

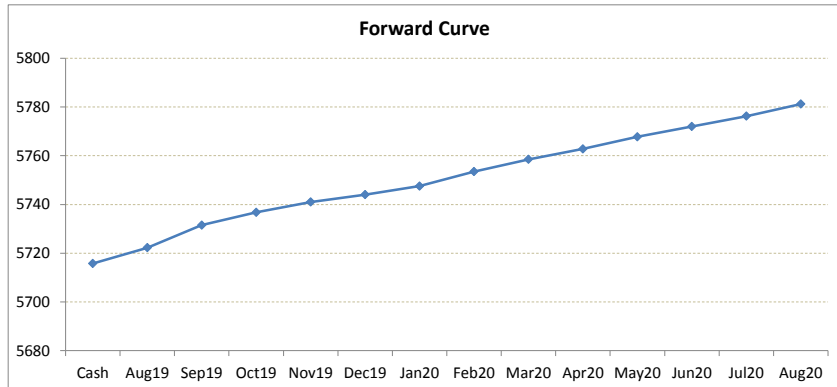
LME Valuation - Copper

Cash - 3M: 26.25c

Date: 2019-08-12

Cash 5715.75
3M 5742.00
 Aug19 5722.25
 Sep19 5731.50
 Oct19 5736.75
 Nov19 5741.00
 Dec19 5744.00
 Jan20 5747.50
 Feb20 5753.50
 Mar20 5758.50
 Apr20 5762.75
 May20 5767.75
 Jun20 5772.00
 Jul20 5776.25
 Aug20 5781.25

	Cash-Aug19	Cash-Sep19	Cash-Oct19	Cash-Nov19	Cash-Dec19	Cash-Jan20	Cash-Feb20	Cash-Mar20	Cash-Apr20	Cash-May20	Cash-Jun20	Cash-Jul20	
Cash	6.50c	15.75c	21.00c	25.25c	28.25c	31.75c	37.75c	42.75c	47.00c	52.00c	56.25c	60.50c	
	Aug19-3M	Sep19-3M	Oct19-3M	3M-Nov19	3M-Dec19	3M-Jan20	3M-Feb20	3M-Mar20	3M-Apr20	3M-May20	3M-Jun20	3M-Jul20	
3M	19.75c	10.50c	5.25c	1.00b	2.00c	5.50c	11.50c	16.50c	20.75c	25.75c	30.00c	34.25c	
	Aug19-Sep19	Sep19-Oct19	Oct19-Nov19	Nov19-Dec19	Dec19-Jan20	Jan20-Feb20	Feb20-Mar20	Mar20-Apr20	Apr20-May20	May20-Jun20	Jun20-Jul20	Jul20-Aug20	
3rd wed	9.25c	5.25c	4.25c	3.00c	3.50c	6.00c	5.00c	4.25c	5.00c	4.25c	4.25c	5.00c	
	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20	
Aug19	9.25c	14.50c	18.75c	21.75c	25.25c	31.25c	36.25c	40.50c	45.50c	49.75c	54.00c	59.00c	
	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20	
		5.25c	9.50c	12.50c	16.00c	22.00c	27.00c	31.25c	36.25c	40.50c	44.75c	49.75c	
			4.25c	7.25c	10.75c	16.75c	21.75c	26.00c	31.00c	35.25c	39.50c	44.50c	
				3.00c	6.50c	12.50c	17.50c	21.75c	26.75c	31.00c	35.25c	40.25c	
					3.50c	9.50c	14.50c	18.75c	23.75c	28.00c	32.25c	37.25c	
						6.00c	11.00c	15.25c	20.25c	24.50c	28.75c	33.75c	
							5.00c	9.25c	14.25c	18.50c	22.75c	27.75c	
								4.25c	9.25c	13.50c	17.75c	22.75c	
									5.00c	9.25c	13.50c	18.50c	
										4.25c	8.50c	13.50c	
											4.25c	9.25c	
												5.00c	
													5.00c



