



# Large Infrastructure

## The Large Infrastructure and Leapfrogging scenario

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This section models the potential impact of enhanced infrastructure investment on the continent’s development prospects through to 2050.

While discussed separately, the two themes—large-scale infrastructure and leapfrogging—are closely related and mutually reinforcing. This is particularly evident in the expansion of large-scale renewable energy alongside off-grid and micro-grid solutions, which together are transforming electricity access. Combined with the strong multiplier effects of information and communication technologies (ICT), these developments lower barriers to private capital entry and facilitate the faster formalisation of significant segments of the informal economy.

The policy interventions under the Large Infrastructure and Leapfrogging scenario begin in 2027, followed by a sustained ten-year implementation phase through 2036, with gains consolidated and maintained through 2050. Interventions are designed and implemented at the country level and are grounded in a careful assessment of what is realistically achievable. This assessment draws on rigorous benchmarking against countries in other developing regions—particularly South Asia and South America—that have achieved comparable progress at similar stages of development. The primary objective of this scenario analysis is to illustrate how sustained and targeted efforts to accelerate infrastructure development could significantly enhance human welfare and drive long-term economic transformation across the continent.

Chart 15 shows the structure of the Large Infrastructure and Leapfrogging scenario. The International Futures (IFs) forecasting platform used for this study distinguishes between traditional infrastructure (water, roads, electricity, sanitation and wastewater), ICT infrastructure (mobile phones, fixed broadband and mobile broadband) and a residual called ‘other infrastructure’ (facilities such as ports, airports, railways, etc.). IFs considers both public and private spending on core infrastructure and public spending on other infrastructure, but does not provide for infrastructure that is explicitly funded through public–private partnerships.

Chart 15: Schematic of the Large Infrastructure and Leapfrogging scenario

| Logic                                | Intervention   | Outcome                                      | Impact  |
|--------------------------------------|--|--|---|
| Rapid provision of electricity       | Increase electricity access rate for urban and rural   | Greater access to electricity                | Improved infrastructure, more energy and lower carbon emissions |
|                                      | Reduction of electricity transmission and distribution loss  |  |   |
|                                      | Increase investment in energy  |  |   |
| Provision of renewable energy        | Reduction in coal production (as applicable)   | Increased contribution of renewable energies |   |
|                                      | Increased energy production from gas, wind, solar, nuclear, hydro, geothermal and other renewables (as applicable) |  |   |
| Better and more ICT                  | Increase access to fixed and mobile broadband  | More digitisation                            |   |
|                                      | Increase investment in ICT sector  |  |   |
|                                      | Reduction in cost of adding broadband connection   |  |   |
| Improved roads                       | Increase paved roads   | Improved physical capital                    |   |
| Greater investment in infrastructure | Increase government exp. on other infrastructure   |  |   |

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## About the authors

Dr Kouassi Yeboua previously worked as a Senior Researcher at AFI, where he led significant ISS studies on the long-term development prospects of the Democratic Republic of Congo, the Horn of Africa, Nigeria, Malawi, and Mozambique. His research focuses on development economics, macroeconomics, gender, and economic modeling. He holds a PhD in Economics.

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