

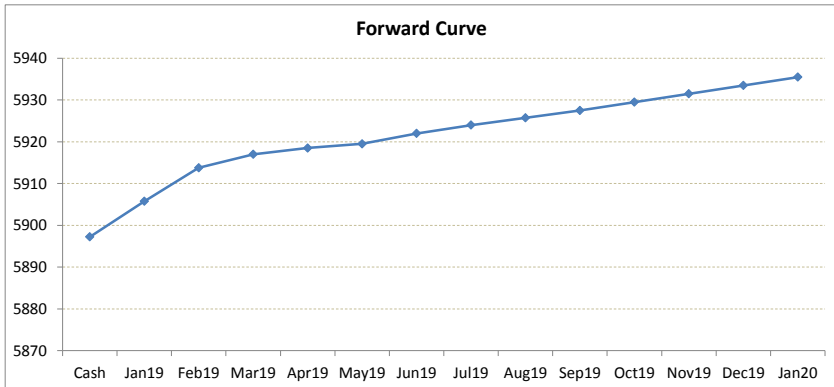
# LME Valuation - Copper

Cash - 3M: 20.75c

Date: 2019-01-04

**Cash 5897.25**  
**3M 5918.00**  
 Jan19 5905.75  
 Feb19 5913.75  
 Mar19 5917.00  
 Apr19 5918.50  
 May19 5919.50  
 Jun19 5922.00  
 Jul19 5924.00  
 Aug19 5925.75  
 Sep19 5927.50  
 Oct19 5929.50  
 Nov19 5931.50  
 Dec19 5933.50  
 Jan20 5935.50

	Cash-Jan19	Cash-Feb19	Cash-Mar19	Cash-Apr19	Cash-May19	Cash-Jun19	Cash-Jul19	Cash-Aug19	Cash-Sep19	Cash-Oct19	Cash-Nov19	Cash-Dec19	
Cash	8.50c	16.50c	19.75c	21.25c	22.25c	24.75c	26.75c	28.50c	30.25c	32.25c	34.25c	36.25c	
	Jan19-3M	Feb19-3M	Mar19-3M	3M-Apr19	3M-May19	3M-Jun19	3M-Jul19	3M-Aug19	3M-Sep19	3M-Oct19	3M-Nov19	3M-Dec19	
3M	12.25c	4.25c	1.00c	0.50c	1.50c	4.00c	6.00c	7.75c	9.50c	11.50c	13.50c	15.50c	
	Jan19-Feb19	Feb19-Mar19	Mar19-Apr19	Apr19-May19	May19-Jun19	Jun19-Jul19	Jul19-Aug19	Aug19-Sep19	Sep19-Oct19	Oct19-Nov19	Nov19-Dec19	Dec19-Jan20	
3rd wed	8.00c	3.25c	1.50c	1.00c	2.50c	2.00c	1.75c	1.75c	2.00c	2.00c	2.00c	2.00c	
	Feb19	Mar19	Apr19	May19	Jun19	Jul19	Aug19	Sep19	Oct19	Nov19	Dec19	Jan20	
Jan19	8.00c	11.25c	12.75c	13.75c	16.25c	18.25c	20.00c	21.75c	23.75c	25.75c	27.75c	29.75c	
	Feb19	Mar19	Apr19	May19	Jun19	Jul19	Aug19	Sep19	Oct19	Nov19	Dec19	Jan20	
Feb19		3.25c	4.75c	5.75c	8.25c	10.25c	12.00c	13.75c	15.75c	17.75c	19.75c	21.75c	
Mar19			1.50c	2.50c	5.00c	7.00c	8.75c	10.50c	12.50c	14.50c	16.50c	18.50c	
Apr19				1.00c	3.50c	5.50c	7.25c	9.00c	11.00c	13.00c	15.00c	17.00c	
May19					2.50c	4.50c	6.25c	8.00c	10.00c	12.00c	14.00c	16.00c	
Jun19						2.00c	3.75c	5.50c	7.50c	9.50c	11.50c	13.50c	
Jul19							1.75c	3.50c	5.50c	7.50c	9.50c	11.50c	
Aug19								1.75c	3.75c	5.75c	7.75c	9.75c	
Sep19									2.00c	4.00c	6.00c	8.00c	
Oct19										2.00c	4.00c	6.00c	
Nov19											2.00c	4.00c	
Dec19												2.00c	
Jan20													2.00c



