

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

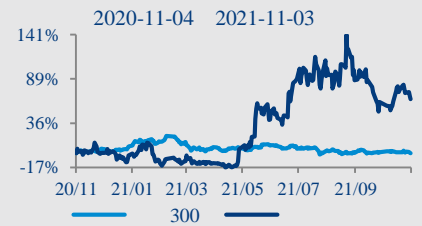
+ +

+

2018 2019 2020 2021H1

1/3.85/1.95/0.94

SQM Ansson Vulkan



2019

66.2
47%
264.09/1204.81

Verified markrt research
2027 114.1
2025

2934.36/13386.78

50% 3

80%

239 2020

356.2

583

2018

10%

310

70%

2025

40-60% +

2021-2023

3.4 4.4

5.3 2022 EPS 1.56 2.01 2.41 / PE TTM 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

	.....	8
	.....	12
	.....	15
	.....	15
	.....	18
+	.....	25
	.....	25
+	.....	26
+	.....	33
	.....	36
	400	36
	.....	39
	.....	42
	.....	42

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
188	.....	13
19	.....	13
20	.....	14
21	.....	14
22	.....	14
23	.....	14
24	.....	15
25	.....	15
26	2021 10 4	

34	.....	20
35	.....	21
36	.....	21
37	.....	21
38	.....	21
39 2018	.....	21
40	.....	21
41	.....	22
42	.....	22
43	.....	23
44	.....	23
45	.....	23
46	.....	24
47	.....	24
48	.....	24
49	.....	25
50 ASTM	.....	26
51	.....	27
52	.....	28
53	.....	28
54 2015-2025	8 ,K wpm	28
55 2015-2025	8 ,K wpm	28
56	.....	28
57	.....	29
58	.....	29
59	.....

