深圳迈泰尔科技有限公司
SHENZHEN METAL TECHNOLOGY CO.,LTD
JIANGMEN KANHOO INDUSTRY CO.,LTD

LAV Chile Project: Lithium Added Value Project for Chile.

Starting investment route of industrialize lithium in public-private association with ENAMI to ensure technological transfer and knowledge transfer to Chile. First investment in LMO and NCM plant scalable to cathode, anodes and battery factory in 5 years.

Object:

For the selection of specialized
Producers to develop Lithium Value
Added Project in Chile.

Bidding Agency

CORFO & INVEST CHILE

Company Name:

Shenzhen MTL CO. LTDA and Jiangmen Kanhoo Industry CO, LTDA in association with ENAMI.

Signature:

Executive Summary

Nuestra proyecto LAV Chile (Lithium Added Value) en asociación público-privada con ENAMI para la industrialización del litio de Chile asciende a una inversión en 465 MMUSD, con un retorno de la inversión al quinto año y con un VAN de 635 MMUSD al décimo año y 1.470 MMUSD a los veinte años. El proyecto consiste en una planta de material LMO, escalable en cuatro fases desde 10.000 tons de salida de material de producto en 2019 a 60.000 tons de materiales de producción en 2022 donde se necesitará una fuerza de trabajo de más de 400 personas considerando más de 400 mil HH desde la ingeniería al término de la construcción sólo para fase 1. Es muy importante destacar que desde adjudicado el proyecto comenzaremos a estudiar factibilidad de expandirse a una solución escalable a cátodos, ánodos y baterías de litio aprovechando el know-how del grupo inversor y trabajando localmente con gobierno regional de Atacama, con CCIRA, Universidad de Atacama y con CORPROMN. La presente propuesta está en etapa de ingeniería de perfil, por lo que sólo evalúa la primera inversión en planta LMO-NCM, dado que a juicio experto es la mejor ruta para iniciar la industrialización del litio en Chile. Para dar una perspectiva que sintonice con los temas que CORFO identifica como esenciales en su apartado; “8. Assessment step” de las bases, en el presente resumen hemos volcado un resumen de nuestra argumentación destacando nuestras fortalezas que mitigan el fracaso del proyecto atendiendo los cuatro Item esenciales.

PRINCIPALES RIESGOS DEL PROYECTO EN BASE A LOS CRITERIOS ESENCIALES DE EVALUACIÓN Y COMO LOS MITIGAMOS CON LAV CHILE

Riesgos	Mitigation (Lav Chile, solución Público Privada)
1. Generar un bajo o ningún valor agregado para Chile.	Nuestra solución pública/privada asegura el traspaso del Know-How al estado de Chile a través de Enami, permitiendo un constante aprendizaje y progreso dado que nuestro proyecto LAV Chile, es escalable hasta las baterías de litio en caso de brindarse el escenario mínimo necesario detallado el cual se estudiará una vez adjudicado el proyecto, no obstante ya estamos trabajando en pre factibilidad de Cobalto, para lo cual ya existen alianzas con gobierno regional de atacama, con Universidad de Copiapó, con asociación de mineros CORPROMIN y con la corporación para el desarrollo y la competitividad de Atacama (CCIRA)
2. Reducción de la Inversión sin lograr el alcance original por su mala implementación	Nuestro consorcio tiene la experiencia en proyectos similares en China (capacidad anual de 30,000 toneladas anuales planta terminada Dic 2017) lo que disminuye considerablemente el riesgo por desviaciones en costo, plazo y alcance, además cuenta con solvencia económica para invertir con capital propio. Cabe señalar que hemos considerado el 20% de contingencia para los primeros 4 años de operación y el 10% para los 16 años posteriores para el costo operativo. Para el CAPEX hemos considerado el 10% de contingencia para inversión en equipos y construcción, más 5% de allowance. Por último y no menor el equipo de construcción está liderado por Raúl Indey en Chile. Ingeniero con más de 40 años de en las plantas de ENAMI, habiendo trabajado en ENAMI 15 años entre el 1970 y 1985 y habiendo construido y reparado todas las plantas de ENAMI como empresa contratista.
3. Incumplimiento de la producción ofertada por su baja experiencia en implementaciones similares.	Tenemos más15 años de experiencia en el mercado. El mercado actual es de 40,000 toneladas y tenemos el 25% del mercado. El próximo año tendremos un 58% de mercado (por planta recién construida en China) y en 2022 tendremos el 77% del mercado considerando la producción de China y Chile. Si consideramos solo la producción chilena, este proyecto alcanzará el 45% del mercado por sí mismo el 2022, lo que significa que Chile se convertirá en el actor más importante y relevante en la segunda etapa de valor agregado para continuar avanzando al próximo paso con trasferencia de conocimiento para Chile a través de ENAMI.
4. Incumplimiento en calidad, alcance y/o plazo dada Baja capacidad financiera, por bajo capital propio y capacidad crediticia.	Considerando que este es un proyecto estratégico para el consorcio, enfocaremos toda nuestra capacidad financiera en este proyecto. Nuestro consorcio puede financiar con capital; Sin embargo, estudiaremos la mejor manera de obtener mejores beneficios, asegurando el éxito de la inversión.

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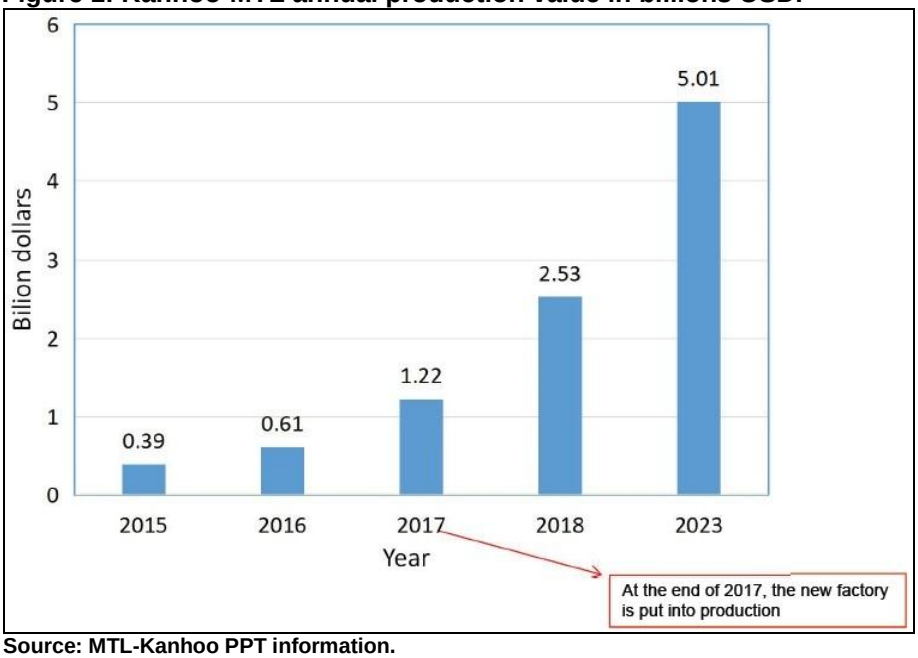
1. Introduction

Nuestra propuesta es un consorcio chino en asociación pública privada con ENAMI para construir una planta material de LMO y NCM en planta ENAMI ubicada en Vallenar, Región de Atacama. La primera planta industrial de materiales de litio, manganeso y cobalto de valor agregado en América Latina. Nuestra planta suministrará el mercado de litio en todo el mundo mercados tales como material de cátodo y ánodo de batería de iones de litio: para EV car, EV bus, E-Bike, E-Motor, Storage energy y para telecom unit. Nuestra experiencia de más de 15 años y nuestra expertize y calidad de producto es reconocida como la mejor calidad en el mercado del litio entre más de 1000 clientes en todo el mundo (entre MTL y Kanhoo) principalmente en China, Corea, Japón y EE. UU.
Es bien sabido que el mercado del litio seguirá creciendo exponencialmente y creemos que es una gran oportunidad para Chile que a través de nuestro proyecto, se logre, en parte, la transferencia tecnológica y transferencia de conocimiento que Chile necesita a través de ENAMI para lograr industrializar el litio y otros minerales de la pequeña y mediana minería. Nuestra proyección indica que al año 2022 Chile se convertirá en líder mundial del mercado de litio en su segunda etapa de valor agregado alcanzando un 50% del mercado mundial del LMO. Nuestra capacidad total de producción del proyecto son 60,000 toneladas por año de LMO y 6000 toneladas de NCM. La inversión total para esta primera fase de agregación de valor es de 465 MMUSD con un empleo total de 430 empleados. Tenemos acuerdo no solo con ENAMI sino con el gobierno local de Vallenar y el gobierno regional de Atacama para cooperar en el desarrollo local y regional. Contamos con un plan laboral de desarrollo de capacidades técnicas así como también desarrollo de proveedores locales y desarrollo tecnológico de pequeños y medianos mineros. Para ello contamos con el apoyo de CCIRA, la Corporación de Competitividad e Innovación de la Región de Atacama para crear un clúster de tecnología de innovación para el litio y otros minerales con la Universidad de Atacama y CORPROMIN: asociación de pequeños mineros y proveedores locales de la región de atacama. Poseemos tecnología madura y propia con estrictos estándares de calidad testeados con laboratorios de alta tecnología. Contamos con una política de desarrollo de capital humano con un equipo técnico especializado de chinos que permitirá pasar de 70% de empleo chileno local a 93% al 2022. Nuestro plan además incluye un centro de investigación y desarrollo donde ya hemos comprometido con la Universidad de Atacama y CCIRA un laboratorio de testeo de 1 millón de dólares y un laboratorio para desarrollo de nuevos productos de 1.5 millones de USD.
El VAN del proyecto en 10 y 20 años es de 635 MMUSD y 1470 MMUSD respectivamente con un TIR de 32% y 35% en 10 y 20 años. Hemos considerado una contingencia del 20% durante los primeros 4 años y del 10% durante el resto de los años. La contingencia de inversión la establecimos en un 10% en equipos de inversión y maquinaria, y tenemos una bonificación del 5%.
Concluimos que nuestra propuesta es la que disminuye la probabilidad de falla de la política de valor agregado de litio para Chile. El carbonato de litio total que necesitamos para este primer proyecto de agregación de valor **es de 23,000 toneladas por año. Sin embargo, y dado que nuestro proyecto es en asociación pública privada con ENAMI y ENAMI ya ha manifestado públicamente su entrada al negocio de extracción del litio, al 2022 podremos contar con producción propia de litio de ENAMI. De esta manera concluimos que con una adjudicación mínima de 6000 toneladas de carbonato de litio año, nuestro proyecto de ingeniería de detalle y construcción comenzará en enero 2018.**

1.1 Free Section: Experience in China: 30.000 ton material plant and technical route to industrialize lithium in Chile.

Now, at the end of this year 2017 we are finishing the construction of a material plant in Jiangmen. Our project in Chile is almost double capacity we have in China. The construction we already did in China during this year 2017 is for a total production for 30.000 ton/year of materials. The annual production value will increase from 1.22 billion USD in 2017 to 2.53 and 5.01 in 2018 and 2023 respectively considering only China production as you can see in the following figure 1. It is important to point out that we have the experience of run a project like our Chile Project because we already did one project in China exactly the same as we are proposing to do in Chile.

