

300487

100.5

74.96

400

6

200

200

100

46%

2021H1

38

PCT

5

46

2030

139-268

45-174

80

12

( 12 )

110.48/37.45

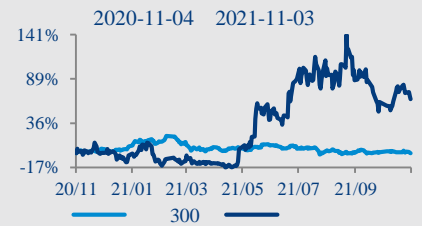
+ +

+

2018 2019 2020 2021H1

1/3.85/1.95/0.94

SQM Ansson Vulkan



2019

66.2

Verified markrt research

2027

114.1

47%

2025

264.09/1204.81

2934.36/13386.78

50%

3

80%

2020

356.2

239

10%

70%

2018

310

2025

583

40-60%

+

2021-2023

3.4

4.4

5.3

EPS

1.56

2.01

2.41

/

PE

TTM

2022

50

100.5

/

	2020	2021E	2022E	2023E
( )	923	1,390	1,843	2,196
(%)	-8.8%	50.6%	32.6%	19.2%
( )	203	343	441	530
(%)	-19.6%	69.9%	28.5%	20.1%
( )	0.94	1.56	2.01	2.41
( )	80	48	37	31
( )	10	9	7	6

2021 11 3



	.....	<b>8</b>
	.....	<b>12</b>
	.....	<b>15</b>
	.....	15
	.....	18
+	.....	<b>25</b>
	.....	25
+	.....	26
+	.....	33
	.....	<b>36</b>
	400 .....	36
	.....	39
	.....	<b>42</b>
	.....	<b>42</b>

1	.....	8
2	.....	8
3	.....	9
4	.....	9
5	.....	9
6	.....	9
7	.....	10
8	.....	10
9	.....	10
10	.....	10
11	.....	11
12	.....	11
13	.....	11
14	.....	12
15	.....	12
16	.....	12
17	/ .....	12
18	.....	13
19	.....	13
20	.....	14
21	.....	14
22	.....	14
23	.....	14
24	.....	15
25	.....	15
26	2021 10 4	



68	.....	34
69	.....	34
70	.....	35
71	.....	35
72	.....	35
73	.....	35
74	.....	35
75	.....	35
76	.....	36
77	.....	36
78	.....	36
79	.....	38
80	.....	39
81	.....	39
82	.....	40
83	.....	40
84	.....	41
85	.....	41
86	2016	41
87	2016	41
88	2019	41
89	2019	42
90	PE(TTM)	42

2001 4 5  
4 / 100  
30 100

1

---

---

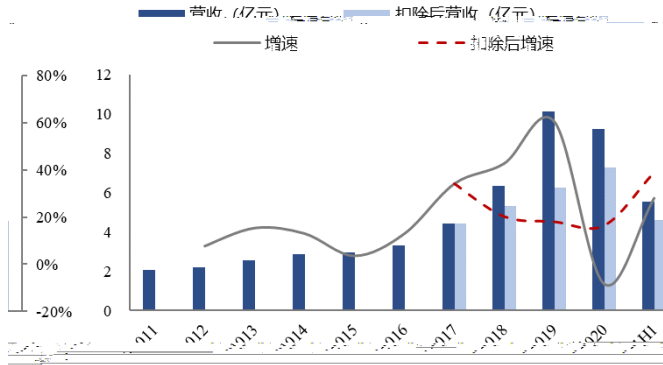
25.02% 9  
2018 2019  
Lonex Puritech  
2019



