Safety, Environment, Quality and Energy Conservation
In 2014, the company continued to emphasize safe, environmentally friendly and resource-saving development and further improved its HSE system focused on risk assessment and control. By taking measures such as strengthening hidden risk control, and further promoting pollution and emission reduction activities, we achieved continuous improvements in key environmental indicators and maintained sound HSE performance.

With a strong commitment to our vision for the environment, safety, quality and people, we gave high priority to HSE management and security in our overseas operations. Over the past year, we managed to mitigate various risks and maintained an excellent track record in security and HSE, with zero reporting of major incidents.

Operational Safety

In 2014, to emphasize safety management responsibility, we compiled and implemented a series of new regulations, including Risk Control Measures for Operational Safety, Guidance on HSE Responsibilities at CNPC Headquarters, and Implementation Rules for HSE Performance Reviews. In accordance with the recently enacted Production Safety Law of the People’s Republic of China, we launched a company-wide compliance check-up and took corrective actions against offenses and violations which were identified.

In a bid to improve HSE-related risk prevention and control, we continued to improve our risk control mechanisms and safety monitoring and inspection procedures. In particular, safety hazard control measures were adopted at production sites, special examination for onshore operational safety were launched, on-site safety inspections were conducted, and the supervision of contractors’ HSE performance was reinforced. Meanwhile, we reviewed and addressed safety issues in relation to oil and gas pipelines. A pipeline safety supervision platform was developed to enable the uploading and tracking of pipeline information, hazard data, corrective measures and follow-up actions. In addition, case study video workshops were held to analyze and learn from accidents and prevent any repetition.

Environmental Protection

Environmental protection is a common concern around the world and environmental issues are attracting increasing public attention. As an energy company, CNPC is always committed to promoting environmentally friendly development and clean operations in order to reduce emissions and minimize the environmental footprint of our operations.

In 2014, we continued to push ahead with emission reduction projects. 10 FCC flue-gas desulfurization projects and three refinery wastewater treatment projects became operational. We further strengthened supervision of our affiliates’ emission reduction activities and improved the network for the online monitoring of pollution sources, covering a further 79 wastewater monitoring stations and 185 flue gas monitoring stations, with online measuring devices being equipped, which enabled real-time information to be shared.

Occupational Health

CNPC adopts and implements an integrated, prevention-oriented approach to ensure the occupational health of our employees in accordance with the Law of the People’s Republic of China on Prevention and Control of Occupational Diseases. We continue to strengthen our capacity to safeguard employees’ occupational health through a range of schemes and training workshops on hazard prevention and control as well as health management. In 2014, more than 97% of our employees received occupational health checks, and 97% of the specific workplaces received occupational disease hazards detection.
To improve the supervision of our occupational health program, we strictly implemented the management system and standardized procedures for occupational health archiving and clearly specified the types of information to be filed and the management requirements for the archives. A range of training courses and workshops on occupational health issues have been held to help build up the expertise and skills of related staff at the company’s affiliates.

With regard to employee health at our overseas projects, we issued the Guide to Occupational Health Management for Overseas Employees. A completed employee healthcare network has been established in most of the host countries where we operate. In 2014, we further reinforced health security competence in disease prevention, dietetic hygiene, and mental health counseling etc, giving consideration to specific geological locations, climate environments, and the medical conditions of our overseas projects. By taking a range of preventive measures, we eliminated deaths due to clusters of illness and epidemic diseases, and achieve a zero occupational disease rate among overseas employees. During the Ebola outbreak, we invited Chinese disease control experts to provide our employees in African countries, including Sudan, South Sudan, Niger, Chad and Mozambique, with necessary prevention knowledge and measures to counter this highly contagious disease. In addition, the online platform of the employee assistance program (EAP) was launched in September 2014, to provide mental health counseling for overseas employees in an online interactive manner.

Environmental supervision at pipeline construction site

1.26
Energy saved (mmt of standard coal)

24.62
Water saved (million cubic meters)

Energy Efficiency

We make constant efforts to enhance energy efficiency through the promotion of major energy conservation projects, reinforcing comprehensive energy-saving activities and intensifying monitoring measures, in a bid to build a resource-efficient company.

In 2014, 43 energy conversation projects were carried out, covering oilfield pumping systems, surface systems, heating furnaces, refining waste heat boilers and steam systems. 10 projects were completed, including the upgrading of thermal injection systems at Liaohe Oilfield, reducing energy consumption by 74,000 tons of standard coal. Energy system optimization techniques started to deliver results. Three optimization programs were conducted, including the 2.6Mt/a RFCC CO-firing boiler upgrading project at Ningxia Petrochemical, with estimated annual energy savings up to 38,000 tons of standard coal.

We have established and implemented an online energy/water conservation information system to facilitate comprehensive management. With regard to energy conservation standardization, we have worked out or amended nine industrial standards and four corporate standards, such as Energy Conservation Technical Specifications for the Design of Oilfield Surface Engineering. The Implementation Guide to Energy System Optimization in Refining Processes was filed for review as a draft national standard. In addition, we intensified our efforts in energy consumption supervision, reviewing our affiliated petrochemical companies’ compliance with the government’s mandatory requirements such as refining and ethylene plants’ upper limits of energy consumption per unit of product. In 2014, the company reduced energy consumption by 1.26 million tons of standard coal and water consumption by 24.62 million cubic meters.
Quality Control

Remaining firmly committed to the principles of honesty, trustworthiness and quality, we provide high-standard and high-quality products and services. In accordance with the State Council’s Quality Development Outline (2011-2020) and the Metrology Development Plan (2013-2020), we achieved a continuous improvement in quality control in 2014. Our quality management system (QMS) was streamlined and third-party QMS certification for our affiliates proceeded well. QMS reviews were promoted to ensure effective operation of the system.

As part of our quality control and supervision efforts in 2014, we conducted random quality inspections of 2,172 batches of products produced, sold or purchased by our subsidiaries, focusing on consumer products such as automobile gasoline and diesel, LPG, and natural gas, and HSE-related materials such as valves, pipes and chemicals purchased from contracted suppliers. In addition, we closely monitored the quality of engineering & construction projects, keeping all 2,270 ongoing projects with 24,121 quality monitoring points under supervision. As a result, potential project quality risks have been satisfactorily controlled by eliminating a great number of hazards.

We further improved our corporate standard system in 2014 by formulating or amending 219 enterprise standards. We led the formulation or amending of 186 national or industrial standards. More than 3,700 various criteria in the company’s standard system were upgraded and completed. We compiled the standards for tight oil and gas and shale gas, and established the national shale gas technology standardization committee entrusted by the National Energy Administration, indicating CNPC’s leading role in setting the standard for unconventional hydrocarbons.

In particular, the Natural gas—Determination of sulfur compounds (ISO 16960) and Natural gas—Calculation of methane number (ISO/TR 22302) drafted by our affiliated Southwest Oil and Gas Field Company have been issued by the International Organization for Standardization. So far, CNPC has worked on and proposed 19 international (foreign) standards.