Figure 1: Kanhoo-MTL annual production value in billions USD.



Source: MTL-Kanhoo PPT information.

Moreover as you can see in the LMO market analysis (Chapter 2.2) we are leader on this market worldwide and we will continue be leader with a high percentage of the market if we can invest in Chile. As you will see most of the LMO production comes from China. Only one company produces in Japan. China is and will continue be the leader in technology. **The opportunity for Chile is huge considering that we see ENAMI as our partner to industrialize lithium in Chile.** We start producing LMO and NCM materials in Chile. Only considering this first investment project, Chile could have a leader position in worldwide lithium market of second stage of added value ascribing 50% of the world market in 2022. (For details please see market analyses section, Chapter 2.2)

The technical route worldwide for added value is as follows:

Table 1: Technical route of lithium second stage added value.

Product	*Country*
LMO: LiMn2O4	Japan (AESC) and China
NCM: LiNiMnCoO2	Japan, South Korea, China, USA (Samsung in USA)
LFP: LiFePO4	China- USA
LCO: LiCoO3	Japan, South Korea, China

Source: MTL-Kanhoo PPT information.

We have chosen to start the technical route of LMO for many reasons which are explained in section 5.9 Risk Analyses. For better understanding please see this chapter). From the beginning of the project we will work on feasibility studies of COBALT and other minerals in Chile in collaboration and co-work ENAMI, Local Government of Vallenar, Regional Government of Atacama, CCIRA (Corporation for innovation and competitiveness of the Atacama region), University of Atacama and CORPROMIN (association of small miners and local providers) to promote the economic impact and development of the region. We already started working with small miners and Universities in pre-feasibility studies. When we get final contract with Rockwood via CORFO we will start the feasibility to produce lithium cathodes, lithium anodes, ion-lithium batteries having the results of pre-feasibilities and feasibilities studies of others minerals such as manganese, niquel and cobalt in the necessary quality we required to continue increasing investment for industrialize lithium in Chile making technological transfer and knowledge transfer to Chile through ENAMI.

2. Product and Market

2.1 Product to develop in Chile: LMO (LiMn2O4) and NCM(LiNiMnCoO2)

In the following tables we describe the product LiMn2O4 to develop in Chile in detail, with specifications.

Table 2: LMO (LiMn2O4) Specs

	Item		Standard	Test value	Determine
	Tap Density (g/cm^3)		1.0~5.0	2.08	√
	Apparent Density (g/cm^3)		0.5~10	1.18	√
	Particle Size (um)	D50	3~50	15.93	√
	Specific surface area (m^2/g)		≤2	0.52	√

Product Name: Spec	LiNiMnCoO2	Type:	MTL-2
SPECIFICATIONS			
Items		Standard	Test data	Remark
Ni+Mn+Co		≧58	58.79	
D50		3~50	11.2	
First discharge capacity(mAh/g)		≧130	150~153	
BET (m^2/g)		0.1~2	0.35	
TD (g/cm^3)		≧1.0	2.5	

	First capacity (mAh/g), coin cell	≥80	122	√

Table 3: LiNiMnCoO2 Specs

Source table 2 and 3: Self constructed base on MTL-Kanhoo experience of the market.

The market for both products, LiMn2O4 and LiNiMnCoO2, are for lithium ion battery cathode material: For EV car, EV bus, E- Bike, E-Motor, Storage energy for family or for telcom unit. On the important step on the product, Li2CO3 as main raw material on the products has 40% cost influence for LiMn2O4 and 20% cost influence LiNiMnCoO2. However, the multiplying factor of the product to develop in Chile in comparison to its input lithium material is 3.0 for LMO: LiMn2O4 and 4.0 for NCM: LiNiMnCoO2. In the case of LMO is because to produce LMO is required 30% of Li2CO3 only. In the case of NCM even added value is 4.0 for Li2CO3 row material is expensive that is why not easy t compromise big investment in this product is yet.

The quantify of lithium carbonate required for each product as well as the volume of annual sells of each product you can see in the followings table 4.

Table 4: Sell volume of LMO and NCM and Li2CO3 requirement for each product.

Item	2019	2020	2021	2022
Li2MnO4 Annual Sales/tons	10000	20000	40000	60000
Li2CO3 will be required/tons	3000	6000	15000	20000
LiNixCoyMn1-x-yO2 Annual sells/tons		2000	4000	6000
Li2CO3 will be required/tons		600	1500	2000

Source: Self constructed base on MTL-Kanhoo experience.

When Li2CO3 cost increase, the final product will increase 10% and 30% of the total increase of lithium carbonate price, because cost influence of lithium is 10% and 30% respectively for NCM and LMO.

2.2 Market

Lithium has recently become a “glamour” metal. In a little more than two decades demand for it has increased dramatically. After standing at about 40,000 tonnes of lithium carbonate equivalent (LCE) 1 in 1995, world consumption had reached almost 200,000 tonnes LCE by 2016. This occurred particularly because of the growth in its use in rechargeable batteries and in grid storage batteries, while its application in ceramics and glass, lubricating greases, air treatment and continuous casting also rose significantly. The average increase in lithium consumption between 1995 and 2016 has been about eight (8) per cent per annum. With further strongly increasing use in the battery sector, several industry commentators now estimate growth rates around ten (10) per cent per annum between 2016 and the end of the decade. By 2020 it is likely that annual consumption will have reached 300,000 tons LCE and some studies has shown could it could be possible to ascribed 1.000.000 ton by 2015. At that time, perhaps almost two thirds of the use of lithium will be for battery production. There is a great future demand projected by several authors which is triggered by EV Cars and EV bus. In this sense the project MTL-Kanhoo group Chile is he the market of the second stages of added value that is the market of LMO or LiMn2O4. If the market of lithium carbonate increase because of EV cars and EV bus the market of LMO increase

too as well as the market of NCM because both product we will produce in Chile are for lithium ion battery cathode material: For EV car, EV bus, E- Bike, E-Motor, Storage energy for family or for telecom unit.

The following two table 5 and table 6 summarize the market for LiMn2O4 considering our MTL-Kanhoo Chile project. The market for LiMn2O4 for 2017 will be 40.000 ton per year increasing to 132.000 ton per year for year 2022.

Table 5: LMO Market Share Projection in annual tons

	2017	2018	2019	2020	2021	2022
AESC China	15.000	15.000	15.000	15.000	15.000	15.000
LNCM China	10.000	10.000	10.000	10.000	10.000	10.000
Kanhoo-MTL China	10.000	42.000	42.000	42.000	42.000	42.000
DT China	5.000	5.000	5.000	5.000	5.000	5.000
Kanhoo-MTL Chile	0	0	10.000	20.000	40.000	60.000
	40.000	**72.000**	**82.000**	**92.000**	**112.000**	**132.000**

Source: Self constructed base on MTL-Kanhoo experience of the market.

Regarding competition, we have just only three other companies which produce the same product worldwide: AESC, DT (Dry transportation) and LNCM. Our expertize is to develop different LMO material to suit for different usage in the market. The competitiveness of our LMO product to be developed in Chile to the worldwide market include more than 15 years on the battery industry, we have develop several products for high performance and low cost product, we have and we will continue having competitive product in the market.

The following table 6 summarizes the worldwide market of LMO as the table before but showing market share over time. Today there are four competitors LMO market. AEST (38%), LMCM (25%), Kanhoo-MTL (25%) and DT (13%) for a total production of 40.000 ton of LMO for 2017. Our position in the worldwide market of LMO is the third position with 25% of the market manufacturing 10.000 ton of LMO of a total of 40.000 ton produce in the market in 2017. As mention in section 1.2 we are finishing construction of a 30.000 ton plant of LMO which start production in January 2018.

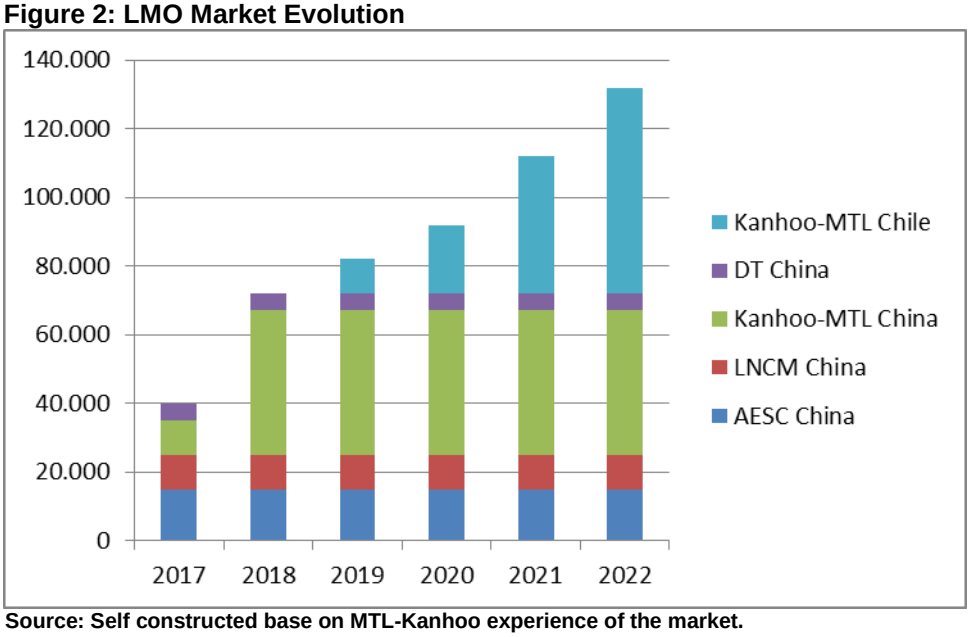
Table 6: LMO Market Share Projection in % by company

	2017	2018	2019	2020	2021	2022
AESC China	38%	21%	18%	16%	13%	11%
LNCM China	25%	14%	12%	11%	9%	8%
Kanhoo-MTL China	25%	58%	51%	46%	38%	32%
DT China	13%	7%	6%	5%	4%	4%
Kanhoo-MTL Chile	0%	0%	12%	22%	36%	45%
	100%	**100%**	**100%**	**100%**	**100%**	**100%**

Source: Self constructed base on MTL-Kanhoo experience of the market.

