RENEWI SUSTAINABILITY STRATEGY 2020-2025

REPORTING MANUAL

In 2020 Renewi has launched a new Sustainability Strategy with objectives, metrics and targets for 2025. An important driver for a successful strategy is measuring performance. It is critical that the data on which this performance measurement is based, is as consistent and accurate as practical. The goal of this document is thus to provide the Renewi standard for sustainability data collection and the document is aimed at two audiences: **1. Internal stakeholders**. To ensure the Renewi employees who collect and/or report Sustainability data can do this in a consistent manner. **2. External stakeholders**. To allow external stakeholders such as readers of our Sustainability Report documents access to how we calculate Sustainability data and on what basis.

Contents

1. General reporting guidelines and boundaries

To collect and report sustainability data within Renewi as consistent and accurate as is practical, the following ground rules apply:

- **Sustainability data is reported on a quarterly basis.** However, where data is collected on a calendar year (January – December) for regulatory purposes (for example where an environmental regulator requires an annual report), such data is acceptable and is used to avoid duplication of effort. This means forward going quarters are based on a extrapolation of that calendar year data and corrected afterwards when necessary. Once a year data is reported externally in our Annual Report and Sustainability Review. This reporting is on a book year basis (1 April – 31 March). The most recent external report has been published in June 2021.
- **Sustainability data is reported in principle on site level**. Where site level data is not readily available or not relevant, for example fuel data of collection trucks or data on waste handled, data is reported on a divisional or business line / region level or contract level. It is up to the divisions to decide which level of aggregation suits them best. The scope of data collection covers all of Renewi its operating divisions across the Group and all countries of operation and all sites/operations of the Group. Report boundaries are not constrained by company structure or geography. However, reports do not include the activities of sub-contractors or suppliers.
- **Reporting of joint ventures is on an operational control basis**. Where Renewi has < 50% share in a company, data is not generally included. Where share is 50% or more and Renewi has operational control, all data is included. If this is not the case, environmental data is reported as a proportion representing the shareholding of Renewi (50%) to reflect the financial reporting arrangements. Health & Safety and Human Resource parameters are reported as 100% for contractual reasons. Specific arrangements for specific joint ventures are discussed with Renewi's Group Strategic Project Manager.
- **Data is not corrected like for like after changes in the scope of the organisation.** Where an operation was only operational (or owned by Renewi in the case of acquisitions) for part of the year, data is only be reported for that portion of the year Renewi operated/owned the site;
- **We retain the same conversion factors throughout the 2020-2025 objective cycle.** For example for calculating (avoided) carbon dioxide emissions. This in order to allow valid comparisons from year-to-year. At the end of the cycle we revise the factors to update them.

2. Overview of the Sustainability Strategy metrics with definitions and calculation

Objective 1 – Turn our customers' waste into new products

Metric	Unit	Definition	Calculation
Recycling rate	**%** (of all waste recycled or prepared for recycling)	✓ **Waste recycled or prepared for recycling** = waste or secondary raw material that is sent from Renewi sites to third parties (so no internal Renewi customers e.g. other Renewi sites/divisions/companies). Both for further (end-) processing or direct use as a secondary raw material. This includes all waste with a European Waste Recovery Code R2 to R13 (excluding R12 - Production of fuel from waste incl. Bio-LNG, SRF and RDF) And thus **excludes** all waste with a European Waste Recovery Code R1 and Waste Disposal Code (D1 to D15) ✓ **Total amount of waste handled** = waste and secondary raw material that is sent from Renewi sites to third parties (so no internal Renewi customers e.g. other Renewi sites/divisions/companies) **AND** Waste that is landfilled on our own Renewi landfill sites	Tonnes of **waste recycled or prepared for recycling** *divided by* tonnes of **total amount of waste handled** *multiplied by* 100%
Carbon avoidance	**Kg** (CO_2 avoided in supply chain per ton of waste handled)	✓ **Carbon avoidance** = the potential avoidance of CO_2 (and CO_2 equivalent) emissions in the downstream supply chain as an effect of: 1. Using waste as a secondary raw material instead of using primary raw materials 2. Generating energy from waste - At Renewi this means direct landfill gas power generation and anaerobic digestion power generation 3. Using waste derived fuels in energy production instead of fossil fuels - At Renewi these are SRF/RDF, Icopower pellets, woodchips or other biomass 4. Using waste derived fuels on-site as a fuel for processes, instead of external fossil fuels ✓ **Total amount of waste handled** = waste and secondary raw material that is sent from Renewi sites to third parties (so no internal Renewi customers e.g. other Renewi sites/divisions/companies) **AND** Waste that is landfilled on our own Renewi landfill sites	Calculation of the 4 categories mentioned in definition: 1) tonnes of **total amount of waste handled** per waste stream *multiplied by* respective carbon avoidance factor 2) MWh **landfill gas/AD power generation** *multiplied by* respective carbon avoidance factor 3) and 4) tonnes of **waste derived fuel** *multiplied by* respective carbon avoidance factor Above c**arbon avoidance** numbers summed *divided by* **total amount of waste handled** *divided by* 1000
Innovative secondary materials produced	**Tonnes**	✓ **Innovative secondary materials** = all secondary materials produced (both by Renewi only as in partnerships) which are the outcome of upgraded/innovative sorting/treatment processes, both a product (conforming product/resource standards) or secondary raw material output. A list of these is drafted and is going to be updated annually	Tonnes of **innovative secondary materials** produced annually

