

LAMPIRAN

Lampiran 1 Daftar Komponen Sepeda

Komponen	Vendor Port	Negara	Quantity	BUn
ELECTRIC WIRE EB 1T1 JX 2105040000098	SHANGHAI	CHINA	1	PCS
BATTERY BTF35 BK 2111022200001 48V	WU JINGE	CHINA	1	SET
BATTERY CHARGER CHG C01 2A 2113020000010	WU JINGE	CHINA	1	SET
CONTROLLER CR 104.350.FC 2101470200006	SHANGHAI	CHINA	1	SET
BATTERY SLIDER BK 2111032100005	SHANGHAI	CHINA	1	PCS
BELL XIN XING SX-99B BK 22.2MM	SHANGHAI	CHINA	1	PCS
NYLON NUT M5 STAINLESS	SURABAYA	INDONESIA	2	PCS
BOLT TL-206A M5X12 STAINLESS	SURABAYA	INDONESIA	2	PCS
BOLT BUTTON L M5X10MM STAINLESS	SURABAYA	INDONESIA	4	PCS
RING PLAT/WASHER M5 STAINLESS	SURABAYA	INDONESIA	18	PCS
TUBE KENDA BK 406 20X2.4/2.8 AV48	JAKARTA	INDONESIA	2	PCS
TIRE SUPER MOTO X 10101327.01 BK 20X2.40	JAKARTA	INDONESIA	2	PCS
RIM TAPE RED NYLON JN202505 20" 25MM	TAIWAN	TAIWAN	2	PCS
BRK HD-T280 BK LF 1000 W/ORTR W/OADPT EZ	SHENZHEN	CHINA	1	SET
BRK HD-T280 BK RR 1700 W/ORTR W/OADPT EZ	SHENZHEN	CHINA	1	SET
ROTATING HOOK CM143 BK PLS 4/5MM	TAIWAN	TAIWAN	2	PCS
OLIVE AND BARB TEKTRU FOR 5MM HOSE	SHENZHEN	CHINA	2	SET
BRK ROTOR TR180-24 180MM 6 BOLTS (CN)	SHENZHEN	CHINA	2	PCS
BOTTLE BOLT TL-211C BK M5X12 STAINLESS	BEKASI	INDONESIA	5	PCS
BLACK YS-728 TSA LB	SIDOARJO	INDONESIA	0.127	KG
CLEAR MATT MARIN TSA LB	SIDOARJO	INDONESIA	0.13	KG
EPOXY DARK GREY	SIDOARJO	INDONESIA	0.107	KG
THINNER ISA 02	SIDOARJO	INDONESIA	0.364	KG
CHN E8S NP/BK 8SP 1/2X3/32 120L W/LINK	SHENZHEN	CHINA	1	PCS
FRONT CARRIER HLK-Q1 PCWH FIT ONHT W/BLT	TIANJIN	CHINA	1	PCS
CRANK ARM EB01 170MM SABK W/BOLT	SHANGHAI	CHINA	1	SET
CHAINRING NWA48A-S3-47.5 48T BK W/CG	SHANGHAI	CHINA	1	SET
OUTER CASING PROMAX SP BK 4MM 500M N.PAH	SHANGHAI	CHINA	0.003	ROL
DISPLAY BF DP C11 BK 2102022602025	SUZHOU	CHINA	1	SET
REAR DER ARDM310DL BK 7/8SP DA	SINGAPORE	SINGAPORE	1	PCS
SHIFTER R ASLM3157RA 7SP W/OGD	SINGAPORE	SINGAPORE	1	SET
FREEWHEEL LY-1107MFN 7SP 11-34T EBIKE	SHENZHEN	CHINA	1	SET
GROMMET CTYE_CABLE-B W/ BOLT	SHENZHEN	CHINA	3	SET
GROMMET CTYECABLE-C NYLON W/BOLT	SHENZHEN	CHINA	1	SET