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 ** Source: Reuters

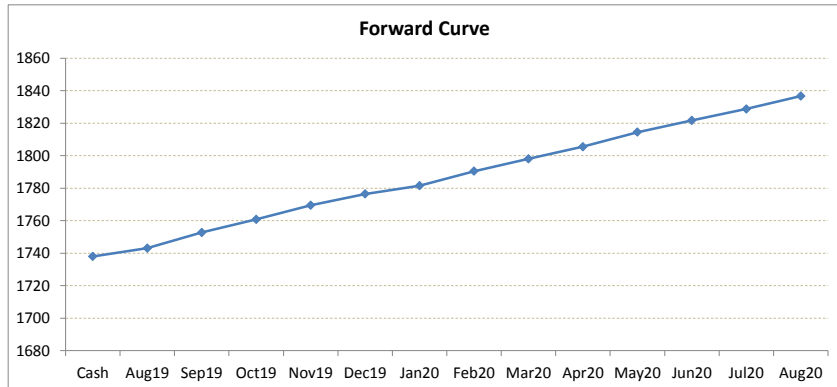
LME Valuation - Aluminium

Cash - 3M: 32.00c

Date: 2019-08-12

Cash 1738.00
3M 1770.00
 Aug19 **1743.00**
 Sep19 **1752.75**
 Oct19 **1760.75**
 Nov19 **1769.50**
 Dec19 **1776.50**
 Jan20 **1781.50**
 Feb20 **1790.50**
 Mar20 **1798.00**
 Apr20 **1805.50**
 May20 **1814.50**
 Jun20 **1821.75**
 Jul20 **1828.75**
 Aug20 **1836.75**

	Cash-Aug19	Cash-Sep19	Cash-Oct19	Cash-Nov19	Cash-Dec19	Cash-Jan20	Cash-Feb20	Cash-Mar20	Cash-Apr20	Cash-May20	Cash-Jun20	Cash-Jul20
Cash	5.00c	14.75c	22.75c	31.50c	38.50c	43.50c	52.50c	60.00c	67.50c	76.50c	83.75c	90.75c
	Aug19-3M	Sep19-3M	Oct19-3M	3M-Nov19	3M-Dec19	3M-Jan20	3M-Feb20	3M-Mar20	3M-Apr20	3M-May20	3M-Jun20	3M-Jul20
3M	27.00c	17.25c	9.25c	0.50b	6.50c	11.50c	20.50c	28.00c	35.50c	44.50c	51.75c	58.75c
	Aug19-Sep19	Sep19-Oct19	Oct19-Nov19	Nov19-Dec19	Dec19-Jan20	Jan20-Feb20	Feb20-Mar20	Mar20-Apr20	Apr20-May20	May20-Jun20	Jun20-Jul20	Jul20-Aug20
3rd wed	9.75c	8.00c	8.75c	7.00c	5.00c	9.00c	7.50c	7.50c	9.00c	7.25c	7.00c	8.00c
	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20
Aug19	9.75c	17.75c	26.50c	33.50c	38.50c	47.50c	55.00c	62.50c	71.50c	78.75c	85.75c	93.75c
	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20
		8.00c	16.75c	23.75c	28.75c	37.75c	45.25c	52.75c	61.75c	69.00c	76.00c	84.00c
	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20
			8.75c	15.75c	20.75c	29.75c	37.25c	44.75c	53.75c	61.00c	68.00c	76.00c
	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20
				7.00c	12.00c	21.00c	28.50c	36.00c	45.00c	52.25c	59.25c	67.25c
	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20
					5.00c	14.00c	21.50c	29.00c	38.00c	45.25c	52.25c	60.25c
	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20
						9.00c	16.50c	24.00c	33.00c	40.25c	47.25c	55.25c
	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20
							7.50c	15.00c	24.00c	31.25c	38.25c	46.25c
	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20
								7.50c	16.50c	23.75c	30.75c	38.75c
	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20
									9.00c	16.25c	23.25c	31.25c
	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20
										7.25c	14.25c	22.25c
	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20
											7.00c	15.00c
	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20
												8.00c