Objective 2 – Be a leader in clean and green waste collection

Metric	Unit	Definition	Calculation
Carbon intensity of collection	**Kg (**CO_2 per ton waste collected/ transported)	✓ **Waste collection fuel use** = fuel used by all **Renewi** collection and transport vehicles used for these services: rolling bin, skip load, press containers, (semi-)underground containers, big 20/40 m3 containers, walking floors, bulk transport, and trucks which transport haz. waste (IBC's, haz. waste containers etc.). **Excluded** are collection and transport done for Renewi by third parties, (industrial) cleaning vehicles and all vehicles that only operate on our sites (like cranes, shovels and internal transport vehicles) ✓ **Waste collected** = all waste collected and transported by **Renewi** vehicles via the above mentioned collection methods/services	Litres **waste collection fuel use** *multiplied by* the carbon factor for the fuel *divided by* tonnes of **waste collected**
Share of clean-emission trucks	**%** (of total number trucks)	✓ **Clean-emission trucks** = all motorized trucks in active service that drive on the public road to collect, transfer or transport waste as meant under previous metric, with a Euro 6 standard ✓ **Total fleet** = all motorized trucks in active service that drive on the public road to collect, transfer or transport waste as meant under previous metric	Number **clean-emission trucks** divided by total number of trucks multiplied by 100%
Number zero emission trucks	**Number** (of trucks)	✓ **Zero-emission trucks** = all motorized trucks in active service that drive on the public road to collect, transfer or transport waste as meant under previous metric, with all types of power sources that don't use fossil fuels/emit carbon and other harmful substances	Number of **zero-emission trucks**

Objective 3 – Reduce the carbon impact of our operations

Metric	Unit	Definition	Calculation
Carbon intensity of our sites	**Kg (**CO_2 per tonne waste handled)	✓ Carbon emissions caused by **energy use on sites** = fuel use (diesel, propane, gasoline) for mobile and static plant like cranes, shovels, shredders or other installations, gas use for heating and electricity use. **Excluded** are process carbon emissions: landfill emissions, process emissions from composting and anaerobic digestion, and emissions from hazardous waste treatment. Because these can't be directly influenced.	Total MWh **energy use on sites** per energy source *multiplied by* respective carbon factors for the different energy sources (nota bene: renewable energy has 0 carbon)
Share of renewable electricity used on site	**%** (of total electricity use	✓ **Non-fossil electricity used on sites** = all electricity from renewable sources produced on site or purchased. **Included** are: solar and wind energy; electricity from landfill gas, anaerobic digestion and waste wood incineration; nuclear energy; energy from water power and tidal energy from within country borders; In general, only energy produced within the countries we operate is taken into account. **Excluded** is energy from regular waste incineration	Total MWh of **non-fossil electricity used on sites** *divided by* total MWH **energy use on sites** (previous metric) *multiplied by* 100%
Share of hybrid or electric company cars	**%** (of total number trucks)	✓ **Hybrid or electric company cars** = lease cars for employees powered 100% by electricity (100% EV) or partly electric (hybrid). This includes cars with a hydrogen fuel cell. ✓ **Total number of company cars** = total number of lease cars for employees	Number of **hybrid or electric company cars** *divided by* **total number of company cars** *multiplied by* 100%