2020

1/3.85/1.95/0.94  
2021H1 4.6

3

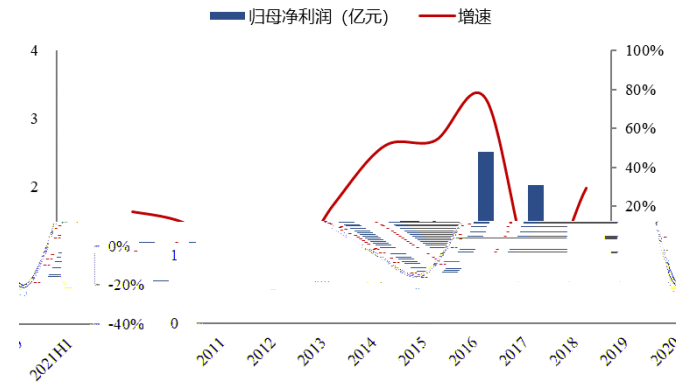


2020

2018 2019 2020 2021H1  
2020 18%

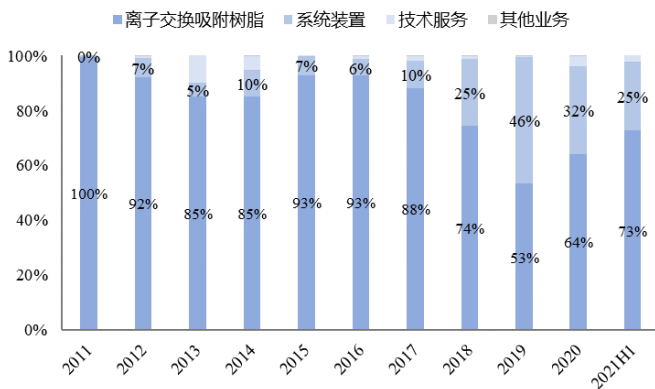
38%

4



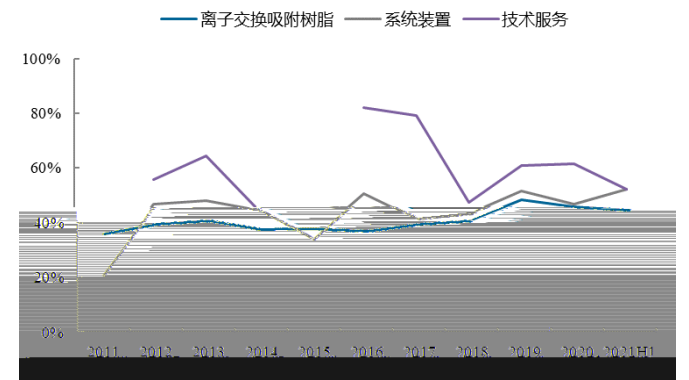
2021H1  
25.19% 2011  
27%  
31pct 52%

5

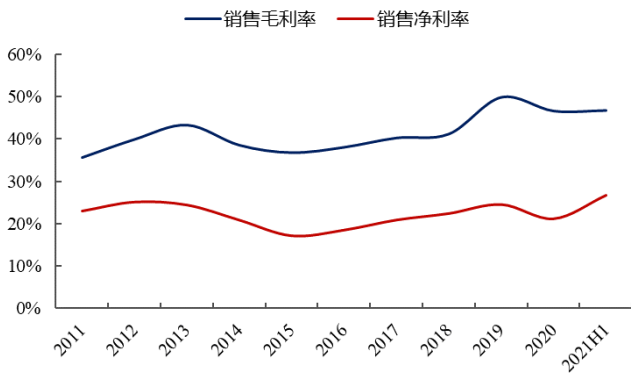


2021H1 73%  
24.7% 2011  
11pct 47% 4pct  
36% 2021 45% 40% 2011

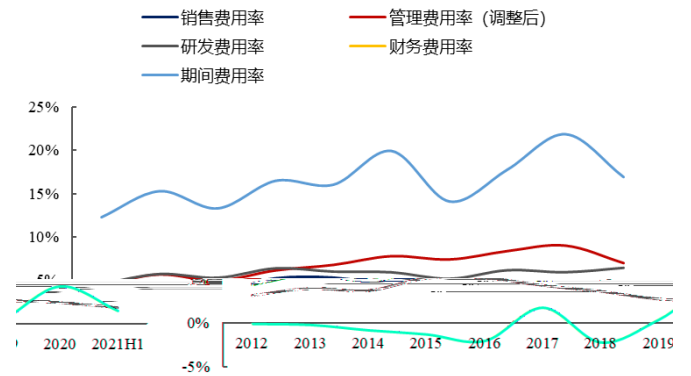
6



7



8

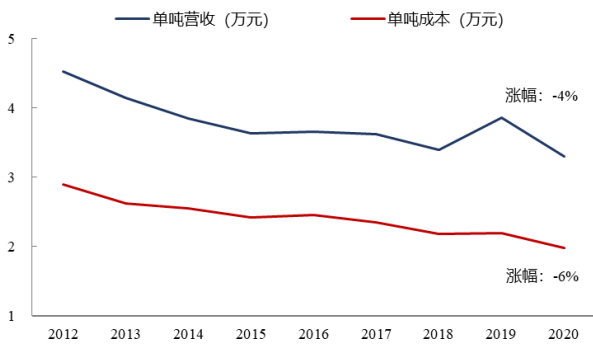


2017

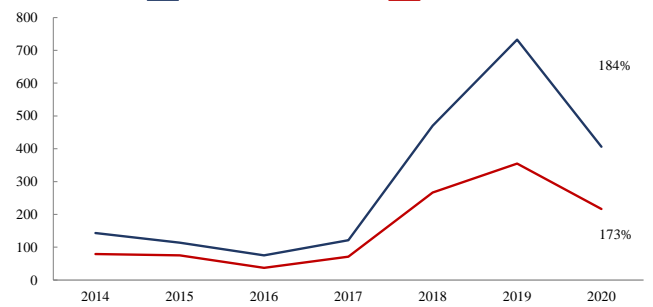
1.57 /  
184% 173%

2012-2020  
2018 6% 2020  
2014-2020

9



10



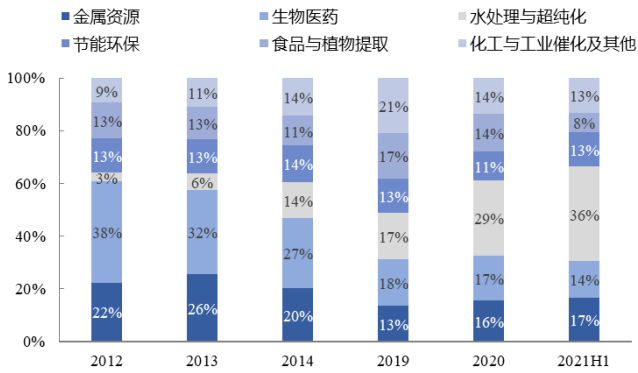
2021H1

35%

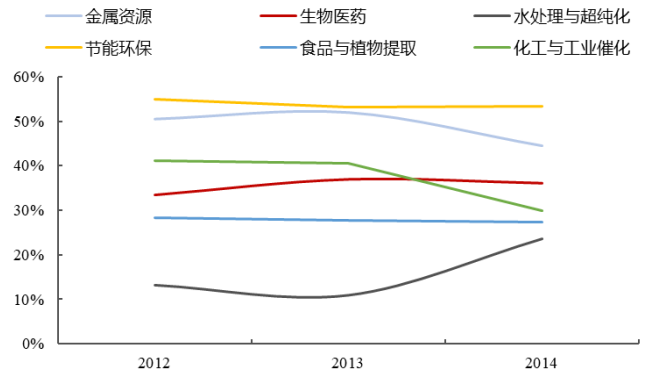
40%-60%

50%-55%

11



12



2015-2018

2015

13

	2020		2021Q1		2020		2021Q1	
	2020	2021Q1	2020	2021Q1	2020	2021Q1	2020	2021Q1
	7996	2740	-	-	-	-	-	-
	680	88	408	53	60.00%	60.23%	1013	1013
	45	167	22	129	48.89%	77.25%	6446	6446
	823	771	425	421	51.64%	54.60%	1341	1341
	533	164	451	151	84.62%	92.07%	644	644
								1169

