Jiangsu Zhongtian Technology Co.,Ltd.

ACSR

2021 12 30

	-40 ~50 10kV~500kV
	40
	977KG/KM-1626.5 KG/KM
	+
	+ +
Conductor diameter	21.8MM- 32.85MM
Max. DC Resistance at 20	0.0512 Ω/km-0.1195 Ω/km

1.3

1m ACSR (7) 1

ACSR

ZTT ACSR -40 ~50
10kV~500kV ACSR

1m ACSR 7

ACSR 26-3.44+7-2.68 (EN 50182)

ACSR 26-3.72+7-2.89 (ASTM B232)

ACSR 26-4.44+7-3.45 (ASTM B232)

ACSR 45-3.38+7-2.25 (EN 50182)

ACSR 54-3.65+19-2.19(EN 50182)

ACSR 54-7-2.68 (EN 50182)

ACSR 54-7-3.08 (EN 50182)

ZTT LCA
LCA 90%

CLCD 10

ACSR 8

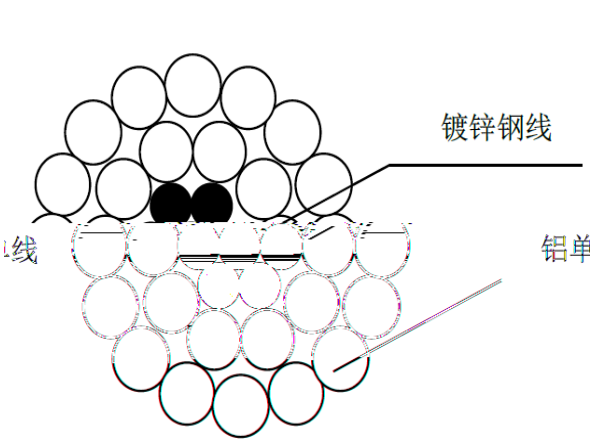
CLCD

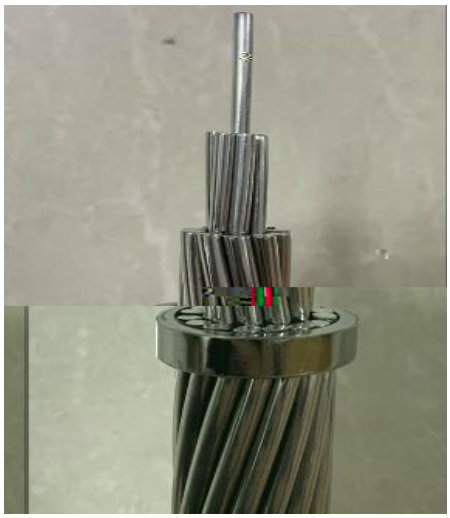
1.4

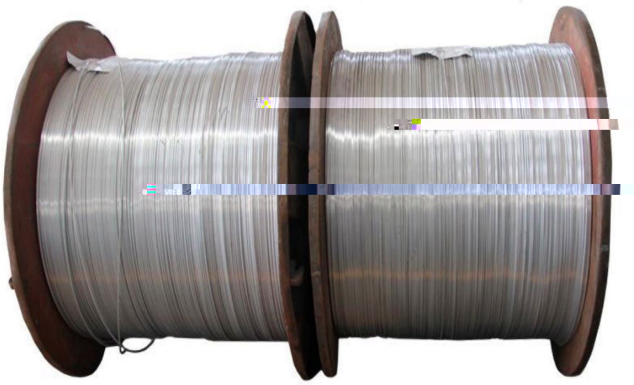
1.4.1

ACSR

1-1







1-1 ACSR

1.4.2 BOM

ACSR 7 BOM 1-2~ 1-8. ZTT

	kg/m	-%
/ &	6.683E-01	68.4%
/	3.087E-01	31.6%
	9.770E-01	100.0%
	kg /m	-% ( )
	3.640E-02	3.7%
	4.510E-02	4.6%
	1.000E-03	0.1%
	8.250E-02	8.4%

	kg/m	-%
/ &	7.799E-01	68.4%
/	3.598E-01	31.6%
	1.139E+00	100.0%
	kg /m	-% ( )
	3.893E-02	3.4%

	1.370E-03	0.1%
	1.490E-01	9.2%

	kg/m	-%
/ &	1.115E+00	83.6%
/	2.187E-	

	4.680E-02	3.1%
	1.310E-03	0.1%
	1.034E-01	6.8%

1.4.3

ACSR -40 ~50

10kV~500kV 1-9~ 1-16

Structure	Center: Steel wire 1/2.68 Nos./mm Layer 1: Steel wire 6/2.68 Nos./mm Layer 2: Aluminum wire 10/3.44 Nos./mm Layer 3: Aluminum wire 16/3.44 Nos./mm	EN 50182
Stranding direction of outer layer	Right-hand	
Conductor diameter	21.8 mm	
Cross section	281.1 mm^2	
Conductor weight	977 kg/km	
Rated tensile strength	84.5 kN	
Modulus of Elasticity	74.0 GPa	
Coefficient of linear expansion	18.9 10^{-6}/	
Max. DC Resistance at 20	0.1195 Ω/km	

Lay ratio

Structure	Center: Steel wire 1/3.45 Nos./mm Layer 1: Steel wire 6/3.45 Nos./mm Layer 2: Aluminum wire 10/4.44 Nos./mm Layer 3: Aluminum wire 16/4.44 Nos./mm	
Stranding direction of outer layer	Right-hand	
Conductor diameter	28.11 mm	
Cross section	468 mm^2	

ASTM B232

Structure	Center: Steel wire 1/2.19 Nos./mm Layer 1: Steel wire 6/2.19 Nos./mm Layer 2: Steel wire 12/2.19 Nos./mm Layer 3: Aluminum wire 12/3.65 Nos./mm Layer 4: Aluminum wire 18/3.65 Nos./mm Layer 5: Aluminum wire 24/3.65 Nos./mm		EN 50182
Stranding direction of outer layer	Right-hand		
Conductor diameter	32.85 mm		
Cross section	636.6 mm^2		
Conductor weight	2123 kg/km		
Rated tensile strength	174.14 kN		
Modulus of Elasticity	70.2 GPa		
Coefficient of linear expansion	19.5 10^{-6}/		
Max. DC Resistance at 20	0.0512 Ω/km		
Lay ratio	Aluminum layer	24-wire layer 10-14 18-wire layer 10-16 12-wire layer 10-16	
	Steel layer	12-wire layer 14-22 6-wire layer 16-26	

