



A Just Energy Transition for Africa?

Mapping the impacts of ECAs
active in the energy sector in
Ghana, Nigeria, Togo and Uganda



The research for this report was conducted by:



Abibiman Foundation Ghana
<https://abibimanfoundation.org/>



Friends of the Earth Ghana
<https://foe-ghana.org/>



Friends of the Earth Nigeria
<http://www.eration.org/>



Les Amis de la Terre Togo
<https://adttogo.wordpress.com/>



Environment Governance Institute, Uganda
<https://egiuganda.org/>

The research and report were supported by:



Friends of the Earth Netherlands / Milieudefensie
<https://en.milieudefensie.nl/>



Both ENDS
<https://www.bothends.org/en/>

Editor:

Ellen Lammers

Photo's cover:

Bonny Island, Nigeria (VII Photo/Redux)
Uganda (Sam Cossargilbert)

November 2020

This publication was produced within the context of the Green Livelihoods Alliance and the Fair Green and Global Alliance, which are part of the Dialogue and Dissent framework of the Dutch Ministry of Foreign Affairs. The content of this publication is the sole responsibility of the organisations above.



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Executive summary

Many industrialized nations are advocating a switch to renewables at home. But while they commit to phasing out fossil fuel energy domestically, these commitments are abandoned as soon as their companies cross international borders, where they continue to push dirty energy, and as such contribute to climate change.

This is happening in Africa, a region that is being hit particularly hard by the impacts of climate change. Prolonged droughts, floods, mudslides and other extreme weather events are affecting the livelihood opportunities of millions of people across the continent. By supporting fossil fuel as well as large hydro dam-related energy projects in Africa, export credit agencies (ECAs) add to the many risks and threats.

In addition, governments from industrialized countries are hampering the transition to clean and renewable energy in African countries. The ECA-supported investments in fossil fuels makes these countries economically dependent on energy sources that many countries in the world are committed to phase out, which poses serious economic debt risks, undermining their long-term resilience.

Coming from a perspective of communities affected by ECA-supported energy projects, this report analyses the question what the best solution is for limiting global warming to 1.5C on the one hand, and facilitating universal energy access on the other hand. Furthermore, it analyses the question what the role of public financial institutions like ECAs could be in terms of promoting a green energy future in Africa.

Key findings in this report include:

- ECAs insured energy projects in Ghana, Nigeria, Togo and Uganda with a total insured value of approximately 18 billion USD in the period between January 2013 and August 2020. The largest part (52%) of this ECA support to the energy sector in Ghana, Nigeria, Togo and Uganda is related to fossil fuel, specifically oil and gas. ECA support for large-scale hydro dams comes second, representing 45% of the total value.
- Despite the commitments of the Paris Agreement, which was signed five years ago, and despite the undeniable urgency for countries around the world to reduce greenhouse gas emissions, ECAs provided more than 80 times as much support to fossil fuels than to renewable energy (solar, wind and geothermal) in the four African countries that were studied for this report. The available data shows that only 1% of the total support to the energy sector consisted of support for renewable energy, in the form of solar projects. No ECA support for wind projects in the four African countries has been found.
- The majority (66%) of the fossil fuel-related ECA support originates from China and Korea. The support for large-scale hydro dams in Nigeria, Uganda and Togo almost solely came from Chinese ECAs.
- European-based ECAs including UKEF (United Kingdom), Atradius DSB (The Netherlands), Eksportkreditt Norge (Norway) and SACE (Italy) mainly provided support to fossil fuel-related projects in the four countries.



- ECA-supported fossil fuel and large hydro projects have had considerable adverse impacts on communities and their environment. The socioeconomic impacts range from land grabbing, displacement, loss of livelihoods and increasing poverty to gender impacts (e.g. teenage pregnancies and gender-based violence), local conflicts, militarisation and growing instability. The environmental impacts that equally affect communities in and near project areas, and which are linked to the socioeconomic impacts, range from the pollution of land and water to the destruction of biodiversity and the disruption of vital ecosystems. These impacts indicate that ECA support contributes to undermining progress towards achieving the Sustainable Development Goals (SDGs), specifically SDGs 1, 5, 8, 10, 14, 15 and 16.
- There is a huge opportunity for renewable energy in the four African countries included in this report. Real solutions like distributed renewable energy - including solar, wind and geothermal projects - have the potential to make an end to energy poverty in these countries and to provide sustainable energy access where it is most needed.
- Public funds and financial institutions should actively start supporting the renewable energy sector in the global South. However, a cautionary question should be posed: would ECAs and their financial instruments at all be able to play a meaningful role in fostering a just energy transition in the global South? The export logic that feeds ECAs implies that their main focus is on serving and benefitting the companies, rather than the population abroad that is impacted by their support.
- Any meaningful switch away from fossil to green and renewable energy therefore needs to be rooted in Just Transition principles. These principles dictate that renewable initiatives should foster local participation and ownership, create local jobs and energy access for all, and that the equipment and installations (such as wind mills and solar panels) are built from sustainable sources.

Therefore we recommend:

To African governments:

- Respect the national and international commitments on sustainable development and climate change, including commitments made under the Paris Agreement and the SDGs. Halt any plans to open up or further develop any fossil fuel-related projects or large hydro plants and instead promote substantial investments in solar, wind and geothermal energy projects that will contribute to achieving SDG 7.
- Provide a clear policy framework for a just energy transition, which prioritises investments in renewable energy that promote local participation and ownership of distributed renewable energy initiatives. Make sure renewable energy initiatives are people-centred and promote a democratised energy system that fosters the participation and ownership of local communities with regards to their energy access.
- Work with regional bodies to set up proper transparency, monitoring and compliance mechanisms to critically monitor all investments in the energy sector. Ensure international finance flows, such as those supported by ECAs, support a just energy transition instead of increased fossil dependency.
- Ensure value for money audits in all renewable energy contract negotiations and agreements, so that these will be in the interest of both the State and the communities that are directly impacted. Make sure that any communities that are likely to be affected by the renewable energy developments are guaranteed equal and comprehensive stakeholder participation in all stages of the renewable energy development projects.



To the governments of publicly backed ECAs:

- Exclude ECA support to all fossil fuels (including fossil gas), associated facilities and large hydro plants, and align foreign trade policies with the 1.5C Paris Agreement target and the SDGs.
- Stop any ECA support that benefits multinational corporations over local populations, by causing violations of human and indigenous peoples' rights and their cultural values and customs, displacement, loss of income, ill-health, environmental degradation and (gender-based) violence. Ensure that all ECA support is aligned with the SDGs.
- Incorporate consideration of gender equality and the specific concerns, needs and rights of marginalised and vulnerable groups in all project assessments. Communities should be enabled to exercise their right to free, prior and informed consent (FPIC) in relation to any project that ECAs are (potentially) involved in.
- Adhere to the highest standards of transparency. Provide data in relation to all supported ECA projects on the ECA's website. Publish detailed announcements of projects under consideration at the moment of receiving the application. Information should include: type of energy, value of the insurance, project owner and a detailed project description. Publish detailed CSR due diligence reports and monitoring plans. Ensure that the environmental and social audits are undertaken in accordance with international laws, regulations and best practices.
- When supporting renewable energy projects, ECAs should apply a Just Transition approach by embracing the following key values: respecting human rights and do no harm principles, promoting equitable, inclusive and community-led renewable energy development, and building resilience with an intersectional and gender perspective.
- Analyse and draft a coherent vision on if and how ECAs could support such a just energy transition away from fossil support, by scaling up support for projects that promote energy efficiency and community-led renewable energy, thereby contributing to SDG 7.

To regional African bodies:

- The regional level bodies, such as the African Union, ECOWAS, East African Community and COMESA, must increase collaboration with governments and associations to ensure that ECA support in Africa is aligned with national laws, SDGs and the Paris Agreement.
- Work with African governments and African civil society networks to set up proper transparency, monitoring and compliance mechanisms to critically monitor investments in the fossil fuel sector.
- Engage with relevant international bodies (like the OECD and EU) to directly and openly compel them to end all forms of ECA support for dirty energy projects in African countries and to support a timely switch to renewable and just energy transition alternatives.



Solar Grandmothers project in Togo

PHOTO: SOLAR GRANDMOTHERS

1 Introduction

Climate change will increasingly affect us all. The world exceeded the safe atmospheric CO₂ concentration level of 350 ppm¹ already three decades ago.² In 2015 the international community adopted the Paris Agreement to mitigate greenhouse gas (GHG) emissions and global warming.³

However, this has not stopped governments supporting their companies in building even more infrastructure to explore, extract and burn oil and natural gas abroad. Export credit agencies (ECAs) play a key role in facilitating this support for fossil fuel development. Via ECAs, which are public agencies, governments provide loans, credits, guarantees and/or insurances to enable private companies in their home countries to do business abroad.

ECAs therefore make it easier for those corporations to operate internationally, particularly when it comes to projects that are financially and politically risky. Additionally, ECA involvement serves as a lever for private finance as commercial banks face fewer risks when stepping into an ECA-supported project.

From 2016 to 2018, G20 government-backed ECAs provided 40.1 billion USD annually to support fossil fuel projects, compared to only 2.9 billion USD for clean energy.⁴ This makes ECAs the worst public finance offenders, providing more support to fossil fuels than development finance institutions and multilateral development banks combined.⁵ ECAs have moreover regularly been accused of supporting projects that are associated with corruption, human rights abuses and environmental destruction.⁶

To date, no ECA has explicitly committed to fully decarbonize in line with the Paris Agreement. The role of ECAs as big business supporters without green targets also became very clear following the outbreak of COVID-19 in early 2020. In response to the pandemic, many governments have developed response packages via their ECAs to keep their economies afloat and make recovery from the crisis easier and faster. None of these rapid COVID-19 repair packages via ECAs, however, include any commitments to address climate change, and as such they fail to support a green and just energy transition.

Many industrialized nations and institutions advocate a switch to renewables at home, witness for example the European Union, which generated more electricity from renewables than fossil fuels in the first half of 2020.⁷ These same countries, however, continue to push dirty energy elsewhere, such as in Africa.^{8,9} Between 2014 and 2016, 60% of total public finance for Africa's energy sector went to fossil fuels, compared to 18% going to clean energy (large hydropower excluded). A significant volume of the finance for fossil fuels is coming from ECAs. The lack of transparent reporting from ECAs makes it difficult to get a complete picture of the actual amount of, and type of, energy projects they support, which means that their levels of fossil fuel finance could be even higher.

Proven oil reserves across the African continent have grown by almost 150%, rising from 53.4 billion barrels in 1980,¹⁰ to 125 billion barrels at the end of 2017.¹¹ Africa holds about 7% of global proven gas reserves.¹² These reserves have attracted the interest of world-leading oil and gas companies,

with an estimated investment of nearly 2 trillion USD by 2036.¹³ The fossil investments required to bring these reserves to the global energy market – in which ECAs are playing a substantial role – are posing a serious threat to solving the global climate crisis. They also actively obstruct a green and just energy transition in the global South.

Africa is the continent that is most vulnerable to the impacts of climate change. Prolonged droughts, floods, mudslides and other extreme weather events, as well as infestations of pests and diseases are affecting the livelihood opportunities of millions of people across the continent. It is ironic that Africa, the continent with the smallest carbon footprint, is bearing a disproportionate part of the burden of the enormous carbon footprint of other continents. African countries thus have a lot to gain from limiting greenhouse gas emissions by transitioning – or making the leap – to promoting clean, affordable and reliable energy sources. Governments worldwide should support African countries in achieving this transition, instead of increasing their fossil dependence.

The developments in hydroelectricity merit special mention in this respect. Many countries consider hydroelectricity a clean source of power.¹⁴ However, the world's largest hydro dams emit so much methane that they are responsible for 4% of the human contribution to climate change.¹⁵ Mega dams also have a huge environmental footprint on land, drowning entire ecosystems and erasing cultural resources.¹⁶ These large-scale projects are also renowned for forcing thousands of people into relocation. In brief, this supposedly 'green' hydro energy solution has major social, environmental and climate impacts. Countries like China nevertheless support large-scale hydro dams in African countries via their ECAs.

NGOs and communities around the world have raised issues concerning human rights abuses and the environmental and climate impacts caused by ECA-supported projects. A general lack of transparency by ECAs, however, makes it difficult for (potentially) affected communities to make their concerns heard. Mostly, communities are not even aware of the involvement of a foreign ECA in the mega projects that affect their livelihoods and environment. Only a few ECAs publish crucial

social and environmental information before taking a decision on whether or not to support a project. Even fewer ECAs and their associated governments take these concerns into account in decision-making processes or policy debates.

The aim of this report is twofold. Firstly, to give an indication of the scale and impacts of ECA-supported energy-related projects from the perspective of the affected communities, and secondly, to provide a community and civil society perspective on how ECAs should and could contribute to a just energy transition in Africa. This report brings up important dilemmas. It analyses the question what the best solution is for limiting global warming to 1.5C on the one hand, and facilitating universal energy access on the other hand. Furthermore, it analyses the question what the role of public financial institutions like ECAs could be in terms of promoting a green energy future in Africa.

The research conducted for this report should be considered a first scoping study into this topic, covering the community impacts of selected ECA-supported projects in Ghana, Nigeria, Togo and Uganda. This report does not claim to provide a comprehensive overview of all ECA-supported energy investments in the four countries. It rather serves as a first mapping of ECA involvement that helps to identify and address key trends and concerns, and aims to pave the way for ongoing research and advocacy on this important topic.

Research methodology

This scoping study made use of the following research methodologies:

desk study; individual interviews with members of communities affected by ECA-supported projects;¹⁷ questionnaire-guided¹⁸ focus group discussions (FGDs); field monitoring; and interviews conducted with civil servants and representatives from civil society in the four countries.

