# Opinion

# Boosting industry for sustained growth

**By Bjorn Lomborg**

GHANA'S economic growth has been rapid since the start of the new millennium, reaching 14 per cent in 2011, but economic performance has been relatively lower since then, particularly from 2013-2016.

Important factors for the slowing of development are the huge infrastructural deficit and the limited fiscal space, but Ghana has potential for improvement thanks to its large natural resource deposits.

The country has historically relied on the extraction of these abundant resources for economic and social development, and global business attention has focused on several sectors, including oil and gas, timber, cocoa, gold, diamond, bauxite, aluminium, and manganese.

However, infrastructural deficits impose restrictions on the growth drivers of the economy and undermine efforts for structural transformation. According to the National Development Planning Commission (NDPC), Ghana needed an annual infrastructural investment of GH¢ 9 billion for the next ten years, but growing public debt and its associated financing costs currently absorbed over 45 per cent of non-oil tax revenue.

How can policymakers ensure that investment of scarce public resources yield the highest return for every cedi?

## Ghana Priorities

Ghana Priorities, a collaboration between the NDPC and the award-winning think tank Copenhagen Consensus, aims to answer this question through the proven method of cost-benefit analysis.

Over the last year, 28 teams of economists have studied the impact of over 80 initiatives to identify the smartest initiatives for the country.

These research papers, in areas ranging from health care to transportation, are now being published to provide inputs for policy discussions which will ultimately benefit all Ghanaians.

To improve Ghana's industrial sector, Prof. Godfred A. Bopkin from the University of Ghana and Dr Brad Wong from Copenhagen Consensus studied the costs and benefits of setting up an integrated bauxite authority to facilitate mining, processing and transforming bauxite into alumina and aluminium.

According to the government, an integrated aluminium industry could potentially create 35,000 new jobs directly and indirectly, and contribute close to GH¢ 60 billion in economic output annually, equivalent to roughly 15 per cent of the country's GDP.

## Aluminium

The aluminium value chain consists of three main levels, from mining bauxite, which is the primary mineral for aluminium production, to refining it into alumina, and finally smelting it in the existing VALCO smelter to produce aluminium for industrial consumption.

The country already has several elements that will allow it to maintain the entire value chain in the country: an estimated bauxite reserve of about 900 million metric tonnes, large natural gas reserves to power its industries, an existing smelter, expanded ports and significant quantities of industrial salt.

Each of the processes in the value chain involves a series of costs and benefits, and the researchers examined all the combinations of variables to reach an estimate of the potential impact of this intervention.

**The analysis of benefits also yielded 27 different scenarios based on similar controllable and uncontrollable factors from production volume to the market price of the commodity.**

The study included various controllable and uncontrollable factors such as production volumes and costs of raw materials, resulting in 27 different scenarios for the cost of mining bauxite, producing alumina and finally, aluminium.

These scenarios yielded annual total costs between GH¢ 5.9 billion and GH¢ 18.5 billion, and a median cost of all 27 scenarios for the entire value chain of GH¢ 12.4 billion per year.

### Benefits

The analysis of benefits also yielded 27 different scenarios based on similar controllable and uncontrollable factors from production volume to the market price of the commodity.

The total potential benefits fluctuate between GH¢ 5.4 billion and GH¢ 21 billion, with a median value of GH¢ 13.2 billion.

Given the various cost estimates, the net benefit for the entire value chain ranges between a loss of GH¢ 2.1 billion and a gain of GH¢ 3.2 billion.

Overall, the processing of five to 20 million tonnes of bauxite into alumina and aluminium could provide an average net benefit of GH¢ 810 million every year, or roughly 0.24 per cent of Ghana's GDP.

While these values are characterised by large fluctuations, the average benefit cost-ratio of 1.07 suggests that investing in this intervention is likely to be economically viable by producing benefits slightly higher than the original investment.

## Positive

There are other expected positive effects that were not included in the study, such as technological transfers and direct and indirect employment that will be greater if alumina and aluminium are produced in the country instead of exporting raw bauxite.

However, this analysis does not include the costs associated with the destruction of the natural environment required to mine bauxite.

Still, keeping the entire value chain from bauxite mining to aluminium production in Ghana will help develop the industry, create jobs and boost overall growth even in the long term.

This study shows that reforms and broad-based infrastructure support can provide more opportunities for growth and scale up efficiency across the board.

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