

Year in Review 2018



We are TCO

Our values define us and guide our actions in delivering results. We conduct our business in a socially and environmentally responsible manner, respecting the law and benefitting the communities where we work.



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Eimear Bonner,
General Director

Dear Readers,

We are pleased to present Tengizchevroil's (TCO) Year in Review 2018, which marked TCO's 25th anniversary.

TCO is a leader in Kazakhstan's oil and gas industry. Thanks to the efforts of our talented workforce in 2018, we successfully achieved our safety, production and project goals and continued to demonstrate high performance in our operation of one of the world's deepest-producing super giant oilfields, Tengiz. At TCO, we continue to deliver on our commitments, always striving for incident free operations and construction, conducting our business in a socially and environmentally-responsible manner.

Our commitment to personal and process safety, and to protecting the environment, is underpinned by the values embodied in the TCO Way, which define who we are and how we run our business. At TCO, we always strive for high performance from our workforce and our assets. We hold ourselves to the highest levels of integrity and trust with our stakeholders and the communities where we operate.

In 2018, TCO's performance further strengthened our reputation as a reliable and trusted company that continues to contribute to Kazakhstan's economic growth, as the performance milestones indicate below:

- TCO employees and contractors achieved world-class safety performance by working more than 115 million man-hours with nine Days Away from Work (DAFW) incidents.
- Produced 28.6 million metric tonnes (228.2 million barrels) of oil.



- Safely and efficiently completed two high quality turnarounds ahead of schedule, within budget and with zero Days Away From Work (DAFW).
- Sold over 1.3 million metric tonnes of LPG, 9.2 billion cubic meters of dry gas and over 2.5 million tonnes of sulfur.
- Direct payments to the Republic of Kazakhstan totaled more than \$10.1 billion.
- TCO spent over \$3.5 billion on Kazakhstani goods and services, including over \$2.3 billion for the Future Growth Project-Wellhead Pressure Management Project (FGP-WPMP).
- The combined KTL and SGI/SGP facilities demonstrated record reliability of 98.5 percent.
- TCO completed two and started six important social infrastructure projects in Atyrau Oblast and continued successful implementation of Community Investment Program in Atyrau and Mangystau oblasts.

The Future Growth Project-Wellhead Pressure Management Project (FGP-WPMP) continues to make progress and is ramping up its execution activities worldwide and at Tengiz. At the end of 2018, FGP-WPMP had achieved 52.5% cumulative progress.

FGP-WPMP is a project of national importance that will create superior value for the Republic of Kazakhstan by increasing oil and gas production, introducing new oilfield technology, using local goods and services and creating jobs. There are currently more than 45,000 Kazakhstanis working on FGP-WPMP in-country, which represents 91 percent of the total project workforce in Kazakhstan.

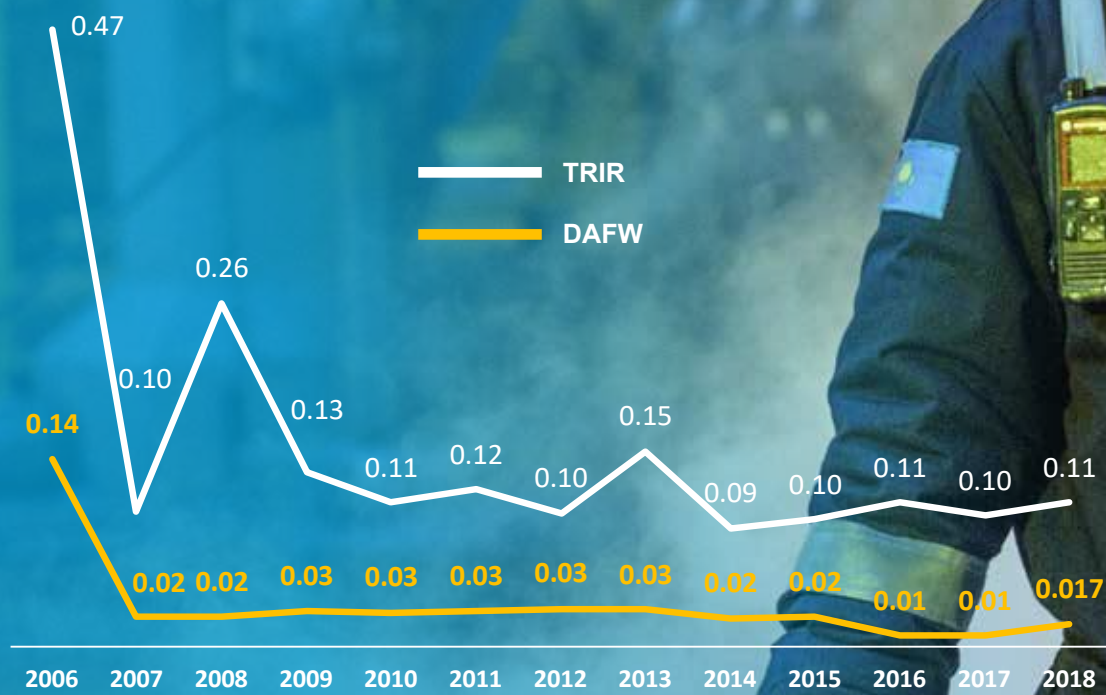
Please read more about our 2018 performance and achievements in this publication and continue to visit www.tengizchevroil.kz for more information.