Objective 4 – Positively impact our communities

Metric	Unit	Definition	Calculation
Community engagement projects	**Number** (of projects)	✓ **Community engagement project** = a project in which Renewi as a company or its employees in name of Renewi interact with the communities in the direct vicinity of Renewi sites for an educational or community building purpose in line with Renewi its vision. This includes: open days and other public events on our sites; education programs set up by Renewi; Renewi participating in public events, etc.	All **community engagement projects** annually summed
Community feedback	**Number** (of substantiated comments per site)	✓ **Substantiated community comments** = all comments received by our sites, from companies, civilians and public groups in the direct vicinity of our sites, which are reasonable and substantiated. and request a follow up action, e.g. cleaning, (temporarily) shutting down or adapting an activity, pest control, sprinkling waste, tackling odour, inviting commenter on site, etc. ✓ **Total number of sites** = all active sites, including offices but excluding closed down sites like landfills.	Number of **substantiated community comments** annually *divided by* **total number of sites**
Community impact events	**Number** (of events)	✓ **Community impact event** = a major environmental incident or major fire. Major environmental incident = Any uncontrolled/unauthorised release of liquid(s), solids, gas and vapours to the air, surface water (drain)/controlled water, groundwater, foul sewer, floor, soil or land which results in regulator intervention requiring actions. Major fire = Any fire, explosion or similar which did require the assistance of external resources, such as the fire and rescue services.	All **community impact events** annually summed

Objective 5 – Deliver people home safe and well, every day

Metric	Unit	Definition	Calculation
>3 day accident rate	**Rate** (per 100,000 number of FTE)	✓ **Number >3 day accident** = accident which results in a person being off-work for more than three days (includes both white collar and blue collar and permanent and non-permanent employees) ✓ **Total number of FTE** = Number of permanent employees expressed as Full Time Equivalents (note - including fixed term contract workers, see below)	**Number >3 day accidents** *divided by* **total number of FTE** *multiplied by* 100,000
% employees that received safety training	**%** (of total number employees)	✓ **Employee that received safety training** = an employee (in headcount), both permanent as non-permanent having received at least one safety related training every quarter of the year. A safety training is an obligated training (from legislative perspective) or an internal Renewi training (SHEQ Academy, e-learning) ✓ **Total number of employees** = all employees (counted in headcount), both permanent as non-permanent, both white collar as blue collar, both full-time as part-time	Number of **employees that received safety training** *divided by* **total number of employees**
Employee mood	**Number** (score in Pulse)	✓ **Employee mood score** = The average score on the question 'How do you feel at Renewi?' in Renewi its Pulse employee survey	**Employee mood score** per division and total Renewi
Healthy at work rate	**%** (% days employees are working out of total available working days)	✓ **Total available days** = average number of permanent employees (headcount) times working days in the reporting period ✓ **Days of absence** = all working days an employee cannot work because of illness. This excludes days spent on occupational therapy	**Total available days** *minus* **days of absence** *divided by* **total available days** (NB: this means the inverse of the sickness rate)

Objective 6 – Make Renewi a rewarding, diverse and inclusive working environment

Metric	Unit	Definition	Calculation
Employee satisfaction	**Number** (score in Pulse)	✓ **Pulse eNPS score** = employee Net Promotor Score. The % of employees that score an 8 or higher, minus the % of employees that score a 5 or lower on the question 'Would you recommend Renewi as a place to work' in Renewi its Pulse employee survey	**Pulse eNPS score** per division and total Renewi
Employee development	**Number** (hours on average per employee per year)	✓ *Under development. Not tracked via a defined metric yet*	
Females in higher management	**%** (of employees in Board, Excom and higher management)	✓ **Females in higher management** = female employees working in the organisational layers N until N-3 ✓ **Total employees higher management** = all employees both male and female working in the organisational layers N until N-3	**Females in higher management** *divided by* **total employees higher management** *multiplied by* 100%