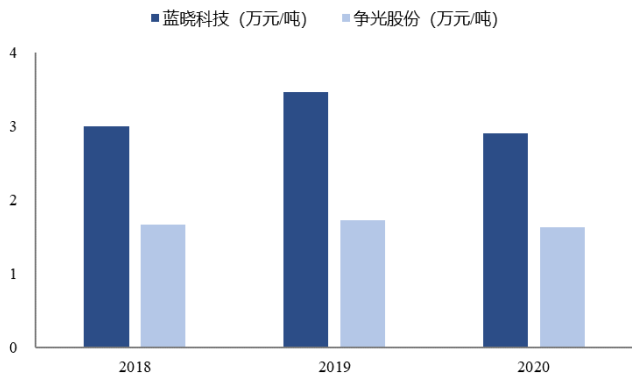
1.3-1.7

66%

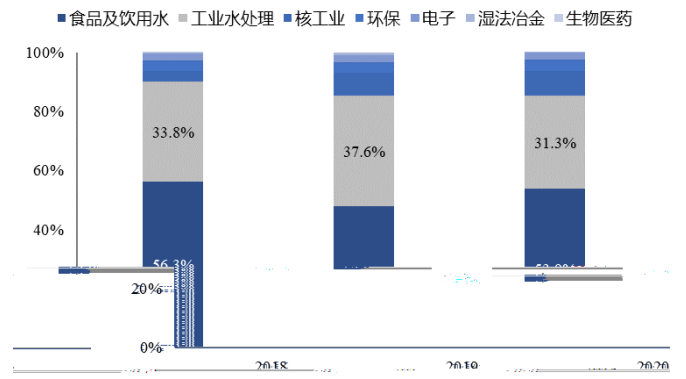
45%

10%

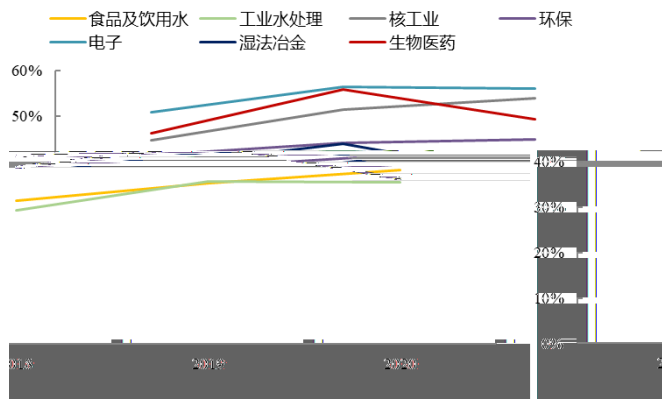
14



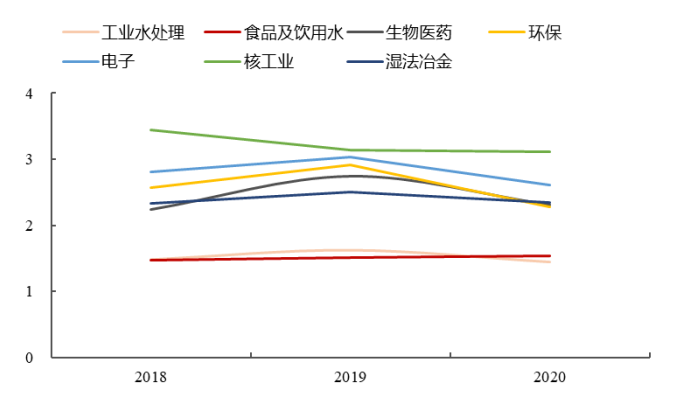
15



16



17



---

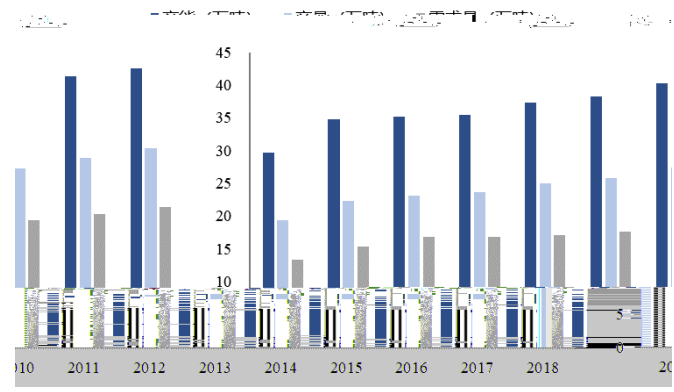
18

---

19

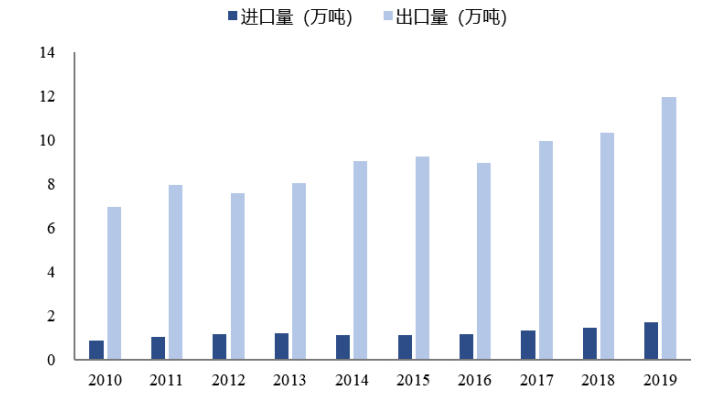
---

20



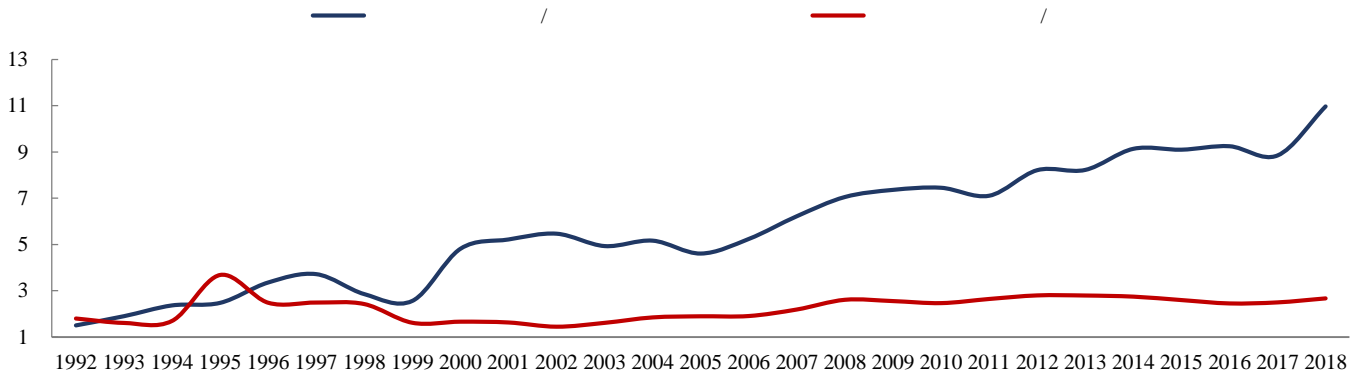
2019

21



2019

22



2018

21.56

47%

46%

15

3-5%

47%

53%

46%

23

				6	
				400	



1 10-30% 3 2

2021Q1 1 3  
 1 5.78/4.68/0.23 2021H1  
 600  
 10000 / ED

Vulkan 2020 2021Q1 SQM Ansson  
 60%/60.2% 2020 7.4% 680/88

26 2021 9 31

	2018 3 24	1	10	5.78	5.09
	2018 6	3kt/a	4.68	4.68	3.26

19  
 2019



+

4.68 6.24

3000

3

4000

		-		+		
		3		-		
		4		-		
		600		+		

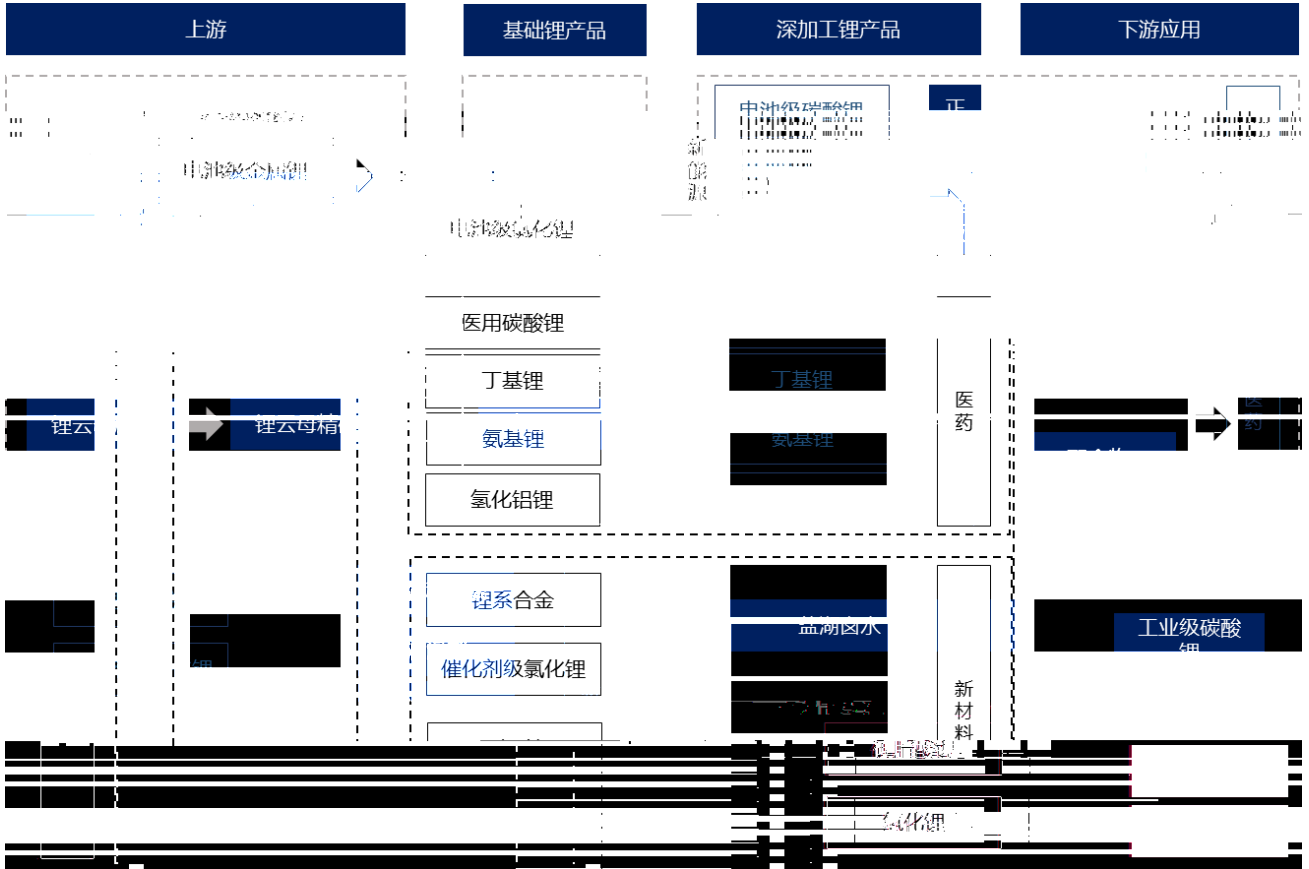