Murat Mukashev,
Deputy General Director



115 million manhours
9 DAFW incidents





Safety & Health

TCO continues to achieve industry-leading safety results in standard industrial safety measurements such as Days Away from Work and Total Recordable Incidents. Working safely is a TCO core value and everyone's responsibility. In 2018, TCO employees and contractors worked over 115 million man-hours with nine Days Away from Work incidents. While this is still world-class performance, TCO strives for zero workplace injuries and is continuously working to improve in this area. Living this commitment will ensure success in fatality prevention and process safety, the two cornerstones to incident-free construction and operations.

Environmental Protection

Since 2000, TCO has invested \$3.1 billion for its environmental protection activities which have achieved reductions in flaring and air emissions; improved wastewater treatment and increased water reuse. As of 2009, TCO has eliminated continuous flaring of associated gas. TCO is using state-of-the-art Evergreen Burner technology to atomize the residual wellbore materials allowing for an extremely efficient and complete combustion. This innovative technology helps to bring new wells online and

keep the plants full to meet the business plan production forecast. In 2018 TCO implemented a limited Leak Detection and Repair (LDAR) Program as part of Environmental Stewardship which helps to identify and eliminate fugitive greenhouse gas emission.

In 2018, 64% of the waste generated in Tengiz was sent for reuse or transferred to specialized companies for recycling and processing. In 2018 TCO has implemented the new Reduce,



Reuse, Recycle Program (3R Program) for recyclable wastes prohibited for landfilling and began expanding the Tengiz Eco Center recycle storage area.

In 2018, 48 hectares of land were reclaimed/ remediated, including the TCOV evaporation pond reclamation project.

TCO recognizes the importance of conserving water in Tengiz due to ongoing water scarcity in the region. TCO has practiced water

conservation by reusing industrial water within processes and treated domestic wastewater, whenever possible. Total water recycling rate for 2018 is 27%.

In 2018, TCO supported the Ural-Atyrau Sturgeon Hatchery by donating equipment such as aerators, excavator and sturgeon feed. The new equipment intended to improve the health of and increase the survival rates of fish in hatchery ponds.





Production and Product Sales

TCO 2018 crude oil production was **28.6 million** metric tonnes (228.2 million barrels).