3. Overview of all data collection parameters and collection methods

Waste and avoided CO2 data		
Parameter	**Description**	**Collection**
Total waste handled at sites (tonnes)	Waste (collected by Renewi or third parties) sent from Renewi sites to third parties for reuse as secondary material or fuel, further processing or recycling, energy recovery, incineration disposal or landfill (including Renewi landfill) **N.B. 1) While we focus on output of materials, moisture loss during the process is not included.** **N.B. 2) When leachate originates from the collected waste (i.e. is not a result of water-use during the process) and this leachate is treated and discharged on the sewage, this leachate is included as a recycled waste stream under *Other waste***	✓ Data is collected and reported by **divisisions/business lines** ✓ Data is collected on a **divisional** level (when a division decides it wants to collect data on business line / region / contract / site level, they are free to collect on that level. Data will be aggregated on divisional level afterwards) ✓ Data is collected on a **quarterly** base ✓ Data is reported in metric **tonnes** per **waste category**
Waste categories	All waste handled at sites and sent from Renewi sites to one of the 3 categories defined above (recycling, recovery and disposal), are split into **Renewi standard waste categories** (see **appendix 1** for categories, based on Eural code). **Note** – where it is not possible to match categories 100%, wastes are allocated to the nearest category based on expert judgement	
Waste recycled (tonnes)	Waste (collected by Renewi or third parties) sent from Renewi sites which receive a destination for further (end-) processing, trading to other processors or use of waste directly as a secondary raw material. This includes all waste with a European Waste Recovery Code R2 to R13 (excluding R12 - Production of fuel from waste incl. Bio-LNG, SRF and RDF)	
Waste recovered for energy production (tonnes)	Waste (collected by Renewi or third parties) sent from Renewi sites which are sent to incineration or are transformed into waste derived fuels: Icopower pellets, woodchips for biomass, SRF from MBT, etc. Only materials going to production and recovery processes are included. This includes all waste with a European Waste Recovery Code R1 and R12 (Production of fuel from waste incl. Bio-LNG, SRF and RDF). Non-recovery incineration is thus not included.	
Waste disposed (tonnes)	Waste accepted at Renewi landfill sites or sent **from** Renewi sites towards other landfill sites or other waste-disposal companies (no recycling or recovery). This includes all waste with a European Waste Disposal Code (D1 to D15)	

Carbon avoidance	*Carbon avoidance is the amount of CO_2-emissions potentially avoided in the supply chain when the recycled waste is actually used as a secondary resource, incinerated in a waste-to-energy plant, used as a waste derived fuel or when landfill and anaerobic digestion (AD) gas is used for electricity production. The corresponding **carbon avoidance factors** can be found in **appendix 2.***	✓ *Data is calculated on a **quarterly** base* ✓ *Data is calculated on a **divisional** level* ✓ *Data is calculated automatically in Assure, based on the **tonnes of waste recycled**, **tonnes of waste incinerated or used as a waste to fuel** per **waste category** and MWh landfill gas or AD gas electricity production with corresponding **carbon avoidance factors**.*
Landfill gas power generation (MWh)	By using landfill gas (mainly CO_2 and CH_4) as a source of electricity production, CO_2-emissions which occur with the production of electricity from fossil fuels are avoided. The corresponding avoidance factor can be found in **appendix 2.**	✓ Data is collected and reported by **divisions/business lines** ✓ Data is collected on a **quarterly** base ✓ Data is collected on a **site** level for those sites with landfill gas electricity production ✓ Data is reported in **Megawatt hours (MWh)**
Anaerobic digestion power generation (MWh)	By using the gas (mainly CO_2 and CH_4) that is produced when anaerobically digesting organic waste as a source of electricity production, CO_2-emissions which occur with the production of electricity from fossil fuels are avoided. The corresponding avoidance factor can be found in **appendix 2.**	✓ Data is collected and reported by **divisions/business lines** ✓ Data is collected on a **quarterly** base ✓ Data is collected on a **site** level for those sites with AD gas electricity production ✓ Data is reported in **Megawatt hours (MWh)**
Waste derived fuels used on ATM site as fuel (tonnes)	By using hazardous waste as a fuel in the Thermic Cleaning Installation at ATM, CO_2-emissions which otherwise occur by using virgin fossil fuels as a fuel for this process, are avoided. The corresponding avoidance factor can be found in **appendix 2.**	✓ Data is collected and reported by **divisions/business lines** ✓ Data is collected on a **quarterly** base ✓ Data is collected on a **site** level – ATM specific ✓ Data is reported in **tonnes**
Innovative secondary materials produced (tonnes)	Innovative secondary materials are those materials coming out of innovative projects (both by Renewi only as in partnerships) which are the outcome of upgraded/innovative sorting/treatment processes, both a product (conforming product/resource standards) or secondary raw material output. A list of these is drafted and is going to be updated annually	✓ Data is collected and reported by the **group Strategy department** ✓ Data is collected on a **quarterly** base ✓ Data is collected on a **project** level ✓ Data is reported in **tonnes** per **innovative secondary material project**