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 ** Source: Reuters



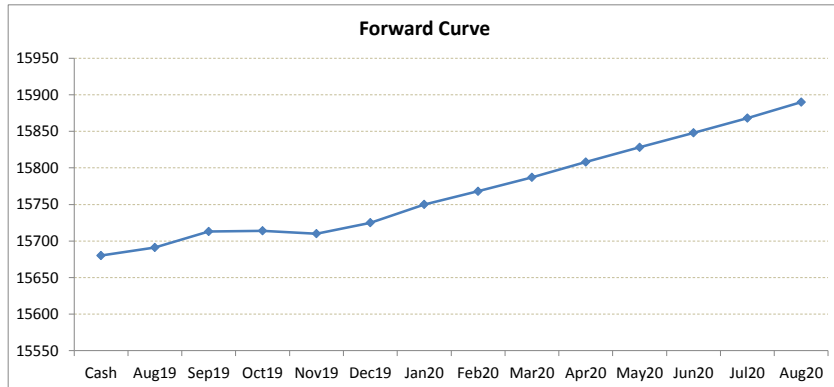
LME Valuation - Nickel

Cash - 3M: 30.00c

Date: 2019-08-12

Cash 15680.00
3M 15710.00
 Aug19 **15691.00**
 Sep19 **15713.00**
 Oct19 **15714.00**
 Nov19 **15710.00**
 Dec19 **15725.00**
 Jan20 **15750.00**
 Feb20 **15768.00**
 Mar20 **15787.00**
 Apr20 **15808.00**
 May20 **15828.00**
 Jun20 **15848.00**
 Jul20 **15868.00**
 Aug20 **15890.00**

	Cash-Aug19	Cash-Sep19	Cash-Oct19	Cash-Nov19	Cash-Dec19	Cash-Jan20	Cash-Feb20	Cash-Mar20	Cash-Apr20	Cash-May20	Cash-Jun20	Cash-Jul20
Cash	11.00c	33.00c	34.00c	30.00c	45.00c	70.00c	88.00c	107.00c	128.00c	148.00c	168.00c	188.00c
	Aug19-3M	Sep19-3M	Oct19-3M	3M-Nov19	3M-Dec19	3M-Jan20	3M-Feb20	3M-Mar20	3M-Apr20	3M-May20	3M-Jun20	3M-Jul20
3M	19.00c	3.00b	4.00b	0.00b	15.00c	40.00c	58.00c	77.00c	98.00c	118.00c	138.00c	158.00c
	Aug19-Sep19	Sep19-Oct19	Oct19-Nov19	Nov19-Dec19	Dec19-Jan20	Jan20-Feb20	Feb20-Mar20	Mar20-Apr20	Apr20-May20	May20-Jun20	Jun20-Jul20	Jul20-Aug20
3rd wed	22.00c	1.00c	4.00b	15.00c	25.00c	18.00c	19.00c	21.00c	20.00c	20.00c	20.00c	22.00c
	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20
Aug19	22.00c	23.00c	19.00c	34.00c	59.00c	77.00c	96.00c	117.00c	137.00c	157.00c	177.00c	199.00c
	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20
	1.00c	3.00b	12.00c	37.00c	55.00c	74.00c	95.00c	115.00c	135.00c	155.00c	177.00c	
	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20	
	4.00b	11.00c	36.00c	54.00c	73.00c	94.00c	114.00c	134.00c	154.00c	176.00c		
	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20		
	15.00c	40.00c	58.00c	77.00c	98.00c	118.00c	138.00c	158.00c	180.00c			
	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20			
	25.00c	43.00c	62.00c	83.00c	103.00c	123.00c	143.00c	165.00c				
	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20				
	18.00c	37.00c	58.00c	78.00c	98.00c	118.00c	140.00c					
	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20					
	19.00c	40.00c	60.00c	80.00c	100.00c	122.00c						
	Mar20	Apr20	May20	Jun20	Jul20	Aug20						
	21.00c	41.00c	61.00c	81.00c	103.00c							
	Apr20	May20	Jun20	Jul20	Aug20							
	20.00c	40.00c	60.00c	82.00c								
	May20	Jun20	Jul20	Aug20								
	20.00c	40.00c	62.00c									
	Jun20	Jul20	Aug20									
	20.00c	42.00c										
	Jul20	Aug20										
	22.00c											