1

w(NaCl<sub>eq</sub>)>3.5%

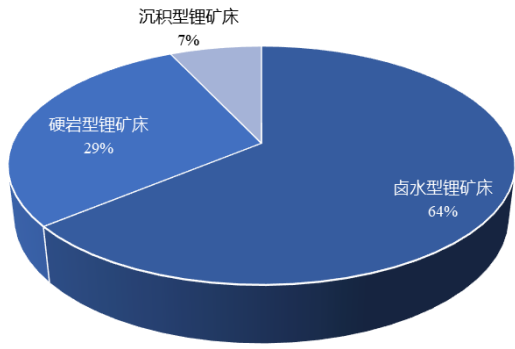
200

64%/29%/7%

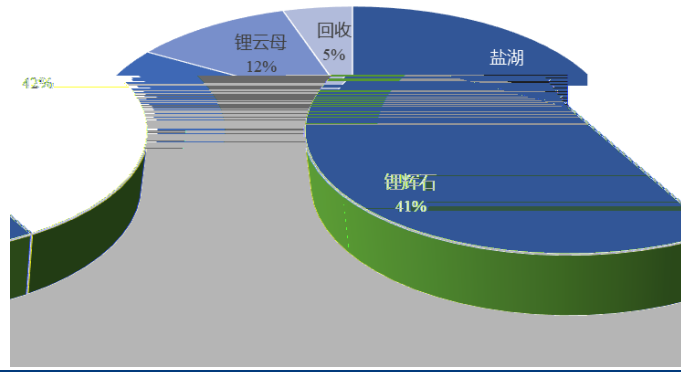
28



29 2020



30 2021



7-9k \$/t

64%

18-24

31

	, Li <sub>2</sub> O 0.3%-2.4%	, Li <sub>2</sub> O 0.09%-0.32%
<b>LCE</b>	7000-9000 \$/t	2000-4000 \$/t
	1 -3	18-24

2

1

8.2 USGS 2020  
2016

2100  
2017-2019

2019 3

32

33

WIND, USGS,

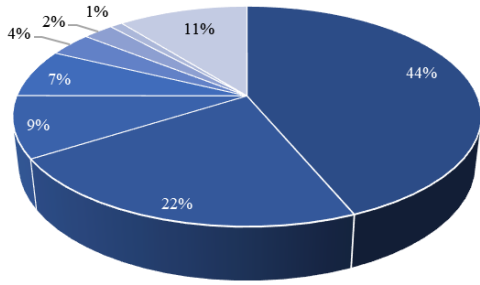
65% ,

34

		Li/%	Li/10 <sup>6</sup> t	2018	LCE
Uyuni		0.053	10.2		
Atacama		0.157	6.3	SQM 7 t/a,ALB	4.4 t/a
Antofalla		0.035	2.22	Advantagelithium	Orocobre 2019 2 t/a
Centenario		0.032	1.86	Eramet 2022 2 t/a	
Rincon		0.033	1.56	Rincon 2022	2.8 t/a
SaldeVida		0.063	1.36	Galaxy 2018	2.5 t/a
Olaroz		0.06	1.21	Orocobre	1.25 t/a
Cauchari		0.052	1.06		

