with additional assurance that the data contained within it is accurate.

### GLOBAL REPORTING INITIATIVE

This report has been produced in line with the Global Reporting Initiative's G3 guidelines, the *de facto* global model for sustainability reporting. As this is the introductory year of reporting for KPO, we have aimed at and achieved a C+ application level, which reflects the level of disclosure we have made on our profile, our management approach, and our performance indicators, and that the report has been externally assured.

### STAKEHOLDERS

As part of our normal business practice, we engage and consult with a wide range of stakeholders, including government, the local community, employees and civil society. Good relationships with these stakeholder groups are essential to our long-term success, and input from these interactions has helped to shape the content of this report.





## Letter from the General Director



### Welcome to KPO's 2008 Sustainability Report.

KPO aims to create enduring value for its partners and the Republic of Kazakhstan. Sustainability — having regard for long-term environmental, economic and social consequences — is an essential part of this enduring value creation.

Our mission is to develop and market hydrocarbons from the Karachaganak field in an environmentally and economically sound manner, generating value for the Republic and KPO Partners and increasing socio-economic development opportunities for local communities.

Embedding sustainable development thinking and practices into our core business is vital to the success of our mission. This report is a public demonstration of how far we have come, and of our plans for continual improvements.

The goal of this 2008 Sustainability Report is to detail our performance in our most significant sustainability areas: corporate governance, environmental performance, investing in our people, local communities, economic development, and safety and health.

Safety is an area of paramount importance. Safety milestones achieved in the year include the world's largest single total shutdown injury-free, 20 million man hours worked without a single lost time incident, and receipt of a prestigious DuPont Safety Award. However, we are very aware that, measured by both Total Recordable Case Frequency and Lost Time Injury Frequency, our safety performance declined in 2008. We have taken timely action to halt that decline.

Strong progress continues in many areas. We have reduced flaring to the point where we are responsible for only an estimated 0.48% of gas flared in the Republic, while producing an estimated 45% of the Republic's natural gas.

We continue to increase the value of orders placed for Kazakhstani-sourced goods and services. Nationalisation of positions, another key economic contribution, is also progressing. Recognising our potential impact on local communities, we have developed world-class social performance standards which will guide our continued consultation and engagement.

My thanks go to the authorities of the Republic of Kazakhstan and our colleagues at KPO, who number more than 4,000. It is their continuing dedication and hard work that underpins our success, and which is reflected in this report.

I hope you find the information in this report helpful in understanding our commitment to sustainable development. We welcome your feedback.

Roger Fox  
General Director



## Karachaganak in context

The Karachaganak field is one of the world's largest oil and gas condensate fields. Located in north-west Kazakhstan and covering an area of more than 280 square kilometres, it holds an estimated 9 billion barrels of condensate and 48 trillion cubic feet (tcf) of gas — to date, only 6% of the hydrocarbons initially in place have been produced.

Since 1997, the Karachaganak field has been developed and operated by Karachaganak Petroleum Operating B.V. (KPO), a joint-venture partnership.

### Karachaganak Petroleum Operating B.V. (KPO)

KPO is a joint venture company with the following partners:

- ◆ BG Group from the UK (32.5% holding; joint-operator);
- ◆ Eni from Italy (32.5% holding; joint-operator);
- ◆ Chevron from the USA (20% holding); and
- ◆ LUKOIL from Russia (15% holding).

In 1997, the joint venture partners signed a Final Production Sharing Agreement (FPSA) with the Republic of Kazakhstan that places responsibility for field development with KPO until 2038.

The joint venture shares its combined international experience and expertise with the Republic to maximise the value of the Karachaganak resource through both export and domestic options. Since the signing of the agreement, KPO has invested approximately US\$10 billion into developing the field, applying industry leading technology aimed at maximising sustainable economic value. Today, Karachaganak is producing at record levels and is the largest gas producing field in Kazakhstan, accounting for approximately 45% of the country's total gas production and approximately 16% of total liquids production.

### Timeline

- 1984** Production commences.
- 1992** Kazakhstan Government starts negotiating a Production Sharing Agreement (PSA) with BG Group and Eni.
- 1995** Production Sharing Principles Agreement are signed.
- 1997** Chevron and LUKOIL join the international consortium and a 40-year Final Production Sharing Agreement (FPSA) is signed in November.
- 1998** The FPSA becomes effective.
- 1999** Construction work commences.
- 2000** Main Works Contract awarded and the KPO senior management team moves to Aksai.
- 2003** The President of Kazakhstan inaugurates "First Oil" of Phase II.
- 2004** First shipment of crude oil takes place, from Novorossiysk sea terminal via the Caspian Pipeline Consortium (CPC).
- 2007** Gas Sales Agreement (GSA) agreed between KPO & KazRosGas (KRG).



Due to Karachaganak's isolated location, distant from Kazakhstan's main population centres, the bulk of hydrocarbons produced are exported to earn revenue for the Republic. The majority of the gas from Karachaganak is exported to Russia via Orenburg. A detailed breakdown of gas utilisation can be found on page 6. The majority of oil goes to Western markets via the Black Sea, with most of the remainder being exported to Russia.

### Technical challenges

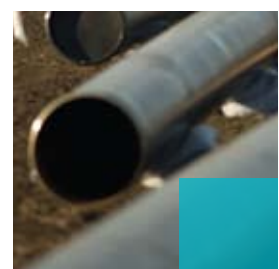
Karachaganak is one of the world's most complex reservoirs, set in a remote and challenging working environment. Temperatures range from minus 40 degrees Celsius in winter to plus 40 in summer; produced hydrocarbons contain a high percentage of highly toxic hydrogen sulphide; and reservoir re-injection pressures reach 550 bar.

In such conditions, maximising economic returns whilst ensuring world class environmental and safety performance requires highly-advanced technological solutions. Achievements include:

- ◆ deploying an innovative high-pressure sour gas injection system;
- ◆ drilling the deepest multilateral well in Kazakhstan to date;

- ◆ reducing Greenhouse Gas (GHG) emissions from well testing, through the pioneering use of a well-testing separator; and
- ◆ completing the world's largest single total shutdown ahead of schedule, without injury or adverse environmental effect.

In addition to increasing production, KPO continues to achieve industry-leading safety and environmental performance. In 2008, KPO exceeded 20 million man hours without a Lost Time Incident (LTI), and gas utilisation rates improved to 99.78% — the highest rate in the history of the field.





# Corporate Governance at KPO

Good governance is essential for ensuring the sustainability of large-scale investment. In the more complex environment of a joint venture such as KPO, our strong governance, controls and assurance processes are vital to our ongoing success.

## ORGANISATION AND GOVERNANCE STRUCTURE

Our organisational structure has been designed to help us meet our business objectives and fulfil our obligations to the Kazakhstan authorities as set out in the Final Production Sharing Agreement (FPSA) — the Venture’s governing document.

KPO’s most senior governance body is the Joint Operating Committee, which comprises representatives of the four parent companies and the Kazakhstan Authorities. No KPO executive officers sit on the Joint Operating Committee.

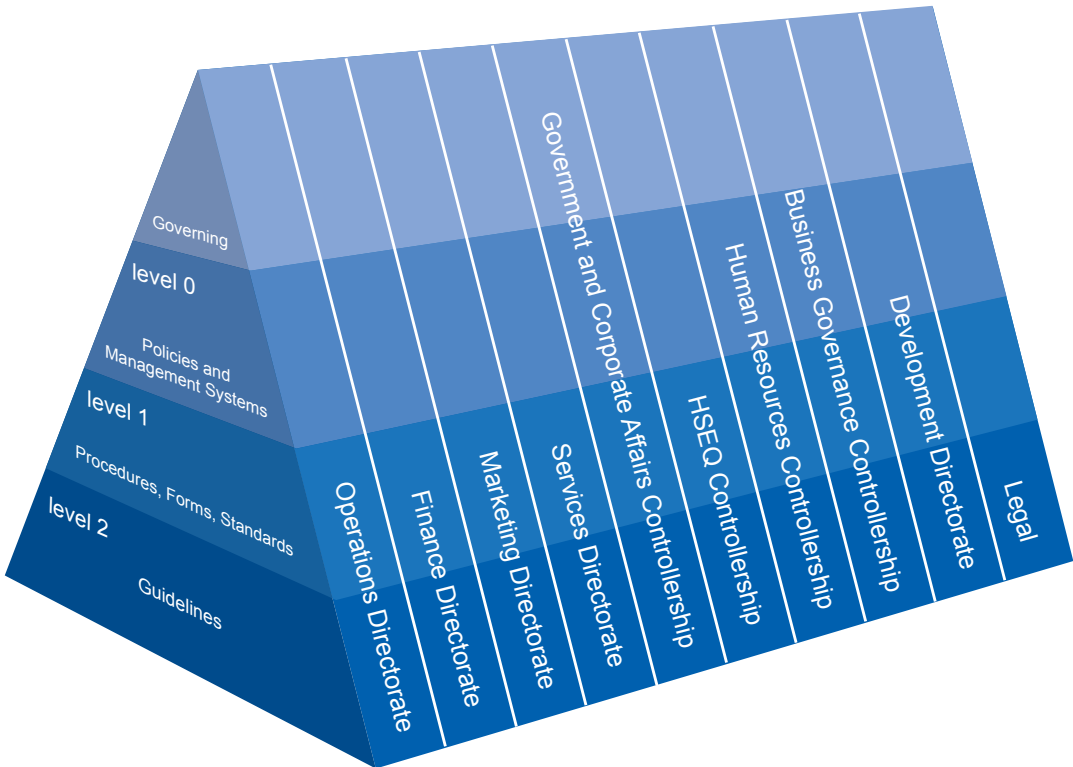
KPO’s most senior partner body, the Contractor Committee, comprises representatives of the four parent companies. KPO’s most senior executive officer, the General Director, represents the Operator at the Contractor Committee. No executive officers sit on the Contractor Committee.

