

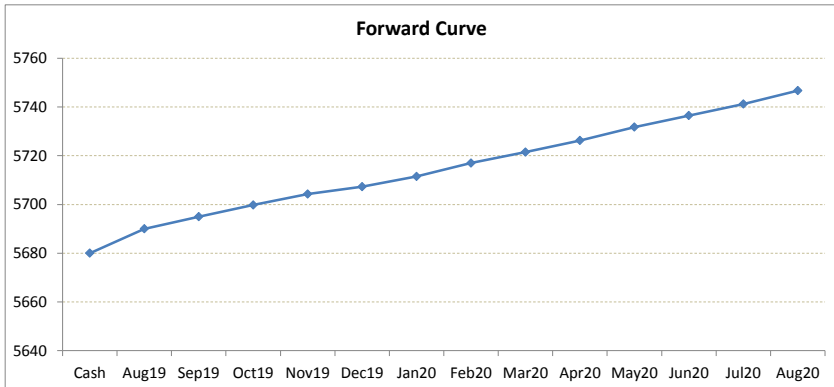
LME Valuation - Copper

Cash - 3M: 25.00c

Date: 2019-08-07

Cash 5680.00
3M 5705.00
 Aug19 5690.00
 Sep19 5695.00
 Oct19 5699.75
 Nov19 5704.25
 Dec19 5707.25
 Jan20 5711.50
 Feb20 5717.00
 Mar20 5721.50
 Apr20 5726.25
 May20 5731.75
 Jun20 5736.50
 Jul20 5741.25
 Aug20 5746.75

	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	10.00c	15.00c	19.75c	24.25c	27.25c	31.50c	37.00c	41.50c	46.25c	51.75c	56.50c	61.25c	
	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	15.00c	10.00c	5.25c	0.75b	2.25c	6.50c	12.00c	16.50c	21.25c	26.75c	31.50c	36.25c	
	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	5.00c	4.75c	4.50c	3.00c	4.25c	5.50c	4.50c	4.75c	5.50c	4.75c	4.75c	5.50c	
	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20	
Aug19	5.00c	9.75c	14.25c	17.25c	21.50c	27.00c	31.50c	36.25c	41.75c	46.50c	51.25c	56.75c	
	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20	
		4.75c	9.25c	12.25c	16.50c	22.00c	26.50c	31.25c	36.75c	41.50c	46.25c	51.75c	
			4.50c	7.50c	11.75c	17.25c	21.75c	26.50c	32.00c	36.75c	41.50c	47.00c	
				3.00c	7.25c	12.75c	17.25c	22.00c	27.50c	32.25c	37.00c	42.50c	
					4.25c	9.75c	14.25c	19.00c	24.50c	29.25c	34.00c	39.50c	
						5.50c	10.00c	14.75c	20.25c	25.00c	29.75c	35.25c	
							4.50c	9.25c	14.75c	19.50c	24.25c	29.75c	
								4.75c	10.25c	15.00c	19.75c	25.25c	
									5.50c	10.25c	15.00c	20.50c	
										4.75c	9.50c	15.00c	
											4.75c	10.25c	
												5.50c	
													5.50c



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

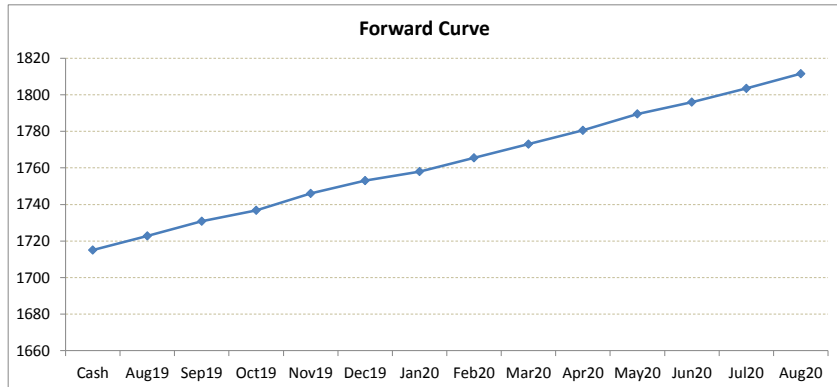
LME Valuation - Aluminium

Cash - 3M: 30.00c

Date: 2019-08-07

Cash 1715.00
3M 1745.00
 Aug19 **1722.75**
 Sep19 **1730.75**
 Oct19 **1736.75**
 Nov19 **1746.00**
 Dec19 **1753.00**
 Jan20 **1758.00**
 Feb20 **1765.50**
 Mar20 **1773.00**
 Apr20 **1780.50**
 May20 **1789.50**
 Jun20 **1796.00**
 Jul20 **1803.50**
 Aug20 **1811.50**