In the following figure 2 you can observe graphically how market change from 40.000 ton in 2017 to 132.000 ton in 2022. With the introduction to the market of MTL-Kanhoo Chile, we ascribe the 12% in 2019 with 10.000 ton of LMO production to increase drastically to the 45% of the market with 60.000 tons of LMO production in 2022. Moreover if we consider China and Chile production MTL-Kanhoo ascribes more than 77% of the worldwide LMO market.

Figure 2: LMO Market Evolution



Source: Self constructed base on MTL-Kanhoo experience of the market.

3. Investment project background

The total investment is 465 MMUSD with total employment of 430 employees. We have agreement not only with ENAMI but with local government of Vallenar and regional government of Atacama to cooperate in post of local and regional development. We have the support of CCIRA, the Corporation of Competitiveness and innovation of Atacama Region. The VAN of the project in 10 and 20 years is 635 MMUSD and 1470 MMUSD respectively with a TIR of 32% and 35% in 10 and 20 years.

3.1 Objectives

3.1.1 General Objective

- To set up the lithium industrialization route with ENAMI based on the development of small miners and local providers creating a cluster of lithium technology with Atacama region institutions and starting investment in LMO and NCM to continue forward lithium cathode, lithium anode and lithium battery.

- To setup and construct the first LMO material plant in Chile with annual capacity of 60.000 ton of material in order to become relevant actor in LMO market base on Chile by 2022 ascribing the 50% of the worldwide LMO market.

3.1.2. Specifics Objective

- To get final contract with ENAMI to start permission and construction process (See Annex 1 ENAMI Letter)
- To start permission and construction process (See Annex 2, 3 and 4)
- To Sign final agreements of cooperation with Atacama region institutions including local government, regional government, CCIRA, Atacama University, CORPROMIN (See Annex 8, 9, 10, 11 and 12
- To sign final agreement with strategic local providers cobalt and manga (See Annex 13 and 14)

3.2 Production technology

In reference to the product we want to develop in Chile: LiMn2O4 and LiNixCoyMn1-x-yO2 **we use mature technology.** For LiMn2O4 we do not need to buy patent have patent because we have our own technology. In the case of LiNixCoyMn1-x-yO2 if we sell to China we do not need to buy patent. We have plan to sell to China then we will not buy any patent. The product for LiMn2O4 are on the newest technology develop in our company and mature by our product, are popular in the market. The following chart shows the productive process for LiMn2O4 final product. **This is the newest and sophisticated technology for the materials making process developed by our company.**

As it was explained we produce two products LiMn2O4 and LiNixCoyMn1-x-yO2. The complexity of the level of production could be explained by the following important points:

- Raw material purity control.
- Raw material proportioning control.
- Additive control.
- Sintering times and sintering temperature character.
- Product particle size control
- Special metal ions in products Control

We use Six Sigma as quality control policy. **Please see Annex 5** to understand graphically the process of the technology.

For detailed layout of the factory please see Annex 6. We have developed our own technology and our own layout to produce LMO. We have strict quality policy and we use Six Sigma methodology but with very high technology of quality control.

3.3 Local content, productive linkage and suppliers

LAV project Chile has a strong Atacama region and Vallenar local economic impact, development local provides, R&D with Atacama University and CORPROMIN association of small miners. The following table 7 shows some of the local providers.

Table 7: Row materials and productive linkage with local suppliers.

Row material	Local/ Region
Lithium Carbonate	Yes/ Antofagasta
Manganese Dioxide	Yes/ Atacama
NiCoMnOH (co 33%)	Yes/ Atacama
Deionized Water	Yes/ Atacama
Alcohol	Yes/ Atacama
Crucible	Yes/ Atacama
Additives	Yes/ Atacama

Source: Self constructed base on MTL-Kanhoo and Chilean local knowledge

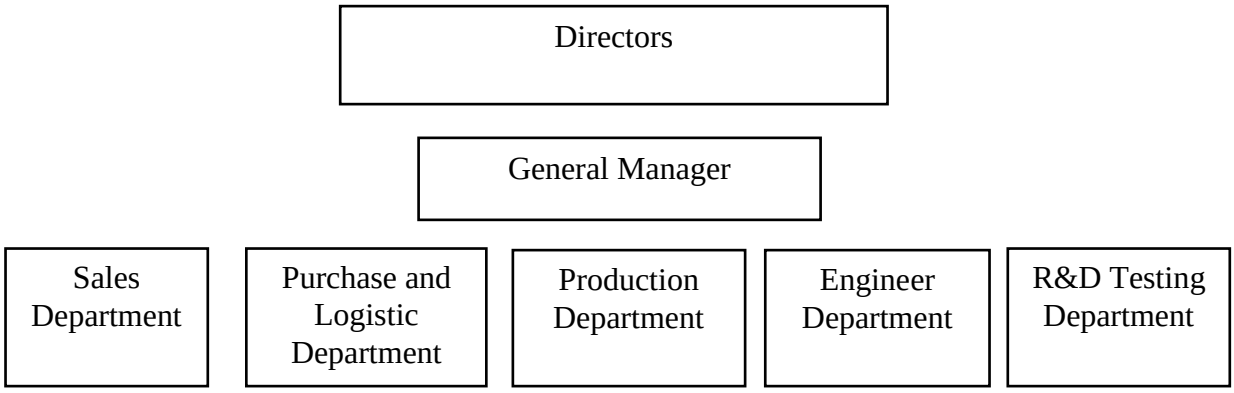
Today we have not signed any final contract with any local provider because we still have not sign final contract of lithium provision. **However, our policy as a company is to co-work continually for the development of the local employment and local small enterprises providers.** In these lines we already have search and make some agreements with different providers and important institutions of the Atacama Region to ensure a Win-Win project with community.

Today we have integrated local suppler of manganese and cobalt. We have make analyses of product of different miners (See Annex 13 and 14) and we have the support of the Atacama president of regional council (See Annex 9), the corporation of innovation and competitiveness CCIRA (See Annex 10), the association of small miners and miners providers CORPROMIN (See Annex 12) as well as the support of Atacama University (See Annex 11). The focus of all of this synergy is collaborate

Our preliminary plan is to create a technological cluster with community (represented by CCIRA), small miners, university and we as investor to continue develop capabilities and quality mining products of manganese, cobalt, niquel and lithium to create over time more a more products of added value. Through this plan we want to support suppliers with a minimum allowable scope of technology, a small batch of procurement, and provide technical standards and technical improvement support. **We already compromise a Lab for Atacama University for a maximum amount of 1.5 million to support this plan and co-work with small miners.**

3.4 Development of Human Capital

Before to explain the HHRR structure of the project I would like to point out we have an agreement with CSIRA Corporation of Development of Atacama Region to Cooperate in order to generate the maximum synergies between MTL-Kanhoo project and the development of the Region. That includes cooperation with local schools to train special person of ability in labs, and become good engineer in the company. The organizational framework of the Factory I operative stage will be as follows.



In the following table you can see the composition by type of qualified labor as well as total employment per each phase. I can be seen than the first phase total employees are 104 people to reach 430 people in 2022.

Table 8: Composition of Employment overtime by type of qualify labor

Type of Employment	**2019**	**2020**	**2021**	**2022**
Not qualified labour	50	100	200	300
Technical qualified labour	27	41	54	68
Professional labour	18	28	39	51
Head of Department	5	5	5	5
General Manager	1	1	1	1
Directors	3	5	5	5
Total employment	**104**	**180**	**304**	**430**

Source: Self constructed base on MTL-Kanhoo information.

Our qualify human capital development policy is clear and concrete. Our Goal is to produce technological transfer of knowledge to Chile through ENAMI. To do that we will co-work continually with Atacama university (see Annex 11) and institutes (through CCIRA disposition of institutes in the region see Annex 10) **to improve technical capabilities of student and local people to improve labour productivity. Moreover we propose a Chinese technical team to which work continues**

in factory and co-work with university and institutes to ensure the technological transfer to Chilean people.

In the following table you can observe a more accurate composition of human capital qualifications as well as you can observe how Chinese/Chilean labor composition change overtime. The Chinese Chilean Rate in 2019 is 23/76 changing to 29/401 in 2022 decreasing Chinese employment proportion from 30% in 2019 to 7% in 2022. That means that almost with the same proportion of Chinese we reach to train most of the employees of the factory.

Table 9: Composition of Employment by type of expertize and country

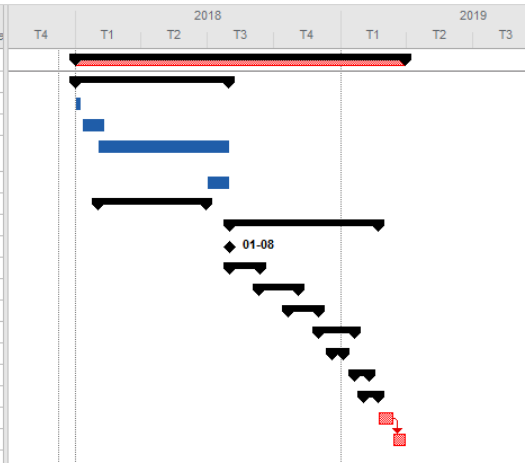
Detailed Type of Labour	**2019**		**2020**		2021		2022	
	China	**Chile**	**China**	**Chile**	**China**	**Chile**	**China**	**Chile**
operator (NQL)		50		100		200		300
Industrial Engineer (Chinease) (P)	3		3	2	3	4	3	6
Technical Engineer (Chinese) (T)	4		4	2	4	4	4	6
Quality Engeneer (chinese) (T)	4		4	2	4	4	4	6
Purchasing Engineer (1 Chinese 1 Chile) (T)	1	1	1	2	1	3	1	5
Mechanical Engeneer (chinese) (T)	3		3	2	3	4	3	6
Electrical Engeneer (chile) (P)		3		5		7		9
Administrative personal (chile) (T)		4		6		8		10
Logistic department (2 chinese 6 chile) (T)	2	4	2	6		10		12
Finance (2 china 2 chile) (P)	2	2	2	4	2	6	2	8
Sale (2 china 2 chile) (P)	1	1	1	2	1	4	1	6
Legal department (P)		1		2		3		5
Testing Center (T)		4	1	6	1	8	1	10
R&D center (P)	4	1	4	3	4	5	4	7
Head of Department (HOD)	3	2	3	2	3	2	3	2
General Managers		1		1		1		1
Director	1	2	3	2	3	2	3	2
	28	**76**	**31**	**149**	**29**	**275**	**29**	**401**
	104		**180**		**304**		**430**	

Source: Self constructed base on MTL-Kanhoo information.