Energy use and carbon impact data (see **Appendix 3** for Carbon emission factors for all parameters below)		
Parameter	**Description**	**Collection**
Diesel use collection/ transport (litres)	Diesel use by all **Renewi** collection and transport vehicles used for these services: rolling bin, skip load, press containers, (semi-)underground containers, big 20/40 m3 containers, walking floors, bulk transport, and trucks which transport haz. waste (IBC's, haz. waste containers etc.). This is both transport towards our sites, between our sites, and from our sites to third parties. **Excluded** are collection and transport done for Renewi by third parties, (industrial) cleaning vehicles and all vehicles that only operate on our sites (like cranes, shovels and internal transport vehicles).	✓ Data is collected and reported by **divisisions/business lines** (when applicable) ✓ Data is collected on a **quarterly** base ✓ Data is collected on a **divisional** level (when a division decides it wants to collect data on business line / region / contract / site level, they are free to collect on that level. Data will be aggregated on divisional level afterwards) ✓ Data is reported in **litres**
Waste collected/transported (tonnes)	The amount of waste collected/transported by the means which are given at the parameter above.	✓ Data is collected and reported by **divisisions/business lines** (when applicable) ✓ Data is collected on a **quarterly** base ✓ Data is collected on a **divisional** level (when a division decides it wants to collect data on business line / region / contract / site level, they are free to collect on that level. Data will be aggregated on divisional level afterwards) ✓ Data is reported in **tonnes**
Total collection/transport trucks (number) **Euro 6 trucks (number)** **ZEV trucks (number)**	All **Renewi** collection and transport vehicles used for these services: rolling bin, skip load, press containers, (semi-) underground containers, big 20/40 m3 containers, walking floors, bulk transport, and trucks which transport haz. waste (IBC's, haz. waste containers etc.). Data is reported per Euro classification or type of zero-emission category.	✓ Data is collected and reported by **divisisions/business lines** (when applicable) ✓ Data is collected on a **quarterly** base ✓ Data is collected on a **divisional** level (when a division decides it wants to collect data on business line / region / contract / site level, they are free to collect on that level. Data will be aggregated on divisional level afterwards) ✓ Data is reported in **numbers**

Non Renewable electricity purchased (MWh)	All electricity produced from non-renewable sources. Included are: * fossil fuels (coal, brown coal, petroleum, natural gas, etc.). * energy from regular waste incineration (taking into account that part of it is from biogenic origin). **N.B.** The regular 'grey' electricity mix (which can include green and nuclear energy) is seen as totally non-renewable.	✓ Data is collected and reported by **divisisions/business lines** ✓ Data is collected preferably on a **MONTHLY** base - but at least reported on a **quarterly** base ✓ Data is collected on a **site** level ✓ Data is reported in **Megawatt hours (MWh)**
Renewable electricity purchased (MWh)	All electricity produced from renewable sources. Included are: * solar and wind energy; * nuclear energy (N.B. when it is stand-alone, not sold in a 'grey' mix; * energy from water power and tidal energy from within country borders; In general, only renewable electricity produced within the countries we operate is accepted as renewable (so not for example electricity produced by water power in Scandinavia)	
Renewable electricity solar/wind produced and used on site (Mwh)	Electricity produced on site via solar panels or wind mills which is used on site directly	✓ Data is collected and reported by **divisisions/business lines** ✓ Data is collected preferably on a **MONTHLY** base - but at least reported on a **quarterly** base ✓ Data is collected on a **site** level ✓ Data is reported in **Megawatt hours (MWh)**
Renewable electricity solar/wind produced on site and sold to grid (MWh)	Electricity produced on site via solar panels or wind mills that is delivered to the electricity grid	
Renewable electricity landfill produced and used on site (MWh)	Electricity produced from landfill gas which is used on site directly	✓ Data is collected and reported by **divisisions/business lines** ✓ Data is collected preferably on a **MONTHLY** base - but at least reported on a **quarterly** base ✓ Data is collected on a **site** level ✓ Data is reported in **Mega Watt hours (MWh)** ✓ Sites with landfill gas power production are: - Commercial Waste NL: **Amersfoort** - Commercial Waste BE: **Mont Saint Guibert** - Mineralz: **Braine le Chateau** - Municipal UK: **Lingerton (A&B)**
Renewable electricity landfill produced on site and sold to grid (MWh)	Electricity produced from landfill gas that is delivered to the electricity grid	
Renewable electricity anaerobic digestion produced and used on site (MWh)	Electricity produced from AD gas which is used on site directly	✓ Data is collected and reported by **divisisions/business lines** ✓ Data is collected on a **MONTHLY** base - but at least reported on a **quarterly** base ✓ Data is collected on a **site** level ✓ Data is reported in **Mega Watt hours (MWh)** ✓ Sites with landfill gas power production are: - Commercial Waste NL: **Organics Amsterdam and Lelystad** - Commercial Waste BE: **Roeselaere** - Municipal UK: **Wakefield and BDR**
Renewable electricity anaerobic digestion produced on site and sold to grid (MWh)	Electricity produced from AD gas that is delivered to the electricity grid	
Natural gas purchased (Nm3)	Natural gas purchased and used on site for heating or in specific processes (drying materials)	✓ Data is collected and reported by **divisisions/business lines** ✓ Data is collected on a **MONTHLY** base - but at least reported on a **quarterly** base ✓ Data is collected on a **site** level ✓ Data is reported in **Normal cubic meter (Nm3)** (1 Nm3 = 9,769 kWh)