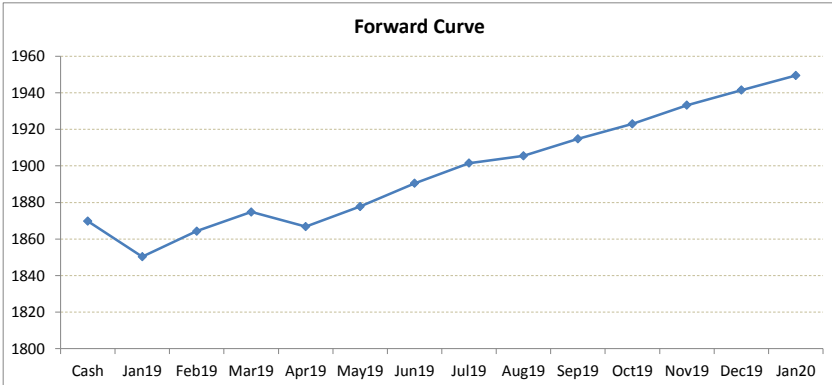
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 \*\* Source: Reuters

# LME Valuation - Aluminium

Cash - 3M: **4.75b**

Date: **2019-01-04**

<b>Cash</b>	<b>1869.75</b>	Cash-Jan19	Cash-Feb19	Cash-Mar19	Cash-Apr19	Cash-May19	Cash-Jun19	Cash-Jul19	Cash-Aug19	Cash-Sep19	Cash-Oct19	Cash-Nov19	Cash-Dec19
<b>3M</b>	<b>1865.00</b>	19.50b	5.50b	5.00c	3.00b	8.00c	20.75c	31.75c	35.75c	45.00c	53.25c	63.50c	71.75c
Jan19	<b>1850.25</b>												
Feb19	<b>1864.25</b>	Jan19-3M	Feb19-3M	Mar19-3M	3M-Apr19	3M-May19	3M-Jun19	3M-Jul19	3M-Aug19	3M-Sep19	3M-Oct19	3M-Nov19	3M-Dec19
Mar19	<b>1874.75</b>	14.75c	0.75c	9.75b	1.75c	12.75c	25.50c	36.50c	40.50c	49.75c	58.00c	68.25c	76.50c
Apr19	<b>1866.75</b>												
May19	<b>1877.75</b>	Jan19-Feb19	Feb19-Mar19	Mar19-Apr19	Apr19-May19	May19-Jun19	Jun19-Jul19	Jul19-Aug19	Aug19-Sep19	Sep19-Oct19	Oct19-Nov19	Nov19-Dec19	Dec19-Jan20
Jun19	<b>1890.50</b>	14.00c	10.50c	8.00b	11.00c	12.75c	11.00c	4.00c	9.25c	8.25c	10.25c	8.25c	8.00c
Jul19	<b>1901.50</b>												
Aug19	<b>1905.50</b>	Feb19	Mar19	Apr19	May19	Jun19	Jul19	Aug19	Sep19	Oct19	Nov19	Dec19	Jan20
Sep19	<b>1914.75</b>	14.00c	24.50c	16.50c	27.50c	40.25c	51.25c	55.25c	64.50c	72.75c	83.00c	91.25c	99.25c
Oct19	<b>1923.00</b>	Feb19	10.50c	2.50c	13.50c	26.25c	37.25c	41.25c	50.50c	58.75c	69.00c	77.25c	85.25c
Nov19	<b>1933.25</b>	Mar19	8.00b	3.00c	15.75c	26.75c	30.75c	40.00c	48.25c	58.50c	66.75c	74.75c	74.75c
Dec19	<b>1941.50</b>	Apr19	11.00c	23.75c	34.75c	38.75c	48.00c	56.25c	66.50c	74.75c	82.75c	82.75c	82.75c
Jan20	<b>1949.50</b>	May19	12.75c	23.75c	27.75c	37.00c	45.25c	55.50c	63.75c	71.75c	71.75c	71.75c	71.75c
		Jun19	11.00c	15.00c	24.25c	32.50c	42.75c	51.00c	59.00c	59.00c	59.00c	59.00c	59.00c
		Jul19	4.00c	13.25c	21.50c	31.75c	40.00c	48.00c	48.00c	48.00c	48.00c	48.00c	48.00c
		Aug19	9.25c	17.50c	27.75c	36.00c	44.00c	44.00c	44.00c	44.00c	44.00c	44.00c	44.00c
		Sep19	8.25c	18.50c	26.75c	34.75c	34.75c	34.75c	34.75c	34.75c	34.75c	34.75c	34.75c
		Oct19	10.25c	18.50c	26.50c	26.50c	26.50c	26.50c	26.50c	26.50c	26.50c	26.50c	26.50c
		Nov19	8.25c	16.25c	16.25c	16.25c	16.25c	16.25c	16.25c	16.25c	16.25c	16.25c	16.25c
		Dec19	8.00c	8.00c	8.00c	8.00c	8.00c	8.00c	8.00c	8.00c	8.00c	8.00c	8.00c
		Jan20	8.00c	8.00c	8.00c	8.00c	8.00c	8.00c	8.00c	8.00c	8.00c	8.00c	8.00c