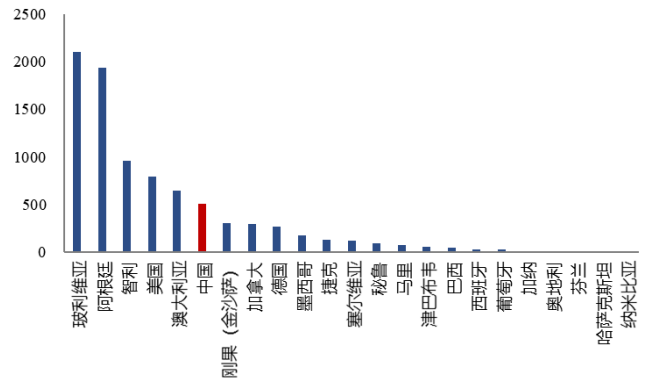
35

智利 澳大利亚 阿根廷 中国 美国 加拿大 津巴布韦 其他国家



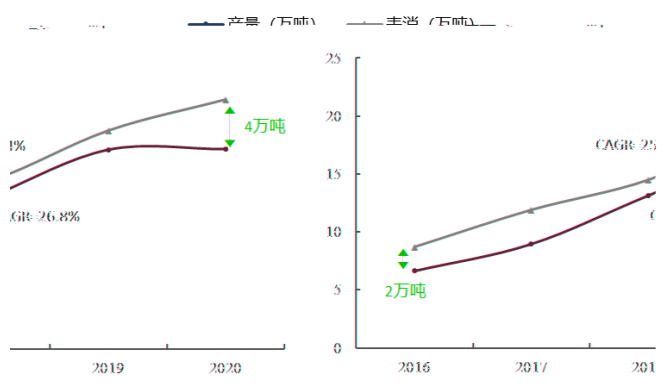
USGS

36

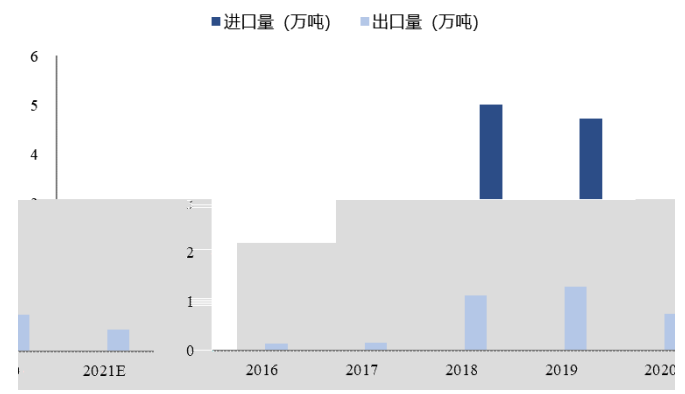


USGS

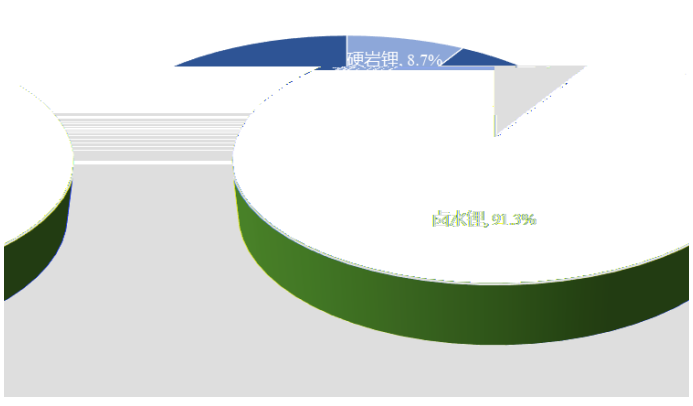
37



38



39 2018



40

锂矿种类	主要技术	成本 (万元)	代表企业
盐湖卤水	沉淀法	1.5-2	西藏珠峰, 西藏矿业成本较高 (3万左右)
	吸附法	3.1-3.6	蓝科锂业, 藏格控股
盐湖卤水	萃取法	2-3	大华化工, 兴华锂盐
	电渗析膜法	2 (1万吨总投入4亿)	青海锂业
	纳滤膜分离法	6 (1万吨膜系统的投入在6-7亿)	恒信融

0.01:1

**41**

		359.96	1073.23	427.19	1545.42	LiCl
		2348.8	-	--	2348.8	Li <sub>2</sub> CO <sub>3</sub>
		-	-	309.09	309.09	LiCl
		1.42	36.14	153.11	189.25	Li <sub>2</sub> O
		0.08	2.71	11.56	14.27	Li <sub>2</sub> O
		2.2	-	-	2.2	Li <sub>2</sub> CO <sub>3</sub>
		0.2	-	-	0.2	Li <sub>2</sub> CO <sub>3</sub>
		32.99	37.15	5.61	42.76	Li <sub>2</sub> O
		-	-	7.02	7.02	Li <sub>2</sub> O
		0.01	0.01	35.53	35.54	Li <sub>2</sub> O
		-	-	4.14	4.14	Li <sub>2</sub> O
		-	-	16.94	16.94	Li <sub>2</sub> O

**42**

			(mg/L)					
		284.78	850	35.2:1		2		
						1		
		308	220	90.5:1		2	(	+
		1623.47	310	1577:1		3		+
						1		+
		178.39	210	100				

2

								2020	
	299		2025	2030			1143	2243	10
7			22%			2020			137
	2025	2030	2035		600	1200	1500	15	10
	17%								

43

44

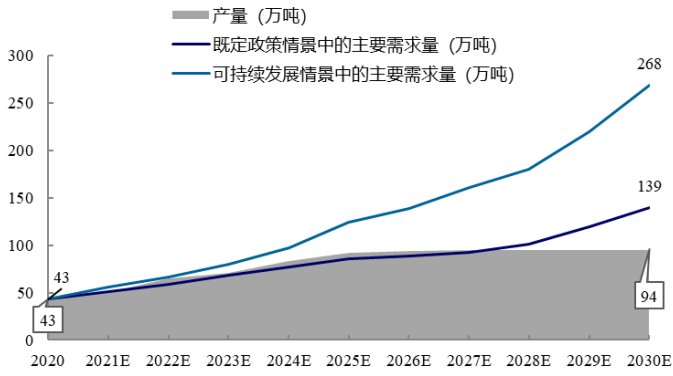
IEA

45

							0.105kg	2021
	18.9	7.8	2025	2025	65	20.9	2021	

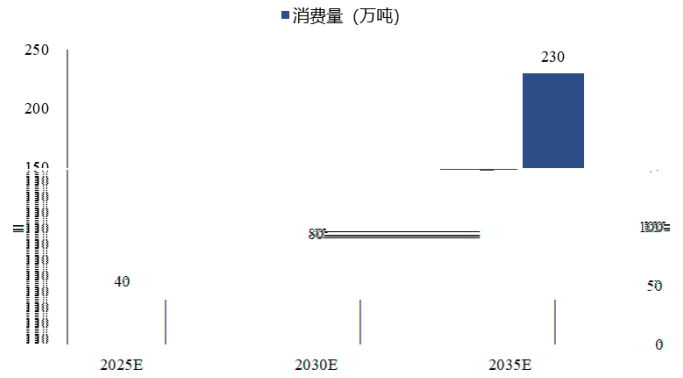
		2021	2022	2023	2024	2025
	/GWh	113	153	207	279	374

46



IEA,

47



3

2

2021

+

48

			Li2CO3		
			75-85%	15%-20%	
	Mg2+/Li+				
		40			
				1	2



			3	
			4	

SMM,

49

	+		
	+		
	+		
	+		

1

2 2

3

20 20% 30-50% 40%

90% 70-85%

2020 1.70 -9.24%

28.7% 2021H1 1.45 +85% 36%

2015 2019 7

2020 ASTM

2020 2020 2021Q1

823/771 51.6%/54.6% 2020

4.8%

+

1

25

18.25 cm

TOC

: (GB/T  
(ASTM-D5127-13)

11446.1-2013)

ASTM

**50 ASTM**

Parameter	TypeE-1	TypeE-1.1	TypeE-1.2	Sunresin
Linewidth (microns)	1.0-0.5	0.35-0.25	0.18-0.09	-
Application	PCP LED	OLED	Mircons	OLED/Microns
Resistivity,25	18.1	18.2	18.2	18.2
-line)	5	2	1	0.45-0.70
)	25	10	3	0.9
<b>On-line particles/L(micron range)</b>				
<b>0.05-0.1</b>	-	1000	200	30-50
<b>0.1-0.2</b>	1000	350	<100	10-25
	3	1	0.5	0.10-0.12
	0.1	0.1	0.05	<0.05
	0.05	0.02	0.005	<0.005

- 1 Resistivity H+ OH- 18.20
- 2 TOC :
- 3 Dissolvedoxygen
- 4 On-lineparticles/L(micronrange)
- 5 SilicaDissolved