Diesel purchased and used on site (litres)	Diesel used on site for terrain vehicles (cranes, shovels, forklifts, etc.), heating or in specific processes (static plants like shredders etc.)	✓ Data is collected and reported by **divisisions/business lines** ✓ Data is collected on a **MONTHLY** base - but at least reported on a **quarterly** base ✓ Data is collected on a **site** level ✓ Data is reported in **litres**
Propane use on site (tonnes)	Propane or similar gas used on site (normally only used for forklifts)	✓ Data is collected and reported by **divisisions/business lines** ✓ Data is collected on a **MONTHLY** base - but at least reported on a **quarterly** base ✓ Data is collected on a **site** level ✓ Data is reported in **tonnes**
Diesel use company cars (litres)	Company cars are those cars that are leased by employees for work related travel or both work related and private travel. All company cars are included.	✓ Data is collected and reported by **group procurement** ✓ Data is collected on a **quarterly** base ✓ Data is collected on a **divisional/business line** level ✓ Data is reported in **litres, MWh or numbers** (see different categories)
Gasoline use company cars (litres)		
Electricity use company cars (MWh)		
Electricy and hybrid company cars (number)		
Total company cars fleet (number)		

Appendix 1. Renewi Waste Categories

Renewi common waste categories

We use common waste categories across our operations. Data on these categories is collected via a system called QlikView. This operates on two levels: A top hierarchy consisting of high-level descriptions and a lower hierarchy with more detail descriptions. Data in the Renewi CSR Report and CSR Full data document follow these categories

Waste categories

Top hierarchy description	Lower hierarchy description	Comments
NON-HAZARDOUS WASTE		
RESIDUAL WASTE	Commercial mixed waste	Waste sent to incineration
	Municipal mixed waste	
SRF / RDF	Solid Refuse Fuel and Refuse Solid Waste	SRF/RDF takes into account
	Icopower pellets	
MINERALS	C&D (construction and demolition)	Mixed C&D waste not treated by Renewi but send to other recyclers
	Rubble	
	Granulate	
	Soil	
	Sand	
	Street cleaning sand	
	Sludge / Sewage waste	This can contain organic elements but is seen as 100% mineral waste here
	Rockwool	Separately collected rockwool
WOOD	High quality waste wood (A-wood)	
	Lower quality waste wood (B-wood)	
	Wood chips (incineration)	
ORGANICS	Garden waste (incl. woody materials) and agricultural waste	Not treated by Renewi but send to other recyclers
	Food waste (swill) and past due food products	Not treated by Renewi but send to other recyclers
	Fat and organic oils	Not treated by Renewi but send to other recyclers
	Digestate	Output from digestion @ Renewi
	Compost and Compost Like Product (CLO)	Produced by Renewi (directly or in MBT)
PAPER	High grade quality paper	
	Low grade quality paper	
	Confidential paper	
	Cardboard	

