

# THE TRUE (HIDDEN) COST OF LAMU COAL PLANT

## Fact Sheet



### AMU POWER MAKES THE FOLLOWING CLAIMS

1. That it will provide cheap electricity
2. That it will create employment opportunities for Kenyans
3. That inexpensive electricity from the coal plant will spur manufacturing in Kenya and transform the country into a middle-income economy by 2030.



### AMU POWER'S CLAIMS DO NOT HOLD UP TO SCRUTINY

### CLAIM 1: COAL AS A CHEAP SOURCE OF POWER - FALSE

Three inputs to the cost-of-electricity equation demonstrate that power from the plant will always cost more than KSh7.8/kWh and will therefore never be competitive against renewable resources:

- 1) Price of coal
- 2) Capacity factor
- 3) Hidden costs.

### PRICE OF COAL

Amu Power's claim that electricity from the plant would cost KSh7.8/kWh was based on a coal price of US\$50/metric tonne.

- At the time they made the claim, the average price of South African coal delivered to Kenya was US\$77.3/metric tonne.
- Coal prices fluctuate and so will the cost of power from a coal plant.
- Recently, South African coal has been higher than US\$106/metric tonne.
- In 2017, the Ministry of Energy and Petroleum (MoEP) projected the price of coal will be USD\$108/tonne in 2040.



## CAPACITY FACTOR

This is the actual amount of electricity generated by a plant as compared to the maximum amount it can produce. Amu Power said that the plant will run at 85 per cent capacity. For context, the global average utilization for a coal-fired plant in 2019 was 54 per cent.



- In 2017 the Ministry calculated that the plant would generate - at most - only a third of Amu Power's pledge.
- In 2020, the MoEP calculated that in a fixed-case scenario the Lamu Coal Plant would operate at 2.8 per cent in 2030, at 4.6 per cent in 2035, and at 14.4 per cent in 2040.
- In an optimized, best-case scenario, the MoEP calculated that the plant would reach an operating capacity of only 26.2 per cent in 2040 (two-thirds into its lifespan).

## HIDDEN COSTS

There are two hidden costs that make the economics of the plant even worse for Kenyans

1. The Power Purchase Agreement and
2. Unaccounted-for construction costs.

The Power Purchase Agreement and Letter of Support signed by the Kenyan government guarantee that Amu Power will be paid KSh37 billion annually for providing a plant to generate electricity - even if the plant does not produce a single kilowatt.

- Based on the amount of electricity consumed annually in Kenya in 2018 and 2019, paying the KSh37 billion to Amu Power via KPLC would increase the price of electricity by KSh4.6/kWh for 25 years.
- We would not be getting even a kilowatt of electricity for this tariff while Amu Power owners would be doing nothing and still making billions off the backs of Kenyans.

Kenya's Least Cost Power Development Plan 2020-2040 estimated that the transmission line will cost approximately KSh55.9 billion. The Environmental and Social Impact Assessment estimates that the railway line will cost KSh290 billion but does not provide a cost for the 15km conveyor belt that must be built to bring coal that is delivered to the port in Lamu to the site of the coal plant at Kwasasi

- The railway and transmission lines add at least an additional KSh345.9 billion to the cost of the plant.
- A rough calculation using the formula for electricity pricing shows that if KSh345.9 billion is repaid over 25 years via our utility bills and the plant is operating at 26.2 per cent capacity (the MoEP's best-case scenario), the cost of electricity from the plant will increase by an additional KSh6/kWh

If the plant operates under MoEP best case scenario (26.2% capacity) and coal costs \$77.3/tonne (the cost in 2014), the cost of electricity from the plant will be 26 Ksh/kWh. This is almost 10 times the fuel cost charge KPLC paid in January 2021 and more than 3 times higher than what Amu Power promised.

## CLAIM 2: COAL AS AN EMPLOYMENT CREATOR - FALSE

It is important to look closely at the jobs lost due to the construction and operation of the plant, the jobs gained, and who gets these jobs.

The Lamu Coal Plant Environmental Impact Assessment states that the plant will employ between 2,000 and 3,000 people during the 42-month construction period and 400 people during its 25 years of operation. It says that 1,700 Chinese expatriates will construct the coal plant leaving us with between 300 and 1,300 jobs to allocate to Kenyans during the construction phase.

- The Lamu Tourism Association expects that pollution from the plant will cause business to drop by at least 80 per cent and, at a minimum, 2,400 jobs will be lost.
- There are not many alternative sources of income in Lamu and most of these people will be permanently unemployed.
- The Chair of the Lamu Beach Management Unit estimates that only 1 per cent of the 6,000 fishermen will find work on commercial vessels and that 70 per cent of local fishermen will completely lose their livelihoods.
- The rest of the fishermen are expected to find other, non-fishing, work locally.

**The plant will therefore create job opportunities for expatriates at the expense of thousands of fishermen and locals who are dependent on fishing and tourism as a source of employment while creating - at best - 1,700 jobs over a 25-year period and causing approximately 4,200 job losses in the fishing industry and 2,400 in tourism - a net loss of 4,900 Kenyan jobs.**

## **CLAIM 3: COAL WILL HELP KENYA TRANSFORM INTO A MANUFACTURING ECONOMY - FALSE**

Amu Power has sold the point that coal provides inexpensive baseload power that is required to boost Kenyan manufacturing to achieve President Kenyatta's goals. But Amu Power ignored two things:

- 1) There are less expensive options for baseload power in Kenya and
  - 2) Coal-fired electricity will increase the cost of manufacturing in Kenya.
- Kenya's Least Cost Power Development Plan 2017-2037 states that the price of power from geothermal plants is, on average, about a third the cost of electricity from coal: US\$10 cents/kWh compared to US\$29.5 cents/kWh.
  - Kenya has among the highest geothermal potential in the world - 7,000 to 10,000 MW.
  - Geothermal energy is available for electricity generation 24 hours per day, every day of the year.
  - Unlike coal, it is locally available and is not dependent on purchasing fossil-fuel inputs whose costs fluctuate wildly on international markets.
  - Coal-fired electricity will increase the cost of manufacturing in Kenya.
  - If the Lamu Coal Plant is built, the price of electricity for industry could be almost ten times higher than what they are currently paying.

**In order to manufacture with such electricity costs, the prices of goods produced in Kenya would also have to increase, rendering Kenyan products uncompetitive locally and undesirable on international markets.**

## **CONCLUSION:**

None of the three claims made by Amu Power to convince the government that Kenyans not only need, but will benefit from, a coal plant hold up under examination.

1. Coal-fired electricity from the proposed Lamu Coal Plant will be two to ten times more expensive than from current sources of generation, causing dramatic increases in our electricity bills.
2. The Lamu Coal Plant will create jobs for Chinese expat workers and cause an overall loss of 4,900 Kenyan jobs.
3. The cost of electricity from the Lamu Coal Plant will make manufacturing in Kenya so expensive that not only will the country not deliver on the President's Big Four Agenda, but Kenyan goods will become non-competitive on local, regional, and international markets.

**The Lamu Coal Plant will saddle Kenyans with billions in debt and hundreds of megawatts of expensive excess generation capacity. As a result, the Kenyan Government will be prevented from investing in sustainable, low-cost, local sources of electricity generation, which will hamper the country's economic development for decades.**