MINSUR S.A. AND SUBSIDIARIES ANNOUNCE CONSOLIDATED RESULTS FOR THE FOURTH QUARTER OF 2016

Lima, March 01, 2017 – MINSUR S.A. and subsidiaries (BVL: MINSURI1) ("the Company" or "Minsur"), a Peruvian mining company dedicated to the exploration, processing and commercialization of tin and other minerals, announced its consolidated results for the fourth quarter ("4Q16") and twelve months ("2016") ended December 31, 2016. These results are reported in accordance with International Financial Reporting Standards (IFRS) and are expressed in U.S. dollars (US$), unless otherwise indicated.

Executive Summary 2016

2016 was a year of significant achievements for Minsur, in which the Company reached positive operating results. Likewise, conditions were set for Taboca in order to achieve profitability after executing significant capital expenditures. Finally, significant progress was made in the Company's expansion projects. Following, we present a brief summary of some of these achievements:

- Security: No fatal accidents and the lowest historical number of lost time incidents (LTI)
- Production: Refined tin and gold volume above guidance.
- Projects: (i) Execution of the Ore-Sorting to pre concentrate low-grade mineral at San Rafael; (ii) reconstruction of the dike at Pitinga's hydroelectric plant, which will allow us to achieve substantial cost savings; (iii) expansion of the Niobium and Tantalum flotation plant in order to duplicate the production capacity of Ferroalloys in Brazil; (iv) expansion of the capacity to produce tin concentrates from slags at Pirapora; and (v) conclusion of Marcobre and B2 prefeasibility study, advancing to feasibility phase.
- Explorations: Increase of Mineral resources at San Rafael
- Costs: Cash cost per treated ton in line with our guidance across all mining units, and consolidation of Pucamarca as one of the most profitable gold mines in the world.
- M&A: Acquisition of a 30% stake of Marcobre, reaching full ownership of the project.

2016 was embedded with overall positive operating results despite lower grades in both of our tin and gold mines at San Rafael and Pucamarca, respectively.

Due to the unfavorable market context experienced during 2015, Minsur's management team focused in increasing productivity and reducing costs and expenses across all units with the objective to preserve margins under a low prices scenario. In this manner, during 2016, we were able to capitalize of a high price scenario, the benefits of the efforts we started in 2015 and continued throughout 2016.

In terms of net revenues, net sales reached US$ 171.5 M in 4Q16 and US$617.0 M in 2016, an increase of 11% in 4Q16 compared to the same period of the previous year. Annual net sales remained stable compared to 2015. This was mainly explained by the impact of higher tin prices, partially offset by lower production volume achieved as a result of lower ore grades.

As a result of higher prices, our efforts to reduce costs and a continuous search of improvement in productivity, Minsur reached an EBITDA margin of 27% in 4Q16, and 34% in 2016; and an EBITDA of US$ 46.5 M and US$ 207.4 M, respectively. These results reflect the strong financial position of Minsur's assets in Peru, and which we expect to replicate in our operations in Brazil. As a result, net income reached US$ 38.5 M in 4Q16, while for 2016 reached US$ 87.8 M.

It is important to highlight that in 2016 the Company made significant progress in the development of our expansion projects, especially in Marcobre and B2, where we transitioned from prefeasibility stage to feasibility stage. This, in addition to the acquisition of the remaining 30% stake of Marcobre, positions us to continue to make further progress in these projects in 2017 aiming to achieve the milestone at Minsur of finalizing the feasibility studies.

