



EARTHCHECK

BENCHMARKING ASSESSMENT REPORT

DESTINATION BENCHMARKING

DESTINATION JÄRVSÖ
GÄVLE, SWEDEN



REPORT DATE: 21 November 2024

Benchmarking Data Collection Period: 1 January 2022 – 31 December 2022

The planet deserves more than half measures

OVERVIEW

This annual assessment of **Destination Järvsö** was undertaken against EarthCheck benchmarking indicators and checklists developed for EarthCheck and listed below.¹ They have been carefully selected to track performance in key areas of environmental and social performance impact. EarthCheck benchmarking provides an organisation a vehicle for sustainability reporting and is based on the premise of continual improvement. By undertaking a Benchmarking Assessment an organisation meets the requirements of annual benchmarking which includes the collection and submission of benchmarking data to EarthCheck for review and completion of the Benchmarking Assessment Report.²

Indicator Measure (Benchmark)	
1	Policy
	Policy is produced and in place
2	Energy
	Energy Consumption (GJ / Person Year)
	Green Power (Purchased Electricity) (%) ³
	Greenhouse Gas Emissions (Scope 1 and Scope 2) (t CO ₂ -e / Person Year)
	Greenhouse Gas Emissions Breakdown by Scope (t CO ₂ -e / Person Year)
	Indirect Emissions (Scope 3) (t CO ₂ -e / Person Year)
	Greenhouse Gas Emissions Scope 3 Breakdown (t CO ₂ -e / Person Year)
3	Water
	Potable Water Consumption (kL / Person Year)
	Recycled / Captured Water (%) ³
4	Waste
	Waste Sent to Landfill (m ³ / Person Year)
	Recycled / Reused / Composted Waste (%) ³
	Waste Sent for Incineration (m ³ / Person Year) ³
5	Sector Specific
	Nitrous Oxides Produced (kg / Person Year / Hectare)
	Sulphur Dioxide Produced (kg / Person Year / Hectare)
	Particulate Matter Produced (kg / Person Year / Hectare)
	Water Samples Passed (%)
	Habitat Conservation Area (%)
	Green Space (%)
	Significant Site Maintenance Fund (%)
	Destination Safety – Homicide Rate (%)
	Destination Safety – Theft Rate (%)
	Destination Safety – Assault Rate (%)
	Socio-Economic Benefit – Unemployment Rate (%)
	Accredited Operations (%)
Lead Agency Performance	
6	Water Savings
	Water Savings Rating (Points)
7	Waste Recycling
	Waste Recycling Rating (Points)
8	Paper
	Paper Products Rating (Points)
9	Cleaning
	Cleaning Products Rating (Points)

10	Pesticides	Pesticide Products Rating (Points)
11		Optional Benchmarking Indicators
12	Selected Indicators	Carbon Sequestration (%) Renewable Energy (%)
13	Specified Indicators	Suicid rate (Suicides (rolling 4-year period)/100 t inhabitants) School achievement Year 9 (no.students passing all subjects/no. students) (%) Tourist bed rate (Tourist beds/inhabitant)

¹ Refer to the EarthCheck Sector Benchmarking Indicator (SBI) document for more information. For frequently asked questions (FAQs) about benchmarking or specific help, please log on to 'My EarthCheck' and visit your EarthCheck Benchmarking software.

² To meet the requirements stipulated in the EarthCheck Company Standard organisations are required to collect and submit Benchmarking data against each of the Core Benchmarking Indicators by way of annual Benchmarking Assessment, and have in place a repeatable system for accurately recording Benchmarking data including a methodology for calculating the organisation's Activity Measure for each consecutive year.

As a standard policy, all EarthCheck indicators are continuously reviewed, along with the performance levels which operators have to achieve in order to meet the requirements of the Company Standard. This review takes into account "business-as-usual" changes in practices and equipment, and is used to update where appropriate Baseline and Best Practice levels.

³ These indicators are for guidance only and do not affect the overall benchmarking evaluation.

⁴ There may be a slight variation between total figures presented in the energy table and the data summary due to unit selection and data rounding.

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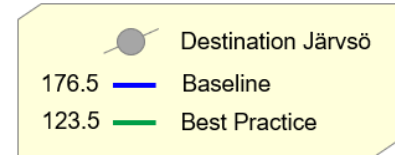
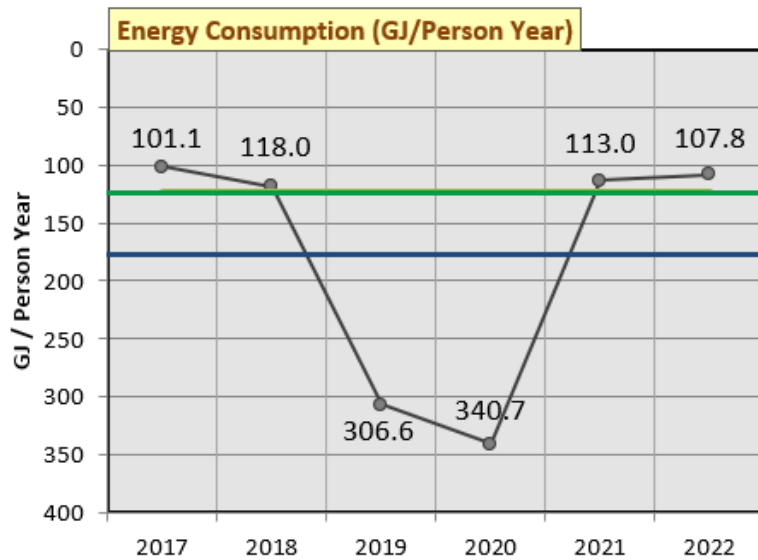
DESTINATION PERFORMANCE BENCHMARKS

Current performance: Below Baseline * At or above Baseline ✓ At or above Best Practice ★

1. Policy ★

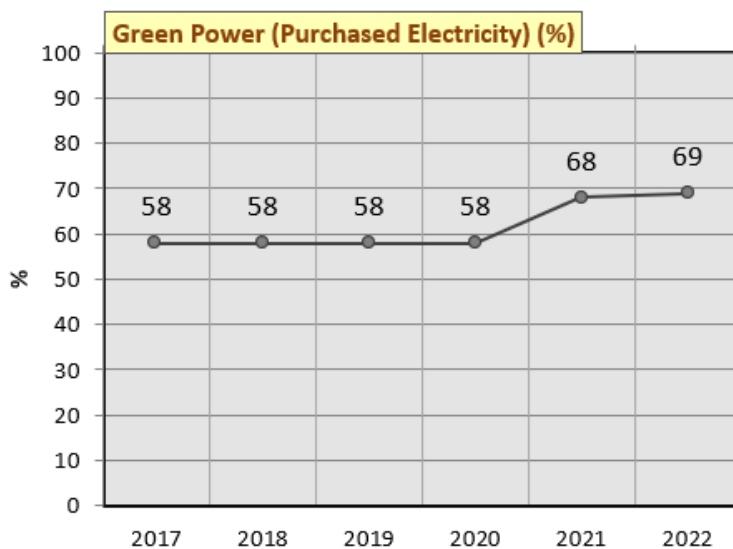
2. Energy

Energy Consumption (GJ / Person Year) ★



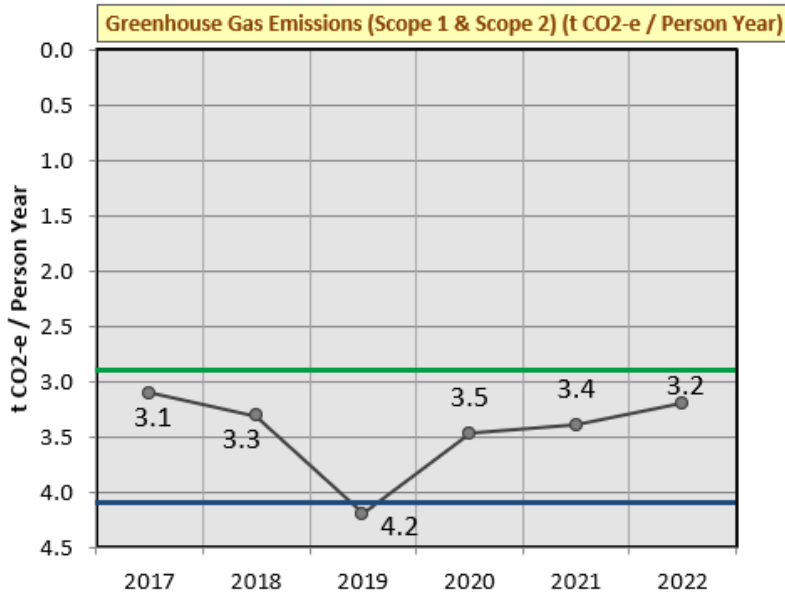
Energy Consumption (GJ / Person Year) for the year 2022 (1 January 2022 – 31 December 2022) was 107.8 GJ / Person Year, which was 12.7% better than the Best Practice level.