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 \*\* Source: Reuters

# LME Valuation - Nickel

Cash - 3M: 67.50c

Date: 2019-01-04

	Cash-Jan19	Cash-Feb19	Cash-Mar19	Cash-Apr19	Cash-May19	Cash-Jun19	Cash-Jul19	Cash-Aug19	Cash-Sep19	Cash-Oct19	Cash-Nov19	Cash-Dec19
<b>Cash</b>	<b>11042.50</b>											
<b>3M</b>	<b>11110.00</b>											
Jan19	<b>11050.50</b>											
Feb19	<b>11074.00</b>											
Mar19	<b>11099.00</b>											
Apr19	<b>11122.00</b>											
May19	<b>11148.00</b>											
Jun19	<b>11181.00</b>											
Jul19	<b>11207.00</b>											
Aug19	<b>11240.00</b>											
Sep19	<b>11266.00</b>											
Oct19	<b>11290.00</b>											
Nov19	<b>11320.00</b>											
Dec19	<b>11344.00</b>											
Jan20	<b>11367.00</b>											

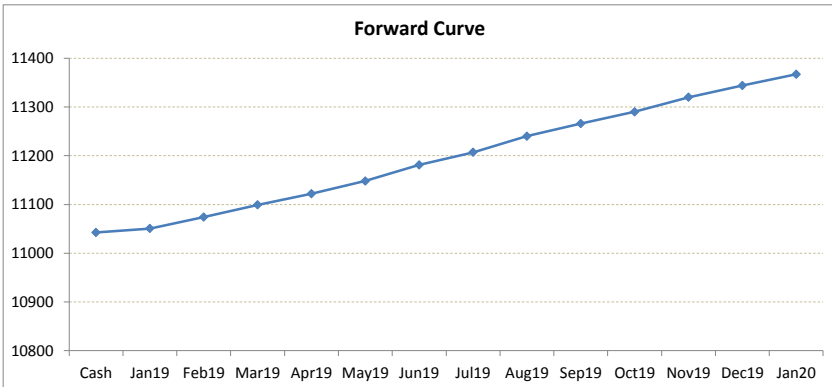
	Jan19-3M	Feb19-3M	Mar19-3M	3M-Apr19	3M-May19	3M-Jun19	3M-Jul19	3M-Aug19	3M-Sep19	3M-Oct19	3M-Nov19	3M-Dec19
Cash	8.00c	31.50c	56.50c	79.50c	105.50c	138.50c	164.50c	197.50c	223.50c	247.50c	277.50c	301.50c
3M	59.50c	36.00c	11.00c	12.00c	38.00c	71.00c	97.00c	130.00c	156.00c	180.00c	210.00c	234.00c

	Jan19-Feb19	Feb19-Mar19	Mar19-Apr19	Apr19-May19	May19-Jun19	Jun19-Jul19	Jul19-Aug19	Aug19-Sep19	Sep19-Oct19	Oct19-Nov19	Nov19-Dec19	Dec19-Jan20
3rd wed	23.50c	25.00c	23.00c	26.00c	33.00c	26.00c	33.00c	26.00c	24.00c	30.00c	24.00c	23.00c