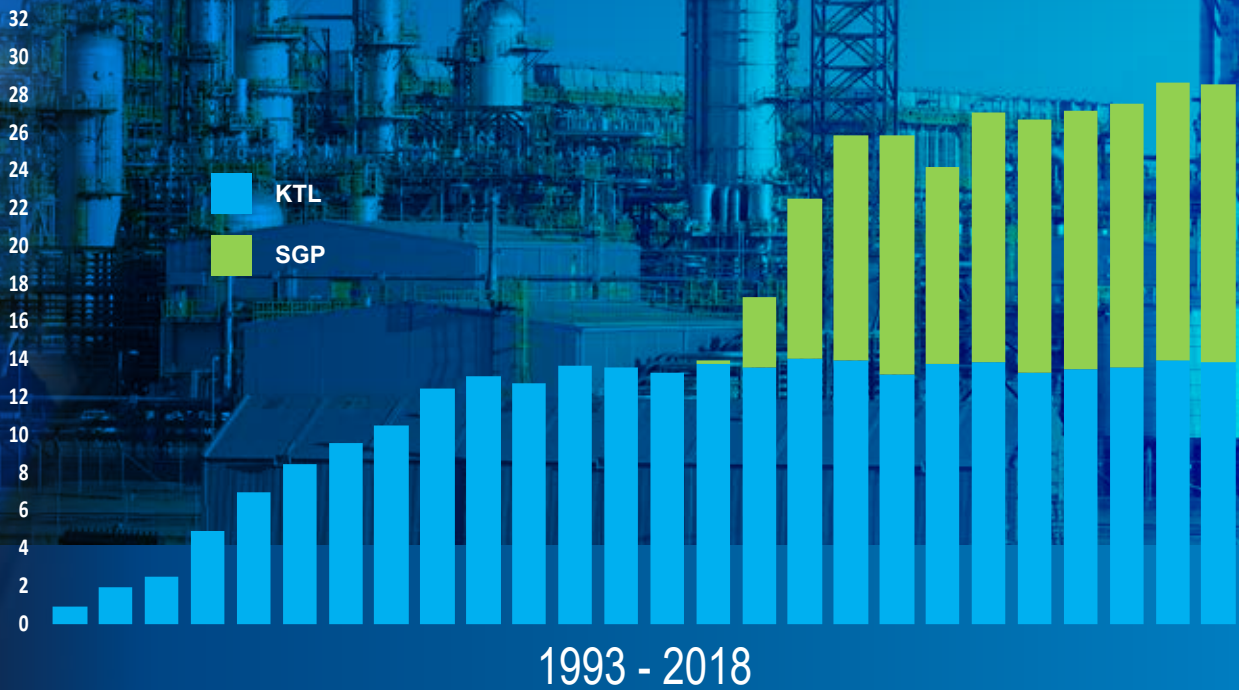
TCO sold around **1.3 million** metric tonnes of LPG, **9.2 billion** cubic meters of dry gas and **2.5 million** metric tonnes of sulfur.

Financial Benefit to Kazakhstan

Since its founding in 1993, TCO has distributed over \$135 billion to the Republic of Kazakhstan including purchases of Kazakhstani goods and services, profit distributions to TCO partner KazMunaiGas, taxes and royalties paid to the government, tariffs and fees paid to state-owned companies, and employee salaries.

In 2018, direct payments to the Republic of Kazakhstan totaled \$10.1 billion.

TCO has invested more than \$28 billion on Kazakhstani goods and services since 1993.



\$135 billion contributed to Kazakhstan's economy since its formation in 1993

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Future Growth Project - Wellhead Pressure Management Project (FGP-WPMP)

TCO's FGP-WPMP is the next major expansion of the Tengiz field. It is a landmark project that will help to increase Tengiz production by 12 million tonnes of oil per year and maintain full production rates at the existing Tengiz facilities.

In July 2016, TCO's partners approved the final investment decision for FGP-WPMP.

This was a significant milestone achieved by TCO marking a long-term partnership with Kazakhstan to deliver stable and reliable Tengiz production to benefit the future generations.

FGP-WPMP is a global project with execution centers in 19 different locations in 11 different countries.

Kazakhstani content is an integral part of TCO and FGP-WPMP activities. More than 45,000 Kazakhstanis working on FGP-WPMP in country, which is 91% of the total project workforce in Kazakhstan.

TCO has engaged Kazakhstani entities to participate in FGP-WPMP in engineering,

procurement and fabrication services and has pre-screened over 2,100 Kazakhstani companies to date, with over 400 Kazakhstani registered companies involved on FGP-WPMP. More than 160 Kazakhstani companies were visited for capabilities assessment. KC spend since the project start made \$5.2 bln

Project Engineering is being executed in Atyrau and in Almaty, as well as in the United States, United Kingdom and India. In 2018 Engineering progressed in support of Fabrication and Construction teams.