Green Power (Purchased Electricity) (%)



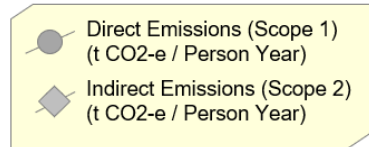
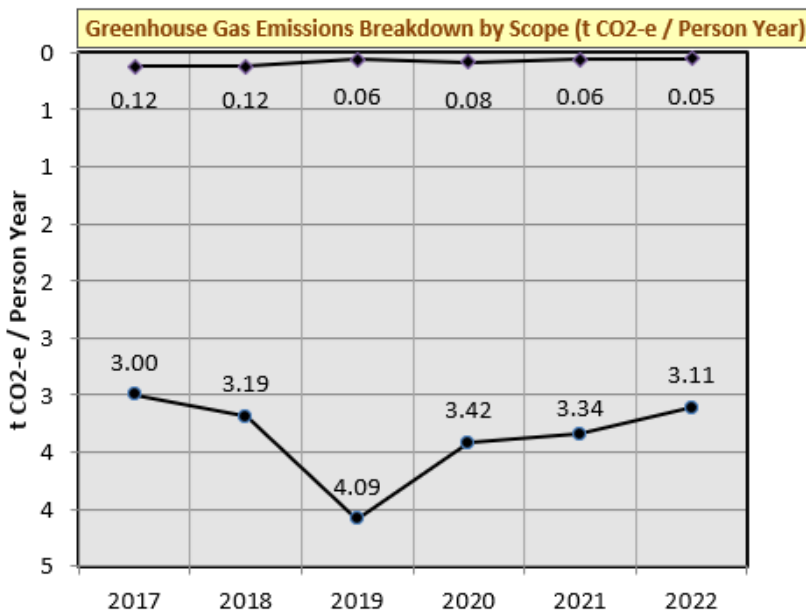
Green Power (Purchased Electricity) (%) for the year 2022 (1 January 2022 – 31 December 2022) was 69.0%.

Greenhouse Gas Emissions (Scope 1 and Scope 2) (t CO₂-e / Person Year) ✓



Greenhouse Gas Emissions (Scope 1 and Scope 2) (t CO₂-e / Person Year) for the year 2022 (1 January 2022 – 31 December 2022) was 3.2 t CO₂-e / Person Year, which was 22.0% better than the Baseline level.

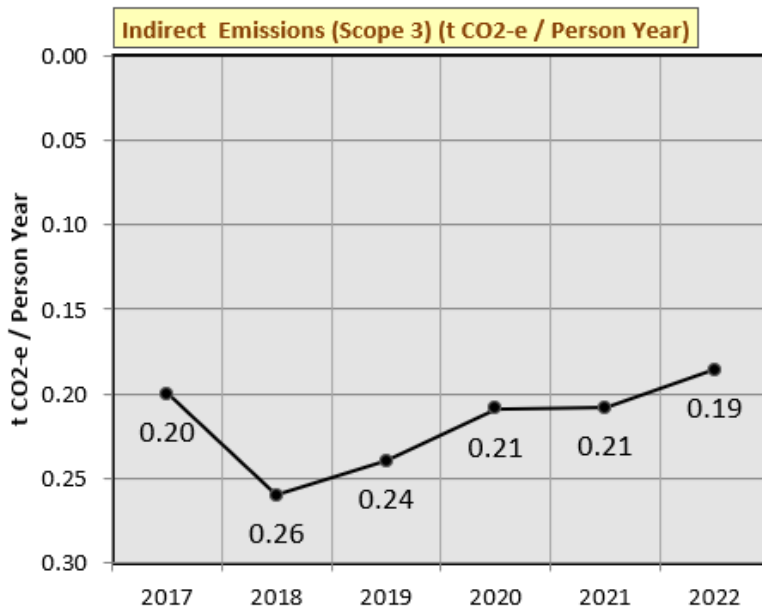
Greenhouse Gas Emissions Breakdown by Scope (t CO₂-e / Person Year)



Direct Emissions (Scope 1) (t CO₂-e / Person Year) for the year 2022 (1 January 2022 – 31 December 2022) was 3.11 t CO₂-e / Person Year.

Indirect Emissions (Scope 2) (t CO₂-e / Person Year) for the year 2022 (1 January 2022 – 31 December 2022) was 0.05 t CO₂-e / Person Year.

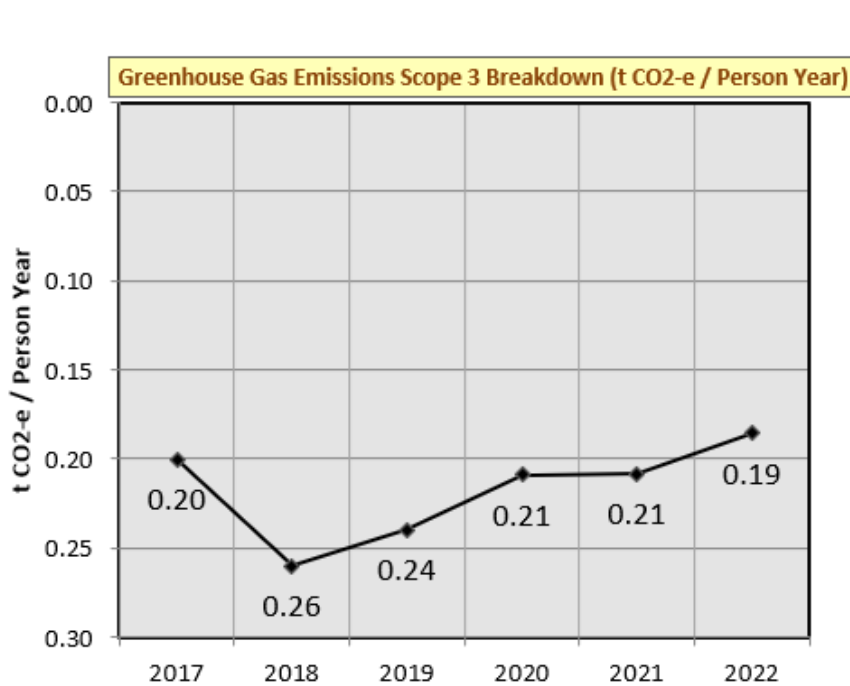
Indirect Emissions (Scope 3) (t CO₂-e / Person Year)



Destination
Järvisö

Indirect Emissions (Scope 3) (t CO₂-e / Person Year) for the year 2022 (1 January 2022 – 31 December 2022) was 0.19 t CO₂-e / Person Year.

Greenhouse Gas Emissions Scope 3 Breakdown (t CO₂-e / Person Year)



Transport Indirect Emissions (Scope 3) (kg CO₂-e / Person Year)

Waste Indirect Emissions (Scope 3) (kg CO₂-e / Person Year)

Transport Indirect Emissions (Scope 3) (t CO₂-e / Person Year) for the year 2022 (1 January 2022 – 31 December 2022) not measured as no data entered.