SPEED SENSOR SR PA221.32 2106110000128	SHANGHAI	CHINA	1	SET
CBL PROTECTOR CCG052B BK 4-5MM	TAIWAN	TAIWAN	2	PCS
CABLE GUIDE YF-W01 BK PLASTIC ONE WAY	TAIWAN	TAIWAN	1	PCS
CABLE TIE 200MMX4.8MM BLACK	SHANGHAI	CHINA	6	PCS
DOS INNER 228.180.55 B-FLUTE	SIDOARJO	INDONESIA	1	PCS
DOS LAYER 250X200	SIDOARJO	INDONESIA	2	PCS
DOS PROTECT TIRE 150X150X235 60MM	SIDOARJO	INDONESIA	1	PCS
DOS LEVER PROTECTOR PROTECT 05 B FLUTE	SIDOARJO	INDONESIA	2	PCS
DOS CRANK ARM PROTECTOR PROTECT 04 B FLU	SIDOARJO	INDONESIA	2	PCS
DOS FORK CROWN PROTECTOR 235 PRT 02 RYL	SIDOARJO	INDONESIA	1	PCS
DOS REI19 1400.250.880 E-BIKE	SIDOARJO	INDONESIA	1	PCS
FRK PROTECTOR 100X100X110 CRTN FOR TA15	SIDOARJO	INDONESIA	2	PCS
FRK AL IN034A20 RAW 28 28.6X435 TAP 180P	XIAMEN	CHINA	1	PCS
D/T DOOR INNER PLATE REI-01-122 CTY	SHENZHEN	CHINA	1	PCS
D/T DOOR COVER REI-02-123-R1 RAW	SHENZHEN	CHINA	1	PCS
FRM AL REI22 GEN E 1.2 20X500 D	SURABAYA	INDONESIA	1	PCS
DROP OUT A-HG288 BK W/BLT DA	SHENZHEN	CHINA	1	SET
HBG VLG-1389PD3 BK/CHC 133/133 CLS END	TAIWAN	TAIWAN	1	SET
H.BAR HB-3188SP SABK 680 R25 31.8 W/OLG	SHANGHAI	CHINA	1	PCS
H.STEM MA504S SABK 28.6X90 ADJ 31.8 COOP	TAIWAN	TAIWAN	1	SET
PLUG VLP-45 FOR VLG901-1	TAIWAN	TAIWAN	2	PCS
HEAD SET FP-H868J BED 44/56 13MM W/O LG	SHANGHAI	CHINA	1	SET
H.PART SPCR SBBK AL 28.6X33X5MM W/O LG	SHANGHAI	CHINA	1	PCS
H.PART SPCR SBBK AL 28.6X33X10MM W/O LG	SHANGHAI	CHINA	1	PCS
H.SET CAP HW-20 SBBK 28.6 W/STR NUT 23.5	SHANGHAI	CHINA	1	SET
F.HUB D041SB-15 BK 15X100 6B 36H 13G	SHENZHEN	CHINA	1	PCS
REAR MOTOR G060.350.D 1142000001327 48V	SHANGHAI	CHINA	1	SET
THRU AXLE JY160039 BK 15X1.5X135 15T	SHENZHEN	CHINA	1	SET
LMP H-BLACK MR8 E BK 6-12V STEM BRCKT	HELSINKI	FINLAND	1	SET
LAMP H-TRACE ON CRR FOR E-BIKE	HELSINKI	FINLAND	1	SET
PDL NWL-303 BK AL 9/16"CR #2 BS/AS STC	ZHANGPU	CHINA	1	SET
HUB PROTECTOR KHP-0109 BK PP FOR TA12/15	MALANG	INDONESIA	2	PCS
REF BRACKET LANDON BK 31.8 ON HANDLE BAR	SHANGHAI	CHINA	1	PCS
REF BRACKET XPJ3-58 34.9 MM BK S.POST	SHANGHAI	CHINA	1	SET
REAR REF. RR-165-BTR AS RED 5009202CM	SIDOARJO	INDONESIA	1	SET
FRONT REFLECTOR RR-165-BTW WH BS STD	SIDOARJO	INDONESIA	1	SET
WHEEL REFLECTOR ER-11 WHITE	HELSINKI	FINLAND	2	PCS
RIM DD32PLUS BK 20 36H AV W/ODCL FOR 13G	TAIWAN	TAIWAN	1	PCS
RIM DD32PLUS BK 20 36H AV W/ODCL FOR 12G	TAIWAN	TAIWAN	1	PCS
SDL DD-102MF VXUB708B9B2G BK BKRL REI	VIETNAM	VIETNAM	1	SET
S.PIN SQR-251 SABK BOLT A=56MM B=36MM	SHENZHEN	CHINA	1	PCS
S.POST SP-264 SABK 34.9X400 BKBLT W/O LG	TAIWAN	TAIWAN	1	SET
STAND CL-KA88002E BK ADJ 24-29 CTR W/BLT	TAIWAN	TAIWAN	1	SET

SPOKE 12GX130 STN BK W/O NIPPLE	SHANGHAI	CHINA	0.125	GRO
SPOKE 12GX132 STN BK W/O NIPPLE	SHANGHAI	CHINA	0.125	GRO
SPOKE 13GX180 STN BK W/O NIPPLE	SHANGHAI	CHINA	0.125	GRO
SPOKE 13GX182 STN BK W/O NIPPLE	SHANGHAI	CHINA	0.125	GRO
NIPPLE BRASS 13GX13MM LOW LEAD	SHANGHAI	CHINA	0.25	GRO
NIPPLE BRASS 12GX13MM LOW LEAD	SHANGHAI	CHINA	0.25	GRO
STICKER OVAL H/T PROTECTOR TRANSPARANT	SURABAYA	INDONESIA	1	PCS
STICKER ISO 4210-2014	SIDOARJO	INDONESIA	1	PCS
STICKER C/S TRANSPARENT FOR MARIN R0	SHENZHEN	CHINA	1	SET
DC-RE22ADDG1R0 SC REI22 GEN ADD BATTERY	SHENZHEN	CHINA	1	SET
DC-RE22ADDG2R1 SC REI22 GEN1.2 FRONT RAC	SHENZHEN	CHINA	1	SET
DC-RE22ADDG3R0 SC REI22 GEN REAR RACK	SHENZHEN	CHINA	1	SET
DC-RE22EGNG3R5 NP REI22 GENE 1.2	SHENZHEN	CHINA	1	SET
DCRE22REPG1R0 SC REI22 GEN CLASS1	SHENZHEN	CHINA	1	SET
DC-RE22STP5R0 NP REI22 E-BIKE GENE STR	SHENZHEN	CHINA	1	SET
SELANG PLASTIK 3/16" BK FOR OUTER CASING	SIDOARJO	INDONESIA	0.5	M
KABEL BAKAR BK OD:5MM	SIDOARJO	INDONESIA	0.1	M
ELECTRIC WIRE AWG BLACK	SIDOARJO	INDONESIA	2.5	M
KABEL BAKAR BK OD:3MM	SIDOARJO	INDONESIA	0.2	M
MANUAL BOOK REI 2022 VERSION 3.0	SIDOARJO	INDONESIA	1	PCS
BAFANG MANUAL BOOK REI GENE 1.2	SIDOARJO	INDONESIA	1	PCS
MANUAL BOOK TRIFOLD QUICKSTR REI GENE1.2	SIDOARJO	INDONESIA	1	PCS
PLS PLUG BK PP 9X11.5M FOR M5 BTL BOS	MALANG	INDONESIA	11	PCS
PAPER SHEET FOR SADDLE MARIN 780MMX190MM	SIDOARJO	INDONESIA	1	PCS
SPIRAL WRAP KSS KS-10BK 10X0.8X12.3MM	SHANGHAI	CHINA	1	M
MANUAL POUCH CARRERA 270X175	SURABAYA	INDONESIA	1	PCS
ELECTRIC WIRE SCOON H3739 FEMALE	SIDOARJO	INDONESIA	2	PCS
ELECTRIC WIRE SCOON 2858 (MALE)	SIDOARJO	INDONESIA	4	PCS

Lampiran 2 Ukuran *Container 20 Feet*(Raficon, n.d)

Keterangan	Ukuran
Panjang	589.8 cm
Lebar	235.2 cm
Tinggi	239.3 cm
Volume	33195925.7 cm ³
Volume (80%)	26556740.6 cm ³

