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Climate-resilient development in Uganda

How a global transition and fiscal constraints could influence Uganda's development choices

Matthew Huxham, Independent Consultant
Will Scargill, Independent Consultant
Gaurav Upadhyay, Energy Finance Specialist - South Asia, IEEFA

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Executive Summary

Uganda has increasingly limited room for fiscal maneuver as public debt rises and the global low carbon transition in oil markets accelerates. In January 2025, Uganda's Parliament approved the country's fourth National Development Plan (NDP IV), which aims to drive "higher household incomes, full monetization of the economy, and employment for sustainable socio-economic transformation" through to 2030.[1] The Plan prioritizes industrialization — or capturing a higher proportion of chosen value chains — (in agriculture, minerals, oil and gas and tourism) as the primary approach to improving the quality of Ugandan lives, building on the achievements over the past two NDP periods, including reduced poverty levels, improved life expectancy and wider access to basic services.

NDP IV industrialization goals are also dependent on building stronger economic foundations across energy, transport, digitalization, and financial services. However, key macroeconomic indicators have shown weakening trends since 2022. According to recent figures, the country's public debt to GDP has risen above 50%, indicating an elevated risk of potential debt distress.[2] This, plus the declining availability of concessional financing, has meant that the share of public revenues allocated to debt interest has doubled to more than 30%, reducing fiscal space for essential areas of spending, such as health and education.[3]

International rating agencies Moody's Investors Service and Fitch Ratings downgraded the country's sovereign credit ratings in 2024, and Ugandan officials have confirmed talks with the International Monetary Fund about a new Extended Credit Facility, which they aim to formalize in 2026.[4,5]

For years, markets and donors have expected the beginning of oil production to provide imminent succor to Uganda's weakening public finances. However, as underscored in the companion paper to this report (*Reassessing oil in Uganda: How do investments in Uganda's oil industry stand up in an accelerating global transition*), the development of Uganda's oil industry has been beset by delays, cost overruns and financing challenges. We estimate Uganda could have invested more than USD2 billion by the time it begins to receive significant revenues from the sale of oil (most likely in the second half of 2026), including USD675 million in the controversial 1,443 kilometer East Africa Crude Oil Pipeline (EACOP) to the Indian Ocean at Tanga, Tanzania.[6] With the accelerating global transition dampening the long-term outlook for Uganda's share of oil revenues, the industry seems unlikely to be a major contributor to Uganda's economic transformation.

Despite weakening public finances and uncertainties around the oil sector, Uganda appears set to double down on its bet on oil by building a USD4.5 billion oil refinery at the Kabaale Industrial Park in

[1] This report makes many references to Uganda's fourth national development plan, largely taken from this source: The Republic of Uganda. Fourth National Development Plan (NDPIV) 2025/26 – 2029/30. 2025.
[2] World Bank Group. Central government debt, total (% of GDP) – Uganda. Accessed on 6 December 2025.
[3] Ministry of Finance, Planning and Economic Development. The Budget Speech Financial Year 2024/25. 2024.
[4] Moody's Investors Service. Moody's Ratings downgrades Uganda's ratings to B3 from B2; changes outlook to stable. 2024. Fitch Ratings. Fitch Downgrades Uganda to 'B'; Outlook Stable. 2024.
[5] Reuters. Uganda says it is negotiating a new funding round with the IMF. 2025.
[6] Other significant investments were in roads and a new airport. Sources: New Vision. Uganda's Parliament approves sh467b loan for 'oil roads'. 2025. UK Export Finance. Colas UK to help build Ugandan airport with UKEF support. 2017.

Hoima District.[7] For a 40% share in the refinery (owned by state enterprise Uganda National Oil Company or UNOC), Uganda may commit an additional USD1.8 billion, assuming the project proceeds on time and within budget. To fund this and other projects, UNOC has agreed to borrow up to USD2 billion from commodity trader Vitol.[8] Repayment of the Vitol loan will partially come from priority access to Uganda's oil revenues deposited into an escrow account.[9] This means that financing for the refinery will likely displace or defer the planned spending of these revenues on other public spending projects or investment for future generations.

This report examines how the changing context — including the impact of the global transition and the accelerating physical consequences of climate change — might change the calculus for Ugandan officials seeking to use an increasingly uncertain amount of future fiscal space to spur development through industrialization. In particular, the report explores the extent to which the risk-reward assessment in relation to the oil refinery has been shifted due to Uganda's fiscal position.

The analysis identified four key findings:

Finding 1: Uganda's elevated public debt threatens the macroeconomic stability needed to make its fourth National Development Plan a reality

Uganda's NDP IV charts the substantial progress the country has made across its first three National Development Plans (since 2010) and more broadly, since independence from colonial rule.[10] An important part of this has been macroeconomic stability. The Plan recognizes the importance of maintaining that stability to 2030 as the country attempts to drive a substantial increase in investment to drive industrialization. An economically weaker Uganda would — all else being equal — find it harder to attract non-concessional capital, and would pay a higher price to service whatever it could attract. This would impact its ability to achieve development objectives, not to mention the ability to achieve them in a "just" fashion that equitably allocates the costs and benefits of that development.[11]

Despite the emphasis on macroeconomic stability, Uganda's public finances have weakened, creating challenges for the Plan's implementation. A significant part of these dynamics relates to factors outside Uganda's control: the rise in US interest rates since 2022; elevated global energy prices since the beginning of Russia's full-scale invasion of Ukraine in the same year; and more recent dynamics that have limited the ability and willingness of traditional development partners to provide funds at concessional rates.

However, the decision to proceed with developing the Ugandan oil industry has also played a role in weakening public finances. Construction has temporarily raised public debt, due to the country's equity contribution to the EACOP pipeline. Delays in construction have meant that the revenues

[7] Ekanem, S. Uganda's $4bn refinery project gains traction with new UAE-backed contracts. 2025.
[8] Uganda National Oil Company. UNOC Secures Financing To Accelerate Development Of Strategic National Infrastructure Projects And Investments. 2025.
[9] Ecofin Agency. Uganda Seeks $2 Billion Loan From Oil Trader Vitol for Infrastructure Projects. 2025.
[10] Historic national development planning and vision documents can be downloaded from National Planning Authority. Accessed on 6 December 2025.
[11] The Uganda Just Transition Framework was launched in December 2025 and accessed from a LinkedIn post from funder CIF on 16 December 2025. On that day, there was no link from a Ugandan government website.

required to service new borrowing have yet to flow. These, and other factors have tripled the amount Uganda would have expected to invest during this phase, further increasing public borrowing.

For a country with stronger economic foundations and more financial flexibility, the risks discussed in the *Reassessing oil in Uganda* paper may be inconvenient but manageable without significant collateral damage to the economy. Higher investment in one area could be offset by reduced spending elsewhere, or the country might make the case to credit rating agencies and sovereign bond investors/lenders to look at the country's underlying economic trajectory even if oil revenues are slightly delayed. However, for Uganda, oil-related economic risks — given their magnitude relative to the size of the economy and the country's limited financial flexibility — could contribute to declining credit ratings and rising cost of capital.

This is the context in which Uganda will face emerging economic and geopolitical challenges of the day, as well as the accelerating physical consequences of climate change. Uganda is particularly vulnerable to the latter, evident through increasingly unpredictable rainfall patterns and heat stress. These factors, combined with limited economic resilience, will shape the implementation of the NDP IV. Ugandan officials will need to consider a range of potential pathways to achieve development objectives and support sustainable wealth and job creation.

Finding 2: Uganda's proposed USD1.8 billion refinery investment could pose significant risks to public finances.

Large investments like the EACOP, the Tilenga and Kingfisher oil fields and the proposed oil refinery are often the riskiest for economies like Uganda because they have limited economic flexibility to manage the timing difference between investment outlay and revenues. They are often pursued because they also offer the promise of large development gains if implemented well. However, the country's limited experience with complex construction projects, infrastructure gaps and the apparent unavailability of project finance debt increase risks for Uganda as an anchor investor in the project. The decision to turn to a resource-backed loan to fund the equity stake could further increase complexity; delay any oil-related development benefits; and erode some of the agency over its energy future that Uganda ostensibly hoped to gain through the investment in the first place.

The proposed oil refinery may have been less controversial than the EACOP pipeline project, but it arguably poses a greater risk to Uganda's public finances during construction. Uganda's share of investment is 40% compared with 15% for EACOP. The decision to finance the USD4.5 billion project entirely through equity (as opposed to the original plan to use up to 60% project finance debt) is expected to triple Uganda's contribution to the investment to about USD1.8 billion, nearly three times its contribution to the EACOP pipeline.[12]

In December 2025, the Ugandan Parliament granted consent for UNOC to sign a 7-year loan facility of up to USD2 billion with commodity trader Vitol that would fund projects including part of Uganda's equity commitment in the refinery. The facility has a lower headline interest rate than Uganda's current cost of non-commercial borrowing.[13] However, this benefit appears to come with significant

[12] African Energy Council. Uganda commits $4 Billion to fund oil refinery. 2024.
[13] Ecofin Agency. Uganda Seeks $2 Billion Loan From Oil Trader Vitol for Infrastructure Projects. 18 December 2025.

costs. The loan has a floating rate, meaning that the deal will increase Uganda's short-term exposure to volatility in international financial markets. Vitol would have priority access to Ugandan crude oil export revenues as a source of funds for repayment, meaning that oil-related development spending could be delayed if construction of the refinery is delayed or if operational issues mean that the refinery yields less than expected. Finally, the deal appears to cede some control over Uganda's energy future to a player that is already the dominant supplier of liquid fuels to the country, and which is not incentivized to minimize costs to the Ugandan economy.

Uganda will also retain exposure to construction and climate transition risks. Our analysis shows that a construction cost overrun of 25% (compared with an expected overrun of over 50% on the EACOP project) would push the refinery project's internal rate of return (IRR) down to 10%. In that case, the project's financial return would be lower than the minimum most financial investors would demand for an investment of this type and would barely be enough to cover Uganda's cost of non-concessional borrowing. Given the recent history of cost overruns in oil refinery projects (the Dangote refinery in Nigeria is reported to have ended up costing more than twice the original estimate), this means there is a high chance the project, by itself, will not make any money.[14]

Our analysis also factored in the climate transition risk the refinery might face in a world with an accelerated decarbonization profile. Using the "moderate" and "Net Zero Emissions (NZE)" transition scenarios from the *Reassessing oil in Uganda* paper, we assessed how lower long-run global oil prices, weaker refining margins, and the declining competitiveness of Ugandan oil production by the end of the 2030s (in the NZE scenario) would affect the refinery. If the refinery is delivered on time and on budget, a moderate transition scenario would have the same impact as a 25% cost overrun (i.e. reducing the IRR to around 10%), while under the NZE scenario, the refinery's IRR would be closer to 5%. The combination of a moderate transition scenario and a 25% capital cost overrun would push the IRR down to about 8%, lower than Uganda's cost of borrowing in international markets.[15]

On top of these risks, the tolling agreement UNOC is reportedly negotiating with Emirati partner Alpha MBM Investments could further weaken Uganda's position in an accelerated global transition by transferring oil-price risk to the country.[16] This agreement, if signed, could compound the impact of the potential oil production sharing contract renegotiation reviewed in the *Reassessing oil in Uganda* paper. Both agreements would insulate Uganda's partners against the impacts of an accelerated global transition, at Uganda's expense.

