



**INNOVATING
GREEN FINANCE
FOR A
THRIVING
ALTERNATIVE
ALUMINIUM
COMPLEX**

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Context

Bridging the infrastructure deficit and addressing the increasing unemployment situation among the teeming youth population in rural and urban communities in Ghana is a priority commitment of the Government of Ghana. This commitment has informed several innovative financing packages to drive investment for massive infrastructure development while at the same time catalyzing several public-private partnerships that is spearheading the establishment of small-medium to large scale value-addition industries, creating thousands of jobs for the youth.

The Sinohydro deal between the Government of Ghana and Sinohydro of the People's Republic of China to maximize the revenues from Ghana's bauxite reserves by turning it into a value-added commodity to serve as security for financing massive infrastructure and job creation imperatives is one such innovative deals. It is expected that the aluminium industry will have a capacity of 4-6 m tons (four to six million tons) of alumina and lead to the creation of over 35,000 new jobs (10,000 direct and 25,000 indirect). The Sinohydro Barter Deal with the Government of Ghana will make available \$2bn infrastructure development support to Ghana, that will see several roads networks, hospitals and industries developed to drive socio-economic development in Ghana. The Tamale Interchange, the Pwalugu dam, the Coastal road in Accra, Accra Inner Roads have commenced while others like the PTC Roundabout Interchange, in Sekondi-Takoradi, will commence before end of the year. As such, the clock is ticking on when Ghana must deliver alumina to Sinohydro under the innovative barter deal. This deal is further cementing the already strong south-south relationship between the Government of Ghana and the People's Republic of China.

The Sinohydro deal will see Ghana leverage bauxite reserves in two locations, Nyinahin in the Ashanti Region, and Kyebi in the Eastern Region of Ghana. The Kyebi bauxite reserves sits on a climate amelioration and carbon emissions reduction green landscape that is at the heart of the people of Akyem Abuakwa Traditional Area, with long-standing cultural and traditional significance for His Majesty the Okyenhene of Akyem Abuakwa Traditional Area , his -Chiefs and people, the people of Ghana and the rest of the world, given the interconnected nature of the global village we live in.

The prospects of the impact of the Sinohydro deal on the ecological and hydrological benefits of Atewa Forest, which is not only a hydrological gem, but also a carbon sink equivalent to 3MtCO_e per annum cannot be underestimated. This means the forest can absorb and store the 3 million tons of carbon dioxide from the atmosphere, which is equivalent to the carbon dioxide produced by consuming 7 million barrels of oil¹. This is a huge contribution to Ghana's climate change mitigation. The direct financial value of the carbon credits, excluding all other services, ranges from USD15m to USD39m (fifteen to thirty nine million US Dollars only) per annum and provides an opportunity to enhance the 'green credentials' of the security package into one that will spur a green economy while meeting the aspirations of bridging the infrastructure gap and providing thousands of jobs.

An innovative Carbon Credit Based Green Finance (CCBGF) that will develop an alternate bauxite deposit and alumina smelter while securing the Atewa forest and eco-system is envisaged. As earlier mentioned, Ghana has at least two bauxite deposits and the idea is that rail systems and a gas pipeline to Nyinahin shall be financed via the CCBGF. Such an approach that secures the forest ecosystem and water services will foster the sustainable ecological civilization development agenda of the Government of Ghana, the People's Republic of China and at the same time advancing the aspirations of HM the Okyenhene to secure a green and living landscape, that will still provide 1000s of jobs to the youth in the Akyem-Abuakwa area in particular and other parts of Ghana in general.

1 <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>

Ecological Civilization, Wellbeing and Prosperity Aspirations

Ghana Beyond Aid and Commitment to Sustainable Socio-Economic Development

Our President's aspirations are *"...To pursue a path to prosperity and self-respect for our nation. A Ghana Beyond Aid is a prosperous and self-confident Ghana that is in charge of her economic destiny; a transformed Ghana that is prosperous enough to be beyond needing aid, and that engages competitively with the rest of the world through trade and investment."*²

Key tenets guiding the achievement of this transformational national agenda are the critical elements of sustainability and resilience. These commitments affirm and align with the commitments of His Excellency President Akufo Addo as espoused in his intergenerational speech during his investiture as the President of the Republic of Ghana on 7th January, 2017.