Lampiran 3 Jumlah Emisi Karbon Untuk Komponen Impor

Komponen	Vendor Port	Negara	Carbon Emission/ TEU (kg)	Komponen / box (pcs)	box/container (round down)	items/container (pcs)	item emission	total emission per 1 sepeda	land delivery
ELECTRIC WIRE EB 1T1 JX 2105040000098	SHANGHAI	CHINA	376.70	582	741	431262	0.000873	0.000873	8.7E-05
BATTERY BTF35 BK 2111022200001 48V	SHANGHAI	CHINA	376.70	1	3094	3094	0.121752	0.121752	0.012127
BATTERY CHARGER CHG C01 2A 2113020000010	SHANGHAI	CHINA	376.70	30	1662	49860	0.007555	0.007555	0.000753
CONTROLLER CR 104.350.FC 2101470200006	SHANGHAI	CHINA	376.70	50	638	31900	0.011809	0.011809	0.001176
BATTERY SLIDER BK 2111032100005	SHANGHAI	CHINA	376.70	20	1290	25800	0.014601	0.014601	0.001454
BELL XIN XING SX-99B BK 22.2MM	SHANGHAI	CHINA	376.70	25	28928	723200	0.000521	0.000521	5.19E-05
RIM TAPE RED NYLON JN202505 20" 25MM	TAICHUNG	TAIWAN	222.60	801	580	464580	0.000479	0.000958	0.000162
BRK HD-T280 BK LF 1000 W/ORTR W/OADPT EZ	SHENZHEN	CHINA	258.20	25	638	15950	0.016188	0.016188	0.002352
BRK HD-T280 BK RR 1700 W/ORTR W/OADPT EZ	SHENZHEN	CHINA	258.20	25	584	14600	0.017685	0.017685	0.00257
ROTATING HOOK CM143 BK PLS 4/5MM	TAICHUNG	TAIWAN	222.60	1075	5419	5825425	3.82E-05	7.64E-05	1.29E-05
OLIVE AND BARB TEKTRO FOR 5MM HOSE	SHENZHEN	CHINA	258.20	600	6851	4110600	6.28E-05	0.000126	1.83E-05
BRK ROTOR TR180-24 180MM 6 BOLTS (CN)	SHENZHEN	CHINA	258.20	25	10509	262725	0.000983	0.001966	0.000286
CHN E8S NP/BK 8SP 1/2X3/32 120L W/LINK	SHENZHEN	CHINA	258.20	30	4257	127710	0.002022	0.002022	0.000294
FRONT CARRIER HLK-Q1 PCWH FIT ONHT W/BLT	TIANJIN	CHINA	112.90	10	276	2760	0.040906	0.040906	0.013594
CRANK ARM EB01 170MM SABK W/BOLT	SHANGHAI	CHINA	376.70	50	2117	105850	0.003559	0.003559	0.000354
CHAINRING NWA48A-S3-47.5 48T BK W/CG	SHANGHAI	CHINA	376.70	87	975	84825	0.004441	0.004441	0.000442
OUTER CASING PROMAX SP BK 4MM 500M N.PAH	SHANGHAI	CHINA	376.70	1	771	771	0.488586	0.001466	0.000146
DISPLAY BF DP C11 BK 2102022602025	SHANGHAI	CHINA	376.70	96	636	61056	0.00617	0.00617	0.000615
REAR DER ARDM310DL BK 7/8SP DA	SINGAPORE	SINGAPORE	112.90	25	636	15900	0.007101	0.007101	0.00236
SHIFTER R ASLM3157RA 7SP W/OGD	SINGAPORE	SINGAPORE	112.90	100	390	39000	0.002895	0.002895	0.000962
FREEWHEEL LY-1107MFN 7SP 11-34T EBIKE	SHENZHEN	CHINA	258.20	40	1027	41080	0.006285	0.006285	0.000913
GROMMET CTYE_CABLE-B W/ BOLT	SHENZHEN	CHINA	258.20	4000	3688	14752000	1.75E-05	5.25E-05	7.63E-06

GROMMET CTYECABLE-C NYLON W/BOLT	SHENZHEN	CHINA	258.20	2000	4426	8852000	2.92E-05	2.92E-05	4.24E-06
SPEED SENSOR SR PA221.32 2106110000128	SHANGHAI	CHINA	376.70	16	638	10208	0.036902	0.036902	0.003676
CBL PROTECTOR CCG052B BK 4-5MM	TAICHUNG	TAIWAN	222.60	1000	4215	4215000	5.28E-05	0.000106	1.78E-05
CABLE GUIDE YF-W01 BK PLASTIC ONE WAY	TAICHUNG	TAIWAN	222.60	10000	927	9270000	2.4E-05	2.4E-05	4.05E-06
CABLE TIE 200MMX4.8MM BLACK	SHANGHAI	CHINA	376.70	10000	488	4880000	7.72E-05	0.000463	4.61E-05
FRK AL IN034A20 RAW 28 28.6X435 TAP 180P	XIAMEN	CHINA	299.20	120	379	45480	0.006579	0.006579	0.000825
D/T DOOR INNER PLATE REI-01-122 CTY	SHENZHEN	CHINA	258.20	500	2932	1466000	0.000176	0.000176	2.56E-05
D/T DOOR COVER REI-02-123-R1 RAW	SHENZHEN	CHINA	258.20	600	1463	877800	0.000294	0.000294	4.27E-05
DROP OUT A-HG288 BK W/BLT DA	SHENZHEN	CHINA	258.20	1000	1480	1480000	0.000174	0.000174	2.54E-05
HBG VLG-1389PD3 BK/CHC 133/133 CLS END	TAICHUNG	TAIWAN	222.60	100	8583	858300	0.000259	0.000259	4.37E-05
H.BAR HB-3188SP SABK 680 R25 31.8 W/OLG	SHANGHAI	CHINA	376.70	50	548	27400	0.013748	0.013748	0.001369
H.STEM MA504S SABK 28.6X90 ADJ 31.8 COOP	TAICHUNG	TAIWAN	222.60	30	1270	38100	0.005843	0.005843	0.000985
PLUG VLP-45 FOR VLG901-1	TAICHUNG	TAIWAN	222.60	1500	1424	2136000	0.000104	0.000208	3.51E-05
HEAD SET FP-H868J BED 44/56 13MM W/O LG	SHANGHAI	CHINA	376.70	100	1350	135000	0.00279	0.00279	0.000278
H.PART SPCR SBBK AL 28.6X33X5MM W/O LG	SHANGHAI	CHINA	376.70	500	3359	1679500	0.000224	0.000224	2.23E-05
H.PART SPCR SBBK AL 28.6X33X10MM W/O LG	SHANGHAI	CHINA	376.70	1000	1350	1350000	0.000279	0.000279	2.78E-05
H.SET CAP HW-20 SBBK 28.6 W/STR NUT 23.5	SHANGHAI	CHINA	376.70	150	1350	202500	0.00186	0.00186	0.000185
F.HUB D041SB-15 BK 15X100 6B 36H 13G	SHENZHEN	CHINA	258.20	30	908	27240	0.009479	0.009479	0.001377
REAR MOTOR G060.350.D 1142000001327 48V	SHANGHAI	CHINA	376.70	4	574	2296	0.164068	0.164068	0.016341
THRU AXLE JY160039 BK 15X1.5X135 15T	SHENZHEN	CHINA	258.20	200	1528	305600	0.000845	0.000845	0.000123
LMP H-BLACK MR8 E BK 6-12V STEM BRCKT	HELSINKI	FINLAND	670.00	72	539	38808	0.017264	0.017264	0.000967
LAMP H-TRACE ON CRR FOR E-BIKE	HELSINKI	FINLAND	670.00	144	1091	157104	0.004265	0.004265	0.000239
PDL NWL-303 BK AL 9/16"CR #2 BS/AS STC	SHENZHEN	CHINA	258.20	50	687	34350	0.007517	0.007517	0.001092
REF BRACKET LANDON BK 31.8 ON HANDLE BAR	SHANGHAI	CHINA	376.70	800	442	353600	0.001065	0.001065	0.000106
REF BRACKET XPJ3-58 34.9 MM BK S.POST	SHANGHAI	CHINA	376.70	100	2639	263900	0.001427	0.001427	0.000142
WHEEL REFLECTOR ER-11 WHITE	HELSINKI	FINLAND	670.00	852	829	706308	0.000949	0.001897	0.000106

