

GHG INVENTORY REPORT 2021/22 Talawakelle Tea Estates PLC



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02. EXECUTIVE SUMMARY

The Green House Gas (GHG) accounting exercise conducted in conformity with ISO 14064-1:2018 international standard covering the activities of Talawakelle Tea Estates PLC (TTEL) has yielded the GHG emission arising out of its value addition activities. For the period 1st April 2021 to 31st March 2022, the organization has emitted 5,401.2 tons of CO₂e equivalents of GHG. During the same period, plantation and manufacturing of 1 kilogram of made tea has generated 0.86 of kgCO₂e equivalents of GHG.

This assessment quantifies and reports the greenhouse gas (GHG) emissions based on data recorded of TTEL each estates and head office, at an organizational level, in accordance with ISO 14064-1:2018 and GHG Protocol developed by World Resource Institute and World Business Council for Sustainable Development. All GHG emissions are reported as tons of Carbon Dioxide equivalent (tCO₂e) if mentioned otherwise. The base year selected as FY 2018/19 and the report was done for FY 2021/22.

03. ABOUT THIS REPORT AND LEVEL OF ASSURANCE

This report was prepared on ISO 14064-1:2018 international standard covering the activities of Talawakelle Tea Estates PLC (TTEL) has yielded the GHG emission arising out of its value addition activities, for the period 1st April 2021 to 31st March 2022. Moreover, this report and relevant activity data were audited and verified by Expertise team from Sri Lanka Climate Fund according to ISO 14064-3:2019 with reasonable level of assurance.

04. PERSON OR ENTITY RESPONSIBLE FOR THE REPORT

Any questions or inquiries regarding this GHG Inventory 2021/22 may be directed to the sustainability-monitoring unit as follows:

Talawakelle Tea Estates PLC 400, Deans Road, Colombo 10 Tel : +94 11 2627759 Email : Krishna.Chathuranga@ttel.hayleys.com



05. INTRODUCTION

Greenhouse Gas emissions assessment quantifies the total greenhouse gases (GHGs) produced directly and indirectly from an organization's activities within a specified period. It quantifies all seven-greenhouse gases where applicable and measures in units of carbon dioxide equivalent, or CO₂e. The seven gases are carbon dioxide (CO₂), methane (CH₄) nitrous oxide (N₂O), hydrofluorocarbons (HFCs), sulphur hexafluoride (SF₆), perfluorocarbons (PFCs), and nitrogen trifluoride (NF₃), which are identified by the Kyoto Protocol as most harmful gasses that have major impact on climate change and compulsory to report under the ISO 14064-1:2018.

The operational carbon footprint for the financial year 2021/22 (1st April 2021 – 31st March 2022) is covered in this report. In addition, the base year selected as FY 2021/22 and compassions were done for various activity data and overall direct and indirect emissions. The financial year carbon footprint provides a more recent picture of the carbon performance of the company and can monitor their year on year performance, and it can be compared with GHG emissions of other companies. The financial year emission is calculated on data provided by the Talawakelle Tea Estates PLC.

This report has applied the principles of ISO 14064-1:2018 - "Specification with guidance at the organizational level for the quantification and reporting of greenhouse gas emissions and removals"). Apart from that, guidelines of the Greenhouse Gas Protocol and Department for Environment Food & Rural Affairs of United Kingdom (DEFRA-UK) were also used. Data was collected on direct emissions indirect emissions. Lastly, data were evaluated and compared to the "tons of CO_2 Equivalent" between emission sources to produce this report.

06. AIM AND OBJECTIVES OF THIS GHG ASSESSMENT

Aim of this assessment to measure, report, manage and reduce the TTEL's GHG emissions, it is demonstrating leadership and commitment to address the risks associated with climate change.

06.1.Objectives

- Develop a carbon management plan to make real emission reductions
- Develop key performance indicators for carbon emissions management and energy use
- Meet stakeholders' demand to address the imperative corporate responsibility of environmental conservation
- Maintain a higher rank among other competitive industries showing the commitment towards sustainable business.
- Discover the impacts on climate change
- Identification and management of risks and opportunities



07. REPORTING ORGANIZATION

Talawakelle Tea Estates PLC was established in 1992 by following a privatization program initiated by the government of Sri Lanka. Nevertheless, the history of the 16 tea estates on the portfolio dates back to the late 19th century.

