

## International standards used locally worldwide

# OIL AND GAS

Oil and gas exploration and production is still an important area within the energy sector. To meet the daily energy demand one is still largely dependent on fossil fuels. While the transition towards low-carbon energy sources is accelerating, fossil fuels are expected to continue to play an important role in the next decades, also considering the increasing demand for energy due to growth of population and welfare worldwide.

### What's going on?

The oil and gas sector is strongly internationally oriented and strives for internationally recognised standards, enabling application of the same standard around the world. For this reason, activities mainly take place in ISO, the international organisation for standardisation.



Major industrial organisations including the American Petroleum Institute (API), American Society of Mechanical Engineers (ASME), the International association of Oil and Gas Producers (IOGP) and NACE International contribute to this ISO process. In this way, broad international support has been created for standards developed and in development by ISO.

In the past, the oil and gas sector was dominated by American technologies, mainly described in API standards. Continuous globalisation and – linked to this – increase of the number of oil and gas companies worldwide, resulted in the need for standards that are developed by a global forum like ISO. Starting point for the first set of ISO standards was initially often API standards. To date, also other nationally or regionally documents serve as starting point. Important aspect is that experts from all over the world can contribute to the development of standards, establishing a technical reference framework that can be applied worldwide.

To support (the implementation of) European legislation, there is also a need for European standards. This is primarily achieved by transposing the ISO standards to identical European standards (i.e. EN ISO standards) by [CEN](#), the European organisation for standardisation.

The oil and gas sector also learns from accidents as part of continual improvement. The ISO technical committee for the oil and gas sector ([ISO/TC 67](#)) takes experiences from accidents into account while updating its standards portfolio by revising existing standards or developing new standards. These standards should then prevent that similar accidents will happen again or mitigate their impact in case they happen. Typical topics are drilling, well integrity and competency of personnel.

In the past period, several new areas of international standardisation have been initiated, including:

- LNG installations and equipment [[ISO/TC 67](#)]
- Arctic operations [[ISO/TC 67](#)]
- carbon capture, transportation and geological storage (CCS) [[ISO/TC 265](#)]
- coalbed methane (CBM) [[ISO/TC 263](#)]
- operating management systems [[ISO/TC 67](#)]

### Who are the players

NEN accommodates the following standardisation committees that contribute to sound (international) standards for the oil and gas sector:

- [310 004](#) 'Pipeline transportation systems'
- [310 008](#) 'Gas and oil exploration and production'
- [310 008 0009](#) 'Arctic operations'
- [310 327](#) 'LNG/CNG installations and equipment'

Participants include the oil and gas operators, products and services suppliers, contractors, regulatory bodies, research institutions, and conformity assessment bodies.

NEN holds several key secretariats in this sector, like:

- [ISO/TC 67](#) 'Materials, equipment and offshore structures for the petroleum, petrochemical and natural gas industries'
- [CEN/TC 12](#) 'Materials, equipment and offshore structures for the petroleum, petrochemical and natural gas industries'



### What is at stake?

The implementation of ISO standards promotes trade while improving (cost) efficiency and safety, also by curtailing the number of company specifications. For very good reason the vision of ISO/TC 67 as well as CEN/TC 12 is: "International standards used locally worldwide". The ISO standards can serve as basis for company specifications for (only) those projects or applications that would require additional specifications.

Several studies have demonstrated the economic and social benefits of standardisation. For example, according to a study commissioned by the German standardisation institute, the direct economic benefits of standardisation was determined to be 1 % of the gross domestic product (GDP). Translating this figure to the global oil and gas sector that invests billions of dollars in their assets annually, savings can be estimated hundreds of million dollars every year!

A practical example is the Norwegian Lange and Langed project that included the construction of 480 kilometres of pipeline transportation system (30 inch in diameter) from this offshore field to the Norwegian shore and 1 200 kilometres of gas pipeline transportation system (42 inch in diameter) from Norway to the United Kingdom. The cathodic protection system was designed according to the ISO standard for cathodic protection (i.e. ISO 15589). Thanks to this international standard that contains the state-of-the-art developments of this industry, 50 % less anodes could be applied than initially estimated, saving about 20 millions of Euros.

### Standards portfolio and work programme

Previous page figure illustrates the standards portfolio of the oil and gas sector. The regional and national adoption of these international standards is periodically published in the deliverable "Global standards used locally worldwide".

The current work programme and overview of published standards can be obtained by visiting the ISO website: [www.iso.org](http://www.iso.org) >> Store >> Standards catalogue >> Browse by TC >> ISO/TC 67. Check the boxes under "Items to be displayed" to generate the desired overview. Similar overviews can also be generated for related technical committees in this way.

### More information?

Interested parties are welcome to participate in the standardisation committees. For more information about participation as well as information about ongoing standardisation activities, legislation and other related topics, parties can contact NEN Energy by e-mailing to [energy@nen.nl](mailto:energy@nen.nl) or calling +31 15 2 690 326.