The General Director is a member of and works with the Operator Committee, which reports directly to the operating companies, BG Group and Eni. The General Director, the Deputy General Director and other Directors are nominated by the Operator Committee.

## MANAGEMENT SYSTEMS

KPO’s commitment to high standards is implemented through policies, processes and practices. These are enshrined within our management systems, including our Code of Conduct, our Health, Safety and Environment (HSE) Management System, HSE Policy and five year Strategic HSE Plan, and our Business Governance Management System.

All our management systems sit within our overall policies and procedures structure (see diagram).



## ASSURANCE

All these systems and policies are subject to audit, providing assurance to KPO management and partners that effective and efficient processes are in place to identify and manage risk, including sustainability risk. Specific areas are identified for audit each year by reference to KPO's internal risk identification system, discussions with Directors, parent company requests and the Audit Model, which details all KPO process areas and the required frequency of audits.

In addition to the internal assurance processes, our HSE Management System is externally certified to recognised international standards. During 2008, the HSE Management System was certified to ISO 14001 — the international Environmental Management System standard. In 2009, we plan to achieve OHSAS 18001 certification for the occupational health and safety aspects of our management system.

## CODE OF CONDUCT

Everyone working on behalf of KPO is expected to abide by KPO's Code of Conduct at all times — there are no exceptions. The code asserts the joint responsibility of the Company and its employees to maintain high ethical standards and to follow company policies.

### **The basis of the code is that Company activities must be carried out:**

- ◆ in a safe and environmentally sound manner;
- ◆ in compliance with the relevant law;
- ◆ in fair competition;
- ◆ with honesty, integrity and good faith; and
- ◆ with due respect for the legitimate interests of customers, employees, shareholders, commercial and financial partners and the communities where we operate.

KPO monitors compliance with the Code of Conduct, and reports a statistical analysis of all detected breaches to the Contractor Committee. In 2008, KPO was subject to Parent Company audit on the Code of Conduct, and began a process of reviewing and updating the code in line with continually-improving external best practice.

## WHISTLEBLOWING

Any employee can ask for advice on the Code's implementation, or report an actual or potential infringement of it. Reports or queries can be made either to the Compliance Coordination Manager, who has overall responsibility for the Code, or to the Legal Compliance Counsel. All contacts are treated in confidence.

Allegations of infringements of the Code of Conduct are dealt with confidentially and, where the circumstances merit, are investigated in accordance with the KPO Compliance Assurance Investigation Guidelines. Disciplinary action is taken where the nature of a breach warrants action, in accordance with the KPO Discipline Handling Procedure.

## HUMAN RIGHTS COMPLIANCE ASSESSMENT

In 2008, KPO trialled a Human Rights Compliance Assessment tool, developed by the Danish Institute for Human Rights.

This tool enables companies to understand the potential human rights implications of their activities, supports them in identifying potential areas for improvement and grades compliance with international best practice. Findings from the trial showed KPO scoring well, demonstrating a good level of compliance with global human rights standards.







# Delivering environmental performance

Delivering leading environmental performance in the technically-complex Karachaganak field provides a constant challenge. KPO deploys world-class techniques and innovative technologies to protect the environment in which we operate and to contribute to worldwide efforts to combat climate change.

KPO's commitment to environmental protection is put into practice through an Environmental Management System (EMS), integrated within an overall HSE Management System. In September 2008, KPO's EMS achieved ISO 14001 certification, an important step in the development of a world-class system for managing environmental impacts.

## RECOGNITION OF SUCCESS

In 2007, KPO's environmental achievements were recognised by the Republic of Kazakhstan (RoK) Ministry of Energy and Mineral Resources, which presented KPO with the 'Best Ecological Programme' award.

## EMISSIONS TO AIR

### Flaring

KPO's commitment to environment protection and efficient use of resources has mandated substantial improvements in gas utilisation and reductions in flaring. The reductions achieved are significant — the development and deployment of a variety of innovative techniques and technologies has cut volumes of flared gas from around 250 million cubic metres in 2004 to around 33 million in 2008. Whilst KPO was responsible for an estimated 45% of the total gas produced in the Republic of Kazakhstan in 2008, it was only responsible for an estimated 0.48% of the total gas flared.

### Gas utilisation in 2008

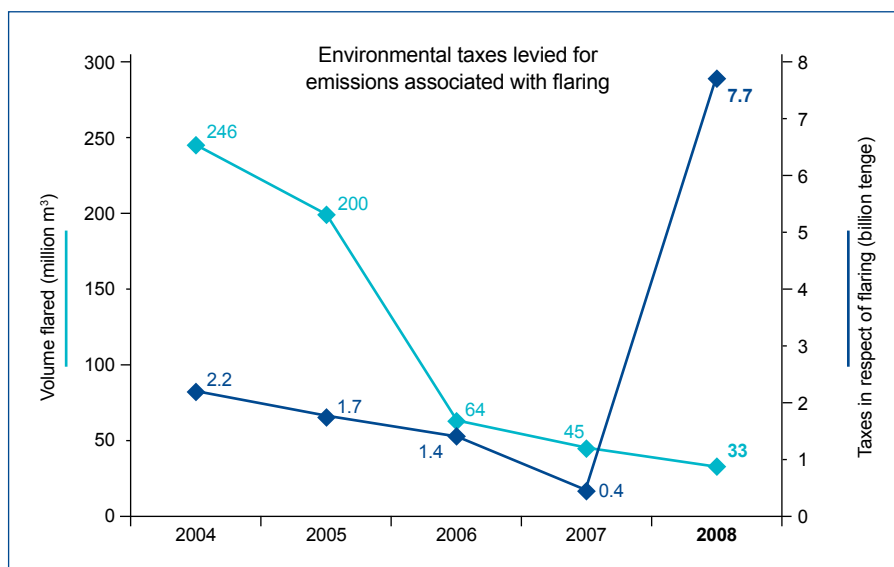
KPO's measures to reduce flaring have led to world-class gas utilisation of 99.78%. In 2008, KPO produced just over 15 billion cubic metres (bcm) of gas, of which:

- ◆ 7.9 bcm (52.76%) was sold via Orenburg. KPO is working to increase the amount of gas sold through this route;
- ◆ 6.4 bcm (42.47%) was re-injected into the reservoir through innovative high-pressure sour gas injection technology;
- ◆ 0.7 bcm (4.55%) is utilised as fuel gas, providing energy for the installation and for the local community; and
- ◆ Only 0.033 bcm (0.22%) of gas is flared, making Karachaganak the leading oil and gas condensate field in Kazakhstan for gas utilisation.



**KPO has achieved world-class gas utilisation of 99.78%**





The Republic of Kazakhstan encourages improvements in environmental performance by levying taxes based on volumes of gas flared. As emissions have fallen, the government has increased the amount levied per unit of emission. This increase in taxation per unit has had two effects; it has maintained the high level of environmental taxes paid, despite the reduction in gas flaring; and it has driven further reductions in gas flared. As stated above, absolute volumes of flared gas have fallen from around 250 million cubic metres in 2004 to approximately 33 million cubic metres in 2008. In the same period, total fines and taxes imposed by the government for flaring have risen from 2.2 billion tenge (US\$17 million) to 15.9 billion tenge (US\$134 million). Per unit of emission, flaring taxes have risen from 350 tenge (US\$3) per tonne of emissions in 2004 to 45,000 tenge (US\$380) per tonne of emissions in 2008.

## AIR QUALITY

Emissions of sulphur dioxide totalled 3,843 tonnes in 2008, a decrease of 17% compared with 2007. This was due to reductions in the flaring of sour gas. Emissions per unit of throughput decreased by 19% between 2007 and 2008, due to the flaring reductions mentioned.

During 2008, 3,439 tonnes of nitrogen oxides (NO<sub>x</sub>) were emitted, an increase of 15% compared with 2007. This is an increase of 12% in nitrogen dioxide emissions per barrel of oil produced, within the same period. This is due to the additional energy demand associated with higher levels of gas re-injection following increased production.



## Community concerns

Local community members have expressed concern about possible air emissions quality infringements and potential environmental and health impacts on the villages surrounding the field. KPO is committed to the highest standards of environmental performance, and has significantly decreased emissions volumes over the past five years. Nevertheless, such concerns are taken seriously.

KPO has eight permanent air-quality monitoring stations surrounding the field, and an additional mobile monitoring station on call to respond to community concerns. In 2008, these stations took more than 55,000 monitoring samples. Since their construction in 2006 and 2007, the stations have not detected any exceedances of the monitored pollutants, meaning that no breaches of either national legislation or international guidelines have occurred.

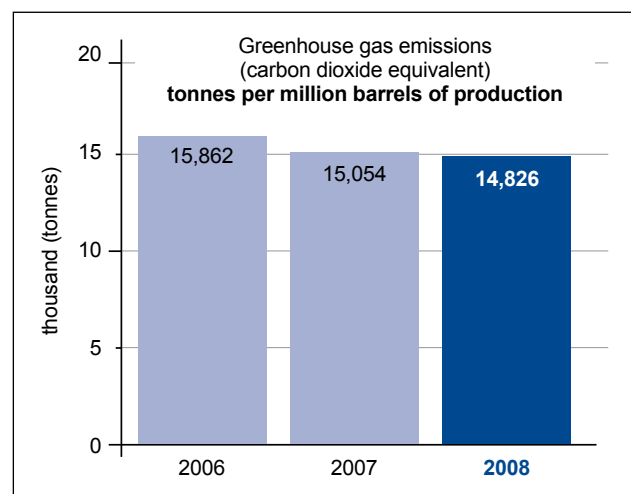
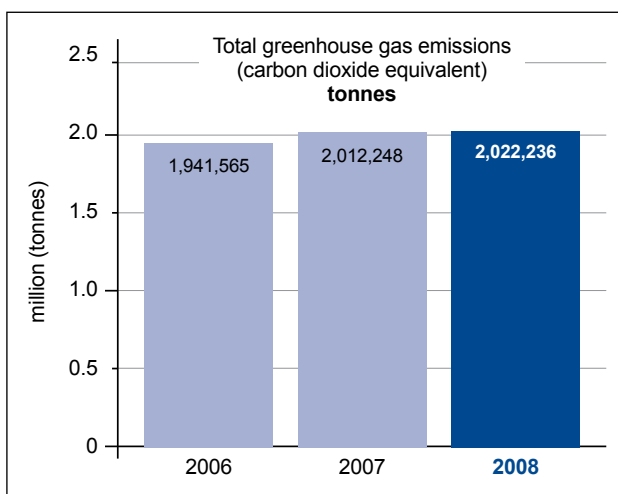
Further assurance is provided by additional daily sampling at the edge of the Sanitary Protection Zone (SPZ) undertaken by Gidromet, an independent, state-licensed third-party company, as well as further sampling in the villages. In response to requests for still greater transparency, we have trained volunteers from local villages to assist with the sampling and testing process. Every month, air quality test reports are delivered to each of the nine villages closest to the field and displayed on village notice boards.

