

# 2019

“ ” 2020 6 9

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2020 447

2019

2 3.21 40.85%

1.64 50.91% 108.81%

12.37 5,501.13 7.36%

2018

1		2,477.65	2,477.65
2		1,292.08	1,292.08
3		1,040.62	1,040.62
4		513.57	513.57
5		362.50	362.50
		5,686.41	5,686.41

2019

			( 2020.5.31)
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1		3,314.07	3,314.07
2		2,709.72	2,709.72
3		1,311.44	1,311.44
4		1,025.57	1,025.57
5		845.76	773.00
		9,206.56	9,133.80

2019

2020 5 31

2019

91.40%

	2019			2018					
	5,050.43	4,738.98	6.17%	5,245.32	4,455.81	15.05%	-194.89	-3.72%	-59.03%
	5,575.19	2,436.35	56.30%	5,694.60	1,456.53	74.42%	-119.41	-2.10%	-24.35%
	16,360.47	8,183.65	49.98%	7,834.93	2,950.19	62.35%	8,525.54	108.81%	-19.84%
	4,587.37	2,322.70	49.37%	3,707.66	1,775.82	52.10%	879.72	23.73%	-5.25%
	31,573.47	17,681.69	44.00%	22,482.51	10,638.36	52.68%	9,090.96	40.44%	-16.48%

1 LED

MO

2019

LEDinside

2019

LED

141 RMB

17%

MOCVD

2019

MO

MO

2

	2019			2018		
	5,050.43	16.00%	6.17%	5,245.32	23.33%	15.05%
	5,575.19	17.66%	56.30%	5,694.60	25.33%	74.42%
	16,360.47	51.82%	49.98%	7,834.93	34.85%	62.35%

	4,587.37	14.53%	49.37%	3,707.66	16.49%	52.10%
	31,573.47	100.00%	44.00%	22,482.51	100.00%	52.68%

62.35%      49.98%

	2019			2018		
	6,755.98	4,520.67	33.09%			
	9,604.49	3,662.98	61.86%	7,834.93	2,950.19	62.35%
	16,360.47	8,183.65	49.98%	7,834.93	2,950.19	62.35%

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2019 8

8,525.54

93.78%

6,755.98

79.24%

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1,769.56

20.76%

40.85%

11.22%

1

7,104.59

31.14%

368.90

6.65%

2

MO

2,215.49

9.71%

253.41

4.57%

1

2

3

4

32,137.58

20,136.92

62.66%

94.63%

5

6

7

8

1

2

3

4

3 “ ” 3,045.48 56.08%  
 “ ”

	2019	2018		
1	1,047.09	717.34	329.75	45.97%
2	705.66	47.17	658.49	1395.92%
3				

	1	2	3	4	
2017	-231.04	1,563.60	-39.60	959.32	2,252.29
2018	-693.86	202.48	-886.64	14,360.66	12,982.64
2019	-2,691.06	4,987.99	2,545.15	23,021.64	27,863.72

2018 2019 4

2018 9 7 2018

“

”

2019 4

-

17,794.47

2,185.56

19,980.03

86.79%

2018 4

-

13,285.00

92.51%

	1	2	3	4
2017	-231.04	1,563.60	-39.60	959.32
2018	-693.86	202.48	-886.64	1,075.66
2019	-2,691.06	4,987.99	2,545.15	3,041.61

2 4

1

2

3

2018 2019 4

5

1,990.29

28.87%

	-41.29
	328.29
	71.05
	1,632.24
	1,990.29

“ ”

“ ”

26.428% 31.39%

2019

-1.35

6

1-6

-39.94

( )

“ ”

328.29

1,000

671.71

1.84%

31.39%

719.35

-15.28

32.36

71.05

1,632.24

1

2

3

4

5

**6**

**1.56**

**76.7%**

**2.91%**

**4.68**

**1**

**2**




1			-	2019.09	433.47	100	91-120	1,538.61
			-	2019.10	309.62		61-90	
			-	2019.11	427.59		31-60	
			-	2019.12	245.89		0-30	
							1,416.57	
2			-	2019.09	368.83	100	91-120	1,769.13
			-	2019.10	366.12		61-90	
			-	2019.11	244.08		31-60	
			-	2019.12	366.12		0-30	
							1,345.15	
3			- MO	2019.08	161.04	120	121-150	1,106.04
			- MO	2019.09	362.96		91-120	
			- MO	2019.10	124.54		61-90	
			- MO	2019.11	335.76		31-60	
			- MO	2019.12	173.72		0-30	
							1,158.02	
4			- MO	2018.12	13.05	120	360	1,400.00
			- MO	2019.02	97.58		301-330	
			- MO	2019.03	71.67		271-300	
			- MO	2019.04	99.63		241-270	
			- MO	2019.05	146.81		211-240	
			- MO	2019.06	104.29		181-210	
			-	2019.07	77.29		151-180	