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

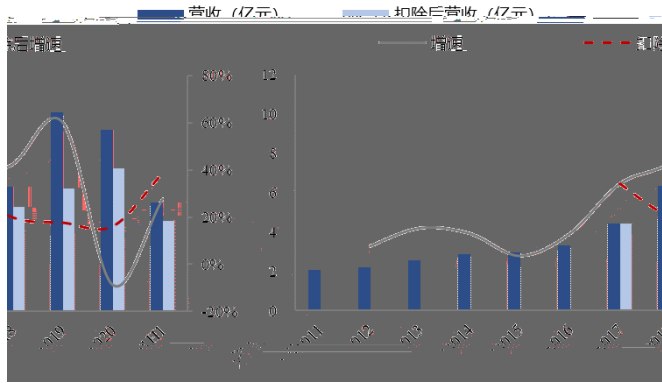
1

25.02% 9
2018 2019
Lonex Puritech
2019

2020

1/3.85/1.95/0.94
2021H1 4.6

3

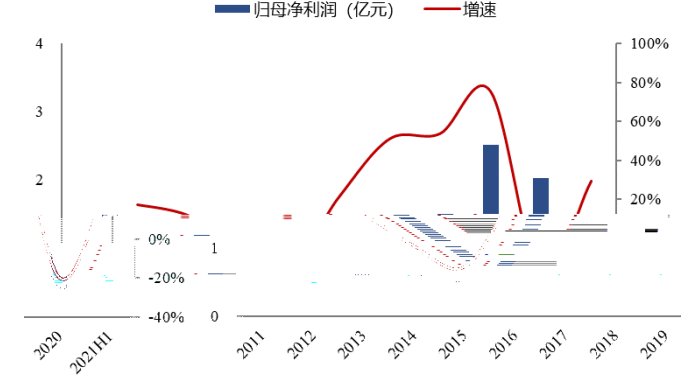


2020

2018 2019 2020 2021H1
2020 18%

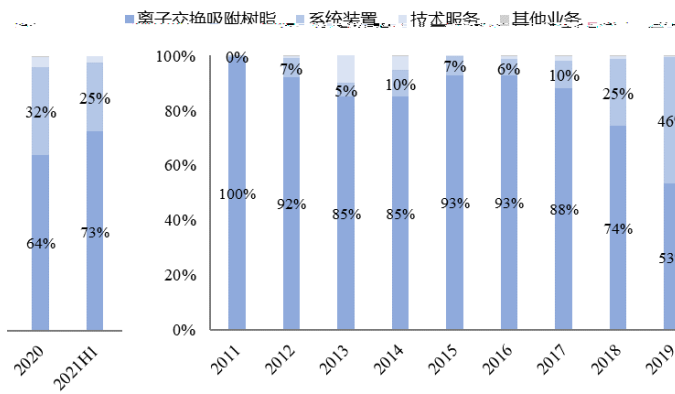
38%

4



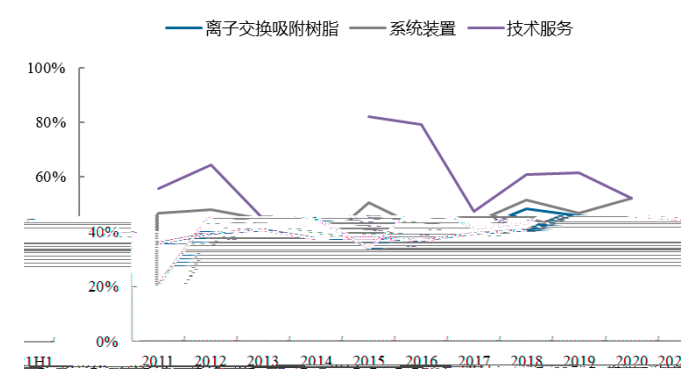
25.19% 2011 2021H1
2021H1
27%
31pct 52%

5

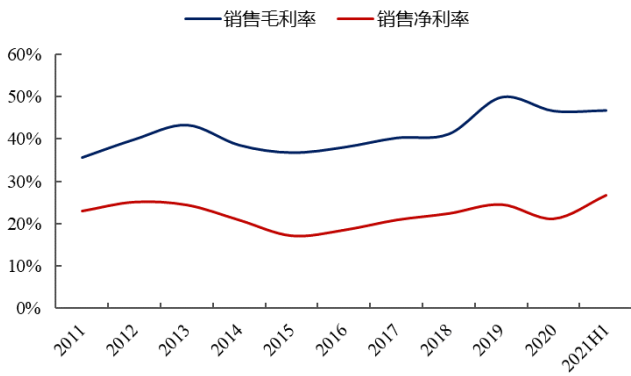


73%
24.7% 2011
11pct 47% 4pct
3%
40%
36% 2021 45% 2011

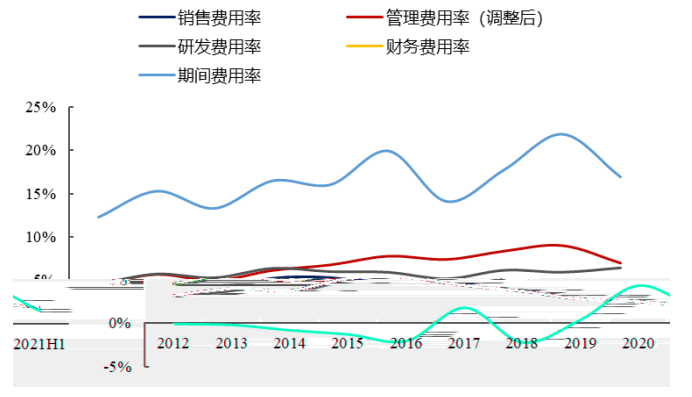
6



7



8

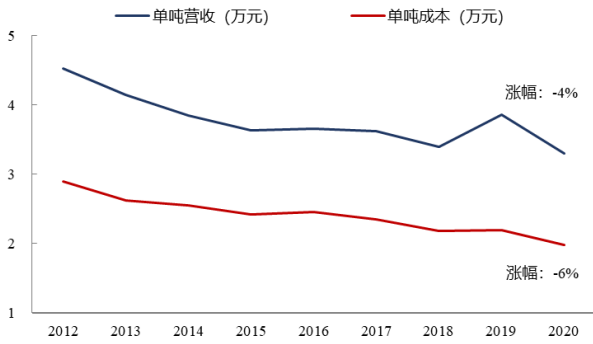


2017

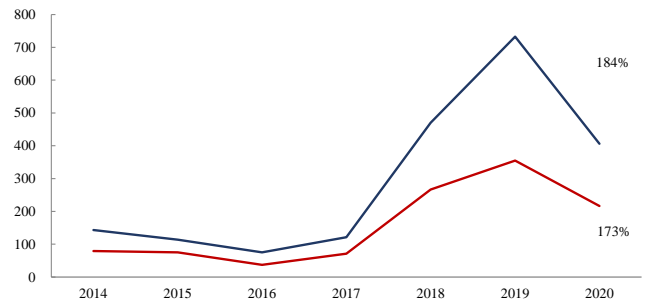
1.57 / 184% 173%

2012-2020 2018 6% 2020 2014-2020

9



10



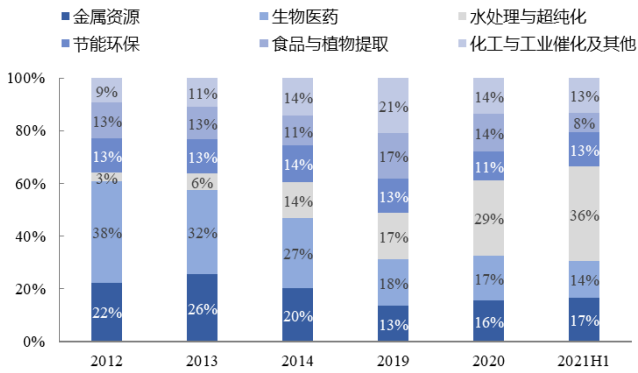
2021H1

35%

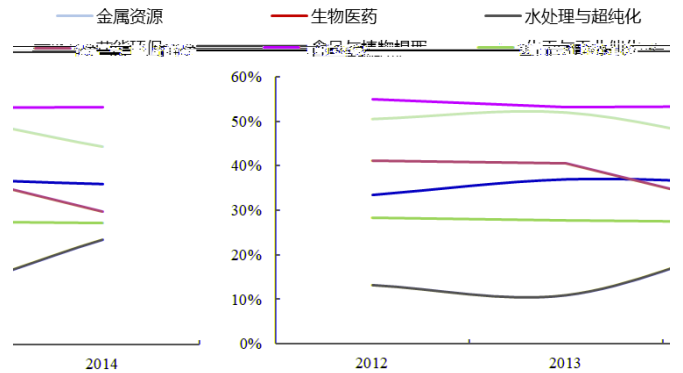
40%-60%

50%-55%

11



12



2015-2018

2015

13

	2020		2021Q1		2020		2021Q1	
	Value	Value	Value	Value	Value	Value	Value	
	7996	2740	-	-	-	-	7135	
	680	88	408	53	60.00%	60.23%	1013	
	45	167	22	129	48.89%	77.25%	6446	
	823	771	425	421	51.64%	54.60%	1341	
	533	164	451	151	84.62%	92.07%	644	
							1169	