3.5 Project timeline

Phase I: Plant Li-Mn-Co Phase I

	Nombre de tarea	Duración	Comienzo	Fin
1	**LAV Chile FASE I: CONSTRUCCION PLANTA Li-Mn-Co**	**456,87 días**	**01-01-18**	**30-03-19**
2	**INFORMACION ANTEPROYECTO**	**212,39 días**	**01-01-18**	**30-07-18**
3	Descripcion del Proceso	7 días	01-01-18	07-01-18
4	Ingeniería Basica para Construcción	30 días	10-01-18	08-02-18
5	Elaboración Declaracion Impacto Ambiental (DIA)	180 días	01-02-18	30-07-18
6	Permisos	30 días	01-07-18	30-07-18
7	**INGENIERIA**	**150 días**	**01-02-18**	**29-06-18**
11	**CONSTRUCCION 1° ETAPA**	**205,35 días**	**01-08-18**	**20-02-19**
12	Inicio Trabajos	0 días	01-08-18	01-08-18
13	**Preparacion del Terreno**	**40,87 días**	**01-08-18**	**10-09-18**
18	**Obras Civiles**	**55,21 días**	**10-09-18**	**03-11-18**
22	**Obras estructurales**	**41,83 días**	**20-10-18**	**30-11-18**
25	**Mecanicas**	**48,87 días**	**01-12-18**	**18-01-19**
29	**Piping**	**15 días**	**20-12-18**	**03-01-19**
33	**Obras Electricas**	**20 días**	**20-01-19**	**08-02-19**
38	**Arquitectura**	**20 días**	**01-02-19**	**20-02-19**
43	Comisionamiento	20 días	21-02-19	12-03-19
44	Puesta en marcha	18 días	13-03-19	30-03-19



We already have location with Energy and water supply. We have a team of 8 people that the can get all the permission, they will be from beginning. Moreover since we are planning to use ENAMI facilities in Vallenar Plant and Vallenar Plant has already permission, the procedure of getting permission become an extension of permission with focus in the new project. Construction can be start with the process of getting permissions. Equipment purchasing start as soon as construction starts (March 2018).

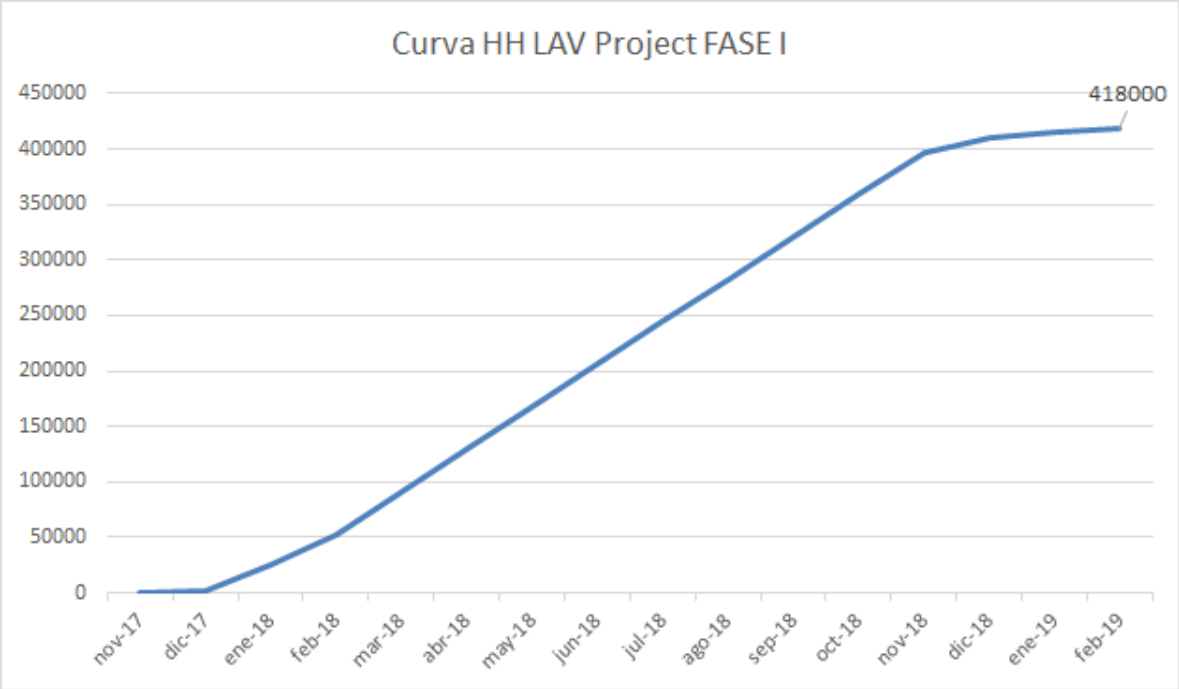
1. EQUIPO DEL DUEÑO

ESPECIALIDAD	PRESUP Cant	HH/prof	ene-18	feb-18	mar-18	abr-18	may-18	jun-18	jul-18	ago-18	sep-18	oct-18	nov-18	Total
EQUIPO DEL DUEÑO														
Ing. Civil Quimico (Jefe Proyecto)	1	185	185	185	185	185	185	185	185	185	185	185	185	2.035
Ing. Civil- Civil	1	185	185	185	185	185	185	185	185	185	185	185	185	2.035
Ing. Civil - Estructural	1	185		185	185	185	185	185	185	185	185	185	185	1.850
Ing. Civil Mecánico	4	185			740	740	740	740	740	740	740	740	740	6.660
Ing. Civil Eléctrico	4	185			740	740	740	740	740	740	740	740	740	6.660
Ing. Metalurgista	2	185	370	370	370	370	370	370	370	370	370	370	370	4.070
Prevencionista Riesgos	4	185	740	740	740	740	740	740	740	740	740	740	740	8.140
Topografo	2	185	370	370	370	370	370	370	370	370	370	370	370	4.070
Proyectista	2	185	370	370	370	370	370	370	370	370	370	370	370	4.070
Contador	1	185	185	185	185	185	185	185	185	185	185	185	185	2.035
Administrativo	2	185	370	370	370	370	370	370	370	370	370	370	370	4.070
Jefe Bodega	1	185			185	185	185	185	185	185	185	185	185	1.665
Dibujante	2	185	370	370	370	370	370	370	370	370	370	370	370	4.070
	27	2.405	3.145	3.330	4.995	4.995	4.995	4.995	4.995	4.995	4.995	4.995	4.995	51.430

2. SERVICIOS Y CONTRATISTAS

ESPECIALIDAD	PRESUP Cant	HH/prof	ene-18	feb-18	mar-18	abr-18	may-18	jun-18	jul-18	ago-18	sep-18	oct-18	nov-18	Total
Obras Civiles	50	185	9.250	9.250	9.250	9.250	9.250	9.250	9.250	9.250	9.250	9.250	9.250	101.750
Obras estructuras	30	185			5.550	5.550	5.550	5.550	5.550	5.550	5.550	5.550	5.550	49.950
Piping	20	185			3.700	3.700	3.700	3.700	3.700	3.700	3.700	3.700	3.700	33.300
Electricos	10	185		1.850	1.850	1.850	1.850	1.850	1.850	1.850	1.850	1.850	1.850	18.500
Choferes	12	185	2.220	2.220	2.220	2.220	2.220	2.220	2.220	2.220	2.220	2.220	2.220	24.420
Transporte	10	185	1.850	1.850	1.850	1.850	1.850	1.850	1.850	1.850	1.850	1.850	1.850	20.350
Ayudantes	40	185	7.400	7.400	7.400	7.400	7.400	7.400	7.400	7.400	7.400	7.400	7.400	81.400
Guardia seguridad	8	185	1.480	1.480	1.480	1.480	1.480	1.480	1.480	1.480	1.480	1.480	1.480	16.280
	180	1.480	22.200	24.050	33.300	33.300	33.300	33.300	33.300	33.300	33.300	33.300	33.300	345.950

TOTAL HH			25.345	27.380	38.295	38.295	38.295	38.295	38.295	38.295	38.295	38.295	38.295	397.380



A details timeline of the all project (four could be seen in **Annex 2**)

3.6 Location of the plant

As you can see in **Annex 7**, The location of the plant is in the facilities of ENAMI in Vallenar Plant Atacama Region. As you can see in the following map. As you can see distance to Harsco port is 45 km and distance to manganese and cobalt provider domeyko and freirina is 25 and 50 km as well.

3.7 Investment

In the following table 9 it is summarize the most relevant indicator of the investment project.

Table 10: Investment structure and materialization plan

INVESTMENT STRUCTURE AND MATERIALIZATION PLAN						
N°	**COMPOSITION OF INVESTMENT**	**Investment per year**				
		Year 1	**Year 2**	**Year 3**	**Year 4**	***Total***
1	**INVESTMENT IN ASSETS**					
1.2	*Constructions / Infraestructure works*	24.000.000	24.000.000	35.000.000	35.000.000	118.000.000
1.3	*Equipment /Machinery*	49.940.000	45.730.000	90.740.000	90.740.000	277.150.000
1.4	*Activo Intangible (Software, Licencias, etc.)*	500.000	500.000	200.000	100.000	1.300.000

INVESTMENT STRUCTURE AND MATERIALIZATION PLAN						
N°	COMPOSITION OF INVESTMENT	Investment per year				
		Year 1	Year 2	Year 3	Year 4	*Total*
1.5	*Studies*	500.000	500.000	500.000	500.000	2.000.000
1.6	*PMO 1%*	749.400	707.300	1.264.400	1.263.400	3.984.500
1.7	*Allowance 5%*	3.784.470	3.571.865	6.385.220	6.380.170	20.121.725
1.8	*Contingency 10%*	7.947.387	7.500.917	13.408.962	13.398.357	42.255.623
	TOTAL	**87.421.257**	**82.510.082**	**147.498.582**	**147.381.927**	**464.811.848**

Source: Self constructed base on MTL-Kanhoo information.