Since 1992, TTEL has produced premium teas of the country, unsurpassed by any other plantations. TTEL has been number one in rank since 2003, among all High grown and been unbeaten for eight consecutive years in the Low Grown tea category. The estates nestled in the Dimbulla Valley and the luxuriant plains of the South, brings forth Teas that satisfy tea fans all over the world. The famous brands of the TTEL, name "Dimbulla Tea" and "Ruhuna Tea" are served in local and global market. As a member of the Hayleys Group, a multinational company with a history of 140 years, Talawakelle Tea Estates PLC reaches the customers with the finest Ceylon teas with a defining characteristic.

Sites Colombo Head Office High Grown Talawakelle Region Bearwell Great Western Mattakelle Holyrood Wattegoda

Logie Palmerston

- Nanuoya Region Calsay Clarendon Dessford Somerset Radella
- Low Grown Galle Moragalla Deniyaya Kiruwanaganga Deniyaya Indola





Low grown

High Grown Talawakelle Region & Nanu Oya Region





Low Grown Deniyaya Region



08. ORGANIZATIONAL BOUNDARIES

This GHG Inventory calculates the total Greenhouse Gas (GHG) emissions of Talawakelle Tea Estates PLC for is including, measuring the GHG emissions associated with organization operations. This values use to develop and improve the carbon management strategy to identify new opportunities for emission reduction including where the company needs to be in next three years regarding their specific GHG emissions. TTEL owns 16 estates including 15 production facilities and Head office operation. The main operation is to produce tea from green leaves. The normal process steps of tea manufacturing are denoted below.



GHG inventory consist of key parameters from where the emissions occur. Parameters were identified which TTEL has data and all the corresponding activity data was collected. Since TTEL facilities are a single ownership operation, TTEL can use financial control-based approach as well as operational control-based approach to define its organizational boundaries. In this report TTEL used operational control approach to accounts for all quantified GHG emissions from operations over which it has control. Under operational control approach TTEL reported all emission and emission removals accoross the whole value chain, covering all main process and sub process.



09. REPORTING BOUNDARIES

Following two types of emissions are calculated in the operational control approach.

• Direct emissions

Direct emissions are the aftermaths of activities of the company and occur at sources owned or controlled by the company.

• Indirect emissions

Indirect GHG emissions are the results of the activities of the company but occur at sources owned or controlled by another company or person. The classification of direct or indirect emission depends on the consolidation approach (equity share or control) selected for setting the organizational boundary.

The operational boundary was drawn around the Talawakelle Tea Estates PLC. Within this boundary the emissions are associated with the following activities are quantified and reported.

GHG Emissions Category	GHGs Reported Units	Data Collection Technique (DCT) & Emission Quantification Methodology (EQM)					
Direct emissions from stationary combustion-Stationary equipment fossil							
Diesel for Generator	CO ₂ , CH ₄ , N ₂ O, CO ₂ e	Emission estimation based on company					
LPG use	CO ₂ , CH ₄ , N ₂ O, CO ₂ e	consumption records and most relevant emission factors/energy factors mention in " Sources of emission factors"					
Direct emissions from stationary combust	ion-Stationary equipme	ent biogenic					
Firewood	CH ₄ , N ₂ O, CO ₂ e	Emission estimation based on company					
Briquettes	CH ₄ , N ₂ O, CO ₂ e	consumption records and most relevant emission factors/energy factors mention in "Sources of emission factors"					
Direct emission from mobile combustion							
Mobile equipment (Off-road) – Diesel	CO ₂ , CH ₄ , N ₂ O, CO ₂ e	Emission estimation based on company					
Mobile equipment (Off-road) – Petrol	CO ₂ , CH ₄ , N ₂ O, CO ₂ e	consumption records and most relevant emission					
Diesel - company vehicles	CO ₂ , CH ₄ , N ₂ O, CO ₂ e	emission factors"					
Petrol - company vehicles	CO ₂ , CH ₄ , N ₂ O, CO ₂ e						
Direct fugitive emissions arise from the release of GHGs in anthropogenic systems							
Refrigeration and air conditioning	HCFC, HFC, CO ₂ e	Emission estimation based on company machinery inventory records and most relevant emission factors/energy factors mention in " Sources of emission factors"					
Addition of fertilizers and amendments							
Addition of Dolomite to soil	CO_2, CO_2e	Emission estimation based on company					
Addition of Urea to soil	CO_2 , N_2O , CO_2e	consumption records and most relevant emission					

