

27 July 2020

Mina do Barroso Lithium Project Socio Economic Impact Report

Report by The University of Minho Highlights Mina do Barroso's Potential Economic Benefits

Savannah is pleased to announce the key findings and recommendations made by a commissioned report into the potential economic impacts of developing the Mina do Barroso Lithium Project ("Mina do Barroso", "Project") by a team of economists from the prestigious University of Minho (the "Report"), based in the city of Braga approximately 80km from the Project.

The Report was undertaken over the last year and its economic analysis drew upon the results of the Company's 2018 Scoping Study on the Project, as announced on 14 June 2018 (the "2018 Scoping Study"), publicly available information including policy documents of the Portuguese Government and European Commission and statistical data, and relevant academic papers. The key findings of the Report are summarised below.

Economic Highlights – The Project could:

- Contribute nearly €1.2 billion to Portugal's Gross Output including €168m during its construction and €90mpa during its operating phase
- Contribute €437m to Portugal's Gross Domestic Product including €65m during its construction and €34mpa during the operating phase
- Boost Portugal's annual export revenue from metal ores by 20% with its ~€110mpa of lithium sales
- Generate up to 2,800 direct and indirect jobs during the construction phase and nearly 1,500 during the operational phase based on its output contribution
- Increase the annual income of the Boticas Municipality from taxes by 133% plus potential for a share of royalty income paid to the State

Key Conclusions – The Project could:

- Provide a significant economic boost to the local area
- Act as a template for further in-country natural resource development
- Stimulate further economic growth via the development of downstream lithium chemical and battery facilities in Portugal

Key Recommendations:

- To the local authorities: Grant the necessary licences to permit the Project; work with Savannah and local stakeholders to secure the Project's social licence
- To the Portuguese Government: Accelerate the permitting process for the Project; foster dialogue between Savannah and the local project stakeholders
- To the European Commission: Highlight the Project's strategic importance for the EU battery value chain to the Portuguese Government and project stakeholders; invest in extractive industry projects, particularly those important to the lithium battery industry.
- To Savannah: Engage openly with local authorities and stakeholders and formulate an effective Benefit Sharing Plan; recruit and source services from the local communities

David Archer, Savannah's Chief Executive Officer said, "The Report completed by Professors Cerejeira and Carballo-Cruz from the University of Minho helps to bring further clarification regarding the many positive benefits that Mina do Barroso could bring. Their quantitative and qualitative analysis shows that it is a project of significant importance, not only in terms of the local economy, but also for the national economy of Portugal, and as part of the European Commission's plans to create an end-to-end lithium value chain in Europe. We have always believed the Project could be a major force for good in the local area via the creation of jobs, by acting as a major new customer for other local businesses, through the payment of taxes, and by making direct contributions of finance and other resources to society through our Benefit Sharing Plan. The Report should help everyone to understand the scale of the contribution the Project could make locally and also clarifies its significance to Portugal's national economy, and its potential as a catalyst for a much larger programme of industrial development based on Portugal's natural resources, particularly its lithium.

"Encouragingly, these key themes also appear in a recently published draft report, "Strategic Vision for Portugal 2020-2030 Economic and Social Recovery Plan", commissioned by the Portuguese Government to identify recovery stimuli for the Portuguese economy following the Coronavirus health emergency. Among a number of measures and opportunities which government consultant, António Costa Silva identifies in his report, is the long-term economic benefit available to Portugal from its domestic resources of metals, including lithium, required for the energy transition and decarbonization of the global economy. We now look forward to the final draft of this recovery plan which is expected at the end of the month.

"We welcome the University Report's recommendations, along with those of the government draft report. We are committed to working with all of Savannah's stakeholders to create a project which benefits them as well as the Company and its shareholders, and establishes Portugal as a key player in Europe's e-mobility revolution."

Other information:**Background to the Report:**

The Report was undertaken over the last year and its economic analysis drew upon the 2018 Scoping Study on the Project, publicly available information including policy documents of the Portuguese Government and European Commission and statistical data, and relevant academic papers.

Authors of the Report:

The Report was led by Professors João Cerejeira and Francisco Carballo-Cruz from the School of Economics and Management at the University of Minho. Professor Cerejeira holds a PhD in Economics from the European University Institute (Florence) and was the invited scientific expert to the Scientific Council of the Labor Relations Center of the Ministry of Labor. Professor Carballo-Cruz holds a PhD from Oxford University and is President of the Portuguese Association for Regional Development and a member of the executive committee of the European Regional Science Association.

Economic Benefits & Job Creation

For its quantitative assessment of the potential economic benefits of Mina do Barroso the authors applied orthodox economic 'Input-Output' model methodology and relevant 2015 Input-Output matrix multipliers for the Portuguese economy, which were published with the national accounts by the Portuguese institute of Statistics in 2018. This model and its relevant multipliers were applied to data (capital expenditure, operating costs, revenue, etc.) from the 2018 Scoping Study on the Project and converted into Euros at an exchange rate of US\$1.10: €1.00.