The commitment of HE the President to fight unsustainable and illegal mining as evidenced by the clamp down on galamsey coupled with his very prestigious role as Co-Chair of the Sustainable Development Goals affirm a strong political commitment to balancing economic development aspirations with ecological wellbeing and prosperity as a nation.

Our strategic positioning within the African Union as host of the permanent office of the AfCFTA Secretariat to the African Union Commission, adds credence to our commitment to move Ghana and Africa beyond aid and transition to sustainable investment and trade hub for the AU.

The Exemplary and Green Leadership of HM Osagyefo Amoatia Ofori Panin

HM the Okyenhere is a renowned environmentalist and one of the greenest traditional leaders of our time. Amongst his titles and appellations is "Kwaɛbibiremhere" (King of the rich dense forest).

HM Osagyefo Amotia Ofori Panin has established a non-governmental/not-for-profit organisation called the Okyeman Environment Foundation (OEF) through which he anchored his environmental sustainability driven development agenda.

The legacy of a green and living landscape, supporting a prosperous and thriving society is a central tenet of the vision of His Majesty the Okyenhere. This clear commitment has among others translated into a program – beginning in 2019 – to plant 25 m (twenty-five million) trees. It is estimated that this commitment will create 5,000 jobs for men and women in rural communities in the Akyem Abuakwa Area and contribute to sequestering an estimated 47,000tCO_e within the five-year period. This already translates to a market value of \$235k (two hundred and thirty-five thousand US Dollars only) using the minimum estimate of \$5 per ton of carbon credit. This will not only create quality jobs but also significantly enhance the carbon stock in the Akyem Abuakwa Traditional Area.

² Ghana Beyond Aid Charter. Page 1.

African Development Bank (AfDB) Innovative Green Bonds

Under the able leadership of Dr. Akinwumi Ayodeji Adesina, the African Development Bank (AfDB) in recent times has shown how well targeted green bonds can provide much needed global safety nets in supporting economies achieve green economic development aspirations, that contribute to the Sustainable Development Goals.

In September 2019, AfDB and Japan's Government Pension Investment Fund (GPIF) signed a partnership to promote environmental, social and governance investments in the global capital markets. This agreement was signed 30th September 2019.

In July 2020, the AfDB concluded the investment of about \$116 million in Sustainable Development Goals-linked bonds (SDG bonds), issued by Nedbank South Africa. The support is among others expected to enable Nedbank make investment in environmentally friendly and climate-sensitive projects in areas such as renewable energy and affordable housing. This investment is part of AfDB's Green Bond Program. The AfDB has over the years shown its commitment to ensuring a sustainable and resilient environment, with this latest investment expected to create over 6,000 new jobs.

Being an institution that understands the ramifications of the use of coal on both human lives and the environment, the Nedbank bond is also targeted on one of South Africa's biggest industries, the coal industry. South Africa is known for its mass dependence on coal. The green bond is expected to catalyse approximately \$232 million in additional investment in clean energy, which will help South Africa's efforts to transit away from coal-generated power over the next 10 years. Marginalized groups such as women and rural dwellers will also benefit from this bond through financial inclusion.

People's Republic of China Transition to Ecological Civilization

In 2018, the People's Republic of China (PRC), enshrined in their Constitution, Ecological Civilisation as a key driver in the country's transition to high quality development for the "New Era" (Pan 2018). Simultaneously the philosophy and vision, encompass a green and prosperous future.

"China's effort in building ecological civilization has moved into the fast lane. People around the world will continue to see blue skies, greener mountains, and clearer waters"

- President Xi Jinping Beijing, China April, 28th 2019, stated at the opening ceremony of the 2019 *Beijing International Horticultural Exhibition, a 162-day exhibition that is also an opportunity to show China's efforts and achievements of ecological civilization construction*³.