I. OPERATING RESULTS AND FINANCIAL HIGHLIGHTS:

- **Production:**
  a. **Tin: 6,743 tons in 4Q16, a 12% decrease** compared to 4Q15, while in 2016 production reached **25,445 tons**, in line with the guidance of 25,000 – 26,500 tons.
  a. **Gold: 19,551 ounces** in 4Q16**, a decrease of 28%** compared to 4Q15, but in line with our mine plan, while for 2016 production reached **105,659 ounces**, above the guidance of 95,000 – 105,000 ounces.
  b. **Ferro alloys: 489 tons in 4Q16, a 13% increase** compared to 4Q15, while for 2016 production reached **1,840 tons**, a 15% decrease compared to 2015. It is important to note that in 2016 we produced two new higher grade and value ferroalloys, replacing previous ferroalloy product.
- **Cash Cost per treated ton:**
  a. **San Rafael: US$ 68** in 4Q16, **43% below** that reported in 4Q15. Similarly, cash cost per treated ton in 2016 was **US$ 82** vs US$ 127 in 2015 and within the guidance of US$ 70 – US$ 90 per treated ton.
  a. **Pucamarca:** In 4Q16, cash cost per treated ton was **US$ 6.2**, a **32% increase** compared to 4Q15 due to less tons treated in December. Similarly, cash cost per treated ton in 2016 reached **US$ 4.3** vs US$ 4.2 in 2015 and below the guidance of US$ 4.5 – US$ 5.0 per treated ton.
  b. **Pitinga:** In 4Q16, cash cost per treated ton at Pitinga was **US$18.6, an 11% increase** compared to 4Q15, mainly due to the appreciation of the Brazilian Real (+14%). In 2016, cash cost per treated ton reached **US$18.6, a 3% increase** compared to 2015 and within the guidance of US$ 17 – US$ 19 per treated ton.
- **Metal Prices:**
  a. **Tin:** average metal price in 4Q16 was **US$ 20,911** per ton, representing a **39% increase** compared to 4Q15. In 2016, the average metal price was **US$ 18,009** per ton, a **12% increase** compared to 2015.
  b. **Gold:** average metal price in 4Q16 was **US$ 1,216** per ounce, a **10% increase** compared to 4Q15. In 2016, the average metal price was **US$ 1,248** per ounce, an **8% increase** compared to 2015.

- **EBITDA[1]: US$ 46.5 M** in 4Q16, a **146% increase** compared to 4Q15. EBITDA margin in 4Q16 was 27% vs 12% in 4Q15, mainly due to higher prices and operating cost reductions at San Rafael. In 2016, EBITDA was **US$ 207.4 M**, a **39% increase** compared to 2015, with an EBITDA margin of 34% vs 24% in 2015.
- **Net income:** reached **US$ 38.5 M** in 4Q16 vs a loss of US$ 507.7 M in 4Q15, mainly due to Marcobre's impairment adjustment made in December 2015. Similarly, in 2016 net revenue reached **US$ 87.8 M** vs a loss of **US$ 538.0 M** in 2015.
- **Adjusted net income[2]**: Excluding results from subsidiaries and associates and exchange difference, adjusted net income reached **US$ -0.5 M** in 4Q16, compared to US$- 20.1 M in 4Q15. In 2016, adjusted net income was US$ 44.5 M vs -US$ 33.5 M in 2015.
- **Hedging Operations:** During 2016, the Company held derivatives (zero cost collars and forwards) for:
    a. 24,000 oz. of gold from July to December (4,000 oz. per month) with a floor price of US$ 1,250/oz. and a cap of US$ 1,420/oz
    b. 3,200 tons of tin in Minsur (800 tons per month) from September to December with a floor price of US$ 17,000/t and caps up to US$ 19,500/t
    c. 1,800 tons of tin in Taboca from August to December (450 tons per month) with a price of US$ 17,473/t.

  The net loss from these derivatives was US$ 9.8 M in 2016.

Table N° 1: Summary of operating and financial results

Highlights	Unit	4Q16	4Q15	Var (%)	2016	2015	Var (%)
Production							
Tin (Sn)	t	6,743	7,706	-12%	25,445	25,749	-1%
Gold (Au)	oz	19,551	27,141	-28%	105,659	120,924	-13%
Niobium and Tantalum Alloy (NbTa)	t	489	432	13%	1,840	2,170	-15%
Financial Results							
Net Revenue	US$ M	171.5	153.9	11%	617.0	618.6	0%
EBITDA	US$ M	46.5	18.9	146%	207.4	148.8	39%
EBITDA Margin	%	27%	12%	121%	34%	24%	40%
Net Income	US$ M	38.5	-507.7	-	87.8	-538.0	-
Adjusted Net Income[2]	US$ M	-5.0	-20.1	-	44.5	-33.4	-