GHG emissions sourcess:

Direct GHG emissions:

Organic: mixed food and garden waste	CO ₂ , CH ₄ , N ₂ O, CO ₂ e	factors/energy factors mention in " Sources of			
Composting/Anaerobic digestion		emission factors"			
Commercial and industrial waste Landfill	CO ₂ , CH ₄ , N ₂ O, CO ₂ e				
Use CO2 fire extinguisher	CO ₂ , CO ₂ e	Emission estimation based on company fire extinguishers inventory records and most relevant emission factors/energy factors mention in " Sources of emission factors"			

Indirect GHG emissions:

GHG Emissions Category	GHGs Reported Units	Data Collection Technique, Emission Ouantification Methodology				
Indirect GHG emission from imported energy						
Indirect emissions from imported	CO ₂ , CH ₄ , N ₂ O, CO ₂ e	Emission estimation based on company				
electricity		consumption records and most relevant emission				
Electricity distribution loss	CO ₂ , CH ₄ , N ₂ O, CO ₂ e	emission factors"				
Indirect GHG emission from transportation	on					
Firewood transportation	CO ₂ , CH ₄ , N ₂ O, CO ₂ e	Emission estimation based on distance based				
Chemical and fertilizer transportation	CO ₂ , CH ₄ , N ₂ O, CO ₂ e	calculation for total kms and most relevant				
Bought leaves transportation	CO ₂ , CH ₄ , N ₂ O, CO ₂ e	sources of emission factors?				
Packing material transportation	CO ₂ , CH ₄ , N ₂ O, CO ₂ e					
Bottled Water Transportation	CO ₂ , CH ₄ , N ₂ O, CO ₂ e					
Emissions from client and visitor transport	CO ₂ , CH ₄ , N ₂ O, CO ₂ e					
Emissions from Finished good transportation	CO ₂ , CH ₄ , N ₂ O, CO ₂ e					
Emission from business travel						
Economy class with RF	CO ₂ , CH ₄ , N ₂ O, CO ₂ e					
Business class with RF	CO ₂ , CH ₄ , N ₂ O, CO ₂ e	Emission estimation based on distance travel identify from traveled location and most relevant emission factors/energy factors mention in " Sources of emission factors"				
Emission from product used by organizat	ion					
Packing Material	CO ₂ , CH ₄ , N ₂ O, CO ₂ e	Emission estimation based on company				
Compost	CO ₂ , CH ₄ , N ₂ O, CO ₂ e	consumption records and most relevant emission factors/energy factors mention in " Sources of emission factors"				
Glass Recycling	CO ₂ , CH ₄ , N ₂ O, CO ₂ e	Emission estimation based on company handover				
Plastic Recycling	CO ₂ , CH ₄ , N ₂ O, CO ₂ e	notes of recycling items and most relevant emission factors/energy factors mention in "				
Polythene Recycling	CO ₂ , CH ₄ , N ₂ O, CO ₂ e	Sources of emission factors"				
Metal/Iron Recycling	CO ₂ , CH ₄ , N ₂ O, CO ₂ e					
Paper Recycling	CO_2 , CH_4 , N_2O , CO_2e					
E-Waste (Nos) Recycling	CO_2 , CH_4 , N_2O , CO_2e					
Indirect GHG emissions from other sources						
Municipal water consumption	CO ₂ , CO ₂ e	Emission estimation based on company consumption records and most relevant emission factors/energy factors mention in " Sources of emission factors"				

10. BASE YEAR

This is the first attempt of quantifying the overall carbon footprint of TTEL by taking into account all direct and indirect emission in line with ISO 14064-1:2018 standard for the financial year of 2018/19, therefore 2018/19 was considered as the base year of GHG inventory preparation.