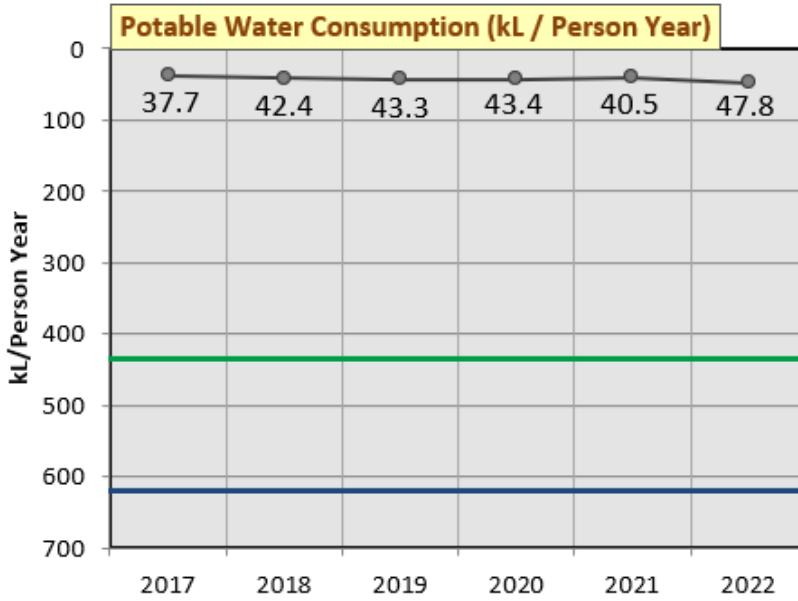
Waste Indirect Emissions (Scope 3) (t CO₂-e / Person Year) for the year 2022 (1 January 2022 – 31 December 2022) was 0.19 t CO₂-e / Person Year.

Direct Emissions (Scope 1)								
Stationary Fuel Combustion								
2022								
Type	Quantity	Unit	Energy Consumption (MJ)	CO ₂ Emission Estimate (t CO ₂ -e)	CH ₄ Emission Estimate (t CO ₂ -e)	N ₂ O Emission Estimate (t CO ₂ -e)	Total Emission Estimate (t CO ₂ -e)	
Motor gasoline	3,168,747	kWh	11,407,489.2	751.0	3.0	1.7	755.8	
Biodiesel	492,972	kWh	1,774,699.2	0.0	0.5	0.3	0.7	
Solid biomass	24,551,538	kWh	88,385,536.8	0.0	705.3	89.0	794.3	
Natural gas	34,655	kWh	124,758.0	6.3	0.02	0.003	6.3	
subtotal			101,692,483.2	757.3	708.8	91.0	1,557.1	
Mobile Fuel Combustion (road)								
2022								
Type	Quantity	Unit	Energy Consumption (MJ)	CO ₂ Emission Estimate (t CO ₂ -e)	CH ₄ Emission Estimate (t CO ₂ -e)	N ₂ O Emission Estimate (t CO ₂ -e)	Total Emission Estimate (t CO ₂ -e)	
Motor gasoline	1,612	cubic metres (m ³)	55,127,982.0	3,629.4	36.7	111.0	3,777.0	
Diesel	3,758	cubic metres (m ³)	144,222,645.0	10,152.6	15.0	141.6	10,309.1	
Biodiesel	10,454,548	kWh	37,636,372.8	0.0	10.0	5.7	15.7	
subtotal			236,986,999.8	13,781.9	61.6	258.3	14,101.9	
Onsite Wastewater Treatment								
2022								
Type	Average BOD (mg/L)	Wastewater Volume (kL/day)	Number of days in use	CO ₂ Emission Estimate (t CO ₂ -e)	CH ₄ Emission Estimate (t CO ₂ -e)	N ₂ O Emission Estimate (t CO ₂ -e)	Total Emission Estimate (t CO ₂ -e)	
Aerobic (BOD Known)	4.8	33.32	365	0.0	0.11	0.0	0.11	
Aerobic (BOD Known)	63.6	23.06	365	0.0	1.01	0.0	1.01	
Aerobic (BOD Known)	33.3	10.07	365	0.0	0.23	0.0	0.23	
Aerobic (BOD Known)	5.7	557.18	365	0.0	2.19	0.0	2.19	
subtotal				0.0	3.54	0.0	3.54	
Onsite Renewable Energy Generation								
2022								
Type	Quantity	Unit	Energy Consumption (MJ)	CO ₂ Emission Estimate (t CO ₂ -e)	CH ₄ Emission Estimate (t CO ₂ -e)	N ₂ O Emission Estimate (t CO ₂ -e)	Total Emission Estimate (t CO ₂ -e)	
Solar	246,280	Kilowatt hour (kWh)	886,608.0	0.0	0.0	0.0	0.0	
TOTAL (Scope 1)			339,566,091.0	14539.2	773.94	349.3	15,662.54	
Indirect Emissions (Scope 2)								
Purchased Electricity								
2022								
Quantity	Unit	% Green Power	Provider	Energy Consumption (MJ)	CO ₂ Emission Estimate (t CO ₂ -e)	CH ₄ Emission Estimate (t CO ₂ -e)	N ₂ O Emission Estimate (t CO ₂ -e)	Total Emission Estimate (t CO ₂ -e)
46,283,402	Kilowatt hour (kWh)	69	Sweden	166,620,247.2	243.9	0.4	1.7	246.0
District Heating and Cooling								
2022								
Quantity	Unit	% Green Power	Type	Energy Consumption (MJ)	CO ₂ Emission Estimate (t CO ₂ -e)	CH ₄ Emission Estimate (t CO ₂ -e)	N ₂ O Emission Estimate (t CO ₂ -e)	Total Emission Estimate (t CO ₂ -e)
10,200,000	Kilowatt hour (kWh)	99.5	Heating	36,720,000.0	9.49	0.05	0.05	9.54

TOTAL (Scope 2)		203,340,247.2	253.4	0.45	1.75	255.5		
Greenhouse Gas Emissions (Scope 1 and Scope 2)								
GRAND TOTAL (Scope 1 and Scope 2)		542,906,338.2	14,792.6	774.4	351.1	15,918.1		
Indirect Emissions (Scope 3)								
Waste Sent to Landfill								
2022								
Quantity	Unit	Type of Landfill	Type of Waste	Source	CO ₂ Emission Estimate (t CO ₂ -e)	CH ₄ Emission Estimate (t CO ₂ -e)	N ₂ O Emission Estimate (t CO ₂ -e)	Total Emission Estimate (t CO ₂ -e)
137,304	kilograms (uncompacted)	Covered and/or managed waste treatment facility	Unknown (mixed waste types)	International	0.0	164.8	0.0	164.8
Waste Sent for Incineration								
2022								
Quantity	Unit	Type of Incineration Technology	Type of Waste	Source	CO ₂ Emission Estimate (t CO ₂ -e)	CH ₄ Emission Estimate (t CO ₂ -e)	N ₂ O Emission Estimate (t CO ₂ -e)	Total Emission Estimate (t CO ₂ -e)
2,512,322	kilograms (uncompacted)	Continuous Incineration - Fluidised Bed	Textiles	International	736.9	0.0	33.3	770.2
TOTAL (Scope 3)		736.9	164.8	33.3	935.0			

3. Water

Potable Water Consumption (kL / Person Year) ★

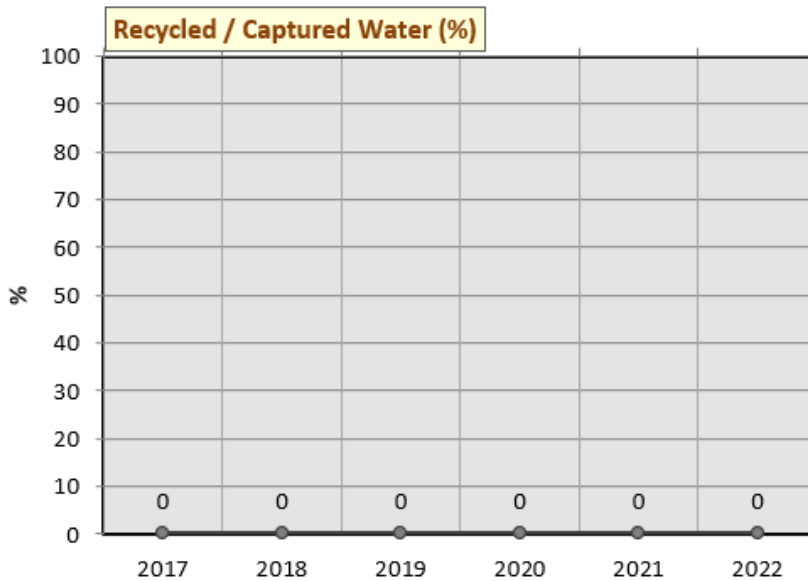


Potable Water Consumption (kL / Person Year) for the year 2022 (1 January 2022 – 31 December 2022) was 47.8 kL / Person Year, which was 89.0% better than the Best Practice level.

