



Estimating the Effects of the Development of the Oil and Gas Sector on Growth and Jobs in Ghana

A Modelling and Value Chain Analysis (2015–2030)

Introduction

Recent oil and gas discoveries in Ghana present a unique opportunity to boost economic growth and increase the prosperity of its people. With support from the World Bank Group, the Ghanaian government engaged with international private sector partners in the exploration, development and operation of world-class hydrocarbon discoveries in the Jubilee, TEN, and Sankofa fields.

Ghana's proven oil reserves are estimated at 1.1 billion barrels, while proven gas reserves are estimated at 2.1 trillion cubic feet. Long-term oil production is projected to peak at 236,300 barrels per day; gas production is expected to average 323.7 million cubic feet per day.¹

This study discusses observed impacts, potential implications, and likely growth scenarios linked to policy choices for the period 2015–2030 related to

- (i) the development of the oil and gas fields;
- (ii) the increased market share of gas-fired power generation fueled by production from the fields; and
- (iii) the development of the upstream oil-and-gas value chain.

¹ "Ghana's Turnaround Story", Ministry of Finance, Republic of Ghana, May 2016.

Findings

Economic impacts

- The development of the oil and gas fields diversified Ghana's exports from two commodities (i.e. gold, cocoa) to three with the addition of crude oil. Currently these three commodities account for 70 percent of total exports.
- Oil & gas fiscal revenues from the developments are estimated at \$21 billion over the 2015-2030 period, which excludes substantial revenues already received by the government.
- Oil revenues used to upgrade infrastructure will increase labor productivity, economic competitiveness, and income. If the benefits of these developments are fully achieved, GDP is estimated to grow 6.4 percent annually in the 2015–2030 period compared to 6.07 percent growth in a counterfactual scenario where the oil and gas sectors were not developed. GDP is estimated to grow by an additional \$75 billion over the 2015-2030 period.
- Policies focused on expanding physical infrastructure appear most effective in the medium term, while those focused on expanding human capital appear most effective in the longer term.

Employment and skills

- An estimated 166,500 sustained full-time-equivalent additional jobs² would be created. These added jobs would contribute to a steady decrease in the unemployment rate to a value close to the natural rate of unemployment. Infrastructure investments are expected to drive job growth in construction and energy-intensive sectors, while increases in household income will drive employment in agriculture.
- The creation of jobs and linkages between the oil industry and the local economy are an important policy objective. While local participation in the oil & gas developments was initially driven by market forces, since the institution of local content regulations in 2014 every local and foreign contractor, subcontractor, licensee, corporation or entity in the sector must ensure that local content forms a central plank of its operations.

Impact on SMEs

- As the upfront investments required to develop the oil and gas fields are significant compared to the oil revenues that the government would receive in 2015–2030, any additional increase in the participation of local employment, goods, and services could potentially have significant positive impacts in the economy.
- Local suppliers to the oil and gas sector face significant constraints to growth: (i) access to finance; (ii) access to business information; (iii) stringent technical and quality standards; (iv) lack of local capacity and high costs of doing business; (v) weaknesses of current industrial policies; and (vi) the small size of the domestic oil and gas market.
- The international companies operating in Ghana have supported SME initiatives and have often implemented their own programs to facilitate local SME participation. For example, the Supply Chain Development program has engaged with 250 companies in total; 100 companies are actively engaged and receive training every month, and 72 contracts (\$18.5 million) were awarded to these companies during the period 2014–2017.



Conclusions

- The study highlights potential policy areas where the government of Ghana and the development community could collaborate. Generally, these relate to upgrading the entire energy system through investing in infrastructure.
- Policies that promote innovation and human capital development can increase productivity and competitiveness in the economy. Sector-specific, baseline data can better inform these policies.
- Regional integration of the Ghanaian oil and gas market may enhance the developmental potential for SMEs and job growth.
- An evaluation of the impact of these policies after two to three years, benchmarked against the experience of other countries, is recommended.
- Studies that identify subsectors with high potential for added value and export will facilitate the design of relevant industrial policies in context of this oil and gas windfall.

² Jobs are estimated as Full Time Equivalent (FTE) positions on average over 2015–2030 (e.g., if 2,000 work hours is equivalent to one FTE job and total added work hours is 200,000 in 2015–2030, then the added FTE jobs are 7 (200,000 hours/15 years/2,000 hours)).