Since Uganda has limited power to manage these risks, and limited capacity to absorb potential losses, the authors ask whether there might be a less risky way to allocate the money earmarked for the refinery investment. What are the country's options if it were to delay or cancel the planned refinery?

[14] Dan-Awoh, D. Billionaire Dangote says $23 billion Refinery project was biggest risk of his life. 2025.
[15] NB. Uganda's domestic borrowing costs in UGX are significantly higher than hard currency denominated debt on international markets. At a recent treasury bill auction, Uganda paid a yield to maturity of nearly 15% on one-year funding (Bank of Uganda Central Securities Depositary. Results of Treasury Bills Auction No. 1219. 2025.) There is less consistent data on long-dated bonds as there is more limited supply.
[16] The Independent. What next for Albertine oil refinery? 2025.

Finding 3: Sustained, multi-year investment in climate-resilient, electrified industrialization would be a less risky, lower-cost approach to growing incomes and creating jobs

Delaying or cancelling the refinery could free up fiscal space for other investments in industrialization that would advance Uganda's NDP IV goals, but with considerably lower risk to public finances.

An alternative strategy would focus on a higher number of smaller, less complex construction projects in sectors with less exposure to the global transition. A more diversified portfolio of investments would reduce implementation risks associated with any single project and, through shorter construction periods spread across the country, could bring economic benefits to more Ugandans, earlier. We reviewed Uganda's existing strategy documents and secondary literature to outline alternative potential strategies that could deliver many of the same economic benefits as those expected from the refinery. High-priority projects should deliver high economic multiplier effects, contribute to an improvement in the trade balance, and attract additional sources of concessional finance.

We found strong arguments for accelerating investment to enable greater industrialization of agriculture, which contributes more than 60% of Uganda's jobs and most rural jobs. Increasing value addition and climate resilience in agriculture will also be critical if Uganda is to achieve one of the key NDP IV objectives, namely, moving 30% of the population engaged in subsistence agriculture into the money economy. Previous efforts to enable agricultural transformation have had limited success, with substantially lower returns from rural electricity access programs compared with those in urban areas, and with limited penetration of clean cooking technologies. In parallel, investments in electricity generation capacity have pushed contingent liabilities onto the national government as demand has not risen fast enough to absorb increased supply.

An alternative strategy could be to increase supply and demand for modern energy services in tandem. This could mean prioritizing faster-to-deploy technologies (including off-grid and mini-grid solutions) and support for manufacturing activities that are job-rich. This could create reliable demand on the power system that can support future investment in transmission and distribution networks and, in turn, in further generation capacity. Investment programs designed to account for the physical risks of climate change while maximizing social co-benefits for Ugandans are most likely to achieve sustainable growth in wealth and jobs. An alternative strategy of the sort discussed in this paper might also be more likely to meet the goals of the new Uganda Just Transition Framework.[17]

The sequencing and distribution of Ugandan development investments will become an increasingly important consideration as Uganda pursues greater integration in regional trade networks (for example, within the East African Community or under the African Continental Free Trade Agreement). High-quality businesses may experience accelerated growth through exports, but as logistics and transport connections increase, the risk of import substitution will also rise.

To be competitive in external markets — and to reduce the cost of goods and services in the country — Uganda should prioritize efforts to improve the efficiency of, and reduce the cost of, key

[17] The Uganda Just Transition Framework was launched in December 2025 and accessed from a LinkedIn post from funder CIF on 16 December 2025. On that day, there was no link from a Ugandan government website.

infrastructure, including energy, transport, logistics, and digital and financial services. If this is done without locking Uganda into a particular technological pathway/economic paradigm (for example, in relation to oil), it will allow the country to benefit from low-carbon industrial innovation being pursued across the world. An alternative approach that puts less pressure on public finances could be a more effective way of reducing Uganda's dependence on foreign powers than an oil refinery investment that trades external energy dependence for capital dependence.

New analytics — including those presented here and in the *Reassessing oil in Uganda* paper — make it possible to assess the economic risks associated with climate change or the global transition. Ugandan officials have access to climate risk scenarios and international technical exchange through membership of fora such as the Network for Greening the Financial System (Bank of Uganda is a member)[18] and the Coalition of Finance Ministers for Climate Action (the Ministry of Finance, Planning and Economic Development is co-chair).[19]

However, even the most sophisticated normative climate scenarios cannot capture the increasing uncertainty of a world with fast-changing trade patterns and the potentially massive impact of artificial intelligence. Uganda may have a higher chance of achieving its development objectives if it can incorporate a more in-depth understanding of global changes and their economic implications into its planning process, instead of relying on long-term ambitions and relatively static assumptions.

To make the best use of limited fiscal space, Ugandan officials could benefit from treating risk management as a continuous process, incorporating the best available intelligence on internal and external hazards. It should be embedded in an institutional framework that ensures this intelligence is consistently fed into policymaking. Within such a framework, concentrating scarce public resources in the oil refinery presents high downside risk compared to a diversified, climate-resilient industrialization strategy. The country may be best placed to achieve the goals under NDP IV if it spreads its bets and avoids further investment in oil.

[18] Network for Greening the Financial System. In Conversation with Mr. David L. Kalyango (Executive Director Supervision and Regulation, Bank of Uganda). 2025.
[19] Ministry of Finance, Planning and Economic Development. Uganda Assumes Role of Co-Chair of the Coalition of Finance Ministers for Climate Action. 2025.

1. Introduction

- Uganda's fourth National Development Plan (NDP IV) for fiscal years 2025–26 to 2029–30 contains ambitious goals to improve the quality of life of its citizens. According to this Plan, Uganda would complete the shift away from a subsistence-based economy by 2030, creating a strong foundation for future prosperity.
- Oil was expected to play a significant role, both as part of a local industrialization drive (through the planned refinery) and as a source of significant fiscal revenues and other macroeconomic benefits.
- However, as set out in the companion paper *Reassessing oil in Uganda*, oil-based development is an increasingly risky prospect due to a number of factors beyond the country's control.

In March 2025, just over three years after the final investment decision (FID) on Uganda's Tilenga and Kingfisher oil fields and the EACOP pipeline, Ugandan President Yoweri Museveni announced a deal with Alpha MBM Investments LLC, a UAE investment firm led by a member of Dubai's royal family to develop a 60,000 barrels-per-day oil refinery at the Kabaale Industrial Park in Hoima.[20] In the announcement, the president emphasized themes similar to those used following the confirmation of "commercially recoverable" quantities of oil in the Lake Albert Basin 20 years earlier. These include the points that Uganda could use its own resources increasingly to reduce its external dependence and avoid being locked into a neocolonial, extractive relationship with richer countries that would capture the value added from the production of fuels and related chemicals. The refinery has long been a flagship project for President Museveni, although Uganda's need for foreign technical expertise to develop the industry meant it had to accept the demand by Western oil companies to export a proportion of Ugandan crude oil to global markets.

The discovery of oil in Uganda pre-dates the first five-year plan published in 2010, and the nascent industry has featured prominently in each of the four NDPs since. In that sense, oil has long been a critical part of Uganda's development vision, with the refinery serving as a critical symbol of the country's pursuit of economic independence and agency. NDP IV is clear in its objectives and, through what is described as a "prioritization logic", it seems clear about the specific pathway — with targeted sectors and projects — the country needs to take.[21]

[20] Reuters. Uganda signs deal with UAE investment firm over oil refinery. 2025.
[21] Republic of Uganda. Fourth National Development Plan (NDPIV) 2025/26 – 2029/30. 2025.

Table 1: Key objectives of Uganda's NDP IV Plan

1	Sustainably increase production, productivity and value addition in agriculture, minerals, oil and gas, tourism, information and communications technology (ICT), and financial services.
2	Enhance human capital development along the entire life cycle.
3	Support the private sector to drive growth and create jobs.
4	Build and maintain strategic infrastructure in transport, housing, energy, water and industry, and ICT.
5	Strengthen good governance, security and the role of the state in development.

Source: Republic of Uganda. Fourth National Development Plan (NDP IV) 2025/26 – 2029/30.

To be successful, Uganda will need to deal effectively with challenges it faced in the NDP III period, including: the underutilization of productive assets; high energy, transport, logistics and capital costs; and implementation challenges. It will also need to be alert to the growing physical consequences of climate change; in 2025, the World Bank named the country the 14th most vulnerable in the world.[22]

Uganda aims to implement a fixed set of plans amid increasing geopolitical and technological uncertainty. However, those dynamics may radically reshape its position in the world by 2030, across axes ranging from commodity markets, trade flows, and security. Uganda's development does not happen in a vacuum, although with some notable exceptions (such as coffee), Ugandan businesses have historically been focused more on the domestic market than on exports. Their principal exposure to global markets has been through the prices of imported materials and goods, especially oil. The drive towards industrialization and greater integration into international trade could open opportunities for Ugandan business but will also increase the country's exposure to external risks. The development of an oil industry whose economics are dependent on exports to global markets will only accelerate this trend.

In a companion paper to this report, *Reassessing oil in Uganda: how to investments in Uganda's oil industry stand up in an accelerating global transition*, we set out the findings of an analysis that considered the impact of a variety of risks on potential financial and developmental returns from the project. We concluded that in a world that decarbonizes fast enough to limit global warming in line with the Paris Agreement goals, Uganda's earnings from oil could be less than half what it anticipates over the industry's lifetime. This means that — contrary to the assumptions of previous Ugandan NDPs — oil is unlikely to be a transformative driver of development in the country. Table 2 provides a summary of the key messages from that report.

[22] World Bank Group. Country Climate and Development Report: Uganda. 2025.

Table 2: Key messages from Reassessing oil in Uganda report

1	Uganda's elevated public debt levels threaten the macroeconomic stability needed to implement its fourth National Development Plan.
2	Uganda's proposed USD1.8 billion oil refinery investment could pose significant risks to public financing.
3	Sustained, multi-year investment in climate-resilient, electrified industrialization offers a lower risk, lower cost approach to growing incomes and creating jobs.

In addition, the development of Uganda's oil industry could also bring unintended costs. There have been allegations of human rights violations during construction, particularly relating to people whose homes and livelihoods have been displaced by the EACOP pipeline. Oil spills from a pipeline close to water sources that sustain more than 30 million people[23] could have devastating implications, ranging from the impact on human health, agriculture and the broader ecosystem. The presence of oil infrastructure in areas with pristine nature and wildlife could affect the growth potential of tourism, another industry prioritized by Ugandan officials.[24] Crude oil exports have the potential to close Uganda's persistent trade deficit by 2030, reducing the pressure on domestic inflation caused by a weaker shilling. However, a stronger shilling could hurt the competitiveness of Ugandan firms in other industries trying to access export markets for the first time.