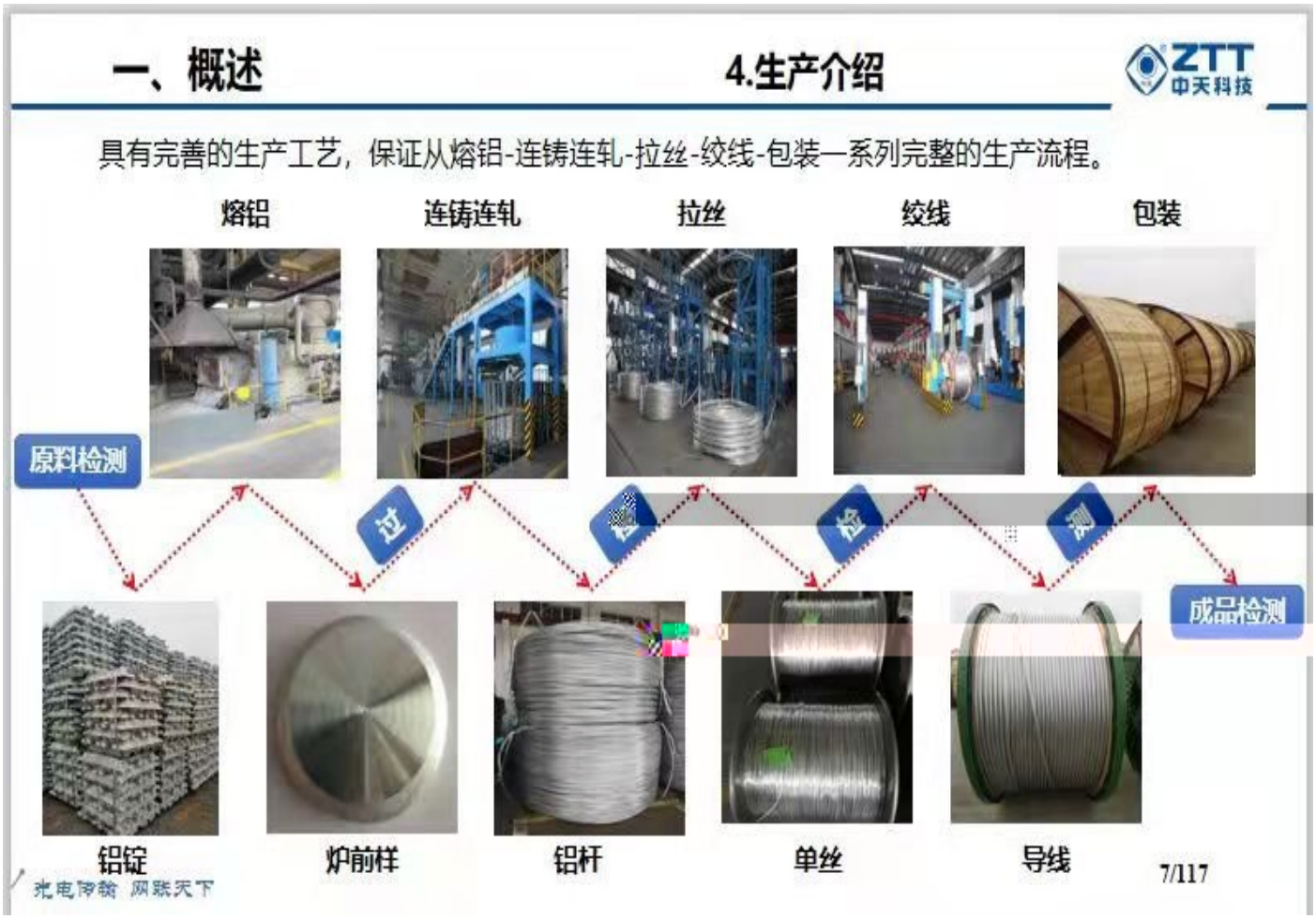
Structure	Center: Steel wire 1/2.68 Nos./mm Layer 1: Steel wire 6/2.68 Nos./mm Layer 2: Aluminum wire 12/2.68 Nos./mm Layer 3: Aluminum wire 18/2.68 Nos./mm Layer 4: Aluminum wire 24/2.68 Nos./mm	EN 50182
Stranding direction of outer layer	Right-hand	
Conductor diameter	24.12 mm	
Cross section	344.10 mm^2	
Conductor weight	1151.2 kg/km	
Rated tensile strength	96.8 kN	
Modulus of Elasticity	70.5 GPa	
Coefficient of linear expansion	19.4 10^{-6}/	

Max. DC Resistance at 20	0.0949 Ω/km		
Lay ratio	Aluminum layer	24-wire layer 10-14 18-wire layer 10-16 12-wire layer 10-16	
	Steel layer	6-wire layer 16-26	

Structure	Center: Steel wire 1/3.08 Nos./mm Layer 1: Steel wire 6/3.08 Nos./mm Layer 2: Aluminum wire 12/3.08 Nos./mm Layer 3: Aluminum wire 18/3.08 Nos./mm Layer 4: Aluminum wire 24/3.08 Nos./mm		EN 50182
Stranding direction of outer layer	Right-hand		
Conductor diameter	27.7 mm		
Cross section	454.5 mm^2		
Conductor weight	1520.5 kg/km		
Rated tensile strength	123.75 kN		
Modulus of Elasticity	72.4 GPa		
Coefficient of linear expansion	19.2 10^{-6}/		
Max. DC Resistance at 20	0.0719 Ω/km		
Lay ratio	Aluminum layer	24-wire layer 10-14 18-wire layer 10-16 12-wire layer 10-16	
	Steel layer	6-wire layer 16-26	

1.4.4

ACSR



2

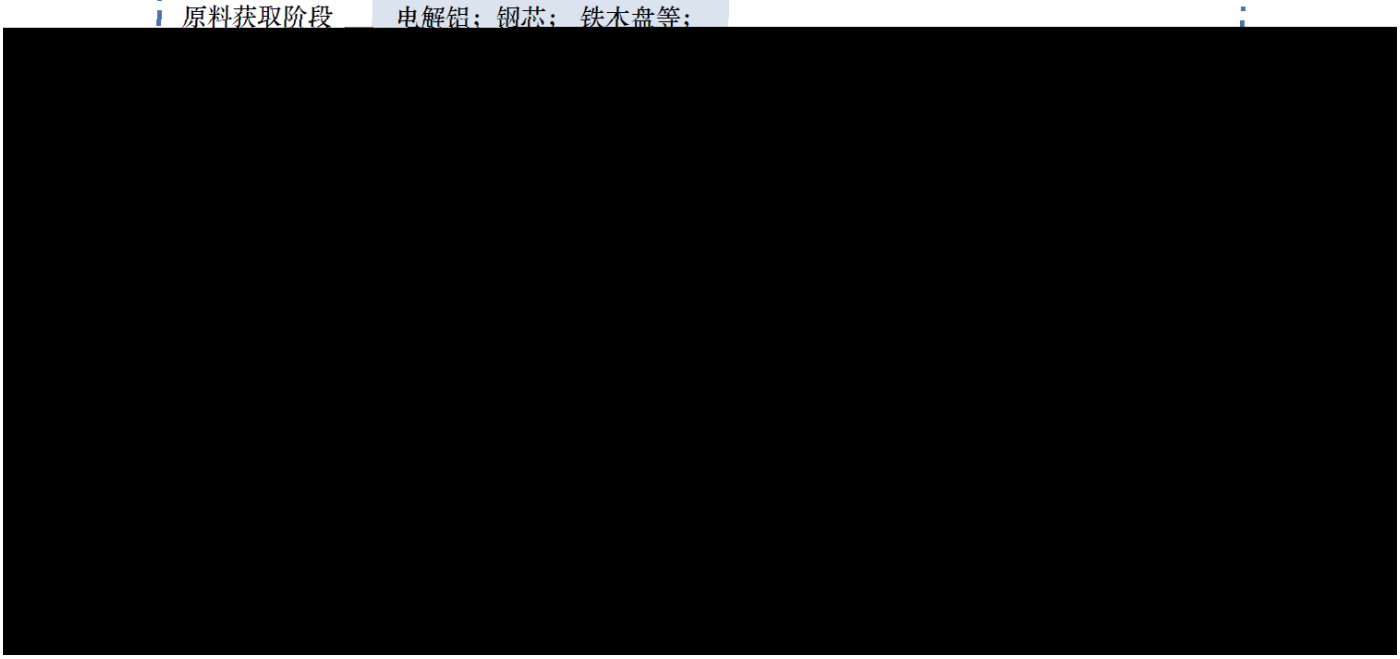
1.5

1.5.1

PCR EN 15804 2012+ A1:2013; NPCR 027 – Part B for electrical cables and wires, version 1.0 LCA A1-A3, A4-A5 B2 B3, B6, C1-C4 ACSR B1 B7 B B1,B4,B5,B7 LCA 1-16