	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	7.75c	15.75c	21.75c	31.00c	38.00c	43.00c	50.50c	58.00c	65.50c	74.50c	81.00c	88.50c
	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	22.25c	14.25c	8.25c	1.00c	8.00c	13.00c	20.50c	28.00c	35.50c	44.50c	51.00c	58.50c
	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	8.00c	6.00c	9.25c	7.00c	5.00c	7.50c	7.50c	7.50c	9.00c	6.50c	7.50c	8.00c
	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20
Aug19	8.00c	14.00c	23.25c	30.25c	35.25c	42.75c	50.25c	57.75c	66.75c	73.25c	80.75c	88.75c
	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20
		6.00c	15.25c	22.25c	27.25c	34.75c	42.25c	49.75c	58.75c	65.25c	72.75c	80.75c
	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20
			9.25c	16.25c	21.25c	28.75c	36.25c	43.75c	52.75c	59.25c	66.75c	74.75c
	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20
				7.00c	12.00c	19.50c	27.00c	34.50c	43.50c	50.00c	57.50c	65.50c
	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20
					5.00c	12.50c	20.00c	27.50c	36.50c	43.00c	50.50c	58.50c
	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20
						7.50c	15.00c	22.50c	31.50c	38.00c	45.50c	53.50c
	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20
							7.50c	15.00c	24.00c	30.50c	38.00c	46.00c
	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20
								7.50c	16.50c	23.00c	30.50c	38.50c
	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20
									9.00c	15.50c	23.00c	31.00c
	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20
										6.50c	14.00c	22.00c
	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20
											7.50c	15.50c
	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20
												8.00c



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 ** Source: Reuters

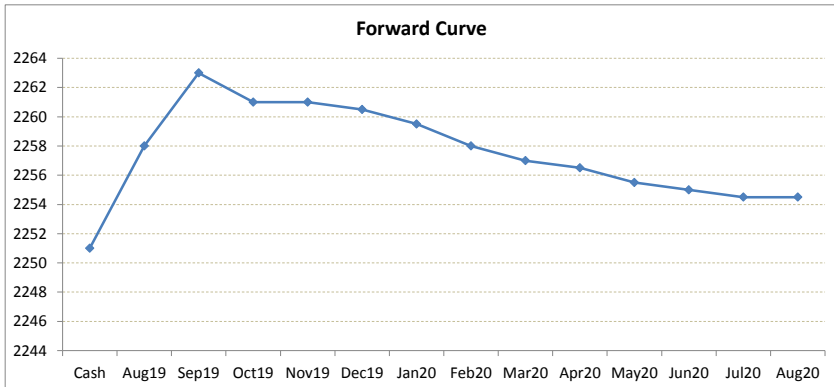
LME Valuation - Zinc

Cash - 3M: 10.00c

Date: 2019-08-07

Cash 2251.00
3M 2261.00
 Aug19 **2258.00**
 Sep19 **2263.00**
 Oct19 **2261.00**
 Nov19 **2261.00**
 Dec19 **2260.50**
 Jan20 **2259.50**
 Feb20 **2258.00**
 Mar20 **2257.00**
 Apr20 **2256.50**
 May20 **2255.50**
 Jun20 **2255.00**
 Jul20 **2254.50**
 Aug20 **2254.50**