In 2006, KPO and the village councils commissioned an independent two-year study on the potential effects of Karachaganak operations on vegetation, soil, surface water and livestock. The study was undertaken by the West Kazakhstan Oblast Scientific Veterinary Institute and Oral Zher LLP, with the terms of reference for the study being determined in partnership with members of all four village councils. The study results were presented at the April 2008 village council meetings, and it was agreed that the research should continue. More information on the village councils can be found in the Community section of this report.

## Greenhouse gas emissions

Greenhouse Gas (GHG) emissions from human activity are recognised as the major cause of global warming. In line with the Republic's requirements, KPO is committed to reducing GHG emissions through the deployment of innovative technologies and the application of Best Available Techniques (BAT).

In 2008, KPO operations emitted around 2,022,000 tonnes of carbon dioxide equivalent (CO<sub>2</sub>e), an increase of 10,000 tonnes, or 0.5%, compared with 2007 (see below). Over the same period, total production grew by 2.2%. This represents an increase in efficiency — GHG reduction projects undertaken in the year resulted in an improvement in GHG emissions per million barrels produced of 1.5%.



**Specific, independently-verified GHG reductions achieved in 2008 included:**

- ◆ 68,341 tonnes from reductions in process gas flaring through the use of a bypass line;
- ◆ 52,858 tonnes from flareless well testing; and
- ◆ 40,432 tonnes from improvements to the efficiency of the KPC processing system.

A further 106,843 tonnes of GHG savings in 2008 came from reduction projects originally implemented in 2007 and sustained during 2008. All the GHG reductions were externally verified by an independent third party to provide additional assurance to KPO over the accuracy of the reductions achieved.

**Flareless well testing**

Prior to 2008, all well testing involved flaring for the duration of the test. During 2008, KPO conducted flareless well testing using technology developed by the UK's Expro Group. The Megaflow well-testing separator — the first time such technology has been used in Kazakhstan — captures all hydrocarbons produced during a well test and directs them to the processing facility. This innovative technology reduces GHG emissions by an average of 5,000 tonnes per well tested as well as diverting previously-flared hydrocarbons to production.

**WATER USE**

Conservation of fresh water is an issue of global importance. Awareness of this issue is particularly high in Kazakhstan, and Karachaganak is situated in a water-stressed region. KPO makes every effort to reduce and reuse water.

**Technical water**

Technical water — water not of sufficient quality for human consumption — is used in the field for operational purposes. The water is then recovered and injected into an isolated sub-surface reservoir to prevent contamination of surface water systems. Technical water use at Karachaganak was 404,000 cubic metres in 2008, a reduction of 31,000 cubic metres (7%) compared with 2007.

**Potable water**

Potable water — water of sufficient quality for human consumption — is used in KPO offices and accommodation facilities. In 2008, use of potable water increased by 51,000 cubic metres to 180,000 cubic metres, primarily due to a large temporary increase in our workforce associated with the shutdown. We aim to conserve and recycle water where possible. However, in 2008 the volume of water recycled fell from 64,000 cubic metres to 44,000 cubic metres. Whilst there was an increase in recycled water use for drilling purposes during 2008 compared with 2007, the requirement for irrigation water decreased.



**KPO is committed to reducing GHG emissions through the deployment of innovative technologies**



## BIODIVERSITY

KPO is committed to preserving and enhancing the ecosystem in which we operate: biodiversity is a key measure of the health of that ecosystem. As part of our five year strategic HSE plan, we have conducted baseline environmental surveys assessing the impact our operations may have on the surrounding habitat.

The majority of suitable land within the Karachaganak field area has been subject to arable cultivation, although much currently lies fallow. There are no designated protected areas within the field area.

Ecological surveys carried out in the field area demonstrate that the area is an important site for viable populations of notable plant and animal species. This includes many species that have suffered massive population declines throughout their global range. Populations are concentrated in areas of semi-natural steppe habitat and along river corridors. These are relatively undisturbed areas of high priority if the ecology of the field area is to be maintained and enhanced.

Red List and rare species of fauna (as designated by the International Union for Conservation of Nature — the IUCN) recorded by ecological survey are as follows:

Common name	IUCN status	Republic of Kazakhstan status
Meadow Viper	EN	-
Saker Falcon	EN	I
Great Bustard	VU	I
Pallas's Fish Eagle	VU	I
Eastern Imperial Eagle	VU	III
Lesser Kestrel	VU	-
Steppe Pika	VU	-
Little Bustard	NT	II – Increasing
Beaver	NT	-
European Roller	NT	-
Pallid Harrier	NT	-
Red-footed Falcon	NT	-
Osprey	LC	I
Eurasian Eagle Owl	LC	II
Short-toed Snake-eagle	LC	II
White-tailed Eagle	LC	II – Rare and Decreasing
Golden Eagle	LC	III
Marbled Polecat	LR/lc	III
Steppe Eagle	LC	V – Decreasing
Demoiselle Crane	LC	V – Increasing

Key: IUCN Categories: EN = Endangered; VU = Vulnerable; NT = Near Threatened; LC = Least Concern; LR/lc = Lower Risk (least concern).



Photograph by Josh Smithson

**Biodiversity is a key measure of ecosystem health**



The restriction of land use within the Karachaganak field has greatly reduced the impact of disturbance caused by hunting and recreation. Anecdotal evidence from KPO employees and local residents suggests that populations of certain animal species have increased in the past 20 years. In addition to the fauna listed above, there are a large number of Red List and rare flora species within the KPO area.

KPO's goal is to protect and encourage those Red List species found within the field. We are currently producing a biodiversity action plan, and will report on progress in future Sustainability Reports.

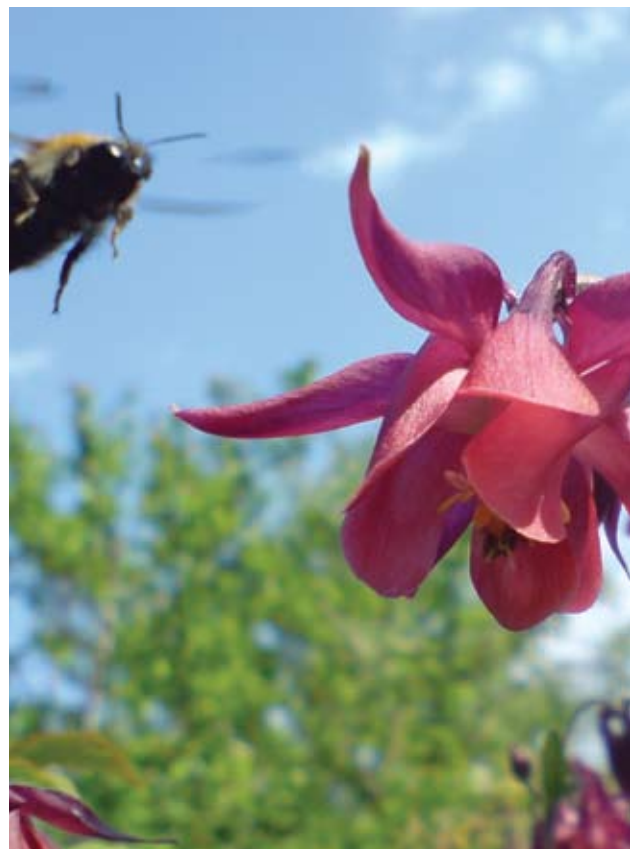
### WASTE DISPOSAL

In 2008, waste generated at KPO facilities increased by 31% to 63,150 tonnes. Eighteen percent of this waste was recycled. The majority of the increase in waste generation was due to increased cuttings caused by the drilling of new wells.

KPO works to minimise waste production and improve waste treatment. In December 2008, KPO started trials of a new thermo-mechanical cuttings cleaning facility. This facility will enhance our ability to safely and efficiently treat oil-based mud cuttings, allow the permanent burial of the cleaned rock cuttings, and enable the recovery and re-use of oil that would otherwise require alternative disposal methods.

### HYDROCARBON SPILLS

In 2008, only one significant hydrocarbon spill was detected within our area of influence. The spill did not appear to relate to any KPO facilities, and we believe it was caused by third parties. A KPO response team carried out remediation work, removing 40 cubic metres of contaminated soil.



**KPO is committed to preserving and enhancing the ecosystem**



## Investing in our people

Developing and operating the Karachaganak field requires thousands of dedicated and capable employees in a wide range of disciplines, from petroleum engineers and technicians to accountants and logistics specialists. Our people are the key to our success. For KPO to continue delivering, we must ensure we have the right people in the right roles, with skilled managers ensuring an effective and well-motivated workforce.

### TRAINING AND DEVELOPMENT

KPO offers many forms of development activity, including vocational in-role training, secondments to parent companies and opportunities for external training for new skills and qualifications. Since signing the FPSA, KPO has invested over US\$96 million in training and development initiatives and has trained the equivalent of 115,000 employees and graduates.