2022

Quantity	Unit	Potable Water Consumption (kL)
240,901	cubic metres	240,901.0 kL
	TOTAL	240,901.0 kL

Recycled / Captured Water (%)



Recycled / Captured Water (%) for the year 2022 (1 January 2022 – 31 December 2022) was 0%.

4. Waste

Waste Sent to Landfill (m³ / Person Year) ★

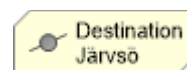
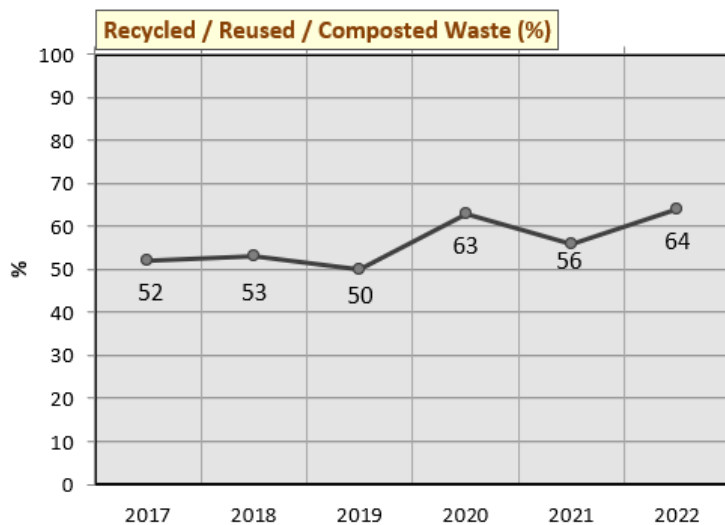


Waste Sent to Landfill (m³ / Person Year) for the year 2022 (1 January 2022 – 31 December 2022) was 0.09 m³ / Person Year, which was 90.9% better than the Best Practice level.

2022

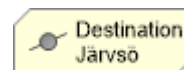
Quantity	Unit	Type of Landfill	Type of Waste	Type of Operation	Waste Sent to Landfill (m ³)
137,304	kilograms (uncompacted)	Covered and/or managed waste treatment facility	Unknown (mixed waste types)	Other Operation	457.7 m ³
				TOTAL	457.7 m³

Recycled / Reused / Composted Waste (%)



Recycled / Reused / Composted Waste (%) for the year 2022 (1 January 2022 – 31 December 2022) was 64.0%.

Waste Sent for Incineration (m³ / Person Year)



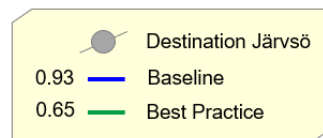
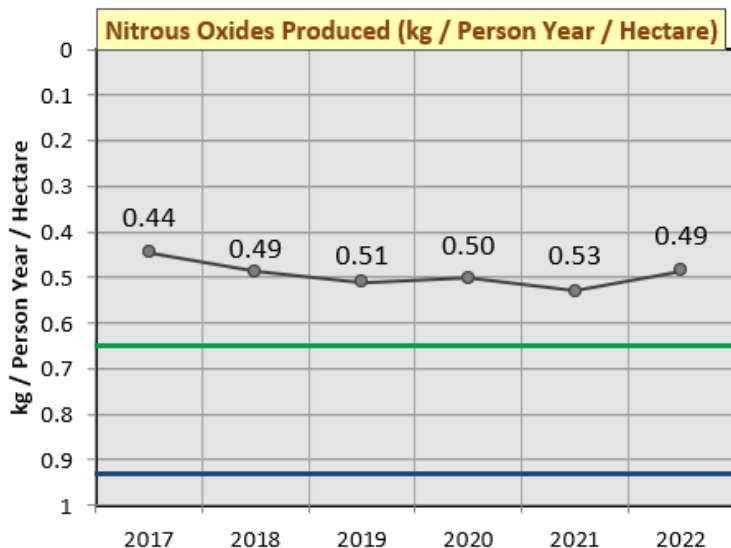
Waste Sent for Incineration (m³ / Person Year) for the year 2022 (1 January 2022 – 31 December 2022) was 1.66 m³ / Person Year.

2022

Quantity	Unit	Type of Incineration Technology	Type of Waste	Waste Sent for Incineration (m ³)
2,512,322	kilograms (uncompacted)	Continuous Incineration - Fluidised Bed	Textiles	8,374.4 m ³
			TOTAL	8,374.4 m³

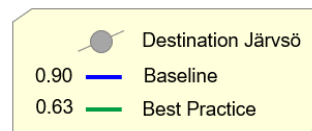
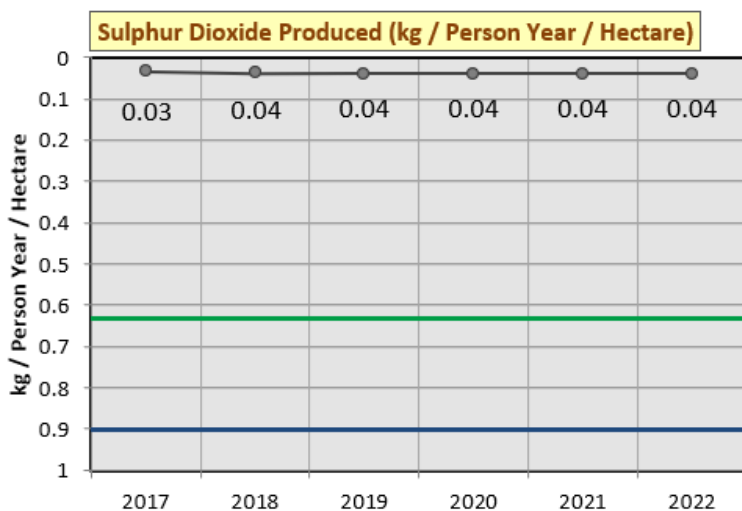
5. Sector Specific

Nitrous Oxides Produced (kg / Person Year / Hectare) ★



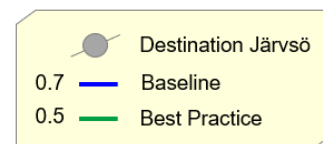
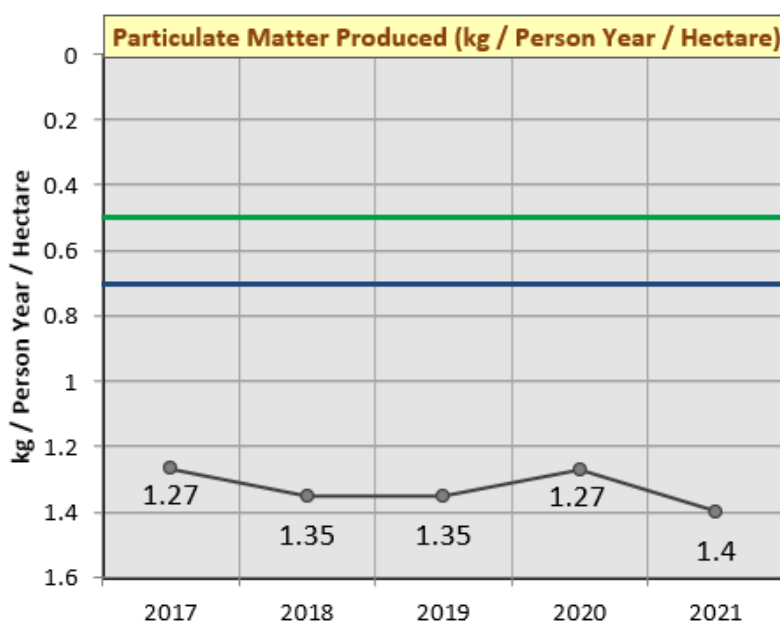
Nitrous Oxides Produced (kg / Person Year / Hectare) for the year 2022 (1 January 2022 - 31 December 2022) was 0.49 kg / Person Year / Hectare, which was 25.3% better than the Best Practice level.