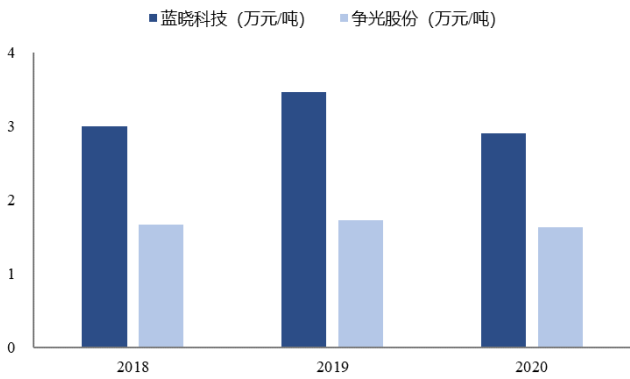
1.3-1.7

66%

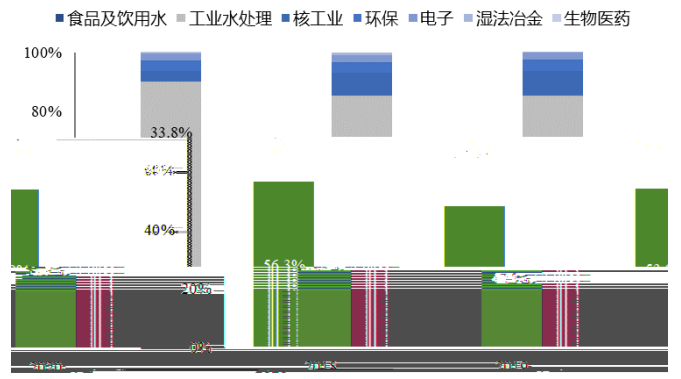
45%

10%

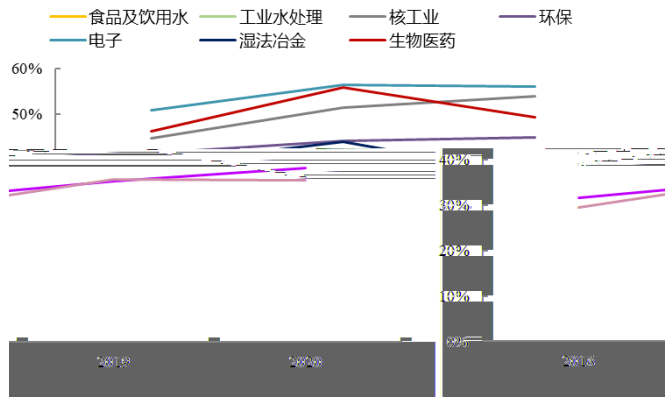
14



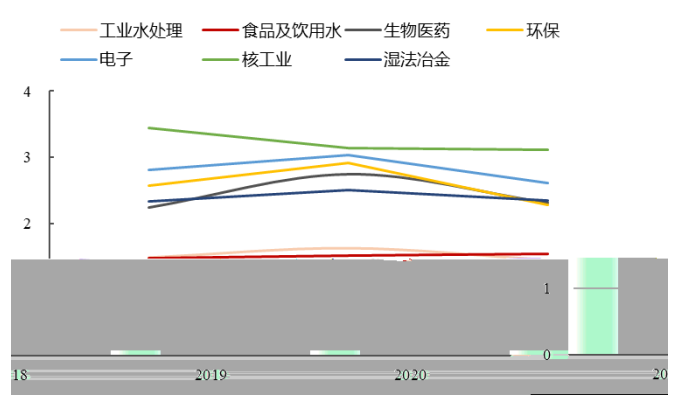
15



16



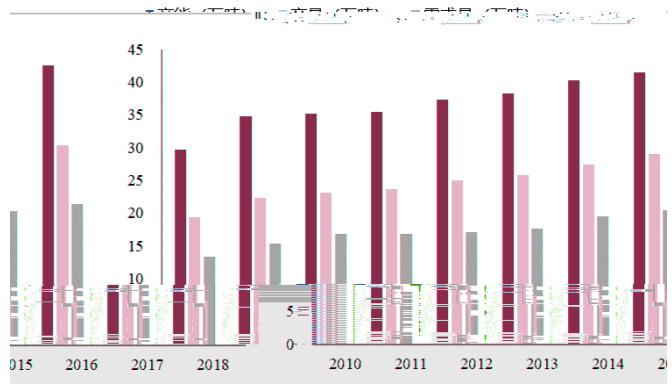
17



18

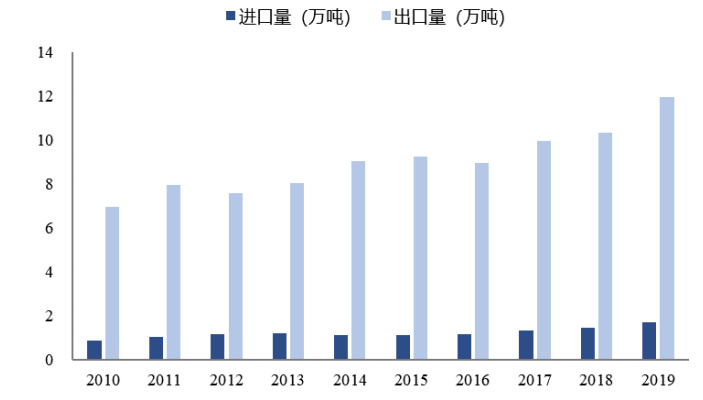
19

20



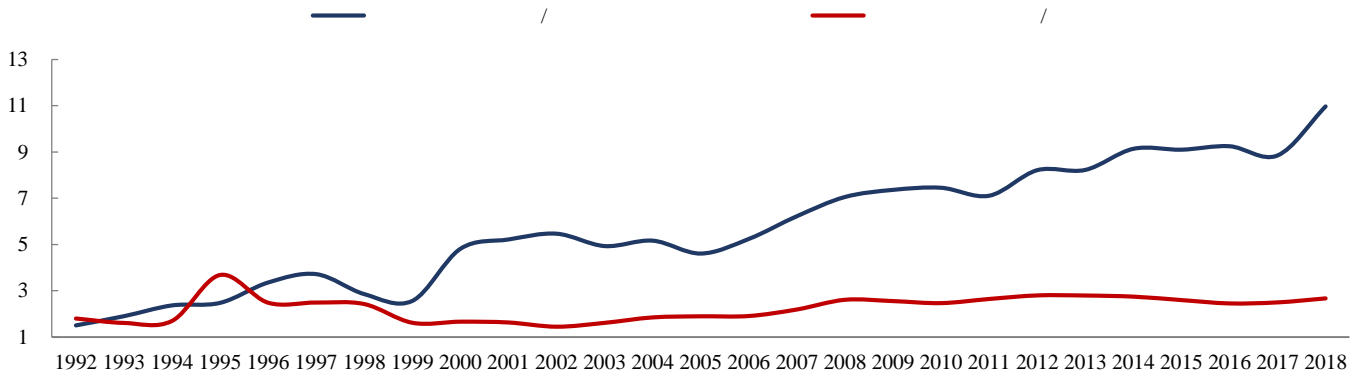
2019

21



2019

22



2018

21.56

47%

46%

15

3-5%