		MO					
		- MO	2019.08	113.12		121-150	
		- MO	2019.09	98.96		91-120	
		- MO	2019.10	63.47		61-90	
		- MO	2019.11	95.09		31-60	
		- MO	2019.12	108.18		0-30	
				1,089.12			
5		- MO	2019.05	83.63	120	211-240	500.36
		- MO	2019.06	151.51		181-210	
		- MO	2019.07	170.31		151-180	
		- MO	2019.08	123.97		121-150	
		- MO	2019.09	34.88		91-120	
		- MO	2019.10	155.72		61-90	
		- MO	2019.11	256.75		31-60	
		- MO	2019.12	84.91		0-30	
				1,061.67			
				6,070.53			

2019 38.88%

	2018	2019	
	8,837.05	15,615.36	76.70%
	-	5,905.91	
	8,837.05	9,709.45	9.87%
	22,817.49	32,137.58	40.85%
	-	7,104.59	
	22,817.49	25,032.98	9.71%

2019

9.87%

7,104.59

5,905.91

2019 9 2019 3

86.68%

9.71%

9-12

83.13%

9-12

1

(1)

	200

(2)

1	
2	
1	
2	

1	1	5%
1	2	10%
2	3	20%
3	4	30%
4	5	60%
5		100%


(3)	

2

1	
2	

1-

2

		1	2-4	5-12	13-24	24
	0.50%	3.00%	5.00%	25.00%	50.00%	100.00%

		%		%		%		%
	37.35	0.24	37.35	100	37.35	0.42	37.35	100
	15,578.01	99.76	417.19	2.68	8,799.70	99.58	633.71	7.2
	15,578.01	99.76	417.19	2.68	8,799.70	99.58	633.71	7.2
	15,615.36	—	454.54	—	8,837.05	—	671.06	—

			%			%
		12,324.96	61.62	0.5	3,968.90	19.84
1	1,189.29	35.68	3.0	1,378.11	41.34	3.0
2-4	1,357.53	67.88	5.0	1,453.26	72.66	5.0
5-12	404.44	101.11	25.0	1,999.42	499.86	25.0
13-24	301.80	150.90	50.0			
	15,578.01	417.19	2.7	8,799.70	633.71	7.2

5  
499.86

1,999.42  
252.01

706.24  
247.85

	2018			2019		
			%			%
	8,837.05	671.06	7.59%	15,615.36	454.54	2.91%
				5,905.91	56.29	0.95%
	8,837.05	671.06	7.59%	9,709.45	398.25	4.10%

9-12

1.27en-US

		2019		
1		1,929.53	12.39%	120
2		2,150.79	13.81%	120
3		844.69	5.42%	120
4		829.84	5.33%	120
5		580.62	3.73%	60
6		678.62	4.36%	90
7		225.14	1.45%	15
8		363.51	2.33%	60
9		2,761.72	17.73%	100
10		472.88	3.04%	100
11		461.03	2.96%	360
12		216.96	1.39%	60
13		273.43	1.76%	30
14		197.43	1.27%	120

15

96.24%

1	1	5%	0.50%
1	2	10%	3%
2	3	20%	5%
3	4	30%	25%
4	5	60%	50%
5		100%	100%

120

1

1

1

25%

2

50%

3

100%

1

1

2

15,615.36

15,099.68

96.70%

85.25%

3

4

5

6

7

1.23

435.33

1

	1		1-2		2-3		3			
	2,220	23%	186	21%	32	4%	39	4%	2,477	20%
	2,585	26%	14	2%	-	0%	-	0%	2,599	21%
	3,619	37%	328	36%	4	1%	-	0%	3,951	32%
	1,285	13%	373	41%	702	95%	842	96%	3,203	26%
	58	1%	2	0%	-	0%	-	0%	60	0.5%
	9,767	100%	903	100%	739	100%	881	100%	12,290	100%