On top of likely disappointing economic returns from the Tilenga and Kingfisher oil fields, the decision to build an oil refinery would increase the level of risk around oil-based development. This report does not question the development objectives of the NDP IV but does critically examine some of the Plan's assumptions. Would the refinery result in savings for Ugandan energy consumers? Is the planned investment still a solid bet despite the findings of the *Reassessing oil in Uganda* paper, the tripling of Uganda's proposed investment and the upcoming new International Monetary Fund (IMF) program? Are there less risky alternative strategies for Uganda to achieve its objectives?

These issues are closely tied to the question of how Uganda can prioritize its limited fiscal space in a fast-changing world. This question sits within the broader challenge of how best to achieve climate-resilient development and prosperity. Answering these questions effectively may require new approaches and updated planning processes. This report addresses these issues using a combination of economic analysis and a review of policy documents, secondary literature and evidence from other transitions in other parts of the world.

The rest of this paper is split into three principal sections:

- Section 2 reviews the core assumptions underpinning the NDP IV, highlighting areas where reality may diverge significantly from the assumptions of Ugandan officials. This section

[23] World Wide Fund for Nature and Civil Society Coalition on Oil and Gas in Uganda. Safeguarding people & nature in the East Africa crude oil pipeline project: A preliminary environmental and socio-economic threat analysis. 2017.
[24] Although not explicitly mentioned in the document, the environmental risks relating to Uganda's oil industry and the potentially uneven distribution of risk within the country are issues that the recent Uganda Just Transition Plan seems to suggest should be integrated more consistently within Ugandan development policy

explores how recent macroeconomic data suggest that the NDP IV is overly optimistic about macroeconomic stability, and considers how a context of weaker public finances should affect the choice of investments to prioritize and how best to use the country's limited fiscal space. We propose a set of high-level criteria to support those prioritization decisions.

- Section 3 presents an assessment of the risks and potential benefits associated with the oil refinery. We assess how Uganda's public finances might be affected if foreseeable risks, such as cost inflation and an accelerating global transition, materialize. The section also includes a review of limited public information and a sensitivity analysis of a potential tolling agreement between Uganda and its Emirati investment partners that would increase Uganda's share of the refinery's climate transition risk.

- Section 4 proposes an alternative potential pathway that prioritizes larger-scale investment in a broader range of sectors that could serve as the foundation for a more diversified Ugandan industrialization. Targeted investment in modern energy services, and climate and disaster resilience is proposed as a "lower regrets" strategy that could help Uganda achieve its NDP IV objectives while posing less risk to public finances than the oil refinery. Ugandan revenues from oil exports — which would be higher if the refinery is not built — could help to fund this industrial transformation.

Analysis of the potential impact of a global transition on Uganda's oil revenues, and the economic viability of the EACOP pipeline, is set out in a parallel paper *Reassessing oil in Uganda: How do investments in the oil industry stand up in an accelerating global transition.*

2. Uganda's development planning assumptions

- Less than a year since the publication of NDP IV, several of the Plan's key assumptions are already out of date. In particular, the fiscal space earmarked for Uganda's public investment in development priorities appears to have diminished.
- Climate change is eroding Uganda's economic foundations, while the global transition is changing the economic viability of potential investments (including in oil) that are exposed to international trade or markets outside Uganda's borders.
- Uganda could benefit from an augmented approach to investment prioritization that accounts for these issues, particularly where the country plans major public investments or the leveraging of the public balance sheet to attract commitments from domestic and foreign financial sectors.

Achieving the objectives of Uganda's NDP IV could drive significant improvement in the lives of many Ugandans.[25] However, this will be contingent on a substantial and sustained increase in economic growth. To expand the economy tenfold by 2040, the country will need to more than double average annual growth rates from the average of closer to 5% from 2015 to 2025 (excluding the COVID-19 pandemic).[26] Doing this during a period of heightened geopolitical volatility will require Uganda to learn from the implementation challenges from previous NDP periods and particularly, to be judicious about the use of limited fiscal space. The NDP IV's references to a "prioritization logic" and a "program approach" suggest a steady, predictable and planned approach to spending.

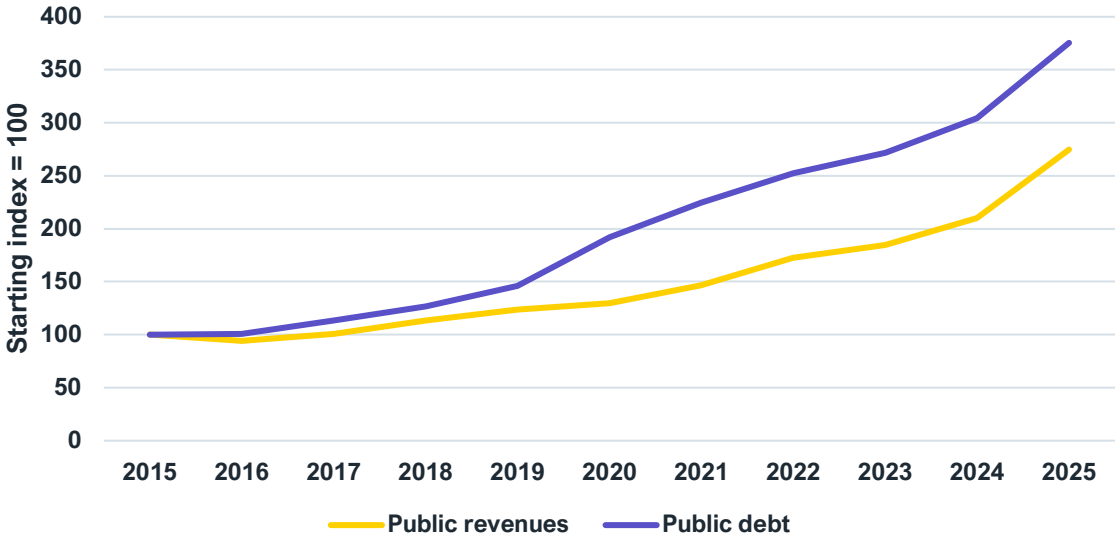
Industrialization and the growth of value addition are slated to be the primary motors of growth. Higher profitability in core production sectors, such as agriculture (24% of GDP) and manufacturing (15% of GDP), should support more job-rich growth and provide an anchor for further growth in the services and financial sectors. If broadly distributed between urban and rural areas, industrialization could help achieve a core NDP IV objective of pulling Ugandans out of subsistence agriculture-based livelihoods into a formalized money economy. However, the ability to drive a sustainable increase in value creation will depend on a more rounded enabling environment and effective use of technology; better access to reliable, modern energy services; improved transport and logistics networks; and improvements in the ease and cost of doing business. In macroeconomic terms, Uganda needs a massive step-up in total factor productivity.

Implementing the Plan will require a step-up in investment in that enabling environment and reforms to the domestic financial sector that can lower the cost of that investment. For investment to deliver the rapid payback needed to spur sustained growth, Uganda must navigate a complex sequencing and co-ordination challenge to better align supply and demand growth rates. Since 2015, Uganda's electricity system has faced a version of the supply/demand "chicken and egg" problem, with electricity generation capacity tripling while demand has barely doubled, hindered by poor reliability,

[25] Republic of Uganda. Fourth National Development Plan (NDPIV) 2025/26 – 2029/30. 2025.
[26] World Bank Group. GDP growth (annual %) – Uganda. Accessed on 6 December 2025.

limited stable load sources and high tariffs.[27,28] If investment in infrastructure outpaces demand, those investments will have low profitability. Low profitability can push contingent liabilities on to the government, which risks becoming the demand source/credit enhancer of last resort. With public revenue growth consistently lagging growth in public debt since 2025, broader concerns have been raised about the productivity of public investment in Uganda, including challenges related to project implementation capacity and corruption.

Figure 1: Growth in Ugandan public debt vs growth in Ugandan public revenues



Source: International Monetary Fund, Authors' analysis.

The inherent complexity of major infrastructure investments (including in the oil sector and in hydropower generation) has already exposed the country's public finances to challenges associated with any large construction project — including the delays and cost overruns analyzed in our accompanying *Reassessing oil in Uganda* paper. Downgrades to Uganda's sovereign credit rating have followed, raising the cost of sovereign borrowing from non-concessional lenders at a time when concessional finance is scarce.[29]

As Uganda expands its ambition in the NDP IV period, it will be exposed to greater risks, including from increasing competition in regional and global markets (for capital, goods exports and imports alike). The accelerating physical consequences of climate change could compound things. These risks, over which Uganda has limited control, will affect its ability to achieve President Museveni's stated desire to reduce dependence on foreign countries and take Uganda's future into its own hands.

[27] Electricity Regulatory Authority. Trend of Uganda's Installed Capacity. Accessed on 6 December 2025.
[28] International Energy Agency (IEA). Uganda: Understanding energy end uses. Accessed on 6 December 2025.
[29] Multilateral and bilateral donors and development finance institutions have particularly restricted the provision of finance to emission-intensive sectors in recent years. The Clean Energy Transition Partnership is at the vanguard of this shift (International Institute for Sustainable Development. International Alliance Drives a 78% Drop in International Fossil Fuel Finance. 2025.)

2.1. Uganda's NDP IV in the age of climate risk

The NDP IV states that Uganda is "cognizant of the challenges and threats"[30] posed by regional and global trends; however, the report refers mostly to geopolitical dynamics, including the potentially transformative African Continental Free Trade Agreement. By contrast, the report has less focus on the potential impact of the global transition (an unprecedented technological shift with major consequences for geopolitics) and only makes limited reference to the accelerating physical consequences of climate change. These trends will radically reshape the conditions in which Uganda can supercharge its historic growth trajectory. The country is more likely to be successful in its development objectives if planners take these issues into account.

For as long as Uganda's export basket was dominated by raw agricultural commodities in markets with limited competitive pressure, the country had little to fear from a strengthening exchange rate. For a net importer of most industrial inputs and goods (liquid fuels, steel, building materials, and capital goods), the risk of currency depreciation (and hence imported inflation) was seen as a bigger risk to macroeconomic stability. Industrialization and the growth of Ugandan production had been seen as way of closing the persistent trade deficit by reducing the import bill. As underscored in our *Reassessing oil in Uganda* report, the new oil industry could accelerate the desired reduction in import dependence by increasing exports (of crude oil) and avoiding fuel imports.

At the same time, the oil industry could radically shift the balance of Uganda's exposure to global markets. If Uganda is successful in industrializing and pursues growth in international trade in higher-value goods, a stronger exchange rate could limit the competitiveness of nascent export industries. Oil production also increases Uganda's exposure to risk associated with the global transition, as analyzed in the companion report *Reassessing oil in Uganda*. The authors also reviewed Ugandan strategies and priority projects as quoted in the NDP IV report to identify other risks associated with the global transition that could impact the country's ability to deliver on its goals. As set out in Table 3, beyond oil, the global transition primarily risks affecting imports and domestic prices.

