

Addendum annual review 2018
Natural resources and geothermal energy in the Netherlands

Clarification on substantial changes in the classification of the Groningen gas field natural gas resources based on the Petroleum Resources Management System (PRMS).

This clarification aims to elucidate the rationale of the substantial changes in the classification of the natural gas resources of the Groningen field as reported in the Annual Report of Natural Resources and Geothermal Energy of 2018. This Annual Report accounts for the status of natural resources in the Netherlands as at 1 January 2019, i.e. integrating changes occurred in 2018.

Resource classification

Since 2012 TNO uses the Petroleum Resources Management System (PRMS) based on economical (sub)classes to classify the oil and natural gas resources (see Appendix for definitions). TNO receives the resource figures from the operators in PRMS format as required by Art. 113 of the Mining Decree (www.nlog.nl). TNO audits the data to ensure the validity and consistent interpretation of PRMS guidelines by all operators. The most certain resources to be developed, classified as “reserves”, and the less firm subclass “development pending” (contingent resources class), are included in the Annual Report (see Figure 1). The volumes in the lower contingent resource subclasses “development on hold”, “development unclarified” and “development not viable” have never been included, since the implementation of PRMS, in the annual report due to the large level of uncertainty on whether these volumes may become available as reserves (see appendix PRMS for definitions).

As at 1 January 2019 the operator (NAM) of the Groningen gas field, reported substantially lower volumes as compared to the previous year. The difference is the significant reduction of “reserves” by 471 billion cubic meters and of “development pending” by 5 billion cubic meters. The reason for the declassification of these volumes, to a subclass lower than “development Pending”, is the official decision by the Dutch government to reduce the Groningen production (letter to House of Representatives, DGETM-EI / 18057375, March 29th 2018), therefore the development of the deducted volumes is now primarily subject to the decisions of others over which the developers (operator) have little or no direct influence. Hence these volumes are declassified from reserves to contingent resources and not included in this year’s annual report.

September 2019

Appendix

Contingent resource classification definition

TNO uses the PRMS resource classification as published by the SPE (https://www.spe.org/notes/wp-content/uploads/2010/12/ADS_Final.pdf). For the contingent resources the following definitions are therefore used (see also Figure 1):

Development pending: is limited to those projects that are actively subject to project-specific technical activities, such as appraisal drilling or detailed evaluation that is designed to confirm commerciality and/or to determine the optimum development scenario. In addition, it may include projects that have nontechnical contingencies, provided these contingencies are currently being actively pursued by the developers and are expected to be resolved positively within a reasonable time frame. Such projects would be expected to have a high probability of becoming a commercial development (i.e., a high chance of commerciality).

Development on hold: the primary nontechnical contingencies are subject to the decisions of others over which the developers have little or no direct influence and both the outcome and the timing of those decisions is subject to significant uncertainty.

Development unclarified: the project is under evaluation, further appraisal activities are required or the contingencies have yet to be fully defined. In such cases, the chance of commerciality may be difficult to assess with any confidence.

Development not viable: a technically viable project, but assessed as being of insufficient potential to warrant any further appraisal activities or any direct effort to remove commercial contingencies.

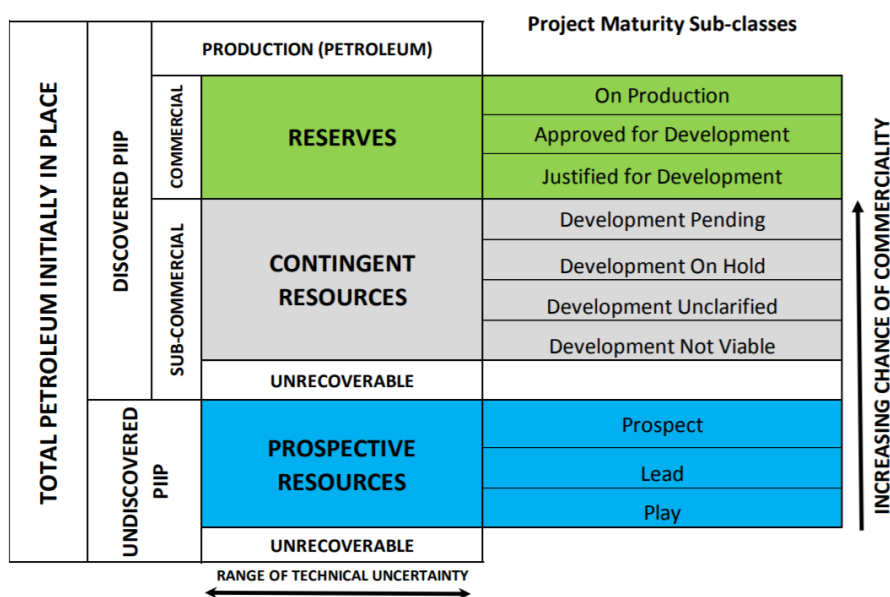


Figure 1 Resource classes and subclasses; Note the Development On Hold Sub-class has a lower chance of commerciality than the Development Pending Sub-class.