47%

53%

46%

23

				6	
				400	

1

10-30%

3

2

2021Q1

1

1
5.78/4.68/0.23
600

3
2021H1

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
	2018 6	3kt/a		2021 3	4.68

2019

+

4.68 6.24

3000

3

4000

		-		+		
		3		-		
		4		-		
		600		+		

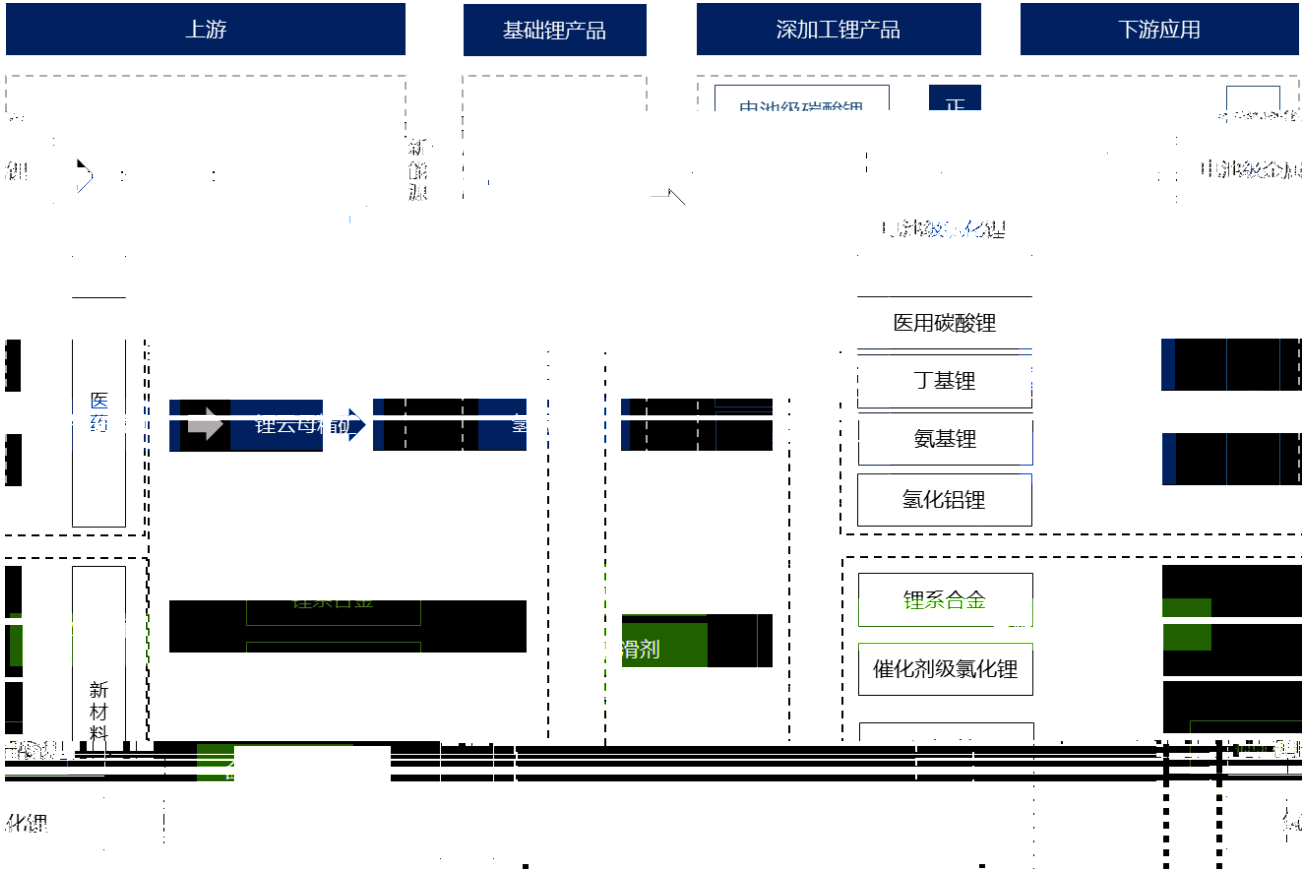
1

w(NaCl_{eq})>3.5%

200

64%/29%/7%

28



29 2020

30 2021

2

7-9k \$/t

64%

18-24

÷ [" 6 ä , " 6] ¼ ' 0t]