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 ** Source: Reuters

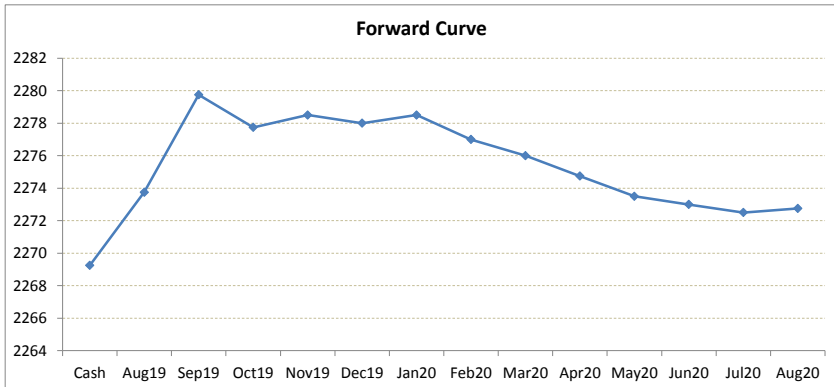
LME Valuation - Zinc

Cash - 3M: 8.75c

Date: 2019-08-12

Cash 2269.25
3M 2278.00
 Aug19 2273.75
 Sep19 2279.75
 Oct19 2277.75
 Nov19 2278.50
 Dec19 2278.00
 Jan20 2278.50
 Feb20 2277.00
 Mar20 2276.00
 Apr20 2274.75
 May20 2273.50
 Jun20 2273.00
 Jul20 2272.50
 Aug20 2272.75

	Cash-Aug19	Cash-Sep19	Cash-Oct19	Cash-Nov19	Cash-Dec19	Cash-Jan20	Cash-Feb20	Cash-Mar20	Cash-Apr20	Cash-May20	Cash-Jun20	Cash-Jul20
Cash	4.50c	10.50c	8.50c	9.25c	8.75c	9.25c	7.75c	6.75c	5.50c	4.25c	3.75c	3.25c
	Aug19-3M	Sep19-3M	Oct19-3M	3M-Nov19	3M-Dec19	3M-Jan20	3M-Feb20	3M-Mar20	3M-Apr20	3M-May20	3M-Jun20	3M-Jul20
3M	4.25c	1.75b	0.25c	0.50c	0.00b	0.50c	1.00b	2.00b	3.25b	4.50b	5.00b	5.50b
	Aug19-Sep19	Sep19-Oct19	Oct19-Nov19	Nov19-Dec19	Dec19-Jan20	Jan20-Feb20	Feb20-Mar20	Mar20-Apr20	Apr20-May20	May20-Jun20	Jun20-Jul20	Jul20-Aug20
3rd wed	6.00c	2.00b	0.75c	0.50b	0.50c	1.50b	1.00b	1.25b	1.25b	0.50b	0.50b	0.25c
	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20
Aug19	6.00c	4.00c	4.75c	4.25c	4.75c	3.25c	2.25c	1.00c	0.25b	0.75b	1.25b	1.00b
	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20
		2.00b	1.25b	1.75b	1.25b	2.75b	3.75b	5.00b	6.25b	6.75b	7.25b	7.00b
	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20
			0.75c	0.25c	0.75c	0.75b	1.75b	3.00b	4.25b	4.75b	5.25b	5.00b
	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20
				0.50b	0.00b	1.50b	2.50b	3.75b	5.00b	5.50b	6.00b	5.75b
	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20
					0.50c	1.00b	2.00b	3.25b	4.50b	5.00b	5.50b	5.25b
	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20
						1.50b	2.50b	3.75b	5.00b	5.50b	6.00b	5.75b
	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20
							1.00b	2.25b	3.50b	4.00b	4.50b	4.25b
	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20
								1.25b	2.50b	3.00b	3.50b	3.25b
	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20
									1.25b	1.75b	2.25b	2.00b
	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20
										0.50b	1.00b	0.75b
	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20
											0.50b	0.25c
	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20
												0.25c