Sulphur Dioxide Produced (kg / Person Year / Hectare) ★



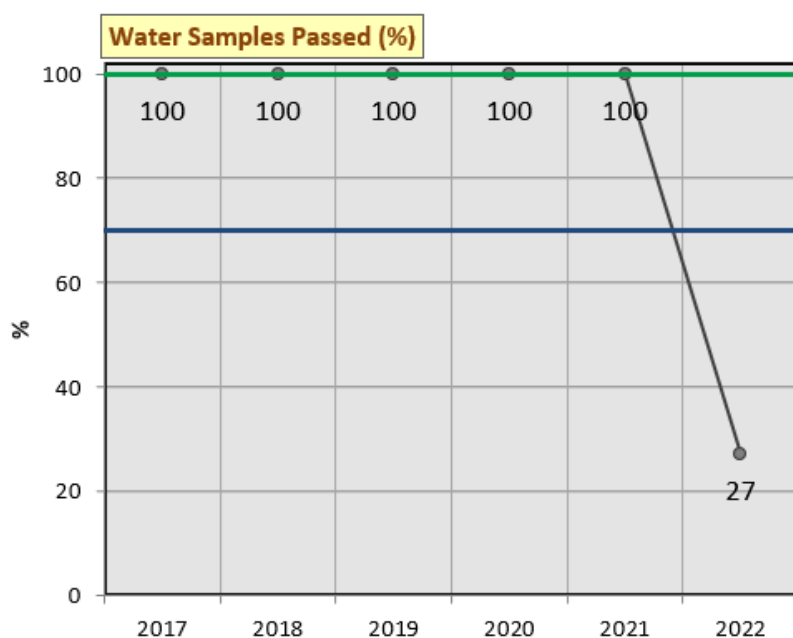
Sulphur Dioxide Produced (kg / Person Year / Hectare) for the year 2022 (1 January 2022 - 31 December 2022) was 0.04 kg / Person Year / Hectare, which was 93.6% better than the Best Practice level.

Particulate Matter Produced (kg / Person Year / Hectare) ✕



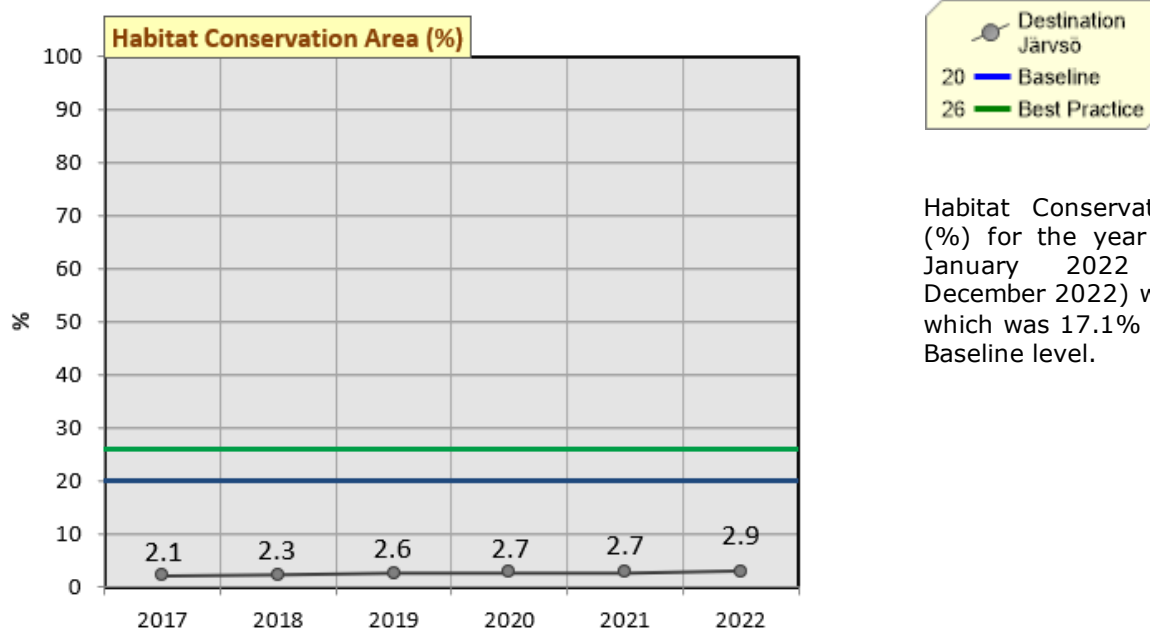
Particulate Matter Produced (kg / Person Year / Hectare) for the year 2022 (1 January 2022 – 31 December 2022) was 1.4 kg / Person Year / Hectare, which was 87% below the Baseline level.

Water Samples Passed (%) ✕



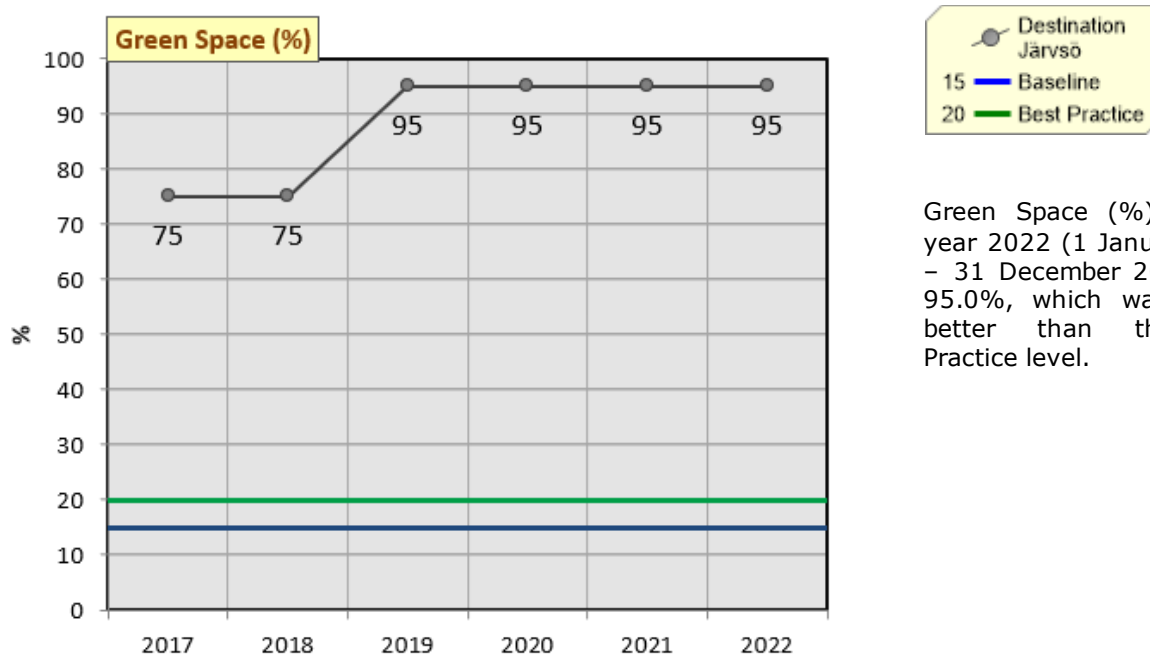
Water Samples Passed (%) for the year 2022 (1 January 2022 – 31 December 2022) was 27.0%, which was 43.0% below the Baseline level.