Physical climate risk could — if not well managed — push up the costs of Ugandan production, with knock-on impacts for domestic demand and trade competitiveness. The World Bank's 2025 *Country Climate and Development Report* (CCDR) highlighted that Uganda is the 14th most vulnerable country to climate change globally, and faces concentrated exposure to climate-related heat stress, unpredictable precipitation, soil erosion and disease, particularly in primary sectors, such as agriculture.[31] The economic impacts on the country — relative even to neighbors in East Africa — could be large.

Unless sufficient investment is made in climate adaptation and disaster resilience, the combination of global transition risk and physical climate risk could not only put at risk the NDP IV goals but also

[30] Republic of Uganda. Fourth National Development Plan (NDPIV) 2025/26 – 2029/30. 2025.
[31] World Bank Group. Country Climate and Development Report: Uganda. July 2025.

threaten development gains made in recent years and the ability to achieve just transitions in future.[32]

Without incorporating an understanding of these risks into policy and investment planning, Uganda risks being thrown off course by material risks over which it has limited control. This would mean that limited fiscal buffers to absorb risks can dwindle quickly. Uganda's rising public debt trend suggests this process has already begun.

Table 3: Uganda's exposure to climate risk in priority sectors

Priority NDP sector	Physical climate risk exposure	Climate transition risk exposure
Oil	Heat stress and potential impact on labor productivity and machinery. Water shortage and drought. Higher cooling costs (mostly electricity).	Lower prices and revenues, resulting in lower margins and potentially impaired competitiveness. Risk of stranded assets and earlier than expected cessation of production.
Agriculture	Heat stress, potential impact on productivity and elevated risk to livestock. Water shortage and drought. Enhanced landslide risk, including in relation to key roads. Lower yields, soil erosion, agricultural pests.	Fall / slower than expected rise in the cost of oil-based fuels (assuming Ugandan fuel production is priced at/ near import parity). Potential increase in the cost of fertilizers, equipment and machinery (due to higher costs of lower carbon production). Changing nature of the packaging market. (Uncertain) opportunity for additional revenues in carbon credit markets.
Tourism	Tourist numbers could fall during prolonged periods of extreme heat. Potential heat- and drought-related damage to infrastructure could impact tourist demand more structurally.	Limited in the short-term. Longer-term decline in volumes of long-haul tourists limiting growth potential/increasing competition with other destinations offering comparable attractions.
Minerals	Heat stress and potential impact on labor productivity and machinery.	Potential upside in value of copper and rare earths as these elements appear hard to substitute in most

[32] The Uganda Just Transition Framework seems to conceive of "transitions" mostly in relation to Ugandan development policy actions. This report and the companion *Reassessing oil in Uganda* paper argue that just transition outcomes are unlikely to be possible without undertaking similar surveillance about the potential impact of external transition actions on Uganda.

	Water shortage and drought. Higher cooling costs (mostly electricity).	large-scale low-carbon/electrification pathways. More uncertain outlook for cobalt (falling market share of cobalt-rich battery technologies) and lithium (upside from the global transition, but abundant in an increasingly price-sensitive market with many producers).

2.2. Refining key economic planning assumptions

Uganda's NDP IV carefully plots a rise in public debt to GDP over the Plan period, with direct public investment and the use of the public balance sheet to catalyze "innovative financing" needed to accelerate growth.[33] Public debt to GDP would, in theory, rise from 46.9% in fiscal years 2023–24 to 52.5% in 2029–30, temporarily higher than the maximum sustainable level of 50%.

However, recent estimates suggest that the country's public debt to GDP ratio jumped by nearly 5 percentage points in 2024–25 and, by the end of 2025–26, might exceed the level at which the country was supposed to end the NDP IV period.[34] A combination of lower than expected growth and a higher than expected share of non-concessional financing contributed to the jump in debt, as did delays in the start of oil production and cost inflation in relation to the EACOP project. Weaker public finances prompted sovereign credit rating downgrades from Moody's and Fitch.[35]

Recent developments have two major implications for Uganda's NDP IV. First, if underlying economic assumptions can be blown off course so quickly, it suggests that decisions to concentrate a high proportion of public investment in any one sector or project is a risky proposition, particularly if there is any uncertainty around construction costs and timelines. Second, if public debt headroom for NDP IV investment has already been consumed and lower than expected growth risks public debt sustainability, Uganda may need to tap into oil revenues to a much greater degree than planned or risk further sovereign credit rating downgrades.

2.3. Additional investment prioritization criteria

As Uganda becomes more closely connected with international markets, it will become more exposed to increasing volatility in those markets and may need additional planning tools to help officials review and update assumptions during an NDP period. While Uganda's fiscal space remains constrained in the way described above, this may suggest the country needs to review its short-term plans for investment sequencing and the level of risk it is willing to take on — explicitly or implicitly.

[33] Republic of Uganda. Fourth National Development Plan (NDPIV) 2025/26 – 2029/30. 2025.
[34] Reuters. Uganda's debt surges 26% on back of larger domestic borrowing. 2025.
[35] Moody's Investors Service. Moody's Ratings downgrades Uganda's ratings to B3 from B2; changes outlook to stable. 2024. Fitch Ratings. Fitch Downgrades Uganda to 'B'; Outlook Stable. 2024.

Table 5 sets out a series of criteria that become increasingly important in the context of sharp constraints in fiscal space. These could be temporary considerations while Uganda's public finances improve or could form part of a long-term evolution of planning practice.

As explored in Section 3, the oil refinery would score less strongly across all four criteria, compared with distributed renewable energy projects, investments in clean cooking and many climate resilience interventions.

Table 4: Additional investment prioritization criteria for a fiscally constrained Uganda

Criteria	Rationale for inclusion of criteria
1. Investment size	Pursuing a higher share of investments of smaller size increases the flexibility and range of deployment options within a sector. It may reduce reliance on foreign capital as Uganda's financial sector may be able to play a larger role. This approach could reduce execution and exchange rate risks, although it could push up the cost of capital. In industrial sectors, growing investments from a small base — whether in machinery or in ancillary infrastructure, such as electricity generation — would reduce the risk of the supply/demand mismatch experienced in the electricity sector in the NDP III period.
2. Investment timeline/payback period	Prioritization of projects with shorter construction periods and/or shorter payback periods would reduce the gap between public spending (where public investment or credit enhancement is involved) and related revenues. If combined appropriately with criterion 1, this would smooth the impact of higher public investment on debt-to-GDP ratios over time and help avoid sudden spikes that could provoke a sovereign credit rating downgrade.
3. Complexity and risk allocation	Put in place financing and contractual structures that allocate risks associated with construction complexity or timelines to partners best placed to manage them. However, evidence from the oil industry as set out in this and the *Reassessing oil in Uganda* report, suggests that this can be difficult when Uganda has limited negotiating power, especially with foreign partners/investors.
4. Exposure to climate-related economic and financial risks	Subject to additional review projects that increase Uganda's near-term (to 2035) exposure to climate transition risk. Incorporate climate-resilience considerations into all investments and give additional weighting to projects that meet broader economic goals and enhance physical or disaster-related climate resilience.

3. Industrialization and the proposed refinery

- Uganda's planned oil refinery could bring economic benefits, particularly in relation to the trade balance, although these would be worth less in an accelerated global transition. However, the investment could strain the government's finances during construction.
- The decision to finance the project with equity and to secure financing against future oil revenues magnifies the risks to Uganda. The project could also pose a challenge for the new IMF program the country is reportedly negotiating.[36]
- The tolling framework reportedly planned would likely exacerbate the risks that Uganda faces from the investment. The increased share of commodity price risk to be shouldered by the state could mean the investment backfires in a lower price scenario, with costs falling on the government budget or making the economy less competitive.

The project to build an oil refinery is one of the largest single investments proposed to support Uganda's industrialization and value-addition objectives. With the development of the country's first oil fields nearing completion, many see the refinery as the next logical step to maximize the economic benefits from the sector. Historically, the structure of resource industries and infrastructure in many African countries was oriented towards the export of raw commodities, a legacy of colonialism. As a result, developing value-addition industries that retain more value domestically has become a crucial part of development strategies. A refinery could increase the value of Uganda's oil by processing crude oil into higher value products, significantly reduce the country's import reliance and create wider economic benefits during its construction and operation.

While these potential benefits appear a sizeable potential prize, the size of the investment and the complexity of potential financial and commercial arrangements means that there are significant risks to be managed. The government plans to hold 40% equity in the refinery, much larger than its 15% interests in the oil field developments and EACOP. Its equity contribution would be the largest investment the government has made in the country's oil industry to date.[37] The decision to finance part of the USD1.8 billion equity stake with a loan secured on crude and product revenues means that the country risks losing a significant portion of the revenues that it stands to earn from the oil industry. As highlighted in the *Reassessing oil in Uganda* paper, these are likely to be lower than the Ugandan government is currently budgeting for.

Any bet of this scale on a single industrialization prospect warrants detailed scrutiny, particularly in the context of Uganda's fiscal constraints. Increasing uncertainty about the quantum and timing of oil revenues, coupled with Uganda's weaker public finances, could make it increasingly challenging for Uganda to turn oil into a transformative engine of development. If material risks relating to

[36] The Africa Report. Uganda pushes for wider deficit in $675m IMF talks. 2025.
[37] African Energy Council. Uganda commits $4 Billion to fund oil refinery. 2024.

construction costs, operational efficiency and the global transition materialize, the investment could damage, rather than enhance Uganda's economic resilience.

3.1. Uganda's refinery project, its benefits and potential risks

A refinery in Uganda was first proposed in 2010 as a way to maximize economic benefits from the country's recent oil discoveries. The project aims to develop 60,000 barrels per day of refining capacity at Kabaale in Hoima District, receiving priority crude oil supply from the Lake Albert Development. A 212km product pipeline would be constructed to a new storage terminal in Mpigi District, near Kampala.[38] As in the case of the development of the oil resources themselves, the refinery proposal has been delayed repeatedly and is yet to reach FID. Having discussed the project with numerous potential investors over a decade, the government signed an agreement to partner with Alpha MBM in March 2025.[39] The investment company is based in the UAE, and its founding chairman is a member of the Dubai royal family.[40]

The refinery development has several potential attractions. Uganda imports all petroleum products at an annual cost of almost USD2 billion, with UNOC the sole supplier, contracting supply through Vitol[41]. The refinery would have a significant cost advantage over imported product (most of which is trucked from the oil product terminal at Mombasa, Kenya) as it would not have to pay inland transport costs and could potentially price products near current levels (i.e. close to import parity). It could be an investment with some insulation from global market dynamics, employment opportunities, tax revenues and further improvements to Uganda's trade balance in addition to the impact of oil production.