RIM DD32PLUS BK 20 36H AV W/ODCL FOR 13G	TAICHUNG	TAIWAN	222.60	15	296	4440	0.050135	0.050135	0.00845
RIM DD32PLUS BK 20 36H AV W/ODCL FOR 12G	TAICHUNG	TAIWAN	222.60	15	296	4440	0.050135	0.050135	0.00845
SDL DD-102MF VXUB708B9B2G BK BKRL REI	HO CHI MINH	VIETNAM	282.00	10	518	5180	0.05444	0.05444	0.007243
S.PIN SQR-251 SABK BOLT A=56MM B=36MM	SHENZHEN	CHINA	258.20	300	1379	413700	0.000624	0.000624	9.07E-05
S.POST SP-264 SABK 34.9X400 BKBLT W/O LG	TAICHUNG	TAIWAN	222.60	30	553	16590	0.013418	0.013418	0.002262
STAND CL-KA88002E BK ADJ 24-29 CTR W/BLT	TAICHUNG	TAIWAN	222.60	25	642	16050	0.013869	0.013869	0.002338
SPOKE 12GX130 STN BK W/O NIPPLE	SHANGHAI	CHINA	376.70	25	3143	78575	0.004794	0.000599	5.97E-05
SPOKE 12GX132 STN BK W/O NIPPLE	SHANGHAI	CHINA	376.70	25	3143	78575	0.004794	0.000599	5.97E-05
SPOKE 13GX180 STN BK W/O NIPPLE	SHANGHAI	CHINA	376.70	25	3143	78575	0.004794	0.000599	5.97E-05
SPOKE 13GX182 STN BK W/O NIPPLE	SHANGHAI	CHINA	376.70	25	3143	78575	0.004794	0.000599	5.97E-05
NIPPLE BRASS 13GX13MM LOW LEAD	SHANGHAI	CHINA	376.70	25	2514	62850	0.005994	0.001498	0.000149
NIPPLE BRASS 12GX13MM LOW LEAD	SHANGHAI	CHINA	376.70	25	2514	62850	0.005994	0.001498	0.000149
STICKER C/S TRANSPARENT FOR MARIN R0	SHENZHEN	CHINA	258.20	2000	4628	9256000	2.79E-05	2.79E-05	4.05E-06
DC-RE22ADDG1R0 SC REI22 GEN ADD BATTERY	SHENZHEN	CHINA	258.20	100	1795891	1.8E+08	1.44E-06	1.44E-06	2.09E-07
DC-RE22ADDG2R1 SC REI22 GEN1.2 FRONT RAC	SHENZHEN	CHINA	258.20	375	531347	1.99E+08	1.3E-06	1.3E-06	1.88E-07
DC-RE22ADDG3R0 SC REI22 GEN REAR RACK	SHENZHEN	CHINA	258.20	279	1702355	4.75E+08	5.44E-07	5.44E-07	7.9E-08
DC-RE22EGNG3R5 NP REI22 GENE 1.2	SHENZHEN	CHINA	258.20	100	5433	543300	0.000475	0.000475	6.91E-05
DCRE22REPG1R0 SC REI22 GEN CLASS1	SHENZHEN	CHINA	258.20	798	129418	1.03E+08	2.5E-06	2.5E-06	3.63E-07
DC-RE22STP5R0 NP REI22 E-BIKE GENE STR	SHENZHEN	CHINA	258.20	350	12875	4506250	5.73E-05	5.73E-05	8.33E-06
SPIRAL WRAP KSS KS-10BK 10X0.8X12.3MM	SHANGHAI	CHINA	376.70	50	214	10700	0.035206	0.035206	0.003507
							total=	0.770581	0.101804
							total CE=	0.872385	

Lampiran 4 Rincian Jenis Kendaraan Untuk Pengiriman Lokal

faktor emisi kgCO ₂ /l	bbm	kendaraan	fuel efficiency(km/l)	ukuran(cm ³)	80% volume
2.68	diesel	colt diesel	7	41400000	33120000
2.31	bensin	box pick up	7.8	4738815	3791052
2.31	bensin	motor	55	120000	96000