President Xi is also on record for profoundly saying in May 2018 at a two-day national conference on environmental protection in Beijing, China, that "sound ecological environment is the most inclusive benefits to people's wellbeing.

³ <https://news.cgtn.com/news/2019-08-09/What-messages-has-Xi-sent-in-China-s-last-three-major-events--IZvIOTuhGg/index.html>

Priority should be given to addressing prominent environmental problems that are harmful to people's health in order to keep up with people's ever-growing needs for a better environment". The President's speech was in the context of how to achieve sustainable development for his nation through his push for ecological civilisation⁴.

The People's Republic of China and other countries seek transformative action to address their own as well as regional and global ecological/ environmental deterioration and its impacts. Internationally, such efforts have increasingly been undertaken under the banner of sustainable development. For the most part, ecological civilization has been a "Made in PRC" endeavour but with global implications.

As explained in official Party and PRC State Council guidance⁵, ecological civilization introduces politics and culture to the existing environmental, economic and social components of sustainable development. They make for a much more complex approach than the usual sustainable development triangle, including the political role of central authority and leadership, more comprehensive planning and accountability, and differentiated approaches based on cultural considerations. An important example is the effort to ensure extensive ecological redlining restrictions in sensitive Yangtze River areas, and to stop further large dam construction. The Yangtze River Economic Belt (YREB) has been considered a major policy shift towards ecological civilization (Groff 2018)⁶. The Yangtze River region covers one-fifth of the country, and accounts for over 40% of PRC's population and about 45% of GDP. The PRC Government has identified the Yangtze River Economic Belt (YREB) sub-region as one of the three key 'growth engines' to ensure PRC's future economic development. The serious pollution of the Yangtze River from industrial chemicals and domestic waste caused President Xi Jinping in early 2016 to decide that the YREB must focus on environmental protection over rapid growth, and this has been the direction that the region has been working towards since then⁷.

Norwegian Government Global Green Finance Models.

The Government of Norway is the frontrunner in meeting global net zero carbon emission targets by entering deals that are also saving important ecological landscapes across the world. In 2010 Norway undertook an innovative transaction with the Government of Indonesia to offer \$1 billion to save their rainforests from deforestation and offset their carbon emission (Indonesia has one of the world's largest tropical rainforests).

Indonesia managed to reduce 4.8 million tons of CO₂e, emissions which was equivalent to preventing the deforestation of 100 square kilometers (38 square miles) of forest, based on the assumption that a hectare of tropical forest in Indonesia holds an average 132 tons of CO₂e.

⁴ http://www.xinhuanet.com/english/2018-05/20/c_137191762.htm

⁵ Hanson, A. (2019) Ecological Civilization in the People's Republic of China: Values, Action, and Future Needs. ADB Asia Working Paper Series, No. 21. ADB, Mandaluyong City, Philippines. Also: <https://chinadialogue.net/en/pollution/8018-interpreting-ecological-civilisation-part-one/>

⁶ Groff, S. 2018. Supporting the PRC's "Mother River" Will Help Achieve Ecological Civilization. Manila: ADB. News release. <https://blogs.adb.org/blog/supporting-prcs-mother-river-will-help-achieveecological-civilization>

⁷ ADB (2017) People's Republic of China: Preparing Yangtze River Economic Belt Projects. Technical Assistance Report. ADB. And: Xinyan, W. (2019) The Yangtze River Economic Belt: A helpful pattern for China's overall development. CTGN, 8 January 2019. <https://news.cgtn.com/news/3d3d514f7849444f31457a6333566d54/index.html>

The same deal was offered to Brazil in 2008 which saw Brazil receiving \$1.2 billion dollars from Norwegian government into the Amazon Fund.

In 2017 the government of Indonesia stated there has been a decline in emissions due to conservation efforts. First part of the payments (est. \$20 million) was paid in 2019. However, future payments will only be made if further evidence of halting of deforestation can be provided. The evidence is expected to be provided by Indonesia and verified by Norway. Indonesia has seen an additional payment of US\$56 million grant during the first half of 2020 from Norway as the first payment for the former's success in reducing deforestation and carbon emissions under the Reducing Emissions from Deforestation and Forest Degradation (REDD+) cooperation scheme. This payment was made after the Norwegian government had verified the results of reduced deforestation.