Habitat Conservation Area (%) ✘



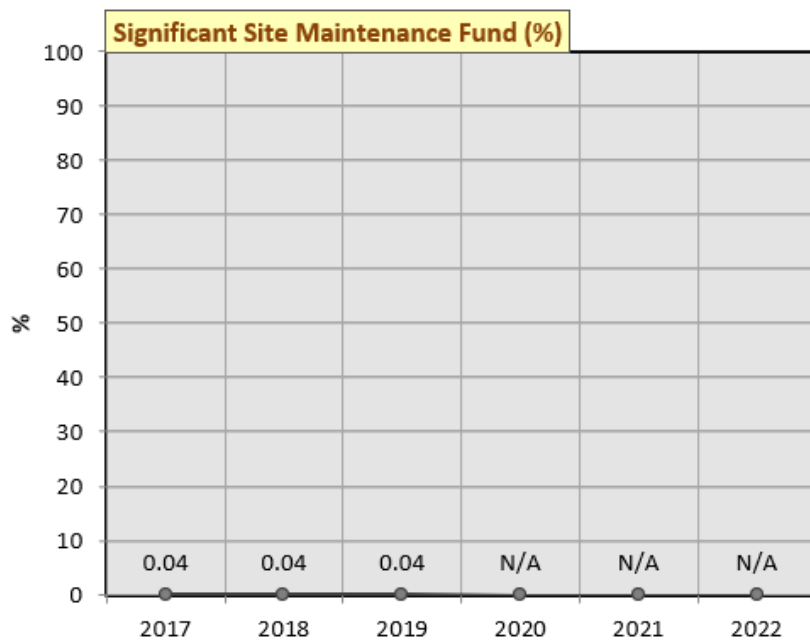
Habitat Conservation Area (%) for the year 2022 (1 January 2022 – 31 December 2022) was 2.9%, which was 17.1% below the Baseline level.

Green Space (%) ★



Green Space (%) for the year 2022 (1 January 2022 – 31 December 2022) was 95.0%, which was 75.0% better than the Best Practice level.

Significant Site Maintenance Fund (%)



Destination Järvsö

Significant Site Maintenance Fund (%) for the year 2021 (1 January 2022 – 31 December 2022) was not reported.

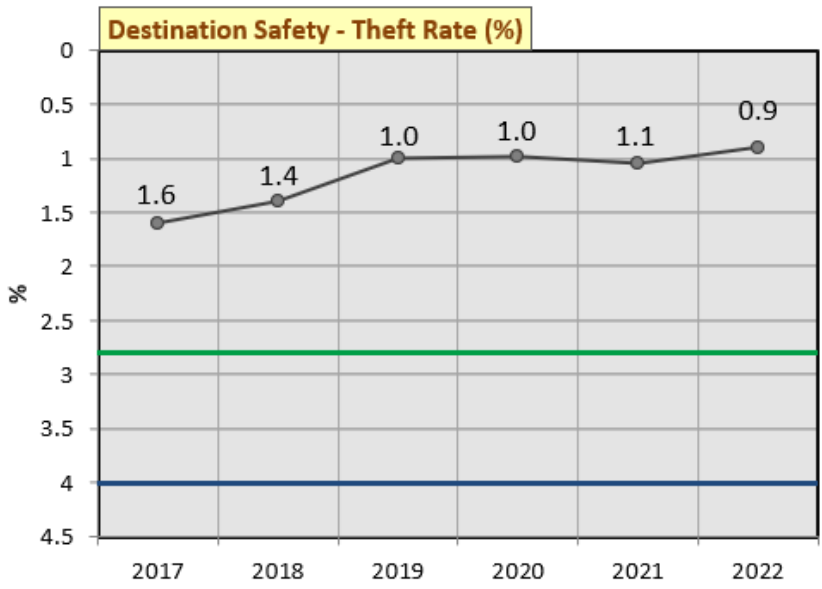
Destination Safety – Homicide Rate (%) ★



Destination Järvsö
 0.087 Baseline
 0.061 Best Practice

Destination Safety – Homicide Rate (%) for the year 2021 (1 January 2022 – 31 December 2022) was 0.0%, which was 0.061% better than the Best Practice level.

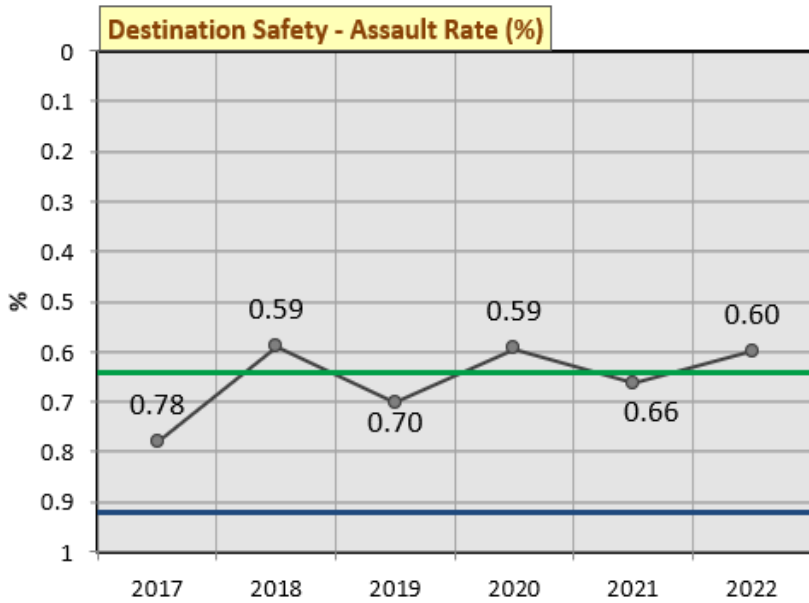
Destination Safety – Theft Rate (%) ★



● Destination Järvsö
— 4.0 Baseline
— 2.8 Best Practice

Destination Safety – Theft Rate (%) for the year 2021 (1 January 2022 – 31 December 2022) was 1.1%, which was 2.9% better than the Best Practice level.

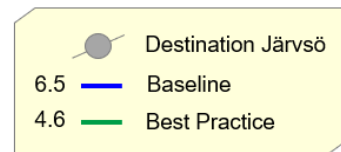
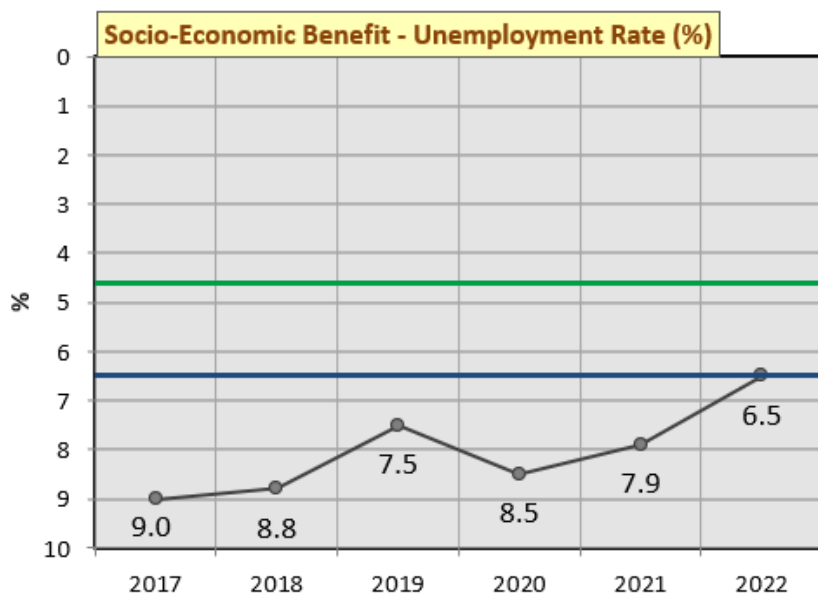
Destination Safety – Assault Rate (%) ★