We conducted an economic analysis under the same market scenarios used in the *Reassessing oil in Uganda* paper and project assumptions based on the Natural Resources Governance Initiative's (NRGI) 2024 paper *Uganda's Oil Refinery: Gauging the Government's Stake.*[42] The results of our analysis largely validated the findings of that paper, which noted potential risks to the project's economic viability if global oil prices are lower than expected, if construction costs overrun or given the rise in Ugandan borrowing costs. Since that report, Uganda has decided to finance the project entirely with equity[43] (rather than split between debt and equity) and has agreed a USD2 billion loan from Vitol to finance a portion of this spending alongside other projects. In our base case, with real-terms oil prices around USD60 per barrel based on the futures market, the refinery appears profitable (generating low double-digit IRRs), assuming construction costs remain on budget. However, developments around financing and contractual structures have substantially increased the level of risk the government would bear, relative to the NRGI analysis.

The NRGI analysis highlighted the risks of Uganda taking a 40% equity stake (relative to other less capital-intensive potential uses of the sovereign balance sheet like government guarantees) but was

[38] State House Uganda. President Museveni Secures Mega Oil Refinery Deal With UAE Investors. 29 March 2025
[39] Ibid.
[40] Alpha MBM Investments LLC. About. Accessed 7 December 2025.
[41] Uganda National Oil Company. UNOC Secures Financing To Accelerate Development Of Strategic National Infrastructure Projects And Investments. 19 December 2025.
[42] Natural Resources Governance Initiative (NGRI). Uganda's Oil Refinery: Gauging the Government's Stake. 2024.
[43] African Energy Council. Uganda commits $4 Billion to fund oil refinery. 2024.

based on the earlier assumption that 70% of the project would be funded with project finance debt. Uganda's estimated share of costs would have been USD540 million. However, the decision to finance the project only with equity more than triples the amount Uganda would need to invest to about USD1.8 billion.[44] The lack of availability of limited recourse project financing means Uganda will face higher exposure to key project risks (that would otherwise be allocated to major contractors) than assumed in the NRGI report.[45]

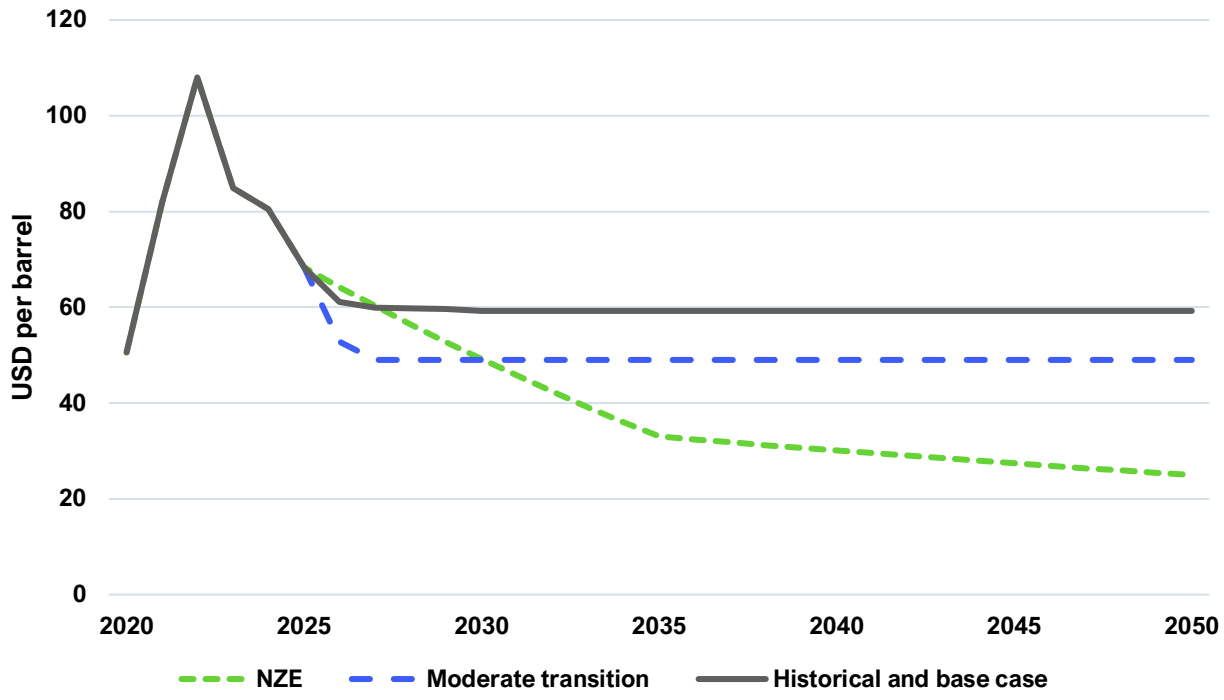
A capital cost overrun of 25% would push the project's rate of return down to 10%. Delays in construction — a common feature of recent global refinery investments — would compound the already significant financing costs for Uganda. Based on the headline rate (a floating rate that currently equates to 4.92%), the Vitol loan could save Uganda money, compared to non-concessional sovereign borrowing. However, this ostensible benefit appears to come with a significant increase in Uganda's exposure to construction delays or operational challenges. The loan grants Vitol priority access to Uganda's crude oil revenues to support repayment. We estimate that, even if the refinery is on time and on budget, repayment of the loan is likely to require some use of crude oil revenues, given that estimated annual loan repayments are likely to average USD500 million, compared with a USD350-400 million share of annual cash flows to UNOC once the refinery begins operations in our base case.

The proposed loan structure could therefore reduce or delay spending on other public investment projects, eroding the potential benefits of the oil industry to the wider economy. And the dynamic would be compounded by an accelerated global transition.

[44] This cost share assumes that the partnership agreement with Alpha MBM includes construction of the product pipeline and storage terminal. If instead UNOC is the sole developer of this additional infrastructure, its share of costs would rise to an estimated USD2.3 billion.
[45] NGRI. Uganda's Oil Refinery: Gauging the Government's Stake. 2024.

3.2. Risks to refining sector from an accelerated global transition

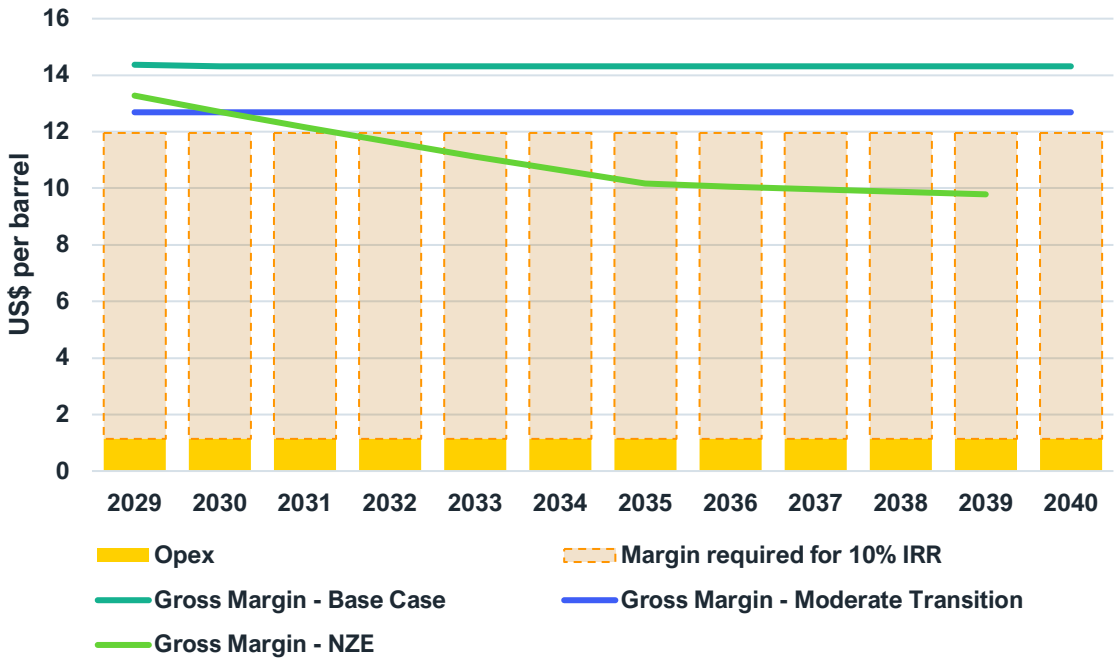
Figure 2: Real Brent crude price scenarios, 2024 USD per barrel



Source: Authors' analysis, Reassessing Oil in Uganda paper.

In an accelerating global low-carbon transition, lower global prices would push the refinery project returns below typical industry hurdle rates. Our modelling shows the refinery IRR falling to 10.8% in the moderate transition scenario (real oil prices flat at USD50 per barrel) and to 5% in the NZE scenario (based on the International Energy Agency (IEA)'s long-term price projections, with prices falling to USD33 per barrel in 2035 and to USD25 per barrel in 2050, in 2024 prices). With oil production becoming uneconomic before 2040 under the NZE with or without the refinery, delays in implementing this investment would also significantly curtail the potential period in which the project could generate benefits. An accelerated transition would also mean less significant trade balance benefits compared with the base case.

Figure 3: Uganda's refining costs and margins by scenario, 2024 USD per barrel



Source: IEEFA

In addition to these risks, overcapacity in global refining markets resulting from an accelerated global transition would depress global oil product prices further, compressing the refinery's margins. It could also impact the market for refined products in Uganda and the region. NRGI's analysis suggests that some of the refinery output would be exported to neighboring countries for the first decade. If lower global fuel prices or the transition away from fossil fuels in those countries in an accelerated transition scenario mean Ugandan exports are not required or uncompetitive, this would reduce potential returns. And while Uganda's demand for gasoline and diesel, as projected by the country's Energy Transition Plan, remains at a level sufficient to provide a market for all refinery output to 2050, faster than expected penetration of electric vehicles (EVs) could threaten the long-term market for the refinery's output. This is notable given Uganda's ambitions to develop a domestic EV manufacturing sector.[46]

On their own, such risks would be significant, but in an accelerated transition, the costs and risks associated with the refinery will place increasing strain on Uganda's public finances. Lower refinery cash flows would mean that a higher share of a smaller total pot of crude oil revenues would be earmarked to repay the Vitol loan. We estimate that funding the refinery and loan repayments to 2032 could consume 21% of Uganda's oil revenues in our base case transition scenario. This increases to around 35% in moderate transition, or around 40% if the refinery doesn't come online until 2030.[47] Squaring this circle with the IMF could also prove difficult, given the importance