6 AnionsandAmmonium

7 MetalsbyICP/MS

**51**

	Dupont				
	AmberTec™UP6040		Monojet®6040U		-
	(H)	(OH)	(H)	(OH)	-
	525±50	630±50	600±50	630±50	
(%)	45-51	54-60	43-51	50-60	
(%)		-		-	
(%)	-		-		
<b>Delta TOC(ppb)</b>					

1

1

2

3

4

5

H+

6

OH-

7 DeltaTOC

TOC

1ppb

**2**

Verified markrt research 2019 66.2  
 2027 114.1 2020-2027 CAGR 7.6%

47%/18%/10%/9%/8%

**1**  
 2018-2022

Technavio  
 8% 2022 41.7

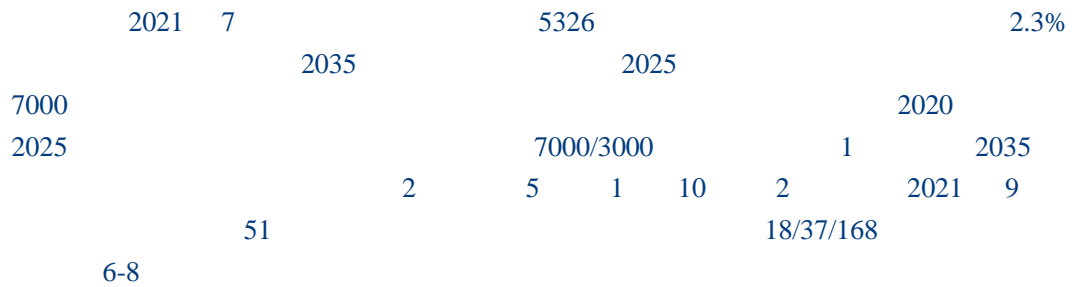
1/3



	2015	2020E	2025E
/			
	141.12	290.16	400.14
	1266.48	1338.39	1425.33
	1407.60	1628.55	1825.47
/			
	93.14	191.51	264.09
	835.88	883.34	940.72
	929.02	1074.84	1204.81
/			
	1034.88	2127.84	2934.36
	9287.52	9814.86	10452.42
	10322.40	11942.70	13386.78