Training is designed to develop the knowledge and skill base of KPO staff. Gap analyses are regularly carried out to assess an individual's development needs and potential to assume additional responsibilities. Where gaps in knowledge or skill are identified, further training and development is proposed to help the individual achieve the required level of competence.

Annual performance and development reviews provide KPO staff with a formal opportunity to discuss their development options and work performance. These reviews:

- ◆ clarify KPO goals, and cascade them into individual, team and department goals;
- ◆ provide regular communications about business plans and progress in achieving objectives;
- ◆ review employee performance relative to departmental and individual goals, milestones and job requirements;
- ◆ create a shared understanding of what is required to enhance performance and how it is to be achieved; and
- ◆ encourage self-management of individual performance.

### EMPLOYEE SURVEY

Understanding the needs of our people and what drives them is essential to ensure we have an effective and motivated workforce. In 2009, we will carry out a survey of all direct employees and local agency staff, with the aim of:

- ◆ identifying key areas for improvement;
- ◆ learning from Kazakhstani nationals about how to better integrate the company management system with the Kazakh culture; and
- ◆ measuring awareness levels of current projects, in order to improve future communications.

We will communicate the findings of this survey in future Sustainability Reports.

### EMPLOYEE REPRESENTATION

KPO aims for every employee to understand exactly what is expected of them, and to be fully represented and fairly treated. We have a collective bargaining agreement in place with two trade unions (representing employees and contractors respectively), and involve trade union representatives in disciplinary and grievance procedures.

The collective bargaining agreement sets out company responsibilities for areas including labour conditions, social benefits, regulatory requirements and payroll, and places responsibility on union members themselves. This collective agreement won the prestigious best-in-class Paryz Award. It was the first such award presented by President Nazarbayev for social responsibility. KPO's collective agreement is now the standard template used nationally for preparing such agreements between trade unions and companies.

## KPO APPRENTICESHIPS

The KPO Apprenticeship Programme is the first of its kind in West Kazakhstan, demonstrating KPO's ongoing commitment to direct involvement in the Aksai community and the development of its local workforce.

KPO launched the programme in September 2007 with local students from Burlin Oil & Gas College and the Technical Lyceum no.15 located in Aksai. The Apprenticeship Programme aims to take Kazakhstani nationals, typically entering their final year of study in the College or Lyceum, and give them the opportunity to develop via a structured programme that provides both technical knowledge and exposure to real-life working challenges.

Our partnership with school officials and teachers has successfully developed a programme that combines the Lyceum/College curriculum, existing KPO Operator/Technician training programmes and on-the-job training. We are guiding the 32 students currently participating in the programme through a combination of study and training to a stage where they can be considered for operational positions within the Company.

### **Intercultural relations — valuing diversity**

Global corporations and multicultural societies face a similar circumstance: rapidly increasing cultural diversity. For corporations, workforce cultural diversity is a natural result of globalising operations. For societies, cultural diversity is an inevitable consequence of the migration of populations from lower to higher economic opportunity.

Corporations and societies face a similar challenge and opportunity: to turn cultural diversity into an asset. For corporations, the value of diversity in creative task performance and organisation problem-solving is well-known. For societies, cultural diversity is the basis of new ways of thinking and new social dynamism.

KPO works hard to maximise the benefits of having a diverse workforce. Our cultural diversity programme follows on from our sponsorship of the 'Cultural Diversity and Intercultural Communication' conference held in Astana. The programme is a long-term, multi-phase initiative with a series of integrated objectives. It seeks to:

- ◆ provide KPO management with the intercultural skills and tools to improve communication and increase the productivity of multicultural teams;
- ◆ improve the intercultural communication skills of all KPO employees; and
- ◆ share the benefits from harnessing diversity with the wider corporate sphere, and further into community programmes, education and social services.



**KPO has invested over US\$96 million  
in training and development initiatives**



# Our operation and highlights

## GRYPHON LAND REMEDIATION

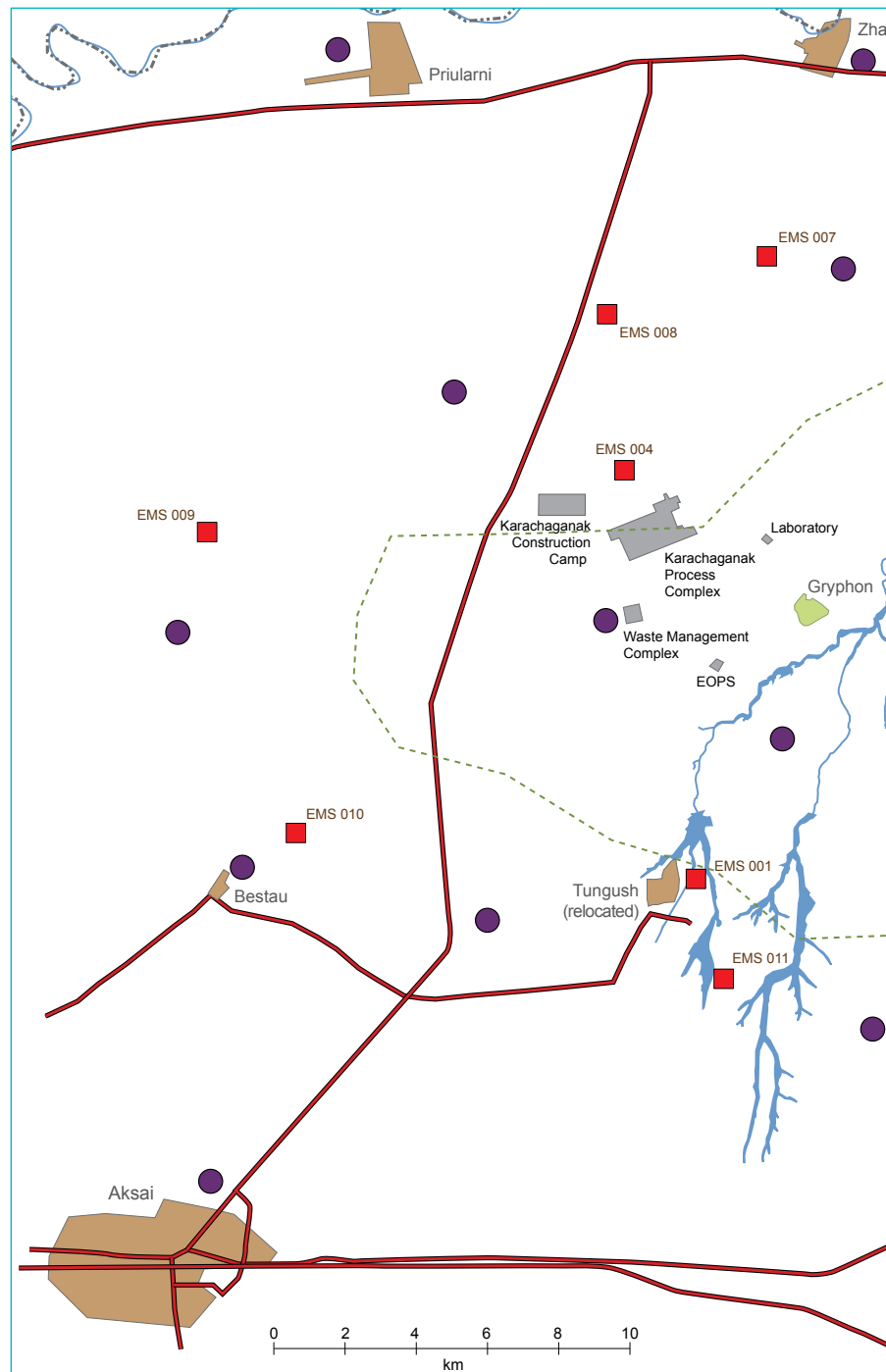
In 1987, when Karachaganak was under Soviet operation, a well blowout caused the formation of the Gryphon crater. A gas and mud discharge from extreme depths buried about 500 hectares of land underneath a layer of alluvia, reaching up to 100 cm in depth.

Starting in 1999, KPO has worked with scientists from Uralsk to restore the polluted areas to fertility. The ongoing soil reclamation and cultivation programme includes growing crops on sample areas. Soil monitoring results (for salts, oil and hydrogen sulphide) have continued to show soil improvement with oil content in particular continuing to reduce.