31

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

2

32

33

WIND, USGS,

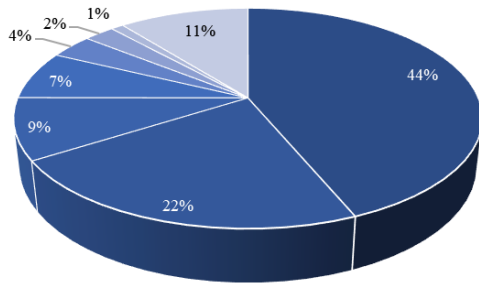
65% ,

34

		Li/%	Li/10 ⁶ 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		

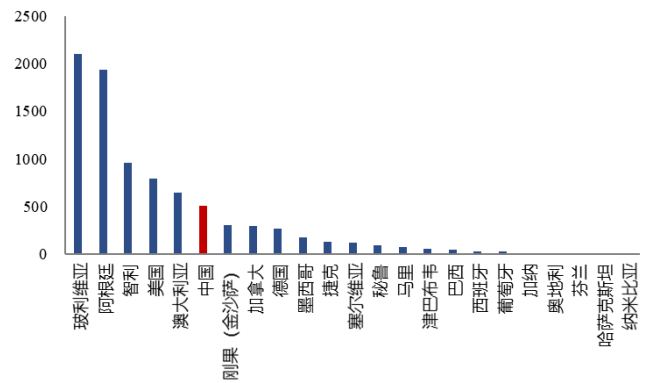
35

智利 澳大利亚 阿根廷 中国 美国 加拿大 津巴布韦 其他国家



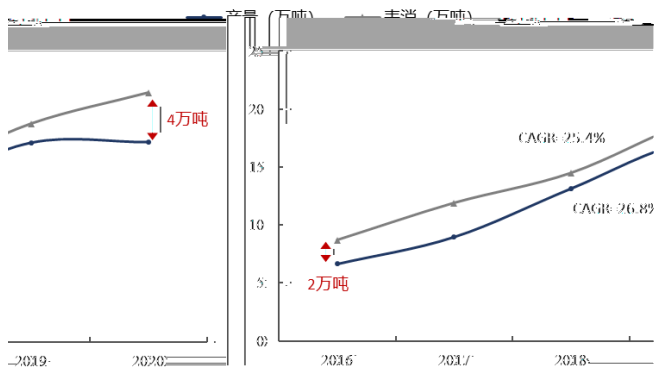
USGS

36

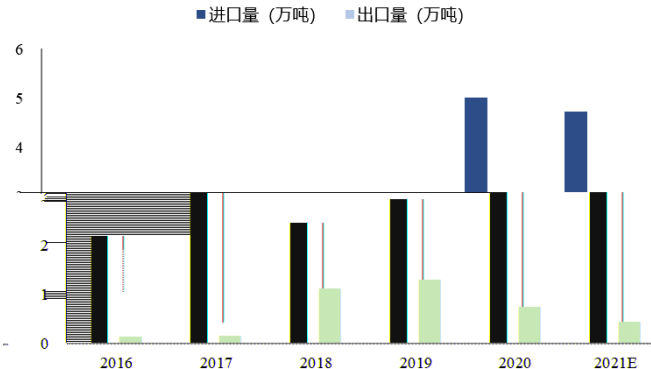


USGS

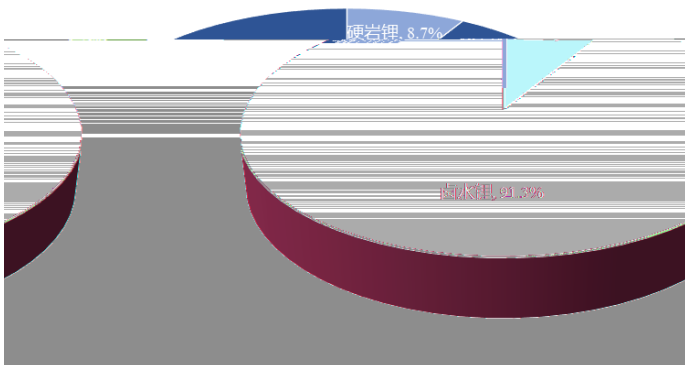
37



38



39 2018



40

方法	投入/成本	代表企业
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

20:1-1600:1

0.01:1

41

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

2

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

43

44

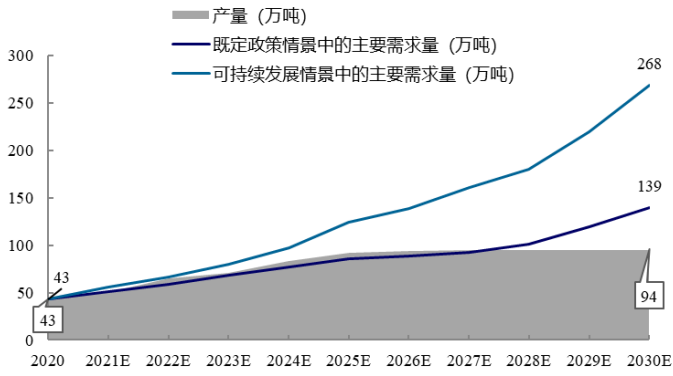
IEA

45

						0.105kg	2021
	7.8		2025		20.9	2021	
	18.9		2025	65			

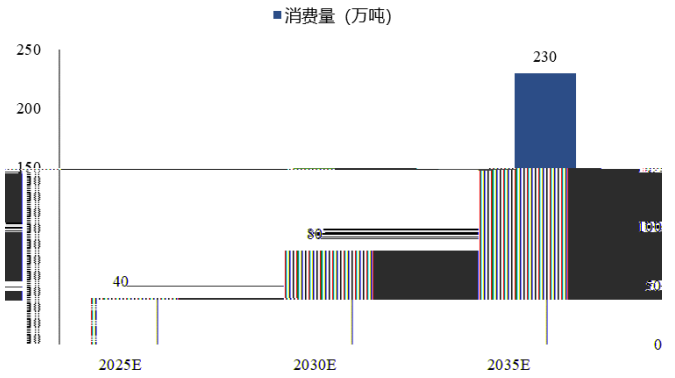
	2021	2022	2023	2024	2025
			207	279	374

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% 40%

20 30-50%

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
On-line particles/L(micron range)				
0.05-0.1	-	1000	200	30-50
0.1-0.2	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	
(%)		-		-	
(%)	-		-		
Delta TOC(ppb)					

