

Edenville Energy plc

("Edenville" or the "Company")

## **POWER PLANT FEASIBILITY STUDY**

Edenville Energy is pleased to announce the results of the Power Plant Feasibility Study for its Rukwa Coal to Power Project in Western Tanzania.

In November 2014, Lahmeyer International (India) Pvt. Ltd ("Lahmeyer India") was appointed as a consultant for the preparation of a feasibility study for exploring and assessing the viability of converting the Company's Measured and Indicated coal resources to a power generating project at Rukwa, Tanzania (the "Feasibility Study").

Lahmeyer India is the Indian subsidiary of Lahmeyer International GmbH Germany, a leading international engineering company offering a broad range of planning and consultancy services relating primarily to infrastructure projects including energy. The Lahmeyer group has experience in 165 countries, including several in Africa, working on behalf of Project Developers, EPC Contractors, Equity Investors and Financial Institutions. Lahmeyer India has extensive experience in various countries in thermal power plant design, construction, transmission and distribution along with a strong background in the regulatory environment of various jurisdictions.

Contemporaneously with the production of the Feasibility Study, the Company has developed a financial model to assess the economics of the Rukwa Coal to Power Project (the "Financial Model"). The Financial Model has been reviewed and validated by Lahmeyer India.

The Feasibility Study and Financial Model consider the coal mine and power plant as an integrated commercial entity, with profits generated by the sale of electricity from a coal-fired power station.

The Feasibility Study and Financial Model suggest that a power plant could be developed in two phases:

- Phase 1 comprising of two units of 60MW each (total 120MW)
- Phase 2 comprising of two units of up to 120MW each (total 240MW)
- Opportunity for rapid scale up to Phase 2 in parallel with the increasing demand profile in Tanzania

### **Phase 1 (120MW) Highlights**

- Estimated project cost of USD175M

- A modelled plant load factor of 80%
- An estimated project payback of 9 to 10 years
- Sufficient near-surface coal supplies, at a strip ratio of 1:1, are available to feed the 120MW plant for at least 30 years
- Modelled on a flat tariff for all power produced ("Base Case"), Phase 1 returns an estimated Pre Tax NPV(10%) of USD220M, with an IRR of 23.1%
- Modelled using a commercial power Off-Take with variable commercial tariffs for 40% of the production ("Off-Take Scenario"), returns an estimated Pre Tax NPV(10%) of USD322M, with an IRR of 27.8%
- The average EBITDA over the life of the project for the Base Case and Off-Take Scenario are USD58M and USD75M per annum respectively
- The option to expand the project into Phase 2 to greater 300MW, as the power demand profile increases over time, is being reviewed

The Rukwa Coal-to-Power Project has several key positives which assist development discussions:

- Combined capital expenditure of USD175M for the power plant and mine which equates to approximately USD1.45M per MW (median estimate) is considered competitive in terms of industry costs to develop the project
- A sustainable market for this level of power ties in with official plans for power grid development and private enterprise, allowing the project to grow in parallel with the economic development of Tanzania
- The option for commercial power off-take increases and diversifies the revenue stream
- Development of commercial operations near to the project site drives growth and employment opportunities for Tanzania

### **Scenario Analysis**

Two scenarios have been considered for the 120MW output under Phase 1. The Base Case assumes on a flat tariff basis to a single end user whilst the Off-Take Scenario sells a portion of the generated power at a variable tariff to commercial projects in the region of the mine and power plant. Both the Base Case and the Off-Take Scenario use a discount rate of 10% and have inflation built into the model. The calculations are pre tax. Both scenarios demonstrate a very robust internal rate of return ("IRR") and net present value ("NPV"). Further details are shown in Table 1.