FGP-WPMP will be built of modules fabricated in Kazakhstan, South Korea and Italy and transported to the Tengiz oilfield for final assembly. Pre-assembled pipe-racks are under erection at ERSAL's fabrication yard in Kazakhstan. Last year, 28 PARs delivered to Third Generation Plant (3GP) and Third Generation Gas Injection Facility (3GI) from ERSAL, Kazakhstan. Fabrication and supply of Frame 9 Gas Turbine Generator (GTG) modules continue in Avenza, Italy. First GTG



delivered from Avenza, earlier in 2018 enabled restacking the first GTG at 3GP. Additionally, sail away was achieved for 12 modules from South Korea.

Cargo Transportation Route (CaTRo) constructed from Prorva peninsula at the Northeast Caspian to the Tengiz oilfield includes a 71-km marine access channel, cargo offloading and storage facilities and a haul road. CaTRo is in operation and is used for modular cargo offload, storage and delivery to site in Tengiz.

Tengiz is the location of the future project facilities that will include General Services and Infrastructure to support construction, Controls and Power, Oil and Gas Gathering System, Third Generation Plant (3GP) and Third Generation Gas Injection (3GI).

In 2018 General Services Team provided all critical services while delivering on infrastructure, permanent facilities and the Integrated Operations Control Center. 3GP Main Substation was set on foundation end of December 2018 by the Control and Power Team. The Gathering System Team progressed the Field Facilities and Pipeline work scope. At Third Generation Plant (3GP) concrete and underground piping works continue. In November first Gas Turbine Generator was restacked. At 3GI civil and underground works continue. Also, first pre-assembled pipe-rack was set on foundation.





Kazakhstani Content

TCO continues to increase its expenditure on Kazakhstani goods and services every year. In 2018, TCO spent over \$3.5 billion on goods and services by domestic Kazakhstani producers. Since 1993, TCO has invested more than \$28 billion in Kazakhstani goods and services. TCO will continue to identify methods to increase its purchases of quality Kazakhstani goods that meet the extremely challenging operating conditions in Tengiz. TCO believes that to achieve its Kazakhstani content objectives, it must generate long-term opportunities for the suppliers of goods and services. As such, TCO will continue to support the sustainable development of Kazakhstani suppliers, encouraging appropriate investments in infrastructure, Kazakhstani workforce training and the creation of jobs.

TCO works with its major contractors and suppliers to increase their Kazakhstani content and bring investment and employment to the Republic of Kazakhstan. 2018 saw several

significant KC achievements by suppliers:

- International OCTG manufacturer invested and opened a modern facility in Aktau and supplied threaded pipe to TCO.
- International catering and facility management company along with local partner opened a state-of-the-art greenhouse in Kulsary with greater than 25,000 m² of glass coverage which supplies vegetables to TCO canteens and the surrounding communities
- Several Kazakhstan companies qualified for and won the bid to provide millions of dollars in sulfur railcar transport envelopes.

Additionally, TCO works directly with local suppliers to develop and qualify local suppliers to provide goods and services directly to TCO. Some impactful examples are:

- Local manufacturer of anticorrosion coating was tested and approved for TCO operations.

- Local manufacturer of instrumentation cable was tested and approved for TCO use.
- Two local companies were qualified for electrical motor repair.

Also, TCO partners with the European Bank for Reconstruction and Development (EBRD) to implement a local content development program which has worked with over 27 companies to provide technical and quality certifications and other business improvements. Additionally, it has provided over 10 classes to over 300 individuals in the areas of business improvement and safety. This has resulted in real results:

- 73% of participants have increased turnover by 66% and number of employees went up by 32% on average
- 73% of evaluated enterprises have increased labor productivity by 35% and aggregated turnover by ~3.2MM Euro.

Kazakhstani content is an integral part of TCO's base business and FGP-WPMP activities. More than 45,000 Kazakhstanis are working on FGP-WPMP in country, which is 91% of the total project workforce in Kazakhstan.

TCO has engaged Kazakhstani entities to participate in FGP-WPMP in engineering, procurement and fabrication services and has pre-screened over 2,100 Kazakhstani companies to date, with over 400 Kazakhstani registered companies involved on FGP-WPMP. More than 160 Kazakhstani companies were visited for capabilities assessment. KC spend since the project start made \$5.2 bln.

FGP-WPMP is creating a legacy of new capabilities in engineering, high-tech equipment servicing, project management, construction and fabrication; and encouraging establishment of joint ventures between Kazakhstani and international companies for engineering, module fabrication and drilling.