[1] EBITDA excluding the effects of the impairment made at Marcobre in 2015

[2] Adjusted net income = Net income excluding Loss from Subsidiaries and Associates and exchange difference, net

II. MAIN CONSIDERATIONS:

a. Average metal prices:

Average Tin (Sn) Price in 4Q16 was US$ 20,911 per ton, an increase of 39% compared to the same period of the previous year. In 2016, the average tin price was US$ 18,009 per ton, a 12% increase compared to 2015.
Average Gold (Au) Price in 4Q16 was US$ 1,216 per ounce, an increase of 10% compared to the same period of the previous year. In 2016, the average gold price was US$ 1,248 per ounce, an 8% increase compared to 2015.

Table N° 2: Average metal prices

Average Metal Prices	Unit	4Q16	4Q15	Var (%)	2016	2015	Var (%)
Tin	US$/t	20,911	15,096	39%	18,009	16,069	12%
Gold	US$/oz	1,216	1,104	10%	1,248	1,160	8%

Source: Bloomberg

b. Exchange rate:

The Peruvian Sol average exchange rate for the 4Q16 was S/. 3.39 per US$ 1, compared to S/. 3.32 per US$ 1 in 4Q15, which represents a depreciation of 2% for the Peruvian Sol. In 2016, the average exchange rate was S/. 3.37 per US$ 1, an increase of 6% compared to 2015.

The Brazilian Real average exchange rate for the 4Q16 was R$ 3.29 per 1 US$, which represents an apreciation of 14% compared to the average exchange rate during 4Q15 (R$ 3.85 per 1 US$). In 2016, the average exchange rate was R$ 3.48 per 1 US$, an increase of 4% compared to 2015.

Table N°3: Exchange Rate

Average Exchange Rate	Unit	4Q16	4Q15	Var (%)	2016	2015	Var (%)
PEN/USD	S/.	3.39	3.32	2%	3.37	3.19	6%
BRL/USD	R$	3.29	3.85	-14%	3.48	3.34	4%

Source: Banco Central de Reserva del Perú and Banco Central do Brasil

III. OPERATING MINING RESULTS:

a. San Rafael – Pisco (Perú):

Table N° 4: San Rafael - Pisco Operating Results

San Rafael - Pisco	Unit	4Q16	4Q15	Var (%)	2016	2015	Var (%)
Ore Treated	t	488,889	285,797	71%	1,434,808	1,047,145	37%
Head Grade	%	1.80	1.96	-8%	1.97	2.05	-4%
Tin production (Sn) - San Rafael	t	4,828	5,129	-6%	18,789	19,511	-4%
Tin production (Sn) - Pisco	t	5,023	6,300	-20%	19,573	20,224	-3%
Cash Cost per Treated Ton[3] - San Rafael	US$/t	68	119	-43%	82	127	-36%
Cash Cost per Ton of Tin[4]	US$/t Sn	8,906	7,768	15%	8,139	8,476	-4%

In 4Q16, tin production reached 5,023 tons, a 20% decrease compared to the same period of the previous year, mainly due to the lower head grades mined. In 2016, tin production reached 19,573 tons, a 3% decrease compared to 2015.

For 2017, the company expects a production of refined tin of around 16,500 and 17,500 tons, mainly due to lower head grades at the mine.

Cash cost per treated ton[3] at San Rafael in 4Q16 was US$ 68 vs. US$ 119 in 4Q15, a reduction of 43%. It is relevant to note that cash cost per ton for this period includes, unlike 2015, the low grade and low cost ore being fed to the pre-concentration Ore Sorting plant (293,565 tons). This effect is temporary given that the low grade ore located at “Cancha 35” that is being used at the Ore Sorter will be consumed during 2017. Additionally, in 2016 the cash cost per treated ton reached US$ 82, a decrease of 36% compared to 2015.

For 2017, the Company expects a cash cost per treated ton of around US$ 70 and US$ 80, mainly due to the operational efficiencies implemented during 2016 and a higher volume of ore treated in the Ore Sorting plant.

Cash cost per ton of refined tin[4] in 4Q16 was US$ 8,906 vs. US$ 7,720 in 4Q15, a 15% increase compared to 4Q15, mainly due to lower tin production levels partially offset by cost reductions. In 2016, cash cost per ton of tin was US$ 8,139 vs. US$ 8,461, a decrease of 4% compared to 2015.