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

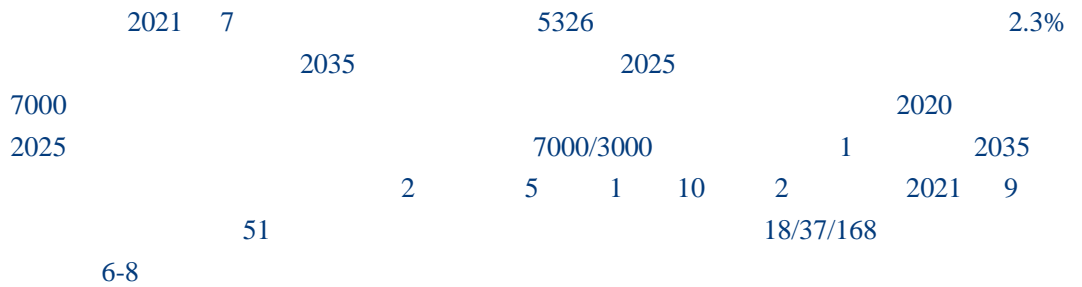
Technavio
 8% 2022 41.7

1/3

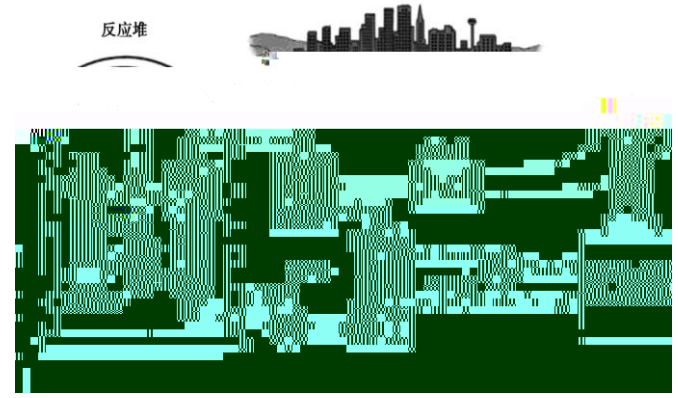
	2015	2020E	2025E
/			
	141.12	290.16	400.14
	1266.48	1338.39	1425.33
	1407.60	1628.55	1825.47
/			
	93.14	191.51	264.09
	835.88	883.34	940.72
	929.02	1074.84	1204.81
/			
	1034.88	2127.84	2934.36
	9287.52	9814.86	10452.42
	10322.40	11942.70	13386.78