	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	7.00c	12.00c	10.00c	10.00c	9.50c	8.50c	7.00c	6.00c	5.50c	4.50c	4.00c	3.50c
	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	3.00c	2.00b	0.00b	0.00b	0.50b	1.50b	3.00b	4.00b	4.50b	5.50b	6.00b	6.50b
	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	5.00c	2.00b	0.00b	0.50b	1.00b	1.50b	1.00b	0.50b	1.00b	0.50b	0.50b	0.00b
	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20
Aug19	5.00c	3.00c	3.00c	2.50c	1.50c	0.00b	1.00b	1.50b	2.50b	3.00b	3.50b	3.50b
	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20
Aug19	5.00c	2.00b	2.00b	2.50b	3.50b	5.00b	6.00b	6.50b	7.50b	8.00b	8.50b	8.50b
	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20
Aug19		0.00b	0.50b	1.50b	3.00b	4.00b	4.50b	5.50b	6.00b	6.50b	6.50b	6.50b
	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20
Aug19			0.50b	1.50b	3.00b	4.00b	4.50b	5.50b	6.00b	6.50b	6.50b	6.50b
	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20
Aug19				1.00b	2.50b	3.50b	4.00b	5.00b	5.50b	6.00b	6.00b	6.00b
	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20
Aug19					1.50b	2.50b	3.00b	4.00b	4.50b	5.00b	5.00b	5.00b
	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20
Aug19						1.00b	1.50b	2.50b	3.00b	3.50b	3.50b	3.50b
	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20
Aug19							0.50b	1.50b	2.00b	2.50b	2.50b	2.50b
	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20
Aug19								1.00b	1.50b	2.00b	2.00b	2.00b
	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20
Aug19									0.50b	1.00b	1.00b	1.00b
	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20
Aug19										0.50b	0.50b	0.50b
	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20
Aug19											0.00b	0.00b



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 ** Source: Reuters



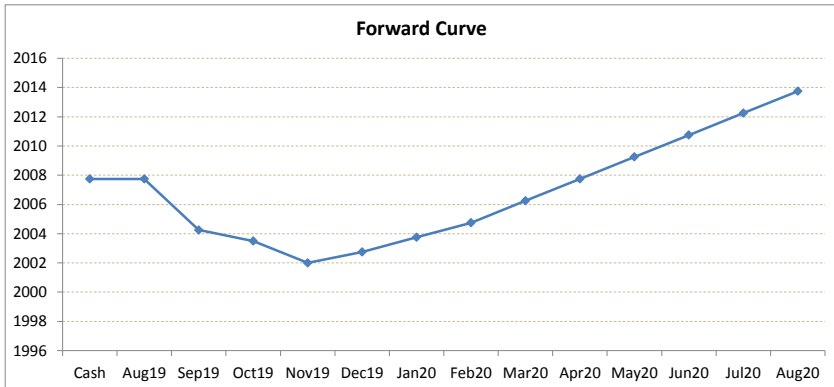
LME Valuation - Lead

Cash - 3M: **5.75b**

Date: **2019-08-07**

Cash 2007.75
3M 2002.00
 Aug19 2007.75
 Sep19 2004.25
 Oct19 2003.50
 Nov19 2002.00
 Dec19 2002.75
 Jan20 2003.75
 Feb20 2004.75
 Mar20 2006.25
 Apr20 2007.75
 May20 2009.25
 Jun20 2010.75
 Jul20 2012.25
 Aug20 2013.75

	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	0.00b	3.50b	4.25b	5.75b	5.00b	4.00b	3.00b	1.50b	0.00b	1.50c	3.00c	4.50c
	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	5.75b	2.25b	1.50b	0.00b	0.75c	1.75c	2.75c	4.25c	5.75c	7.25c	8.75c	10.25c
	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	3.50b	0.75b	1.50b	0.75c	1.00c	1.00c	1.50c	1.50c	1.50c	1.50c	1.50c	1.50c
	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20
Aug19	3.50b	4.25b	5.75b	5.00b	4.00b	3.00b	1.50b	0.00b	1.50c	3.00c	4.50c	6.00c
	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20
Aug19	0.75b	2.25b	1.50b	0.50b	0.50c	2.00c	3.50c	5.00c	6.50c	8.00c	9.50c	
	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20	
Aug19	1.50b	0.75b	0.25c	1.25c	2.75c	4.25c	5.75c	7.25c	8.75c	10.25c	11.75c	
	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20 <td></td> <td></td> <td></td>			
Aug19	1.00c	2.00c	3.50c	5.00c	6.50c	8.00c	9.50c	11.00c				
	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20 <td></td> <td></td> <td></td> <td></td>				
Aug19	1.00c	2.50c	4.00c	5.50c	7.00c	8.50c	10.00c					
	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20 <td></td> <td></td> <td></td> <td></td> <td></td>					
Aug19	1.50c	3.00c	4.50c	6.00c	7.50c	9.00c						
	Mar20	Apr20	May20	Jun20	Jul20	Aug20 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>						
Aug19	1.50c	3.00c	4.50c	6.00c	7.50c							
	Apr20	May20	Jun20	Jul20	Aug20 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>							
Aug19	1.50c	3.00c	4.50c	6.00c								
	May20	Jun20	Jul20	Aug20 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>								
Aug19	1.50c	3.00c	4.50c									
	Jun20	Jul20	Aug20 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>									
Aug19	1.50c	3.00c										
	Jul20	Aug20 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>										
Aug19	1.50c											
	Aug20 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>											



