



Ghana Statistical Service
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Newsletter

Annual Oil and Gas Investment Statistics December 2019



Ghana Statistical
Service (GSS)
P.O. Box GP 1098, Accra

www.statsghana.gov.gh

Tel: +233-244-760080, +233-242-218079

Email: econsstats@statsghana.gov.gh

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Main points

- Total accrued investment expenditure in oil and gas activity in 2017 amounted to US\$ 2.336 billion. The corresponding expenditure for 2018 was US\$ 2.617 billion.
- Forecast investment expenditure to increase to US\$ 3.075 billion in 2019.
- There was an increase of 12 percent in total expenditure in the oil and gas industry in 2018.
- Expenditure on field development accounts for 70 percent and 64 percent of total expenditure in 2017 and 2018 respectively.
- Forecast expenditure on field development for 2019 is US\$ 1.2 billion.

Things you need to note about this release

The provision of statistics is important not only for monitoring and evaluation of policies, but also essential for reaching increased transparency and accountability. It is for this reason that Ghana Statistical Service with technical assistance from Statistics Norway commenced the compilation of upstream oil and gas investment statistics. The release capture information on all the expenditure made during the following oil activity phases:

- Exploration, appraisal and concept studies;
- Field development and;
- Production of oil and gas.

The survey covered all petroleum fields at various stages of activity within Ghana and the main data provider was the Petroleum Commission.

The following concepts and definitions are used in the publication.

Exploration is the search for petroleum by geological, geophysical and other methods and the drilling of exploration well(s) and includes any activity in connection therewith or in preparation thereof and any relevant processing.

Appraisal is the process of assessing in a structured way so as to understand the potential of a hydrocarbon (petroleum) reservoir before commercial production from a well or gas field commences. Appraisal is an important step in the chronology of asset development for the oil and gas activities.

Discovery relates in terms of thickness and lateral extent and estimating the quantity of recoverable Petroleum therein and all operations or activities to resolve uncertainties required for determination of a commercial discovery.

Concept studies starts with the choice of a development concept. This category shall include costs regarding concept development of a possible project from the decision to proceed in the planning phase. The category normally contains both internal and external activities; pre-engineering, front end engineering design, and planning work. The investments in exploration, appraisal and concept studies is split into five cost categories;

1. General surveys:
 - a. Geology/geophysics: Activity regarding evaluation of blocs and general exploration
 - b. Seismic: Activity regarding the collection, the processing, the reprocessing and the test processing of geophysical data
 - c. Special studies: Costs regarding the dedicated studies in early phases, example; migration studies, maturation of hydrocarbons
2. Exploration drilling and testing
Drilling undertaken with the aim to discover new sources of petroleum. The category includes costs related to the drilling, completion and plugging of wells, also including planning costs. Costs related to the collection and processing of geophysical data for the selection of well location are also included.
3. Appraisal drilling and testing
Drilling undertaken to establish the quality, quantity, and other characteristics of oil or gas in a newly discovered field. It includes the drilling, completion and plugging of the well. Also includes the costs regarding the planning of these operations and testing.
4. Field evaluation
Activity regarding the consideration of development solutions of a petroleum discovery. It includes costs related to geology, geophysics as well as evaluation of various development options and commercial activities.

5. General Cost

Refers to administrative cost which includes wages and salaries.

Field development is the activity undertaken after the approval of Plan of Development.

Development means the following activities carried out in connection with a Development Plan; the building and installation of facilities for production which includes drilling of development wells, construction and installation of equipment, pipelines, facilities, plants and systems, in and outside the contract area, which are required for achieving production, treatment, transport, storage and lifting of petroleum, and preliminary production activities carried out prior to the Date of Commencement of Commercial Production.

Investment in Field Development include Commodities/Facilities, Services and Production drilling.

Commodities/Facilities covers Substructures by steel, Substructures by concrete, Production vessels (FPSO), Storage vessels Shaft equipment, Risers; Pipe that lead the petroleum from the wellhead up to the production vessel. It also includes installation placed on the deck on the platform; drilling units, helping- systems, residential settlement and helicopter deck, Loading buoys, Subsea installations and other purchases.

Services include lifting cost, engineering studies, maritime services, hook-up, system testing, laying of pipes, insurances for transport and other insurances. Services also includes helicopter and airline transport, vessels catering and other services.