[3] Cash Cost per treated ton = San Rafael production costs / (Tons of Ore treated at Concentration + Tons of Ore treated at Pre-Concentration)

[4] Cash Cost per ton of tin = (San Rafael and Pisco production costs + selling expenses + change in tin concentrates inventory, excluding employee profit sharing, depreciation and amortization) / (Tin Production, in tons,)

b. Pucamarca (Perú):

Table N°5. Pucamarca Operating Results

Pucamarca	Unit	4Q16	4Q15	Var (%)	2016	2015	Var (%)
Ore Treated	t	1,483,608	1,943,151	-24%	7,692,322	7,970,675	-3%
Head Grade	g/t	0.54	0.57	-5%	0.50	0.60	-17%
Gold production (Au)	oz	19,551	27,141	-28%	105,659	120,924	-13%
Cash Cost per Treated Ton	US$/t	6.2	4.7	32%	4.3	4.2	1%
Cash Cost per Ounce of Gold[5]	US$/oz Au	470	335	40%	313	280	12%

In 4Q16, gold production reached 19,551 ounces, a 28% decrease compared to the same period of the previous year, mainly due to the lower production in December (in line with the plan). In 2016, gold production reached 105,659 ounces, a decrease of 13% compared to 2015 due to lower head grade. Nevertheless, this production level was higher than the declared annual production guidance.

For 2017, the company expects a production of gold around 90,000 and 100,000 ounces, in line with the long term mine plan.

Cash cost per treated ton at Pucamarca was US$ 6.2 in 4Q16 vs. US$ 4.7 in 4Q15, a 32 % increase, mainly as a result of a lower volume of treated ore in accordance with the mine plan. In 2016, cash cost per treated ton was US$ 4.3, a 1% increase compared to 2015 despite the lower production and as a result of our cost optimization initiative. Nonetheless, 2016 cash cost closed below guidance (US$4.5-US$5.0).

For 2017, the company expects a cash cost per treated ton of around US$ 4.5 and US$ 5.0, slightly higher than the cost obtained in 2016. Cash cost per ounce of gold[5] in 4Q16 was US$ 470, an increase of 40% compared to 4Q15. In 2016, cash cost per ounce of gold was US$ 313, an increase of 12% compared to 2015. These increases were explained by lower gold production and the higher cash cost per treated ton, due to the lower head grade expected in the mining plan.

c. Pitinga – Pirapora (Taboca – Brasil):

Table N°6. Pitinga – Pirapora Operating Results

Pitinga - Pirapora	Unit	4Q16	4Q15	Var (%)	2016	2015	Var (%)
Ore Treated	t	1,768,549	1,268,530	39%	6,306,939	5,399,044	17%
Head Grade - Sn	%	0.20	0.19	4%	0.20	0.20	3%
Head Grade - NbTa	%	0.26	0.26	-1%	0.26	0.24	10%
Tin production (Sn) - Pitinga	t	1,790	1,314	36%	6,875	5,744	20%
Tin production (Sn) - Pirapora	t	1,721	1,406	22%	5,873	5,525	6%
Niobium and tantalum alloy production	t	489	432	13%	1,840	2,170	-15%
Cash Cost per Treated Ton	US$/t	18.6	16.9	11%	18.6	18.1	3%
By-product credits Cash Cost per Ton of Tin	US$/t Sn	19,229	14,464	33%	17,604	15,130	16%

[5] Cash Cost per ounce of gold = (Pucamarca production cost + selling expenses, excluding employee profit sharing, depreciation and amortization) / (Gold production in ounces)

In 4Q16, contained tin production in Pitinga's concentrates reached 1,790 tons, an increase of 36% compared to 4Q15, mainly due to operational improvements in the concentration plant and lower production in 2015 due to power constraints after the event that affected the hydroelectric plant since August of that year.

Refined tin production reached 1,721 tons in 4Q16, an increase of 22% compared to 4Q15. In 2016 production was 5,783 tons, 6% higher than 2015. This increase was mainly due to higher refined tin production from processed slags stocked at Pirapora. The volume of refined tin produced in 2016 represents a record high since the acquisition of Taboca by Minsur in 2008.