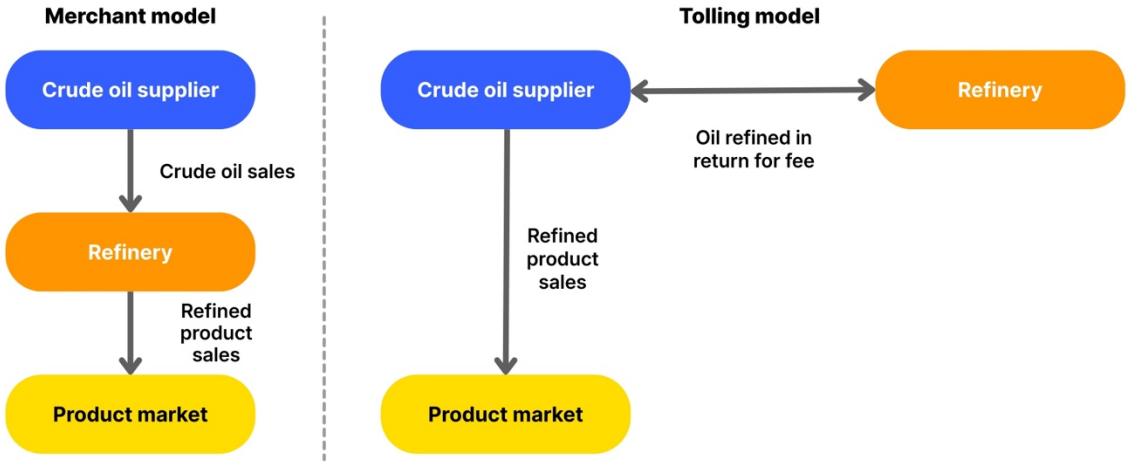
[46] International Energy Agency. Uganda Energy Transition Plan. 2023.
[47] UNOC's estimated share of refinery investments (excluding the first year investment which is to be funded by the loan) and loan repayments, minus UNOC's share of refinery profits (assumed to used first for loan repayments) until the end of the 7-year loan term in 2032, as a share of Uganda's total share of oil revenues from the Lake Albert developments and EACOP over this period

previous Fund assessments have assigned to oil revenues as a potential priority repayment source for its own facilities.

3.3. Distribution of risk within the refining sector

The proposed contractual framework for the refinery could further increase Uganda's exposure to climate transition risk. Government officials have stated that the refinery will operate under a tolling model in which UNOC supplies all crude and retains ownership of refined products, while the refinery itself earns only a processing fee.[48]

Figure 4: Illustration of merchant and tolling refining models



Source: IEEFA

Tolling arrangements are typically used to reallocate price and volume risks associated with infrastructure assets. Investors in the infrastructure that charges tolling fees benefit from more stable cash flows, with reduced or no exposure to commodity price volatility. This means it can be easier to raise project finance. In return, the parties that pay tolling fees to use the infrastructure, while taking on more price risk, are insulated from capital cost overruns or changes in operating costs. However, in this case, with UNOC as shareholder and the sole customer paying to process oil through the refinery, Uganda faces risk on both sides of the arrangement, while its Emirati partners benefit from derisking.

There has been little detail published on the proposed tolling arrangement. Therefore, we outline a potential scenario based on a typical tolling agreement to illustrate how it might affect the allocation of risk between parties. We assume that a flat (in real terms) tolling fee per barrel is set at the minimum level that would give external investors a 10% IRR in our base case (typically the minimum rate of return targeted in the sector).[49] Since our analysis suggests that the refinery achieves an IRR

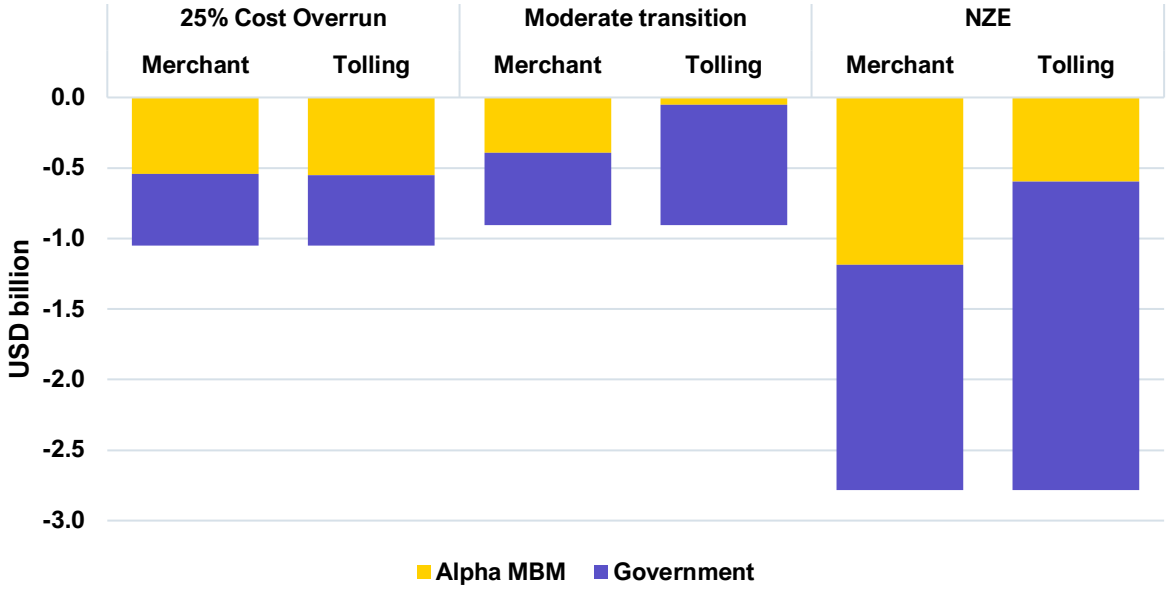
[48] The Independent. What next for Albertine oil refinery? 2025
[49] In this example, the tolling fee is set at USD12.10 per barrel in 2026 and rises in line with inflation thereafter.

slightly higher than 10% in our base case, the tolling arrangement could benefit UNOC in a slow global transition.[50]

A pure tolling agreement would de-risk Alpha MBM's position, placing the most risk relating to global oil prices on UNOC and the Ugandan government. By contrast, Alpha MBM would only be impacted by lower global oil prices if lower prices render some or all oil production supplying the refinery uncommercial. This would reduce the barrels processed at the refinery to earn tolling fees, reducing revenues for investors.[51]

In our accelerated transition scenarios, oil prices are significantly lower compared with the base case, and refining margins are compressed. With UNOC paying a fixed fee per barrel to refine crude, once Brent prices fall below around USD43 per barrel (in real terms), lower margins mean UNOC would incur a loss on each barrel refined if fuel remains priced at import parity.[52] This would leave the government with a choice of options: set fuel prices above import parity to avoid UNOC losses, absorb losses and keep product prices competitive, or stop refining and return to imports.

Figure 5: Distribution of risk between parties under tolling vs merchant model (USD billion)



Source: IEEFA. Note: Risk shown is change in present value compared to the base case

Uganda would face a dilemma in this situation. Charging Ugandans fuel prices above import parity would be highly unpopular and the inflationary effects of higher fuel prices could make other sectors of the economy less competitive. UNOC could face pressure to do this in order to ensure repayment of the Vitol loan. Ad hoc potential government support for UNOC refining losses and/or loan

[50] The net present value of UNOC's share of refining segment cash flows (through its dual role as 40% shareholder and sole customer) would increase from USD400 million to USD1.2 billion though the net positive for Uganda would be somewhat lower as the present value of refinery sector tax receipts would decrease from USD1.1 billion to USD 800 million.
[51] A long-term tolling agreement could also transfer some of this risk to UNOC if it includes volume commitments.
[52] Excluding its role as a refinery investor earing a tolling fee, considering that these revenues are needed to recover its initial capital investment.

repayment obligations would represent a potentially material, unbudgeted contingent liability that could impact the country's debt sustainability. Pausing operations at the refinery in a prolonged period of low margins would be an alternative strategy, but this would mean incurring a loss on the overall refinery investment, impacting public finances through a different channel.[53]

Tolling agreements typically transfer risk to parties more suited to bear it (such as oil and gas exploration and production companies), which can then respond to these price signals by reducing spending or stopping production at more expensive assets. In this case, an agreement that transfers margin risk to UNOC seems atypical given that UNOC has limited reserves in which to absorb risk and Uganda has limited scope to withhold public spending in periods of lower oil prices. A tolling agreement could therefore compound the impact on public debt sustainability of lower-than-expected oil prices that otherwise result in lower fiscal revenues and a higher share of oil revenues being diverted to repay the Vitol loan.

The refinery tolling agreement – as a mechanism where the Ugandan government appears willing to take on risk to the public balance sheet to secure foreign investment commitments – seems to mirror the various ways in which TotalEnergies and China National Offshore Oil Company have sought to de-risk their investments in the Tilenga and Kingfisher fields and EACOP. This may be indicative of a general weakening of Uganda's negotiating power as its public finances have deteriorated.

3.4. Refinery appears a risky bet against accelerating transition

The analysis above highlights the importance of scrutinizing the potential refinery investment against a set of investment prioritization criteria for the public balance sheet that incorporates climate risk considerations as part of the assessment. Any projected benefits diminish and risks increase in a faster than expected transition. Uganda's potential refinery investment increasingly looks like a bet on a slow global transition at a time when structural changes in oil markets are accelerating and the physical impacts of climate change are becoming increasingly serious.

The potential structure of the refinery's commercial and financing arrangement adds to the country's negative exposure to an accelerated global transition as set out in the *Reassessing oil in Uganda* paper and in this section of the report. In this context, UNOC's proposal to use some of the amount borrowed from Vitol to invest in the Kenya Pipeline company would further increase Uganda's growing concentrated economic exposure to oil.

Overall, while the refinery investment appears appealing on paper or as part of a national story of economic emancipation, in practice, it faces significant risks. It faces major uncertainty around future oil markets and returns and the high share of risk the government may have to assume to secure foreign investment. To ensure that any oil revenues Uganda earns can act as a catalyst for sustainable economic development, the project warrants re-examination against more diversified portfolios of smaller-scale development investments across a wider range of technologies and regions of the country.

[53] If the tolling agreements set minimum volumes UNOC should deliver to the refinery (as in a take-or-pay agreement), this would further increase contingent liabilities.

4. Lower risk potential alternative pathways

- Uganda's ability to achieve its NDP IV goals depends on building a strong enabling environment, including: access to productivity-enhancing technology; more reliable and lower-cost transport infrastructure; and reasonably priced capital. Extremely low access to modern energy services is a key source of competitive disadvantage relative to other African states, hindering the achievement of these goals.
- Enhanced investment in the provision of electricity and clean cooking solutions to all Ugandans will not only generate a very high economic multiplier effect, but could improve the resilience of the population to economic, health and climate-related shocks
- A foundation capable of supporting Uganda's industrialization goals is not just a question of building, but of maintaining. If insufficient investment is directed to climate adaptation and disaster resilience, Uganda's ability to achieve its development goals will be significantly hampered.