Lampiran 5 Perhitungan Emisi dari *Pemasok* ke PT. X

Vendor	Kendaraan	Jarak(Km)	Pemakaian	emisi 1x jln
1	Box pick up	27	3.461538	7.9961538
2	colt diesel box	846	120.8571	323.89714
3	container 20ft	775	387.5	1038.5
4	colt diesel box	741	105.8571	283.69714
5	box pick up	12	1.538462	3.5538462
6	colt diesel box	6.5	0.928571	2.4885714
7	colt diesel box	13	1.857143	4.9771429
8	Box pick up	85	10.89744	25.173077
9	colt diesel box	6.8	0.971429	2.6034286
10	Box pick up	9	1.153846	2.6653846
11	motor	9.9	0.18	0.4158
12	Box pick up	17	2.179487	5.0346154

Lampiran 6 Jumlah Emisi Karbon Untuk Komponen Lokal

Komponen	Vendor Port	Negara	Carbon Emission (kg)	Komponen / box (pcs)	box/container(round down)	items/container(pcs)	item emission	total emission per 1 sepeda
NYLON NUT M5 STAINLESS	SURABAYA	INDONESIA	7.996153846	4000	2378	2378	9512000	8.406E-07
BOLT TL-206A M5X12 STAINLESS	SURABAYA	INDONESIA	7.996153846	900	4165	4165	3748500	2.133E-06
BOLT BUTTON L M5X10MM STAINLESS	SURABAYA	INDONESIA	7.996153846	500	3159	3159	1579500	5.062E-06
RING PLAT/WASHER M5 STAINLESS	SURABAYA	INDONESIA	7.996153846	5000	3255	3255	1.6E+07	4.913E-07
TUBE KENDA BK 406 20X2.4/2.8 AV48	JAKARTA	INDONESIA	323.8971429	100	432	432	43200	0.0074976
TIRE SUPER MOTO X 10101327.01 BK 20X2.40	JAKARTA	INDONESIA	1038.5	25	1408	1408	35200	0.0295028
BOTTLE BOLT TL-211C BK M5X12 STAINLESS	BEKASI	INDONESIA	283.6971429	3000	3830	3830	1.1E+07	2.469E-05
BLACK YS-728 TSA LB	SIDOARJO	INDONESIA	3.553846154	16	140	140	2240	0.0015865
CLEAR MATT MARIN TSA LB	SIDOARJO	INDONESIA	3.553846154	16	140	140	2240	0.0015865
EPOXY DARK GREY	SIDOARJO	INDONESIA	3.553846154	16	140	140	2240	0.0015865
THINNER ISA 02	SIDOARJO	INDONESIA	3.553846154	16	140	140	2240	0.0015865
DOS INNER 228.180.55 B-FLUTE	SIDOARJO	INDONESIA	2.488571429	50	2208	2208	110400	2.254E-05
DOS LAYER 250X200	SIDOARJO	INDONESIA	2.488571429	50	4205	4205	210250	1.184E-05
DOS PROTECT TIRE 150X150X235 60MM	SIDOARJO	INDONESIA	4.977142857	10	2523	2523	25230	0.0001973
DOS LEVER PROTECTOR PROTECT 05 B FLUTE	SIDOARJO	INDONESIA	4.977142857	20	5294	5294	105880	4.701E-05
DOS CRANK ARM PROTECTOR PROTECT 04 B FLU	SIDOARJO	INDONESIA	4.977142857	30	16543	16543	496290	1.003E-05
DOS FORK CROWN PROTECTOR 235 PRT 02 RYL	SIDOARJO	INDONESIA	4.977142857	20	5647	5647	112940	4.407E-05
DOS REI19 1400.250.880 E-BIKE	SIDOARJO	INDONESIA	2.488571429	82	2	2	164	0.0151742
FRK PROTECTOR 100X100X110 CRTN FOR TA15	SIDOARJO	INDONESIA	2.488571429	24	1656	1656	39744	6.262E-05
FRM AL REI22 GEN E 1.2 20X500 D	SURABAYA	INDONESIA						
HUB PROTECTOR KHP-0109 BK PP FOR TA12/15	MALANG	INDONESIA	25.17307692	250	42	42	10500	0.0023974
REAR REF. RR-165-BTR AS RED 5009202CM	SIDOARJO	INDONESIA	2.603428571	1000	981	981	981000	2.654E-06
FRONT REFLECTOR RR-165-BTW WH BS STD	SIDOARJO	INDONESIA	2.603428571	1000	981	981	981000	2.654E-06

STICKER OVAL H/T PROTECTOR TRANSPARANT	SURABAYA	INDONESIA	2.665384615	1000	8331	8331	8331000	3.199E-07
STICKER ISO 4210-2014	SIDOARJO	INDONESIA	0.4158	500	3794	1897000	2.192E-07	2.19188E-07
MANUAL BOOK REI 2022 VERSION 3.0	SIDOARJO	INDONESIA	0.4158	66	15	990	0.00042	0.00042
BAFANG MANUAL BOOK REI GENE 1.2	SIDOARJO	INDONESIA	0.4158	87	6	522	0.0007966	0.000796552
MANUAL BOOK TRIFOLD QUICKSTR REI GENE1.2	SIDOARJO	INDONESIA	0.4158	66	205	13530	3.073E-05	3.07317E-05
PLS PLUG BK PP 9X11.5M FOR M5 BTL BOS	MALANG	INDONESIA	25.17307692	30000	42	1260000	1.998E-05	0.000219765
PAPER SHEET FOR SADDLE MARIN 780MMX190MM	SIDOARJO	INDONESIA	2.488571429	50	2038	101900	2.442E-05	2.44217E-05
MANUAL POUCH CARRERA 270X175	SURABAYA	INDONESIA	5.034615385	2000	71	142000	3.546E-05	3.5455E-05
						total=		0.097343131

Lampiran 7 Ukuran *Container 40 Feet*

Keterangan	Ukuran
Panjang	1204 cm
Lebar	234 cm
Tinggi	239 cm
Volume	67334904 cm ³
Volume (80%)	53867923 cm ³