First, the five project partners conducted a desktop study in order to map and generate a preliminary list of ECA-supported projects in Ghana, Nigeria, Togo and Uganda for the period January 2013 to August 2020.¹⁹ This preliminary project list was verified by Profundo to confirm ECA involvement, timelines and funding amounts.²⁰

Secondly, the partners identified and then consulted communities living in the proximity of these projects, to document the socio-economic and environmental impacts that they had experienced. The sampling of community members to be interviewed for each community was guided by the variables gender and occupation. This ensured that both women and men were among the respondents.

Thirdly, representatives of CSOs as well as civil servants were selected for interviews, based on their expertise relevant to the topic of this report (i.e. energy, climate and investment finance), their involvement with or knowledge of the researched ECA projects, and/or their expertise on the potential for renewable energy in the four countries.²¹

The scoping study faced two constraints. First, ECAs generally lack transparency, which made it time consuming and complex to establish which projects are supported by which ECAs in the four countries. Second, due to the COVID-19 outbreak during the research period, the partners conducting the research faced lock-down restrictions, which meant that face-to-face contact was not always possible. Consequently, some of the interviews were conducted using online communication platforms instead. Equally, more emphasis was put on the individual interviews and questionnaires instead of on focus group discussions. Where face-to-face interactions took place, these were conducted in compliance with the COVID-19 protocols as prescribed by the World Health Organisation and the relevant governments.

Mapping ECAs in the energy sector in Ghana, Nigeria, Togo and Uganda

This section presents the findings of the desk study research that mapped the scope and scale of ECA involvement in the energy sector in the four African countries. The tables and pie chart provide an overview of the amount of ECA support in USD provided between January 2013 and August 2020, the type of energy projects supported and the home country of the ECAs.²²

The tables and figure on the next pages show that according to the data we could retrieve, most of the total ECA support to the energy sector in the four countries is related to fossil fuel projects, specifically oil and gas (52%). This is followed by support for hydro dams (45%). Only 1% of the total support to the energy sector consists of renewable energy in the form of solar projects. We could not find any indication of wind projects receiving ECA support in the four countries.

Since the signing of the Paris Agreement in December 2015, ECAs have supported the oil and gas sector in the four countries with an amount of 5.6 billion USD and large hydro projects with an amount of 5.3 billion USD.

China's ECAs, the Exim Bank of China and Sinosure, have by far provided most support to the energy projects in these four countries, i.e. nearly 62% of total ECA support. The bulk of their support went to hydro dam and oil and gas projects in Nigeria and Uganda. The largest support for oil and gas projects came from the South Korean ECAs Kexim and K-Sure; their support was exclusively focused on Nigeria.

The Europe-based ECAs - UKEF (UK), Atradius DSB (Netherlands), Eksportkreditt Norge (Norway) and SACE (Italy) – have mainly provided support for fossil fuel-related projects in the four countries, though 25% of the Dutch Atradius DSB support is going to hydro dam development in Uganda.



Murchison falls, Uganda

In Togo, the Exim Bank of China provided support to the Adjarala Hydropower Plant on the border with Benin. Togo's oil and gas industry is still in the exploration phase and has not yet received any ECA support.

Table 3 presents the largest (in terms of USD) ECA-supported projects in the four countries. The starred projects (*) were included in the field research, the findings of which are presented in chapter 4. A comprehensive list of all the identified ECA-supported projects in Ghana, Nigeria, Togo and Uganda can be found in Annex 1.

Table 1: ECA support to the energy sector in Ghana, Nigeria, Togo and Uganda between 2013 and August 2020 (in millions USD)

	Oil and Gas	Hydro	Solar	Transmission	Total
Ghana	1,112				1,112
JBIC, Japan	508				508
UKEF, United Kingdom	400				400
ECIC, South Africa	204				204
Nigeria	8,087	5,898	0.2		13,985
EXIM Bank of China	500	5,898			6,398
Sinosure, China	2,380				2,380
KEXIM, South Korea	1,910				1,910
K-SURE, South Korea	1,495				1,495
SACE, Italy	750				750
Atradius DSB, The Netherlands	204		0.2		204
Eksportkreditt Norge, Norway	400				400
GIEK, Norway	400				400
UKEF, United Kingdom	22				22
US-EXIM, United States	26				26
Togo		270			270
EXIM Bank of China		270			270
Uganda	309	1,994	114	297	2,714
EXIM Bank of China		1,918		297	2,215
UKEF, United Kingdom	309		114		423
Atradius DSB, The Netherlands		73			73
SACE, Italy		3.4	0.1		3.5
Total	9,508	8,162	114	297	18,081

Figure 1: ECA support to the energy sector in Ghana, Nigeria, Togo and Uganda by energy source (%) between January 2013 and August 2020

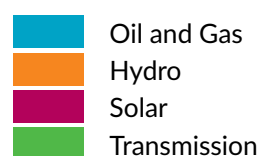


Table 2: ECA support to the energy sector in Ghana, Nigeria, Togo and Uganda per ECA-governing country between 2013 and August 2020 (in millions USD)

ECA-governing country	Oil and Gas	Hydro	Solar	Transmission	Total
China	2,880	8,086		297	11,263
Korea	3,405				3,405
UK	731		114		845
Norway	800				800
Italy	750	3	0.1		753
Japan	508				508
Netherlands	204	73	0.2		277
South Africa	204				204
USA	26				26
Total	9,508	8,162	114	297	18,081

Table 3: Main ECA-supported projects in Ghana, Nigeria, Togo and Uganda between 2013 and August 2020 (in millions USD)

	ECA(s)	Millions USD
Ghana		
TEN Ghana FPSO Financing	JBIC	508
Offshore Cape Three Points (OCTP) Phase 1 PPP*	UKEF	400
Kpone Gas-Fired Independent Power Plant (340 MW)*	ECIC	204
Nigeria		
Mambilla Hydropower Plant (3,050 MW)*	Exim Bank of China	4,923
Ajaokuta-Kaduna-Kano Gas Pipeline (614KM) PPP	Sinosure	2,380
Seadrill West Neptune, West Saturn and West Jupiter Drill ships Financing	KEXIM, K-SURE, Eksportkredit Norge, GIEK	2,000
Nigeria LNG Complex Train 7*	KEXIM, SACE, K-SURE	1,874
Bonny Gas LNG Vessels Financing 2013	K-SURE, KEXIM	1,079
Zungeru hydropower project (700 MW)*	Exim Bank of China	975
Modular Refinery Flare Gas Recovery Program	Exim Bank of China	500
Togo		
Adjarala Hydropower Plant (147 MW)*	Exim bank of China	270
Uganda		
Karuma Hydroelectric Power Plant*	Exim bank of China	1,435
Isimba Falls Hydropower Plant*	Exim bank of China	482
Construction of Kabaale International Airport and Associated Facilities (including an oil refinery)*	UKEF	309

*) included in the field research

4 Community impacts of ECA-supported fossil fuel projects

Between 2013 and 2020, ECA-backed fossil fuel projects in Uganda, Ghana and Nigeria have had considerable impacts on the livelihoods, incomes, well-being and health as well as the environment of communities in the project areas.

Four of those ECA-supported fossil-related projects were studied for this report – two in Ghana and one each in Uganda and Nigeria. As we could not identify ECA-backed fossil projects in Togo, we have not included Togo in this section.

We consulted affected communities on the impacts experienced and/or feared through surveys, interviews and focus group discussions. Though the types of projects differ – from infrastructure to gas and oil development either on land or on sea – there were many similarities in the impacts and concerns that communities shared with the researchers. In this chapter, we distinguish between socioeconomic (4.1) and environmental impacts (4.2). Yet we stress that in people's daily lives, both types of impacts are closely connected, especially, communities often depend on their environment for food, drinking water and income generation. Some of these interlinkages are described in this chapter.

Uganda

Support from Export Credit Agencies for projects in Uganda's energy, extractives and infrastructural sectors has been increasing since 2010.²³ This is directly linked to the discovery in 2006 of oil and gas deposits in the Albertine Graben in the Western Region of Uganda, which has triggered the interest of multinational companies.²⁴ The Ugandan government is banking on its oil reserves to achieve its Vision 2040 of becoming a middle-income

country. The development of the fossil industry, however, goes against the government's commitment to cut back GHG emissions by 22% by 2030.²⁵ For this report, we studied the case of the ECA-supported building of an international airport in the Western Region is closely associated with the fossil industry development.²⁶

- Kabaale International Airport in Hoima District will be a key channel for the delivery of equipment, construction materials and services for the development of nearby oil fields as well as an oil refinery and the East African Crude Oil Pipeline (EACOP). In 2018, UK Export Finance (UKEF) extended support of 309 million USD for the construction of the airport and associated facilities to the construction firm SBC (Uganda) Ltd.. This firm is a joint venture formed by Colas (UK) and SBI International Holdings AG (the infrastructures arm of the Israeli firm Shikun & Binui Group). The airport project has displaced 7,118 people, mostly subsistence farmers and fishers, from their land. For this report, we consulted communities from Kabaale, Katooke, Kigaaga, Kitegwa, Nyakasini and Nyamasoga in Hoima district. Another 4,600 people across Uganda were forced off their lands in preparation for the EACOP, which will be the longest electrically heated pipeline in the world, transporting crude oil from Uganda to the Tanzanian port. Several ECAs are showing interest in this controversial project.²⁷ This project has already generated a lot of community resistance, as well as international civil society concern.

Ghana

The fossil fuel sector in Ghana got a serious boost with the discovery of oil fields in the South Atlantic Ocean off the coast of Ghana's western region. Oil production at the offshore Jubilee oil field started in late 2010. Although oil has played an important role in Ghana's economic growth in recent years, falling oil prices and the COVID-19 pandemic are making experts rethink this role.²⁸ For this report, we studied two ECA-supported fossil projects, one offshore and one on-land.

- The Offshore Cape Three Points Integrated Oil and Gas Exploration (OCTP) project is located in Ghana's offshore oil enclave. It includes three gas and two oil fields, development of which started in 2015.²⁹ The project is supported by the UK Export Finance (UKEF) with 400 million USD. Fishing communities in Shama and Ellembelle districts have been most affected by the project, nine of which were included in the field study for this report.³⁰
- Construction of the 340 MW gas-fired Kpone Thermal Power Station II near Tema, 25 km east of Ghana's capital Accra, started in 2015. The project was supported by the Export Credit Insurance Corporation (ECIC) of South Africa with USD 204 million as guarantee for the loans provided by commercial banks. The Dutch development bank FMO was also involved in the financing of this energy project. For this report, we spoke with members from the wider Kpone municipality about the impacts of the power station on their livelihoods and environment.

Nigeria

Nigeria ranks among the ten largest producers of oil and gas in the world and is the largest producer of oil in Africa. ECAs play a vital role in the financing of oil and gas projects, as they provide guarantees and insurance coverage for exporters and lenders. ECA support for Nigeria's fossil fuel sector started many years back and played an important role in the development of the Nigeria Liquefied Natural Gas (NLNG) complex at Bonny Island, which started operation in 1999. The project, known as the NLNG Plus project, was one of Nigeria's largest project financing and Sub-Saharan Africa's largest private sector financed project at the time. According to our findings, in 2002 and 2003 Atradius DSB, UKEF, US-EXIM and SACE already provided ECA support to the project. Atradius DSB, for instance, provided support to Shell Gas Nigeria Ltd. to construct and exploit two additional LNG processing trains. For this report, we only included a recent upgrade of the NLNG plant in the figures, but took the community perspective for the whole complex.

- The 'Train 7' project is an extension project that will enhance the production capacity of the NLNG Plant by 8 million metric tonnes of LNG per annum, to reach a total of over 30 million tonnes per annum.³¹ The project is supported by three ECAs for a total of 1,874 million USD. SACE (Italy), K-SURE (South Korea) and KEXIM (Korea Export-Import Bank) offered guarantees for the loans provided by commercial banks to increase the NLNG plant's capacity to 30 million tonnes per year. For this study, members from two project affected communities (Finima and Bonny Island) were consulted. In their responses, they did not differentiate between the impacts of the Train 7 project and earlier phases of the NLNG Plant.

4.1 Socioeconomic impacts

Many socioeconomic impacts were mentioned by the community members in relation to the four researched ECA-supported fossil fuel projects. Table 4 below summarises the key impacts mentioned by the interviewees. As similar community impacts were mentioned across the projects, we provide a more elaborate description of these impacts below, with boxes providing more detailed results for individual cases.



Kabaale International Airport in Hoima, Uganda

PHOTO: YASUYOSHI CHIBA / AFP

Table 4:

Socioeconomic impacts of fossil-related projects as mentioned by interviewees

	Kabaale International airport, Uganda	Offshore Cape Three Points Integrated Oil and Gas, Ghana	Kpone Therman Power Station II, Ghana	NLNG Bonny Island Gas Plant, Nigeria
Forced land acquisition & displacement				
Loss of farming and/or fishing livelihoods	✓			✓
Loss of businesses and/or trade	✓	✓		✓
Late and/or inadequate compensation for loss of land impacts livelihoods	✓			✓
Difficult living conditions in resettlement sites	✓			
Life in project area				
Land speculation in project area makes buying new land unaffordable for displaced people	✓			
Restrictions imposed on access to traditional forest and/or fishing areas impacts livelihoods and food security		✓		✓
Project impacts on fishing grounds cause loss of income & increases in debts due to decline in catch & loss of fishery jobs		✓		
Increased cost of food (incl fish) and other commodities and pressure on social amenities, often due to influx of expats and/or local migrant workers		✓	✓	
Increased competition for jobs and small businesses due to influx of expat workers and/or local migrant workers			✓	
Increased inequality			✓	✓

	Kabaale International airport, Uganda	Offshore Cape Three Points Integrated Oil and Gas, Ghana	Kpone Therman Power Station II, Ghana	NLNG Bonny Island Gas Plant, Nigeria
Social unrest about unequal opportunities (lack of jobs for locals) and pollution caused by project				✓
Violence against local communities by military or paramilitary powers				✓
Life for displaced people after migration to urban areas				
Tensions on job market between locals and project-affected immigrants	✓			
Increased cost of house, business and office rents			✓	
Gender and youth impacts				
Women don't receive compensation because they don't own official land titles	✓			
Women are not consulted during project design and implementation		✓	✓	
Increase in SGBV against girls in resettlement sites, project areas and urban areas	✓			
Women and girls engage in sex work to survive and/or due to the influx of expat workers	✓	✓	✓	✓
Increase in teenage pregnancies and single mothers		✓	✓	✓
School drop-outs because of parents' inability to afford school fees	✓	✓		
Environmental pollution (air, water) causes health problems				✓
Acid rain makes agricultural land unsuitable for crops & pollutes rivers and streams, threatening access to potable water and food security				✓

4.1.1 Land acquisition: loss of livelihoods and inadequate compensation

In Uganda and Nigeria, thousands of people had to leave their land to make way for the fossil energy-related projects. The immediate negative impacts on people's livelihoods were deeply felt. For farmers, the loss of their agricultural land impacted their earnings from food production and trade as well as the food security of their households. The same was true for fishers, who were bereft of access to their fishing grounds. In Ghana, people were not forced off their land by the projects featured, but nevertheless experienced very similar impacts on their livelihoods as will be discussed in section 4.1.2. Furthermore, people faced major issues with the land compensation process.