1-16 ACSR LCA

原料获取阶段 电解铝；钢芯； 铁木盘等；



3 ACSR

EPD ACSR 7 ZTT

8

1.5.4 5 ZTT

1 ZTT ZTT

—

ACSR LCA —

3

2

2.1

EN15804:2012 +A1:2013 ; NPCR 027 – Part B for electrical cables and wires, version 1.0 EN15804:2012 +A2:2019

2-1

Global warming potential- total	kg CO2 eq.	EN15804:2012 +A1:2013
Acidification potential AP	kg SO2 eq.	
Eutrophication potential EP	kg PO43- eq.	
Photochemical oxidant formation potential POCP	kg C2H4 eq.	
Abiotic depletion potential – Elements ADP	kg Sb eq.	
Abiotic depletion potential – Fossil fuels ADP	MJ, net calorific value	
Water Scarcity Footprint (WSF)	m3 H2O eq	
Depletion potential of the stratospheric ozone layer, ODP	kg CFC 11 equiv	

2.2

CLCD E-balance LCA ”

e-balance GHG protocol LCA

CLCD ELCD

Ecoinvent 10

4.7 2021/5/18.

e-balance ACSR LCA

2.3

2.3.1

LCA

EN15804

ACSR ACSR

2-2. ACSR good,

2-2 Data quality level assessment of ACSR

DATA	Geographical representativeness	Technical representativeness	Time representativeness	Quality level
CLCD	Average data from local larger area — good	Data from processes and products under study (with similar technology). -good	Less than 10 years of difference between the reference year-FAIR	

	data is similar to EU -fair	technology).-good	good	

2.3.2

1 ISO14040/44 2006 , PCR EN 15804 2012+ A1:2013; NPCR 027 – Part B for electrical cables and wires, version 1.0

2

CLCD CLCD

3

4 CLCD

10

5

2020.1.1-2021.12.31

2.4

ZTT ACSR ZTT

7

ISO14001 5

ZTT CLCD

CLCD 0.8 V4.7 (updated in 2013-2-9) LCA E-balance V4.7 (2021/5/18)

6

CLCD

1 CLCD ACSR 2-3.

2-3 ACSR

	A3 / A1	CLCD 0.8	2013-02-09
	A3	CLCD 0.8	2013-02-09
	A1	CLCD 0.8	2013-02-09
	A1	CLCD 0.8	2013-02-09
	A1	CLCD 0.8	2013-02-09
	A1 / A3	CLCD 0.8	2013-1-25
	B	Ecoinvent-Public 3.5	2018.8
	A1	CLCD 0.8	2013-02-09)
	A1 / A3	CLCD 0.8	2013-02-09)
	A1 / A3 / B / C	CLCD 0.8	2013-02-09
	A1 / A3	CLCD 0.8	2013-02-09
	A1 / A3	CLCD 0.8	2013-02-09
H	A1	CLCD 0.8	2013-01-25
	A1	Ecoinvent-Public 3.5	2018.8
	A1	Ecoinvent-Public 3.5	2018.8
	A2 / A4 / C2	CLCD 0.8	2013-02-09
	A4	CLCD 0.8	2013-02-09

2.5

ISO14044 EN15804

1 ACSR

ZTT

/

2

ZTT /

3 ZTT

ZTT

ACSR /

2-4 .

4 LCA A2, A4, A5, B, C

2-4

A1			ZTT /
			ZTT /
A1			ZTT /
ZTT			/
			/
			ACSR /
			ACSR /

2.6

NPCR EN 15804 1%

1%

ZTT

According to the GPI, the production of capital, buildings and equipment that are not included. GB50681-2011

23428 18742 2620

2-5 , ZTT + + 0.04%

0.31% 1% LCA

2-5 ZTT

	( )			50

	18742	2620	120000	6000000
	0.31%	0.04%	--	99.6%
		ZTT	ZTT	

2-6 2020 ZTT A3

	130845	kg	0.10%
	43820	kg	0.03%
	91354	kg	0.07%
	16715420	kg	12.50%
	114383491.2	kg	85.55%
	2342752.25	kg	1.75%
	133707682.5	kg	100.00%

2-6

0.1% 0.03% 0.07% 1% A3 LCA

cut-off

2-7

	T	%
30	15	0.007%
15	740	0.54%
	60	0.044%
15	135000	99.4%
	135815	100%

2-7 30 0.007%

0.044% 1% A2/A4/D2

2-8 List of excluded processes

excluded processes	Reason
ZTT plant building , facility and equipment B1, B4, B5, B7	Total quality rate < 1%

3 LCI

3.1 A1

ACSR CLCD

2020.1.1 2020.12.31

5% 4.3% 2% ZTT 2.59%

3-1 5

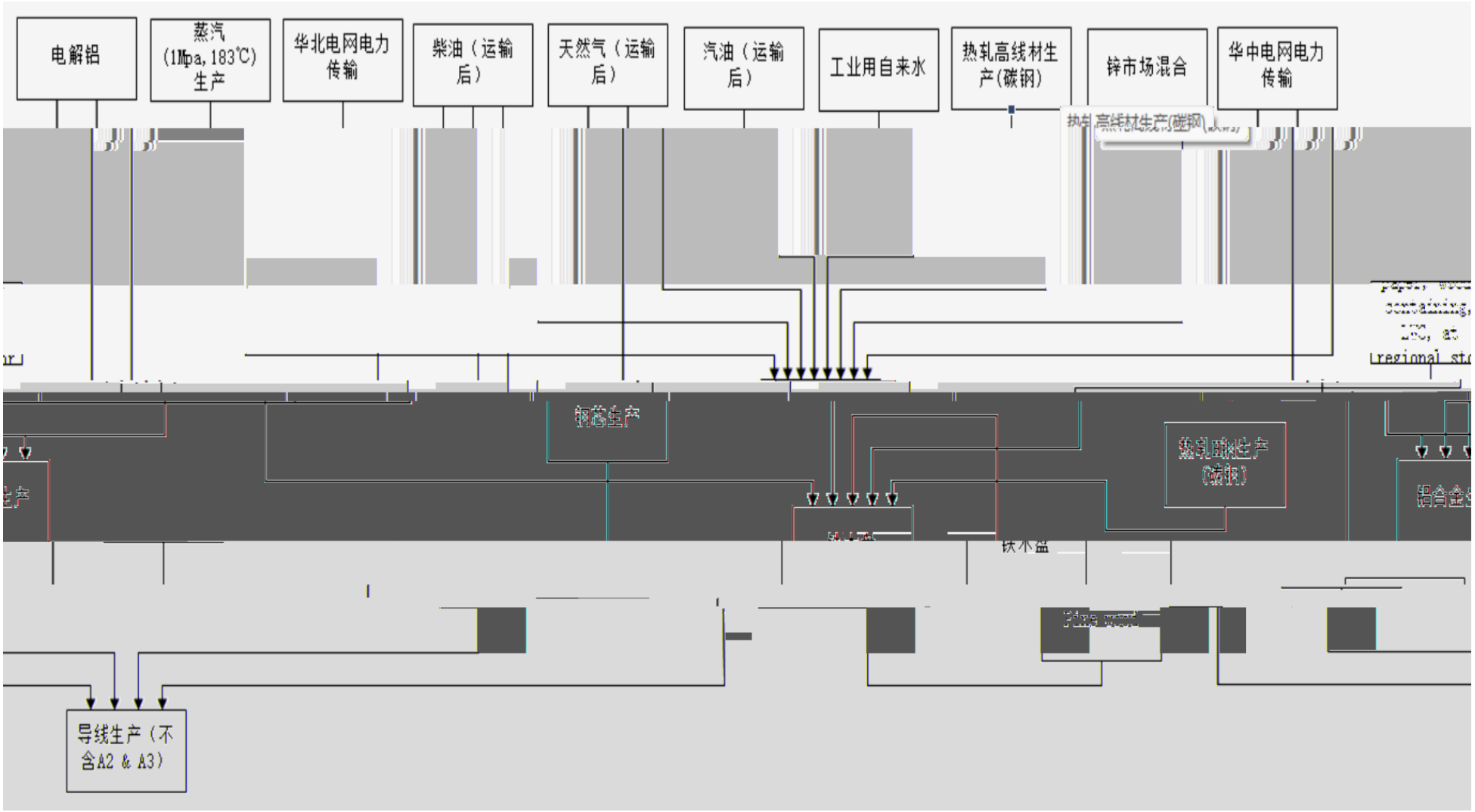
3-2

3-3

3-4 GHG

3-5 LCI

3-6


电解铝
蒸汽（1Mpa,183℃）生产
华北电网电力传输
柴油（运输后）
天然气（运输后）
汽油（运输后）
工业用自来水
热轧高线材生产(碳钢)
锌市场混合
华中电网电力传输
钢卷生产
铁水盆
导线生产（不含A2 & A3）

