

### Ghana

#### Macroeconomic and policy context

Between 2007 and 2017, Ghana's GDP grew by an average of 7.3% per year in total, and 4.8% per capita. Over the same period, energy-related CO<sub>2</sub> emissions increased by 3.5% per year in total, and 1.1% per capita. Biofuels accounted for 57.0% of CO<sub>2</sub> emissions from energy use in 2017, down from 63.2% in 2007. Diesel, the main fossil fuel used, accounted for 16.6% in 2017, up from 13.5% in 2007. Non-combustible energy sources, mainly hydropower, accounted for 5.5% of primary energy use in 2017, down from 5.8% in 2007. Ghana is a net energy and oil exporter and net importer of oil products. While 82.0% of the population has access to electricity, access to clean cooking stands at 28.0%.

Key statistics	
GDP growth (annual) (2007-2017)	7.3%
GDP growth (annual, per capita) (2007-2017)	4.8%
CO <sub>2</sub> emissions growth (annual) (2007-2017)	3.5%
CO <sub>2</sub> emissions growth (annual, per capita) (2007-2017)	1.1%
Main combustible energy source; corresponding share of CO <sub>2</sub> emissions (2017)	Biofuels, 57%
Non-combustible energy sources; share of primary energy use (2017)	5.5%
Total energy self-sufficiency (%) (2017)	146.0%
Share of population with access to electricity (2018) SDG 7.1.1	82.0%
Share of population with access to clean cooking (2018) SDG 7.1.2	28.0%
Tax-to-GDP ratio (2017)	14.1%

Sources as specified in TEU-SD brochure.

The government of Ghana has committed to pursuing sustainable economic development policies focused on expanding Ghana's domestic renewable energy production in its First Nationally Determined Contribution. In this NDC, Ghana set a GHG emissions reduction target of 15%, relative to the BAU scenario, by 2030. Ghana's tax-to-GDP ratio of 14.1% is lower than the OECD, LAC and Africa averages<sup>1</sup> of 33.9%, 22.8% and 17.2%, respectively.

#### Taxes and subsidies on energy use, 2018

Ghana does not have an explicit carbon tax, nor a CO<sub>2</sub> emissions trading system. However, it does collect energy taxes, including:

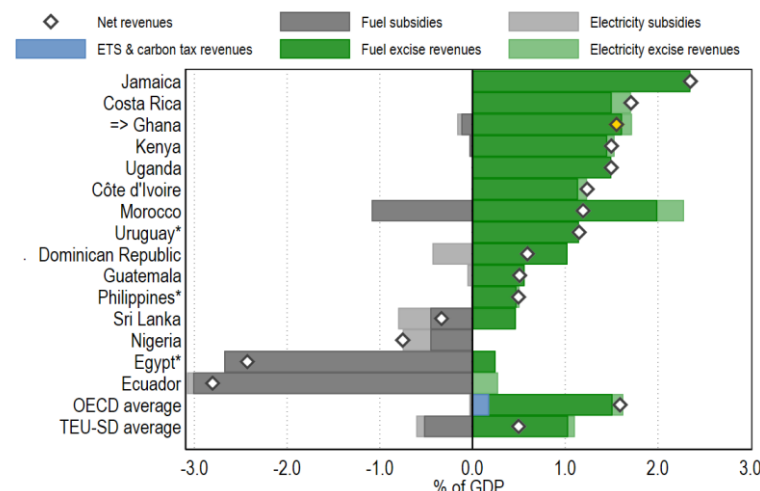
- ◆ A petroleum tax on gasoline, diesel, kerosene and LPG.
- ◆ A road sector tax on gasoline and diesel consumption.
- ◆ Levies on all petroleum products other than on kerosene for paying off the debt of the sole, state-owned refinery; gasoline, diesel, kerosene and fuel oil; gasoline, diesel and LPG aimed at equalising transport costs; all petroleum products except for fuel oil.

TEU-SD classified three subsidies to be in effect in 2018: Residual Fuel Oil and gasoline (premix) sold at below market prices, a social benefit for residential consumers of electricity using less than 50kWh a month, payment of power utility debts,

#### Net energy tax revenues, 2018

Net energy tax revenues are a bottom-up estimate of the net revenues resulting from taxes and subsidies on energy use.

Net energy tax revenues in Ghana represent 1.6% of GDP in 2018, contributing positively to domestic resource



\* Since 2018, Egypt has phased out most subsidies on energy use and the Philippines have implemented a major tax reform. In Uruguay, certain fuels like diesel attract VAT but not an excise.