These payments have therefore proven that the REDD+ mechanisms whereby a nation or other caretaker of a particular environmental asset is paid for preservation of ecological resources by another nation or entity does work.

The Opportunity

We envisage a collaboration between the AfDB, the Government of Ghana, the Norwegian Government and HM the Okyenhene to broker a Green Finance Deal to revise the security package of the Sinohydro transformative agenda while delivering the required alumina to Sinohydro from an alternate site by exploring carbon-based credits within the Atewa Landscape.

This will advance Government's plans of massive infrastructural development and job creation across the country.

Innovating a Green Security Package for Alternate Aluminium Complex

The current security package is Government of Ghana has to deliver Alumina by 2021 according to the **Master Support Project Agreement (MPSA)** signed between the Government of Ghana and Sinohydro Corporation Limited.

The proposed innovative green credential backed revised security package will seek to amend the current security package by harnessing the Carbon Credits from the carbon sink in Atewa to underpin a **Green Bond**.

The Green Bond from Atewa, will then be used to fund railways and gas pipeline to establish a refinery constituting part of the Alternative **Aluminium Complex in Nyinahin**.

The Green Finance component between the Norwegian Government, AfDB and other international, regional and local financial institution will revise the specific requirement of alumina from the Atewa forest to receipt of alumina from Nyinahin, with a \$2BN Green Bond based on Carbon Credit and other

green finance for water provisioning services through catchment protection and biodiversity conservation.

The Green Bond will attract bilateral and international investment firms to fund other activities to further enhance Atewa Forest in a sustainable, ecological manner, overseen and driven by the able leadership of HM **Osagyefo Amotia Ofori Panin**

This innovative finance arrangement will further entrench the commitment of Government of Ghana, the African Development Bank, the People’s Republic of China and Sinohydro- as well as the Norwegian Government to an economic civilisation which will inure green global credentials for Sinohydro and all the entities connected with this deal.