The 7,118 people who were displaced for the airport development in Uganda lost their main sources of livelihood – agriculture and fishing – as well as the associated trade with neighbouring communities. 31% of the respondents saw their monthly household income reduced from USD 15-30 to less than USD 5.5. Some of them were displaced a second time when preparations for the East African Crude Oil Pipeline (EACOP) started in mid-2018, frustrating their efforts at rebuilding their livelihoods. One respondent said: *“I used to have 39 acres of land in one place, but now my land is subdivided over four sub-counties. If I am to dig there, I have to spend one month without seeing my family. I used to have goats and cows, but I no longer have animals because I can't look after them in four different places. Part of the land that the government gave me to compensate for what I lost to the airport, has now been taken away from me by the pipeline project. I have no idea where they will allocate my new land again.”*

The Auditor General was clear in his conclusion that *“obsolete, unapproved and outdated compensation rates were used to compensate the affected communities”*³², which affected people's quality of life. It is not that there was no plan for compensation. The Resettlement Action Plan (RAP), developed in 2012 and signed by the Ugandan government and the involved companies, stipulated that people's property rights would be respected and compensation be administered



Bonny Island, Niger Delta, Nigeria

PHOTO: PETTERIK WIGGERS/PANOS PICTURES

on a case-by-case basis. However, in practice farmers were stopped from cultivating their land even though they were still awaiting resettlement, which meant they had no place to grow food for their households. The same happened in the EACOP project. While communities were awaiting compensation, restrictions were already placed on their access to fishing and forest areas that were vital for harvesting both food and herbal medicines. These practices go against Article 26 of the Uganda Constitution, which gives government the power to acquire private land for public and security interests, however, only after payment of prompt and fair compensation. Earlier research had revealed the weak position of citizens vis-à-vis the government when it comes to defending their land rights. Since most of the land in the project area was communally owned and not registered, individuals could not claim ownership, and as a result government interests took precedence over people's rights³³. For women, this situation is even more dire, as their rights to land are most weakly defined and rarely guaranteed (see the second box in section 4.1.3). Last but not least, the research for this report showed that, when people were finally compensated, the cash they received was often too little for them to buy new land.

Uganda: the impacts of relocation

Communities displaced by Kabaale International Airport were offered the choice between cash compensation and physical relocation. The majority opted for cash compensation. Those who opted for relocation were moved to a resettlement village at Kyakaboga near the city of Hoima in 2017. The quality of the land there proved to be very poor and there was a lack of supporting infrastructure for agriculture, especially boreholes. One respondent said: *"The replacement site is formerly grazing land, and cannot support the same crops as those that we used to cultivate."* Furthermore, people feel that the resettlement village resembles a refugee camp and that its layout does not respect their cultural values and social customs. For instance, large families have been provided with one concrete house, which doesn't allow for the boys to sleep on their own as is the community's custom. Together with the Africa Institute for Energy Governance, the affected communities filed a case against the government for failure to abide by the Resettlement Action Plan.³⁴ Six years later they are still waiting for justice to be done.³⁵

For those who remained behind waiting for their cash compensation, the situation became equally dire. The secretary for displaced communities said: *"Before, when a water borehole needed repair, the community would come together to put in money. But after half the community had left, the remaining households with their low incomes could not afford to keep the water boreholes operational. District and sub-county authorities that we would normally turn to, had long abdicated their role."* Out of desperation, people started fetching water from streams, which caused the spread of water borne diseases including diarrhoea, cholera and typhoid.

The relocation of communities on Bonny Island, Nigeria, to make space for the NLNG plant, is a well-researched case.³⁶ In 1991, the people of Old Finima were relocated to New Finima, the site of a reclaimed mangrove area. The relocation was instigated by the Federal Government, based on Nigeria's Land Use Act, and executed by the Nigerian National Petroleum Corporation (NNPC) with the use of a military task force. The indigenous population of Old Finima depended on fishing for their survival, whilst cultivating some household crops such as cassava, yam, coconut, and plantain.

In their new site, they no longer had access to the same quality water and land, which meant that they lost their traditional sources of income. The promised compensation for land acquisition has still not been fulfilled.³⁷ Though this case long predates the period covered by this report – which maps the impacts of ECA-supported energy projects between 2013-2020 – is it relevant as the backdrop to the current 'Train 7' project. Communities in Nigeria continue to resist attempts by oil companies and the government to acquire their lands for public purposes. The acquisition is based on the Land Use Act of 1978, which stipulates that for overriding public interest the government can compulsorily acquire a land, however, it also stipulates that such acquisition is subject to the payment of compensation.³⁸

4.1.2 Life in the project areas: increased cost of land and living, loss of income, and growing inequality

The limited ability of displaced people to buy new land with the poor compensation they receive, is often exacerbated due to rising land prices in the project areas. In Uganda, land prices in communities near the airport project area went up by 40% due to the influx of people seeking job opportunities in the oil industry as well as the demand for land from expatriates. Earlier research showed that this spike in land prices acted as an incentive for land speculation by rich individuals who are well-connected to local politicians.³⁹ An official from the Bunyoro Kitara Kingdom stressed the vulnerability of local farmers to land speculation: *“Some of the communities in rural areas have been tricked by middlemen asking them to sell their land at a cheaper price than the surrounding market value, which deprived them of the full compensation rates and benefits that would otherwise have accrued from their land.”* Some of those who could not afford to obtain new land to settle and cultivate, and who were thus left without shelter and a source income, moved into protected areas and forest reserves, causing destruction of biodiversity and wildlife habitat.

Not only does the cost of land increase in many project areas, but also the general costs of living, especially for food and other commodities. Respondents linked this to the influx of expats as well as migrant workers from other parts of the country. A local council leader in Hoima district, Uganda, revealed that the cost for shelter, food, basic needs and hotel services had gone up by more than 60% since 2015. He attributed this to the influx of especially Chinese workers, who moreover have opened restaurants and petty businesses that have increased competition on the local job market. However, it is also Ugandan youth from neighbouring districts who have come to the towns of Hoima, Kikube and Masindi in fair numbers seeking employment. This too has resulted in tensions and conflicts with local Ugandans.



Offshore Cape Three Points Project, Ghana

PHOTO: ENI.COM/FLICKR

A similar picture emerged from the field research in Ghana. A consumer survey revealed that, while 95% of the respondents in coastal communities consumed fish or fish products as part of their daily meal, 45% of the residents in Kpone municipality periodically go without buying fish or fish products for two weeks. They attributed this to the increased price of fish. Residents in Kpone also stressed the increased prices for rent of private homes, shops and office buildings since the establishment of the Kpone Thermal Power Station II. Land lords and property owners, they said, are taking advantage of the increasing numbers of people in search of jobs who have entered the municipality. Meanwhile, the jobs that were promised by the project barely materialised.

Livelihoods of Ghana fishers disrupted

The survey conducted among seven communities in the vicinity of the Offshore Cape Three Points Integrated Oil and Gas project revealed a range of negative economic impacts of the ECA-supported project. Fishers reported a huge decline in fish catch, which they attributed to the artificial lighting system used by the oil vessels that attracts fish to the oil and gas fields. It is a major problem for fishers who traditionally fish at night and whose fishing grounds have been restricted by the 500-meter 'no fishing zone' around the OCTPP fields. Some fishermen who crossed into the zone had their boats seized by the marine police.⁴⁰

The considerable losses in income that the fishers suffered have forced many of them into a situation of growing debts. Fishing trips are expensive, and fishers have had to obtain credit loans from banks and microfinance institutions, or borrowed from friends and relatives, to stay operational. Due to their growing inability to repay the loans, many banks no longer lend to fishermen.

Many fishermen who are breadwinners have difficulties catering for their families. Fishmongers, usually women, have equally been impacted. They either have a shortage of fish to process, or they are forced to buy the fish at higher prices, which forces them to also sell their processed fish at a higher price to consumers in order to make ends meet. Finally, in all seven communities, fish retailers and shop owners registered drastically reduced fish sales. The impacts along the fish value chain raise serious concerns about the sustainability of the fisheries sector as an important source of income, livelihood and food for all these communities.⁴¹

The increased cost of living is a double burden for people who lose their source of income, or whose income is substantially reduced as a result of the project developments. This happened to fishers in Ghana who depend on the waters surrounding the Offshore Cape Three Points Integrated Oil and Gas project. The box on the left illustrates how the project set in motion a string of accumulative impacts for fishermen, their families as well as others working in the fish value chain.

In Nigeria, the key grievance expressed by those interviewed for this report, was that local communities have not benefited from the economic profits generated by the oil industry. Instead, the oil boom has caused increased inequality. This grievance is most pronounced for the people in New Finima, who were forced to leave their ancestral land for the oil developments, but who have not benefited in any way. During the field survey conducted in May 2020, researchers observed that, except for menial or casual jobs which are not sustainable, most workers at the NLNG plant are not native to the area, but instead come from other regions in Nigeria. People condemn the fact that the government benefits disproportionately from the revenue generated by the oil industry (through royalties and taxes paid by foreign oil companies) and that the economic gains are not distributed in any fair way among the local population. Instead, their economic and livelihood opportunities have been negatively impacted.

The pollution of rivers, streams and agricultural land by acid rain caused by the carbon and other GHG emissions of the NLNG Plant, have affected people's main sources of livelihood. Aquatic life has been destroyed, so that people have to buy fish from other communities rather than catching their own, and the land no longer supports the growing of crops. As one youth said: *"The project led to the destruction of our ecosystem. The oil and gas activities have adversely impacted the livelihoods of the people and led to increased poverty."* The destruction of the environment by the Nigerian oil industry has seriously threatened people's food security (see also section 4.2).

4.1.3 Gendered impacts: increases in sexual abuse and sex work, and women ignored in consultation and compensation processes

Respondents from communities in all three countries - Uganda, Ghana and Nigeria - stressed the gendered impacts of the fossil-related projects. A great concern was the impact on young girls, who were increasingly exposed to sexual and gender-based violence (SGBV), regardless of whether they had moved to resettlement sites or urban areas, or stayed in the project areas.

Peasant families in Uganda who had ended up in towns after losing their farm land to the airport project, experienced great difficulties coping with urban life. The poverty they suffered made teenage girls more vulnerable to teenage pregnancy and sexual exploitation, including pushing girls into sex work. As one girl said in relation to the increased vulnerability of particularly young women that were uprooted: *"When we were displaced from Kaabale, our father could not fend for us and my sisters went to town to look for a job. Unfortunately, most of them ended up getting pregnant and the men ran away."*

A teen mother added: *"This is a taboo in our culture and if this happens you cannot get a decent man again."*

A local government official from Hoima expressed

concern about the increasing burden on the town's already small public health budget, partly due to increased incidences of sexually transmitted diseases.

In Ghana and Nigeria too, respondents stressed that both sexual abuse and sex work have increased since the start of the fossil projects. Communities on Bonny Island, Nigeria, claim that prostitution, which was a taboo prior to the advent of oil and gas prospects, is currently challenging the community's social and cultural norms. In all three countries, people point at two main causes for the increases in sexual abuse, sex work by young girls, and the rise in teenage pregnancies. The first cause is the fact that young girls drop out of school due to increased poverty of their parents and are consequently more vulnerable to be lured into sexual relations and sex work, also to support their families. Increases in teen pregnancies and STDs are often the result. A second cause respondents voice is the influx of foreign workers. In Uganda, complaints are voiced about the rise in numbers of single teenage mums, who have been impregnated by Chinese workers who cannot be traced. A similar picture is painted by a respondent in Kpone municipality, Ghana: *"The gas-fired plant has brought quite a number of expatriates and foreigners into Kpone municipality. These men definitely have sexual desires, but since they are away from their wives and girlfriends, they just go in for substitutes on contract basis where sex is exchanged for money."*

A second key issue that was put forward in both Uganda and Ghana, is the gendered impact of the ECA-backed fossil projects on women, either because women – and youth – are not consulted during project development, or due to women's weak entitlements to land (see box on the next page). Women and youth across four districts in Ghana criticised that they were excluded from the consultation process for the Kpone Thermal Power Station II and the OCTPP. Only the chiefs and elders of the communities had been consulted. This violates the Ghana Environmental Impact Assessment (EIA) regulations, which require constructive stakeholder engagement and continuous dialogue with the affected communities

Increased poverty makes children drop out of school

In both Uganda and Ghana, the ECA-supported projects led to school-age children missing out on their education. In the airport development area of Uganda, four village schools were closed as people were told to give up their land to the project. Nearly 53% of the over 7000 people displaced were school-going children who consequently lost access to education. Some children started attending makeshift schools that were set up in the relocation areas, but this was not an option for all children, due to families losing income. One boy in Kakumiro explained: *"I wanted to study but my father could not raise the school fees after we left Kabaale. I also don't have land because my father gave his land only to my brothers who are adults. I don't know what I am going to do with my life as I now have nothing."*

throughout the entire project cycle. The concerns of fish processing women and the youth about the provision of schools, jobs, and compensation for lost fishing grounds, which had been raised during the EIA process, were not adequately addressed. The communities expressed their concerns about the lack of proper consultation by the government and oil companies during earlier interactions with civil society organisations.⁴² These CSOs have made considerable efforts to advocate for a broader and effective inclusion of women and youth in the project consultations and the implementation of the government's oil and gas policy. However, the government's and the oil companies' response has been failing in this regard.