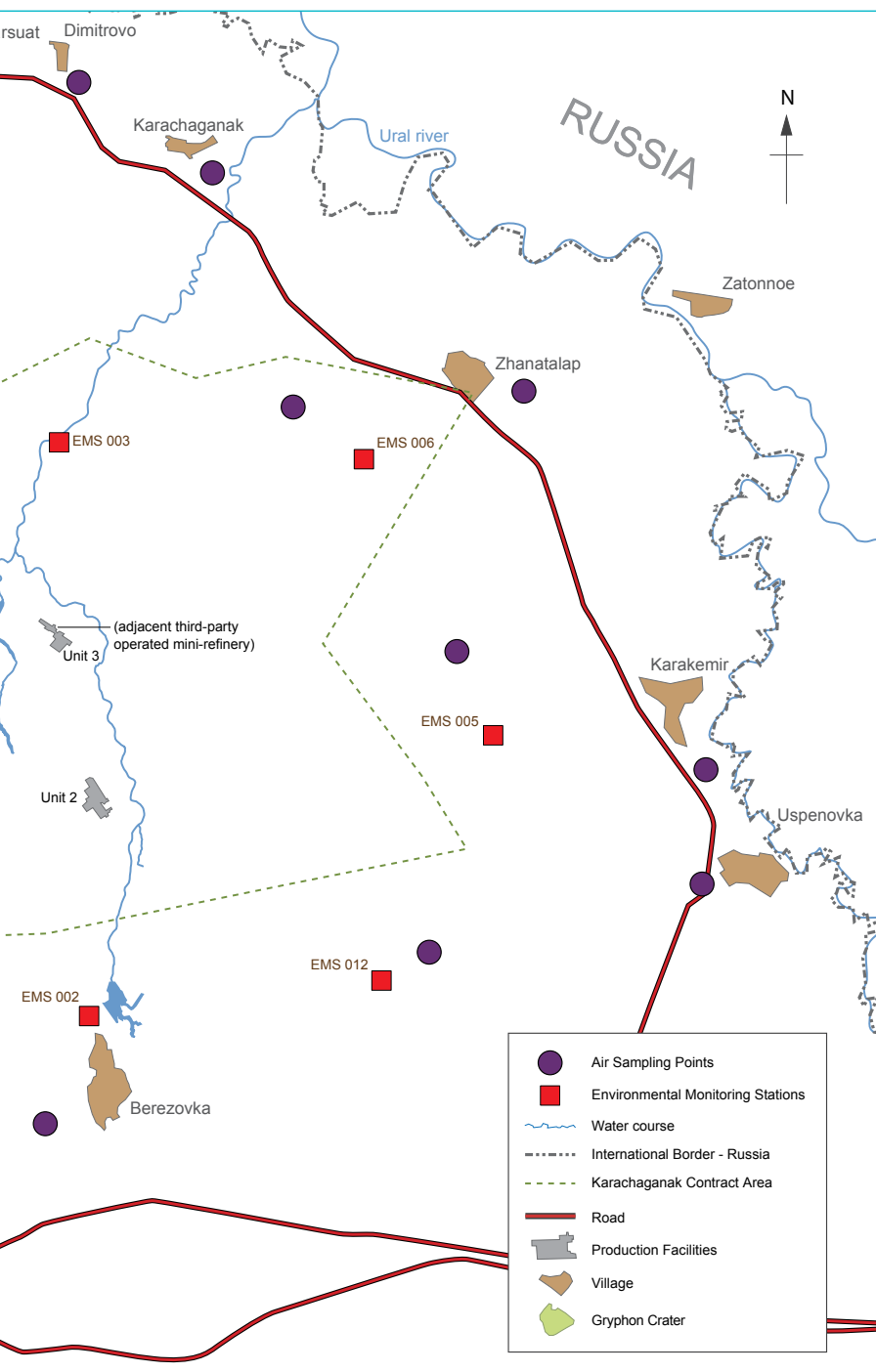
## AIR QUALITY TESTING

Environmental Monitoring Stations (EMS) surround the field, with an additional mobile monitoring station on call to respond to community concerns. In 2008, these stations took more than 55,000 air-quality monitoring samples. Since their construction in 2006 and 2007, the stations have not detected any exceedances of the monitored pollutants.

Further assurance is provided by daily sampling undertaken by Gidromet, an independent, state-licensed third-party company. KPO has also trained volunteers from local villages to assist with the sampling and testing process. Every month, air quality test reports are delivered to each of the nine villages closest to the field and displayed on village notice boards.







Please note this drawing is solely for illustrative purposes and is not shown to scale

## ENGAGING WITH COMMUNITIES

KPO's Social Performance policy underpins our approach to engaging with local communities, and is supported by standard operating procedures covering:

- ◆ stakeholder engagement (including grievance mechanisms);
- ◆ social investment;
- ◆ involuntary resettlement;
- ◆ social impact assessment and baseline; and
- ◆ cultural heritage.

## CREATING A LOCAL WORKFORCE

The KPO Apprenticeship Programme is the first of its kind in Kazakhstan and demonstrates KPO's ongoing commitment to direct involvement in the Aksai community and the development of our local workforce.

The programme gives local students from Burlin Oil & Gas College and the Technical Lyceum no.15, located in Aksai, the opportunity to develop via structured training that provides both technical knowledge and exposure to real-life working challenges.

Our partnership with school officials and teachers has successfully developed a programme that combines the Lyceum/College curriculum, existing KPO Operator/ Technician training programmes and on-the-job training. We are guiding 32 students through a combination of study and training to a stage where they can be considered for operational positions within the Company.



## Delivering with the Community

Long-term business success at Karachaganak is dependent on KPO receiving the support of local community stakeholders. We work to gain the support of local communities by avoiding or minimising the negative effects of our presence, maintaining effective communications and relationships, and supporting communities in pursuit of their socio-economic development goals.

Our approach is to match the international experience of the venture partners with local knowledge and competence. This ensures we are well-placed to achieve long-term community benefit by delivering the full potential of Karachaganak.

In 2008, KPO developed and issued its Social Performance Standards, aligned with the International Finance Corporation's (IFC) Performance Standards (see panel). In accordance with our new Standards, we commissioned a UK-based consultancy, Environmental Resources Management, to undertake a social baseline assessment. This assessment has provided the company with an objective and extensive set of socio-economic information on the area of operation, and will enable KPO to define, in cooperation with the local communities and authorities, a coherent strategy for social performance. The outcomes of the assessment will also contribute to the development of a comprehensive three-year social performance plan.

### KPO SOCIAL PERFORMANCE POLICY

KPO's Social Performance policy underpins its approach to dealing with local communities, and is supported by standard operating procedures covering:

- ◆ stakeholder engagement (including grievance mechanisms);
- ◆ social investment;
- ◆ involuntary resettlement;
- ◆ social impact assessment and baseline; and
- ◆ cultural heritage.

### ESTABLISHING A RELATIONSHIP BASED ON TRUST

Engagement with our community stakeholders is essential to initiating and sustaining constructive external relationships over time, as well as informing KPO risk and opportunity management processes.

Since 2005, KPO has developed dedicated forums for two-way communication with the villages surrounding the field. These bodies, known as Village Councils, see locally-trusted village residents, representatives from the local authorities and KPO experts meet regularly to discuss issues of common interest. This dialogue enables us to respond to issues as they emerge and to develop opportunities which benefit both KPO and our neighbouring communities.

The meetings include updates on current and planned KPO activities, and discussions on community issues or concerns connected with KPO activities.

In addition, whenever KPO plans a new project which may have an impact on local communities, public hearings are run to share information on the planned activities and potential impacts, and to discuss any concerns. These hearings are held in different phases of project development. For example, legitimate concerns raised by residents are included as early as the project design phase and appropriate mitigation measures are built in. In 2008, KPO hosted four public hearing on projects including the Uralsk Gas Pipeline and the initial phase of a seismic campaign.

### CASE STUDY: PUTTING ENERGIES TOGETHER

Nikolai Nyudilchiyev has always had a touch for art and enthusiastically embraced KPO's proposal for a programme bringing applied art and craftsmanship to school children of the rural villages, as a way to enrich their education and enhance national traditions.

The Mobile School of Art run by Nikolai has grown step by step, to the stage where it now involves all the schools in the neighbouring rural villages and has seen some of the pupils enrol in art schools at the national level.



### HANDLING COMPLAINTS

KPO has a formal policy in place for handling complaints. Every resident of the neighbouring villages has the right to raise a complaint, either verbally to a KPO Community Liaison Specialist or in writing using dedicated forms and boxes installed in all of the villages. The company will then investigate the complaint and make a proposal for settlement.

In addition, as IFC financing is provided to one of the KPO joint-venture partners (repaid in 2009), residents from communities directly adjacent to field operations have had access to the Compliance Advisor Ombudsman (CAO) Office. The CAO is an independent body that responds to complaints from project-affected communities, with the goal of enhancing social and environmental outcomes on the ground.

The IFC standards are considered to represent the most advanced practices in terms of project management, and go beyond legal requirements in most countries.

Three complaints have been filed to date by a US-based non-governmental organisation (NGO) and a Kazakhstan-based NGO. The complaints related to concerns over air and water quality and effects on the health of residents of Berezovka, one of the settlements around the Karachaganak Field, and to the size of the Sanitary Protection Zone (SPZ), the protection area defined by the Government around industrial facilities such as Karachaganak.

In 2008, two of these complaints were closed with an action plan agreed by KPO to fill the gaps relating to compliance with IFC procedures. The third is still not settled, due to the NGOs' unwillingness to agree with the CAO's recommendation. The recommendation was that all parties participate in a multi-stakeholder dialogue, facilitated by an independent, neutral party contracted through CAO, in an effort to reach common understanding of their perspectives, interests, and ideas for resolution.



**Community engagement is essential  
to informed decision making**



The incidents of non-compliance identified refer to procedures. No evidence was found that residents in the settlements have suffered health problems. Nor was it suggested that KPO has failed to operate in full compliance with Republic of Kazakhstan emissions legislation. Systems and practices used by KPO to measure emissions and avoid any negative effects on community health are described in the section of this report on environmental performance.

All documents related to CAO interaction with KPO can be found on the CAO website: [www.cao-ombudsman.org/cases](http://www.cao-ombudsman.org/cases)

### SANITARY PROTECTION ZONE

The area around the Karachaganak field is a government-designated Sanitary Protection Zone (SPZ) — a standard designation under national legislation for large industrial facilities. Certain activities, including residential development and farming, are restricted within an SPZ.

Some members of the Berezovka community have requested that the village be resettled, as it is located close to, but not within, the SPZ.

The dimensions and positioning of the SPZ are as set out in national law and as such are solely the responsibility of the public authorities of Kazakhstan.

KPO's duty is to comply with public authorities' resolutions on all SPZ related issues.

### SUPPORTING SOCIAL DEVELOPMENT

KPO recognises their wider responsibility to the community, in terms of supporting the socio-economic development of the region, upgrading social infrastructure and helping to create sustainable livelihoods. Reflecting our commitment to these goals, we undertake a number of social initiatives, in close cooperation with the authorities and communities.

#### Oblast-level

Under the terms of the FPSA, KPO provides some US\$10 million per annum to the development of social infrastructure projects. These projects mostly take place in the regional capital, Uralsk, and include the construction of schools, nurseries and hospitals as well as cultural and sporting facilities. The 2008 work programme included the construction of two kindergartens and an accommodation block of 46 apartments, plus the purchase of over 50 apartments for local residents requiring new housing facilities.