Table 11: Investment relevant indicator per phase

Item	Year 1 (phase I)	Year 2 (phase II)	Year 3 (phase III)	Year 4 (phase IV)
Total output production	**10.000**	**20.000**	**40.000**	**60.000**
Factory Area(m2)	10.080	20.475	30.870	41.265
Employment	104	180	304	430

During the last 6 month we have been in touch with many small miners of manganese and cobalt. Moreover we have been discussing with different professor in universities in special USACH and Universidad Technical Federico Santa Maria. We put in contact small miners and Universities and they already prefeasibility studies of lithium, cobalt and manganese. Since we are still do not win the CORFO process we have not sign any cooperation agreement with Universities but we have already the following proposal from USACH and we hope to sign as soon as we can sign the contract of provision of lithium from Rockwood. Moreover we have make analyses of product of different miners (See Annex 13 and 14) and we have the support of the Atacama president of regional council (See Annex 9), the corporation of innovation and competitiveness CCIRA (See Annex 10), the association of small miners and miners providers CORPROMIN (See Annex 12) as well as the support of Atacama University (See Annex 11). **The focus of all of this synergy is co-work for the development of the region in a win-win relation for the long-run.**

In that sense we already have compromise with university of Atacama in testing lab 1 million us dollars and in establishing new product development laboratory by 1.5 million us dollars.

Our intention is to get the best quality product of manganese and cobalt and we need to cooperate and work as a team with small miners and universities.

In an initial stage we want to cooperate to train the relevant professional students, assist new product research and the detection of new products. In this area we have approaches with CCIRA. In the attached document you can see CCIRA general manager support via letter of intention. In the mid-term: Raw material quality improvement research and development and in the third Step: development of new materials.

3.8 Economic evaluation of the project

The VAN of the project in 10 and 20 years is 635 MMUSD and 1470 MMUSD respectively with a TIR of 32 and 35% in 10 and 20 years. We have considered contingency of 20% for the first 4 years of operation and 10% for the rest of the years of operation. Investment contingency we set in 10% in investment equipment, machinery and construction. The allowance of all project discipline is 5% which give the possibility to have additional budget to allow the project to increase of additional estimation of project.

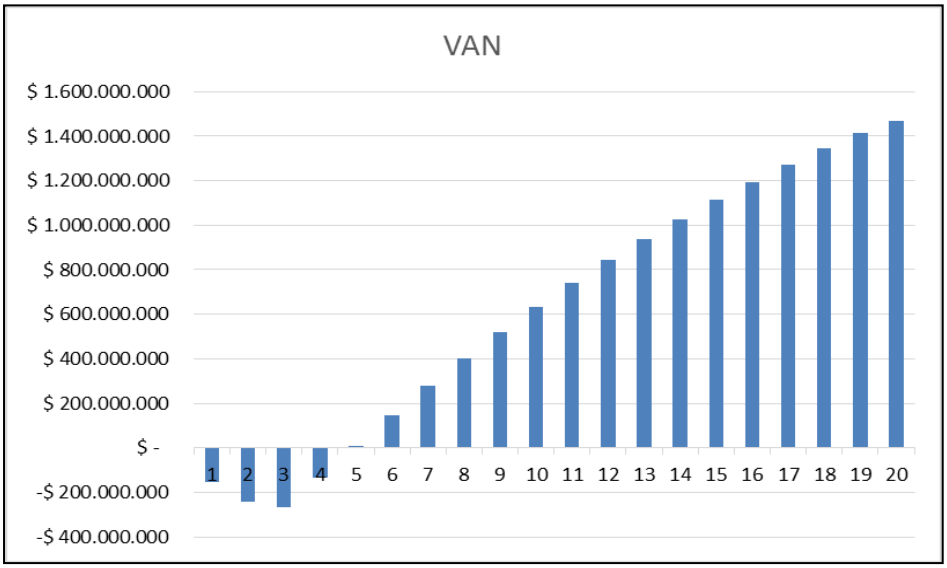
Table 12: Economic Evaluation by different stage

	VAN (5%) (20 años)	VAN (5%) (10 años)	TIR (20 años)	TIR (10 años)
Expected scenario	**1.470.315.905**	**634.824.093**	**35%**	**32%**
Pessimistic scenario	723.913.947	215.635.525	21%	15%
Optimistic scenario	1.940.637.620	897.775.192	43%	41%

Source: Self constructed

Pessimistic scenario: increased 10% of input costs and decreased 10% the sales Price of the expected value. Optimist Scenario: Increased the sale price by 10% of the expected value. Figure 3 shows the VAN evolution by year. It is shown that in year five the capital is recover and we start to earn money.

Figure 3: VAN Evolution by year.



Source: Self constructed

Figure 4: Economic Evaluation Cash Flow

YEARS	2018	2019	2020	2021	2022	2023	2024	2025	2038
Total input material (tons/year)		13.000	28.250	69.800	93.000	93.000	93.000	93.000	93.000
Total Operational Cost		37.648.500	103.071.125	240.656.500	328.476.500	328.476.500	328.476.500	328.476.500	328.476.500
Total Out Production (ton/year)		9.750	23.188	56.350	75.750	75.750	75.750	75.750	75.750
Total Output Material Sell (USD)		63.375.000	187.718.750	440.275.000	603.375.000	603.375.000	603.375.000	603.375.000	603.375.000
Total Operational Cost		37.648.500	103.071.125	240.656.500	328.476.500	328.476.500	328.476.500	328.476.500	328.476.500
Contingency (20% the first 4 years, and 10% the rest of project)		7.529.700	20.614.225	48.131.300	65.695.300	32.847.650	32.847.650	32.847.650	32.847.650
Total Output Material Sell (USD)		63.375.000	187.718.750	440.275.000	603.375.000	603.375.000	603.375.000	603.375.000	603.375.000
EBITDA		18.196.800	64.033.400	151.487.200	209.203.200	242.050.850	242.050.850	242.050.850	242.050.850
Depreciation (-)		6.034.120	11.655.660	22.210.680	32.765.700	32.765.700	32.765.700	32.765.700	5.605.000
Benefit before Tax and Interest		12.162.680	52.377.740	129.276.520	176.437.500	209.285.150	209.285.150	209.285.150	236.445.850
Tax (27.5%)		3.344.737	14.403.879	35.551.043	48.520.313	57.553.416	57.553.416	57.553.416	65.022.609
Depreciation (+)		6.034.120	11.655.660	22.210.680	32.765.700	32.765.700	32.765.700	32.765.700	5.605.000
Valor de desecho (despreciable)									
Benefit After Tax		14.852.063	49.629.522	115.936.157	160.682.888	184.497.434	184.497.434	184.497.434	177.028.241
costo de cierre									-30.000.000
Capital de Inversión	-87.421.257	-82.510.082	-147.498.582	-147.381.927					
Cash Flow	**-87.421.257**	**-67.658.019**	**-97.869.061**	**-31.445.770**	**160.682.888**	**184.497.434**	**184.497.434**	**184.497.434**	**147.028.241**
VAN (5%) (20 años)	**1.470.315.905**								
TIR (20 años)	**35%**								
VAN (5%) (10 años)	**634.824.093**								
TIR (10 años)	**35%**								

Figure 4 shows the economic evaluation cash flow. For further details please see Excel file with was delivered to CORFO and Invest Chile by e-mail.

.

3.9 Risks

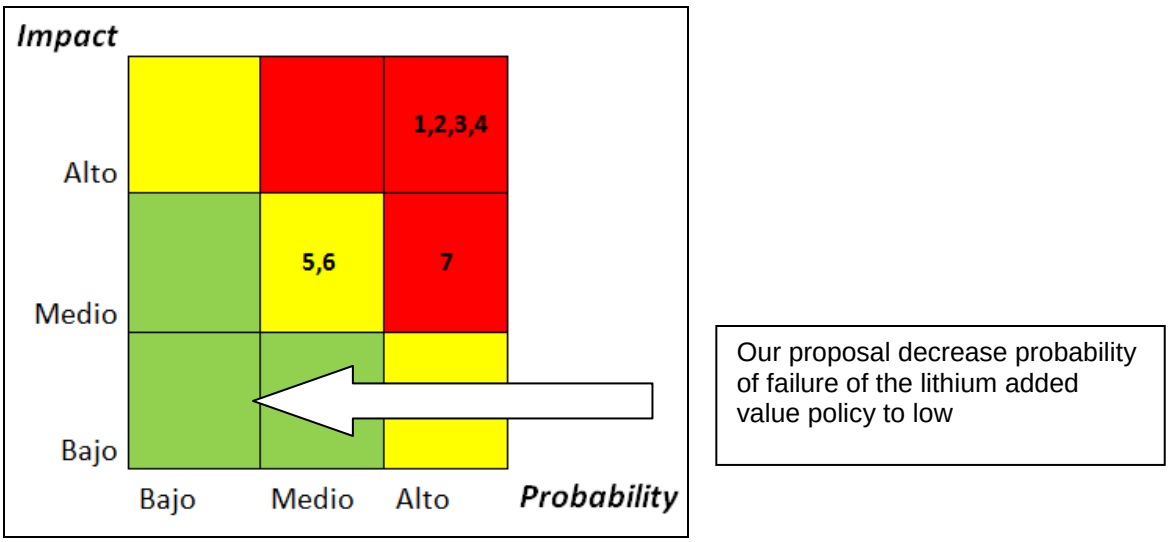
In this section we are going to analyze the risk of Chile of take a bad decision in this bid. We think in this CORFO bid, considered the entire competitor we are the only valid option to produce LMO and NCM without risk or with a minimum risk. Our assumption is as follows: If Chile takes a decision with higher risk that our proposal becomes a risk for Chile to not go forward into the lithium market of added value. This would be very bad for Chile considering the big potential regarding lithium market that Chile has and moreover, considering that worldwide lithium market is increasing progressively.