Uganda: women lose out on land compensation

In Uganda, women are the main cultivators of the land, yet according to customary beliefs and traditions they do not own the land they cultivate. As a result, they were highly disadvantaged when it came to payment of compensation for the land that the government acquired for the development of Kabaale International Airport. The Constitution of Uganda and The Land Act provide for equality of treatment and protection, however, in practice, women were not sensitized about the compensation process. The compensation documents did not have a provision for spousal consent and women were not given their own consent forms to sign. As a result, the compensation was mostly paid to their husbands. The bank accounts that the money was deposited in, were in the names of the men. This left women without any idea about how much land their families owned before resettlement, or the compensation money the family was entitled to. This resulted in increased domestic conflicts. Most men used the money to marry more women or to buy a motorcycle. They did not make an effort to replace the lost land. This meant an additional burden on the women who traditionally are obliged to grow food for the family. One female respondent said: "I don't know how much land we had in Hoima and I don't know how much we have here in Kiryandongo. What I know is that this land is small and infertile. I am always struggling to provide food for my family."

4.1.4 Social unrest and violence

The ECA-supported oil industry developments also led to tensions and conflict between affected communities, the government and oil companies. In Uganda, the acquisition of land without adequate compensation pushed communities to resist giving their land away.

In Nigeria, the social unrest and consequent violence and human rights violations have been most pronounced. During the interviews for this report, community members from both New Finima and Bonny Town stressed that it is the duty of the oil company to address the many negative impacts that the NLNG has had on their livelihoods and environment. For decades, youth have been protesting against the lack of corporate social responsibility shown by the oil companies, especially the fact that they are not considered for employment opportunities and that the compensation paid to those who were relocated was wholly inadequate.⁴³ The common response to these protests on the part of the oil companies is to bring in security forces to end the protest, without addressing the issues at stake.

This use of force, and the military presence in the oil region, is a major source of contention. The Nigerian military is seen to protect foreign companies, whose revenues are a key source of income for the Nigerian government. The Nigerian navy works with the companies' security guards, while the mobile police - a notoriously brutal paramilitary unit within the police force - is permanently stationed at many oil facilities in the Niger Delta. This military presence has led to the arrest and detention of many youth as well as human rights violations, which have continued to come to light since a protest on Bonny Island was violently put down by the military in September 1999.⁴⁴

When interviewed for this report, a youth leader of Finima community stated: "We have allowed the environment to be degraded to this extent. They said our people will be employed, but at the expense of what? When you give a man a dollar today and tomorrow you take 10 dollars from him, that is not fair. My agitation is that there needs to be a balance. We need to sit down with these people and have a proper negotiation without guns being pointed at us. Benefits are there, but the demerits are more than the benefits."

4.2 Environmental impacts

The four researched ECA-supported fossil fuel projects have also resulted in environmental impacts, which are summarised in Table 5. As mentioned earlier, the environmental impacts are closely interlinked with the socioeconomic impacts discussed in the previous sections.

Table 5: Environmental impacts of fossil-related projects as mentioned by interviewees

	Kabaale International airport, Uganda	Offshore Cape Three Points Integrated Oil and Gas, Ghana	Kpone Therman Power Plant II, Ghana	NLNG Bonny Island Gas Plant, Nigeria
Clearance of (forested) land for fossil-related development				
Destruction / disruption of biodiversity and vital ecosystems	✓		✓	✓
Extinction of plant and/or animal species		✓	✓	
Impacts on animal migration (lion, elephant, chimpanzee)	✓			
Increases in human – animal conflict	✓			
Loss of culturally significant natural & sacred places	✓			
Project-affected people encroach on protected areas to make a living				
Degradation of protected areas	✓			✓
Poaching and destruction of habitat of wildlife	✓			
Ocean pollution due to oil causes migration and/or extinction of fish species		✓		
Increased presence of seaweeds due to drilling of seabed (oil)		✓		
Destruction of forests negatively impacts carbon absorption	✓			✓
Large-scale gas flaring causes increase in GHG emissions and ecological deterioration				✓
Other environmental impacts				
Noise pollution affects animal behaviour (breeding, communication, migration)	✓			
Oil activities reduce natural capacity for water drainage				✓
Canalization for oil industry lets in sea water, which threatens freshwater swamp area				✓
Acid rain pollutes rivers and streams and causes land degradation				✓

4.2.1 Forest clearance destroys biodiversity and ecosystems

In all three countries, forest and natural reserve areas have been cleared to make way for ECA-backed fossil energy development. Respondents in Ghana stressed that the building of the Kpone Thermal Power Plant II in previously forested area has caused ecological deterioration and biodiversity loss, and the extinction of certain plant and animal species. In Uganda, the oil developments are concentrated in a biodiversity hotspot, the Albertine Graben region, which is rich in wildlife and known for its natural water resources (Lake Albert, Lake Edward the river Nile, and hot springs). The construction of Kabaale International Airport and the preparations for the East African Crude Oil Pipeline have resulted in the massive clearance of forested land and national reserves. Forest reserves and wetlands, which are listed on the IUCN Red List of Ecosystems and play key climatological purposes for the region and serve as a migratory corridor for chimpanzees, are heavily affected by the oil activities.⁴⁵ Noise pollution - caused by increased traffic and drilling for road construction and oil equipment installation - proved a key stressor for wildlife. Noise affects animal behaviour - their breeding, nesting, communication and migration.⁴⁶ Pointing at the impacts on elephants and chimpanzees, the senior environment officer of Hoima district said: *"The affected animals have faced involuntary migration as a result of noise pollution, which means that they sometimes invade community gardens and homes causing human-animal conflicts."* A technical staff member of Hoima district added: *"Elephants are extremely sensitive animals. The drilling methods that are being applied have an impact on their habitat. Elephants may look for a more comfortable habitat, and what impact does this have on ecological systems? This is something that needs to be investigated."*

Land clearance is also a major issue in ECA-backed oil development in Nigeria. For the construction of the NLNG plant on Bonny Island and the relocation of the people of Old Finima, a large area of secondary forest was cleared two decades ago.⁴⁷ For the construction of Train 7, additional land will be cleared for the building of the New Worker Village. The 31 hectares identified for

this purpose consist of a mix of forestland and swamp area, the fauna and flora of which will be seriously impacted. In addition, the natural capacity of the area to deal with drainage of excess water, and possibly contaminated water, will be affected.⁴⁸ The Train 7 project will locally affect water depth and sediments structure, while the increasing shipping activities are likely to impact sedimentation and erosion patterns. Given the high rate of deforestation across Nigeria, the freshwater swamp forest of Bonny Island remained one of the country's most extensive forest zones. However, the future of this forest is seriously threatened by the ingress of sea water through canalization to facilitate oil and gas activities⁴⁹ and because more deforestation is expected to allow for further expansion of the oil industry.

Displaced people encroach on protected areas

There is also a more indirect reason why oil developments cause the degradation of forest reserves. In Uganda, displaced people who could not afford to buy new land with the insufficient compensation they received, had little option but to seek alternative settlement in protected forest areas. This resulted in destruction of biodiversity and wildlife habitat, as well as poaching. The EACOP project also led to an increase of poaching of elephants, lions and chimpanzees in Bugoma forest and migration corridor. All these animals are on the IUCN Red List of Threatened Species. Community sacred sites located in the protected areas have also been destroyed.

4.2.2 Oil industry pollutes the land and destroys marine life and water resources

The Niger Delta in which Bonny Island, the site of the NLNG plant, is located, is one of the most polluted areas of the world.⁵⁰ The oil industry has polluted the land (oil spills and other waste generation) as well as rivers and other water resources, with the latter causing the poisoning of fish and other aquatic life. The pollution also damages the fishing nets and equipment of communities on Bonny Island, impacting their ability to earn an income.

Frequent gas flaring at the NLNG plant pollutes the air, with a tremendous impact on the area's ecology and on human health. Exposure to air pollutants released by gas flaring have been linked to kidney problems, cancer and lung damage, as well as neurological and reproductive problems, which have become prominent among pregnant women and new-borns in the region.⁵¹ Since the operation of the oil industry, life expectancy on Bonny Island has gone down.⁵²

At the group discussions, a youth leader stated: *"In Bonny, we cannot drink rainwater. My parents and ancestors survived by drinking rainwater, but we can no longer do this because if you put a basin outside and rain falls into it, what you see is dark water that is like poison. This water falls down like acid rain and destroys our land so that crops no longer grow."* The emission of carbon and other greenhouse gases by oil and gas facilities have caused acid rain. Rivers and streams are polluted, making access to

potable water and clean water for household use a big challenge. The pollution of these water bodies has caused the destruction of aquatic life. Land degradation and water pollution are posing a huge threat to the food security of people for whom farming and fishing have traditionally been their main sources of livelihood.

In Ghana too, the research for this report revealed alarming environmental hazards caused by the ECA-backed OCTPP gas exploration activities.⁵³ This has been enabled by poor community engagement by the project, coupled with weak monitoring, reporting, review, and verification of environmental risks. Marine life has been affected by the pollution of the ocean. Fishermen explained that certain fishes have gone extinct and others have moved away. The drilling of the sea beds cuts seaweeds, which are washed to the shore. 94% of the respondents observed a lot of seaweed along their community beaches, which they attributed to the presence of the OCTPP. On some days, all the fishers catch in their nets is seaweed and no fish. The seaweeds moreover destroy the fishing nets, forcing the fishers to spend money on buying new nets. Respondents stated that fishermen, fish processing women and fish consumers of the coastal communities in the oil enclave have all been affected. Based on memories of the 600 barrels of toxic drilling mud that was spilled during the development of the Jubilee oil field in 2009, people fear that the OCTPP project may bring more harm in the future.

4.2.3 Oil industry contributes to climate change impacts

The fossil industry developments backed by ECAs in the three countries contribute to climate change in two alarming ways. First, the clearance of natural forests destroys their climatological functions, especially carbon absorption. For example, in Uganda, the clearance of large forest areas for the airport, oil roads and pipelines, is in direct conflict with the government's climate change strategy that prioritises reforestation. Communities are concerned that the opening up of the fossil industry will increase the climate change impacts they

already experience, especially changing weather patterns, prolonged droughts and floods that are affecting agriculture and consequently income generation and food security. Secondly, the fossil industry developments are further contributing to climate change through the emission of greenhouse gases. For example, about 20 of the 123 gas flaring sites in Nigeria are located on Bonny Island, which makes this fossil enclave one of the chief emitters of greenhouse gases in Africa.

Community impacts of ECA-supported hydro dam projects

When researching ECA-backed energy projects in the four countries, we noticed that in addition to supporting fossil projects, quite a number of ECAs are actively supporting hydro dam projects.

Hydro dams are regularly portrayed as a “green” renewable solution.

However, we found that the five researched ECA-supported large hydro dam projects in Uganda, Nigeria and Togo actually hamper a just energy transition in these countries. The dams are often promoted as a recipe for low-carbon emissions, but in reality are contributing to climate change by emitting methane. Like fossil-related projects, hydro dams also generate negative impacts on local communities, in terms of their socio-economic rights and their environment. This chapter briefly describes the five hydro projects studied for this report in the three countries, followed by the socioeconomic and environmental impacts as experienced by community members in Uganda, Togo and Nigeria.

Uganda

Uganda's electricity consumption is one of the lowest in the world at 215 kWh per capita per year. In its national development plan, the government prioritises expansion of the national electrification coverage to meet the demands of its population of 42 million people.⁵⁴ More than 78% of the currently installed energy capacity of 1,300 MW is generated by hydropower. The government invests in expanding the power transmission network and promotes the construction of several new hydropower facilities, including the Karuma and Isimba Hydropower Plants, both of which are supported by the Chinese ECA EXIM. While these dams will add power to the national grid and probably increase electricity access, their construction has also resulted in negative impacts on host communities.

- The Karuma Hydropower Station at Karuma Falls on the Victoria Nile in Kiryandongo district was conceived over two decades ago. After agreements with several international partners fell through, the government of Uganda entered into an agreement with the EXIM Bank of China in 2013 for the financing of the 600 MW hydropower station. EXIM provided a loan of 1.4 billion USD for the project, while the government contributed the remaining 15% of the total project budget of 1.7 billion USD. For this report, we spoke with members of three affected communities: Masindi, Nwoya and Gulu.
- The 183 MW Isimba Hydroelectric Power Station along the river Nile was built with support from the EXIM Bank of China. Construction started in April 2011 and commercial operations began in March 2019. The construction of Isimba Dam is in violation with an agreement between the Ugandan government and the World Bank, which - following the earlier construction of the Bujagali Hydropower Plant near Jinja - stipulated that no dam would be constructed downstream. The construction of Isimba Power Station has gravely impacted the lives of local communities. For this report, we spoke with members of eight communities: Mutumu, Bumegere, Namalumba, Buluba, Nabukiidi, Bupiina Isimba, Bukasa and Buzimbye (Kamuli).

Nigeria

Nigeria is endowed with large and small rivers and natural falls that are potential sources for hydroelectricity to serve both urban and rural populations. With a total installed capacity of 2,064 MW, Nigeria is the 8th largest hydropower generator in Africa.⁵⁵ China plays a major role in Nigeria's hydropower sector. Two projects were studied for this report.