3-1　A1

3-1 5

		t/	KWH/	MJ/	M3/	KG/	kg/	M3/T	(/)	/
	0.47	112006	306.4872	0	14.492	0	0	2.170	1.05	0.05
	0.09	30555	266.7321	0	0	0.23492	0	2.00	1.047	0.059
	0.17	20000	500	0	0	0	0.00	0.3062	1.05	0.05
	0.17	125000	252.024	75.6233	0	0	0.0624	1.36	1.047	0.059
	0.09	80000	472.5688	0	57.875	0	0.2835	3.3615	1.025	0.059

ð L q

	0.3062	0.1097	0.0032	0	0	0	5	12.00	0.00	0.002	0
	1.36	1.26E-03	8.80E-05	1.20E-04	0	0	0	14.86	0	0	0
	3.3615	0.0002575	2.60E-05	3.50E-06	0	0.1973	0	17	0	0	0.0365
	1.786	0.028	8.57E-04	2.07E-05	0.000122	0.02586	4.24255	39.5	0.00272		0.0033

3-2

		t/	KWH/	M3/	kg/	/
	100%	79058.8	585.6654	36.32161	0.280	1.05
	M3/	KG/	kg/T	SO2 kg/T	NOX kg/T	kg/T
	0	0	4.86E-02	0.0282	0.0602	0.01

IPCC 2006 .

3-5 LCI

INPUT	/T	/T	ACSR 26-3.44+7-2.68/m	ACSR 26-3.72+7-2.89/m	ACSR 26-4.44+7-3.45/m	ACSR 45-3.38+7-2.25/m	ACSR 54-3.65+19-2.19/m	ACSR 54-7-2.68/m	ACSR 54-7-3.08/m
kg/m									
kg /m									
kg /m									
(KWH)									
(M3)									
(MJ)									
(KG)									
(KG)									
(M3)									
(KG)									

KG									
(KG)									
(M3)									
Zn (KG)									
COD (kg)									
(kg)									
(kg)									
NOX (KG)									
VOC (KG)									
(KG)									
SO2 (KG)									
(KG)									
(KG)									
CO2 (kg)									
CH4 (kg)									
NO2(KG)									

2.15% 97.85% 5% 4.3% ACSR

2.59%

■

ZTT 3-6

3-6

		ACSR 26-3.44+7-2.68	**ACSR 26-3.72+7-2.89**	**ACSR 26-4.44+7-3.45**	

KG/m								
KG/m								
KG/M								

2%

3.2 A2 /A4

ACSR

LCA CLCD LCA

40% 40%

CLCD LCA TKM LCA

40%

3-7 A2 /A4

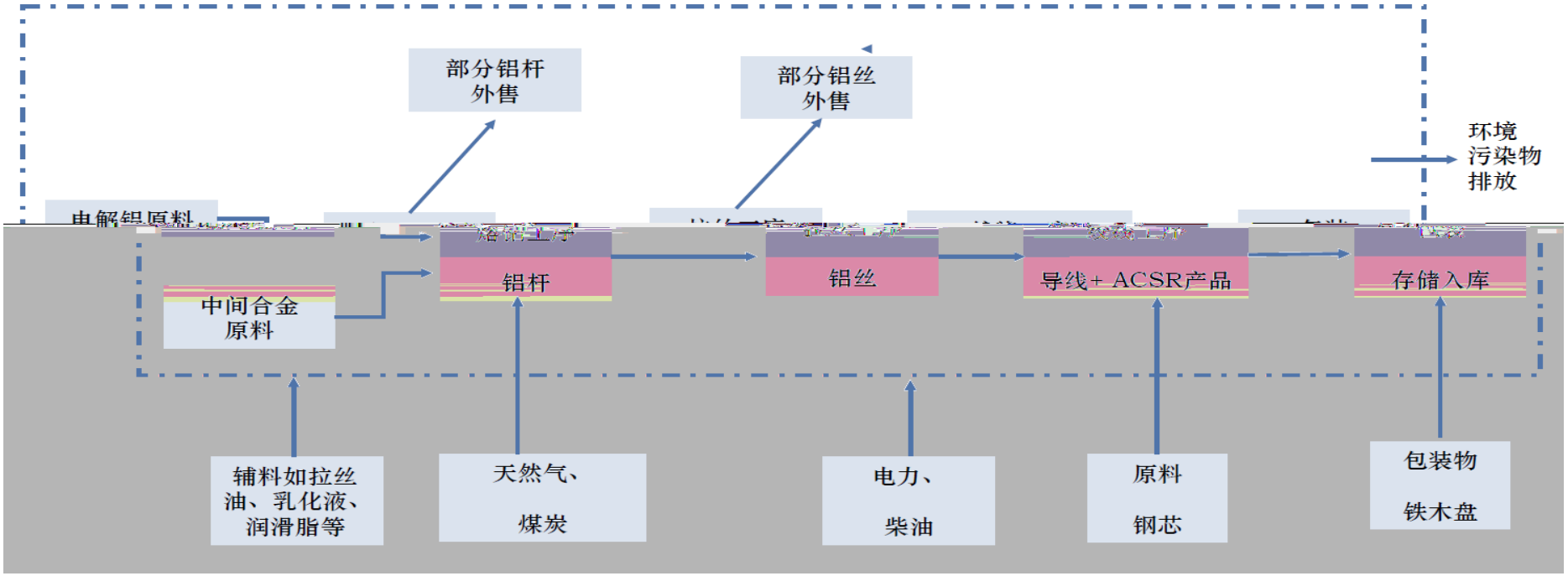
	KM			
	500		30 IV	40%
	1140		30 IV	5 41%
	1.0		30 IV	50%
	1250		30 IV	40%
	20000			0%
	300 ( )		30 IV	50%

Product components	ACSR 26-3.44+7-2.68	ACSR 26-3.72+7-2.89	ACSR 26-4.44+7-3.45	ACSR 45-3.38+7-2.25	ACSR 54-3.65+19-2.19	ACSR 54-7-2.68	ACSR 54-7-3.08
Steel core KG /m	6.68E-01	7.80E-01	1.11E+00	1.11E+00	1.56E+00	8.43E-01	1.11E+00
Aluminum alloy kg/m	3.09E-01	3.60E-01	5.14E-01	2.19E-01	5.60E-01	3.09E-01	4.07E-01
kg/m	8.25E-02	8.21E-02	1.49E-01	1.42E-01	1.45E-01	1.99E-01	1.03E-01