Lampiran 8 Jumlah Emisi Karbon Usulan Komponen Internasional

Komponen	Vendor Port	Negara	Carbon Emission/ 2 TEU (kg)	Komponen / box (pcs)	box/container(round down)	items/container(pcs)	item emission	total emission per 1 sepeda	land delivery
ELECTRIC WIRE EB 1T1 JX 2105040000098	SHANGHAI	CHINA	753.40	582	1504	875328	0.00086071	0.000861	4.29E-05
BATTERY BTF35 BK 2111022200001 48V	SHANGHAI	CHINA	753.40	1	6276	6276	0.12004461	0.120045	0.005978
BATTERY CHARGER CHG C01 2A 2113020000010	SHANGHAI	CHINA	753.40	30	3372	101160	0.00744761	0.007448	0.000371
CONTROLLER CR 104.350.FC 2101470200006	SHANGHAI	CHINA	753.40	50	1295	64750	0.01163552	0.011636	0.000579
BATTERY SLIDER BK 2111032100005	SHANGHAI	CHINA	753.40	20	2617	52340	0.01439434	0.014394	0.000717
BELL XIN XING SX-99B BK 22.2MM	SHANGHAI	CHINA	753.40	25	58679	1466975	0.00051357	0.000514	2.56E-05
RIM TAPE RED NYLON JN202505 20" 25MM	TAICHUNG	TAIWAN	445.20	801	1177	942777	0.00047222	0.000944	7.96E-05
BRK HD-T280 BK LF 1000 W/ORTR W/OADPT EZ	SHENZHEN	CHINA	516.40	25	1294	32350	0.01596291	0.015963	0.00116
BRK HD-T280 BK RR 1700 W/ORTR W/OADPT EZ	SHENZHEN	CHINA	516.40	25	1185	29625	0.01743122	0.017431	0.001266
ROTATING HOOK CM143 BK PLS 4/5MM	TAICHUNG	TAIWAN	445.20	1075	10993	11817475	0.00003767	7.53E-05	6.35E-06
OLIVE AND BARB TEKTRON FOR 5MM HOSE	SHENZHEN	CHINA	516.40	600	13897	8338200	0.00006193	0.000124	9E-06
BRK ROTOR TR180-24 180MM 6 BOLTS (CN)	SHENZHEN	CHINA	516.40	25	21316	532900	0.00096904	0.001938	0.000141
CHN E8S NP/BK 8SP 1/2X3/32 120L W/LINK	SHENZHEN	CHINA	516.40	30	8635	259050	0.00199344	0.001993	0.000145
FRONT CARRIER HLK-Q1 PCWH FIT ONHT W/BLT	TIANJIN	CHINA	225.80	10	561	5610	0.04024955	0.04025	0.006688
CRANK ARM EB01 170MM SABK W/BOLT	SHANGHAI	CHINA	753.40	50	4295	214750	0.00350827	0.003508	0.000175
CHAINRING NWA48A-S3-47.5 48T BK W/CG	SHANGHAI	CHINA	753.40	87	1979	172173	0.00437583	0.004376	0.000218
OUTER CASING PROMAX SP BK 4MM 500M N.PAH	SHANGHAI	CHINA	753.40	1	1564	1564	0.48171355	0.001445	7.2E-05
DISPLAY BF DP C11 BK 2102022602025	SHANGHAI	CHINA	753.40	96	1291	123936	0.00607894	0.006079	0.000303

REAR DER ARDM310DL BK 7/8SP DA	SINGAPORE	SINGAPORE	225.80	25	1290	32250	0.00700155	0.007002	0.001163
SHIFTER R ASLM3157RA 7SP W/OGD	SINGAPORE	SINGAPORE	225.80	100	792	79200	0.00285101	0.002851	0.000474
FREEWHEEL LY-1107MFN 7SP 11-34T EBIKE	SHENZHEN	CHINA	516.40	40	2083	83320	0.00619779	0.006198	0.00045
GROMMET CTYE_CABLE-B W/ BOLT	SHENZHEN	CHINA	516.40	4000	7481	29924000	0.00001726	5.18E-05	3.76E-06
GROMMET CTYECABLE-C NYLON W/BOLT	SHENZHEN	CHINA	516.40	2000	8977	17954000	0.00002876	2.88E-05	2.09E-06
SPEED SENSOR SR PA221.32 2106110000128	SHANGHAI	CHINA	753.40	16	1295	20720	0.03636100	0.036361	0.001811
CBL PROTECTOR CCG052B BK 4-5MM	TAICHUNG	TAIWAN	445.20	1000	8550	8550000	0.00005207	0.000104	8.78E-06
CABLE GUIDE YF-W01 BK PLASTIC ONE WAY	TAICHUNG	TAIWAN	445.20	10000	1882	18820000	0.00002366	2.37E-05	1.99E-06
CABLE TIE 200MMX4.8MM BLACK	SHANGHAI	CHINA	753.40	10000	990	9900000	0.00007610	0.000457	2.27E-05
FRK AL IN034A20 RAW 28 28.6X435 TAP 180P	XIAMEN	CHINA	598.40	120	770	92400	0.00647619	0.006476	0.000406
D/T DOOR INNER PLATE REI-01-122 CTY	SHENZHEN	CHINA	516.40	500	5948	2974000	0.00017364	0.000174	1.26E-05
D/T DOOR COVER REI-02-123-R1 RAW	SHENZHEN	CHINA	516.40	600	2968	1780800	0.00028998	0.00029	2.11E-05
DROP OUT A-HG288 BK W/BLT DA	SHENZHEN	CHINA	516.40	1000	3002	3002000	0.00017202	0.000172	1.25E-05
HBG VLG-1389PD3 BK/CHC 133/133 CLS END	TAICHUNG	TAIWAN	445.20	100	17411	1741100	0.00025570	0.000256	2.15E-05
H.BAR HB-3188SP SABK 680 R25 31.8 W/OLG	SHANGHAI	CHINA	753.40	50	1112	55600	0.01355036	0.01355	0.000675
H.STEM MA504S SABK 28.6X90 ADJ 31.8 COOP	TAICHUNG	TAIWAN	445.20	30	2576	77280	0.00576087	0.005761	0.000486
PLUG VLP-45 FOR VLG901-1	TAICHUNG	TAIWAN	445.20	1500	2888	4332000	0.00010277	0.000206	1.73E-05
HEAD SET FP-H868J BED 44/56 13MM W/O LG	SHANGHAI	CHINA	753.40	100	2739	273900	0.00275064	0.002751	0.000137
H.PART SPCR SBBK AL 28.6X33X5MM W/O LG	SHANGHAI	CHINA	753.40	500	6814	3407000	0.00022113	0.000221	1.1E-05