2

	1		1-2		2-3		3-4	
	822	31%	372	14%	702	26%	60	2%
	4-5		5-6		6-7		7-8	
	281	10%	221	8%	67	2%	167	6%

8

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								2018	2019		
		kg									
MO		6,669	11,632,826	1,744	10,758,022		874,804.81	2,062	1,844	16,334,696.62	140%
		443	5,893,787	13,317	11,923,000		-	45,997	31,660	9,738,851.16	165%
		433	2,535,822	5,854	1,746,861		788,960.91	7,027	5,971	3,002,963.82	118%
		284	2,036,352	7,171	3,844,067		-	17,176	15,871	3,268,136.16	160%
		9	469,055	51,375	1,280,494		-	231,759	170,812	1,038,587.39	221%
		-	-	-	-		-	68,043	79,604	290,087.01	
		3	97,160	35,985	254,801		-	93,891	115,162	138,298.20	142%
		3,354.00	2,478,734.20	739	4,138,231.56		-	1,868	1,535	7,010,152.00	283%
		4,482.00	3,334,502.33	744	5,553,949.11		-	1,833	1,526	11,375,507.45	341%
		46.42	73,784.21	1,589	4,705,574.92		-	77,805	71,162	93,572.33	127%
		55.43	90,607.41	1,635	5,068,573.01		-	118,427	99,419	87,898.53	97%
		25.40	999,980.25	39,369	2,574,205.82		-	117,410	107,234	1,123,908.51	112%
		68,202.70	4,906,334.78	72	9,090,055.86		-	-	138	49,133,407.21	1001%
		117,730.00	3,441,416.81	29	4,026,366.00		-	-	33	14,620,131.08	425%
		37,990,362.69									
		39,509,052.60									
		96%									

	11,632,826.34	10,758,021.53	874,804.81
	2,535,822.12	1,746,861.21	788,960.91
	14,168,648.46	12,504,882.74	1,663,765.72
	39,509,052.60		
	36%		
	5,524,442.17	4,647,866.50	876,575.67
	2,161,467.33	1,643,092.56	518,374.77
	7,685,909.50	6,290,959.06	1,394,950.44
	25,989,348.96		
	30%		
	411,012.63	329,956.01	81,056.62
	6,885,793.30	5,672,246.84	1,213,546.46
	7,296,805.93	6,002,202.85	1,294,603.08
	24,772,067.32		
	29%		

1

2

3

4

8

“ ” “ ”

8

2018

27%

1

8

2

2008

10 8

3

1

2

3

1

2

3

4

9 2019 8 “ ”

8,516.43

2 NF3 SF6

1 NF3

2019 12 NF3 1,000

83.3 NF3 24 NF3

NF3 2019 12 1,000 2019

12 NF3 80%

2020 2 125 2020 5 NF3

NF3

NF3 NF3

2020

NF3

80% 2021 3,000 90%

2022 95%

NF3

		2020	2021	2022	2023	2024
NF3	/	2,000	3,000	3,000	3,000	3,000
		1,800	2,700	2,700	2,850	2,850

/KG

NF3 2020 ~2021

1% 2022

NF3

		2020	2021	2022	2023	2024
NF3	/	134.96	133.61	133.61	133.61	133.61
		-1.00%	-1.00%	0.00%	0.00%	0.00%

2 SF6

SF6 1 2017 1,000 2019

1,177.435 2019 SF6

2019 SF6

95%

		2020	2021	2022	2023	2024
NF3	/	1,000	1,000	1,000	1,000	1,000
		950	950	950	950	950

/KG

SF6 SF6 2020

~2021

1% 2022

SF6

/		2020	2021	2022	2023	2024
		SF6	33.32	33.65	33.65	33.65
		1.00%	1.00%	0.00%	0.00%	0.00%

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/		2020	2021	2022	2023	2024
		NF3	NF3 ( )	24,293.60	36,076.00	36,076.00
SF6	SF6 ( )	3,165.36	3,197.01	3,197.01	3,197.01	3,197.01
		( )	1,118.44	1,591.00	1,591.00	1,671.16
			28,577.40	40,864.01	40,864.01	42,948.40