Corporate Social Responsibility

Since 1993, TCO has invested more than \$1.7 billion to fund social projects and programs in Atyrau Oblast for the community and employees. Through TCO's Egilik ("benefit" in Kazakh) Voluntary Social Infrastructure Program, TCO has implemented 84 projects in Atyrau oblast.

TCO's 2018 Egilik program budgeted \$25 million for the implementation of socially important projects as schools, kindergartens, community houses, sports complexes etc.



TCO has also completed construction of two kindergartens in Zhylyoi district and started six new important social infrastructure projects in Atyrau Oblast including flagpole construction in Atyrau, a kindergarten and a health fitness center in Maikomgen village and another kindergarten in Dossor village.

In addition to its Egilik Program, TCO has built and presented two soccer fields in Borankul village of Beineu District within its FGP-WPMP Social Investment Program in Mangistau oblast.

Through the Community Investment Program in partnership with local and international organizations, TCO funded projects to support the education, healthcare and development of social entrepreneurship in Atyrau oblast with a total annual social investment of over \$1 million.

In 2019, TCO has budgeted another \$25 million for Egilik program and over \$1 million for the implementation of projects within Community Investment Program, with most of the funds to be spent in Atyrau Oblast.





Workforce development

TCO's successes have been made possible by our skilled workforce. TCO has, and will continue to, invest in our employees.

TCO has a robust training and development strategy, highly competitive pay and attractive benefits programs which help develop our workforce.

Kazakhstani citizens hold 81.6 percent of TCO positions and Kazakhstani managers and supervisors represent 62.5 percent of the TCO managerial workforce.

Ongoing training and development programs exist to support the advancement of employees to positions of increasing responsibility.

TCO will continue to identify and prepare successors for TCO senior management positions. Expatriate assignments for our Kazakhstani employees are an important method by which to support employees in gaining international experience that will enable them to achieve their goals.

Currently, 41 employees are on international and domestic assignments to expand their professional knowledge, skills and experience. Since 2008, TCO has invested more than \$71 million into the development of its national workforce.

Since 2007, 173 Kazakhstani specialists have replaced their foreign colleagues at key managerial and technical positions.



Outlook for 2019

HEALTH, ENVIRONMENTAL AND SAFETY


To prevent fatalities, serious injuries and severe process safety incidents, TCO will focus more on the risks that present the highest potential consequences and on assuring that safeguards are in place and functioning to manage these risks. TCO will further reduce unplanned flaring events, advance measures for best and efficient use of water resources and increase waste recycling.

PRODUCTION

TCO will continue to operate its base business assets with excellence by maintaining the focus on integrity, reliability and efficiency improvements across the entire value chain.

PEOPLE

TCO aims to be recognized as the best employer in Kazakhstan by investing in workforce to develop and empower a highly competent workforce that delivers results in the right way.

A person's hand is shown interacting with a large, curved digital display. The display features vibrant, abstract patterns in shades of blue, green, yellow, and orange. The hand is positioned as if touching or gesturing towards the screen. The background is a solid light gray.

TECHNOLOGY AND FUNCTIONAL EXCELLENCE

TCO will continue to leverage technology and functional excellence to improve personal and process safety, operational reliability, and the efficiency of our production operations and current and future asset development. A number of emerging digital technologies are also being explored to enable transformation in how work is done throughout the company. This is a new and exciting area of focus for TCO.

FGP-WPMP

In 2019, FGP-WPMP will invest time and resources on our “One Team” workforce to have everyone working on FGP aligned on the plan and executing in sequence. The team must excel at fundamental activities, processes and deliverables to ensure the efficient execution of the entire project while maximizing capital efficiency. Specific 2019 goals include completing offshore engineering, procurement and fabrication in ERSAL, Italy and at the Shinhan yard in South Korea. Our worldwide supply chain has a challenging year ahead delivering the most demanding sealift to directly enable the increasing construction activities in Tengiz. The team must liquidate as much bulk construction in Tengiz and “Go Operational” with the start-ups of two new facilities – the Core Substation and the High Pressure Early Oil wells and facilities. FGP-WPMP continues to look for more opportunities to develop local content to create a legacy of new capabilities in project management, engineering, high-tech equipment servicing, fabrication and construction.