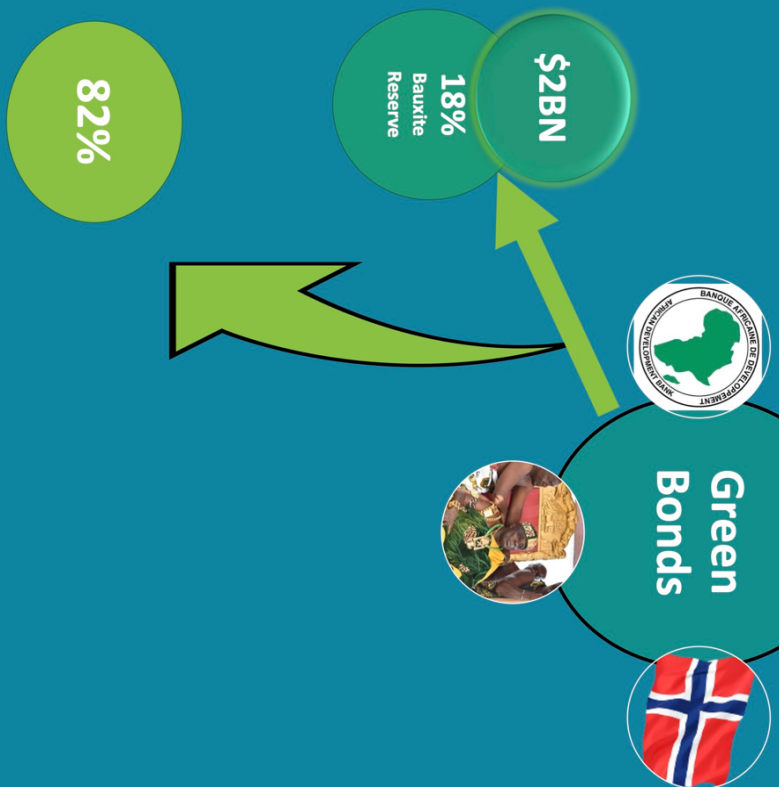
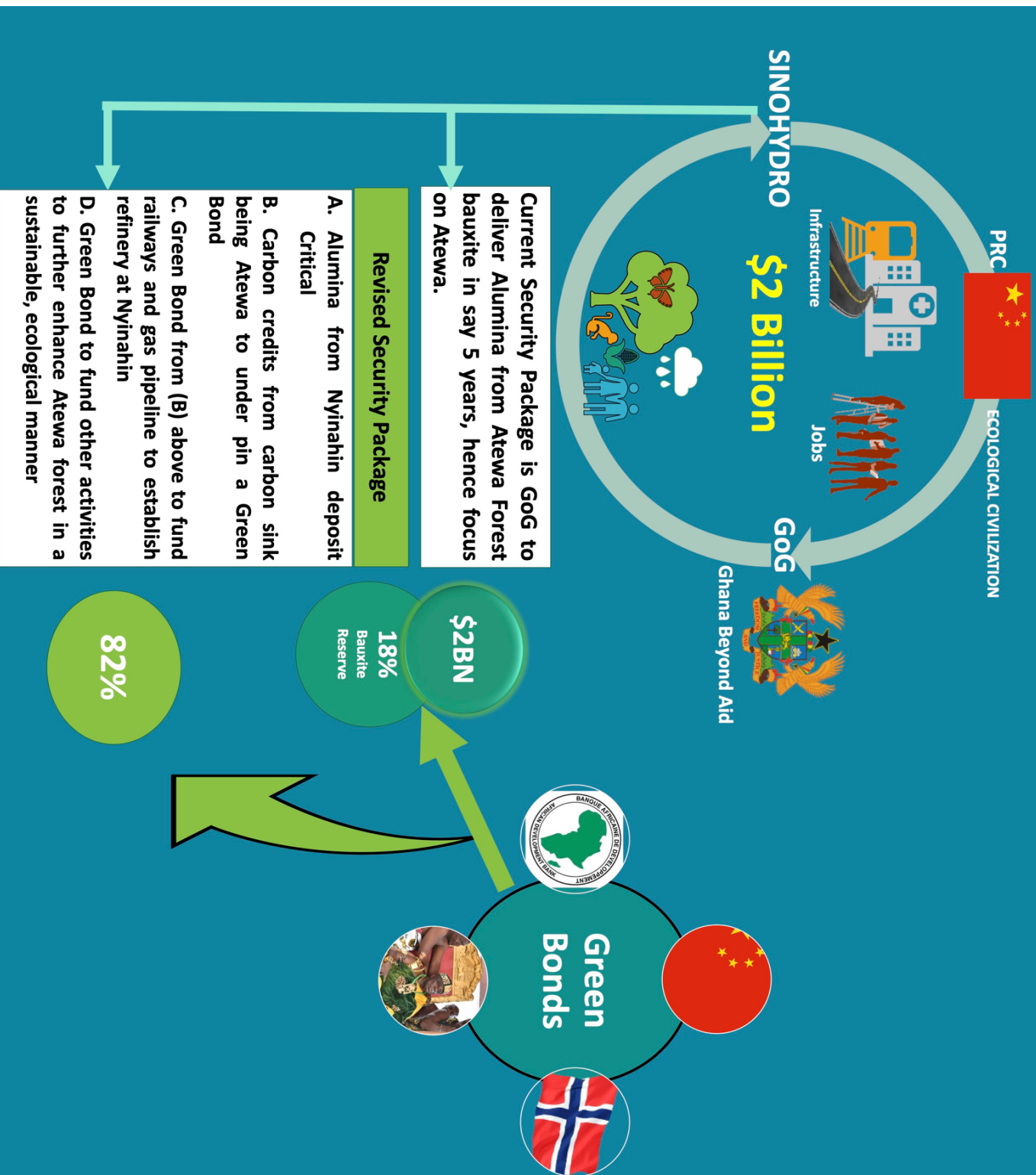
Social Equity Guarantee for an Alternative Aluminium Complex Driven by GIADEC Leadership

This innovative green finance deal will provide the much-needed social equity to spur the transformational aluminium development industry expected to create jobs for over 20,000 unemployed youth, with its vast value-chain.