● Destination Järvsö
— 0.92 Baseline
— 0.64 Best Practice

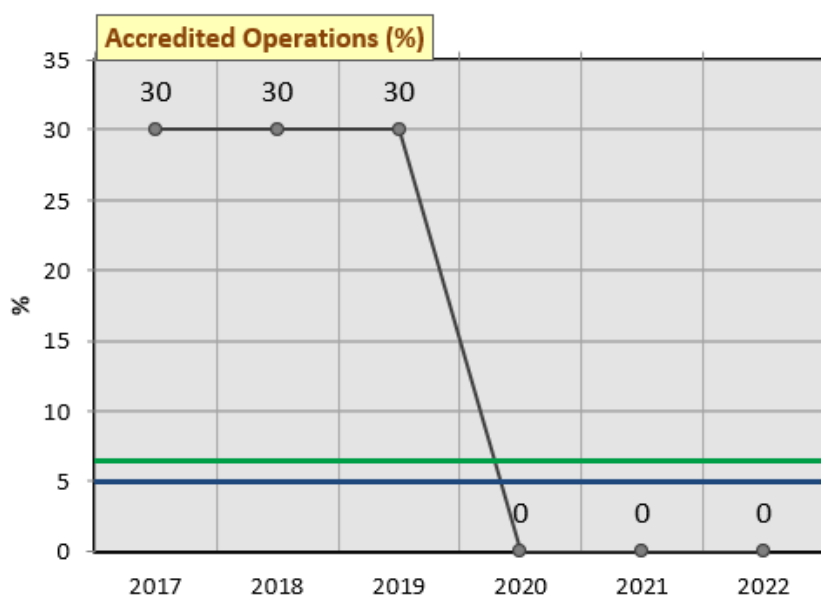
Destination Safety – Assault Rate (%) for the year 2021 (1 January 2022 – 31 December 2022) was 0.66%, which was 0.02% better than the Best Practice level.

Socio-Economic Benefit – Unemployment Rate (%) ✓



Socio-Economic Benefit – Unemployment Rate (%) for the year 2021 (1 January 2021 – 31 December 2021) was 6.5%, which was at the Baseline level.

Accredited Operations (%) ✗

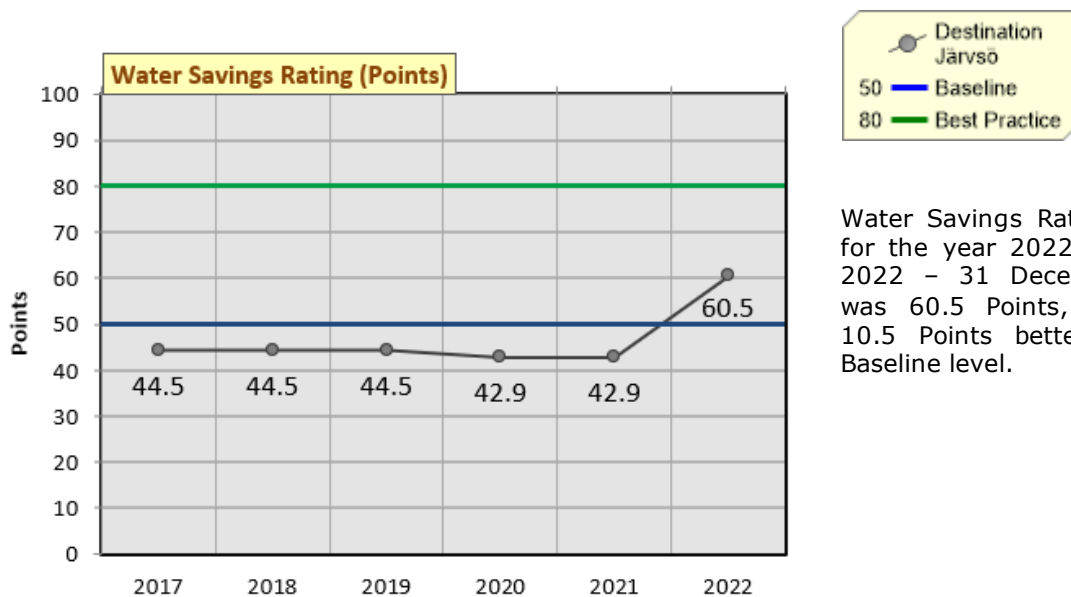


Accredited Operations (%) for the year 2022 (1 January 2022 – 31 December 2022) was 0%, which was 5.0% below the Baseline level.

LEAD AGENCY PERFORMANCE

6. Water Savings

Water Savings Rating (Points) ✓



Water Savings Rating (Points) for the year 2022 (1 January 2022 – 31 December 2022) was 60.5 Points, which was 10.5 Points better than the Baseline level.

Water Savings Measures	Frequency / Percentage Rating	Water Savings Rating (Points)
Check for leaks	Relevant / Not Available	50.0 Points
Low/dual flush toilets	80-99%	88.9 Points
Low flow tap fittings	60-79%	73.9 Points
Low flow shower fittings	80-99%	88.9 Points
Water sprinklers used after dark	Not Relevant / Not Available	
Minimal irrigation landscaping	Not Relevant / Not Available	
Use of recycle/grey/rain water	0%	0.0 Points
	Overall Rating:	60.5 Points

7. Waste Recycling

Waste Recycling Rating (Points) ★

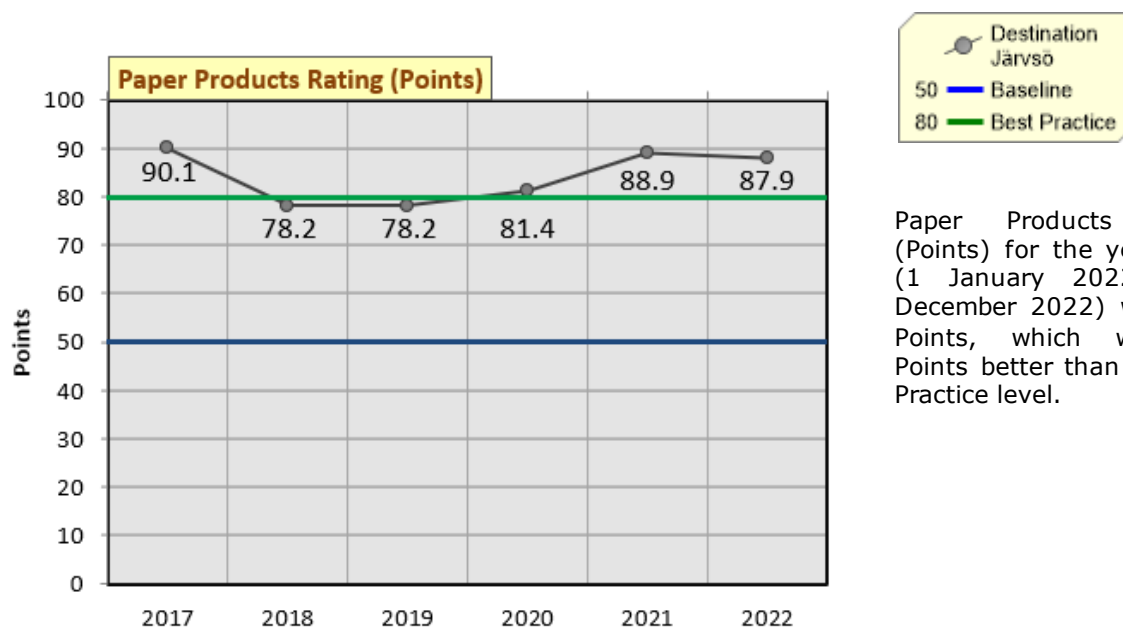


Waste Recycling Rating (Points) for the year 2022 (1 January 2022 – 31 December 2022) was 88.9 Points, which was 8.9 Points better than the Best Practice level.