- The Mambilla Hydroelectric Power Station on the Dongo river in Taraba State, which is currently under development, will be the largest power-generating installation in Nigeria with a capacity of 3,050 MW.⁵⁶ The total budget is 5.8 billion USD, of which 4.9 billion USD (85%) is provided by the EXIM Bank of China and other Chinese lenders, while the Nigerian government pays the 15% balance. It is expected that the Chinese companies Sinohydro and China Civil Engineering Construction Corporation (CCECC) will start construction before the end of 2020.⁵⁷ The dam is expected to displace 100,000 people in Taraba State. The Mambilla Hydro Electricity Host Communities Association was interviewed, on behalf of the community.
- The Zungeru Hydropower Dam in Niger State, with a 700 MW capacity, is also supported by the EXIM Bank of China.⁵⁸ EXIM covers 975 million USD through a preferential loan, while the remaining 25% of the total 1.3 billion USD project is funded by the Federal Government of Nigeria. Construction started in 2013 by the Consortium of China National Electrical Equipment Corporation (CNEEC) and Sinohydro. As many as 98 villages from three local government areas (Shiroro, Rafi and Wushishi) are affected by the project.⁵⁹ For this report, 19 representatives (15 men, 4 women) of five impacted communities (Jiko, Maikakaki, Luwa, Gugun, Gunugu) were engaged in focus group discussions and interviews.

Togo

Togo is seeking to increase its hydropower potential in the coming years, witness the numerous dam projects that are being initiated, including the Adjarala Hydropower Plant.

- The Adjarala Hydropower Plant with a capacity of 147 MW is under construction on the Mono River, which serves as a border between Togo and Benin. It is expected that the project will require 2,674 hectares of agricultural land and displace 11,983 inhabitants.⁶⁰ The EXIM Bank of China provided support of 270 million USD for the project, which is executed by the Chinese company Sinohydro. Local NGOs, including Les Amis de la Terre-Togo, have regularly consulted the project's neighbouring communities during 2015-2016 to identify the potential socio-economic and environmental impacts. For this report, three riverside communities (Tététou, Lawsoncopé and Zokouvé) were visited in September 2020 to gather their concerns and viewpoints.

5.1 Socioeconomic impacts

Socioeconomic impacts faced by communities living near the researched hydro projects were very similar to the impacts faced by communities

impacted by fossil projects. An overview of the identified impacts as mentioned by representatives of the impacted communities is listed in Table 6.

Table 6: Experienced and feared socioeconomic impacts of hydro dam-related projects as mentioned by interviewees

	Karuma Hydropower Station, Uganda	Isimba Hydroelectric Power Station, Uganda	Mambilla Hydroelectric Power Station, Nigeria – construction yet to start	Zungeru Hydropower Dam, Nigeria	Adjarala Hydropower Plant, Togo – under construction
Inadequate information and consultation	✓				
Forced displacement due to land flooding for dam reservoir					
Loss of farming and/or fishing livelihoods			✓ (feared)	✓	✓ (expected)
Late and/or inadequate compensation for loss of land impacts livelihoods	✓	✓		✓	
Breaking up of community ties & loss of burial grounds				✓	
Difficult living conditions in resettlement sites				✓	
Loss of income & livelihoods					
Loss of livelihoods due to flooding of agricultural land, and/or lost access to water and fishing resources	✓	✓	✓ (feared)	✓	✓ (feared)
Life in project areas					
Increased competition for jobs and small businesses due to influx of expat workers and/or local migrant workers	✓				
Increase in social tensions and/or crime due to influx of migrants	✓		✓ (feared)		
Militarisation and violence against local communities	✓		✓	✓	
Gender and youth impacts					
Women don't receive compensation bc they don't own official land titles				✓	
Women are not consulted during project design and implementation				✓	
Increases in SGBV	✓				
Women and girls engage in sex work to survive and/or due to the influx of expat workers	✓				
Increase in teenage pregnancies and single mothers	✓				

5.1.1 Inadequate information and consultation

A major issue in many large hydro dam projects is the lack of proper information provided to affected communities as well as insufficient consultation of these communities regarding their project-related concerns. The failure to timely disclose project information and organise inclusive consultation processes violates national and international laws and policies. In Uganda, this led to social unrest when communities protested against project contractors of Karuma Hydropower Station. Although project developers claimed they had made use of public notices to inform the affected communities, the communities indicated this was not the way to generate proper consultation, since in rural areas people often lack access to newspapers and many are illiterate.



Karuma Hydro Dam, Uganda

PHOTO: REUTERS/JAMES AKENA/FILE PHOTO

5.1.2 Inadequate compensation for loss of land

The inadequate compensation for land acquired from local communities is a controversial issue in many hydro dam projects. In the case of the Karuma and Isimba hydropower projects in Uganda, affected communities have gone to court over what they considered unfair compensation and undervaluation of their land and property.⁶¹ The 465 hectares of land acquired for Karuma Hydropower Station affected 414 households from four villages in Mutunda and Kamdini subcounties in Kiryadongo and Oyam Districts. Community members also accused local leaders who allegedly had been bribed and consequently did not support their communities in getting fair compensation.⁶²

In Nigeria, the development of the Mambilla Hydroelectric Power Station will cause displacement of up to 100,000 people. Because of the location of the project – on land that is disputed and cause for regular ethno-religious violence – there are concerns that this large-scale displacement will worsen the conflict dynamics and humanitarian situation in Taraba state.⁶³ The other ECA-backed hydro project in Nigeria, Zungeru Hydropower Dam, has already caused deep disappointment amongst community

members over how the issues of resettlement and compensation were handled. Respondents in focus group discussions convened for this report stressed that promises made to them before commencing the project were not fulfilled and that they “were deceived into accepting the project”. People were promised new houses, yet instead were taken to Internally Displaced Persons (IDP) camps where they were scattered and lost touch with relatives and friends. Those who could not cope with life in the camp left, but were treated with hostility by the communities where they tried to settle. The hydro dam project led to impoverishment of displaced communities as well as violations of their basic human rights.

One participant from the Gugun community explained during a group discussion: “When they came for the Zungeru hydropower project, they said that compensation would be paid to everyone and that no one will be cheated. They took our land. They compensated some with 100,000 naira if the person had a house. If we knew that they were going to con us, we wouldn’t have agreed. Some never received the complete compensation payment. Everyone was driven out of the community and our village was

submerged. They took us to Zungeru as internally displaced persons. After feeding us for some time, they stopped. We had no option than to relocate elsewhere. The people are not happy. At first we resisted, but our traditional ruler convinced us to let go because of Allah. We do not have any other business than farming. If you are a farmer, N50,000 cannot give you a land to farm for one year."

When people's communities were flooded, they lost all their crops and their entire properties, including their houses. A member of the Jiko community said: "We thank God for making us meet today. Those of us who live in the riverine areas are farmers who cultivate rice, maize and beans. We have lost the

land we thought our children would inherit. We have relocated to the hills where bandits are disturbing us." The chairman of the affected communities said: "We inherited the farmlands from our parents but were paid a meagre token for them. There are young men who have wives and children whose lands were taken without compensation. Some of the communities affected do not have potable water. We were taken to IDP camps where the Vice President of Nigeria came to see us in 2018 and promised that the federal government would build 500 units of housing for the people. Without farming, there is nothing the youth can do and they may be tempted to go into criminality."

5.1.3 Loss of income and disrupted livelihoods

When the construction of Zungeru Hydropower Dam in Nigeria commenced, people were made to believe the project would improve their standard of living by creating jobs, improved irrigation, husbandry and fishing, as well as the constant supply of electricity which would support economic activities, especially for rural women.⁶⁴ Instead, what people have experienced is higher levels of landlessness, unemployment and hunger, which has had most adverse effects on women and children. The flooding of their agricultural land, which destroyed people's source of livelihood, has increased poverty.

In Uganda, the construction of Isimba Hydroelectric Power Station put an end to people's income from tourism. The Kalagala Falls used to attract tourists for wildlife, especially the red-tailed monkeys and endangered pangolins, or rafting and kayaking. While the dam has increased access to electricity, it has reduced people's earning capacity because of the flooding that changed the water ways. The dam has also affected people's access to water for domestic use (bathing, laundry etc.) as a fence was erected to block their access to the banks of the Victoria Nile.

In Togo, communities are raising concerns about the land that will be expropriated for the construction of the Adjarala Hydropower Plant, which means the loss of their key source of livelihood (e.g. food crops). They equally worry about the loss of their forests. Respondents in the community of Zokouvé added that they will not be able to repay their debts to microfinance institutions once they lose their income-generating activities and assets. People in Lawsoncopé community worry that if they are forced to leave their village they will lose one of their main income-generating activities, namely the exploitation of sand and gravel in the Mono River.

5.1.4 Gender impacts and social tensions

Respondents mentioned that with the Zungeru hydropower project in Nigeria, women were disproportionately affected. To start with, women were excluded from the compensation process. Their rights to property were not recognised and therefore not factored into the compensation scheme. Only men, considered the heads of household, were paid – be it insufficiently - for the loss of land and crops. Before relocation, women used to trade farm produce, but after their land was taken, they lost control over their source of income. The social impact of losing one's land, and therefore a key part of one's cultural heritage, is deeply felt by all communities who have been disconnected from the land of their ancestors. The ties between relatives and neighbours, who have resettled to different areas, have been severed.



Bonny Island, Niger Delta

PHOTO: VII PHOTO / REDUX

The floods caused by the construction of the reservoir for Zungeru dam not only submerged people's farmlands, but also their burial grounds. Women respondents lamented the loss of ancestral tombs and the impact of this on the relatives of the deceased.

Communities in project areas are furthermore affected by the influx of workers and job seekers from different regions of the country as well as abroad. This often leads to social tensions, as mentioned by respondents affected by the Karuma Hydropower Station in Uganda. They stressed that this influx has resulted in illicit sex between company workers and local girls and women, which caused a rise of the number of single mothers with babies of Chinese decent. Local leaders complained that it is against the community's tradition for a woman to give birth out of wedlock. Communities in the project area in Togo expressed similar concerns. They worry about foreign workers having sexual relationships with girls and women from their community and a consequent change in sexual morals, as well as an increase in crime and other social conflicts.

They added that if different communities will be forced to share the same housing sites in relocation areas, this may cause problems with the traditional authority structures or chieftaincy, as well as lead to conflicts over grazing land for animals and other disputes over natural resources (land and water).

5.1.5 Suppression of protest and militarisation

The serious social and economic impacts of hydropower projects not seldom lead to resistance and protests by affected communities. Such protests are often suppressed by the government, using not only police but also military force. Respondents in Uganda raised concerns about the increased militarisation of the project area around Karuma Hydropower Station, which they fear will lead to human rights abuses. Armed men in combat

are seen patrolling and they move around in the villages, which is interpreted as an attempt to instil fear among the communities to stop them standing up for their rights. People tried to demonstrate against Chinese officials visiting the project area, to demand compensation for their land before the start of the project. The army detached in the area arrested demonstrators, who were beaten and detained in police cells.

5.2 Environmental impacts

Environmental impacts faced by communities living near the researched hydro projects as mentioned by representatives of these communities are listed in Table 7.

Table 7: Experienced and feared environmental impacts of hydro dam-related projects as mentioned by interviewees

	Karuma Hydropower Station, Uganda	Isimba Hydroelectric Power Station, Uganda	Mambilla Hydroelectric Power Station, Nigeria – construction yet to start	Zungeru Hydropower Dam, Nigeria	Adjarala Hydropower Plant, Togo – under construction
Flooding of land for construction of hydro dam					
Destruction / disruption of biodiversity and vital ecosystems	✓	✓			
Impacts on wildlife	✓	✓			
Changed flow of water		✓			
Loss of culturally significant natural & sacred places				✓	
Impacts on marine life					
Impact on fish and other marine life including extinction of species		✓			✓ (expected)
Interruption of fish migration		✓			✓ (expected)
Erosion of coastal and delta areas					✓ (feared)
Degradation of water quality					✓ (feared)
Climate change impacts (next to GHG emissions)					
Destruction of forests negatively impacts carbon absorption	✓			✓	✓ (expected)
Methane gas emissions	✓	✓	✓ (expected)	✓	✓ (expected)
Other environmental impacts					
Polluted water invades agricultural land				✓	✓ (feared)

5.2.1 Flooding causes loss of biodiversity and destruction of ecosystems

The major environmental impact of hydropower development is caused by the flooding of large areas by the reservoirs that are created for the dams. In Uganda, the flooding caused by the Isimba and Karuma hydro projects has impacted the biodiversity and ecosystems of important wildlife reserves and conservation areas that are home to unique bird, animal and plant species (i.e. Karuma wildlife reserve, Murchison Falls national park, Kalagala Falls conservation area). The construction of Isimba dam created a reservoir that has flooded the area around the Kalagala Falls, submerging the rapids and much of the surrounding forest. The dam has altered the natural ecosystem and flow of the water, risking the delicate balance of the river ecosystem and throwing the lifecycles

of plants and animals off-kilter.⁶⁵ Wildlife that has been affected by flooding in Karuma includes lions and elephants, Cape buffaloes, Ugandan kobs, Rothschild's giraffes, verve monkeys, olive baboons, etc. In the Nigeria Zungeru Hydropower project, large-scale flooding of farmland and forests has affected the landscape and environment. Communities around the Mambilla project area are very concerned about similar impacts, which have been listed by the Environmental Justice Atlas to potentially include biodiversity loss (wildlife and agro-diversity), desertification and drought, floods, deforestation and loss of vegetation cover, ground and surface water pollution, and large-scale disturbance of hydro and geological systems.⁶⁶

5.2.2 Impacts on coastal areas and marine life

In Togo, respondents from the three communities expressed their concerns about the loss of plants and the damage that will likely be done to the aquatic life endemic to the Mono River by the construction of Adjarala Hydropower Plant. They stressed the disruption of the migration of certain fish species and shrimp, which is a vital part of their life cycle and reproduction. Respondents are equally concerned about the erosion of the coastal and delta areas that will be caused by the hydro dam.