TKM/m	6.89E-01	8.04E-01	1.15E+00	9.95E-01	1.53E+00	8.27E-01	1.09E+00

3.3 A3 ACSR

3.3.1 ACSR



A3

3.3.2 ACSR

ACSR ZTT 2020 2020.1 -2020.12 ZTT

ZTT

ACSR ZTT

3-9

3-9 2020

						KWH	KWH/T	M3/T	M3/T	KG/T
		114383.49		80543.70						
		2342.75		35505.20	0.58%	7544000.94	65.01	40.87	47.75	
		80543.70		86330.78						
		7377.22		1490.14	0.11%	7705604.12	87.74			
		86330.78								
		16715.42		101090.06	1.90%	1098885.57	10.85			0.50
				16346490.63	2.59%	16346490.63	163.60	40.87	47.75	0.50

3-10 A3

A3		ACSR 26-3.44+7-2.68	ACSR 26-3.72+7-2.89	ACSR 26-4.44+7-3.45	ACSR 45-3.38+7-2.25	ACSR 54-3.65+19-2.19	ACSR 54-7-2.68	ACSR 54-7-3.08
KG		6.71E-01	7.83E-01	1.12E+00	1.12E+00	1.57E+00	8.46E-01	1.12E+00
KG		1.47E-02	1.72E-02	2.46E-02	2.46E-02	3.45E-02	1.86E-02	2.45E-02
KG		3.17E-01	3.69E-01	5.27E-01	2.24E-01	5.75E-01	3.17E-01	4.18E-01
KWH/T	1.64E+02	1.60E-01	1.82E-04	2.97E-07	3.95E-10	8.40E-13	9.67E-16	1.47E-18
KG/T	5.00E-01	4.89E-04	5.57E-07	9.07E-10	1.21E-12	2.57E-15	2.95E-18	4.49E-21
M3/T	4.09E+01	3.99E-02	4.55E-05	7.41E-08	9.88E-11	2.10E-13	2.41E-16	3.67E-19
KG/T	4.78E+01	4.67E-02	5.32E-05	8.66E-08	1.15E-10	2.45E-13	2.82E-16	4.29E-19
kg/T	9.15E-01	8.94E-04	1.02E-06	1.66E-09	2.21E-12	4.69E-15	5.40E-18	8.22E-21
SO2 kg/T	1.19E-02	1.16E-05	1.32E-08	2.16E-11	2.87E-14	6.10E-17	7.02E-20	1.07E-22
NOX kg/T	1.01E-01	9.83E-05	1.12E-07	1.82E-10	2.43E-13	5.16E-16	5.94E-19	9.04E-22
(KG/T)	1.28E+01	1.25E-02	1.43E-05	2.33E-08	3.11E-11	6.59E-14	7.59E-17	1.15E-19
KG/t	1.30E+01	1.27E-02	1.45E-05	2.35E-08	3.14E-11	6.66E-14	7.67E-17	1.17E-19
CO2 (kg/T)	1.84E+02	1.80E-01	2.05E-04	3.34E-07	4.45E-10	9.45E-13	1.09E-15	1.65E-18
CH4 (kg/T)	2.54E-03	2.48E-06	2.83E-09	4.61E-12	6.15E-15	1.30E-17	1.50E-20	2.28E-23

NO2 (kg/T)	2.25E-03	2.20E-06	2.51E-09	4.09E-12	5.45E-15	1.16E-17	1.33E-20	2.02E-23

3.4 A5

GBJ 233-1990

3-11 LCA

3-12.

3-11

NO.		
1		0.5%
2		Not use water
3		Not use other resource
4		0.1L/m
5		0.8%

6		Metal Recycling Factsheet in EU ” 50% 40% 90% 90% 50% 50% NPCR 100KM 18
7		

								8.40E-02
ACSR 54-3.65+19-2.19								8.40E-02
ACSR 54-7-2.68								8.40E-02
ACSR 54-7-3.08								8.40E-02

3.5 B2/B3/B4/B6

3.5.1 B2/B3/B4/B6

ACSR

8 !? ýƒ#vn¢ .mP/.Añ,

1		DL/T 741 2001 DL 409 1991 ( )
2		2
3		
4	iu	0 KG
5		0 M3
6		50% 50% ( ) 40 0.96TKM/cycle/m 0.01L /cycle/m
B3 REPAIR PROCESS		
1		DL/T 741 2001 DL 409 1991 ( )
2		DL/T 741 2001 DL 409 1991 ( )
3		
4		0.00126kg/cycle.

B6 USE OF ENERGY		
1		0 KG

2 ZTT

<table>
<tr><th>B</th><th>(TKM / cycle / m)</th><th>(KG / cycle / m)</th><th>(kg / cycle / m)</th><th colspan="3">kWh / cycle / m</th></tr>
<tr><td>B2</td><td>2.4 TKM/m</td><td>0.0185 kg Petroleum oil /m</td><td></td><td colspan="3"></td></tr>
<tr><td>B3</td><td></td><td></td><td>0.00315 kg/ m</td><td colspan="3"></td></tr>
<tr><td>B6</td><td></td><td></td><td></td><td>ACSR</td><td>Kw / km</td><td>(kwh / m / cycle)</td></tr>
<tr><td></td><td></td><td></td><td></td><td>ACSR 26-3.44+7-2.68</td><td>7.66E+00</td><td>6.70E+03</td></tr>
<tr><td></td><td></td><td></td><td></td><td>ACSR 26-3.72+7-2.89</td><td>9.02E+00</td><td>7.90E+03</td></tr>
<tr><td></td><td></td><td></td><td></td><td>ACSR 26-4.44+7-3.45</td><td>1.30E+01</td><td>4.56E+03</td></tr>
<tr><td></td><td></td><td></td><td></td><td>ACSR 45-3.38+7-2.25)</td><td>1.33E+01</td><td>1.14E+04</td></tr>
<tr><td></td><td></td><td></td><td></td><td>ACSR 54-3.65+19-2.19</td><td>1.91E+01</td><td>1.67E+04</td></tr>
<tr><td></td><td></td><td></td><td></td><td>ACSR 54-7-2.68</td><td>9.91E+00</td><td>8.68E+03</td></tr>
<tr><td></td><td></td><td></td><td></td><td>ACSR 54-7-3.08</td><td>1.32E+01</td><td>1.16E+04</td></tr>
</table>

3.6 C1-C4

C1 0.014 KG /m C2

100KM , 18 100%

C3 Metal Recycling

Factsheet in EU ”, 90% of aluminium recovered from construction and transport in 2018, Over 90% of steel waste is currently collected and recycled into new products 90%

C4 10%

3-14 C

	0.977KG/M-1.626.5 KG/M , will be collected separately
	0.977KG/M-1.626.5 KG/M 90% will recycling in other product
	Iron and aluminum wastes are sorted and treated simply physically
	PCR EN 15804 2012+ A1:2013; NPCR 027 – Part B for electrical cables and wires, version 1.0, 100KM,
C3	

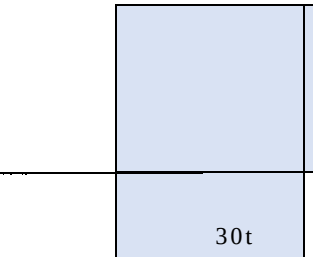
C4	10%

3-15 C1-C4 LCI

	(KG /M)	C2 (TKM/m)	C1 KG/M	C3 KWH/m	C3 KG/m	C3 m3/m	C4 KG/M
ACSR 26-3.44+7-2.68	9.77E-01	9.77E-02	1.40E-02	2.93E-03			9.77E-02
ACSR 26-3.72+7-2.89	1.14E+00	1.14E-01	1.40E-02	3.42E-03			1.14E-01
ACSR 26-4.44+7-3.45	1.63E+00	1.63E-01	1.40E-02	4.88E-03			1.63E-01
ACSR 45-3.38+7-2.25	1.33E+00	1.33E-01	1.40E-02	4.00E-03			1.33E-01
ACSR 54-3.65+19-2.19	2.12E+00	2.12E-01	1.40E-02	6.37E-03			2.12E-01
ACSR 54-7-2.68	1.15E+00	1.15E-01	1.40E-02	3.45E-03			1.15E-01
ACSR 54-7-3.08	1.52E+00	1.52E-01	1.40E-02	4.56E-03			1.52E-01