Table 13: Risk Analyses (Main risks of the project based on essential evaluation criteria and how we mitigate it with LAV Chile)

Risk	Mitigation (our solution in JV with ENAMI)	Kind of risk following CORFO methodology
1. Low or none Chilean Generated Added Value	Non private company, foreign or Chilean Private can generate bigger added value than our proposal because we generate knowhow for Chile in four reason: First, We generate technological transfer from Chinese expertize toward Chilean State company (ENAMI) because we will make Joint Venture to work together in this project. Second, we have technology of NCM; we can help local company build a supply system about lithium industry ensuring the necessary quality we need to sell our product to the world market from Chile. This will generate big economic and social impact. Third, since we co-work with ENAMI and since we co-work with small miners develop other mineral in quality and quantity, it become feasible over time to produce other material and so on to produce batteries. At the moment we can produce batteries I Chile we can produce EV-Cars and EV bus in Chile because the complexity of producing cars and bus is in the battery and the 60% of the cost of EV Bus is in battery. Fourth, since we are partner of ENAMI we pay no only standard tax, but we give 15% of the benefits to ENAMI. Fifth, If we consider only Chilean production this project will reach the 45% market by itself, that means Chile will become the most important and relevant actor in second stage of added value toward continue advancing to next step.	Essential

2. Investment cut and not to be implemented in a good manner.	Our consortium has financial capability to invest without borrow money. Moreover, we have a perfect market system, even if the price of large-scale fluctuations, we can successfully complete this project. We have considered 20% of contingency for the first 4 year of operation and 10% for the 16 year later for operational cost. We have considered 10% of contingency for equipment and construction investment. Additionally, we consider 5% of allowance. All the previous considering that we have implement similar project for annual 30.000 ton capacity in China.	Essential
3. Do not comply production capacity because of lack of experience.	We have 15 years' experience in market. The market today is 40.000 ton and we have 25% of market. Next year we will have 58% of market and in 2022 we will have 77% of market considering China and Chile production. If we consider only Chilean production this project will reach the 45% market by itself, that means Chile will become the most important and relevant actor in second stage of added value toward continue advancing to next step.	Essential
4. To select an enterprise (proponent) with non-financial capacity	Considering that this is a strategic project for the consortium, we will focus all our financial capacity to this project. Our consortium can finance with own capital without make a lone; however we will study the best way to get better benefits.	Essential
5. To select a company without market experience in lithium product of added value	We have 15 years' experience in market. The market today is 40.000 ton and we have 25% of market. We are recognizing in the market as top 3 in the world with a quality that can be adapted to necessity of customer.	
6. To select a company which has not market	We have more than 1000 customers and we have the necessity of supply them with more and more production overtime.	
7. Low regional impact	We have agreement with ENAMI to produce lithium added value together in this project and ENAMI objective is promote development of small miners. Since small miner is in regions our project has big regional impact. Second, our consortium have many support from regional authorizes and we have already agreements with small miners to start developing technology to produce manganese and cobalt good quality y and quantities.	

Figure 5: Risk Analysis Impact and probability whit out LAV CHILE



Source: Self Constructed

3.10 Regional impact

The location of our project is in Vallenar, Atacama Region in Vallenar Plant of ENAMI. One of the advantages of the location to be considered as strategic of this project is as follows:

- Near to local providers: manganese and cobalt
- Good relationship with authorities to develop a local providers plan.
- Near Harsco port, 30 km.
- Atacama region has poor economic indicator the second poor in Chile after Araucaria.
- In ENAMI plant we have adequate power and water supply.
- Manpower is abundant.

4. Investor background

As mentioned in previous sections the investor has 15 year of experience in lithium market and has the experience of running a plant in identical layout and conditions in China. The market t of LMO is triggered as lithium carbonate market by electromovility industry.

4.1 Productive capacity

In China we have maximum annual capacity of 40.000 ton per year in currently operating plant located in Guangdong Province, China. We will produce LMO in Chile. In China our production of LMO is as follows 3600 ton 2014; 4800 ton 2015; 6000 tons 2016, 10000 tons 2017 and we will produce 40.000 ton next year in China.

4.2 Market experience

We have 15 years of experience with more than 1000 customer around the world in China, Japan; South Korea and USA.

4.3 Financial capacity

We considered this project is a strategic project for the consortium, we will focus all our financial capacity to this project. Our consortium can finance with own capital without make a lone; however we will study the best way to get better benefits.

4.4 Corporate responsibility

Our project considers corporate responsibility from the beginning and in the long run. Meet for the environmental protection documents approved by the government and approved by the State Environmental Protection Policy

Signing legal labor contracts with workers and providing welfare guarantee.

China physical and chemical power supply association members, China's high-tech enterprises, Guangdong famous brands to participate in the development of industry standards

Guangdong provincial enterprise technology center, Guangdong Province joint venture space

5. Annexes

5.1 *Annex 1 ENAMI letter of support LAV project*

VICEPRESIDENCIA EJECUTIVA N° 76

Santiago, 23 de noviembre 2017

Señores
MTL Shenzen Group
Kanhoo Group

De mi consideración:

En mi calidad de Vicepresidente Ejecutivo de la Empresa Nacional de Minería, vengo a hacer presente la disposición de nuestra empresa para apoyar el Proyecto elaborado por su consorcio de empresas en el proceso CORFO "Desarrollo de Proyectos de Valor Agregado de Litio en Chile", el que actualmente se encuentra en etapa de licitación, de la cual su consorcio ha sido una de los siete finalistas seleccionados.

En consecuencia, ofrecemos nuestra colaboración para coordinar y apoyar el desarrollo de tecnologías asociadas a la industria del Litio. Adicionalmente, ENAMI podría evaluar la posibilidad de disponer de uno o varios terrenos de su propiedad, para la instalación de una planta, en los lugares donde se requieran, teniendo en cuenta las pertenencias mineras de su dominio y objeto de explotación futura, considerando la evaluación del aporte de ENAMI al Join Venture y su valorización, lo que sería acordado en una futura negociación si procediere.

Por su parte, de ser adjudicada la licitación a su consorcio, este instalará y operará la planta de proceso a su propio costo y ENAMI no tendrá obligación alguna de financiar ni la planta o plantas que se instalarán dentro del territorio de la República de Chile, ni de cualquier costo de operación, no importando su naturaleza. A mayor abundamiento, ENAMI no tendrá obligación alguna en el financiamiento de cualquier permiso, ya sean ambientales o sectoriales que la construcción o implementación del Proyecto requiera, sin perjuicio de que como socio del proyecto, ENAMI se comprometería a realizar su máximo esfuerzo y colaborar con su consorcio en la obtención de cada uno de ellos.

Confiamos que nuestra contribución aporte a su propuesta final y a la futura planta de materiales de Litio, generando así mayor valor agregado en la cadena de productos nacionales derivados del Litio. Esperamos mantener una colaboración efectiva en torno a este proyecto y que mantengamos en el futuro esta cooperación, para desarrollar nuevas ideas y proyectos, que beneficien a nuestra Empresa, el país y las comunidades aledañas al Proyecto.

Sin otro particular, le saluda atentamente,

EMPRESA NACIONAL DE MINERÍA Vice Presidente Ejecutivo

Jaime Pérez de Arce
Vicepresidente Ejecutivo

5.2 Annex 2 Investment in Equipment and Machinery Detailed Budget

主要设备的选择与预算 Investment and selection of main equipment					
序号 No	设备名称 Name	合计 （万） In total （10KUSD）			
		2019	2020	2021	2022
1	窑炉Series double layer track kiln	3200	3200	6400	6400
2	高速搅拌机High speed mixer	600	600	1200	1200
3	陶瓷研磨 Ceramic crusher	100	100	200	200
4	机械破碎机Mechanical crusher	180	180	360	360
	自动装料机 Automatic Fetching & Loading Device	100	100	200	200
5	空磨机Air mill	60	60	120	120
6	电磁分离机 Electromagnetic separator	100	100	200	200
7	高能筛分机Screening machine	40	40	80	80
8	螺条式混合机Screw Mixer	100	100	200	200
9	分装机Packer	12	12	24	24
10	空压机Air compressor	35	35	70	70
11	叉车Forklift	10	10	20	20
12	扫描电镜+EDS Scanning electron microscope+EDS	200			
13	ICP	100			
14	BET	30			
15	水份仪 Moisture meter	15			
16	粒度仪 Particle size analyzer	40			
17	电位滴定仪 Potentiometric titrator	5			
18	手套箱 Glove box	20			
19	鼓风干燥烘箱 Blow drying oven	3			
20	电子天平 Electronic balance	9			
21	压片机 Tableting machine	1			
22	冲模机 Die machine	1			
23	培养箱 Incubator	3			
24	蓝电测试柜 Blue electricity test cabinet	20			
25	粘度测试仪 Viscosity tester	5			
26	振实密度仪 Tap density meter	2			
27	pH计 PH meter	1			
28	电动封口机 Electric sealing machine	2			
合计	合计 （万） In total （10KUSD）	**4994**	**4573**	**9074**	**9074**