	Feb19	Mar19	Apr19	May19	Jun19	Jul19	Aug19	Sep19	Oct19	Nov19	Dec19	Jan20
Jan19	23.50c	48.50c	71.50c	97.50c	130.50c	156.50c	189.50c	215.50c	239.50c	269.50c	293.50c	316.50c
	Feb19	25.00c	48.00c	74.00c	107.00c	133.00c	166.00c	192.00c	216.00c	246.00c	270.00c	293.00c
		Mar19	23.00c	49.00c	82.00c	108.00c	141.00c	167.00c	191.00c	221.00c	245.00c	268.00c
			Apr19	26.00c	59.00c	85.00c	118.00c	144.00c	168.00c	198.00c	222.00c	245.00c
				May19	33.00c	59.00c	92.00c	118.00c	142.00c	172.00c	196.00c	219.00c
					Jun19	26.00c	59.00c	85.00c	109.00c	139.00c	163.00c	186.00c
						Jul19	33.00c	59.00c	83.00c	113.00c	137.00c	160.00c
							Aug19	26.00c	50.00c	80.00c	104.00c	127.00c
								Sep19	24.00c	54.00c	78.00c	101.00c
									Oct19	30.00c	54.00c	77.00c
										Nov19	24.00c	47.00c
											Dec19	23.00c
												Jan20



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 \*\* Source: Reuters

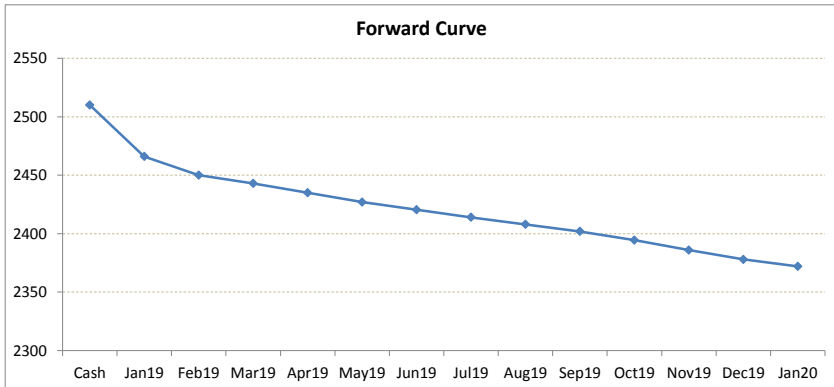
# LME Valuation - Zinc

Cash - 3M: **72.00b**

Date: **2019-01-04**

**Cash 2510.00**  
**3M 2438.00**  
 Jan19 **2466.00**  
 Feb19 **2450.00**  
 Mar19 **2443.00**  
 Apr19 **2435.00**  
 May19 **2427.00**  
 Jun19 **2420.50**  
 Jul19 **2414.00**  
 Aug19 **2408.00**  
 Sep19 **2402.00**  
 Oct19 **2394.50**  
 Nov19 **2386.00**  
 Dec19 **2378.00**  
 Jan20 **2372.00**