As Table 1 below shows, development of the project and the investment of the €98.1m required for the project's construction, if made wholly within the Portuguese economy, would generate a €168m contribution to Portugal's Gross Output ("GO")¹ and €65m to Portugal's Gross Domestic Product ("GDP")².

During the Project's operating phase (~11 years in the 2018 Scoping study), the production and sales of lithium and co-products of quartz and feldspar would contribute €90m per annum to Portugal's GO and €34m to its GDP. Based on these calculations, the Project would add a total of €1.16 Billion to Portugal's GO and €437m to its GDP over its lifetime. In addition, if the Project's lithium concentrate was all sold to overseas customers, it would increase Portugal's exports from metal ores by €110m/year, which is equivalent to a 20% increase over the annual average between 2005-2019.

Based on the forecast GDP contributions and relevant job multipliers for each input industrial category (i.e. the number of jobs required to generate €1m of GDP in each category), the Report calculated the number of 'equivalent annual jobs' which could be generated by the Project's development and

¹Gross Output ("GO") is the measure of total economic activity in the production of new goods and services in an accounting period. It represents the total value of sales by producing enterprises (their turnover) in an accounting period, before subtracting the value of intermediate goods used up in production.

²Gross Domestic Product ("GDP") is equal to the Gross Output (GO) minus the total cost of material, supplies and services used to produce final goods or services.

operation. For the construction phase, the Report calculated 2,800 jobs would be created. At the time of the Scoping Study it was assumed that approximately 300 personnel would be required to construct the Project, implying that 2,500 indirect jobs would be generated as a result of the Project's construction phase. By the same method, the operating phase was estimated to generate 1,489 jobs. Subtracting the average annual number of direct jobs (215) during the operating phase implies that the Project would generate 1,274 indirect jobs. This gives an indirect: direct job ratio of ~6:1, again clearly demonstrating the significant positive impact the Project could have on the wider economy in the local area, northern Portugal and the country as a whole.

Table 1: Project inputs and the potential economic benefits resulting from Mina do Barroso's development

Inputs & Assumptions (based on 2018 Scoping Study)		Economic Benefits	
Investment:			
Initial investment (Construction CAPEX, year 1, excluding contingencies)	€98.1m	Change on Portugal's annual metal ore exports (€110m/year)	+20.1%
Sustaining investment (years 2-12)	€2.5m	Contribution to Gross value of national product:	
Revenues:		During Construction phase (year 1)	€168m
Total revenue (Lithium + co-products, years 2-12)	€1,420m	Annually during operating phase (years 2-12)	€90m
Total Export revenue (100% of Li revenue, 86% of total)	€1,212m	Total	€1,161m
Annual Input costs:		Contribution to GDP:	
Salaries (SAV employees only, 119 workers)	€4.6m	During Construction phase	€65m
production costs (including contract mining)	€22.8m	Annually during operating phase	€34m
Fuels & reagents	€13.7m	Total	€437m
Domestic transport of product	€6.7m		
Shipment for export	€6.0m	Job creation: (annual equivalent based on GDP contribution)	
Annual taxes:		Construction phase	2,800
Corporate tax	€16.0m	Less direct jobs	-300
Royalties	€3.6m	Implied indirect job creation during Construction phase	2,500
Personal income tax	€2.3m		
Job creation:		Operating phase	1,489
- Construction phase	~300	Less direct jobs	-215
- Operating phase (SAV staff + Contractor staff, Avg)	215	Implied indirect job creation during Construction phase	1,274

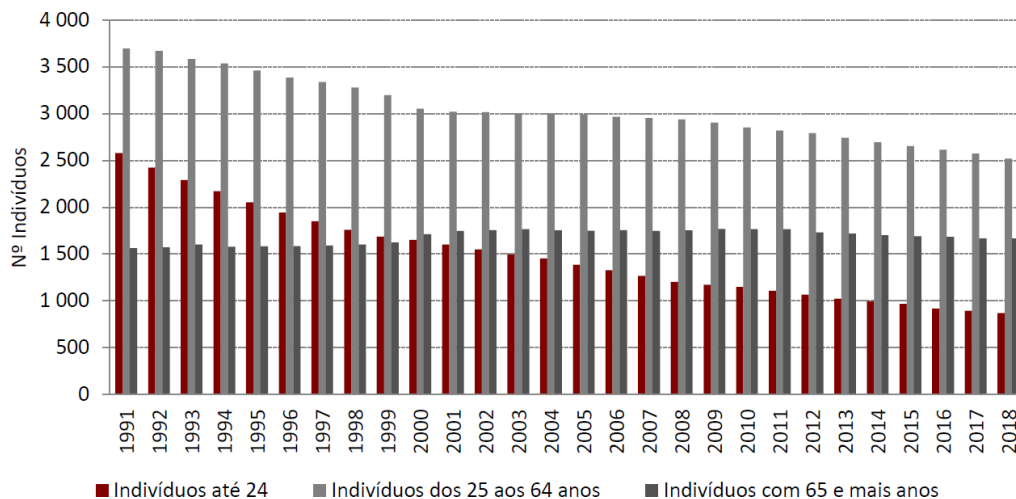
Source: Carballo-Cruz, F., Cerejeira J., 2020. Mina do Barroso – Economic & Development Impacts, University of Minho, Portugal.