**KPO pays for social projects to the value of US\$10m per year**



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In addition, KPO is constructing the Uralsk Gas Pipeline, which will supply natural gas to Uralsk and about 150 rural settlements situated on the left bank of the Ural River on the route between Karachaganak Field and Uralsk City. The 150 kilometre pipeline project, which is scheduled to be completed in December 2009, was commissioned by the Karachaganak Partners, the Republic of Kazakhstan and the West Kazakhstan Oblast in May 2005. A Memorandum of Intent was subsequently signed in the presence of Nursultan Nazarbayev, the President of Kazakhstan.

As well as providing energy to rural communities, the supply of cleaner fuel to the region will encourage industrial growth and expand the Oblast's economic potential.

To date, the total amount of investment in local infrastructure development has exceeded US\$350 million.

#### **District level**

Much of KPO's administrative activity takes place in Aksai, a town approximately 30 kilometres from the field. KPO carries out a number of social initiatives in the Aksai region, designed to provide value both to local community stakeholders and to KPO.

Programmes include the provision of English and Italian language classes, training delivered through the local technical schools in the skills required to work on the Karachaganak field, and business training delivered to local entrepreneurs. Moreover, in 2008, US\$10 million was committed by Venture partners and the Republic of Kazakhstan to the development of Aksai specifically. Initiatives identified included the construction of a secondary school, refurbishment of roads and a kindergarten and the purchase of medical equipment for the local hospital.

#### **Fenceline communities**

To help support the eight rural villages around the field to develop their potential, KPO works with the Village Councils to identify and fund appropriate socio-economic initiatives.

These initiatives are concentrated on the issues of education and health. Projects carried out in 2008 included the provision of furniture and equipment for local clinics, the supply of water boilers for schools, and the donation of a school bus to enable children from scattered settlements to gain access to higher education.

Summer camps are offered yearly to children from the villages, and health treatment is provided for elderly people and teachers.

In addition, residents in the rural villages around Karachaganak have access to a microcredit scheme aimed at encouraging and supporting local entrepreneurs. During 2008, around 90 residents accessed soft loans through this scheme.

#### **SPONSORSHIP**

A dedicated fund administered by an internal KPO Committee enables KPO to support vulnerable groups and the activity of public associations in the entire West Kazakhstan Oblast. Initiatives funded include support for sport, culture, education, environmental protection, health, and youth development. In 2008 we supported 42 different organisations.





## Economic Development

Maximising the value to Kazakhstan of the Karachaganak field means more than generating revenues and taxes through oil and gas production. It means forming long-term, durable partnerships for economic development.

KPO's commitment to skills development, job creation and providing opportunities for Kazakhstanian businesses drives economic growth locally, regionally and nationally. Lasting economic growth comes from a stable operating environment — KPO's long-term commitment leads to the benefits from our projects being durable over time.

KPO believes that building a sustainable economic platform for business is essential for outstanding performance in the long term. Developing the local economy underpins KPO's long-term performance, contributing to enhanced long-term growth through improved logistics, secure high-quality local goods and services, and a well-trained, world-class local workforce.

### BENEFITTING KAZAKHSTANI BUSINESSES

KPO aims to nurture local businesses with international potential. This is a complex process — selecting the right local partners is crucial. Our economic contribution will be maximised by placing orders with firms that can use the resulting increase in capacity and experience to expand nationally and internationally, winning orders from across the Caspian region and potentially further afield.

Karachaganak's vendor development initiative, in place since 2001, has resulted in the registration of over 2,500 Kazakhstanian vendors. Since 1997, over US\$2.5 billion worth of orders has been placed for goods, labour and services of Kazakhstanian origin.

In 2008, KPO awarded contracts worth US\$537 million to Kazakhstanian businesses, representing 56% of the total contract value for the year. KPO also works to improve the competitiveness of local firms, enabling them to win contracts at Karachaganak and elsewhere.

During the year, eight local companies were funded to implement and gain certification in a range of internationally-recognised ISO and OHSAS management standards. Additionally, KPO supported 36 small and medium sized enterprises with a dedicated training programme designed to improve their business performance.

Project management and strategic marketing is a vital area for small businesses. In 2008, KPO arranged business training in these areas, compliant with international standards, for the key staff of local companies.

Successfully tendering for business with KPO depends on meeting stringent standards. In October, KPO and Tengizchevroil jointly hosted a two-day forum to enhance shared working practices between Kazakhstanian and international businesses. The forum supported around 100 representatives of the national machine building industry, international engineering companies and oil and gas equipment manufacturers in meeting operator requirements and procedures.



**KPO aims to nurture local businesses with international potential**

## INVESTING IN LOCAL PEOPLE

Workforce nationalisation is a crucial building block in the creation of KPO's economic legacy, maximising the number of local employment opportunities and investing in the workforce of Kazakhstan. We have met the targets set by the Republic of Kazakhstan and are already setting new benchmarks that will see Kazakhstani managers steering the future course of Karachaganak.

Our detailed Nationalisation Programme, developed in cooperation with the Republic of Kazakhstan, is currently being updated as a result of the successful completion of the previous ten-year plan. The programme aims to build capability across our workforce, so that existing expatriate positions can be assumed by competent and professional national staff. In 2008, we delivered over 200,000 hours of training to local staff.

2008 also saw the nationalisation of 27 additional senior positions within KPO. At the end of 2008, local employees filled all of the Venture's skilled and clerical positions and 85% of professional and supervisory positions. At managerial level, 44% of positions are filled by local employees. We hope to increase these levels as the new Nationalisation Plan is rolled out across the business.

These achievements have been made possible through KPO's strategy of:

- ◆ recruiting qualified graduates from leading Kazakhstan-based universities and institutions;
- ◆ providing tailor-made training programmes to assist graduates in gaining employment; and
- ◆ supporting continued on-the-job development through mentoring, individual development planning and certified professional training.

## OVERALL ECONOMIC IMPACT

In 2008, two independent institutes (Oxford Economics, based in the UK, and the Institute for Economic Strategies, based in Kazakhstan) were commissioned to produce a detailed study of the effects on the Kazakhstan economy of operations at Karachaganak.

The study was conducted at local, regional and national levels. It took into account four key factors:

- ◆ direct economic effects, for example the recruitment of local employees and contractors;
- ◆ indirect economic effects, for example local suppliers whose customer base extends beyond KPO, but whose activities are strengthened by the revenues obtained from it;
- ◆ induced effects, for example business directly supported by the spending of people directly or indirectly employed by KPO; and
- ◆ catalytic/spillover effects, for example improved performance in businesses related to KPO.

This analysis found that the combined direct, indirect and induced contribution to the Kazakhstan economy totalled US\$4.2 billion in 2007, amounting to 4% of Gross Domestic Product (GDP) and underpinning 137,000 jobs.

KPO has subsequently developed a strategy to enhance the community benefits arising from its operations. Areas of focus include: enhanced local and national sourcing of goods and services; increased employment and training of employees recruited in Kazakhstan; and further local infrastructure development for the benefit of the local community.





# Safety and security

At KPO, safety is at the core of everything we do. Developing and operating a field of the technical complexity of Karachaganak requires every employee and contractor to consider safety at all times. Every oil and gas operation carries inherent safety risk: at Karachaganak this challenge is increased by extreme temperature fluctuations, high hydrogen sulphide product and high-pressure injection.

## MANAGEMENT APPROACH

In 2008, KPO developed a five-year Strategic HSE Plan which provides a framework for management of our key HSE risks and activities. Within this framework, KPO has set itself long-term objectives which seek to deliver further noticeable improvements in our HSE performance.

Aligned with this HSE Plan are a series of Key Performance Indicators (KPIs) requiring every KPO senior manager to participate in HSE site visits. The visit schedule is published on our intranet and provides a high degree of visibility to all employees that senior management are actively involved and understand the importance of HSE and promote communication at all levels.

KPO has worked hard to develop a single safety culture within our diverse workforce. This aim is tied to our cultural diversity programme (see page 13). Developing an integrated safety culture has involved contributions including a Behavioural Based Safety (BBS) programme, the introduction of KPO's Golden Rules (see panel) and the Lifesavers campaign. Collectively, these measures have led to our belief that we now have a very strong safety culture within KPO, evidenced by our safety performance over the past three years.

## KPO GOLDEN RULES

The Golden Rules form a key part of our approach to managing safety. They apply to all our staff at all times, and represent our minimum safety expectations.

### ALWAYS

- ◆ Assess the risks when you plan a job
- ◆ Wear appropriate Personal Protective Equipment
- ◆ Intervene whenever you see unsafe acts or situations
- ◆ Observe all safety signs, barriers and alarms
- ◆ Report all incidents immediately
- ◆ Correctly fasten and wear your seat belt
- ◆ Obey KPO and legal speed limits

### NEVER

- ◆ Work or drive under the influence of drugs or alcohol
- ◆ Smoke except in designated areas
- ◆ Wilfully pollute the environment
- ◆ Defeat or tamper with safety related systems
- ◆ Misuse equipment provided for your safety
- ◆ Answer or use a mobile phone whilst driving



KPO manages occupational health and safety (OH&S) within our Integrated HSE Management System. This Management System is designed to safeguard our workforce, control risks and improve performance. In 2008, we started work towards achieving OHSAS 18001 certification for our OH&S management system — mirroring the certification of our environmental management system which has already been certified to ISO14001.

Our computer-based Health and Safety management and reporting system, Synergi, records and manages incident data including root cause analysis. In 2005, use of Synergi was expanded to departments other than HSE and upgraded to manage data arising from audits, inspections, meetings and behaviour-based safety.

We believe that everyone should have a safe working environment. KPO's many contractors, responsible for roles including drilling, maintenance, repair and construction, are required to meet our corporate safety standards. Prior to starting work in the field, all contractors must have a working HSE management system. KPO audits contractors against our HSE management system and helps them to improve.

A rapid and effective response to potential emergencies is another critical part of KPO's safety management approach. In 2008, we opened a new Incident Management Centre, further enhancing our emergency response programme.