SEMI

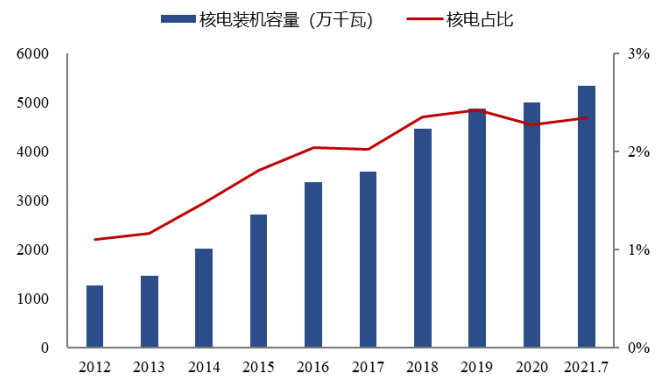
2



57



58



WIND

59

60

2035

WIND

2020

2020

3926

2553

9.5%

2030 2050

496/715GWe

5.1% 5.2%

366/371GWe

3.7% 2.7%



		75%		1.3×10 <sup>3</sup>
<b>MCDI</b>	+			18

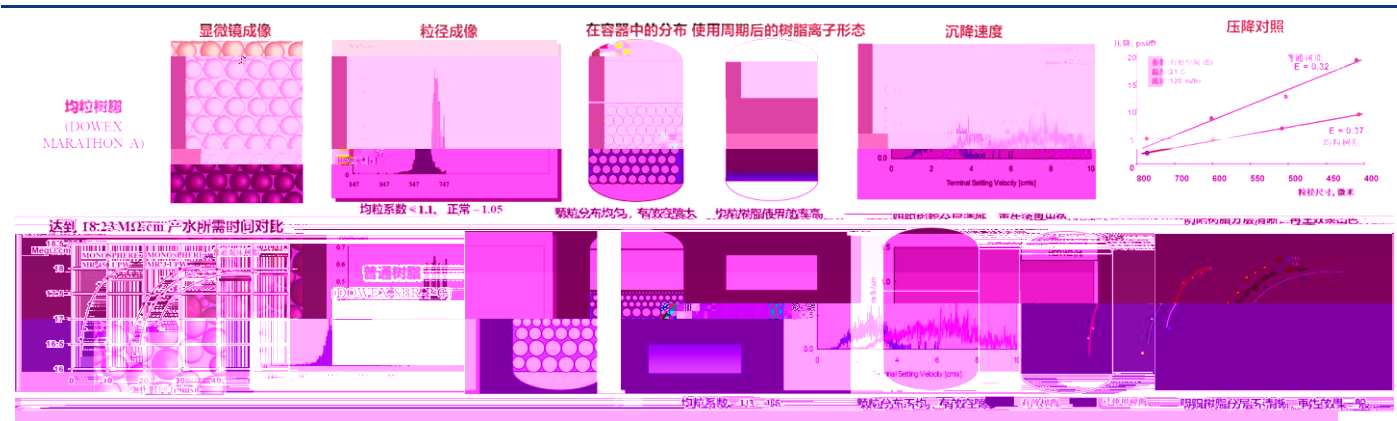
4

65

				40-100m/h
		H OH		
	H	OH	DOW	Rohm & Hass 3 ,
	6			



66



DOWEX

60-95

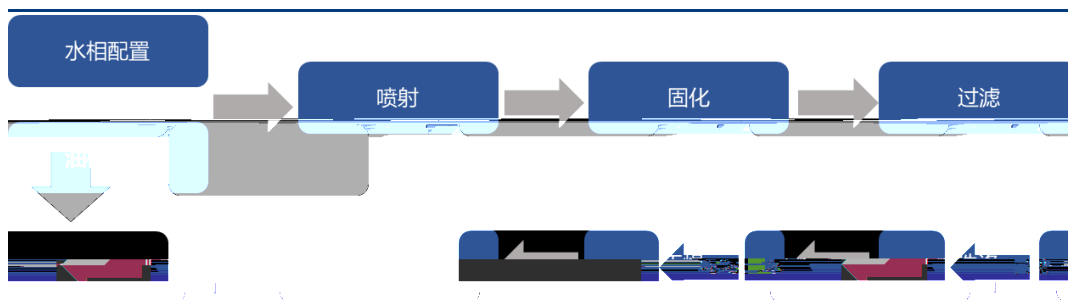
95%

1.1-1.15

<math>< 1.1</math>

1

67



+

1

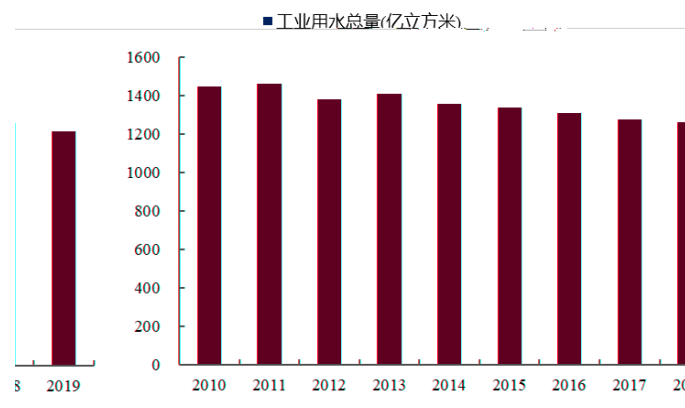
2019

6021.2

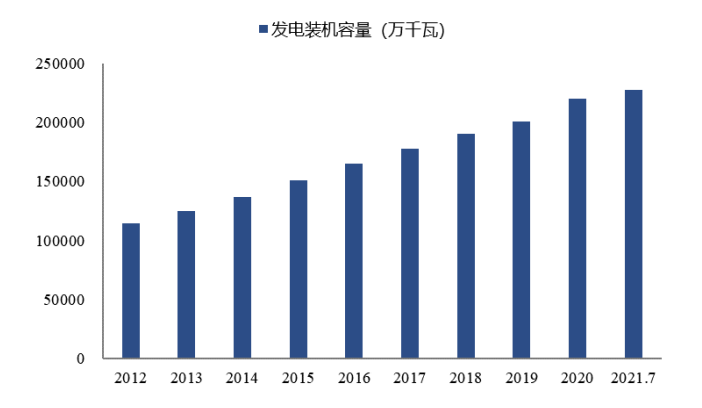
2021 7

22.72

68



69



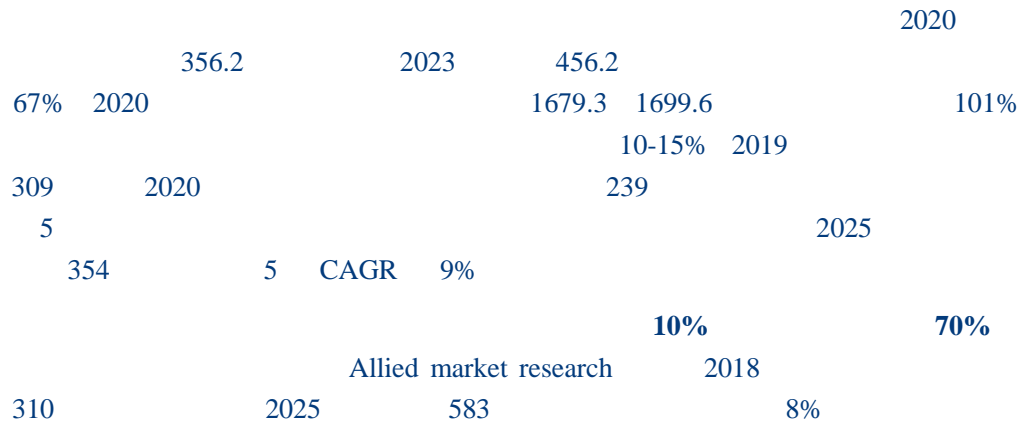
WIND,

2

80%

25%      2012-2020      CAGR

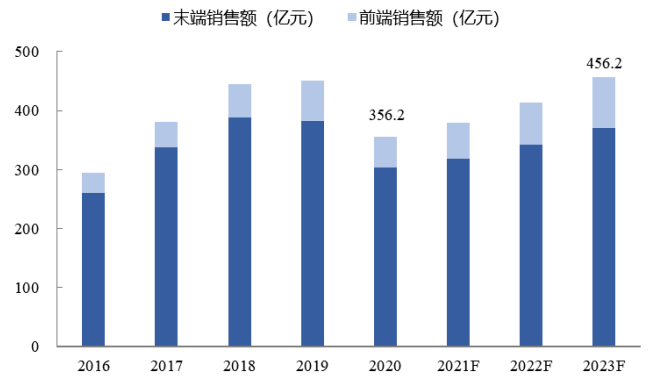
5



70

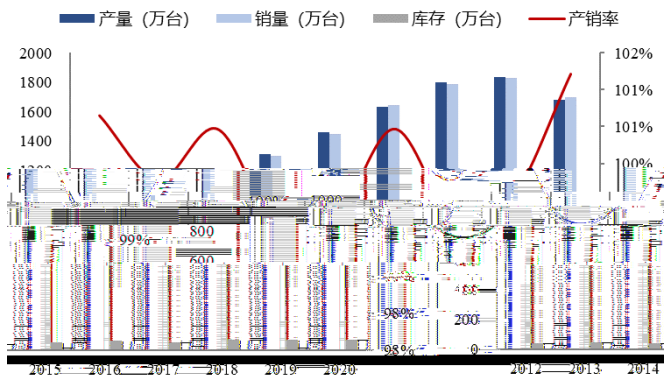


71



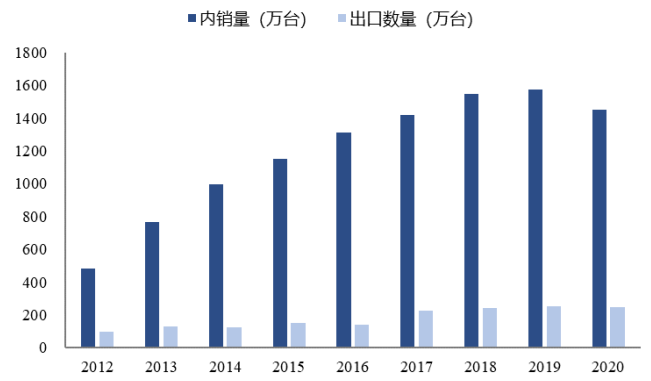
2020

72



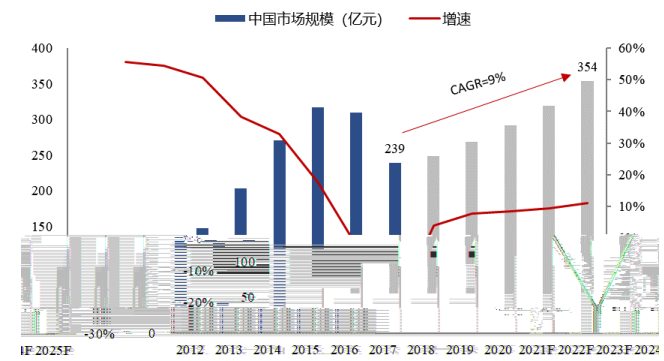
WIND,

73



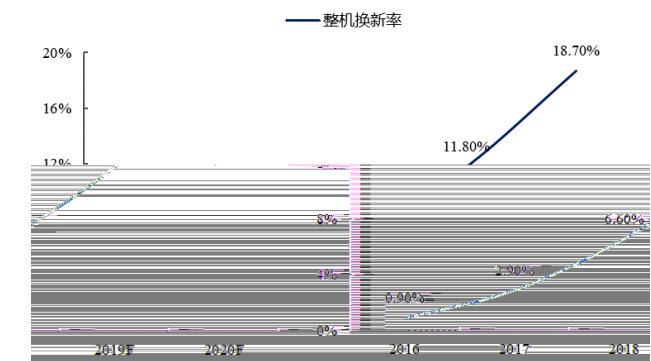
WIND,

74



2020

75





	Oligonucleotide		
		S-	
			1. 2. 3. 600 4. 1 / ED 5. SQM Ansson Vulkan 6. 4000 7. 8. 9. 10. 11.
		BDO	BYD
			CO2