H.PART SPCR SBBK AL 28.6X33X10MM W/O LG	SHANGHAI	CHINA	753.40	1000	2739	2739000	0.00027506	0.000275	1.37E-05
H.SET CAP HW-20 SBBK 28.6 W/STR NUT 23.5	SHANGHAI	CHINA	753.40	150	2739	410850	0.00183376	0.001834	9.13E-05
F.HUB D041SB-15 BK 15X100 6B 36H 13G	SHENZHEN	CHINA	516.40	30	1842	55260	0.00934491	0.009345	0.000679
REAR MOTOR G060.350.D 1142000001327 48V	SHANGHAI	CHINA	753.40	4	1165	4660	0.16167382	0.161674	0.008052
THRU AXLE JY160039 BK 15X1.5X135 15T	SHENZHEN	CHINA	516.40	200	3099	619800	0.00083317	0.000833	6.05E-05
LMP H-BLACK MR8 E BK 6-12V STEM BRCKT	HELSINKI	FINLAND	1,340.00	72	1094	78768	0.01701198	0.017012	0.000476
LAMP H-TRACE ON CRR FOR E-BIKE	HELSINKI	FINLAND	1,340.00	144	2213	318672	0.00420495	0.004205	0.000118
PDL NWL-303 BK AL 9/16"CR #2 BS/AS STC	SHENZHEN	CHINA	516.40	50	1395	69750	0.00740358	0.007404	0.000538
REF BRACKET LANDON BK 31.8 ON HANDLE BAR	SHANGHAI	CHINA	753.40	800	897	717600	0.00104989	0.00105	5.23E-05
REF BRACKET XPJ3-58 34.9 MM BK S.POST	SHANGHAI	CHINA	753.40	100	5353	535300	0.00140744	0.001407	7.01E-05
WHEEL REFLECTOR ER-11 WHITE	HELSINKI	FINLAND	1,340.00	852	1683	1433916	0.00093450	0.001869	5.23E-05
RIM DD32PLUS BK 20 36H AV W/ODCL FOR 13G	TAICHUNG	TAIWAN	445.20	15	600	9000	0.04946667	0.049467	0.004169
RIM DD32PLUS BK 20 36H AV W/ODCL FOR 12G	TAICHUNG	TAIWAN	445.20	15	600	9000	0.04946667	0.049467	0.004169
SDL DD-102MF VXUB708B9B2G BK BKRL REI	HO CHI MINH	VIETNAM	564.00	10	1051	10510	0.05366318	0.053663	0.00357
S.PIN SQR-251 SABK BOLT A=56MM B=36MM	SHENZHEN	CHINA	516.40	300	2798	839400	0.00061520	0.000615	4.47E-05
S.POST SP-264 SABK 34.9X400 BKBLT W/O LG	TAICHUNG	TAIWAN	445.20	30	1123	33690	0.01321460	0.013215	0.001114
STAND CL-KA88002E BK ADJ 24-29 CTR W/BLT	TAICHUNG	TAIWAN	445.20	25	1302	32550	0.01367742	0.013677	0.001153
SPOKE 12GX130 STN BK W/O NIPPLE	SHANGHAI	CHINA	753.40	25	6376	159400	0.00472647	0.000591	2.94E-05

SPOKE 12GX132 STN BK W/O NIPPLE	SHANGHAI	CHINA	753.40	25	6376	159400	0.00472647	0.000591	2.94E-05
SPOKE 13GX180 STN BK W/O NIPPLE	SHANGHAI	CHINA	753.40	25	6376	159400	0.00472647	0.000591	2.94E-05
SPOKE 13GX182 STN BK W/O NIPPLE	SHANGHAI	CHINA	753.40	25	6376	159400	0.00472647	0.000591	2.94E-05
NIPPLE BRASS 13GX13MM LOW LEAD	SHANGHAI	CHINA	753.40	25	5101	127525	0.00590786	0.001477	7.36E-05
NIPPLE BRASS 12GX13MM LOW LEAD	SHANGHAI	CHINA	753.40	25	5101	127525	0.00590786	0.001477	7.36E-05
STICKER C/S TRANSPARENT FOR MARIN R0	SHENZHEN	CHINA	516.40	2000	9388	18776000	0.00002750	2.75E-05	2E-06
DC-RE22ADDG1R0 SC REI22 GEN ADD BATTERY	SHENZHEN	CHINA	516.40	100	3642801	3.64E+08	0.00000142	1.42E-06	1.03E-07
DC-RE22ADDG2R1 SC REI22 GEN1.2 FRONT RAC	SHENZHEN	CHINA	516.40	375	1077789	4.04E+08	0.00000128	1.28E-06	9.28E-08
DC-RE22ADDG3R0 SC REI22 GEN REAR RACK	SHENZHEN	CHINA	516.40	279	3453072	9.63E+08	0.00000054	5.36E-07	3.89E-08
DC-RE22EGNG3R5 NP REI22 GENE 1.2	SHENZHEN	CHINA	516.40	100	11021	1102100	0.00046856	0.000469	3.4E-05
DCRE22REPG1R0 SC REI22 GEN CLASS1	SHENZHEN	CHINA	516.40	798	262514	2.09E+08	0.00000247	2.47E-06	1.79E-07
DC-RE22STP5R0 NP REI22 E-BIKE GENE STR	SHENZHEN	CHINA	516.40	350	26117	9140950	0.00005649	5.65E-05	4.1E-06
SPIRAL WRAP KSS KS-10BK 10X0.8X12.3MM	SHANGHAI	CHINA	753.40	50	434	21700	0.03471889	0.034719	0.001729
							total=	0.759561	0.050169
							total CE=	0.809731	