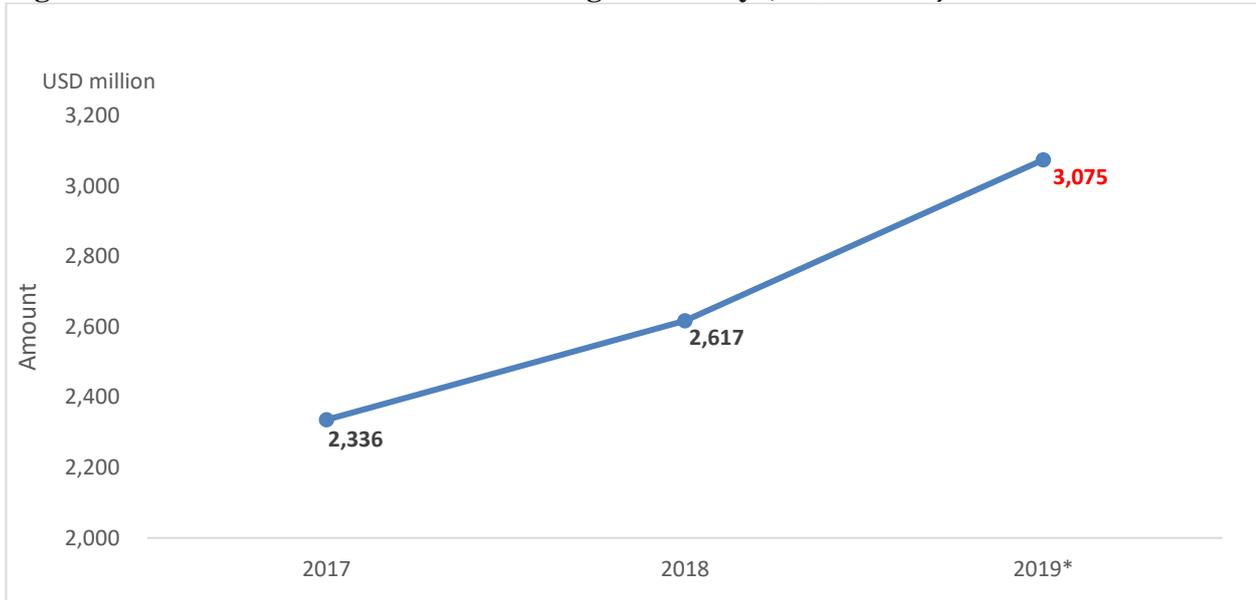
Production drilling is all activities related to the drilling and completion of production and injection wells after a decision on project implementation, and/or a decision on new wells or drilling targets in the production. The objective of production drilling also belong under the classification “production wells” (e.g. well planning, mob/demob rig, modification rig, etc.).

Production is the phase which begins when a field is on stream (operating phase). Production means upstream activities, other than exploration operations or development Operations, undertaken in order to extract, save, treat, measure, handle, store and transport (to the Delivery Point) petroleum to storage and/or loading points and to carry out any type of primary, secondary or tertiary recovery operations, including recycling, recompression, injection for maintenance of pressure and water flooding and all related activities such as planning and administrative work and shall also include maintenance, repair, and well workovers, conducted after the Date of Commencement of Commercial Production of the respective Development and Production Area. All Production expenditure is considered operating expenditure (OPEX).

Key Findings

Total accrued expenditure in oil and gas activity in 2017 amounted to US\$ 2.336 billion. The corresponding expenditure for 2018 was US\$ 2.617 billion, which is equivalent to an increase of 12 per cent. The total expenditure in the oil and gas industry for 2019 are forecasted to be US\$ 3.1 billion.

Figure 1: Total annual costs in the oil and gas industry (US\$ million)



* forecast from Petroleum Commission

Total costs within the oil and gas industry are divided into five main cost categories; exploration, appraisal and concept studies; field development; production; abandonment and onshore activity. This release captures data for three cost categories: Exploration, appraisal and concept studies, Field Development and Production. The exploration, appraisal and concept studies and field development categories costs are considered as capital expenditure (CAPEX), while production costs are considered as operational expenditure (OPEX).

Total expenditure on field development in 2017 was US\$ 1.8 billion representing 70 percent of total cost. Production cost was US\$ 462 million (26%) and exploration cost was US\$ 86 million (4%). The share of field development cost however declined in 2018 and 2019. A total of US\$ 1.7 billion representing 64 percent was expended on field development activities in 2018 and US\$ 1.2 billion is forecasted to be expended in 2019 representing 39 percent of total cost.

