Ecuador

Macroeconomic and policy context

Between 2007 and 2017, Ecuador’s GDP grew by an average of 3.4% per year in total, and 1.7% per capita. Over the same period, energy-related CO₂ emissions increased by 2.1% per year in total, and 0.5% per capita. Diesel, the main source of CO₂ emissions from energy use in Ecuador, accounted for 36.1% of emissions in 2017, the same as in 2007. Non-combustible energy sources, mainly hydropower in Ecuador, accounted for 12.3% of primary energy use in 2017, up from 7.9% in 2007. Ecuador is a net energy and crude oil exporter, but a net importer of oil products. The whole of the population has access to electricity and 95% to clean cooking.

The government of Ecuador has committed to pursuing sustainable economic development policies focused on addressing Ecuador’s vulnerability to climate change and expanding domestic renewable energy production in its First Nationally Determined Contribution. In this NDC, Ecuador set an unconditional GHG emissions reduction target for the energy sector of between 20.4-25%, relative to the BAU scenario, by 2025.

Ecuador’s tax-to-GDP ratio of 19.9% is lower than the OECD and LAC averages of 33.9%, 22.8%, respectively, but higher than the Africa average of 17.2%.

Taxes and subsidies on energy use, 2018

Ecuador does not have an explicit carbon tax, nor a CO₂ emissions trading system. However, it collects energy taxes including:

- A public lighting charge on electricity;
- Fossil fuel subsidies on gasoline, diesel, fuel oil, aviation fuel, LPG and natural gas, including the road, aviation, agriculture & fishing, generation, industry, residential and commercial sectors.
- Subsidies on electricity for residential consumers subject to various consumption thresholds. People with disabilities and senior citizens above 65 years of age receive additional subsidies.

### Key statistics

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP growth (annual) (2007-2017)</td>
<td>3.4%</td>
</tr>
<tr>
<td>GDP growth (annual, per capita) (2007-2017)</td>
<td>1.7%</td>
</tr>
<tr>
<td>CO₂ emissions growth (annual) (2007-2017)</td>
<td>2.1%</td>
</tr>
<tr>
<td>CO₂ emissions growth (annual, per capita) (2007-2017)</td>
<td>0.5%</td>
</tr>
<tr>
<td>Main combustible energy source; corresponding share of CO₂ emissions (2017)</td>
<td>Diesel, 36.1%</td>
</tr>
<tr>
<td>Non-combustible energy sources; share of primary energy use (2017)</td>
<td>12.3%</td>
</tr>
<tr>
<td>Total energy self-sufficiency (%) (2017)</td>
<td>207.0%</td>
</tr>
<tr>
<td>Share of population with access to electricity (2018) SDG 7.1.1</td>
<td>100.0%</td>
</tr>
<tr>
<td>Share of population with access to clean cooking (2018) SDG 7.1.2</td>
<td>94.0%</td>
</tr>
<tr>
<td>Tax-to-GDP ratio (2017)</td>
<td>19.9%</td>
</tr>
</tbody>
</table>

Sources as specified in TEU-SD brochure.

### 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 Ecuador are negative and equal to 2.8% of GDP in 2018, putting a strain on domestic resource mobilisation as subsidies exceed taxes. Compared to other TEU-SD and OECD countries:

---

1 Averages across countries refer to the simple, unweighted average.

The project was carried out with the financial support from the governments of Ireland, Japan, Luxembourg, Norway, Sweden and the United Kingdom.
Revenues from fuel excise taxes as a share of GDP are below the OECD and TEU-SD averages.

Revenue from electricity excise taxes as a share of GDP are above the OECD and TEU-SD averages.

Fuel subsidies as a share of GDP are substantially higher than both OECD and TEU-SD averages.

Electricity subsidies as a share of GDP are similar to the TEU-SD average, and above the OECD average.

Recent developments: In 2019, a decree was passed to remove Ecuador’s gasoline and diesel subsidies, but was quickly reversed. The current government has committed to develop another reform package that includes benefits for those most vulnerable to fuel price increases.

Average effective carbon rates by fuel, 2018

The Effective Carbon Rate (ECR) is the total price that applies to CO₂ 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 CO₂ emissions and local pollution, while taxes and permit auctioning raise public revenue.

- All ECRs are negative, with the exception of coal. However, coal use in Ecuador is negligible. This implies that fossil forms of energy consumed in Ecuador are de facto subsidised.
- Kerosene and natural gas, mainly used in the off-road sector and power generation respectively, face the highest ECRs. The former sectors account for 3.3% and 6.7% of Ecuador’s CO₂ emissions from energy use.
- Fuel oil, mainly used for power generation and diesel, gasoline and LPG, mostly used in the road and residential & commercial sectors, face the lowest ECRs. The former sectors represent 46.8% and 17.5% of Ecuador’s CO₂ emissions from energy use, respectively.

Ecuador has low effective carbon rates relative to the OECD and TEU-SD averages.

Revenue potential from carbon price reform

By how much would tax revenues increase if ECRs were raised to reach EUR 30/tCO₂ for all fossil fuels? The benchmark of EUR 30 is a low-end estimate of the climate damage caused by each tonne of CO₂ 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.

Ecuador’s tax revenue potential from carbon price reform is an increase of revenue worth 3.5% of GDP, which is substantially higher than both the OECD and TEU-SD averages. The potential increase of 0.5% of GDP if ECRs were raised to reach the benchmark rate of EUR 30/tCO₂ for all fossil fuels, is above the OECD average and similar to the TEU-SD average. Most significantly, Ecuador could gain 3.0% in GDP from phasing out subsidies on fuel use, which is the highest potential gain of all TEU-SD countries.