11. QUANTIFICATION METHODOLOGY

Carbon dioxide, methane and nitrous oxide can be mentioned as the main greenhouse gases. In accordance with international protocol (IPCC 5th assessment report (AR5), the Global Warming Potentials (GWPs) used in this report are,

- $CO_2 1$
- CH₄ 28
- $N_2O 265$
- HFC (R-32) 677
- HCFC (R-22) 1760
- Natural/Not in Kind (R600a) 3

All the greenhouse gases (GHGs) are converted to carbon dioxide using global warming potentials. GHG inventory reporting is done as CO₂ equivalent.

All calculations mentioned in the report were done based on GHG activity data multiplied by an appropriate GHG emission factor these factors were obtained from the Intergovernmental Panel on Climate Change (IPCC), UK Government GHG Conversion Factors for Company Reporting 2021, Credible other local and international sources. This method makes it easier to compare the carbon footprint calculated in this report with other similar reports. Refer the annexure for the emission factors used in this calculation. This method was selected, considering data availability under the sustainability information reporting system. Furthermore this method was selected considering cost of GHG quantification of the company and available technical knowhow of the company sustainability team.

12. EXCLUSION OF GHG EMISSION SOURCES

Due to unavailability of the proper activity, date and insignificancy of below identified emission sources were excluded from the GHG inventory for this year.

- Emission from Land use and Management
- Emission from employee commuting (Public transport services)