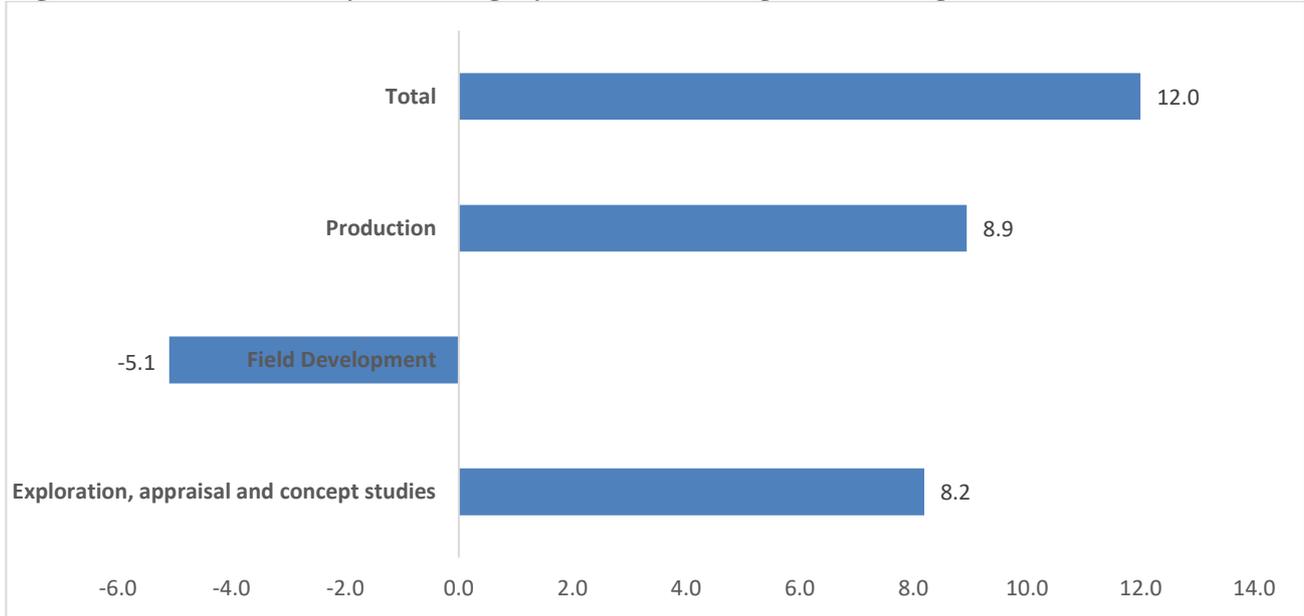
Table 1: Annual Cost by main category (US\$ million)

Category	2017	2018	2019*
Exploration, appraisal and concept studies	86	278	714
Field Development	1,788	1,669	1,203
Production	462	670	1,158
Total Cost	2,336	2,617	3,075

*Forecast from Petroleum Commission

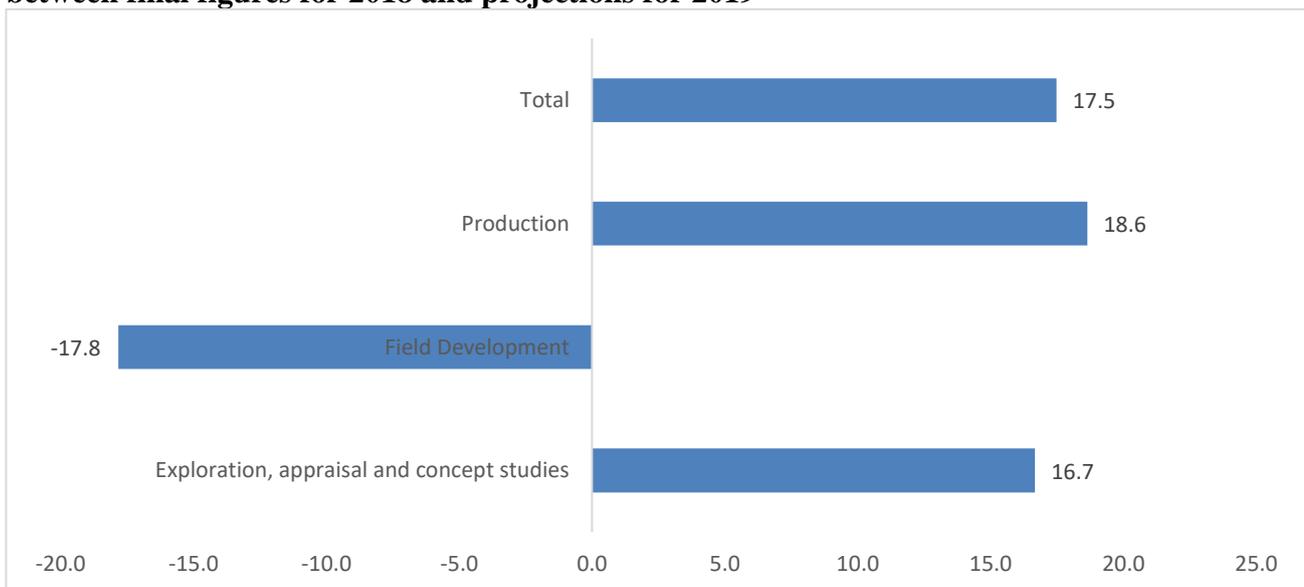
The total expenses on oil and gas activities for 2018 is 12 percent higher than the corresponding figure for 2017. The increase from 2017 to 2018 is due to higher expenditure within exploration, appraisal and concept studies and production, while the decline within the field development category dampened growth in total expenditures.