	Cash-Jan19	Cash-Feb19	Cash-Mar19	Cash-Apr19	Cash-May19	Cash-Jun19	Cash-Jul19	Cash-Aug19	Cash-Sep19	Cash-Oct19	Cash-Nov19	Cash-Dec19
Cash	44.00b	60.00b	67.00b	75.00b	83.00b	89.50b	96.00b	102.00b	108.00b	115.50b	124.00b	132.00b
	Jan19-3M	Feb19-3M	Mar19-3M	3M-Apr19	3M-May19	3M-Jun19	3M-Jul19	3M-Aug19	3M-Sep19	3M-Oct19	3M-Nov19	3M-Dec19
3M	28.00b	12.00b	5.00b	3.00b	11.00b	17.50b	24.00b	30.00b	36.00b	43.50b	52.00b	60.00b
	Jan19-Feb19	Feb19-Mar19	Mar19-Apr19	Apr19-May19	May19-Jun19	Jun19-Jul19	Jul19-Aug19	Aug19-Sep19	Sep19-Oct19	Oct19-Nov19	Nov19-Dec19	Dec19-Jan20
3rd wed	16.00b	7.00b	8.00b	8.00b	6.50b	6.50b	6.00b	6.00b	7.50b	8.50b	8.00b	6.00b
	Feb19	Mar19	Apr19	May19	Jun19	Jul19	Aug19	Sep19	Oct19	Nov19	Dec19	Jan20
Jan19	16.00b	23.00b	31.00b	39.00b	45.50b	52.00b	58.00b	64.00b	71.50b	80.00b	88.00b	94.00b
	Feb19	Mar19	Apr19	May19	Jun19	Jul19	Aug19	Sep19	Oct19	Nov19	Dec19	Jan20
Feb19		7.00b	15.00b	23.00b	29.50b	36.00b	42.00b	48.00b	55.50b	64.00b	72.00b	78.00b
	Mar19	Apr19	May19	Jun19	Jul19	Aug19	Sep19	Oct19	Nov19	Dec19	Jan20	
Mar19			8.00b	16.00b	22.50b	29.00b	35.00b	41.00b	48.50b	57.00b	65.00b	71.00b
	Apr19	May19	Jun19	Jul19	Aug19	Sep19	Oct19	Nov19	Dec19	Jan20		
Apr19				8.00b	14.50b	21.00b	27.00b	33.00b	40.50b	49.00b	57.00b	63.00b
	May19	Jun19	Jul19	Aug19	Sep19	Oct19	Nov19	Dec19	Jan20			
May19					6.50b	13.00b	19.00b	25.00b	32.50b	41.00b	49.00b	55.00b
	Jun19	Jul19	Aug19	Sep19	Oct19	Nov19	Dec19	Jan20				
Jun19						6.50b	12.50b	18.50b	26.00b	34.50b	42.50b	48.50b
	Jul19	Aug19	Sep19	Oct19	Nov19	Dec19	Jan20					
Jul19							6.00b	12.00b	19.50b	28.00b	36.00b	42.00b
	Aug19	Sep19	Oct19	Nov19	Dec19	Jan20						
Aug19								6.00b	13.50b	22.00b	30.00b	36.00b
	Sep19	Oct19	Nov19	Dec19	Jan20							
Sep19									7.50b	16.00b	24.00b	30.00b
	Oct19	Nov19	Dec19	Jan20								
Oct19										8.50b	16.50b	22.50b
	Nov19	Dec19	Jan20									
Nov19											8.00b	14.00b
	Dec19	Jan20										
Dec19												6.00b
	Jan20											
Jan20												



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 \*\* Source: Reuters

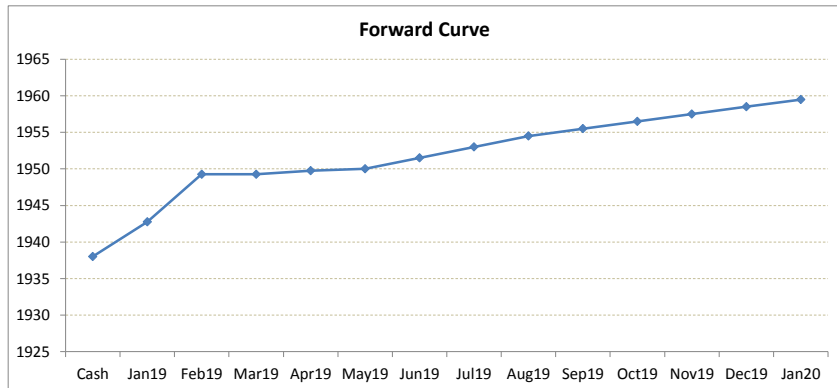
# LME Valuation - Lead

Cash - 3M: 12.00c

Date: 2019-01-04

**Cash 1938.00**  
**3M 1950.00**  
 Jan19 **1942.75**  
 Feb19 **1949.25**  
 Mar19 **1949.25**  
 Apr19 **1949.75**  
 May19 **1950.00**  
 Jun19 **1951.50**  
 Jul19 **1953.00**  
 Aug19 **1954.50**  
 Sep19 **1955.50**  
 Oct19 **1956.50**  
 Nov19 **1957.50**  
 Dec19 **1958.50**  
 Jan20 **1959.50**