Moreover, ferroalloys production reached 489 tons in 4Q16, a 13% increase compared to 4Q15, while for 2016 production was 1,840 tons, a 15% decrease compared to 2015, mainly due to changes in the technical specifications of our products. During 2015, we produced a FeNbTa (alloy), while during 2016 we separated the products in two, FeNb y FeTa with higher content of niobium and tantalum and a higher commercial market value (~+30%).

For 2017, the company expects a refined tin production at Pirapora of around 6,500 and 7,500 tons, mainly due to the operational improvements that took place during 2016. Also, ferroalloy production is expected to reach around 3,000 and 3,500 tons, due to the expansion projects in the niobium and tantalum flotation plant and smelter carried out at Pitinga during 2016 .

Cash cost per treated ton was US$ 18.6 in 4Q16, an 11% increase compared to 4Q15, mainly due to the appreciation of the Brazilian Real in 4Q16 compared to the same period of the previous year. In 2016, cash cost per treated ton reached US$ 18.6, an increase of 3% compared to 2015, due to the intensive use of diesel generators after the incident that occurred at the hydroelectric plant.

For 2017, the company expects a cash cost per treated ton of around US$ 17.0 and US$ 19.0, mainly due to energy savings that are expected to be achieved at the mine following the repair and startup of the hydroelectric plant in 3Q16.

IV. CAPEX:

Table N°6. CAPEX

CAPEX	Unit	4Q16	4Q15	Var (%)	2016	2015	Var (%)
San Rafael - Pisco	US$ M	5.2	12.9	-60%	29.0	21.8	33%
Pucamarca	US$ M	1.6	4.6	-65%	7.4	7.1	4%
Pitinga - Pirapora	US$ M	24.9	6.3	294%	67.3	29.5	128%
B2	US$ M	2.5	0.0	-	3.6	0.0	-
Marcobre	US$ M	9.0	0.0	-	16.9	0.0	-
Others	US$ M	6.8	0.4	-	0.0	6.2	-
Total	**US$ M**	**50.0**	**24.2**	**106%**	**124.1**	**64.6**	**92%**

In 4Q16, CAPEX was US$ 50.0 M, an increase of US$ 25.8 M compared to the same period of the previous year. In 2016, CAPEX reached US$ 124.1 M, an increase of US$ 59.5M compared to 2015. The major investments during the year were:

- San Rafael: Construction of the Pre-Concentration Plant ("Ore Sorting" project) for the low grade ore stockpiled at the "Cancha 35".
- Pucamarca: General trucks overhaul campaign and other investments to improve Pucamarca's productivity.
- Pitinga: Niobium and Tantalum flotation plant and aluminothermy plant capacity expansion and reconstruction of the hydroelectric plant.
- B2 and Marcobre capitalized expenses.

It is important to note that, due to the initiation of the feasibility phase at B2 and Marcobre, US$ 20.5 M were capitalized during 2016.

We expect 2017 to be a year of significant capital expenditures due to important sustaining projects that will take place across all operations and the progress expected to be made in our expansion projects. The main projects to be developed during the year include the tailings deposit expansion at San Rafael (US$ 18M – US$ 22M), the lixiviation PAD expansion at Pucamarca (US$ 18M – US$ 22M) and short and long term tailings deposit expansions at Pitinga (US$ 11M – US$ 13M).

Total CAPEX guidance for 2017 is:

- San Rafael: US$30M – US$40M
- Pucamarca: US$20M – US$25M
- Pitinga: US$45M - US$50M
- Marcobre: US$25M– US$30M (until Feasibility completion, 3Q17)
- B2: US$9M-US$12M (until Feasibility completion, 3Q17)