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 ** Source: Reuters

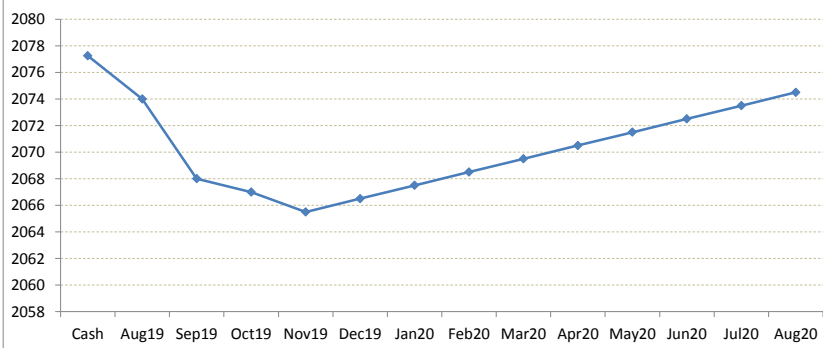
LME Valuation - Lead

Cash - 3M: **12.25b**

Date: **2019-08-12**

Cash	2077.25	Cash-Aug19	Cash-Sep19	Cash-Oct19	Cash-Nov19	Cash-Dec19	Cash-Jan20	Cash-Feb20	Cash-Mar20	Cash-Apr20	Cash-May20	Cash-Jun20	Cash-Jul20
3M	2065.00	3.25b	9.25b	10.25b	11.75b	10.75b	9.75b	8.75b	7.75b	6.75b	5.75b	4.75b	3.75b
Aug19	2074.00												
Sep19	2068.00	Aug19-3M	Sep19-3M	Oct19-3M	3M-Nov19	3M-Dec19	3M-Jan20	3M-Feb20	3M-Mar20	3M-Apr20	3M-May20	3M-Jun20	3M-Jul20
Oct19	2067.00	9.00b	3.00b	2.00b	0.50c	1.50c	2.50c	3.50c	4.50c	5.50c	6.50c	7.50c	8.50c
Nov19	2065.50												
Dec19	2066.50	Aug19-Sep19	Sep19-Oct19	Oct19-Nov19	Nov19-Dec19	Dec19-Jan20	Jan20-Feb20	Feb20-Mar20	Mar20-Apr20	Apr20-May20	May20-Jun20	Jun20-Jul20	Jul20-Aug20
Jan20	2067.50	6.00b	1.00b	1.50b	1.00c	1.00c	1.00c	1.00c	1.00c	1.00c	1.00c	1.00c	1.00c
Feb20	2068.50												
Mar20	2069.50	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20
Apr20	2070.50	6.00b	7.00b	8.50b	7.50b	6.50b	5.50b	4.50b	3.50b	2.50b	1.50b	0.50b	0.50c
May20	2071.50	Sep19	1.00b	2.50b	1.50b	0.50b	0.50c	1.50c	2.50c	3.50c	4.50c	5.50c	6.50c
Jun20	2072.50		Oct19	1.50b	0.50b	0.50c	1.50c	2.50c	3.50c	4.50c	5.50c	6.50c	7.50c
Jul20	2073.50			Nov19	1.00c	2.00c	3.00c	4.00c	5.00c	6.00c	7.00c	8.00c	9.00c
Aug20	2074.50				Dec19	1.00c	2.00c	3.00c	4.00c	5.00c	6.00c	7.00c	8.00c
						Jan20	1.00c	2.00c	3.00c	4.00c	5.00c	6.00c	7.00c
							Feb20	1.00c	2.00c	3.00c	4.00c	5.00c	6.00c
								Mar20	1.00c	2.00c	3.00c	4.00c	5.00c
									Apr20	1.00c	2.00c	3.00c	4.00c
										May20	1.00c	2.00c	3.00c
											Jun20	1.00c	2.00c
												Jul20	1.00c
													Aug20