These concerns are also reflected in the provisional report of the Environmental and Social Impact study for the construction of the hydro dam,

commissioned by the Communauté Electrique du Bénin (CEB). The report warns that the survival of protected animal species such as the red-bellied monkey could be threatened and that aquatic life will be affected as well. Once the dam is operational, the quality of the river water will be impacted. The propellers of the turbines that produce energy will release undesirable particles into the river water. The agricultural land around the river will be invaded by this water when the river banks overflow due to the shaking of the machines. The construction and commissioning could cause excessive degradation of the water downstream of the dam due to lack of oxygen content.⁶⁷

5.2.3 Climate change impacts

The large dams also have impacts on climate change, despite widespread notions that dams are clean and renewable sources of power. Using large dams to generate electricity is often portrayed as beneficial for the climate, because it avoids the large-scale emission of greenhouse gases that is caused by the burning of fossil fuels. Recent insights, however, contradict these assumptions.

First, the building of the large hydro dams often contributes to deforestation. As with fossil, the clearance of natural forests for these dams leads to the destruction of their climatological functions, including carbon absorption. Second, hydropower reservoirs currently contribute roughly 4% of the world's annual human-caused greenhouse gas emissions⁶⁸, especially methane. With many nations around the world preparing to invest in the building of more hydro dams, methane emissions will increase dramatically. These methane emissions stem from underwater microbes that feast on the organic matter that piles up in the lake sediments trapped by dams. In the first two decades after its release, methane is 84 times more potent than carbon dioxide.⁶⁹ Therefore, large hydro dams are not so much a solution but rather a contributor to climate change.

6

Mapping energy sustainability gaps and opportunities in Ghana, Nigeria, Togo and Uganda

All four countries recognise the enormous threats posed to people's livelihoods and wellbeing by the impacts of climate change.

For example, Nigeria's Nationally Determined Contributions (NDC)⁷⁰ document states that single extreme climate events have the potential to wipe out years of development.

This was evidenced by the flood of 2012, which caused an estimated cost to the economy of 2% of Nigeria's GDP. Furthermore, an accelerated sea level rise of about 0.5 meter could destroy about 35% of the Niger Delta.⁷¹ While fighting climate change (SDG13), the four countries are also facing major challenges in achieving other SDGs; such as raising people out of poverty (SDG1) and providing

energy access to all (SDG7). So far, this report has presented the problems caused on all these fronts by fossil fuel and large hydro projects. In this chapter, we map the potential for sustainable and just energy solutions that can contribute to achieve many of the SDGs. In chapter 7, we will discuss if and how ECAs can be a part of this solution.



Bonny Island, Niger Delta, Nigeria

PHOTO: PIUS UTOMI EKPEI / AFP

6.1 Access to energy

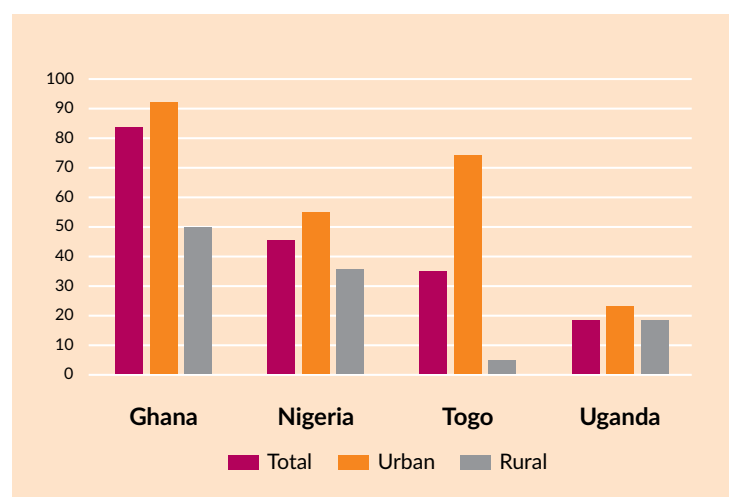
SDG 7 captures the international community's ambition to ensure affordable, reliable, sustainable and modern energy for all by 2030. This is of key importance to improve the health and livelihoods of people around the world. Access to affordable and reliable energy is directly linked to socioeconomic benefits by contributing to people's health and children's education and supporting communities' income generation activities. However, in 2020, ensuring access to clean and affordable electricity remains a major challenge, most of all on the African continent. The 'Tracking SDG 7: The Energy Progress Report 2020' highlights that Africa's share in the world's non-electrified population increased from 48% to 70% between 2010 and 2018, with Nigeria currently topping the world's 20 countries with the largest electrification deficit. In Sub-Saharan Africa, 548 million people completely lacked access to electricity in 2018. In addition, there are millions more people in the region who only have minimal or unreliable electricity access.⁷²

The levels of access in the four countries that were studied for this report differ, as is shown in Figure 2. While in 2017 in Ghana over 80% of the population had access to electricity, in Uganda this was less than 20%.

Figure 2 also shows that in all four countries, access to electricity is lowest in rural areas. In all four countries, biomass is the biggest source for energy consumption. This high dependence on biomass contributes to health problems, in particular, indoor air pollution from unvented biofuel cooking stoves is a major contributor to respiratory illnesses. Importantly, reliance on biomass, especially in the form of charcoal, is also a major contributor to land and forest degradation.⁷³

Uganda, Togo, Nigeria and Ghana have all committed to the SDG7 target of achieving universal energy access for their populations by 2030. This means that a substantial gap in energy availability and access needs to be bridged in the coming decade.

Figure 2: Percentage of households that have access to electricity in Ghana, Nigeria, Togo and Uganda in 2017

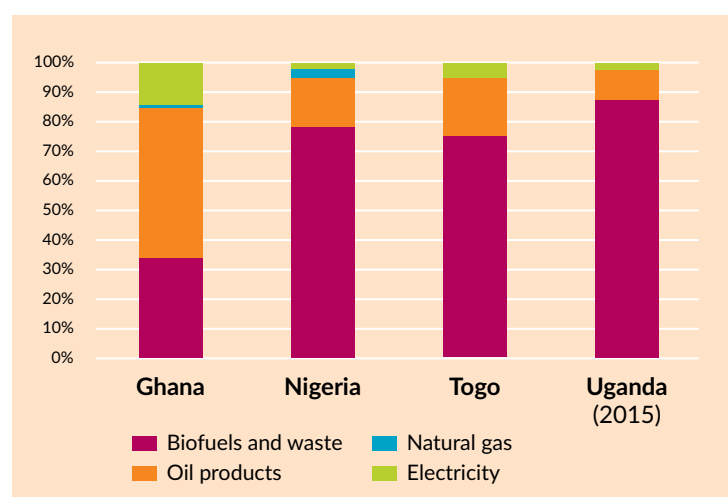


Source: USAID⁷⁴

6.2 Current energy consumption and generation

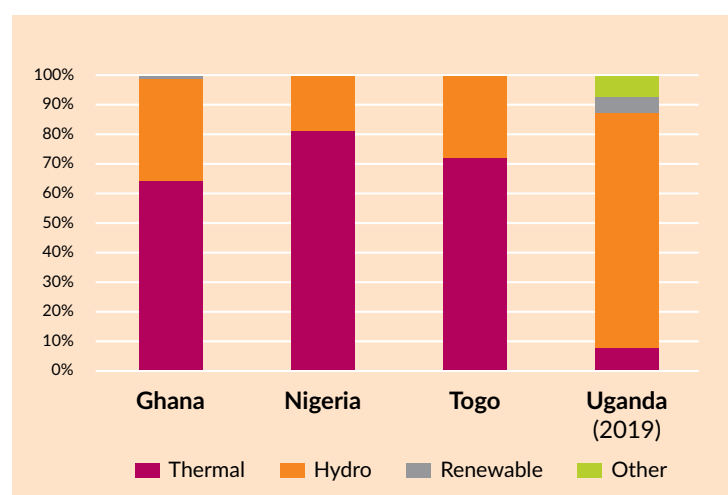
The figures 3 and 4 below give an impression of, respectively, the energy consumption and the electricity generation capacity in each of the four countries. Figure 3 shows that, in terms of energy consumption, biomass (biofuels and waste) is the main source of energy by far (over 70%) in Nigeria, Togo and Uganda. In these countries, energy consumption from oil products comes second. In Ghana, this is reversed: most energy consumed comes from oil products (just under 50%), while biomass comes second (34%).

Figure 3: Energy consumption per source in Ghana, Nigeria, Togo and Uganda in 2018



Sources: EIA and RVO⁷⁶

Figure 4: Electricity generation capacity per sector in Ghana, Nigeria, Togo and Uganda in 2018



Source: USAID and ERA⁷⁷

Figure 4 shows that in Ghana, Nigeria and Togo, the burning of fossil fuels (thermal) is responsible for most of the electricity generation. However, hydropower is the main technology for electricity generation in Uganda. Countries differ in terms of which type of fossil fuel is used for thermal electricity generation.⁷⁵ In Uganda, all thermal power is currently generated by oil, in Nigeria only natural gas is used, while in Togo and Ghana thermal electricity is generated by both oil and natural gas equally. Figure 4 also shows that overall renewable energy does not play a significant role in the electricity mix in the four countries.

In Ghana, oil and natural gas together accounted for the largest share (58%) in the energy supply in 2018.⁷⁸ The natural gas proportion more than doubled from 5% to 14% between 2012 and 2018. Biomass is still the second dominant primary energy supply source in Ghana and comprises wood fuels, agro-waste and municipal waste. However, its share in the total energy supply declined from 41% in 2012 to 34% in 2018. Solar PV electricity generation on the other hand increased tenfold, from 3 GWh in 2013 to 33 GWh in 2018, yet still only amounts to 0.5% of total energy supply.⁷⁹ As for electricity, which amounts to 14% of total energy supply in 2018, the supply mix for electricity generation has shifted from being 100% hydro-based in the 1990s to a mix of thermal, hydro and very little renewable (solar) in 2018 (see Figure 4). Since 2013, Ghana has been a net energy exporter.⁸⁰

Nigeria currently has an installed capacity of 12,522 MW. However, the country is only able to generate around 4,000 MW on most days, which is wholly insufficient given that the country's demand is estimated to be well over the installed capacity.⁸¹ This has led to Nigerians meeting the demand gap through the use of generators. Over 22 million petrol generators are littered across the country.⁸²

Togo heavily depends on import for its energy consumption. In 2016, 67% of the available electricity in the country was imported from Ghana, Cote d'Ivoire and Nigeria.⁸³ Coming from a situation where 90% of its energy was imported, Togo has

increased its own energy production capacity in recent years by building thermal plants running on both natural gas and heavy fuel oil.⁸⁴

The installed electricity generating capacity in Uganda is currently 1,252 MW.⁸⁵ The country's total energy demand by 2025 is estimated at 10,449 MW, anticipating a growth rate in electricity demand of 10% per annum.⁸⁶ As shown in Figure 4 the country mainly relies on large hydro dams for electricity generation. Thermal electricity is generated by heavy fuel oil. In Uganda's rural areas, over 80% of the population currently depend on biomass to meet their household energy needs for cooking, and on paraffin for lighting.⁸⁷ The country is estimated to have one of the lowest per capita electricity consumption rates in the world with 215 kWh per capita per year. This is lower than Sub-Saharan Africa's average of 552 kWh per capita, while the world average is 2,975 kWh per capita.⁸⁸

6.3 Renewable energy potential

In all four countries, the electrification rate needs to increase if governments are to achieve their 2030 targets for energy access. SDG 7 emphasises the need for access to sustainable energy. This report has shown the range of serious negative socioeconomic and environmental impacts that fossil energy development has on local

communities, as well as the impacts on climate change. It has also questioned the sustainability of hydropower, which is often still promoted as a green energy source. Therefore, the key question is how to ensure that the increase in electricity generation in the global South, and energy in general, stems from renewable sources that are truly sustainable for people and environment, while at the same time providing employment and income opportunities for local communities.

Multiple reports indicate that there is a huge opportunity for renewable energy generation in Africa, which will support a higher standard of living for a large part of current and future populations across the continent.⁸⁹ The modular nature of most renewable energy technologies as well as the low investment levels make these technologies particularly suitable for capital-constrained African countries. Most renewable energy technologies use locally available resources (e.g. solar radiation) and can operate based on local expertise, and can therefore provide employment opportunities for local populations, including women.⁹⁰

When discussing the potential for renewable energy in the four countries, we focus on the potential for solar, wind energy and geothermal energy, since these best match with the local opportunities and benefits mentioned above.⁹¹ The potential per country is presented in Table 8.

Table 8: Renewable energy potential

	Ghana	Nigeria	Togo	Uganda
Solar	4-6 kWh/m2/day	4-6.5 kWh/m2/day	4.5 kWh/m2/day	5-7 kWh/m2/day
Wind	2,000 MW	Varies from potential for water pumping to rural electricity generation	25.2 MW for the first plant	For small-scale electricity generation
Geothermal				450 MW

Sources: GET.invest, UNREEEA, EAENET, climate investment funds⁹²

All four countries have the potential to make use of solar energy because their geographical location ensures the availability of abundant sunlight throughout the year. Wind energy on a large scale is mainly interesting for Ghana. In the other countries wind has the potential to provide energy in rural locations for small-scale electricity generation and water pumping. Renewable energy investments are expected to bring in a substantial positive return on the economy, generating green jobs and contributing to achieving the SDGs. Though there is a lot of potential for renewable energy contributing to a positive effect on the climate and economy, the question is whether the four countries are planning to exploit this potential fully in the coming years – considering also the SDG 7 2030 landmark.