	GLASS	High quality hollow glass	
		High quality sheet glass	
		Low quality glass debris and ceramics	
	METALS	Ferrous	
		Non ferrous	
	PLASTICS	High quality hard plastics	Usually waste outputs rather than inputs
		Low quality hard plastics and foils	
	PMD (Plastics, Drink cardboards and Metals)	Municipal PMD	Not treated by Renewi but send to other recyclers
		Commercial PMD	
	Bulky (municipal) waste	Mixed waste	
	WEEE	Electrical and electronical waste	Not treated by Renewi but send to other recyclers
	Other non-hazardous waste	Non-hazardous waste that can't be categorized in the above mentioned categories	
	HAZARDOUS WASTE	Contaminated soil	Not treated by Renewi but send to other recyclers
		Contaminated waste water	Both process waste water (leachate) as waste water from customers, cleaned by Renewi and emitted on sewage
		Medical waste	
		Paints, solvents	
		Contaminated materials	
	Different Renewi countries and operations use different sections of the above as they are relevant to their operations. As such not all reporting will cover all of the above categories.		

Appendix 2. Renewi carbon avoidance factors

Renewi carbon avoidance factors

The unit of the factor is tonne per tonne of waste

These factors are taken from research conducted by TNO. Details are available on the Group SHEQ Sharepoint site. To allow comparison between years we do not revise these factors used to arrive at our carbon avoidance over the five-year period 2020-2025. When we set our new objectives in 2025 we take the opportunity to revise the factors we use and bring them up-to-date.

Waste category	Materials separated for re-use/recycling	Materials sent to recovery/used as waste derived fuel
Residual waste	0.374	-0.212
SRF/RDF	Not applicable	1.014
Minerals	0.103	0.014
Wood	0.663	0.566
Paper	0.200	0.593
Metal – ferro	1.671	1.415
Metal – non ferro	4.866	3.789
Plastic – hard plastics	0.146	-1.455
Plastic – foils	1.828	-1.326
Glass	0.200	0.033
Organics – green/food (swill)	0.102	0.038
Organics – due date products	0.211	0.097
Organics – compost	0.102	0.038
WEEE	Calculated based on components	Calculated based on components
Bulky waste	0.374	-0.212
PMD	0.456	-0.789
Hazardous	0.374	-0.212
Other	0.374	-0.212

Appendix 3. Renewi carbon emission factors

Renewi carbon emission factors

These factors are used to for the conversion of energy use to carbon equivalents. The source of the factors is given at the bottom of the table. To allow comparison between years we do not revise these factors used to arrive at our carbon avoidance over the five-year period 2020-2025. When we set our new objectives in 2025 we take the opportunity to revise the factors we use and bring them up-to-date.

Carbon factors for emissions

Source of emission	Unit of measurement	Conversion factor to convert to tonnes of carbon dioxide equivalents			
		CW NL	CW BE	Mineralz & Water	Specialties
Transport based emissions					
Diesel for road transport and company cars	litres	0.00323			
Petrol for road transport and company cars	litres	0.00274			
LPG for road transport and company cars	litres	0.00181			
Electricity for road transport and company cars	kWh	0.000556	0.000267	0.000556	0.000323
Propane	litres	0.00173			
Business travel train	Travelers Km	0.000006			
Business travel air (<700 km)	Travelers Km	0.000297			
Business travel air (700-2500 km)	Travelers Km	0.000200			
Business travel air (>2500 km)	Travelers Km	0.000147			
Energy use emissions					
Electricity – grey (fossil mix)	MWh	0.000556	0.000267	0.000556	0.000323
Electricity – solar and wind	MWh	0			
Electricity from landfill gas	MWh	0.00028			
Electricity from anaerobic digestion	MWh	0.00026			0.000459
Natural gas	Nm3	0.00194			
Diesel used on sites	litres	0.00323			
Process based emissions					
Diffuse landfill emission CH4	tonnes	21			
Composting emissions	tonnes waste	0.0457			

Renewi carbon emission factors **Continued…**	Anaerobic digestion emission	MWh (energy production)	0.278
	Sources of carbon conversion factors		
	www.CO2emissiefactoren.nl Dutch factors EpE protocol for reporting 2018, Dutch Waste Association 2015-2016 CSRC energy efficiency scheme order: table of conversion factors (Version 5: Published 24th June 2015) DCF Carbon Factors 7 4 2016 11540 Carbon Balances and Energy Impacts of the Management of UK Wastes, ERM December 2006 Waste management options and climate change, AEA Technology for DG Environment 2001 CO2 impacts of transporting the UK's recovered paper and plastic bottles to China, WRAP August 2008 Factors of the DEFRA/DECC's 2009 and Bilan Carbone de L'ADEME, 2011		