SEMI

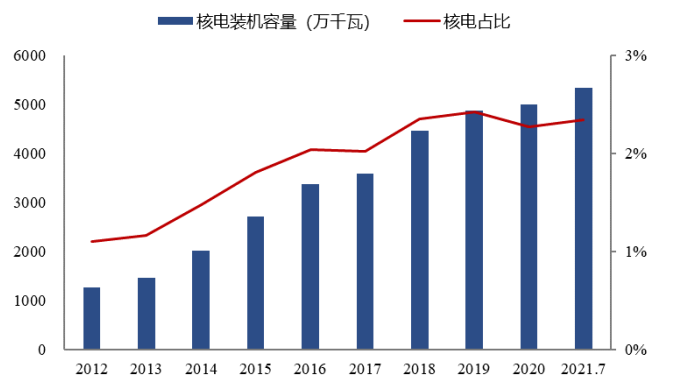
2



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%

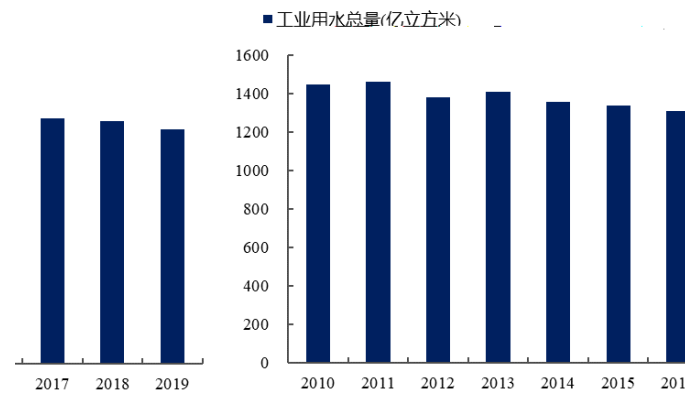
		75%		1.3×10 ³
MCDI	+			18

4

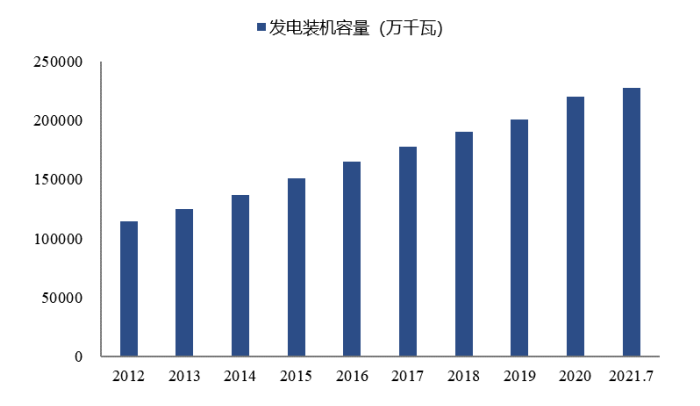
65

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

68



69



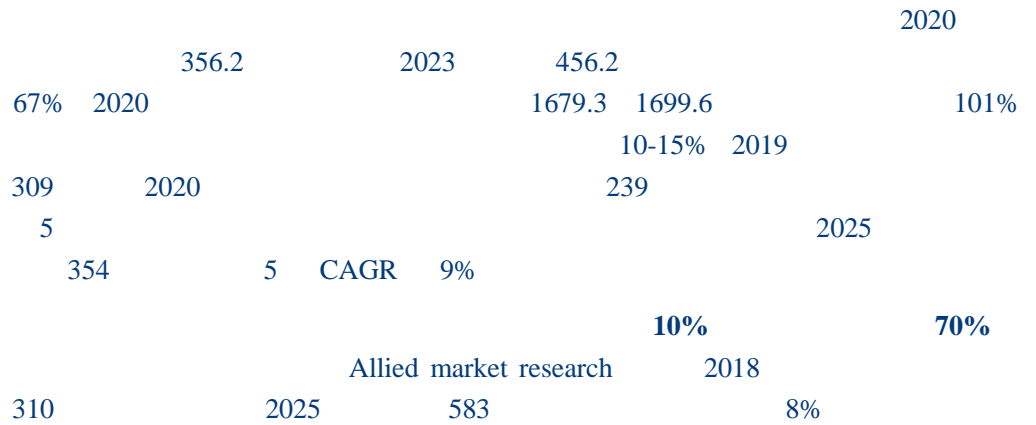
WIND,

2

80%

25% 2012-2020 CAGR

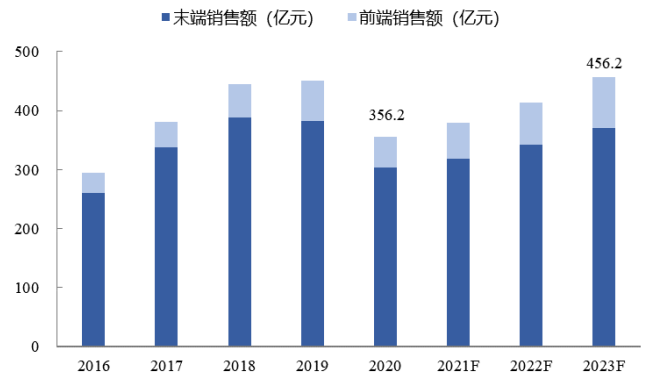
5



70

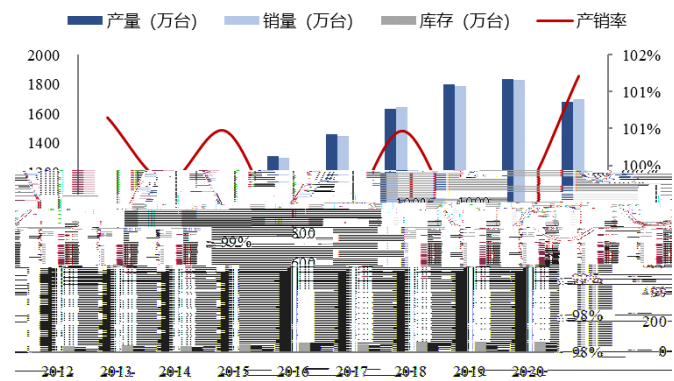


71



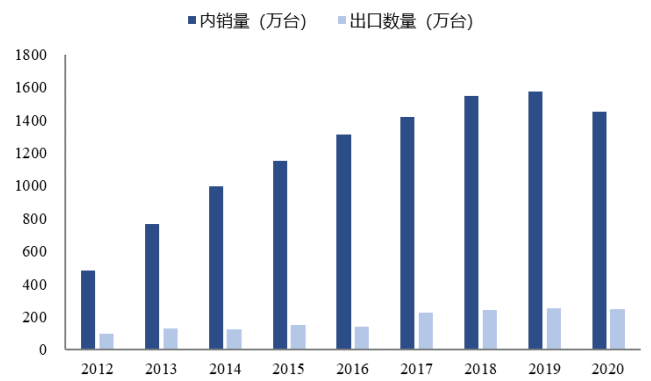
2020

72



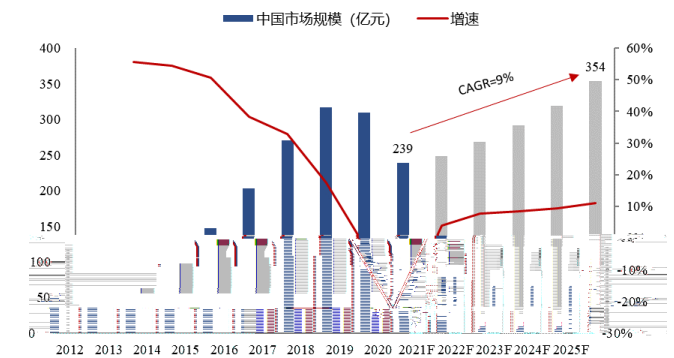
WIND,

73



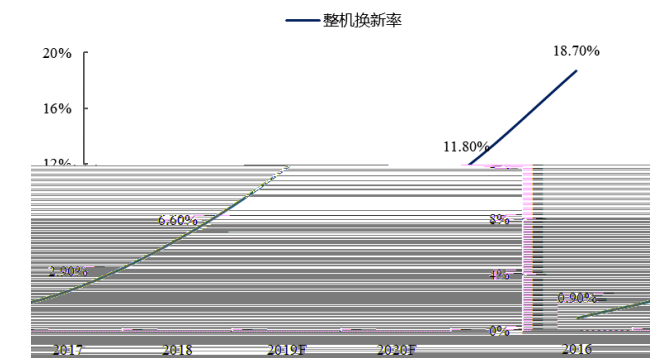
WIND,

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

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

			3
	EPC	-	

+

+ +

	2020	2021E	2022E	2023E		2020	2021E	2022E	2023E
	605	223	115	197		923	1,390	1,843	2,196
	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		215	368	473	568
	269	129	158	185		3	1	1	1
	1,170	1,732	2,305	2,639		1	1	1	1
	2,553	3,165	3,974	4,654		217	368	473	568
	71	142	213	284		21	36	46	55
	91	63	84	111		196	332	427	513
	200	365	523	605		-7	-11	-14	-17
	0	0	0	0		203	343	441	530
	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%
	881	1,216	1,642	1,884		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%
	1,672	1,949	2,332	2,770		34.5%	38.4%	41.3%	40.5%
	2,553	3,165	3,974	4,654		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

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(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	
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