Benefits for the Boticas Municipality & the local economy

Mina do Barroso is located in the Boticas Municipality in Northern Portugal. This Municipality has experienced a 32% decline in its population since 1992, including a decline of over 60% in its youth population (<25 years old) with young people emigrating for tertiary education or work, and not returning. The Report suggests that the de-population trend could continue if no socioeconomic changes are made which offer young people reasons to remain or return to the area.

The Report also highlights the challenges that could develop for the local administration around the provision of public services and maintenance/expansion of infrastructure if the population and income from taxes continues to decline. Monthly average wages in the municipality are already below the average for northern Portugal and the country as a whole, and the public sector is the largest local employer (~30%) with the private sector dominated by the energy industry and multiple micro-enterprises across manufacturing, construction, agriculture, tourism and the service sector.

Figure 1: Population trends in Boticas, 1991-2018



Source: Carballo-Cruz, F., Cerejeira J., 2020. Mina do Barroso – Economic & Development Impacts, University of Minho, Portugal.

The Report confirms that the Project could provide a significant opportunity for the Municipality to address many of these long term social and economic trends. For example, if all the direct jobs associated with the Project offered by Savannah were taken by local residents or those moving to the municipality, it would equate to a 9% increase in local private sector employment levels. This would rise to 17% if all the mining contractor jobs were also taken up by existing or new local residents. Furthermore, it is possible that the Project could form the necessary economic incentive for young people to remain or return to the area, which would help to arrest and then reverse the declining population trend, while the increase in personal incomes flowing from the Project would benefit other businesses in the local economy. At the same time, the Project itself would provide a major new demand source for local businesses with the Report highlighting that 70 of the 100 largest companies in Boticas and the two adjoining municipalities operated in sectors relevant to the Project. The Boticas Municipality administration would also benefit directly with its annual tax income potentially increased by 133% based

on the local taxes that would be due, plus a further €1.2m per annum if the local administration received 50% of the current 3% state royalty on the Project.

Table 2: Potential annual direct impacts of Mina do Barroso Project on local employment and Municipality income

Parameter	Boticas Municipality	Project	Var. %	Notes
Employment	1,302	119	9	Just the private sector. An additional 71 to 122 Jobs associated with the mining contractor could be added
Wage gains (€m)	14.409	4.545	32	Just the private sector. Average salaries with values much higher than the county average
Tax revenues (Municipal) (€m)	0.629	0.834	133	Estimated value
Royalties (€m)	0.000	1.200	n/a	Estimated royalties
Social security (€m)	4.971	1.198	24	Estimated value

Source: Carballo-Cruz, F., Cerejeira J., 2020. Mina do Barroso – Economic & Development Impacts, University of Minho, Portugal.

Compatibility with Portuguese Government and European Union Policies

The Report confirmed that the Project should be regarded as a suitable development given Portuguese national and regional planning policies are favourable towards mineral (lithium) resource development, “In Portugal, the valorisation of geological and mining natural resources has been systematically included in the spatial planning instruments, namely in the National Spatial Planning Policy Program. Its 2019 review underlines the relevance of these resources and the role of extractive industries in the economy and territorial development. At regional level, particularly in the Alto Tâmega sub-region...it is assumed that the development of the extractive cluster and, in particular, projects related to lithium exploration, is a major aspect in the coming years”.

The Report also highlighted the potential significance of the Project given the European Union’s [strategic action plan on batteries](#), and its support for extracting minerals essential for batteries.

Relevance of the Project to the development strategy for the local area and obtaining a Social Licence to Operate

The University team observed that in the Boticas Municipality, endogenous capital and territorial identity are central elements of the implicitly assumed development strategy for the area. This has helped to establish a strong brand based around quality local products, especially in food and agricultural products, and the area’s heritage. The Report concluded that Mina do Barroso is compatible with this overall strategy for the area as its lithium would represent another product of the area while the spatial constraints and relative isolation of the Project mean that its establishment would not be impactful on other endogenous developments.