			1. 90 95
			2.
			3.
			CBD

79

<b>Sepsolut®</b>		C- E		
<b>Puritech®</b>				
		MTBE		
<b>SMB</b>				
<b>SSMB</b>				
	1 2 3 /	CBD		
<b>EPC</b>			-	1 2

			3
	EPC	-	

+  
 1 + 3000 +  
 + +

2021 6 30  
 38 32 5 1 PCT 5  
 46

**80**

	✓	✓	✓	✓	✓	✓	✓	✓	✓
		✓	✓	✓			✓	✓	✓
		✓	✓	✓	✓	✓	✓	✓	
			✓						
				✓	✓		✓		✓

**81**







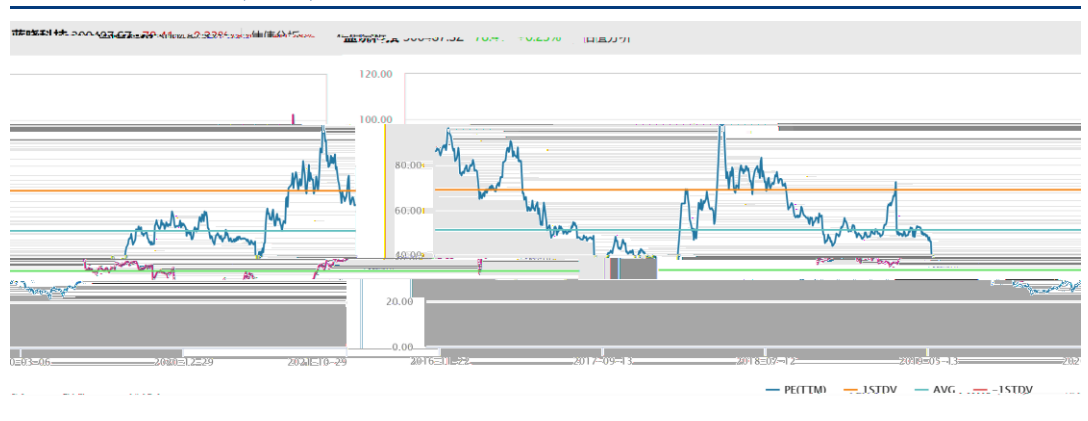
				6.5	1.30%	0.03%
			154	375.5	72%	1.86%
			<b>158</b>	<b>415</b>	<b>79.90%</b>	<b>2.04%</b>
2019-07-16	16.35	Jean-Marc Vesselle		11	2.20%	0.05%
2020-01-20	19.47	LIN XIANGZHOU		2	0.40%	0.01%
				1	0.20%	0.00%
			<b>2</b>	<b>3</b>	<b>0.60%</b>	<b>0.01%</b>

89 2019

		2017	2019	100%
		2017	2020	120%
		2017	2021	140%
		2017	2020	120%
		2017	2021	140%

		2021-2023		2021-2023	
3.4	4.4	5.3	EPS	1.56 2.01 2.41 /	PE TTM
50		2022		100.50 /	

90 PE(TTM)



WIND,

	2020	2021E	2022E	2023E		2020	2021E	2022E	2023E
	605	223	115	197		<b>923</b>	<b>1,390</b>	<b>1,843</b>	<b>2,196</b>
	1	62	72	46		493	744	1,002	1,202
	286	398	501	603		12	16	21	25
	14	32	45	41		24	36	47	56
	332	415	625	745		83	125	165	197
	8	3	5	8		55	82	109	130
	145	303	311	383		41	10	15	17
	1,383	1,433	1,669	2,015		2	-12	-16	-8
	16	20	18	18		-16	-6	-5	-4
	3	3	3	3		2	1	1	1
	673	1,288	1,724	1,944		1	1	1	1
	42	142	267	367		9	8	8	8
	167	150	135	122		<b>215</b>	<b>368</b>	<b>473</b>	<b>568</b>
	269	129	158	185		3	1	1	1
	1,170	1,732	2,305	2,639		1	1	1	1
	<b>2,553</b>	<b>3,165</b>	<b>3,974</b>	<b>4,654</b>		<b>217</b>	<b>368</b>	<b>473</b>	<b>568</b>
	71	142	213	284		21	36	46	55
	91	63	84	111		<b>196</b>	<b>332</b>	<b>427</b>	<b>513</b>
	200	365	523	605		-7	-11	-14	-17
	0	0	0	0		<b>203</b>	<b>343</b>	<b>441</b>	<b>530</b>
	159	239	318	378	NOPLAT	232	342	440	528
	69	69	69	69	EPS( )	0.94	1.56	2.01	2.41
	18	6	8	11					
	87	143	183	220					
	695	1,027	1,398	1,678		2020	2021E	2022E	2023E
	23	23	23	23		-8.8%	50.6%	32.6%	19.2%
	95	127	169	130	EBIT	-10.7%	47.1%	28.8%	20.0%
	68	39	52	53		-19.6%	69.9%	28.5%	20.1%
	186	189	244	206		46.6%	46.5%	45.7%	45.3%
	<b>881</b>	<b>1,216</b>	<b>1,642</b>	<b>1,884</b>		21.2%	23.9%	23.2%	23.3%
	1,650	1,938	2,335	2,790	ROE	12.1%	17.6%	18.9%	19.1%
	22	11	-3	-20	ROIC	14.2%	16.2%	17.1%	17.6%
	<b>1,672</b>	<b>1,949</b>	<b>2,332</b>	<b>2,770</b>		34.5%	38.4%	41.3%	40.5%
	<b>2,553</b>	<b>3,165</b>	<b>3,974</b>	<b>4,654</b>		16.4%	17.3%	19.9%	18.1%
						2.0	1.4	1.2	1.2
						1.5	1.0	0.7	0.8
						0.4	0.4	0.5	0.5
						101	89	88	90
						184	137	160	169
						237	181	187	205
					( )	0.94	1.56	2.01	2.41
						1.18	1.07	2.43	3.05
						7.51	8.82	10.62	12.69
					P/E	80	48	37	31
					P/B	10	9	7	6
					EV/EBITDA	52	38	27	22

2018

2020

2021

2021

			010-66500809	zhangyujie@hcyjs.com
			010-66500817	zhangfeifei@hcyjs.com
			010-63214670	houchunyu@hcyjs.com
			010-63214683	houbin@hcyjs.com
			010-63214683	guoyunlong@hcyjs.com
			010-66500867	liuyi@hcyjs.com
			010-63214683	dana@hcyjs.com
				cheyizhe@hcyjs.com
			0755-82828570	zhangjuan@hcyjs.com

( 300)

6	20%		
6	10%	20%	
6		-10%	10%
6	10%	20%	
3-6			5%
3-6		-5%	5%
3-6			5%

	26		1061		33
C 3A		A 19		12	
100033		518034		200120	
010-66500801		0755-82027731		021-20572500	
010-66500900		0755-82828562		021-20572522	