Forward Curve



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** Source: Reuters

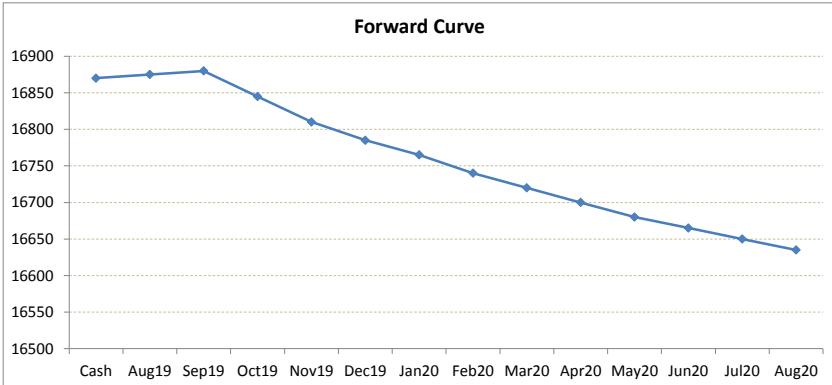


LME Valuation - Tin

Cash - 3M: **45.00b**

Date: **2019-08-12**

Cash	16870.00	Cash-Aug19	Cash-Sep19	Cash-Oct19	Cash-Nov19	Cash-Dec19	Cash-Jan20	Cash-Feb20	Cash-Mar20	Cash-Apr20	Cash-May20	Cash-Jun20	Cash-Jul20
3M	16825.00	5.00c	10.00c	25.00b	60.00b	85.00b	105.00b	130.00b	150.00b	170.00b	190.00b	205.00b	220.00b
Aug19	16875.00												
Sep19	16880.00	Aug19-3M	Sep19-3M	Oct19-3M	3M-Nov19	3M-Dec19	3M-Jan20	3M-Feb20	3M-Mar20	3M-Apr20	3M-May20	3M-Jun20	3M-Jul20
Oct19	16845.00	50.00b	55.00b	20.00b	15.00b	40.00b	60.00b	85.00b	105.00b	125.00b	145.00b	160.00b	175.00b
Nov19	16810.00												
Dec19	16785.00	Aug19-Sep19	Sep19-Oct19	Oct19-Nov19	Nov19-Dec19	Dec19-Jan20	Jan20-Feb20	Feb20-Mar20	Mar20-Apr20	Apr20-May20	May20-Jun20	Jun20-Jul20	Jul20-Aug20
Jan20	16765.00	5.00c	35.00b	35.00b	25.00b	20.00b	25.00b	20.00b	20.00b	20.00b	15.00b	15.00b	15.00b
Feb20	16740.00												
Mar20	16720.00	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20
Apr20	16700.00	5.00c	30.00b	65.00b	90.00b	110.00b	135.00b	155.00b	175.00b	195.00b	210.00b	225.00b	240.00b
May20	16680.00	Sep19	35.00b	70.00b	95.00b	115.00b	140.00b	160.00b	180.00b	200.00b	215.00b	230.00b	245.00b
Jun20	16665.00	Oct19	35.00b	60.00b	80.00b	105.00b	125.00b	145.00b	165.00b	180.00b	195.00b	210.00b	210.00b
Jul20	16650.00	Nov19	25.00b	45.00b	70.00b	90.00b	110.00b	130.00b	145.00b	160.00b	175.00b	190.00b	175.00b
Aug20	16635.00	Dec19	20.00b	45.00b	65.00b	85.00b	105.00b	120.00b	135.00b	150.00b	165.00b	180.00b	150.00b
		Jan20	25.00b	45.00b	65.00b	85.00b	100.00b	115.00b	130.00b	145.00b	160.00b	175.00b	130.00b
		Feb20	20.00b	40.00b	60.00b	75.00b	90.00b	105.00b	120.00b	135.00b	150.00b	165.00b	105.00b
		Mar20	20.00b	40.00b	55.00b	70.00b	85.00b	100.00b	115.00b	130.00b	145.00b	160.00b	85.00b
		Apr20	20.00b	35.00b	50.00b	65.00b	80.00b	95.00b	110.00b	125.00b	140.00b	155.00b	65.00b
		May20	15.00b	30.00b	45.00b	60.00b	75.00b	90.00b	105.00b	120.00b	135.00b	150.00b	45.00b
		Jun20	15.00b	30.00b	45.00b	60.00b	75.00b	90.00b	105.00b	120.00b	135.00b	150.00b	30.00b
		Jul20	15.00b	30.00b	45.00b	60.00b	75.00b	90.00b	105.00b	120.00b	135.00b	150.00b	15.00b
		Aug20	15.00b	30.00b	45.00b	60.00b	75.00b	90.00b	105.00b	120.00b	135.00b	150.00b	15.00b



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