

## Ayitepa Wind Farm (225MW), Ghana

### Summary

- The project is ready to build and supply the first electricity to the grid within 9 months from the start of construction.
- The Project can reliably produce electricity since it is not dependent on availability of fuel which is currently a key constraint in Ghana's provision of electricity.
- The cost of electricity from the project is competitive given the cost of light crude oil and current and projected costs of LNG.
- The wind farm will counterbalance generation from hydro sources to help ensure a reliable supply of electricity.
- The project will contribute significantly to Ghana reaching its renewable energy target of 10% by 2020.
- The project will increase employment opportunities during construction of the project, also increasing socio economic activity in the Ningo area.
- The project will improve the agriculture activities and yield within the local community.
- The project enjoys support from all stakeholders and benefits from strong support from the Ghanaian Government and the World Bank Group.
- The project will create a legacy in Ghana helping create a sustainable future for the country.

Lekela is owned 60% by Actis, the leading growth markets energy investor (US\$13bn funds raised across three asset classes since inception) and 40% by a consortium led by Mainstream Renewable Power (over 9,000MW in development, construction and operations across five continents) which includes investors such as the IFC and the Rockefeller Brothers Fund.





## Project construction

The project is in advanced stage of development, ready for construction. The project financiers have been selected and the Power Purchase Agreement for 20 years has been signed.

However, the need to secure sovereign backing from the Ghanaian Government in a form that is bankable is vital for the progression of this project. The PCOA is the final document that must be signed in this regard. Once this is achieved the project can reach financial close, start construction and within 9 months start first generation of electricity to the national grid. This can be done by bringing on each circuit (approx 10MW) of the wind farm in phases, ramping up to full generation (225MW) within 24-32 months.



## Security of Supply

Over the past few years Ghana has suffered from variability of supply on its two major fuel sources for electricity generation namely natural gas and hydro. This is as a result of dwindling water resources in the Volta due to lower than expected rainfalls and over consumption, to lower than contracted supplies of natural gas from the West Africa Gas Pipeline and the slow pace of domestic gas exploitation. Wind energy is not subjected to the same security of supply issues as it's a domestic, free natural resource.



## Cost of Fuel

The wind resource is free and unlike other imported fuels will not have a negative impact on Ghana's balance of payments.

## Competitive tariff

Given that this project can start producing some of its approx. 700GWh per year within 9 months of construction, its competitive price is a positive alternative to conventional and emergency power producers. In the medium to long term, Ayitepa's costs compares favourably with the current cost of generation from light crude oil as well as the cost of LNG-fuelled power. The Ayitepa all in price is in line with the tariff regulated and publicized by PURC and is not inflated and therefore is reduced in real terms every year. The comparable cost of generation from LNG by most estimates will inflate well in excess of the all-in cost of the project. Therefore, Ayitepa will provide competitively priced power to the Ghana electricity market long into the future.



## Socio Economic Benefits

The project will create jobs for local people and increase the socio economic activity of the Ningo area while helping resolve the energy crisis in the country. The predominant socio economic activity in the area is farming and fishing and this project will co-exist with farmers who will use the land to continue to develop their livelihood, ultimately improving the agricultural growth in the area. The project will use less than 5% of the total project area for turbine installations, roads and other facilities. The large majority of the land will still be available for farming. The project will work with the government and the local communities to establish a farming program for the site, which will include irrigation and other means of crop yield enhancing technologies. An increased farming activity in the area will also improve local employment.

During peak construction over 600 employment opportunities will be created, who will benefit financially and acquire skills and knowledge that will enable them to increase future employment prospects. There will also be increases in supply chain activity for companies providing services to the wind farms construction creating a knock on effect of increasing socio economic activity in the area. During the operation of the wind farm over its 25 years, it will employ over 30 people to ensure its successful management.

The project through its Community Investment Strategy will also commit to initiatives that meet the need of the communities adjacent to the project. The project will set aside a portion of its annual revenues to support local investment schemes and will work with the government and local communities to define the most suitable programs. These initiatives will fall under a variety of projects that could range from training and education, promotion of local business and to health and agriculture.

## Support from Stakeholders

The project enjoys large support from a wide range of stakeholders including:

### **Ministry of Power:**

The project is in line with the Ministry's policy of increasing renewable energy generation to help mitigate a future energy crisis while also keeping the cost of electricity low for consumers.

### **Ministry of Finance:**

The project is in line with the Ministry's policies in seeking to organise responsible financial support for independent power producers in Ghana while also recognising the added benefits to the local economy.

### **Electricity Company of Ghana:**

By buying electricity at a competitive rate this will allow the ECG to become a sustainable utility which has a diverse mix that will improve its overall reliability and operation.

### **Grid Company of Ghana (GRIDCo):**

The project will allow the transmission system operator to supply electricity reliably where the wind farm will also improve overall network stability during normal operating times and times of load shedding.

### **Ningo-Prampram District Assembly:**

The local district assembly will benefit hugely from the project through local economy growth and the local opportunities the project will raise for the communities within the district's area.

### **Ningo Traditional Council (NTC):**

With the support of the NTC, the local communities in which they govern will receive direct benefits from land rental payments, direct employment and local community projects that will increase the overall socio economic activity of the area.

### **World Bank Group:**

The Ayitepa wind farm has the unanimous support from the World Bank Group with the IFC mandated as lead arranger. This is in line with the World Bank's policy in Ghana making projects eligible for support due to

- the governments objectives of increasing generation capacity and reaching renewable energy targets of 10% by 2020,
- the technical and financial viability of the project, and;
- the project helps the Ghanaian power sector diversify while wind has no associated cost, and is not subject to fuel price variability.

## Legacy

This project is a nationally significant project and will create a legacy for Ghana.

- It will be Ghana's first wind farm showing the world that Ghana is a place where large scale renewable energy can flourish.
- The project will set the template for more large scale renewable energy projects in Ghana to follow creating a new industry that increases economic activity and is sustainable.
- In light of recent climate change agreements under COP21 in Paris 2015, the success of this project demonstrates that Ghana is a country that is looking towards a sustainable future helping combat climate change.
- The project will help Ghana avoid emitting 225,000 tons of CO<sub>2</sub>/year into the atmosphere which would normally come from oil or gas power stations.
- It will supply approximately 700GWh of clean electricity every year that will help resolve the energy crisis in Ghana and diversify its fuel mix.



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