Figure 3: Contribution by cost category to rate of change in oil and gas costs for 2017 and 2018



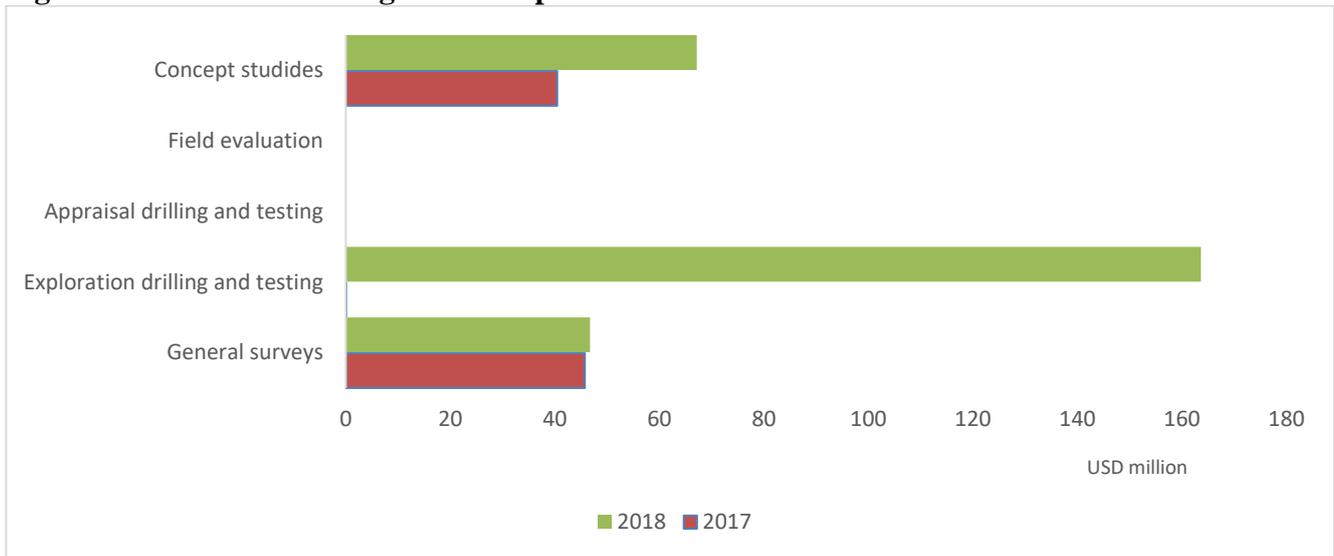
Total expenditure in the oil and gas industry for 2019 is forecasted to be US\$ 3.1 billion. This is equivalent to an increase of 17 percent over total expenditure for 2018. This growth is expected to be driven by higher expenditure within exploration and production activities. The forecasts however, indicate a further decline in investment within field development.

Figure 4: Contribution by cost category to rate of changes in oil and gas costs. Comparison between final figures for 2018 and projections for 2019



Within the exploration cost category, exploration drilling and testing had the highest cost of US\$164 million in 2018. This component however, accounted for the lowest expenditures in 2017.

Figure 5: Detailed cost categories in exploration 2017-2018



Total accrued expenditure in oil and gas production activity phase in 2017 amounted to US\$461.5 million. Services provision in oil production amounted to US\$283.6 million representing 61 percent of production expenditure and commodities accounted for US\$178 million (39%). The corresponding total production expenditure for 2018 was US\$670.5 million, which is equivalent to an increase of 45 per cent in production from 2017 to 2018.

Figure 6: Detailed cost category in production 2017-2018