In Ghana, the government established Delivery and Green Funds in 2019, in order to raise funds for the implementation of the country's SDG programme. The country has set the policy target of scaling up renewable energy penetration by 10% by 2030.⁹³ The country's Renewable Energy Master Plan, co-sponsored by China, aims to increase the proportion of 'renewable energy' (including hydro power up to 100 MW) in the national energy generation mix from 42 MW in 2015 to over 1300 MW in 2030.⁹⁴

In 2012, Nigeria adopted the National Climate Change Policy Response and Strategy. Additionally, the Nigerian National Renewable Energy and Energy Efficiency Policy of 2015 sets a target to achieve 16% of its electricity consumption from renewable sources by 2030. Nigeria issued its first green bond in 2017, amounting to 30 million USD. A second green bond of 40 million USD was issued in 2019, with a third expected to be issued soon.

Togo wants to develop its renewable energy potential, through the Togolese Rural Electrification and Renewable Energies Agency (AT2ER), by producing nearly 200 MW of electricity based on renewable energies in 2023. It also has a strong ambition to invest in solar kits and mini-grids.⁹⁵ The first large photovoltaic solar power plant with a total capacity of 50 MW will be built by the end of October 2020.⁹⁶

Uganda's Vision 2040 sets ambitious targets for exploiting the untapped clean energy potential and importing renewables from neighbouring countries to a tune of 40,000 MW by 2040. The country also plans to reduce its energy footprint by importing power from neighbouring countries under the Power Trade arrangement and other renewable energy sources aimed at complementing the existing energy sources.⁹⁷

6.4 Climate change adaptation and mitigation strategies, will it be enough?

The governments of all four countries have set targets for the fight against climate change. Ghana, Nigeria and Togo have set emission reduction targets in their NDC documents of respectively 15%, 20% and 11% unconditionally by 2030. With additional external financial support made available these targets increase to 45%, 45% and 31% respectively.⁹⁸ The Ugandan government has set only a conditional target of 22% emission reduction.⁹⁹ For all four countries, this reduction is measured in comparison to a business as usual scenario, not in comparison to emission levels of a previous year. This means that emissions can still increase compared to current levels.

Although the NDC documents of the four countries all set emission reduction targets, none of them touch on phasing out fossil fuels. They only set targets for achieving a certain percentage of electricity generation from renewable sources by 2030,¹⁰⁰ as discussed above.

The current over-dependence on fossil fuels makes it difficult for the four countries to realise a timely transition to renewable energy. Governments promote and rely on fossil fuel projects to ensure access to energy for the majority of the population and to increase tax revenues. The ongoing and new investments in fossil projects, however, directly compete with the investments that are needed to achieve a substantial transition to clean

and renewable projects by 2030. For example, Uganda has formulated renewable energy and emission reduction targets, yet at the same time the government is fully betting on oil witness the investments in the East African Crude Oil Pipeline.

Despite the potential for renewable energy and some of the commitments made, all four countries are not doing enough to meet the climate goals set in the Paris Agreement, or to meet the SDG 7 targets. As long as their governments remain silent on commitments to phase out fossil fuels, and continue to promote large scale hydro as a sustainable source of energy, investments in these fossil fuels and dirty energy solutions will hamper a just and fast energy transition. The lack of policy coherence between the commitments made in the Paris Agreement and the SDGs on the one hand, and the actual government plans on the other hand contributes to a situation where fossil and large-scale hydro investments, supported by ECAs, are encouraging business as usual.

What role can ECAs play in the energy transition?

In this final chapter of our report on the involvement of export credit agencies in the energy sector in four African countries, we pose the question: Do ECAs have a role to play in the energy transition in these countries? And if so, what could that role look like?

A recent study by OCI¹⁰¹ provided helpful insights into these questions, highlighting two crucial points:

1

Renewable energy produced through off-grid and mini-grid wind and solar installations – called ‘distributed renewable energy’ – has consistently been identified as the most effective, affordable, and resilient way to deliver electricity services to rural areas that lack access to the national grid.

2

Only 1% of the finance for electrification in Africa is currently flowing to distributed renewable energy. The vast majority of this finance has been awarded to multinational companies that are based in Europe or North America or led by entrepreneurs from these regions, meaning most of the profits made by these companies do not remain in Africa.

Several ECAs are currently considering how to increase their support for ‘green’ projects, and some seek international coordination for these efforts.¹⁰² However, these ECAs continue to operate from their export-driven logic, with little consideration for how these green projects could actually support a just energy transition for the local population in the countries concerned. Their preoccupation remains serving the interests of the domestic companies that aim to make a profit from green projects abroad. A truly just energy transition perspective requires not only a focus on transitioning from fossil fuels to renewables, but also implies prioritising energy ownership and

distribution in the countries where the projects are implemented. Community-owned and cooperative models are the most sustainable way forward to ensure broad energy access as well as local jobs, which in turn will contribute to a more resilient local economy, especially in remote places where energy access is currently very low.

ECAs are not used to support distributed, community-owned or cooperative models, on the contrary, they have so far always supported large-scale projects, most often implemented by multinationals. It is therefore very likely that their green frameworks will continue to operate from a “green” business as usual export perspective, within the same political mandate that ECAs have had for decades. A different mindset is urgently needed if ECAs are serious about the role they might play in not only reducing carbon emissions, but also promoting a just energy transition - and thus contributing to the SDGs. For one thing, this would probably imply that different financial frameworks are required.

Furthermore, ECAs should start addressing the critical issue of policy coherence for development as well as for climate neutrality. While on the one hand ECAs might be considering – and sometimes have started supporting – green energy projects that can contribute to a greener economy, on the other hand ECAs lack scenarios for phasing out their massive support for fossil fuels. All intentions for supporting more green projects, however well-meant, will have little impact in terms of contributing to the goals of the Paris Agreement as long as the massive support for fossil energy continues.

8 Conclusions

The fact that public support via ECAs plays a crucial role in leveraging private finance for the energy sector, especially for fossil fuels, has become very evident in recent years.

This study adds to that evidence by providing a perspective from four countries where such fossil projects are being implemented.

Based on publicly available data, we found that ECAs insured energy projects in the four countries with a total insured value of approximately 18 billion USD in the period between January 2013 and August 2020. The largest part (52%) of this ECA support to the energy sector in Ghana, Nigeria, Togo and Uganda is related to fossil fuel, specifically oil and gas. ECA support for large-scale hydro dams comes second, representing 45% of the total value. Despite the commitments of the Paris Agreement, which was signed five years ago, and despite the undeniable urgency for countries around the world to reduce GHG emissions, ECAs provided more than 80 times as much support to fossil fuels than to renewable energy (solar, wind and geothermal) in the four African countries that were studied for this report. The available data shows that only 1% of the total support to the energy sector consisted of support for renewable energy, in the form of solar projects. No ECA support for wind projects in the four African countries has been found.

The majority (66%) of the fossil fuel-related ECA support originates from China and Korea. The support for large-scale hydro dams in Nigeria, Uganda and Togo almost solely came from Chinese ECAs.

China's ECAs, the EXIM Bank of China and Sinosure, have by far provided most ECA support to energy projects, and have mainly been active in supporting hydro dams and oil and gas developments in Nigeria and Uganda. The South-Korean ECAs Kexim and K-Sure combined have provided most support to oil and gas projects in terms of USD, and all their support went to Nigeria. European-based ECAs including UKEF (United Kingdom), Atradius DSB (The Netherlands),

Eksportkreditt Norge (Norway) and SACE (Italy) mainly provided fossil fuel-related support in the four countries.

This study found that Togo's oil and gas industry is still in the exploration phase and has not received any ECA support yet. Energy-related ECA support in Togo was provided to the Adjarala Hydropower Plant on the border with Benin, through the EXIM Bank of China.

Through field research conducted in all four countries, this study highlighted how ECA-supported fossil fuel and large hydro projects have had considerable adverse impacts on communities and their environment. The socioeconomic impacts range from land grabbing, displacement, loss of livelihoods and increasing poverty to gender impacts (e.g. teenage pregnancies and SGBV), local conflicts, militarisation and growing instability. The environmental impacts that equally affect communities in and near project areas, and which are linked to the socioeconomic impacts, range from the pollution of land and water to the destruction of biodiversity and the disruption of vital ecosystems. These impacts indicate that ECA support contributes to undermining progress towards achieving the SDGs. In particular, the negative impacts mentioned by the communities interviewed for this research interfere with efforts to end all poverty (SDG 1), achieve gender equality (SDG 5), promote sustained, inclusive and sustainable economic growth (SDG 8), reduce inequality within and among countries (SDG 10), conserve and sustainably use the oceans (SDG 14), protect, restore and promote sustainable use of terrestrial ecosystems (SDG 15) and reduce all forms of violence (SDG 16).

Countries in the global South are being hit particularly hard by the impacts of climate change. This knowledge makes it wholly unacceptable that, while many industrialised countries commit to phasing out fossil energy domestically, these commitments are abandoned as soon as companies cross international borders. This behaviour adds to the many risks and threats that are already faced by people living in countries that are particularly vulnerable to climate change impacts. In addition, making these countries economically dependent on an energy source that many countries in the world are committed to phase out, also poses serious economic risks to these countries.

It is clear, therefore, that a shift to renewable energy in countries in the global South is urgently needed. There is a huge opportunity for renewable energy in the four African countries included in this report. Real solutions like distributed renewable energy - including solar, wind and geothermal projects - have the potential to make an end to energy poverty in these countries and to provide sustainable energy access where it is most needed. Distributed renewable energy technologies can provide climate-friendly, sustainable and economically viable alternatives for a large part of current and future populations. Off grid energy applications strengthen local job opportunities for both men and women, as well as foster energy ownership and democracy, thereby contributing to the overall resilience of a country's population.

It is high time, therefore, that public funds and financial institutions actively start supporting the renewable energy sector in the global South. The choices that ECAs currently make - major support to fossil fuels and to hydro dams (labelled renewable despite their massive methane emissions) versus negligible support to clean renewables - actively obstruct a green and just energy transition in the global South. To be relevant to the sustainable development of a renewable energy economy in African countries, ECAs should rather use their leverage over banks, exporters and other stakeholders to contribute to a clean energy transition.

However, a cautionary question should be posed: would ECAs and their financial instruments at all be able to play a meaningful role in fostering a just energy transition in the global South? Currently, ECAs are designed to support domestic companies, including multinationals, in their ambitions to do big business abroad. The export logic that feeds ECAs implies that their main focus is on serving and benefitting the companies, rather than the population abroad that is impacted by their support.

Any meaningful switch away from fossil to green and renewable energy therefore needs to be rooted in Just Transition principles. These principles dictate that renewable initiatives should foster local participation and ownership, create local jobs and energy access for all, and that the equipment and installations (such as wind mills and solar panels) are built from sustainable sources. The overdependence of local economies on foreign and multinational (private) investments and capacity should be limited. Fossil energy investments in Africa have for decades followed a business as usual approach and as such have not been able to combat energy poverty. Meanwhile, these investments have created fossil-based economies that are largely dependent on foreign investments and companies, with little benefits for people locally. African countries must therefore be supported to not only use, but also manufacture and exploit their clean energy potential. They should be in the driver's seat, promoting and realising a clean energy future that benefits the entire population. Last but not least, any future renewable energy projects must respect human rights and the environment. This means that they should have strong due diligence standards in place, which need to ensure that local communities are consulted and respected in all phases of the design, development and implementation of renewable energy systems on their territories.

9 Recommendations

Based on the findings of this scoping study on the community impacts of ECA-supported energy projects in four African countries, and in line with the national and international commitments outlined by the United Nations Framework Convention on Climate Change (UNFCCC), the Paris Agreement, the Sustainable Development Goals – in particular SDG 7 on ensuring “*universal access to affordable, reliable, sustainable and modern energy by 2030*” – and national laws, policies and commitments, the following key recommendations are made:

To African governments:

- Respect the national and international commitments on sustainable development and climate change, including commitments made under the Paris Agreement and the SDGs. Halt any plans to open up or further develop any fossil fuel-related projects or large hydro plants and instead promote substantial investments in solar, wind and geothermal energy projects that will contribute to achieving SDG 7.
- Provide a clear policy framework for a just energy transition, which prioritises investments in renewable energy that promote local participation and ownership of distributed renewable energy initiatives. Make sure renewable energy initiatives are people-centred and promote a democratised energy system that fosters the participation and ownership of local communities with regards to their energy access.
- Work with regional bodies to set up proper transparency, monitoring and compliance mechanisms to critically monitor all investments in the energy sector. Ensure international finance flows, such as those supported by ECAs, support a just energy transition instead of increased fossil dependency.

- Ensure value for money audits in all renewable energy contract negotiations and agreements, so that these will be in the interest of both the State and the communities that are directly impacted. Make sure that any communities that are likely to be affected by the renewable energy developments are guaranteed equal and comprehensive stakeholder participation in all stages of the renewable energy development projects.

To the governments of publicly backed ECAs:

- Exclude ECA support to all fossil fuels (including fossil gas), associated facilities and large hydro plants, and align foreign trade policies with the 1.5C Paris Agreement target and the SDGs.
- Stop any ECA support that benefits multinational corporations over local populations, by causing violations of human and indigenous peoples' rights and their cultural values and customs, displacement, loss of income, ill-health, environmental degradation and (gender-based) violence. Ensure that all ECA support is aligned with the SDGs.
- Incorporate consideration of gender equality and the specific concerns, needs and rights of marginalised and vulnerable groups in all project assessments. Communities should be enabled to exercise their right to free, prior and informed consent (FPIC) in relation to any project that ECAs are (potentially) involved in.