	Cash-Jan19	Cash-Feb19	Cash-Mar19	Cash-Apr19	Cash-May19	Cash-Jun19	Cash-Jul19	Cash-Aug19	Cash-Sep19	Cash-Oct19	Cash-Nov19	Cash-Dec19	
Cash	4.75c	11.25c	11.25c	11.75c	12.00c	13.50c	15.00c	16.50c	17.50c	18.50c	19.50c	20.50c	
	Jan19-3M	Feb19-3M	Mar19-3M	3M-Apr19	3M-May19	3M-Jun19	3M-Jul19	3M-Aug19	3M-Sep19	3M-Oct19	3M-Nov19	3M-Dec19	
3M	7.25c	0.75c	0.75c	0.25b	0.00b	1.50c	3.00c	4.50c	5.50c	6.50c	7.50c	8.50c	
	Jan19-Feb19	Feb19-Mar19	Mar19-Apr19	Apr19-May19	May19-Jun19	Jun19-Jul19	Jul19-Aug19	Aug19-Sep19	Sep19-Oct19	Oct19-Nov19	Nov19-Dec19	Dec19-Jan20	
3rd wed	6.50c	0.00b	0.50c	0.25c	1.50c	1.50c	1.50c	1.00c	1.00c	1.00c	1.00c	1.00c	
	Feb19	Mar19	Apr19	May19	Jun19	Jul19	Aug19	Sep19	Oct19	Nov19	Dec19	Jan20	
Jan19	6.50c	6.50c	7.00c	7.25c	8.75c	10.25c	11.75c	12.75c	13.75c	14.75c	15.75c	16.75c	
	Feb19	Mar19	Apr19	May19	Jun19	Jul19	Aug19	Sep19	Oct19	Nov19	Dec19	Jan20	
Feb19		0.00b	0.50c	0.75c	2.25c	3.75c	5.25c	6.25c	7.25c	8.25c	9.25c	10.25c	
	Mar19	Apr19	May19	Jun19	Jul19	Aug19	Sep19	Oct19	Nov19	Dec19	Jan20		
Mar19			0.50c	0.75c	2.25c	3.75c	5.25c	6.25c	7.25c	8.25c	9.25c	10.25c	
	Apr19	May19	Jun19	Jul19	Aug19	Sep19	Oct19	Nov19	Dec19	Jan20			
Apr19				0.25c	1.75c	3.25c	4.75c	5.75c	6.75c	7.75c	8.75c	9.75c	
	May19	Jun19	Jul19	Aug19	Sep19	Oct19	Nov19	Dec19	Jan20				
May19					1.50c	3.00c	4.50c	5.50c	6.50c	7.50c	8.50c	9.50c	
	Jun19	Jul19	Aug19	Sep19	Oct19	Nov19	Dec19	Jan20					
Jun19						1.50c	3.00c	4.00c	5.00c	6.00c	7.00c	8.00c	
	Jul19	Aug19	Sep19	Oct19	Nov19	Dec19	Jan20						
Jul19							1.50c	2.50c	3.50c	4.50c	5.50c	6.50c	
	Aug19	Sep19	Oct19	Nov19	Dec19	Jan20							
Aug19								1.00c	2.00c	3.00c	4.00c	5.00c	
	Sep19	Oct19	Nov19	Dec19	Jan20								
Sep19									1.00c	2.00c	3.00c	4.00c	
	Oct19	Nov19	Dec19	Jan20									
Oct19										1.00c	2.00c	3.00c	
	Nov19	Dec19	Jan20										
Nov19											1.00c	2.00c	
	Dec19	Jan20											
Dec19												1.00c	
	Jan20												
Jan20													1.00c



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 \*\* Source: Reuters

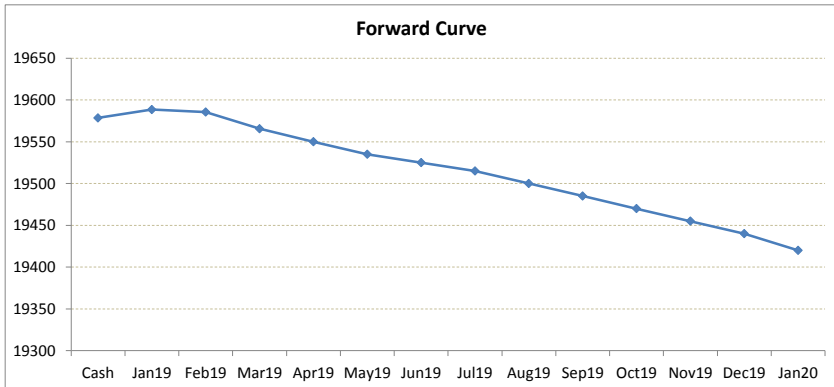
# LME Valuation - Tin

Cash - 3M: **28.50b**

Date: **2019-01-04**

**Cash 19578.50**  
**3M 19550.00**  
 Jan19 **19588.50**  
 Feb19 **19585.50**  
 Mar19 **19565.50**  
 Apr19 **19550.00**  
 May19 **19535.00**  
 Jun19 **19525.00**  
 Jul19 **19515.00**  
 Aug19 **19500.00**  
 Sep19 **19485.00**  
 Oct19 **19470.00**  
 Nov19 **19455.00**  
 Dec19 **19440.00**  
 Jan20 **19420.00**