5.3 Annex 3 Investment in Construction Detailed Budget

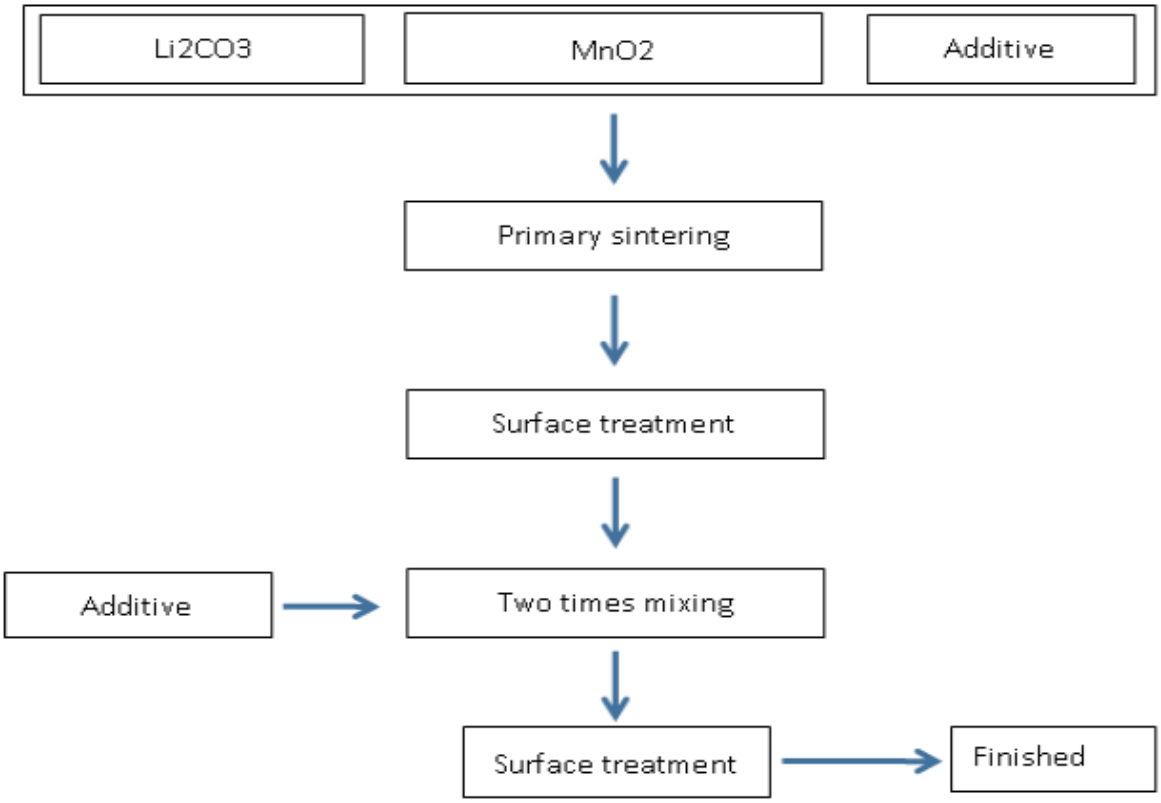
COTIZACION

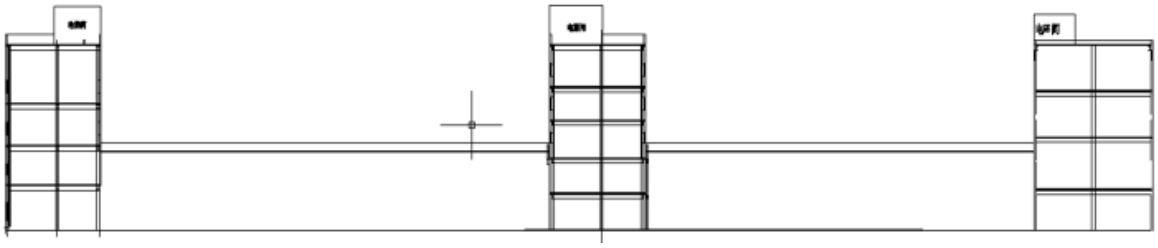
Señores	:	SHENZHEN MLT GRUP KANHOO CHINESE CONSORTIUM		
Sr.	:	TANG YUHENG	Cotizacion N°	IP 2017 12-01
Direccion	:	MLT KANHOO CHINESE CONSORTIUM	FECHA	01-12-17
Ciudad	:		Vendedor	Raul Indey Rivera
Telefono	:		Referencia	Valores en US$ mill
SERVICIO	:	COTIZACION CONSTRUCCION PLANTA RECUPERACION Li-Mn-Co		

ITEM	CAPACIDAD	UNIDAD	DESCRIPCION	P.UNIT	TOTAL (US$ Mill)
			SERVICIOS INCLUYE : Construccion Planta sistema Llave en mano		
1	10.000	Ton	**Construccion Planta 1° etapa** Incluye Movimientos de tierra, obras civiles, estructurales y electricas del modulo a construirse el 2018 (14.000 m2). Montaje de equipos y apoyo puesta en marcha. HH estimadas: 257.705 hrs. Plazo estimado: 14 meses	24,0	
2	21.650	Ton	**Construccion planta 2° etapa** Incluye Movimientos de tierra, obras civiles, estructurales y electricas del modulo a construirse el 2019 (11.700 m2). Montaje de equipos y apoyo puesta en marcha. Construccion de Planta y Oficinas. HH estimadas: 256.595 hrs. Plazo estimado: 9 meses	24,0	
3	58.300	Ton	**Construccion Planta 3° etapa** Incluye Movimientos de tierra, obras civiles, estructurales y electricas del modulo a construirse el 2020 (11.700 m2). Montaje de equipos y apoyo puesta en marcha. Construccion de Planta y Obras complementarias por aumento producción. HH estimadas: 385.775 hrs. Plazo estimado: 11 meses	35,0	
4	71.000	Ton	**Construccion Planta 4° etapa** Incluye Movimientos de tierra, obras civiles, estructurales y electricas del modulo a construirse el 2021 (11.700 m2). Montaje de equipos y apoyo puesta en marcha. Construccion de Planta y Obras complementarias por aumento producción. HH estimadas: 385.775 hrs. Plazo estimado: 11 meses	35,0	
			EXCLUSIONES TERRENO, ENERGIA, AGUA, IMPUESTOS NACIONALES		
				TOTAL NETO (US$ Mill)	118,0