With the oil refinery looking like a riskier and less productive investment than originally expected, Uganda may decide to delay or cancel the project. If Uganda were to cancel the project, it would benefit from additional revenues from oil production while avoiding the risks set out in Section 3. In this scenario, Uganda and its partners would be free to export oil produced via the EACOP pipeline, generating an additional USD2.3 billion in present value terms from pipeline tariffs in the base case. Uganda's share of revenues, including additional tax take of about USD300 million, could be used for incremental debt reduction, investment spending or long-term saving.

This section considers alternative potential pathways to meeting NDP IV goals more consistent with the country's limited fiscal space and shock absorption capacity than the proposed refinery.

We reviewed Uganda's national development planning, strategy and vision documents as well as relevant secondary literature to ascertain whether there were projects or sectoral strategies already in place or in the pipeline that could be accelerated or expanded if a decision against the oil refinery created space for public funding or the incentivization of other investments. We also considered whether other options could provide the specific benefits the refinery was intended to deliver: greater energy security (i.e., less reliance on imports); and improvements in the trade balance.

Uganda's investments in the oil sector are unlike the rest of the country's nascent industry: they are dominated by foreign funding; connected to international markets and concentrated in a small part of the country. We see no single alternative investment or sector with the potential to deliver the same benefits as the refinery promises but a larger number of smaller investments could do so. Other extractive industries (for example, in minerals) with export potential are not as mature as the oil industry, there are no other sources of domestic demand of a size similar to oil where investing in domestic production would displace imports, and Ugandan economic growth is not fast enough to create demand quickly enough to absorb a significant jump in supply. A decade of underutilization of

new electricity generation assets (built ahead of expected demand growth) illustrates the importance for Uganda to grow production in tandem with potential demand.

Freeing up fiscal space could create opportunities to accelerate the deployment of small-scale, modern energy solutions (including mini-grids and clean cooking technology) to an ever-higher proportion of Ugandans. This “no regrets” investment would support the transition of rural Ugandans away from subsistence agriculture, and provide a foundation for the growth of value addition and the climate-proofing of Ugandan production. Enabling electrified manufacturing (in agricultural processing and beyond) can also create stable loads that can gradually support private sector investment and financial sector development. These investments would pose less risk to public finances than the refinery as they have: a smaller average size (and hence, cost overruns in any one project would be less significant); a faster payback period (a shorter time from investment to GDP contribution); lower complexity and reduced dependence on foreign partners; and weaker links to external markets (thereby reducing exposure to external transition risk). The broader direct distribution of the benefits of public investment (relative to the refinery) could also align more closely with the aims of the Ugandan Just Transition Framework.[54]

Finally, unlike the refinery, whose investors may be more focused on commercial returns, investment in reliable electricity access, clean cooking and climate resilience is more likely to enable Uganda to attract concessional finance, given that these areas continue to be core priorities even in a context of reduced overseas development aid availability.

4.1. Modern energy services

For decades, low and highly irregular access to modern, reliable energy services has constrained Uganda’s industrialization and the achievement of its development goals, particularly in rural areas. An underserved, unreliable and expensive energy system has discouraged investment in processing and manufacturing, and has impeded attempts to improve private sector profitability. If Uganda can unlock this issue, alongside elevated transport, logistics and domestic credit costs, it will be better positioned to compete internationally as its firms integrate into regional and global markets.

Uganda has made notable progress in expanding electricity access. Access rose from 18.5% in 2015 to about 51.5% in 2023, driven by increased investment in power generation and rural electrification initiatives (roughly 25% have access to grid-connected electricity and 28% have distributed solar).[55] However, access gains remain uneven. While 76.4% of urban households were connected to electricity at the end of 2023, compared with about 42.4% of rural households.[56]

Most rural producers lack access to reliable and affordable power for value-adding activities such as grain milling, dairy pasteurization, coffee roasting, or cold storage for perishable crops. Without these services, farmers are forced to sell raw commodities at low farmgate prices, forfeiting the higher margins available from processing and storage. Rural electrification plays a pivotal role in

[54] The Uganda Just Transition Framework was launched in December 2025 and accessed from a LinkedIn post from funder CIF on 16 December 2025. On that day, there was no link from a Ugandan government website.
[55] Uganda Bureau of Statistics (UBOS). Uganda National Household Survey Report 2023/24. May 2025.
[56] World Bank. Access to electricity (% of population) – Uganda. At 16 May 2024.

enabling agricultural processing and reducing post-harvest losses, yet weak off-grid markets and limited productive-use financing have left much of Uganda's rural economy disconnected from energy-driven modernization.[57] The country is heavily dependent on biomass, which contributes to deforestation and biodiversity degradation.[58] The use of modern clean cooking technology is almost nonexistent countrywide, affecting health outcomes (via high levels of indoor air pollution) and labor productivity, particularly of rural women who typically collect firewood for domestic use.[59,60,61]

The NDP IV envisages growing electricity access to 70% of households by 2030, but spurring electrified industrialization will be more complicated than merely investing in new electricity generation. Uganda's electricity statistics suggest extremely low levels of demand, even for those who do have access. IEA data indicates Uganda's per-capita electricity consumption is only about 95 kilowatt hours (kWh) a year (2023), far below the African average of 617 kWh and the global average of 3,493 kWh (2022).[62,63,64] This low consumption underscores not just access deficits, but also raises questions about reliability and affordability. The underutilization of available generation capacity also puts pressure on investment returns and the government balance sheet, the latter materializing as contingent liabilities under take-or-pay obligations.

The NDP IV highlights as priority projects several very large new generation sources (such as new large hydro projects and 9.6 gigawatts of nuclear capacity). These projects could pose further risks to the public balance sheet if not accompanied by systemic reforms that enable broader investment in manufacturing, agricultural processing and grid reliability. Smaller-scale projects with shorter payback periods (such as mini grids, off-grid solar with captive loads) may pose less risk (in the form of contingent liabilities). However, as the International Growth Centre's recent report highlighted, Uganda's electricity system also has issues relating to technical and commercial losses, non-payment and the affordability of tariffs. These also need to be addressed proactively before the sector can enter a sustainable growth phase.[65]

Institutional reforms, such as the Electricity Amendment Act (2022), could provide a legal basis for a "second generation" of power sector reforms that would allocate risk more effectively and reduce contingent liabilities to the public balance sheet.[66] These reforms could lower electricity tariffs, which would improve the competitiveness of Ugandan firms in international markets.

The improved affordability and uptake of electricity as a reliable energy source would increase the efficiency of Ugandan businesses, which might otherwise consume costly oil products like diesel, kerosene or heavy fuel oil. These fuels will be subject to volatility even if the oil refinery is built, given the plan to sell its products at import parity prices. If new demand is served by hydro, solar or other renewable energy sources (such as landfill gas), electrification of the economy would gradually allow Uganda to achieve the purported benefits of the oil refinery: greater energy independence and an

[57] European Union. GET.Transform. Energy for Rural Industrialisation. Productive Use of Energy 2.0. August 2022.
[58] Sustainability. A Hierarchical Model to Evaluate the Quality of Web-Based E-Learning Systems. *Muhammad, A.H. et al*. 2022.
[59] UBOS. Uganda National Household Survey 2023/24. May 2025.
[60] IEA. Uganda 2023. Energy Policy Review. November 2023.
[61] Monitor. Reliance on firewood, charcoal hurting Ugandan women, activists say. 8 March 2025.
[62] IEA. Uganda. Electricity. 2023.
[63] IEA. Africa. Electricity. 2023.
[64] World Bank Group. Electric power consumption (kWh per capita). March 2025.
[65] International Growth Centre. Uganda's energy sector: A fiscal risk. June 2020.
[66] Republic of Uganda. The Electricity (Amendment) Act, 2022. 16 May 2022.

improved trade balance. With the increasing reliability and lower cost of electricity, Uganda will be better placed to invest in more energy-intensive manufacturing, such as building materials, could help strengthen its self-sufficiency in the core building blocks of modern life.

4.2. Climate resilience

Growing access to modern energy services is a critical part of building the economic resilience of Ugandan firms and the population to most types of economic shock, but especially climate change. Given the country's extremely high vulnerability and the accelerating physical consequences of climate change witnessed over the NDP III period, Uganda could gain significant economic benefits from integrating physical climate-risk considerations into the energy and industrial investments discussed in Section 4.1.[67] In fact, if it does not prioritize spending on climate adaptation and disaster resilience, climate change could undermine the foundational assumptions around economic growth in the NDP IV period in the same way the recent spike in public debt has undermined base fiscal assumptions. Unmitigated climate change effects would lower growth through lower labor productivity, lower food production and higher costs relating to physical damage. In turn, the NDP IV cites lower than expected growth as one of the major risks to public debt sustainability.

If addressing physical climate risk is a priority for protecting Uganda's economic growth prospects, and growing access to modern energy services is a critical element of growing climate resilience, accelerating this complex of investments should be a priority – especially considering they would be likely to unlock additional volumes of concessional capital.

A core priority for investment would include the irrigation systems (including reliable access to clean water) that would reduce the reliance of Ugandan agricultural production on increasingly erratic rainfall.[68] The NDP IV priority projects list includes nearly UGX500 billion (USD140 million) for solar irrigation projects designated as having high multiplier effects. Cancelling the refinery project would not only create the fiscal space to expand this investment significantly (by avoiding borrowing to fund construction) but could create the revenues to fund it without borrowing at all (through additional oil exports). Other priority projects include adding value in the coffee value chain and the critical Uganda Climate Smart Agricultural Transformation Project, which targets 69 districts across 13 agroecological zones.[69]

Transport is another priority area for investment that could improve the country's climate resilience.[70] Only about 25% of the country's national road network and a very low proportion of the subnational network is paved, and the NDP highlights a deteriorating network due to a maintenance backlog. The state of the transport network is further threatened by climate risk, with about 60% of the national network and 45% of district networks highly vulnerable to flooding.[71] Prioritization of road maintenance and improvement plans and projects aimed at improving the transport system could

[67] World Bank Group. Country Climate and Development Report: Uganda. 2025.
[68] Ibid.
[69] Ministry of Agriculture, Animal Industry and Fisheries. Uganda Climate Smart Agricultural Transformation Project. October 2022.
[70] World Bank Group. Country Climate and Development Report: Uganda. 2025.
[71] Ibid.

support wider economic development by reducing the cost of doing business across sectors, and improve the climate resilience of the economy.

Integrating physical climate risk considerations into the design of the roll-out of modern energy services will also be critical to ensure that the latter generates high multiplier effects. This will likely mean reducing the reliance of the electricity system on the hydropower that has driven recent increases in installed capacity, and avoiding the addition of water-intensive new capacity, such as nuclear. A 2023 study of Uganda's electricity system resilience highlights that droughts and reduced river flows across the Nile Basin can sharply reduce output from major hydro plants, and increase the risk of load-shedding.[72] As climate change accelerates, Uganda is experiencing more erratic rainfall patterns, unpredictable reservoir inflows, and higher evaporation losses from hydropower reservoirs. Together, these shifts threaten the long-term reliability of hydropower generation, and increase the risk of seasonal supply shortages. For a country aiming to expand electrification and industrialization, this vulnerability means surplus power generation may not translate into dependable supply without diversification of the energy mix.