13. THE ACTIVITY DATA AND GHG INVENTORY CORRESPONDS TO FY 2020/21

Item	Units	Qty	tCO2	tCH4 (CO2 Eq)	tN2O (CO2 Eq)	tHCFC/HFC (CO2 Eq)	Total tCO2
Direct Emissions							
Direct emissions from stationary combustion-Stationary equipment fossil							
Diesel for Generator	Ltrs	38,139.00	102.08	0.12	0.22		102.41
LPG use	kgs	558.00	1.67	0.00	0.00		1.67
Direct emissions from stationary combustion-Stationary equipment biogenic							
Firewood	kgs	11,103,777,75		145.50	183.61		329.12
Briquettes	kgs	254.571.00		3.34	4.21		7.55
Direct emission from mobile combustion	ý80			,			
Mobile equipment (Off-road) – Diesel	ltrs	5,283,00	14.14	0.02	1.45		15.61
Mobile equipment (Off-road) – Petrol	ltrs	34,436,75	79.55	4.50	0.12		84.18
Diesel - company vehicles	ltrs	135,978,08	363.94	0.54	5.08		369.56
Petrol - company vehicles	ltrs	27.286.86	63.04	0.84	0.77		64.65
Direct fungitive emissions arise from the release of GHGs in anthropogenic system	ms						
Refrigeration and air conditioning						-	-
Water treatment	Cubic metres	s 6,795,61	4.81				4.81
Addition of fertilizers and amendments							
Addition of Dolomite to soil	køs	-	0.79				0.79
Addition of Urea to soil	køs	_	0.08		1 453 29		1 453 37
Organic: mixed food and garden waste Composting/Anaerobic digestion	køs	221 385 00	2.26		2, 100.20		2 26
Organic: mixed food and garden waste Landfill	køs	5 936 00	3 49				3 49
Commercial and industrial waste Landfill	kgs		-				-
Commercial and industrial waste Anaerobic digestion	kas						
Use CO2 fire extinguisher	kas		-				
Total Direct emissions	ingo	80.00	625.92	154.96	1 649 75		2 429 52
Indirect Emissions			033.93	154.80	1,048.75		2,439.33
Indirect GHG emission from imported energy	L.) A /la	4 520 214 00	2 455 70				2 455 70
The statistic distribution loss		4,529,314.96	2,455.79				2,455.79
Ladia at CUC amining from transportation	KVVN	411,261.80	222.99				222.99
Indirect GHG emission from transportation		40.650.00	20.50	0.01	0.45		20.00
Firewood transportation	Kms	48,650.00	38.50	0.01	0.45		38.96
Chemical and fertilizer transportation	Kms	10,438.00	8.26	0.00	0.10		8.36
Bought leaves transportation	Kms	175,036.00	42.78	0.00	0.32		43.10
Packing material transportation	Kms	7,186.29	5.69	0.00	0.07		5.75
Bottled water transportation	Kms		-		0.00		-
Emissions from client and visitor transport	Kms	3,442.00	0.59	0.00	0.00		0.59
Emissions from Finished good transportation	кms	153,267.99	121.29	0.03	1.41		122.74
Employees transportation	ĸms		- 1	- 1	-		
Emission from Dusiness travel	Bass km	1					
Fromomy class with PE	Pass.km	-		-			-
Premium economy class with RF	Pass km			-			
Business class with RE	Pass km	_	_	-	_		_
First class with RF	Pass km	_			_		
Emission from product used by organization	1 0551111	I	I				
Packing Material	Kgs	68,592,00	63.06				63.06
Compost	kgs	-	-		-		-
Glass Recycling	Kgs	468.00	0.01				0.01
Plastic Recycling	Kgs	1,104.00	0.02				0.02
Polythene Recycling	Kgs	1,193.40	0.03				0.03
Metal/Iron Recycling	Kgs	681.00	0.01				0.01
Paper Recycling	Kgs	2,593.00	0.06				0.06
E-Waste (Nos) Recycling	Kgs	225.00	0.00				0.00
Indirect GHG emissions from other sources							
Municipal water consumption	Cubic metres	s _	-				-
Total Indirect emissions	tCO2e		2,959.09	0.05	2.34	_	2,961.48
Total Direct + Indirect emissions			3,595.01	154.90	1,651.09	_	5,401.01
Total GHG emission (Excluding Biogenic Emission)	tCO2e		3,595.01	154.90	1,651.09	-	5,401.01
Biogenic Emission from Firewood and Briquettes	tCO2e		19,845.31				19,845.31
GHG Saving							
GHG saving from electricity (Hydro)	kWh	7,790,668	6.266.81				6.266.81
GHG saving from electricity (Solar)	kWh	326.330	241.61				241.61
Total GHG Saving	tCO2e		6.508.43				6.508.43
							0,000.40

14. IMPACT OF UNCERTAINTIES ON THE ACCURACY OF THE GHG EMISSIONS

The activity data used were recorded on each estates and head office of TTEL furthermore internal audit has performed on recorded GHG inventory related data. The emission factors used had an inherited error percentage due to the generic nature. Bellow mention uncertainties identified on this report.

- Number of Kms of Firewood transportation, Chemical and fertilizer transportation, Bought leaves transportation, Packing material transportation, Bottled Water Transportation calculation were based on total quantity received, Vehicle capacity and distance to location, it's not represent actual meter reading of the vehicles.
- Client and visitor transportation
- In Sri Lanka, latest available GHG emission factor of grid electricity is based on 2020 calculation. Thus, there is little uncertainty.
- As there are no local specific emission factors in Sri Lanka, most of the emission factor was adopted from DEFRA, which also has a range of uncertainty



15. CONCLUSION

This carbon footprint measurement and reporting was done in accordance with ISO 14064-1:2018. The result of GHG emission for financial year 2021/22 was 5,401.01 tCO₂e and the GHG emission intensity (Per one kilo of made tea – Total produced made tea quantity was 6,303 ton) was 0.86 kgCO₂e.

This assessment and future carbon audits will counterpart the image of TTEL and will provide a comprehensive foundation for participating in various international programmes such as Science Base target, Carbon Disclosure Project, United Nations Carbon Neutral Now and ect. In addition to that, this assessment will help TTEL to identify the emission reduction opportunities. Further, with the new energy saving initiatives, TTEL will be able to reduce the GHG emissions.