3KWH/

	5.63E+01	3.10E-04	[redacted]	1.17E+03	1.97E-02	5.23E+01	5.23E+01	2.68E-01		4.53E-07	7.63E+00
	7.38E+01	4.05E-04	7.60E-04	1.53E+03	2.55E-02	6.83E+01	6.83E+01	3.50E-01		5.88E-07	9.83E+00



ACSR 26-
3.44+7-2.68

30t							
ACSR 26-3.44+7-2.68							
ACSR 26-3.72+7-2.89							
ACSR 26-4.44+7-3.45							
ACSR 45-3.38+7-2.25							
ACSR 54-3.65+19-2.19							
ACSR 54-7-2.68							
ACSR 54-7-3.08							

4.3 A3 LCA

4-5 100 A3

4-8 A4 ACSR

	PED (MJ)						

4.5 A5 LCA

4-9 100 A5 ACSR LCA

	GWP (kg CO2eq)	GWP (kg CO2eq)	ADP (kg antimony eq.)	ADP(fossil fuel) (MJ)	EP (kg PO43- eq)	MEP - marine eutrophication (kg N-Eq)	FEP - freshwater eutrophication (kg P-Eq)	AP (kg SO2 eq)	POFP (kg NMVOC eq)	ODP (kg CFC-11 eq)	WDP (m3 H2O eq)
ACSR 26-3.44+7-2.68											
ACSR 26-3.72+7-2.89											
ACSR 26-4.44+7-3.45											
ACSR 45-3.38+7-2.25											
ACSR 54-3.65+19-2.19											
ACSR 54-7-2.68											
ACSR 54-7-3.08											

4-10 100 A5

4.6 B2/B3/B4/B6 LCA

4-11 100 B2/B3/B4/ B6 LCA

	GWP (kg CO2eq)	GWP (kg CO2eq)	ADP (kg antimony eq.)	ADP(fossil fuel) (MJ)	EP (kg PO43-eq)	MEP - marine eutrophication (kg N-Eq)	FEP - freshwater eutrophication (kg P-Eq)	AP (kg SO2 eq)	POFP (kg NMVOC eq)	ODP (kg CFC-11 eq)	WDP (m3 H2O eq)
ACSR 26-3.44+7-2.68	3.30E+03	3.83E+00	8.10E-03	1.46E+05	9.43E+00	3.55E+03	3.55E+03	1.39E+01		1.12E+00	3.30E+03
ACSR 26-3.72+7-2.89	3.88E+03	4.50E+00	9.55E-03	1.72E+05	1.11E+01	4.18E+03	4.18E+03	1.64E+01		1.32E+00	3.88E+03
ACSR 26-4.44+7-3.45	5.60E+03	6.50E+00	1.38E-02	2.48E+05	1.60E+01	6.03E+03	6.03E+03	2.37E+01		1.90E+00	5.60E+03

ACSR 45-3.38+7-2.25	5.73E+03	6.68E+00	1.41E-02	2.55E+05	1.64E+01	6.18E+03	6.18E+03	2.43E+01		1.95E+00	5.73E+03
ACSR 54-3.65+19-2.19	8.20E+03	9.53E+00	2.02E-02	3.63E+05	2.35E+01	8.83E+03	8.83E+03	3.48E+01		2.78E+00	8.20E+03
ACSR 54-7-2.68	4.28E+03	4.95E+00	1.05E-02	1.89E+05	1.22E+01	4.60E+03	4.60E+03	1.81E+01		1.45E+00	4.28E+03
ACSR 54-7-3.08											

4-12 100 B2/B3/B4/B6

ACSR 26-3.44+7-2.68	8.30E+04	5.98E+03	7.70E+04	1.27E-02	1.87E-06	3.38E+00	2.60E+01
ACSR 26-3.72+7-2.89	9.78E+04	7.05E+03	9.08E+04	1.27E-02	1.87E-06	3.98E+00	3.08E+01
ACSR 26-4.44+7-3.45	1.41E+05	1.02E+04	1.31E+05	1.27E-02	1.87E-06	5.75E+00	4.43E+01
ACSR 45-3.38+7-2.25	1.45E+05	1.04E+04	1.34E+05	1.27E-02	1.87E-06	5.88E+00	4.53E+01
ACSR 54-3.65+19-2.19	2.07E+05	1.49E+04	1.92E+05	1.27E-02	1.87E-06	8.43E+00	6.50E+01
ACSR 54-7-2.68	1.08E+05	7.73E+03	9.98E+04	1.27E-02	1.87E-06	4.38E+00	3.38E+01

ACSR 54-7-3.08							

4.7 C1-C4 LCA

4-13 100 C1-C4 LCA

	1.50E-01	4.38E-06	1.23E-07	4.05E+00	2.17E-04	1.47E-01	1.47E-01	6.34E-04	7.91E-06	2.81E-09	2.95E-03
	4.69E-01	7.15E-06	1.21E-06	4.23E+01	1.39E-03	4.43E-01	4.43E-01	7.09E-03	8.07E-05	3.02E-08	2.03E-02
	6.23E-01	1.02E-05	1.73E-06	6.05E+01	1.99E-03	5.85E-01	5.85E-01	1.01E-02	1.15E-04	4.32E-08	2.90E-02
	5.29E-01	8.36E-06	1.41E-06	4.94E+01	1.62E-03	4.98E-01	4.98E-01	8.27E-03	9.41E-05	3.53E-08	2.37E-02
	7.76E-01	1.33E-05	2.25E-06	7.87E+01	2.59E-03	7.27E-01	7.27E-01	1.32E-02	1.50E-04	5.62E-08	3.77E-02
	4.72E-01	7.21E-06	1.22E-06	4.27E+01	1.41E-03	4.46E-01	4.46E-01	7.15E-03	8.14E-05	3.05E-08	2.05E-02

	5.88E-01	9.53E-06	1.61E-06	5.64E+01	1.86E-03	5.53E-01	5.53E-01	9.45E-03	1.08E-04	4.03E-08	2.70E-02

4-14 100 C1-C4

	GWP (kg CO2eq)	GWP (kg CO2eq)	ADP (kg antimony eq.)	ADP(fossil fuel) (MJ)	EP (kg PO43-eq)	MEP - marine eutrophication (kg N-Eq)	FEP - freshwater eutrophication (kg P-Eq)	AP kg SO2 eq.)	POFP (kg C2H4 eq)	ODP (kg CFC-11 eq)	WDP (m3 H2O eq)
ACSR 26-3.44+7-2.68	-3.43E+01	-1.82E-04	-3.78E-04	-7.20E+02	-1.22E-02	-3.18E+01	-3.18E+01	-1.68E-01		-2.90E-07	-4.38E+00
ACSR 26-3.72+7-2.89	-4.00E+01	-2.12E-04	-4.43E-04	-8.42E+02	-1.42E-02	-3.70E+01	-3.70E+01	-1.96E-01		-3.40E-07	-5.13E+00
ACSR 26-4.44+7-3.45	-5.70E+01	-3.03E-04	-6.33E-04	-1.20E+03	-2.03E-02	-5.28E+01	-5.28E+01	-2.80E-01		-4.85E-07	-7.33E+00
ACSR 45-3.38+7-2.25	-5.70E+01	-3.03E-04	-6.33E-04	-1.20E+03	-2.03E-02	-5.28E+01	-5.28E+01	-2.80E-01		-4.85E-07	-7.33E+00
ACSR 54-3.65+19-2.19	-8.00E+01	-4.25E-04	-8.83E-04	-1.68E+03	-2.85E-02	-7.40E+01	-7.40E+01	-3.93E-01		-6.80E-07	-1.03E+01
ACSR 54-7-2.68	-4.30E+01	-2.28E-04	-4.78E-04	-9.08E+02	-1.53E-02	-4.00E+01	-4.00E+01	-2.12E-01		-3.68E-07	-5.53E+00
ACSR 54-7-3.08	-5.70E+01	-3.03E-04	-6.30E-04	-1.20E+03	-2.03E-02	-5.28E+01	-5.28E+01	-2.80E-01		-4.85E-07	-7.30E+00