Finally, supplementing climate adaptation measures that protect against future physical risk with broader, targeted shock absorption measures that provide protection today could reduce the vulnerability of Ugandans across the country while drawing them into the formalized money system. A World Bank pilot shock-responsive social protection scheme (structured as a disaster risk financing mechanism) resulted in 51% savings in overall emergency response costs.[73] Uganda spent nearly USD100 million a year on disaster relief between fiscal years 2016-17 and 2018-19, meaning that achieving major savings in this area could contribute significantly to stabilizing the public finances.[74] Expanding efforts here would be affordable too, especially if the Ugandan government were to supplement external concessional funds with a share of oil revenues.

Overall, Uganda has many pressing areas for the utilization of limited fiscal space that do not expose it to complex single project risks or those relating to the global transition. If it decides to delay or cancel the refinery project, it may also decide not to spread the spending of USD1.8 billion over a longer period, allowing the time for the public finances to improve, and for sufficient growth in economic activity to absorb the impact of major new investments.

[72] Climate. Uganda's Hydropower System Resilience to Extreme Climate Variability. *Mujjuni, F., Betts, T., and Blanchard, R*. Vol. 11. August 2023.
[73] World Bank Group. Country Climate and Development Report: Uganda. 2025.
[74] Ibid.

5. Conclusion

- Uganda's recent sovereign credit rating downgrades and rising public debt costs have limited the country's fiscal space, making large investments riskier and more expensive. As set out in this report, Uganda's fiscal headroom is already insufficient to absorb additional shocks.
- Given these fiscal constraints, a diversified set of smaller, faster-payback investments appear to suit Uganda's public balance sheet better than a single, large refinery project with complex commercial and financing arrangements.
- Planning processes should be updated to explicitly consider physical climate and transition risks, ensuring major public investments remain productive under a range of future scenarios.

As the world accelerates its decarbonization trend, reducing long-term demand for oil, Uganda's investment in oil as a major driver of impetus to the planned transformation of the economy is becoming increasingly uncertain.

As explored in the *Reassessing oil in Uganda* paper, the country could earn significantly less from the oil industry than expected and factored into its NDP IV. Delays, cost escalation, and a shifting global market have significantly reduced the net future revenue Uganda can expect. Compared with the foreign partners on whose technical expertise Uganda has relied to develop the Tilenga and Kingfisher fields, Uganda would lose substantially more (53% compared with 34% for foreign partners) of its expected revenues in a world that limited global warming in line with the Paris Agreement goals.

Delays to the start of Ugandan oil production (to late 2026 or early 2027) and ballooning construction costs of the EACOP pipeline mean Uganda has borne more costs while not yet seeing fiscal benefits from oil. Deteriorating public finances have reduced Uganda's short-term resilience to economic shocks, prompting the country to open conversations about a new IMF program. Given these pressures, Uganda must critically reassess whether high-risk, single-sector bets are compatible with its fiscal realities. This report does not question the country's development objectives but does argue that the continuation of the existing strategy anchored around a small number of large infrastructure projects could pose intolerable levels of risk to Uganda's stretched public finances.

Ugandan policymakers have long committed to building the refinery as a symbol of economic agency and for its significant potential trade balance benefits. But while the refinery promises trade balance improvements, the financial risks may now outweigh these benefits. The accelerated technological and geopolitical shifts ongoing in most of the world will increasingly affect Uganda as it grows the connection of its economy with international markets. In this context Uganda may need to more frequently review the implementation pathways of national development strategies and critically reassess whether long-held ambitions such as the refinery are still likely to contribute to the country's development goals.

Alternative development pathways exist that align better with Uganda's fiscal constraints and exposure to climate and transition risks. A sequenced portfolio of smaller, climate-resilient investments offers faster payback periods, lower risk concentration, and greater flexibility. This approach reduces Uganda's vulnerability to global oil market dynamics and preserves options for adjusting strategy as conditions evolve.

5.1. Climate-resilient planning in a decarbonizing world

Uganda has recently taken a prominent role in international co-ordination around climate resilience, as co-chair of the Coalition of Finance Ministers for Climate Action (CFMCA).[75] This means it has access to international expertise on climate-related financial risk, but integration into national planning remains limited. As demonstrated by the analysis in this report and the *Reassessing oil in Uganda* paper, there is more the country could do to integrate these considerations into its national development planning. The Ugandan Just Transition Framework[76] is an important step in this direction, though the framework appears to focus more on the management of development investments once chosen, rather than the choice of which investments to prioritize. Similarly, it focuses more on potential Ugandan actions, rather than the impact on Uganda of material factors outside of the country's control.

Frameworks such as the IMF's Climate – Public Investment Management Assessment can help Uganda evaluate which public investments deliver both climate resilience and strong socio-economic returns.[77] Integrating climate and transition risk into planning would also position Uganda more effectively when seeking concessional finance or debt treatment. A clearer view of how global structural shifts affect domestic investment choices is essential for protecting fiscal sustainability.

Incorporating a comprehensive analysis of climate-related economic and financial risks into planning on a comprehensive basis would strengthen Uganda's position (both for its own account and for those it represents at the CFMCA) in articulating future aid and financing needs to development partners including, potentially, requests for sovereign debt relief. The importance of a "needs-based" approach has increasingly been foregrounded by Global South countries as a core component of a just and equitable transition to ensure climate prosperity in a decarbonizing and increasingly volatile world.[78] In doing this, Uganda and other countries would benefit from a clearer sense of how global structural change may not only affect the value of new investments but could also undermine long-held beliefs about the approaches that are likely to create sustainable improvements in development outcomes. The economic viability of oil-based development in Uganda, or anywhere in the world, is much more uncertain than it was when oil exploration began there.

We make these comments deliberately without reference to Uganda's Nationally Determined Contribution (NDC) and other international commitments. This is not to diminish the importance of

[75] Ministry of Finance, Planning and Economic Development. Uganda Assumes Role of Co-Chair of the Coalition of Finance Ministers for Climate Action. 2025
[76] The Uganda Just Transition Framework was launched in December 2025 and accessed from a LinkedIn post from funder CIF on 16 December 2025. On that day, there was no link from a Ugandan government website.
[77] International Monetary Fund. Climate-PIMA. Accessed on 6 December 2025.
[78] Sheehama, A., Naidoo, C.P., Dufief, E., and Treyer, S. Reframing Needs-Based Finance through Mutual Commitment and Dialogue. 2025.

these commitments, but to recognize their secondary importance in countries like Uganda that have recently suffered from volatility in the availability of aid from the Global North. Uganda's very low historic responsibility for climate change, coupled with the inadequacy of commitments around climate change-related loss and damage funding[79], means that it is very hard for it to grow fast enough to expand fiscal space without debt relief.

This means that, with an underdeveloped and high-cost domestic financial system and with very limited availability to accumulate domestic savings, it is very difficult for Uganda to separate commitments of foreign direct investment (whether on a concessional or commercial basis) from the interests of the parties providing the financing.

In this context, a development vision anchored around large infrastructure projects and a high degree of centralized planning (and spending) at national government level, could entrench Ugandan reliance on those foreign capital providers for the long term. This model may have been a recipe for success in the past (for example, at a time of significantly lower public debt levels) but now faces mounting challenges.

We believe the answers to the question of how to adjust Uganda's strategy can only be found in Uganda. We hope this report and the companion *Reassessing oil in Uganda* paper are a useful contribution to this effort.

[79] United Nations. Prime Minister of Barbados calls for defence of rules-based world order. 2025.

Appendix: Refinery modelling assumptions

Our economic model of the proposed refinery development was based on project assumptions based on the Natural Resources Governance Initiative's (NRGI) 2024 paper *Uganda's Oil Refinery: Gauging the Government's Stake* and oil market scenarios upstream assumptions used in the *Reassessing oil in Uganda* paper.[80] The key assumptions are outlined in Table 7 below:

Table 5: Refinery modelling assumptions

Refinery throughput	57,000 barrels per day (95% utilization of 60,000 barrels per day capacity) from 2029, as in NRGI analysis. Throughput is limited to volume of output from Lake Albert development, therefore declines from 2044 and ceases in 2054 (in base case).
Crude oil feedstock price	Oil price at Hoima equal to market export price at Tanga (assumed at 5.3% discount to Brent as in *Reassessing oil in Uganda* paper), minus EACOP tariff.
Product yield	As in NRGI analysis: Gasoline: 55% Diesel: 24% Jet fuel: 4% LPG: 13% Heavy fuel oil: 4%
Product prices (premium/ discount to Brent price)	As in NRGI analysis: Gasoline: +35% Diesel: +37% Jet fuel: +64% LPG: +60% Heavy fuel oil: -13%
Operating expenditure	USD3 per barrel (real 2023 prices), as in NRGI analysis
Capital expenditure	USD4.5 billion (real 2023 prices), including cost of product pipeline, as in NRGI analysis. Cost incurred over three years based on Ministry of Finance, Planning and Economic Development strategic plan assumptions.[81]

[80] Bagabo, P. and Scurfield, T. for Natural Resources Governance Initiative. Uganda's Oil Refinery: Gauging the Government's Stake. 2024.
[81] Ministry of Finance, Planning and Economic Development. Strategic Plan FY 2025/26-2029/30. 2025.

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The Institute for Energy Economics and Financial Analysis (IEEFA) examines issues related to energy markets, trends and policies. The Institute's mission is to accelerate the transition to a diverse, sustainable and profitable energy economy. www.ieefa.org

About the Authors

Matthew Huxham

Matthew Huxham is an independent consultant working in collaboration with IEEFA. He is a senior analyst and consultant with more than 15 years' experience at the intersection of climate risk, investment and emerging market development policy. With a background in credit risk and energy policy, Matthew advises governments, central banks, investors and non-profits on issues relating to a global-low carbon transition. He specializes in the challenges faced by fossil fuel producing developing economies.

Will Scargill

Will Scargill is an independent consultant working in collaboration with IEEFA. He is an economist with over a decade of experience in the energy and climate transition space. In addition to consulting on these issues, focusing on assessing the potential impacts of a global low-carbon transition on developing economies, he also holds a senior role providing climate risk advisory and consulting services in the investments industry. Will's work has included advising governments, central banks, major institutional investors and energy companies on energy and climate related issues.

Gaurav Upadhyay

Gaurav Upadhyay is IEEFA's Energy Finance Analyst, India Sustainable Finance, for South Asia. He has over 12 years of experience implementing large-scale developmental initiatives in diverse sectors, including climate finance, just transition and renewable energy. Before joining IEEFA, Gaurav worked as a Climate and Energy Consultant at the World Bank, where he played a pivotal role in orchestrating the implementation of multisectoral lending and technical assistance projects.
gupadhyay@ieefa.org

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