	Cash-Jan19	Cash-Feb19	Cash-Mar19	Cash-Apr19	Cash-May19	Cash-Jun19	Cash-Jul19	Cash-Aug19	Cash-Sep19	Cash-Oct19	Cash-Nov19	Cash-Dec19
Cash	10.00c	7.00c	13.00b	28.50b	43.50b	53.50b	63.50b	78.50b	93.50b	108.50b	123.50b	138.50b
	Jan19-3M	Feb19-3M	Mar19-3M	3M-Apr19	3M-May19	3M-Jun19	3M-Jul19	3M-Aug19	3M-Sep19	3M-Oct19	3M-Nov19	3M-Dec19
3M	38.50b	35.50b	15.50b	0.00b	15.00b	25.00b	35.00b	50.00b	65.00b	80.00b	95.00b	110.00b
	Jan19-Feb19	Feb19-Mar19	Mar19-Apr19	Apr19-May19	May19-Jun19	Jun19-Jul19	Jul19-Aug19	Aug19-Sep19	Sep19-Oct19	Oct19-Nov19	Nov19-Dec19	Dec19-Jan20
3rd wed	3.00b	20.00b	15.50b	15.00b	10.00b	10.00b	15.00b	15.00b	15.00b	15.00b	15.00b	20.00b
	Feb19	Mar19	Apr19	May19	Jun19	Jul19	Aug19	Sep19	Oct19	Nov19	Dec19	Jan20
Jan19	3.00b	23.00b	38.50b	53.50b	63.50b	73.50b	88.50b	103.50b	118.50b	133.50b	148.50b	168.50b
	Feb19	Mar19	Apr19	May19	Jun19	Jul19	Aug19	Sep19	Oct19	Nov19	Dec19	Jan20
Feb19		20.00b	35.50b	50.50b	60.50b	70.50b	85.50b	100.50b	115.50b	130.50b	145.50b	165.50b
	Mar19	Apr19	May19	Jun19	Jul19	Aug19	Sep19	Oct19	Nov19	Dec19	Jan20	
Mar19			15.50b	30.50b	40.50b	50.50b	65.50b	80.50b	95.50b	110.50b	125.50b	145.50b
	Apr19	May19	Jun19	Jul19	Aug19	Sep19	Oct19	Nov19	Dec19	Jan20		
Apr19				15.00b	25.00b	35.00b	50.00b	65.00b	80.00b	95.00b	110.00b	130.00b
	May19	Jun19	Jul19	Aug19	Sep19	Oct19	Nov19	Dec19	Jan20			
May19					10.00b	20.00b	35.00b	50.00b	65.00b	80.00b	95.00b	115.00b
	Jun19	Jul19	Aug19	Sep19	Oct19	Nov19	Dec19	Jan20				
Jun19						10.00b	25.00b	40.00b	55.00b	70.00b	85.00b	105.00b
	Jul19	Aug19	Sep19	Oct19	Nov19	Dec19	Jan20					
Jul19							15.00b	30.00b	45.00b	60.00b	75.00b	95.00b
	Aug19	Sep19	Oct19	Nov19	Dec19	Jan20						
Aug19								15.00b	30.00b	45.00b	60.00b	80.00b
	Sep19	Oct19	Nov19	Dec19	Jan20							
Sep19									15.00b	30.00b	45.00b	65.00b
	Oct19	Nov19	Dec19	Jan20								
Oct19										15.00b	30.00b	50.00b
	Nov19	Dec19	Jan20									
Nov19											15.00b	35.00b
	Dec19	Jan20										
Dec19												20.00b
	Jan20											
Jan20												



\*본 자료는 LME에서 공시하는 Valuation을 토대로 작성된 것으로 실제 거래 시의 스프레드와는 무관합니다.  
 \*\* Source: Reuters