- Adhere to the highest standards of transparency. Provide data in relation to all supported ECA projects on the ECA's website. Publish detailed announcements of projects under consideration at the moment of receiving the application. Information should include: type of energy, value of the insurance, project owner and a detailed project description. Publish detailed CSR due diligence reports and monitoring plans. Ensure that the environmental and social audits are undertaken in accordance with international laws, regulations and best practices.
- When supporting renewable energy projects, ECAs should apply a Just Transition approach by embracing the following key values: respecting human rights and do no harm principles, promoting equitable, inclusive and community-led renewable energy development, and building resilience with an intersectional and gender perspective.
- Analyse and draft a coherent vision on if and how ECAs could support such a just energy transition away from fossil support, by scaling up support for projects that promote energy efficiency and community-led renewable energy, thereby contributing to SDG 7.

To regional African bodies:

- The regional level bodies, such as the African Union, ECOWAS, East African Community and COMESA, must increase collaboration with governments and associations to ensure that ECA support in Africa is aligned with national laws, SDGs and the Paris Agreement.
- Work with African governments and African civil society networks to set up proper transparency, monitoring and compliance mechanisms to critically monitor investments in the fossil fuel sector.
- Engage with relevant international bodies (like the OECD and EU) to directly and openly compel them to end all forms of ECA support for dirty energy projects in African countries and to support a timely switch to renewable and just energy transition alternatives.

Endnotes

- 1 'Ppm' stands for 'parts per million', which is a value that represents the ratio of carbon dioxide molecules to all of the other molecules in the atmosphere.
- 2 <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0081648>
- 3 https://unfccc.int/sites/default/files/english_paris_agreement.pdf
- 4 <http://priceofoil.org/content/uploads/2020/05/G20-Still-Digging.pdf>
- 5 <http://priceofoil.org/content/uploads/2020/05/G20-Still-Digging.pdf>
- 6 <https://www.eca-watch.org/>
- 7 <https://www.forbes.com/sites/davidrvetter/2020/07/23/european-renewables-just-crushed-fossil-fuels-heres-how-it-happened/>
- 8 <https://www.theguardian.com/global-development/2018/jul/23/rich-countries-pushing-dirty-energy-africa-report-claims>
- 9 http://priceofoil.org/content/uploads/2018/07/africa_finance_report_final_web.pdf
- 10 <https://www.aljazeera.com/indepth/interactive/2016/10/race-oil-gas-africa-161020104953200.html>
- 11 <https://www.fircroft.com/blogs/inside-africas-oil-and-gas-industry-in-2019-94413131536>
- 12 <https://www.fircroft.com/blogs/inside-africas-oil-and-gas-industry-in-2019-94413131536>
- 13 <https://www.aljazeera.com/indepth/interactive/2016/10/race-oil-gas-africa-161020104953200.html>
- 14 <https://www.theguardian.com/sustainable-business/2016/nov/06/hydropower-hydroelectricity-methane-clean-climate-change-study>
- 15 <https://www.betterworldsolutions.eu/large-hydro-dams-in-tropical-areas-accelerate-climate-change/>
- 16 <https://www.betterworldsolutions.eu/large-hydro-dams-in-tropical-areas-accelerate-climate-change/>
- 17 Annex 3 lists the communities and organisations that were included in the field research.
- 18 The questionnaire can be found in Annex 2.
- 19 This list was largely derived from the OCI Shift the Subsidies Database: <http://priceofoil.org/shift-the-subsidies/> and was complemented with data on individual ECAs provided by ECA Watch members. This was supported by online searches, for example on websites of ECAs and governments.
- 20 <https://www.profundo.nl/>
- 21 Annex 3 lists the communities and organisations that were included in the field research.
- 22 The figures in the tables and pie chart should be considered preliminary as they are based on publicly available data and the OCI Shift the Subsidies database, which includes figures from G20 countries only. The actual amount of ECA support for the energy sector in the four researched countries may therefore be higher and hence percentages per energy source may be different. See chapter 2 on research methodology for more details.
- 23 The Exim Bank of China is one of the major ECAs operating in Uganda with more than 2 billion USD worth of support to projects. The president of Uganda considers the EXIM Bank a 'Friend of Uganda' (<https://www.independent.co.ug/museveni-china-are-genuine-friends/>). This can be explained by the bank's relaxed lending policy and willingness to offer loans and guarantees to controversial projects that fail to meet environmental standards.
- 24 Multinational companies such as Total Exploration and Production, China National Oil Offshore Company, and Tullow Oil.
- 25 <https://www.ug.undp.org/content/uganda/en/home/presscenter/articles/2015/11/16/uganda-targets-22-emission-cuts-to-achieve-low-carbon-growth-by-2030.html>
- 26 See also Ogwang, T., Vanclay, F., & van den Assem, A. (2018). Impacts of the oil boom on the lives of people living in the Albertine Graben region of Uganda. *The Extractive Industries and Society*, 5(1), 98-103. <https://doi.org/10.1016/j.exis.2017.12.015>
- 27 See for instance: <https://www.exemplastradeservices.co.uk/event/uk-export-finance-pipeline-project-opportunity/>
- 28 <https://www.worldoil.com/news/2020/5/27/ghana-reconsiders-oil-s-role-in-its-economy-as-prices-fall>
- 29 <https://www.offshore-technology.com/projects/offshore-cape-three-points-octp-integrated-oil-and-gas-project/> and <https://www.eni.com/en-IT/operations/ghana-octp.html>
- 30 The names of the communities are: Ngaliichi, Krisan, Sanzule, Bankatan, Eikwe, Shama, Anwolakrom, Atuabo and Beku.
- 31 The 'Train 7' project entails the construction and operation of one additional Complete LNG Train (CT) and a Common Liquefaction Unit (CLU) as well as new marine facilities including a new LNG jetty. <https://www.nigerianlpg.com/Train7-Project/Pages/Home.aspx>
- 32 Auditor General's 2017 annual report. <http://www.oag.go.ug/wp-content/uploads/2018/01/Annual-Report-of-the-Auditor-General-FY-2017.pdf>
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- 34 <https://www.afiego.org/afiego-sues-government-over-oil-compensation-and-resettlement/>
- 35 <https://africabusinesscommunities.com/news/expedite-hearing-of-the-refinery-affected-peoples-court-case/>
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- 37 E. T. Bristol Alagbariya, Finima Resettlement for the Nigeria LNG Project- IAIA Special Symposium on 'Resettlement & Livelihoods Concurrent Session on 'Emerging Standards, Practices & Frameworks', Manila, Philippines. https://conferences.iaia.org/manila-2017/pdf/presentations/Presentation_Bristol-Alagbariya.pdf
- 38 O.B. Owei (2004) A Partnership Framework for Managing an Emerging Urban Region; <https://www.semanticscholar.org/paper/A-Partnership-Framework-for-Managing-an-Emerging-%3A/873a2f2cb25a93fc9ca83f8fe705ec1896d30e7f>
- 39 Gildseth, I. (2013). Land tenure practices and land acquisitions in oil region: The case of Hoima, Western Uganda. <https://ntnuopen.ntnu.no/ntnu-xmlui/handle/11250/265549>
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- 42 E.g. with the 350 Ghana Reducing Our Carbon (350GROC), Oil Watch Ghana, African Center for Energy Policy (ACEP), Civil Society Platform on Oil and Gas (CSPOG), and Western Region Coastal Foundation (WRCF).
- 43 E.g <https://www.nairaland.com/4048569/bonny-youths-protest-against-nlng>
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- 45 I.e. Bugoma Forest, Wambabya and Taala forest reserves, and the semi-evergreen Guineo-Congolian forests.
- 46 EA report for Albertine Graben. Available at: http://chein.nema.go.ug/wp/?wpfb_dl=65
- 47 Approximately 2.27 km² of the forest ecosystem was destroyed without proper articulation of its wealth of phyto-diversity. Source: S.A. Abere et al, Impact of Habitat Destruction on Livelihoods and Vulnerability of Forest Dependent Communities in Rivers State, Nigeria. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3577615
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- 55 <https://www.nsenergybusiness.com/features/growing-hydropower-sectors-mint-bric/>.
- 56 <https://www.afrik21.africa/en/nigeria-construction-of-mambilla-dam-to-start-before-2020-ends/>
- 57 The Mambilla project was conceived as long as 40 years ago, and contracts had been issued before to the Nigerian company Sunrise Power, which is now claiming damages of USD 2.3 billion from the Nigerian government following the cancellation in 2007 of this contract in favour of the Chinese companies.
- 58 Although the involvement of EXIM Bank of China couldn't been verified with official data, media articles have been written about such involvement in enough detail: <https://www.hydroreview.com/2013/09/30/nigeria-signs-deal-with-china-exim-bank-for-700-mw-zungeru-hydropower-project/#gref>
- 59 I.H. Manta (2015) The Socio-Economic Benefits and Consequences of the Proposed Zungeru Hydropower Project on the Livelihood of the Dwelling Natives, *International Journal of Environmental Sciences*. Available at: <http://www.crdeepjournal.org/wp-content/uploads/2015/07/Vol-4-3-1-IJES.pdf>
- 60 <http://news.alome.com/h/25882.html>
- 61 <https://www.newvision.co.ug/news/1308488/salini-karuma-court>

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- 63 Environmental Justice Atlas - Mambilla Hydropower Station Project funded by Chinese lenders, Nigeria; <https://ejatlas.org/conflict/mambilla-hydropower-station-project-nigeria>
- 64 Ibrahim Haruna Manta (2015) The Socio-economic Benefits and Consequences of the Proposed Zungeru Hydro-power Project on the Livelihood of the Dwelling Natives. International Journal of Environmental Sciences Vol. 4 No. 3. <http://www.crdeepjournal.org/wp-content/uploads/2015/07/Vol-4-3-1-IJES.pdf>
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- 69 <https://www.edf.org/climate/methane-other-important-greenhouse-gas>
- 70 NDCs, which are part of the Paris Agreement, embody efforts by each country to reduce national emissions and adapt to the impacts of climate change. <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement/nationally-determined-contributions-ndcs>
- 71 https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Nigeria%20First/Approved%20Nigeria%27s%20INDC_271115.pdf
- 72 <https://www.seforall.org/news/five-key-takeaways-from-tracking-sdg7-the-energy-progress-report-2020>
- 73 <https://sustainabledevelopment.un.org/content/documents/nepadkarekezi.pdf>
- 74 <https://www.usaid.gov/powerafrica/wherewework>
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- 76 <https://www.iea.org/data-and-statistics> and <https://www.rvo.nl/sites/default/files/2019/02/Final-Energy-report-Uganda.pdf>
- 77 <https://www.usaid.gov/powerafrica/> and <https://www.era.go.ug/index.php/stats/generation-statistics/installed-capacity>
- 78 Energy Commission, 2019. Energy Statistics for 2018 http://www.energycom.gov.gh/files/ENERGY_STATISTICS_2019_Updated.pdf
- 79 <https://www.iea.org/data-and-statistics?country=GHANA&fuel=Renewables%20and%20waste&indicator=SolarGen>
- 80 <https://www.iea.org/data-and-statistics?country=GHANA&fuel=Imports%2Fexports&indicator=NetImports>
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- 83 https://energypedia.info/wiki/Togo_Energy_Situation
- 84 <https://www.contourglobal.com/asset/togo#:~:text=In%20recent%20years%2C%20Togo%20has,fuel%20and%20diesel%20as%20backup.>
- 85 <https://www.era.go.ug/index.php/stats/generation-statistics/installed-capacity>
- 86 <https://eaenet.org/wp-content/uploads/2017/02/The-Renewable-Energy-Policy-for-Uganda-2007-2017.pdf>
- 87 <https://www.usaid.gov/powerafrica/uganda>
- 88 https://energypedia.info/wiki/Uganda_Energy_Situation
- 89 For example https://ec.europa.eu/jrc/sites/jrcsh/files/reqno_jrc67752_final%2520report%2520.pdf and <https://sustainabledevelopment.un.org/content/documents/nepadkarekezi.pdf>
- 90 <https://sustainabledevelopment.un.org/content/documents/nepadkarekezi.pdf>
- 91 Micro- and pico-hydro (5-100kW) were also identified as interesting forms of renewable energy sources for rural communities, in combination with communities owning the dam. For example see: <https://infohub.practicalaction.org/bitstream/handle/11283/366121/Micro-Hydro%20Power.pdf;jsessionid=101FCAA87F51772D5A15164FC0F00E6A?sequence=1> However, no figures could be found on the potential of this type of energy in the four countries.
- 92 Ghana: <https://www.get-invest.eu/market-information/ghana/renewable-energy-potential/> Uganda: <https://www.get-invest.eu/market-information/uganda/renewable-energy-potential/> , <https://eaenet.org/wp-content/uploads/2017/02/The-Renewable-Energy-Policy-for-Uganda-2007-2017.pdf> , <https://unreeea.org/resource-center/overview-of-the-ugandan-energy-sector/> Nigeria: <https://www.get-invest.eu/market-information/nigeria/renewable-energy-potential/> Togo: https://www.climateinvestmentfunds.org/sites/cif_enc/files/meeting-documents/togo_eoi_0.pdf

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- 95 <https://at2er.tg/download/electrification-strategy-of-togo-en/?wpdmdl=572>
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 Nigeria: https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Nigeria%20First/Approved%20Nigeria%27s%20INDC_271115.pdf
 Togo: https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Togo%20First/INDC%20Togo_english%20version.pdf
- 99 <https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Uganda%20First/INDC%20Uganda%20final%20%2014%20October%20%202015.pdf>
- 100 In addition to their emission reduction targets, all four countries drafted plans to green their economies at large, for example by addressing sustainable energy security, sustainable land use including food security, climate proof infrastructure, sustainable forest management and alternative urban waste management.
- 101 <http://priceofoil.org/2020/07/21/distributed-renewable-2020/>
- 102 For example, the Dutch ECA has made a methodology on how they define green ECA support and is coordinating efforts with France and Denmark:
https://atradiusdutchstatebusiness.nl/en/documents/eng_atradius_jaaroverzicht_2019_klein_02.pdf