Product Type	Total energy (MJ)	Renewable energy (MJ) (MJ)	Non-renewable energy (MJ)	Total Waste Solids (kg)	HW (kg) (kg)	RW (kg)	Water Use (m3)

ACSR 26-3.44+7-2.68							
ACSR 26-3.72+7-2.89							
ACSR 26-4.44+7-3.45							
ACSR 45-3.38+7-2.25							
ACSR 54-3.65+19-2.19							
ACSR 54-7-2.68							
ACSR 54-7-3.08							

5

5.1

ACSR 26-3.44+7-2.68 LCA

5-1 ACSR 26-3.44+7-2.68

Indicator	GWP-fossil	GWP-biogenic	GWP-total	ADP-minerals&metals*	ADP-fossil*	EP	EP-marine	EP - freshwater	AP	POCP	ODP	WDP
Unit												
A1												
A2												
A3												
A1-A3												
A4												

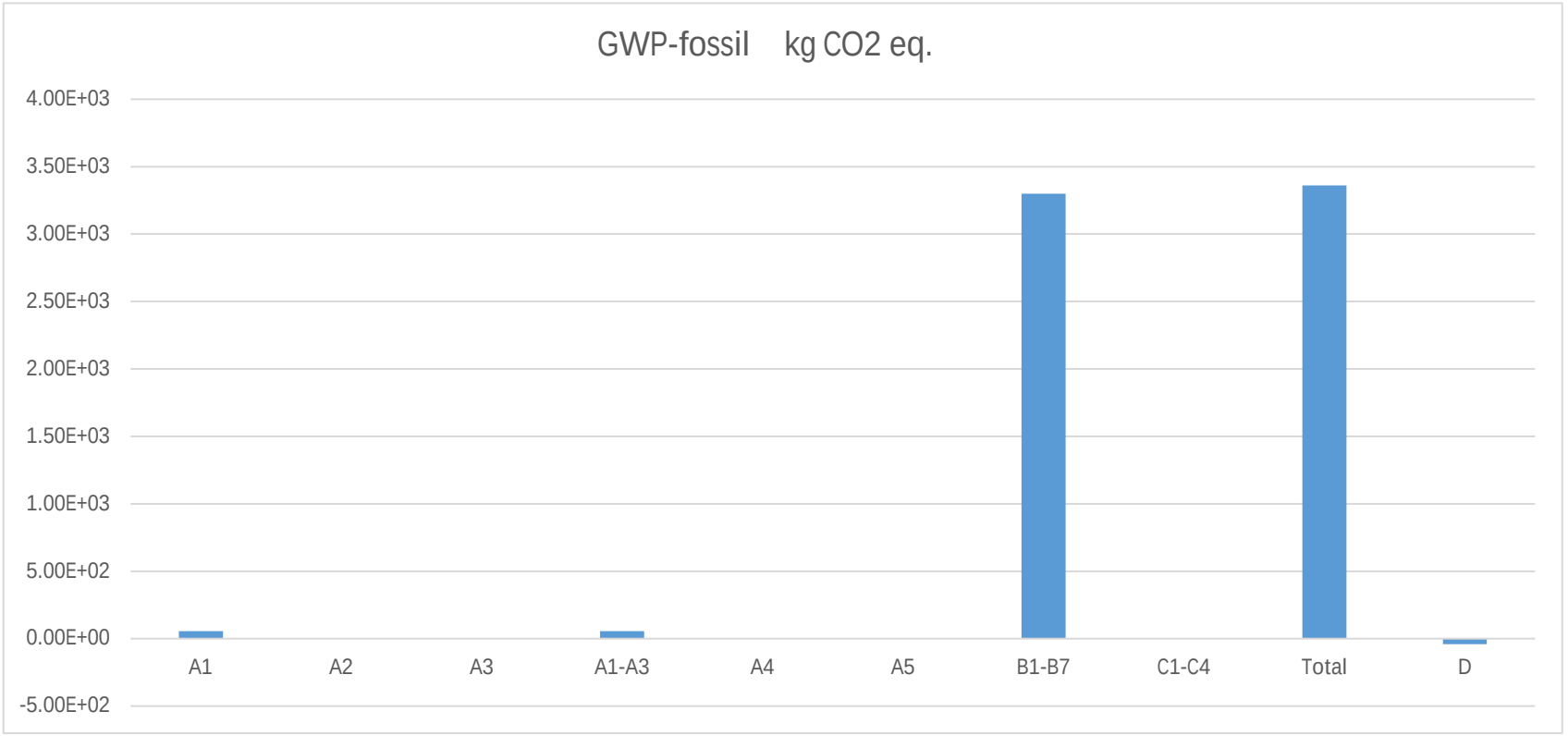


Figure 5-1 GWP

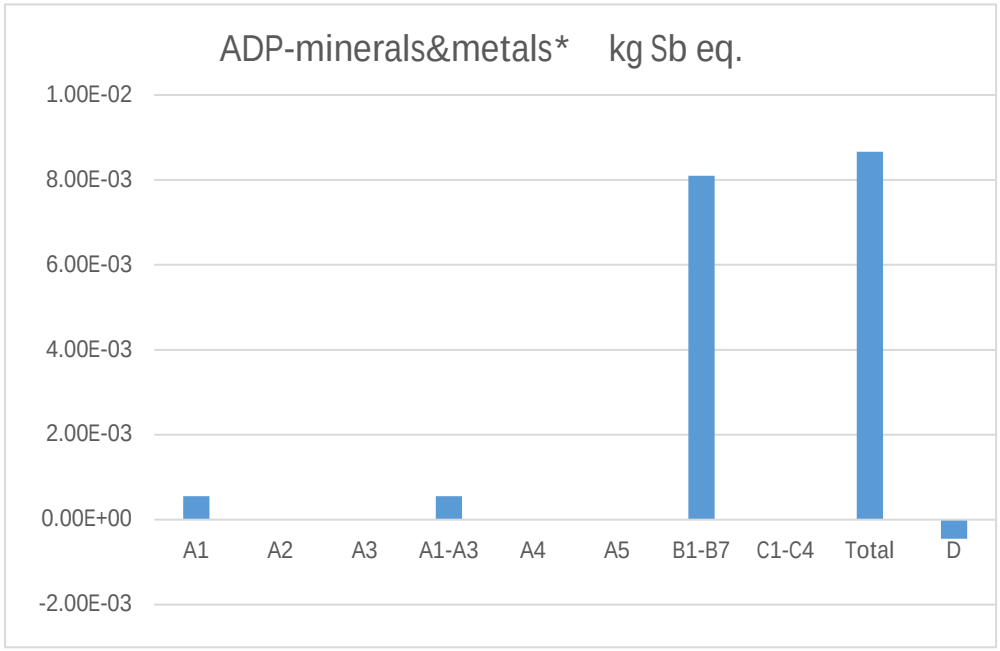


Figure 5-2 ADP (Resource)