Big Winners in this new Green Finance Deal

- **Government of Ghana** – Achieve Ghana Beyond Aid, respecting the tenets of sustainability and resilience
- **The People of Ghana** – Citizens wellbeing guaranteed in an economy which is capable of withstanding the climate shocks without putting Ghana's development agenda in jeopardy.
- **HM the Okyenhene and the People of Akyem Abuakwa Traditional Area**– Fostering the Kwaebibirem legacy and rich heritage while creating quality jobs for people of the area with ripple benefits to upstream and downstream water users as well as climate amelioration services and biodiversity conservation for Ghanaians now and the future.
- **Peoples Republic of China** – Upholding constitutional aspirations for its people as well as in its foreign investment policy.
- **African Development Bank (AfDB)** – create an innovative financing model that sustains an ecological heritage while providing immediate infrastructure and related activities to improve the livelihoods of the current generation
- **Republic of Norway** – further burnish their ‘green credentials’

INNOVATING A GREEN FINANCE DEAL FOR SUSTAINABLE SOCIO-ECONOMIC DEVELOPMENT



World Class Sustainable Outcomes

Alternative Aluminium Complex

Innovative Green Finance Deal

Big Winners

- Government of Ghana
 - People of Ghana
 - HM Okyenhene & Akyem Abuakwa People
 - Peoples Republic of China
 - Republic of Norway
- Additional Win – Win - Win**
- National Park
 - Ecotourism
 - Cultural Heritage Museum
 - Forest Landscape Restoration.

Additional Win-Win-Win Benefits

The revised security package will pave the way for additional benefits for the Government of Ghana and HM the Okyenhene, Osagyefo Amotia Ofori Panin, to safeguard the natural heritage of the Akyem Abuakwa by gazettement the Forest as a National Park. A deeper dive into the benefits of the National Forest include the creation of green quality jobs - through premium eco-tourism packages, and youth-led carbon-based forest landscape restoration activities also providing jobs of 1000s of youth in the area.

Flagship National Park

A National Park will not only protect- rare and endemic biological diversity, but also serve to protect a watershed for millions of people living downstream in the Eastern, Central and Greater Accra regions ensuring them as well as the residents of Kyebi, clean, safe, dependable and affordable domestic water.

Thriving Tourism Industry

A thriving tourism industry that supports the operation of the National Park and brings much needed income to the surrounding communities has significant potential to generate several thousands of jobs. Atewa Forest is located within an hour's drive of the large population centre of Accra, and only a few minutes detour from the main Accra – Kumasi road. What it lacks in size it makes up for in the quality of its landscape, offering dramatic mountainous terrain cloaked in thick forest with statuesque trees offering outstanding and accessible biodiversity, as well as adventure.

Community-based eco-tourism and community carbon sequestration projects, for example, could make a real difference to local people's living standards, by creating a thriving and green sustainable local economy. Ecotourism is likely the best option for bringing income to the local people, particularly to Kyebi, by transforming Atewa forest into world class ecotourism centre, which will focus on the rare and beautiful species identified during the RAP survey and other studies. Atewa is located just a few hours drive from Accra and Kumasi, which makes it an ideal tourist destination for both Ghanaians and international visitors.

Forest Landscape Restoration and value-added Agro Enterprises

The wider landscape around the National Park will form an enterprise zone where land-use practices that support the forest are encouraged from natural forest restoration to agroforestry and commercial afforestation.

Portal Forest Estate in the Central Region provides a good example of what is possible with a dedicated focus on building and maintaining long-term forests assets on the ground while profitably deriving goods and services that meet human needs. Opportunities of creating a lot of employment for women in the communities to address gender inequality at the local level also exist.

This will transition the landscape into an agro-industrial sector within the landscape and beyond downstream that can depend on a natural water supply to continue to deliver their goods and services into the Ghanaian economy.

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