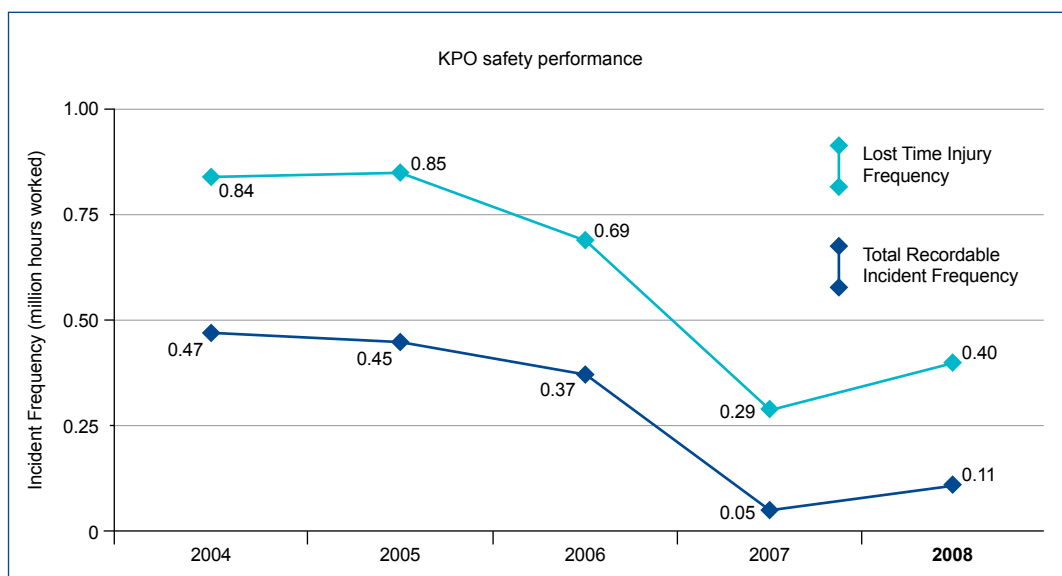
## PERFORMANCE IN 2008

*In 2008, KPO set an organisational record of 23 million man-hours worked without an LTI.*

Lost Time Injury Frequency (LTIF) measures the number of injuries per million hours worked that result in an individual being unfit to work for more than one working day. Measured by LTIF, KPO's safety performance for 2008 was 0.11, compared with the International Association of Oil and Gas Producers (OGP) industry benchmark figure of 0.55. KPO's last LTI in 2008 was in March — more than 23 million man-hours were worked between March and the year end without an LTI.

Total Recordable Incident Frequency (TRIF) measures recordable injuries per million hours worked. TRIF incorporates a wider range of safety incidents than LTIF. KPO's TRIF for 2008 stands at 0.40, compared with the OGP benchmark figure of 2.06.

As the chart below shows, KPO's safety statistics deteriorated slightly from 2007 to 2008 following several years of steady improvement. Behind each statistic is an individual; an individual who had the right to work without injury. We therefore take these statistics — and the performance they represent — extremely seriously.





The increase in LTIF in 2008 related to three individual lost time incidents that occurred in the first quarter of the year. Thorough investigation demonstrated that these incidents had no specific common theme. Reflecting the seriousness with which we take these incidents, the General Director held an extraordinary leadership meeting to provide information on the factors behind the incidents and to emphasise the importance of safety intervention. As part of our effort to raise safety awareness further, we introduced a specific HSE Logo and slogan, 'HSE — It's not just what you say, it's what you do', a strong message that we use to raise the profile of safety on a daily basis. KPO did not suffer another lost time incident, in 2008, after 21 March.

KPO's exceptional safety performance was recognised in October 2008 with the award of the internationally-recognised DuPont Safety Award for Performance Improvement.

#### **WORLD-CLASS SAFETY PERFORMANCE**

In October 2008, and ahead of schedule, Karachaganak completed the world's largest single total shutdown without injury and without any adverse environmental impacts. To put this achievement in context, this programme took 33 days to complete, requiring the support of an additional 2,000 workers and involving every major piece of equipment within the Karachaganak Processing Complex, Unit 2 and Unit 3. We also carried out work on infield and gathering pipelines, as well as sections of export lines, inspected 165 of the 800 vessels and undertook maintenance on 266 pressure safety valves — all without a single injury or environmental incident.

#### **ROAD SAFETY**

KPO is in a remote location spread over a large area and our people travel great distances, which inevitably increases travel risks.

According to a Republic of Kazakhstan (RoK) Ministry of Internal Affairs report, in 2008 3,351 fatalities, 16,400 injuries and 13,739 Road Traffic Incidents (RTIs) were recorded in Kazakhstan. In the past ten years, 28,000 people, including 2,500 children, died on the Republic's roads, and 162,000 more were injured. These figures represent one of the world's highest road traffic accident rates — for every 100,000 citizens, 28 people die in RTIs per year. For comparison, the rate in Europe is 6–12 people per 100,000. Additionally, the road infrastructure within Kazakhstan suffers from low capital investment, as the country's size, relatively small population, and wide temperature range leads to inevitable damage to road surfaces.

For these reasons, driving and transport safety are as central to KPO's business as mitigation of the operational and construction risks within our highly complex plant and equipment. All receive intensive and continuing attention at the highest level within the company.

KPO employees and contractors drove in excess of 90 million miles in 2008, making road safety an area of critical concern. We have recently introduced a series of driver safety initiatives, including fitting vehicles with VDO monitoring systems that record speed, acceleration and braking. We believe these initiatives have led to a reduction in road traffic incident frequency from 0.2 in 2006 to 0.06 in 2008.

Road safety is also a serious concern for the local community. Since 2007, KPO has worked with schools to increase road safety awareness by providing training and educational materials with a road safety message. The improved awareness demonstrated by children on our visits to schools has led us to a decision to provide this training more widely in 2009.

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## PARTNERING WITH THE GOVERNMENT

KPO is committed to safety best practice, and consults with the Ministry for Emergency Situations, the State Control Committee for Emergency Situations and Industrial safety, and the WKO Emergency Situations Department to help further improve safety in industrial facilities across Kazakhstan. In November, KPO hosted Kazakhstan's first Asset Integrity and Industrial Safety conference, in Aksai. This conference brought together various operators from across the Republic to learn from government representatives and to discuss the safety challenges facing the oil and gas sector and ultimately led to the formation of the Kazakhstan Oil & Gas Operators Association (KOGOA).

### SUMMARY

Working safely and with respect for the environment and our host communities requires strong leadership and unrelenting commitment from us all. We believe KPO's leadership and commitment have transformed KPO's safety culture, an accomplishment reflected in our exceptional safety performance and emphasised in our safety vision:

*"Operational excellence with a focus on safety and the environment that expands beyond KPO employees. Contractors, service suppliers and everyone involved with the operations in Karachaganak are held to the same standards of safety and environmental performance. The ultimate goal of KPO is to create a workplace where employees and contractors are injury free."*

**Roger Fox, General Director**

### SECURITY

A safe and secure working environment is fundamental to KPO's business success. KPO's workforce is comprised of almost 50 nationalities. Many staff are based or regularly travel outside their home countries, exposing them to unfamiliar customs and differing levels of security threat.

All new employees are required to attend a security briefing, which includes expected behaviour, local cultural norms, and specific local risks. The briefing is borne out of the recognition that everyone has a part to play in ensuring the security of KPO's people and assets. We also have policies and procedures in place designed to protect our personnel, physical assets, information and reputation.

In addition, KPO recently introduced the Master Security Plan (MSP). This integrated management tool defines Company policy and principles, at corporate level as well as at operational facility level, and includes standards, policies and procedures designed to protect our personnel, physical assets, information and reputation. Security management is implemented at facility level with advice from the Security Department. The MSP:

- ◆ provides information on the management of security risks and issues within KPO;
- ◆ defines the security system that has been adopted; and
- ◆ explicitly states KPO's security principles and expectations and outlines what is required to meet those expectations.

### Illegal pipeline taps

Illegal pipeline taps pose a serious risk to health and the environment. The number of illegal pipeline taps has fallen from six in 2007 to just one in 2008 — since the spring of 2008 there have been no more illegal taps on the KATS pipeline. We believe the introduction of KPO Pipeline Supervisors and an increase in focus by the Security Provider contributed to this improved record. However, there is no room for complacency. KPO's planned introduction of leading-edge fibre optic based technology aims to further assist in the early detection of any future attempts at illegal taps.





# Data table

In order to ensure the relevance of the data provided in this performance table, and to conform to international best practice, we have used indicators from the Global Reporting Initiative indicator set. Air emissions data have been derived using the internationally recognised American Petroleum Institutes (API) methodology. For context explanation of the numbers below, please refer to relevant chapters.