V. FINANCIAL RESULTS:

Table N°7. Financial Statements

Financial Statements	Unit	4Q16	4Q15	Var (%)	2016	2015	Var (%)
Net Revenue	US$ M	171.5	153.9	11%	617.0	618.6	0%
Cost of Sales	US$ M	-106.8	-106.0	1%	-375.8	-418.9	-10%
Gross Profit	**US$ M**	**64.7**	**47.9**	**35%**	**241.2**	**199.7**	**21%**
Selling Expenses	US$ M	-1.3	-1.8	-28%	-6.0	-7.9	-24%
Administrative Expenses	US$ M	-10.4	-10.3	1%	-42.3	-43.4	-3%
Exploration & Project Expenses	US$ M	-8.5	0.0	-	-28.7	-41.0	-30%
Other Operating Expenses, net	US$ M	-11.6	-35.2	-67%	-19.6	-46.1	-57%
Impairment of assets	US$ M	0.0	-640.5	-	0.0	-640.5	-
Operating Income	**US$ M**	**32.9**	**-639.9**	**-**	**144.6**	**-579.2**	**-**
Finance Income (Expenses) and Others, net	US$ M	-18.3	-13.7	33%	-46.2	-43.8	6%
Results from Subsidiaries and Associates	US$ M	42.4	-7.0	-	29.6	11.9	147%
Exchange Difference, net	US$ M	1.1	0.7	56%	13.8	-35.3	-
Profit before Income Tax	**US$ M**	**58.1**	**-659.9**	**-**	**141.8**	**-646.3**	**-**
Income Tax Expense	US$ M	-19.6	152.2	-	-54.0	108.3	-
Net Income	**US$ M**	**38.5**	**-507.7**	**-**	**87.8**	**-538.0**	**-**
Net Income Margin	%	22%	-330%	-	14%	-87%	-
EBITDA[6]	**US$ M**	**46.5**	**18.9**	**146%**	**207.4**	**148.8**	**39%**
EBITDA Margin	%	27%	12%	121%	34%	24%	40%
Adjusted Net Income[7]	**US$ M**	**-5.0**	**-20.1**	**-75%**	**44.5**	**-33.4**	**-**

a. Revenue:

In 4Q16, net revenue reached US$ 171.5 M, an increase of 11% (+US$ 17.6 M) compared to 4Q15. This increase is mainly explained by higher tin and gold prices (+39% and +10%, respectively), partially offset by lower sales volume of tin (-4%), gold (-27%) and ferroalloys (-10%). In 2016, net revenue was US$ 617.0 M, US$ 1.6 M less than the previous year, also explained by higher tin and gold prices (+10% and 8%, respectively), and partially offset by lower sales volume of tin (-6%), gold (-12%) and ferroalloys (-32%).

Table N°8. Net revenue Volume by product

Net Revenue Volume	Unit	4Q16	4Q15	Var (%)	2016	2015	Var (%)
Tin	t	6,883	7,203	-4%	25,012	26,714	-6%
San Rafael - Pisco	t	5,126	5,704	-10%	19,192	21,056	-9%
Pitinga - Pirapora	t	1,757	1,499	17%	5,820	5,658	3%
Gold	oz	22,927	31,573	-27%	105,694	119,649	-12%
Niobium and Tantalum Alloy	t	443	491	-10%	1,840	2,715	-32%

[6]EBITDA does not include impairment at Marcobre in 2015
[7]Adjusted net income = Net income excluding Loss from Subsidiaries and Associates and exchange difference, net and impairment at Marcobre in 2015.

Table N°9. Net revenue in US$ by product

Net Revenue in US$	Unit	4Q16	4Q15	Var (%)	2016	2015	Var (%)
Tin	US$ M	135.8	111.8	21%	455.3	441.3	3%
San Rafael - Pisco	US$ M	105.9	87.2	21%	356.3	347.0	3%
Pitinga - Pirapora	US$ M	29.9	24.6	22%	99.0	94.3	5%
Gold	US$ M	28.8	35.1	-18%	133.3	140.0	-5%
Niobium and Tantalum Alloy	US$ M	6.9	6.9	-1%	28.4	37.3	-24%
TOTAL	**US$ M**	**171.5**	**153.9**	**11%**	**617.0**	**618.6**	**0%**

b. Gross Profit:

Gross profit during 4Q16 reached US$ 64.7 M, a 35% increase (US$ 16.8 M) compared to the same period of the previous year. In 2016, gross profit was US$ 241.2 M, US$ 41.5 more than the previous year, mainly due to production cost savings at San Rafael and Pucamarca, and higher tin and gold prices during the year.