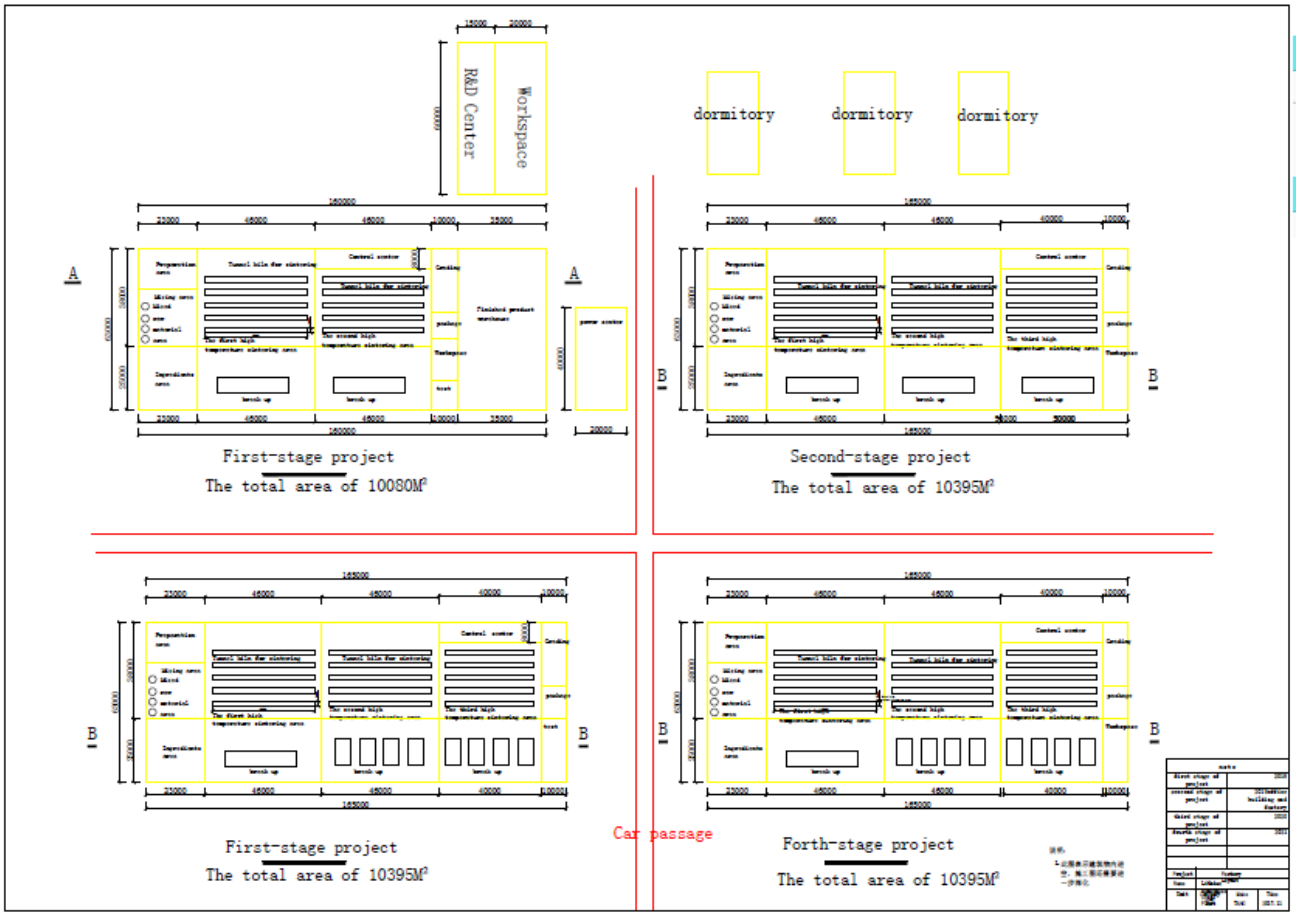
CONDICIONES COMERCIALES

5.4 Annex 4 Technology Graph Explanation.

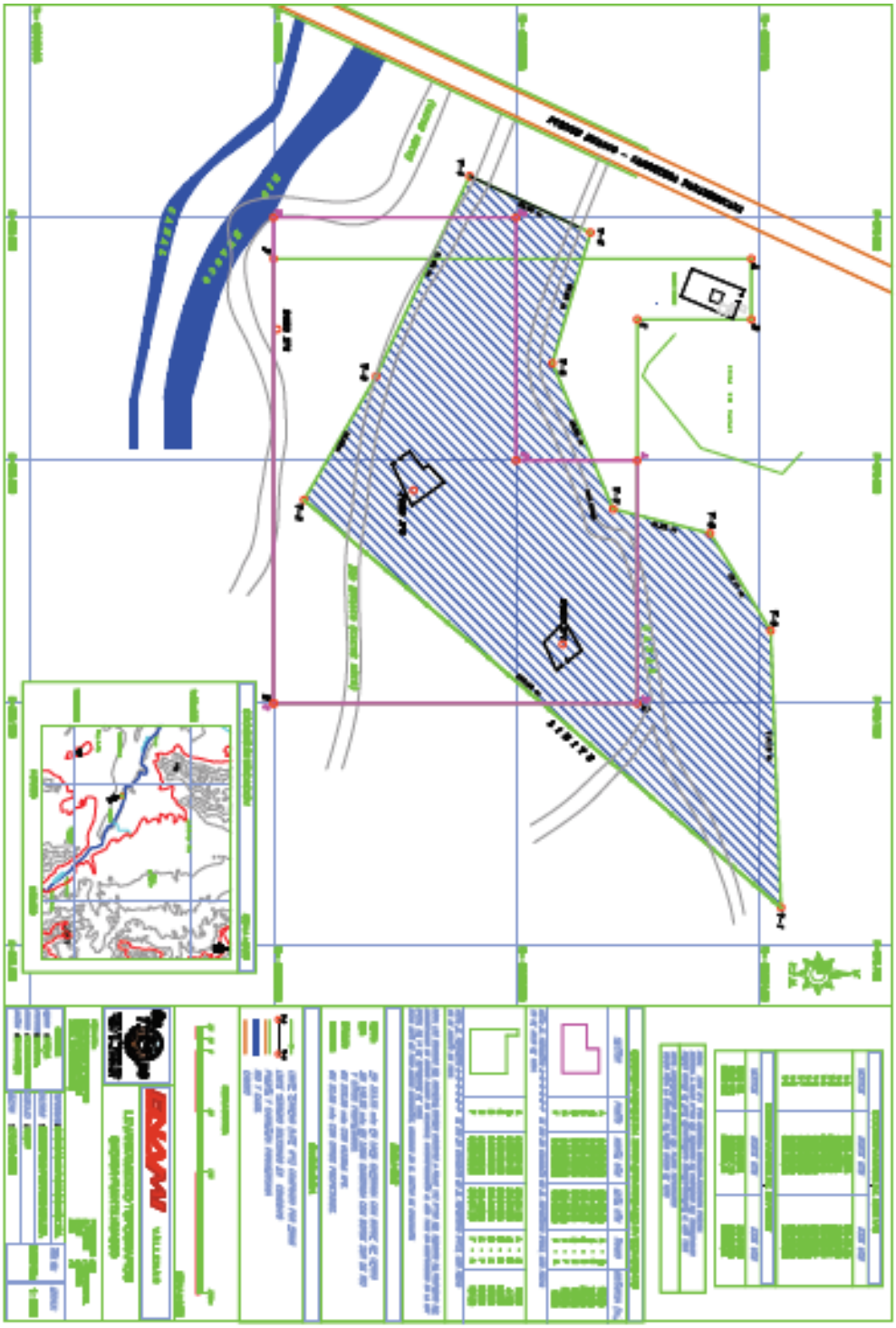




5.5 Annex 5 Material Plant Layout



5.6 Annex 6 Material Plant Geographical Location



5.7 *Annex 7 Major of Local Vallenar City letter of support LAV project*

30 de noviembre de 2017

Sr. Eduardo Bitran
Presidente CORFO
Presente
CC: Tang Yuheng Representante legal consorcio Chino MTL-Kanhoo.

En mi calidad de Alcalde de la comuna de Vallenar, quiero expresar que estoy al tanto del proyecto de inversión del grupo MTL-Kanhoo en nuestra comuna en lo que respecta a valor agregado del litio, manganeso y cobalto para la región de Atacama. Cabe señalar que en el eventual caso de adjudicación de este proyecto, dicho consorcio contará con todo el apoyo necesario en la región para generar las alianzas comunales de manera de propiciar el buen desempeño del proyecto y lograr el máximo desarrollo de nuestra comuna. Ciertamente un proyecto de 300 millones de dólares con una contratación de más de 400 empleados con producción limpia y seca y sin uso de agua tendrá un impacto mu y positivo en nuestra Región.

I. MUNICIPALIDAD DE VALLENAR
ALCALDE
III REGION

Cristian Tapia
Alcalde Vallenar.
Región de Atacama.

5.8 *Annex 8 President of Council of Atacama Government letter of support LAV project*

30 de noviembre de 2017

Sr. Eduardo Bitran
Presidente CORFO
Presente
CC: Tang Yuheng Representante legal consorcio Chino MTL-Kanhoo.

En mi calidad de presidente del CORE de la Región de Atacama quiero expresar que esto y 100% al tanto de proyecto de inversión de grupo MTL-Kanhoo en lo que respecta a valor agregado del litio, manganeso y cobalto para la región de Atacama y cabe señalar que en el eventual caso de adjudicación de este proyecto dicho consorcio contará con todo el apoyo necesario en la región para generar las alianzas con las instituciones requeridas de manera de propiciar el buen desempeño del proyecto y lograr el máximo desarrollo de nuestra región de atacama. Por cierto un proyecto de 300 millones de dólares con una contratación de más de 400 empleados con producción limpia y seca y sin uso de agua tendrá un impacto mu y positivo en nuestra Región.

Francisco Madero
Presidente CORE
Región de Atacama
95430528

5.9 *Annex 9 CCIRA letter of support LAV project*

30 de noviembre de 2017

Sr. Eduardo Bitran
Presidente CORFO
Presente
CC: Tang Yuheng Representante legal consorcio Chino MTL-Kanhoo.

En mi calidad de Gerente General de CCIRA, Corporación para la Competitividad e Innovación de la Región de Atacama, la cual tiene como objetivos; Promover y dinamizar el desarrollo productivo regional; Contribuir al mejoramiento de la competitividad regional; Promover y dinamizar la generación y desarrollo de proyectos de investigación, innovación y transferencia tecnológica en la región. Manifiesto conocimiento del proyecto de inversión del grupo MTL-Kanhoo en lo que respecta a generar valor agregado del litio, manganeso y cobalto para la Región de Atacama. Cabe señalar que en el eventual caso de adjudicación de este proyecto, dicho consorcio contará con todo el apoyo vinculante para generar las alianzas con las instituciones requeridas, de manera de propiciar el buen desempeño del proyecto y lograr el máximo desarrollo de nuestra Región de Atacama.

CORPORACIÓN PARA LA COMPETITIVIDAD E INNOVACIÓN
GERENTE GENERAL
REGIÓN DE ATACAMA

Ibar Espinoza Saavedra
Gerente General
CCIRA
Región de Atacama.

5.10 *Annex 10 Atacama University letter of support LAV project*

07 de diciembre de 2017

Sr. Eduardo Bitran
Presidente CORFO
Presente
CC: Tang Yuheng Representante legal consorcio Chino MTL-Kanhoo.

En mi calidad de Decano de la Facultad de Ingeniería de la Universidad de Atacama, quiero expresar que estoy en conocimiento del proyecto de inversión de grupo MTL-Kanhoo en lo que respecta a valor agregado del litio, manganeso y cobalto para la región de Atacama. A través de la presente quiero manifestar todo mi apoyo al proyecto como componente técnico que le da sustento a esta iniciativa en términos de investigación y desarrollo tecnológico en base a litio, manganeso y cobalto. Comprendemos que los inversionistas están dispuestos a donar un laboratorio por un monto equivalente a 1.5 millones de USD. Con ello pensamos que será posible lograr, en conjunto con Facultad de Ingeniería de la Universidad de Atacama investigación aplicada en pequeña minería para obtener productos de estándar internacional que puedan servir para que el consorcio compre producción y pueda generar mayor valor agregado en Chile. Por último nuestra intención es colaborar además en el desarrollo de tesis técnicas aplicadas a estos temas, así como también capacitación continua y experiencias prácticas para estudiantes de manera que nuestros estudiantes puedan desarrollarse exitosamente en este rubro una vez que terminen sus carreras.

UNIVERSIDAD DE ATACAMA
FACULTAD DE INGENIERÍA
DECANO

Dr. Carlos Cerrizo Moreno
Decano
Facultad de Ingeniería
Universidad de Atacama

5.11 *Annex 11 CORPROMIN small miners and local providers letter of support LAV project*

Copiapo, 30 de noviembre de 2017.

Sr. Eduardo Bitran
Presidente CORFO
Presente
CC: Tang Yuheng Representante legal consorcio Chino MTL-Kanhoo.

En mi calidad de presidente de la Corporacion, quiero expresar nuestro conocimiento y expectativas respecto del proyecto de inversión de grupo MTL-Kanhoo en lo que respecta a valor agregado del litio, manganeso y cobalto para la región de Atacama.

A través de la presente –deseo manifestar nuestro interés como pequeños productores mineros locales referente a significancia del proyecto en cuestión que viene a poner en valor tan preciados recursos minerales, a través su investigación y desarrollo tecnológico, además de su aplicación en pequeña minería para obtener productos de estándar internacional que puedan servir para que el consorcio compre producción y pueda generar mayor valor agregado en Chile.

Finalmente, queremos comentarle que nuestra corporación acoge a mas de doscientos pequeños productores mineros y presentadores de servicios del rubro de la minería de toda la región de Atacama, que además algunos de nuestros socios poseen propiedades mineras de litio – magnaeso y cobalto en el salar de maricunaga, por lo cual la concreción de este proyecto nos llena de grandes expectativas de desarrollo para la región y el país.

Atte.

Alejandro Fritis
Presidente COPROMIN

5.12 Annex 12 Cobalt Miners letter of compromise

Diggital archive

5.13 Annex 13 Manganese Miners letter of compromise

November 28, 2017

Dear Sir.
Tang Yuheng.
President of Shenzhen MTL Group.
Legal representative of MTL-Kanhoo Chinese Consortium.

I am CRISTIAN BENITO TAPIA FERNANDEZ owner of the Cobalt Mines named LUIS FRANCISCO DEL 1 AL 100 ,EDUARDO 3 DEL 1 AL 100,BURRITO 2 geographically located in INCAHUASI as you can see in the map below. My mine is around 300 hectares and has the register number 2709 - 1249 ,V125-09 ,V138-09 of Conservador de Bienes public institution. I hereby certify that my mine is available to work with you and sell all m y production to you. As you can see in the attached analysis document mu MANGANESE has quality you require for your process. Moreover professor Wilson Alavia from USACH University certifies that through is it possible to reach Cobalt input as NiCoMnOH that means Cobalt at 33. We estimate we could produce at least 10.000 ton per YEAR of this MANGANESE 2018.

-2018 10.000 TON FOR YEAR.- 2020 20.000 TON FOR YEAR .-2021 50.000 FOR YEAR

- 2022 66.000 TON FOR YEAR

COMERCIAL ANDINA LTDA. C&C ANDINA LTDA. 76.338.561 - 2 SANTIAGO - CHILE

CRISTIAN BENITO TAPIA FERNANDEZ

C Y C ANDINA LTDA