## ENVIRONMENTAL DATA

GRI  
indicator  
addressed  
EN3

### Energy use

	Gas	Electricity	2008 total	2007 total	2006 total
Direct energy consumption by primary energy source (Megawatt hours)	859,568	4,773	<b>864,341</b>	818,484	744,996

### Emissions to air

EN16, EN20	Emissions to air (tonnes)	2008 Emission sources			2008 total	2007 total	2006 total	2008 normalised rate <sup>1</sup>	2007 normalised rate	2006 normalised rate
		Flaring	Fuel use	Other						
	Carbon dioxide	44,250	1,313,855	81,803	<b>1,439,908</b>	1,132,961	1,436,172	<b>10,557</b>	8,476	11,733
	Carbon monoxide	122	1,247	301	<b>1,670</b>	1,540	1,481	<b>12</b>	12	12
	Nitrogen oxides	24	2,730	685	<b>3,439</b>	3,001	2,685	<b>25</b>	22	22
	Sulphur dioxide	1,673	32	2,138	<b>3,843</b>	4,628	8,931	<b>28</b>	35	73
	Methane	196	251	27,284	<b>27,730</b>	27,185	24,066	<b>203</b>	203	197
	Volatile organic compounds	104	18	97	<b>219</b>	340	312	<b>2</b>	3	3
	Total greenhouse gases (tonnes of carbon dioxide equivalent)	48,356	1,319,115	654,765	<b>2,022,236</b>	2,012,248	1,941,565	<b>14,826</b>	15,054	15,862

### Waste

EN22	Type (tonnes)	2008 Disposal method				Generated in 2008	Generated in 2007	Generated in 2006
		Recycled	Landfill	Third party contractor	Stored on site			
	Solid	—	9,373	1,483	13,772	24,627	23,874	12,504
	Liquid (not including wastewater)	11,432	—	139	26,952	38,523	24,287	18,118
	<b>Total</b>	<b>11,432</b>	<b>9,373</b>	<b>1,621</b>	<b>40,723</b>	<b>63,150</b>	<b>48,161</b>	<b>30,622</b>

### Water use

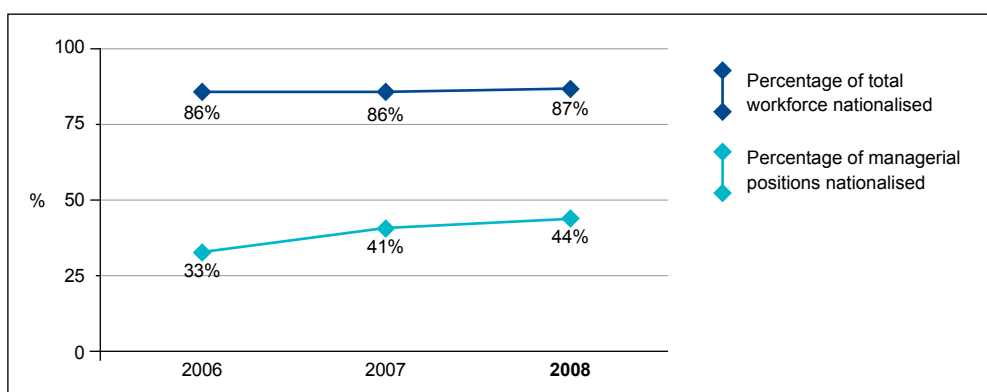
Water use		2008 Water supply sources				2008 total	2007 total	2006 total	
EN8		Kigach water intake (Atyrau)	Konchubai gully water intake	Serebryakovsky water intake (Bolshoi Chagan)	Zharsuat intake				
	m³								
	Total water use by source								
	Technical water	2,715	401,641	—	—	404,356	435,231	512,336	
	Potable water	—	—	1,502	178,717	180,219	129,047	120,182	
EN10				2008		2007		2006	
				m³	%	m³	%	m³	%
	Volume of potable water recycled			44,460	25%	63,891	50%	40,460	34%
EN21	Destination		Treated wastewater to field holding ponds	Treated wastewater to Atyrau holding ponds	Storm run-off to adjacent steppe	2008 total	2007 total	2006 total	
	Total water discharged								
	By destination	m³	103,175	1,006	17,470	121,651	115,670	78,638	

<sup>1</sup> tonnes per million barrels of oil equivalent



## WORKFORCE DATA

		2008	2007	2006
GRI indicator	Total number of employees	<b>4,378</b>	3,977	3,661
addressed	Of which Kazakhstani nationals	<b>3,571</b>	3,268	3,111
LA1, EC7,	Percentage of total workforce nationalised	<b>87%</b>	86%	86%
LA4,	Percentage of managerial positions nationalised	<b>44%</b>	41%	33%
LA10	Gender split in workforce (men/women)	<b>3,224/1,154</b>	3,004/973	2,764/897
	Percentage of workforce covered by collective bargaining agreements (estimated)	<b>27%</b>	27%	23%
	Average hours of training per year per employee	<b>103</b>	99	110
	Training expenditure per year per (direct) employee (US\$)	<b>4,500</b>	4,900	4,900



## SAFETY DATA

		2008	2007	2006
LA7	Lost time injury frequency per million hours worked (LTIF)	<b>0.11</b>	0.05	0.37
	Total recordable case frequency per million hours worked (TRCF)	<b>0.4</b>	0.29	0.69
	Total fatalities	<b>0</b>	1	1

## SOCIO-ECONOMIC DATA

		2008	2007	2006
EC6	Value of orders for goods and services placed with Kazakhstani firms (US\$ million)	<b>537</b>	456	244
	As a percentage of total purchases	<b>57%</b>	54%	57%
	Social infrastructure investment (US\$ million)	<b>8</b>	10	14
	Social infrastructure — Uralsk Gas Pipeline (US\$ million)	<b>89</b>	-	-
	Community Development projects (US\$ million)	<b>0.6</b>	0.7	0.5
	Philanthropy (US\$ million)	<b>1.3</b>	0.7	0.5

GRI performance indicators included elsewhere in this report

	Indicator	Page reference
EN11 - EN15	Biodiversity	10
EN18, EN23	Emissions, effluents and waste	9, 11
EN28	Compliance	7
EC1	Economic performance	21
EC6, EC7, EC9	Market presence	20,21



# Targets

## PERFORMANCE TARGETS

KPO's strategic planning requires many objectives and targets to be set and achieved. This first Sustainability Report lays out Sustainability objectives, set out by individual theme, below. Future reports will detail how we have performed against them and set further objectives for the future.

### ENVIRONMENT

- ◆ Reduce emissions of greenhouse gases year-on-year against a normalised baseline.
- ◆ Minimise water use and waste water generation, prevent pollution from waste water, and maximise water reuse.
- ◆ Improve waste management in line with the waste hierarchy.
- ◆ Maintain and enhance the biodiversity value of the Karachaganak field.
- ◆ Maintain third party certification of our ISO 14001 compliant Environmental Management System.

### COMMUNITY

- ◆ Maintain and enhance community engagement.
- ◆ Develop and implement a social investment strategy and social performance plan.

## ECONOMIC DEVELOPMENT

- ◆ Continue to meet the Republic's targets for employee localisation.
- ◆ Develop KPO's capability for improving the competitiveness of local companies, to create a stable economic platform for long-term commercial operations.
- ◆ Increase KPO's purchase of goods, works and services of Kazakhstani origin for operational needs.
- ◆ Contribute to continued stable social-economic development.

## INVESTING IN OUR PEOPLE

- ◆ Implement competency assurance and assessment programmes through all KPO departments.
- ◆ Continue to train and develop national staff to enhance nationalisation of expatriate staff.
- ◆ Continue to maintain KPO as the employer of choice in West Kazakhstan.

## HEALTH AND SAFETY

- ◆ Achieve OHSAS 18001 compliance for our Occupational Health and Safety Management System.
- ◆ Review and upgrade the hazard identification, management and reporting process.
- ◆ Improve the efficiency and application of our behaviour-based safety system.
- ◆ Develop and enhance our medical and emergency response capabilities.



# Verification Statement



## Independent Assurance Report

**To the Management of Karachaganak Petroleum Operating b.v. ("KPO").**

We have performed assurance procedures to provide independent assurance on the following aspects of the 2008 Sustainability reporting of KPO.

### Subject matter

Data and figures disclosed in the Sustainability Report of KPO and its consolidated subsidiaries, for the financial year ended December 31, 2008 on the following aspects:

- ◆ The 2008 environmental, workforce, safety and socio-economic performance indicators and data contained in the data table on pages 26 & 27 of this report;
- ◆ The management and reporting processes with respect to the performance indicators and data contained in the Data Table on pages 26 & 27 (internal and external reporting); and
- ◆ The 2008 Sustainability Report for the purposes of determining the Global Reporting Initiative, version G3 (GRI G3), Application Level.

Our assurance procedures are limited to the 2008 data only.

### Criteria

- ◆ The defined procedures, by which the Subject Matter Data are gathered, processed and aggregated internally by KPO; and
- ◆ The Global Reporting Initiative Sustainability Reporting Guidelines, version G3.

### Responsibility and Methodology

The accuracy and completeness of Sustainability performance indicators are subject to inherent limitations given their nature and methods for determining, calculating and estimating such data. Our assurance report should therefore be read in connection with KPO's internal guidelines, definitions and procedures on the reporting of its Sustainability performance and the GRI G3 definitions of the application levels.

The Management of KPO is responsible for both the subject matter and the application of the criteria.

Our responsibility is to provide a conclusion on the subject matter based on our evidence-gathering procedures in accordance with the International Standard on Assurance Engagements (ISAE) 3000 "Assurance Engagements other than Audits or Reviews of Historical Financial Information", approved December 2003 by the International Auditing and Assurance Standards Board (IAASB).

### Main Assurance Procedures

Our assurance procedures included the following work:

- ◆ Visiting the Karachaganak field and KPO head office in Aksai, Kazakhstan;
- ◆ Interviews with selected key KPO personnel responsible for internal reporting and information and data collection on the Sustainability topics disclosed in the KPO Sustainability Report;
- ◆ Performing tests on a sample basis of evidence supporting the Sustainability performance indicators and data in the Data Table in the KPO Sustainability Report (pages 26 & 27), relative to completeness, accuracy, adequacy and consistency;
- ◆ Reviewing the appropriateness of the management and reporting processes for Sustainability reporting; and
- ◆ Reviewing the content of the 2008 KPO Sustainability Report against the GRI G3 application levels criteria.

### Conclusions

- ◆ Based on our work described in this report, nothing has come to our attention that causes us to believe that the performance indicators and data mentioned in the subject matter and disclosed in the KPO Sustainability report (Data Table, pages 26 & 27) does not give a fair picture of KPO's performance in the area of Sustainability.
- ◆ Nothing has come to our attention that causes us to believe that the management and reporting processes as defined under subject matter above are not functioning as designed, in all material respects.
- ◆ The 2008 KPO Sustainability Report has achieved an application level of C+.

*PricewaterhouseCoopers LLP*

Almaty, Kazakhstan  
29 September 2009



## FEEDBACK

We have shared our views — now tell us yours.

For more information contact:

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