The Report also identified the receipt from local stakeholders of a Social Licence to Operate (SLO) as an important milestone for the Project alongside the required regulatory approvals. The authors advocate the establishment of a Community Development Fund, financed with revenue from the Project and

managed by a not-for-profit Foundation administered by representatives from local and central government, the community and associated stakeholder groups, Savannah and independent experts.

The areas recommended for investment by such a fund include:

- Mitigation & improvement: e.g. rehabilitation/improvement of the local housing stock
- Improvement of shared services: e.g. health, firefighting, transport, training
- Social Responsibility: e.g. Rehabilitation/maintenance of day centres for the elderly, social care programmes; scholarships; support for leisure, sports and cultural activities and facilities
- Sustainability: e.g. Programmes for environmental heritage improvement, built heritage improvements and support for local products/producers
- Infrastructure: e.g. to maintain/improve the relevant road network as well as water and electrical supplies
- Business training: e.g. support the creation of a 'club' for local suppliers, R&D, entrepreneurship programmes; tourism development initiatives, agricultural and livestock development programme

Savannah is in firm agreement with these findings and is in the process of preparing its Benefit Sharing Plan which it will present to the local stakeholders when completed and when Coronavirus-related restrictions allow. Savannah has been following a comprehensive CSR programme in Portugal since it first acquired a stake in the Project in 2017. This has included:

- Deploying a dedicated Community relations team
- Publishing monthly community newsletters since December 2017
- Holding multiple community meetings since 2018
- Sponsoring or made donations to community events and public services (e.g. Firefighters)
- Opening a staffed Information Centre in the local village of Covas do Barroso in April 2019
- Offering site tours for groups of stakeholders from January 2020 (currently suspended due to the Coronavirus restrictions)

Conclusions:

The Report concludes that the Project can bring significant benefits for the local, national and European economy.

Benefits at the local level: The Project could create more than 200 long term direct jobs (~17% of current employment pool), help arrest the engrained trend of de-population, bring a significant positive impact on the local economy and community, and generate a substantial increase in income for the Municipality.

Benefits at the national level: For the Portuguese economy the Project could generate over €1.2Bn of export revenues; increase the value of metal ore exports by 20%; increase Portugal's GO by over €1.1Bn and GDP by over €400m; and create up to 2,800 new jobs. It could also act as a template and incentive for more in-country resource project development, particularly in the lithium sector, and stimulate development of downstream activities in the lithium industry, e.g. chemical and battery production.

Benefits at EU level: For the EU economy the Project would partially aid completion of the lithium battery value chain considered strategic by the European Commission; supply the EU with lithium from a sustainably managed source which would be operated under EU and member state regulations; and provide a catalyst and template for further development of (lithium) raw material production within the EU.

Recommendations:

The Report made the following key recommendations to a number of the Project's stakeholders.

To Local Government: Grant the necessary licences for the start-up of the project; engage and communicate with the local community to help secure the project's SLO; assist Savannah in its efforts to contract local staff and suppliers; use the Project as means of attracting other businesses to the area and; utilise the additional public revenues from the project for improving the quality of life for local residents.

To Savannah: Deepen links with the local government and local communities and meet the needs identified to secure the SLO; develop strategies to contract service providers, focusing on local firms and establish a plan for the hiring of local workers and a training plan to develop the necessary skills; communicate in a transparent and timely manner with all stakeholders and; contribute annually to a Community Development Fund administered by a foundation.

To the Portuguese Government: Accelerate the authorisation and permitting process required to allow the project to start; foster dialogue between Savannah and the project stakeholders to promote the convergence of interests; improve the regulation and authorisation procedures for the sector in general to speed more extractive industry development; encourage further development in the extractive industries to promote greater diversification in the economy.

To The European Commission: Highlight the Project's strategic importance for the EU battery value chain to the Portuguese Government and project stakeholders; assist with the development of up/downstream activities in the Portuguese battery value chain; adopt legislation on the development and regulation of extractive industries in Europe to promote sustainability, community protection, benefit sharing and legal certainty for extractive companies; invest via the EIB and EFSI in extractive industry projects, particular those associated with the lithium battery industry due to the contribution of these projects for the transition to a low-carbon economy.

The report will be made available on our website.

Regulatory Information

This announcement contains inside information for the purposes of Article 7 of Regulation (EU) 596/2014.

****ENDS****

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About Savannah

Savannah is a diversified resources group (AIM: SAV) with a portfolio of energy metals projects - lithium in Portugal and copper in Oman - together with the world-class Mutamba Heavy Mineral Sands Project in Mozambique, which is being developed in a consortium with the global major Rio Tinto. The Board is committed to serving the interests of its shareholders and to delivering outcomes that will improve the lives of the communities we work with and our staff.

The Company is listed and regulated on AIM and the Company's ordinary shares are also available on the Quotation Board of the Frankfurt Stock Exchange (FWB) under the symbol FWB: SAV, and the Börse Stuttgart (SWB) under the ticker "SAV".