Lampiran 9 Jumlah Emisi Karbon Usulan Komponen Lokal

Komponen	Vendor Port	Negara	Carbon Emission/ 2 TEU (kg)	Komponen / box (pcs)	box/container(round down)	items/container(pcs)	item emission	total emission per 1 sepeda
NYLON NUT M5 STAINLESS	SURABAYA	INDONESIA	7.996153846	4000	2378	9512000	8.40639E-07	1.68E-06
BOLT TL-206A M5X12 STAINLESS	SURABAYA	INDONESIA	7.996153846	900	4165	3748500	2.13316E-06	4.27E-06
BOLT BUTTON L M5X10MM STAINLESS	SURABAYA	INDONESIA	7.996153846	500	3159	1579500	5.06246E-06	2.02E-05
RING PLAT/WASHER M5 STAINLESS	SURABAYA	INDONESIA	7.996153846	5000	3255	16275000	4.91315E-07	8.84E-06
TUBE KENDA BK 406 20X2.4/2.8 AV48	JAKARTA	INDONESIA	323.8971429	100	432	43200	0.007497619	0.014995
TIRE SUPER MOTO X 10101327.01 BK 20X2.40	JAKARTA	INDONESIA	1038.5	25	2857	71425	0.014539727	0.029079
BOTTLE BOLT TL-211C BK M5X12 STAINLESS	BEKASI	INDONESIA	283.6971429	3000	3830	11490000	2.46908E-05	0.000123
BLACK YS-728 TSA LB	SIDOARJO	INDONESIA	3.553846154	16	140	2240	0.001586538	0.000201
CLEAR MATT MARIN TSA LB	SIDOARJO	INDONESIA	3.553846154	16	140	2240	0.001586538	0.000206
EPOXY DARK GREY	SIDOARJO	INDONESIA	3.553846154	16	140	2240	0.001586538	0.00017
THINNER ISA 02	SIDOARJO	INDONESIA	3.553846154	16	140	2240	0.001586538	0.000578
DOS INNER 228.180.55 B-FLUTE	SIDOARJO	INDONESIA	2.488571429	50	2208	110400	2.25414E-05	2.25E-05
DOS LAYER 250X200	SIDOARJO	INDONESIA	2.488571429	50	4205	210250	1.18362E-05	2.37E-05
DOS PROTECT TIRE 150X150X235 60MM	SIDOARJO	INDONESIA	4.977142857	10	2523	25230	0.000197271	0.000197
DOS LEVER PROTECTOR PROTECT 05 B FLUTE	SIDOARJO	INDONESIA	4.977142857	20	5294	105880	4.70074E-05	9.4E-05
DOS CRANK ARM PROTECTOR PROTECT 04 B FLU	SIDOARJO	INDONESIA	4.977142857	30	16543	496290	1.00287E-05	2.01E-05
DOS FORK CROWN PROTECTOR 235 PRT 02 RYL	SIDOARJO	INDONESIA	4.977142857	20	5647	112940	4.40689E-05	4.41E-05
DOS REI19 1400.250.880 E-BIKE	SIDOARJO	INDONESIA	2.488571429	82	2	164	0.015174216	0.015174
FRK PROTECTOR 100X100X110 CRTN FOR TA15	SIDOARJO	INDONESIA	2.488571429	24	1656	39744	6.2615E-05	0.000125
FRM AL REI22 GEN E 1.2 20X500 D	SURABAYA	INDONESIA						
HUB PROTECTOR KHP-0109 BK PP FOR TA12/15	MALANG	INDONESIA	25.17307692	250	42	10500	0.002397436	0.004795
REAR REF. RR-165-BTR AS RED 5009202CM	SIDOARJO	INDONESIA	2.603428571	1000	981	981000	2.65385E-06	2.65E-06
FRONT REFLECTOR RR-165-BTW WH BS STD	SIDOARJO	INDONESIA	2.603428571	1000	981	981000	2.65385E-06	2.65E-06
STICKER OVAL H/T PROTECTOR TRANSPARANT	SURABAYA	INDONESIA	2.665384615	1000	8331	8331000	3.19936E-07	3.2E-07
STICKER ISO 4210-2014	SIDOARJO	INDONESIA	0.4158	500	3794	1897000	2.19188E-07	2.19E-07

MANUAL BOOK REI 2022 VERSION 3.0	SIDOARJO	INDONESIA	0.4158	66	15	990	0.00042	0.00042
BAFANG MANUAL BOOK REI GENE 1.2	SIDOARJO	INDONESIA	0.4158	87	6	522	0.000796552	0.000797
MANUAL BOOK TRIFOLD QUICKSTR REI GENE1.2	SIDOARJO	INDONESIA	0.4158	66	205	13530	3.07317E-05	3.07E-05
PLS PLUG BK PP 9X11.5M FOR M5 BTL BOS	MALANG	INDONESIA	25.17307692	30000	42	1260000	1.99786E-05	0.00022
PAPER SHEET FOR SADDLE MARIN 780MMX190MM	SIDOARJO	INDONESIA	2.488571429	50	2038	101900	2.44217E-05	2.44E-05
MANUAL POUCH CARRERA 270X175	SURABAYA	INDONESIA	5.034615385	2000	71	142000	3.5455E-05	3.55E-05
						total=		0.067417

Lampiran 10 Data Emisi Karbon perusahaan 2022

Emisi CO2 Primer (Solar)				
Tahun	Penggunaan/Tahun (kL)	Faktor Emisi (ton CO2/kL)	Faktor Emisi (ton CO2/TJ)	Penurunan (%)
2021	27.6695	2.69	74.430955	
2022	24.377	2.68	65.33036	
				11.90

Emisi CO2 Primer (Gas Alam)					
Tahun	Penggunaan/Tahun (MMBtu)	Konversi (TJ/MMBtu)	Faktor Emisi (ton CO2/TJ)	Total Emisi/Tahun (ton CO2)	Penurunan (%)
2021	33062.9252	0.001055	56.1	1956.846	
2022	30343.5001	0.001055	56.1	1795.895	
					8.22

Emisi CO2 Sekunder (Listrik)				
Tahun	Penggunaan/Tahun (Mwh)	Faktor Emisi (ton CO2/MWh)	Total Emisi/Tahun (ton CO2)	Penurunan (%)
2021	8001.33	0.87	6961.157	
2022	7449.69	0.87	6481.230	
				6.89

Total Emisi CO2 2021		Total Emisi CO2 2022	
Sumber	Total Emisi/Tahun (ton CO2)	Sumber	Total Emisi/Tahun (ton CO2)
Solar	74.431	Solar	65.330
Gas Alam	1956.846	Gas Alam	1795.895
Listrik	6961.157	Listrik	6481.230
TOTAL	8992.434	TOTAL	8342.456

Tahun	Produk (pcs)	Emisi GRK CO2 (ton CO2)	Emisi/Produk (ton CO2/pcs)
2021	1055457	8,992.43	0.009
2022	784661	8,342.46	0.011