Table 1. Phase 1 - 120MW Power Plant Scenarios

<b>Capacity</b>	<b>120MW Base Case</b>	<b>120MW with Commercial Power Off-Take</b>
<b>NPV</b>	220	322
<b>IRR</b>	23.1%	27.8%
<b>Total Capex (Mine &amp; Power Plant)</b>	175	181
<b>Years of Operation</b>	30	30

## **Phase 2 Expansion Opportunities**

Based on a review of the available coal resources, the option to develop a larger project exists. This expansion would likely be a second phase development as power usage in the area increased over time. The Company will consider the development of Phase 2 and expanding the power generated to greater than 300MW at the appropriate time.

## **Coal Resource**

The Feasibility Study is based on coal extraction from the Mkomolo and Namwele deposits. The Muze deposit which has a JORC compliant mineral resource of approximately 11 million tonnes and a historical mineral resource (non-JORC compliant) of approximately 60 million, was not considered for the purposes of the Feasibility Study. Inclusion of the Muze deposit could bring considerable upside to the already positive findings from the Feasibility Study and would be considered in future expansion planning.

## **Financial Model**

The Financial Model, which will be further developed as parameters are optimised, has been reviewed and validated by Lahmeyer India as part of the feasibility process.

The Financial Model is indicative and based on the best available data and estimates at the time. As technical and commercial work progresses the Financial Model will be further assessed and refined, by the Company and by external consultants. Accordingly the valuation metrics set out in this announcement should not be taken as a financial forecast or definitively relied upon for economic assessment purposes.

## **Tanzanian Authorities**

In accordance with requests by Tanzanian authorities, key documents have also been submitted in order to move forward with technical and regulatory requirements in order for the project to be placed on the Tanzanian Power Master Plan and to advance technical and commercial

discussions. The process is ongoing and the Board are in close discussions with the Tanzanian authorities. Further announcements will be made as appropriate.

## **End Users**

Delivery to the Tanzanian grid system depends on the construction of the Western Transmission line which is planned to pass within 12km of the Edenville project site. Recent information has indicated this being completed in 2018, broadly in line with the conceptual development timeframe for the Power Plant. However, our approach is to explore all possibilities to develop the project as rapidly and economically as possible and we are assessing commercial offtake opportunities in parallel with Tanzanian government guidelines and timelines for the transmission line.

Rufus Short, CEO of Edenville Energy commented:

*"We are extremely pleased to have advanced the project to a stage where it can be taken forward on the basis of a feasible and realistic business plan. The completion of this vitally important work to demonstrate the viability of mining and power generation at our project site is critical to the next phase of development. The results show a robust case to move forward with further work to advance the project for the benefit of both our shareholders and the people of Tanzania.*

*"We are now in a position to progress through the next steps of project development through advanced discussions with Tanzanian government organisations; commercial entities seeking a sustainable power supply and potential partners who wish to become involved in the project development.*

*"The 120MW Power Plant demonstrates the optimal attributes from a technical and economic perspective and we believe the ability to support local and regional business development is an important part of making the project successful.*

*"The project studies are now sufficiently advanced to enable us to move forward with detailed partnership discussions and completion of the necessary steps to progress the project in line with Tanzanian Government requirements.*

*"As a result, over the coming months work will be increasingly concentrated to move forward the options open to the company and to progress towards the development phase. Shareholders will appreciate that identification of, and negotiation with, potential partners for the financing, development and operation of a plant can be complex and time consuming. The commercially sensitive nature of much of the dialogue prevents us from being explicit on certain aspects at this stage but we will continue to update the shareholders as and when appropriate. The Board is excited about the prospects for the Company."*

## **Qualified Persons Review**

Mark J. Pryor, Pr.Sc.Nat. has reviewed and approved the technical information contained within this announcement in his capacity as a Qualified Person, as defined by the AIM Rules and National Instrument 43-101 Standards of Disclosure for Mineral Projects.

Lahmeyer India has reviewed and validated the contents of the Financial Model. They have also sighted the information contained in this announcement and confirm it is in accordance with the facts as they are aware and it does not omit anything likely to materially affect the statements and conclusions.

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