<sup>1</sup> Averages across countries refer to the simple, unweighted average.

mobilisation as taxes exceed subsidies. Compared to the other countries considered in TEU-SD and OECD countries:

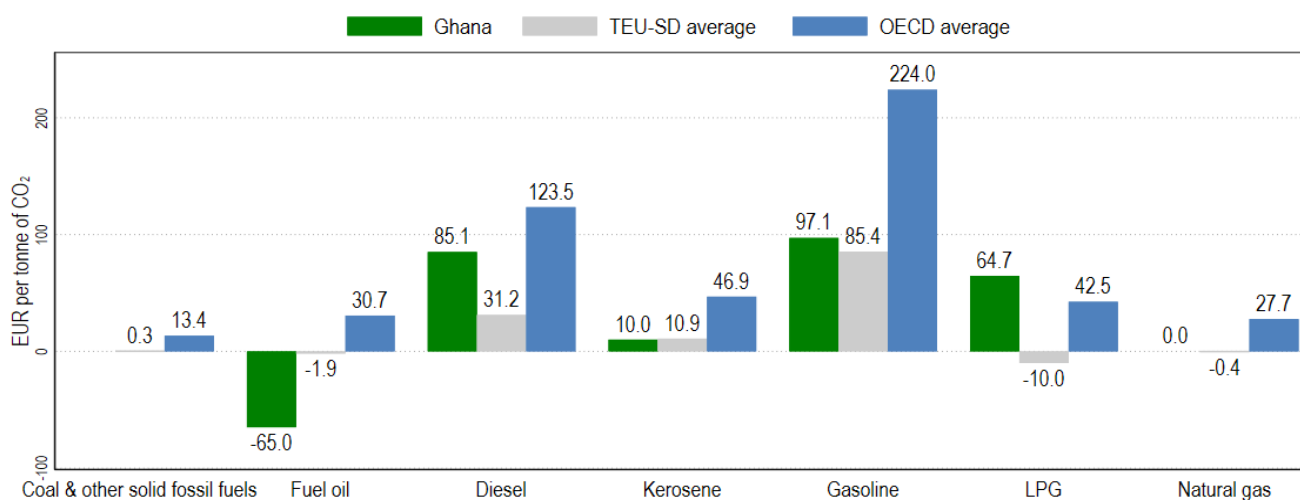
- ◆ Revenues from fuel excise taxes as a share of GDP are above the OECD and TEU-SD average.
- ◆ Revenues from electricity excise taxes as a share of GDP are above the TEU-SD average, and similar to the OECD average.
- ◆ There are some fuel and electricity subsidies, exceeding the OECD average, but below the TEU-SD average.

Recent developments: The government of Ghana announced a three-month electricity subsidy from April to June 2020 due to Covid-19. Those consuming less than 50-kilowatt hours per month received electricity free of charge, while the rest of the population were entitled to a 50% rebate on their electricity consumption.

### Average effective carbon rates by fuel, 2018

The Effective Carbon Rate (ECR) is the total price that applies to CO<sub>2</sub> emissions from energy use as a result of taxes and emissions trading, net of fuel subsidies. A higher ECR encourages consumers and producers to use cleaner energy sources or reduce energy use, avoiding CO<sub>2</sub> emissions and local pollution, while taxes and permit auctioning raise public revenue.

- ◆ Fuel oil, kerosene and natural gas, mainly used in the industrial and electricity sectors, face the lowest ECRs. The former sectors represent 29.0% and 10.9% of Ghana's CO<sub>2</sub> emissions from energy use, respectively.
- ◆ Diesel, gasoline and LPG, mainly used in road transport and residential & commercial sectors, face the highest ECRs. The former sectors represent 20.4% and 29.9% of Ghana's energy-related CO<sub>2</sub> emissions, respectively.



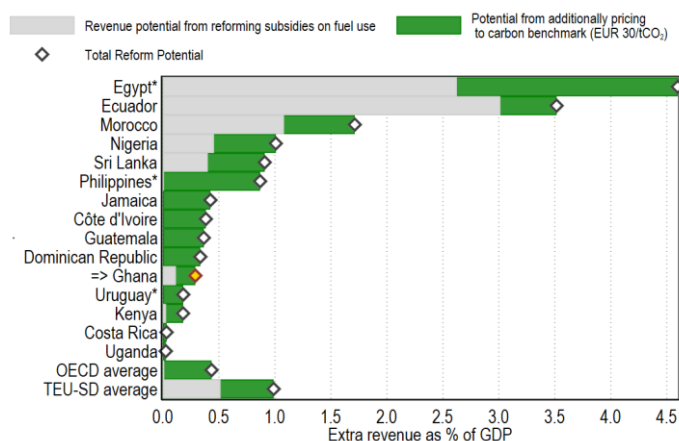
Ghana has lower effective carbon rates than the OECD average, apart from on LPG. Compared to TEU-SD:

- ◆ The ECR is high for diesel, gasoline and LPG relative to the TEU-SD average.
- ◆ The ECR on kerosene and natural gas is similar to the TEU-SD average.

### Revenue potential from carbon price reform

By how much would tax revenues increase if ECRs were raised to reach EUR 30/tCO<sub>2</sub> for all fossil fuels? The benchmark of EUR 30 is a low-end estimate of the climate damage caused by each tonne of CO<sub>2</sub> emitted. An equitable reform package is critical to ensuring that vulnerable groups, which also tend to be those that are disproportionately affected by climate change, will be able to access clean energy.

Ghana could increase tax revenues through carbon price reform. The potential increase of 0.2% of GDP if ECRs were raised to reach the benchmark rate of EUR 30/tCO<sub>2</sub> for all fossil fuels, is below the OECD and TEU-SD averages. Ghana could also benefit from an estimated increase of 0.1% of GDP in tax revenues by reforming fuel subsidies. Thus, Ghana's total tax revenue potential from a carbon price reform is an increase of revenue worth 0.3% of GDP.



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