16. ORGANIZATION'S GHG POLICIES, STRATEGIES OR POGRAMMES

Guided by our Environmental Policy, we are focused in our efforts address climate change and global warming. We give due strategic precedence to minimise our GHG emissions and move towards having a lesser carbon footprint. We have progressively adopted best environmental practices, particularly, in managing our energy usage, as discussed above, and ensuring that we meet our emission targets. According to our compressive Environment and Energy policy, we are currently working to develop GHG management policy and strategies according International framework of Science Base Targets Initiatives. However, our core strategic approach and programme of the GHG management is mention below.

- Measure company greenhouse gas emissions accurately.
- Reduce as much as possible through company own actions; and
- Compensate those which cannot be currently avoided



17. GHG EMISSION REDUCTION INITIATIVES

Apart from the current practices which TTEL follows like close monitoring, installing VFDs for withering, the measures shown in below figure can be taken further to reduce the GHG emissions. Further, the company can look in to develop carbon neutral action plan, identify key mitigation opportunities and develop feasibility studies, develop product carbon footprint for main products and ultimately reach carbon neutral status.



DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

ANNEXRES

Abbreviations and Glossary of Terms

Sources of Emission Factors



Base year	A historical year used as a base line to compare year-on-year							
	emissions							
CO ₂	Carbon dioxide							
CO ₂ e	Carbon dioxide equivalent - standardization of all greenhouse gases to							
	reflect the global warming potential relative to carbon dioxide.							
Direct emissions	Greenhouse gas emissions from facilities/sources owned or controlled							
	by a reporting company, e.g., generators, fugitive emissions, vehicle							
	fleets							
Emission factors	Specific value used to convert activity data into greenhouse gas							
	emission values, presented in specific units, e.g., kgCO2/km travelled							
Fuel consumption	Total diesel and petrol consumption							
FY	Financial Year							
GHG	Greenhouse Gas							
TTEL	Talawakelle Tea Estates PLC							
Verification	The act of reviewing, inspecting or testing by an independent third-							
	party, in order to establish and document that a product, service or							
	system meets regulatory or technical standards							

Abbreviations and Glossary of Terms

Climate Neutral Now Achievement Report

Climate Neutral Now Achievement Report

Participant: Talawakelle Tea Estates PLC.

Reporting period: 2020-2021



Based on the data reported, a participant is assigned a level in each of the three steps (Measure, Reduce, Contribute), according to the criteria shown in the Figure 1. In order to be as transparent as possible with the general public, a badge will be tailored specifically for each participant with the levels achieved in the reported year. The corresponding badge must be used together with the Climate Neutral Now logo.



Figure 1: Levels of achievement for each step

Evaluation of the Climate Neutral Now Report

Levels achieved on each of the three steps in the reporting period:

Measure: Gold

Reduce: Gold

Contribute: Silver



Science-Based Target Verification Certificate







Approved science-based target

The Science Based Targets initiative has validated that the corporate greenhouse gas emissions reduction target(s) submitted by

Talawakelle Tea Estates PLC

have been deemed to be in conformance with the SBTi Criteria and Recommendations (version 4.2). The SBTi's Target Validation Team has classified your company's scope 1 and 2 target ambition and has determined that it is in line with a 1.5°C trajectory.

The official target wording is:

Talawakelle Tea Estates PLC commits to reduce absolute scope 1 and scope 2 GHG emissions 50.4% by FY 2029/30 from a FY 2018/19 base year*. *The target boundary includes biogenic emissions and removals from bioenergy feedstocks.

Date of issue:

23/06/2021

Certificate Number:

TALA-SRI-001-OFF









Sources of Emission Factors

line and the second	Densities		NCVs	Courses	Othom	Emission Factors				6	
Item	Densities Unit	Sources	NCVs Unit	Unit		CO2	CH4	N2O	Unit	Sources	
Global Warming Potential						1.00	28.00	265.00		2006 IPCC AR5	
Diesel (Stationary)	0.84 kgs/liter		43.00 MJ/kg			74,100.00	3.00	0.60	kgs/TJ	2006 IPCC AR5 V2_2_Ch2_Stationary_Combustion	
Diesel (Mobile)	0.84 kgs/liter	Densities	43.00 MJ/kg	-		74,100.00	3.90	3.90	kgs/TJ	2006 IDCC AREV/2 2 Ch2 Mahila Computian	
Diesel (Mobile- Offroad)	0.84 kgs/liter		43.00 MJ/kg			74,100.00	4.15	28.60	kgs/TJ		
Petrol (Stationary)	0.75 kgs/liter	http://covpetco	44.30 MJ/kg	2006 IPCC		69,300.00	3.00	0.60	kgs/TJ	2006 IPCC AR5 V2_2_Ch2_Stationary_Combustion	
Petrol (Mobile-Vehicle)	0.75 kgs/liter	gov lk/cevpetco-	44.30 MJ/kg	AR5		69,300.00	33.00	3.20	kgs/TJ	2006 IPCC AR5 V2 3 Ch3 Mobile Combustion	
Petrol (Mobile- Offroad)	0.75 kgs/liter	products/	44.30 MJ/kg	V2_1_Ch1_I		69,300.00	140.00	0.40	kgs/TJ		
Kerosene	0.81 kgs/liter	products	43.80 MJ/kg	ntroduction		71,900.00	3.00	0.60	kgs/TJ		
Furnace Oil	0.97 kgs/liter		40.40 MJ/kg			77,400.00	3.00	0.60	kgs/TJ	006 IPCC AR5 V2 2 Ch2 Stationary Combustion	
LPG		47.30 M	47.30 MJ/kg			63,100.00	1.00	0.10	kgs/TJ		
Firewood			15.60 MJ/kg			112,000.00	30.00	4.00	kgs/TJ		
Electricity						0.54			kgs/kWh	www.energy.gov.lk (National Energy Balance-2020)	
Electricity Conversion & Transmission Losses					9.08%				%	Statistical Digest 2020 CEB https://ceb.lk/front_img/	
Electricity (Hydro) Generated						0.80			kgs/kWh	e-2020)http://www.energy.gov.lk/images/energy-b	
Electricity (Solar) Generated						0.74			kgs/kWh		
Urea						0.20			kgs/kgs	2006 IPCC AR5 V4 11 Ch11 N2O&CO2	
Dolamite						0.13			kgs/kgs		
Co2-C convert to CO2					3.67				kgs/kgs		
Compost						0.12			kgs/kgs		
Paper Sacks						0.92			kgs/kgs	-	
Botteled Water									kgs/Ltrs		
Passenger Vehicle - Average						0.17	0.00	0.00	kgs/kms		
Delivery Vehicle Average light (up to 3.5 tonnes)						0.24	0.00	0.00	kgs/kms		
Delivery Vehicle Average Heavy (above to 3.5 tonnes)						0.79	0.00	0.01	kgs/kms		
Average passenger with RF						0.18	0.00	0.00	kgs/Pass.km		
Economy class with RF						0.14	0.00	0.00	kgs/Pass.Km		
						0.22	0.00	0.00	kgs/Pass.Km		
Business class with RF						0.40	0.00	0.00	kgs/Pass.Kill		
Prist Class with RF						0.55	0.00	0.00	kgs/Pdss.KIII	DEFRA's / DECC's Greenhouse Gas Conversion	
Organic: mixed food and garden waste composting/Anaerobic digestion						0.01			kgs/kgs	Factors for company reporting: 2020	
Commorcial and industrial waste Landill						0.39			kgs/kgs		
Commercial and industrial waste Lanum						0.40			kas/kas		
Class Pocycling						0.01			kgs/kgs	-	
						0.02			kas/kas		
Polythono Pocycling						0.02			kgs/kgs	-	
Metal/Iron Recycling						0.02			kas/kas		
Paper Recycling						0.02			kas/kas	-	
F-Waste (Nos) Recycling						0.02			kgs/kgs		
Water supply						0.34			kgs/cubic metres	1	
Water treatment						0.71			kgs/cubic metres		
Cropland Remaining Cropland						0.71			ingo, cubic metres		
Land Converted to Cropland											
Land Converted to Forestland											
Forestland Remaining Forestland											
0						L				8	