2020-2024

65% 43% 0% 5% 0%

0% 2020-2021

2023

5%

90%

95%

1

2

1 NF3

NF3

2018

2019

-42.63% -23.31%

2021

NF3

/		2020	2021	2022	2023	2024
		NF3	91.41	89.58	89.58	89.58

		-4%	-2.00%	0.00%	0.00%	0.00%
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2 SF6

SF6

NF3

2020

SF6

2020-2024

SF6

SF6

		2020	2021	2022	2023	2024
	/					
SF6		29.89	29.89	29.89	29.89	29.89
		0.00%	0.00%	0.00%	0.00%	0.00%

SF6

2019

3

90%

95%

3

		2020	2021	2022	2023	2024
	/					
NF3		16,454.31	24,187.84	24,187.84	25,531.61	25,531.61
		32.27%	32.95%	32.95%	32.95%	32.95%
SF6		2,839.49	2,839.49	2,839.49	2,839.49	2,839.49
		10.29%	11.18%	11.18%	11.18%	11.18%
		1,046.38	1,489.40	1,489.40	1,564.56	1,564.56
		6.44%	6.39%	6.39%	6.38%	6.38%
		20,340.18	28,516.73	28,516.73	29,935.66	29,935.66

2020

2023

28.82%

30.22%

30.22%

30.30%

2016

2019

38.18%

31.83%

35.12%

37.19%

wind

		(%)			
		2019	2018	2017	2016
		46.14	46.31	43.44	45.10
		37.19	35.12	31.83	38.18

WACC 12.75%

( )

BTWACC

1

“ ” 10

4.1013%

2

ERP

2010 2019

10.41% 10 4.18%

6.23% ERP 6.23 2010

2019 ERP

		Rm	Rm	Rf(10)	ERP -R <sub>f</sub>	ERP -R <sub>f</sub>
1	2010	46.04%	12.79%	4.25%	41.79%	8.54%
2	2011	33.49%	4.51%	3.98%	29.51%	0.53%
3	2012	30.95%	5.65%	4.16%	26.79%	1.49%
4	2013	37.47%	10.32%	4.29%	33.18%	6.03%
5	2014	44.18%	17.76%	4.31%	39.87%	13.45%
6	2015	45.35%	19.38%	4.21%	41.13%	15.17%
7	2016	34.76%	11.86%	4.12%	30.64%	7.74%
8	2017	20.73%	5.44%	4.22%	16.50%	1.22%
9	2018	20.19%	7.01%	4.12%	16.07%	2.90%
10	2019	20.54%	9.37%	4.10%	16.43%	5.27%
		33.37%	10.41%	4.18%	29.19%	6.23%

3 Beta

Beta =

Beta\*0.65+0.35

Beta

Beta

(D/E)

Beta



Beta 0.7355

		Beta		(D/E)	Unlevered Beta
002549.SZ		0.9511	15.00%	8.59	0.8863
002125.SZ		0.8286	15.00%	40.74	0.6155
300405.SZ		0.9259	15.00%	36.96	0.7046
				28.76	0.7355

Unlevered Beta

Re-levered Beta

Re-levered Beta

$$\beta_L = \beta_U \times [1 + (1 - T) \frac{D}{E}]$$

$$\beta_L = 0.7355 \times (1 + (1 - 15\%) \times 28.76\%) = 0.9153$$

4 Rs

) (

1000

Rs 3.73% 0.717% × Ln(S) 0.267% × ROA

Rs: (0 ≤ 3%)

S :

ROA

Ln

3.71 1.55%

2.8%

3%

1

2

3

4

5 Re

$$Re = R_f + \beta L \times ERP \quad R_c = 4.1013\% + 0.9153 \times 6.23 + 3\% = 12.8\%$$

6 Rd

4.75%

7

$$WACC = Re \times E / (D+E) + K_d \times D / (D+E)$$

$$= 10.84\%$$

$$BTWACC = 10.84\% \div 1-15\% = 12.75\%$$

2024

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5

2020 -2024

1

		85,164,268.03				85,164,268.03
		85,164,268.03				85,164,268.03

2

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2019

2019 8

3

1

2019 12 31

	528,014,237.27	

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2

2020 4 20

2020 6096

1		8,516.43
2		0.00
3 = 1 - 2		8,516.43
4		6,174.67
5 = 4 + 3		14,691.09
6		38,110.33
7 = 5 + 6		52,801.42
8		53,700.00
9 = 7 - 8	0	

1  
2  
3  
  
4  
5  
6  
  
7

2020 6 11