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 ** Source: Reuters

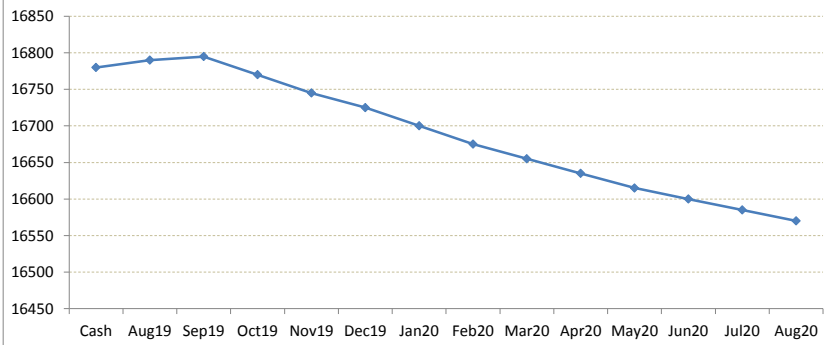
LME Valuation - Tin

Cash - 3M: **25.00b**

Date: **2019-08-07**

Cash	16780.00	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	16755.00	10.00c	15.00c	10.00b	35.00b	55.00b	80.00b	105.00b	125.00b	145.00b	165.00b	180.00b	195.00b
Aug19	16790.00												
Sep19	16795.00	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	16770.00	35.00b	40.00b	15.00b	10.00b	30.00b	55.00b	80.00b	100.00b	120.00b	140.00b	155.00b	170.00b
Nov19	16745.00												
Dec19	16725.00	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	16700.00	3rd wed	5.00c	25.00b	25.00b	20.00b	25.00b	25.00b	20.00b	20.00b	20.00b	15.00b	15.00b
Feb20	16675.00												
Mar20	16655.00	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20	Jul20	Aug20
Apr20	16635.00	Aug19	5.00c	20.00b	45.00b	65.00b	90.00b	115.00b	135.00b	155.00b	175.00b	190.00b	205.00b
May20	16615.00	Sep19	25.00b	50.00b	70.00b	95.00b	120.00b	140.00b	160.00b	180.00b	195.00b	210.00b	225.00b
Jun20	16600.00	Oct19	25.00b	45.00b	70.00b	95.00b	115.00b	135.00b	155.00b	170.00b	185.00b	200.00b	
Jul20	16585.00	Nov19	20.00b	45.00b	70.00b	90.00b	110.00b	130.00b	145.00b	160.00b	175.00b		
Aug20	16570.00	Dec19	25.00b	50.00b	70.00b	90.00b	110.00b	125.00b	140.00b	155.00b			
		Jan20	25.00b	45.00b	65.00b	85.00b	100.00b	115.00b	130.00b				
		Feb20	20.00b	40.00b	60.00b	75.00b	90.00b	105.00b					
		Mar20	20.00b	40.00b	55.00b	70.00b	85.00b						
		Apr20	20.00b	35.00b	50.00b	65.00b							
		May20	15.00b	30.00b	45.00b								
		Jun20	15.00b	30.00b									
		Jul20	15.00b										
		Aug20											

Forward Curve



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 ** Source: Reuters