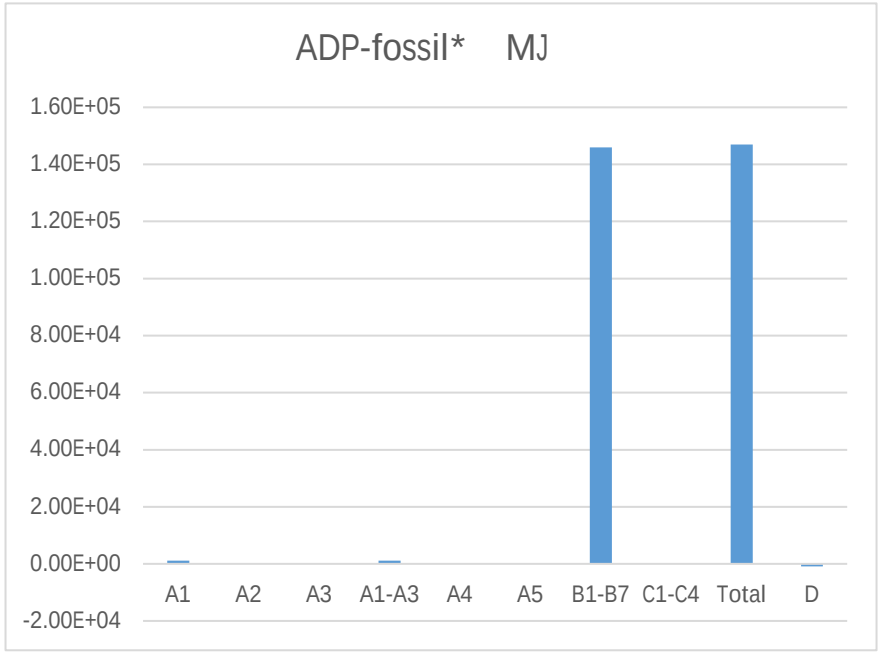
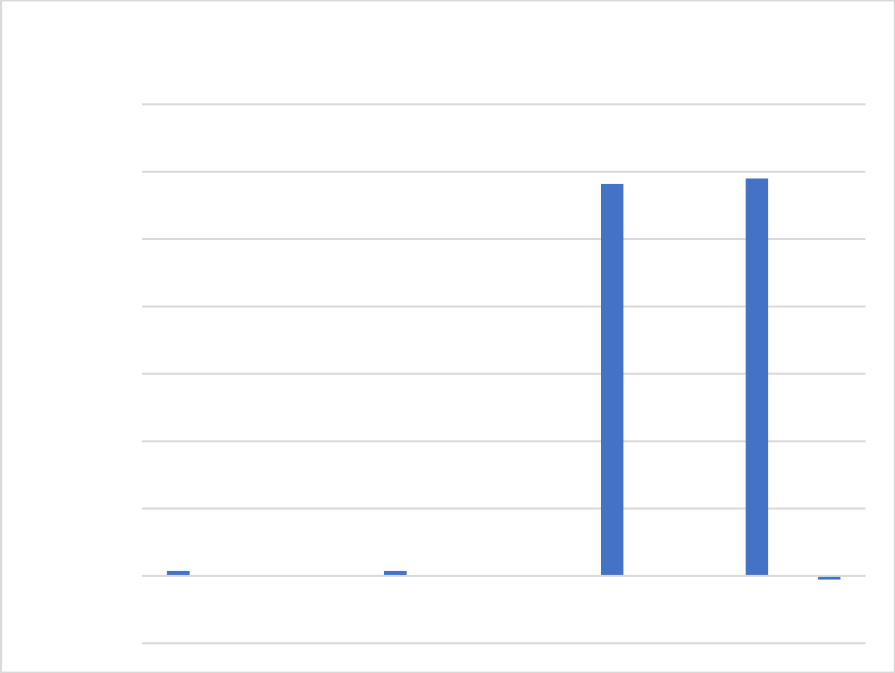


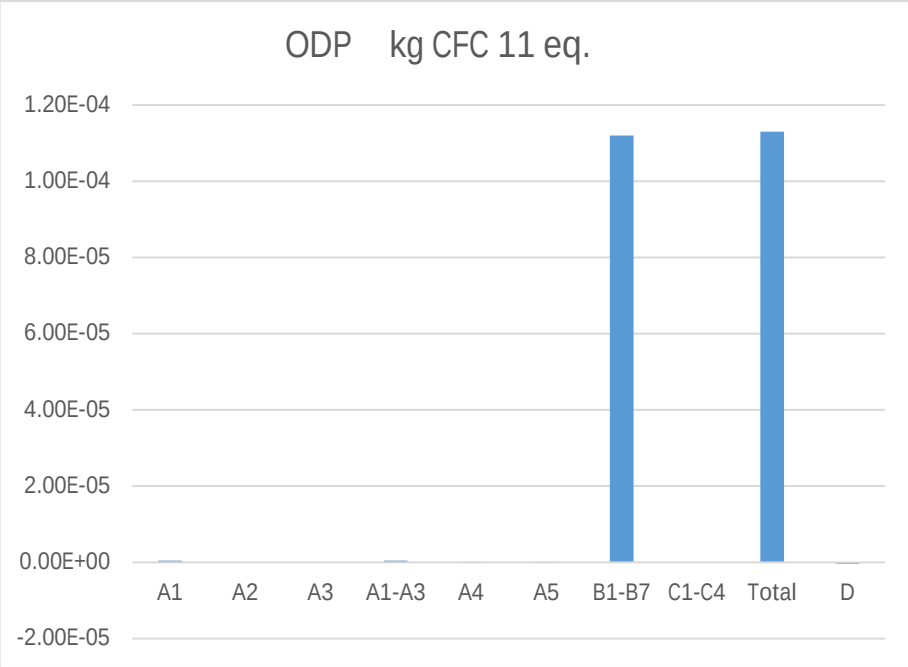
Figure 5-3 ADP (Fossil)

Figure 5-4 EP Environmental Impact

Figure 5-5 AP Environmental Impact

5-4 5-5 EP AP B EP 9.46 kg PO43-eq





A1 Raw material production A3 Product production A4 Product transportation A5 Product construction B2/B3/B6 Use and maintenance C1-C4 Product scrap and disposal D waste reuse	A1 Raw material production A3 Product production A4 Product transportation A5 Product construction B2/B3/B6 Use and maintenance C1-C4 Product scrap and disposal D waste reuse

Figure 5-6 POCP

Figure 5-7 ODP

5-6 5-7 POCP ODP B POCP 0.59 kg C2H4 eq ODP 1.13 E-04 kg CFC-11 eq B POCP ODP 0.582 kg NMVOC eq 1.13 E- 04 kg CFC-11 99% 100

5.2 LCA

ACSR

5.3

ACSR 26-3.44+7-2.68 1%

5-2 A1 — B

5-2 ACSR 26-3.44+7-2.68 A1 & B

1. ISO 14040:2006 Environmental management – Life cycle assessment - Principles and Framework

2. ISO 14044:2006 Environmental management – Life cycle assessment – Requirements and provides guidelines for life cycle assessment (LCA)

3. General Programme Instructions for Environmental Product Declarations, version 4.0

4. PCR 2019:14 Construction products; version 1.0 valid until 2024.12.20

5. NPCR 027 – Part B for electrical cables and wires, version 1.0 valid to 10.02.2025

6 EN 15804:2012+A1:2013 Sustainability of construction works – Environmental product declarations – Core rules for the product caregory of construction products

7. EN 15804:2012+A2:2019 Sustainability of construction works – Environmental product declarations – Core rules for the product caregory of construction products

8. ISO21930 :2017 Sustainability in buildings and civil engineering works — Core rules for environmental product declarations of construction products and services