c. Administrative Expenses:

Administrative expenses in 4Q16 were US$ 10.4 M, 1% higher than 4Q15. In 2016, these expenses were US$ 42.3 M, a decrease of 3% compared to 2015.

d. Exploration & Project Expenses:

In 4Q16, exploration & project expenses totaled US$ 8.5 M with the objective of increasing resources (it is important to highlight that in 4Q15, the Company reclassified Marcobre's exploration and project expenditures for US$ 11.6 M, to "Other operating expenses, net". As a result, exploration and project expenditures was equal to zero). In 2016, these expenses reached US$ 28.7 M, US$ 12.3 M less than 2015. This decrease is mainly due to the optimization and prioritization of exploration efforts at San Rafael surrounding areas and the capitalization of expenses in our expansion projects B2 and Marcobre since July 2016.

e. EBITDA[8]:

EBITDA in 4Q16 reached US$46.5 M, an increase of 146% (US$ 27.6 M) compared to the same period of the previous year. This increase is mainly due to a higher gross profit and lower operating expenses. EBITDA margin in 4Q16 reached 27% vs 12% in 4Q15. In 2016, EBITDA was US$ 207.4 M, a 39% increase compared to 2015.

f. Results from Subsidiaries and Associates

Results from subsidiaries and associates have impacted Minsur's consolidated results in US$ 42.4 M in 4Q16, due to the positive results recorded in our associate companies during the quarter. In 2016,

[8] Excluding impairment at Marcobre in 2015

these impacts reached US$ 29.6 M, an increase of US$ 17.6 M compared to 2015. It is important to note that this results don't have an impact on the company's cash flow.

g. Net Income and Adjusted Net Income:

Net income in 4Q16 reached US$ 38.5 M, an increase of US$ 546.2 M compared to 4Q15, mainly due to Marcobre's impairment adjustment made in December 2015. Adjusted net income reached US$ -5.0 M, a US$ 15.1 M increase vs 4Q15. In 2016, Net Income reached US$ 87.8 M, an increase of US$ 625.8 M compared to 2015, also explained by Marcobre's impairment. Adjusted net income in 2016 reached US$ 44.5 M vs US$ -33.4 M in 2015, as a result of the operating improvements, and the cost optimization plan that took place during 2016, as well as higher prices of tin and gold.

VI. LIQUIDITY:

As of December 31, 2016, cash and cash equivalents totaled US$ 549.2 M, a 7% decrease compared to the US$ 590.0 M at the end of 2015. The cash reduction is mainly explained by the acquisition of the remaining 30% stake of the Marcobre project (US$ 60M). Regarding the debt level, total financial debt reached US$ 551.5 M, 1% lower than the total debt recorded by the end of 2015 (US$ 557.4 M). Net leverage ratio reached 0.0x as of December 2016 vs. -0.2x at the close of 2015.

Table N°10. Total Debt

Financial Ratios	Unit	dic-16	dic-15	Var (%)
Total Debt	US$ M	551.5	557.4	-1%
Cash	US$ M	549.2	590.0	-7%
Net Debt	US$ M	-1.0	-32.6	-
Total Debt / EBITDA	x	0.6x	3.7x	-84%
Net Debt / EBITDA	x	0.0x	-0.2x	-

VII. Guidance for 2017

Operación	Métrica	Guidance 2017
San Rafael/ Pisco	Refined tin production (t)	16,500 - 17,500
	Cash Cost per treated ton (US$)	70 - 80
	CAPEX (US$M)	30 - 40
Pucamarca	Gold production (koz)	90 - 100
	Cash Cost per treated ton (US$)	4.5 - 5.0
	CAPEX (US$M)	20 - 25
Pitinga / Pirapora	Refined tin production (t)	6,500 - 7,500
	Ferroalloys production (t)	3,000 - 3,500
	Cash Cost per treated ton (US$)	17.0 - 19.0
	CAPEX (US$M)	45 - 50
Marcobre	CAPEX until Feasibility completion (3Q17) (US$M)	25 – 30
B2	CAPEX until Feasibility completion (3Q17) (US$M)	9 - 12