Waste Recycling Measures	Frequency / Percentage Rating	Waste Recycling Rating (Points)
Glass	80-99%	88.9 Points
Paper/card	80-99%	88.9 Points
Iron & steel (ferrous metals)	80-99%	88.9 Points
Other metals (non-ferrous)	Not Relevant / Not Available	
Plastics	80-99%	88.9 Points
Rubber	Not Relevant / Not Available	
Green waste	80-99%	88.9 Points
	Overall Rating:	88.9 Points

8. Paper

Paper Products Rating (Points) ★

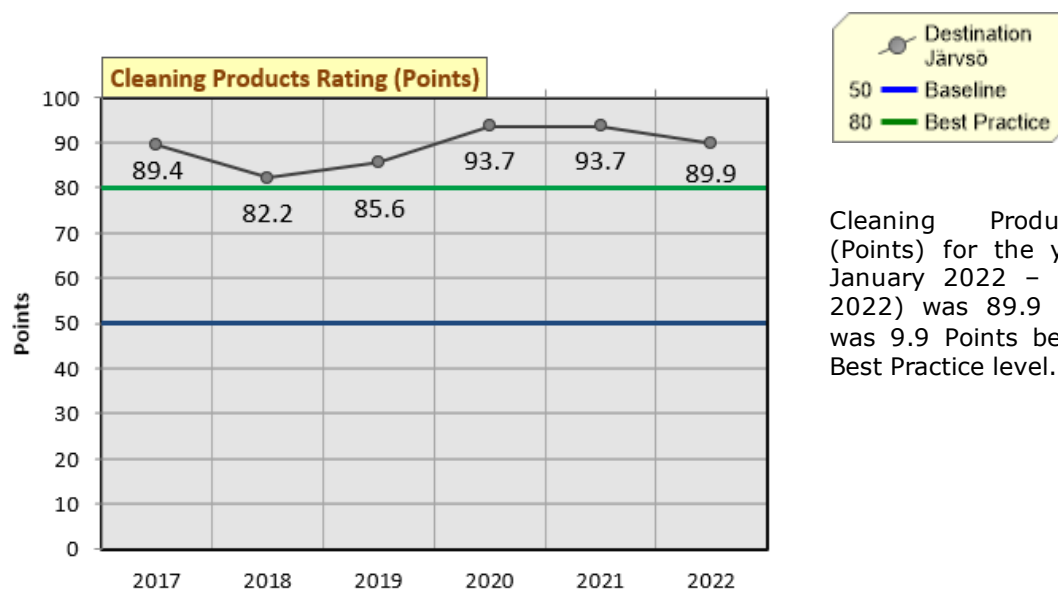


Paper Products Rating (Points) for the year 2022 (1 January 2022 - 31 December 2022) was 87.9 Points, which was 7.9 Points better than the Best Practice level.

Paper Products Measures	Frequency / Percentage Rating	Paper Products Rating (Points)
Office paper	80-99%	88.9 Points
Serviettes	60-79%	73.9 Points
Tissues	Not Relevant / Not Available	
Toilet tissue	80-99%	88.9 Points
Paper towels	100%	100.0 Points
	Overall Rating:	87.9 Points

9. Cleaning

Cleaning Products Rating (Points) ★



Cleaning Products Rating (Points) for the year 2022 (1 January 2022 - 31 December 2022) was 89.9 Points, which was 9.9 Points better than the Best Practice level.

Cleaning Products Measures	Frequency / Percentage Rating	Cleaning Products Rating (Points)
Hard floor cleaners	80-99%	88.9 Points
Carpet cleaners	80-99%	88.9 Points
Interior surface cleaners	80-99%	88.9 Points
External surface cleaners	Not Relevant / Not Available	100.0 Points
Glass cleaners	80-99%	88.9 Points
Detergents	Not Relevant / Available	100.0 Points
Personal hygiene	60-79%	73.9 Points
	Overall Rating:	89.9 Points

10. Pesticides

Pesticide Products Rating (Points) ★



Pesticide Products Rating (Points) for the year 2022 (1 January 2022 – 31 December 2022) was 100.0 Points, which was 20.0 Points better than the Best Practice level.

If your operation does not use any pesticide products (which is a positive outcome), a rating of 100 will be reported for this indicator on the basis that no use represents a Best Practice achievement.

Pesticide Products Measures	Frequency / Percentage Rating	Pesticide Products Rating (Points)
Weed killers	100%	100.0 Points
Fungal killers	Not Relevant / Available	100.0 Points
Rodent killers	Not Relevant / Available	100.0 Points
Insect killers	Not Relevant / Available	100.0 Points
	Overall Rating:	100.0 Points

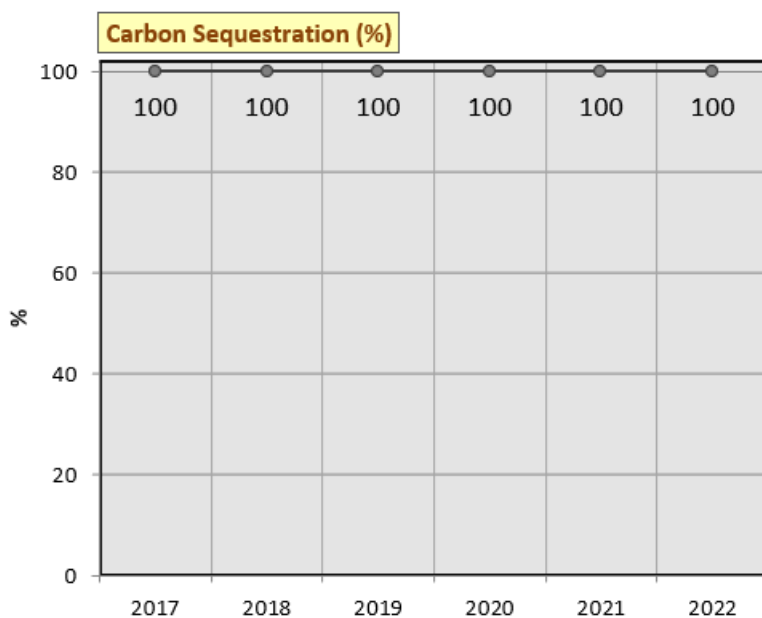
OPTIONAL BENCHMARKING INDICATORS

Destination Järvsö has also nominated optional Operation Selected and Specified Indicator/s that they consider relevant to their specific operation and locality. The Operation Selected and Specified Indicator/s do not form part of the formal annual benchmarking exercise.

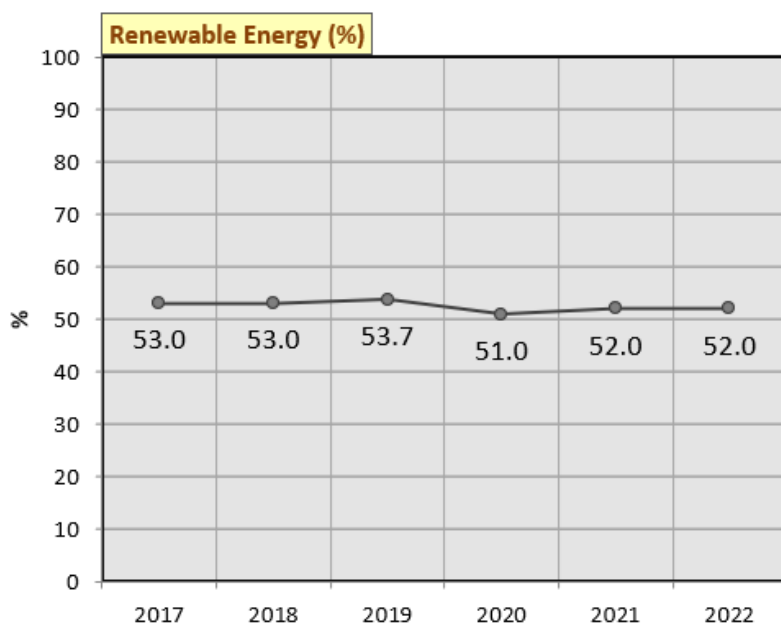
11. Selected Indicators

Selected Indicators are from a supplied list of EarthCheck indicators.

Carbon Sequestration



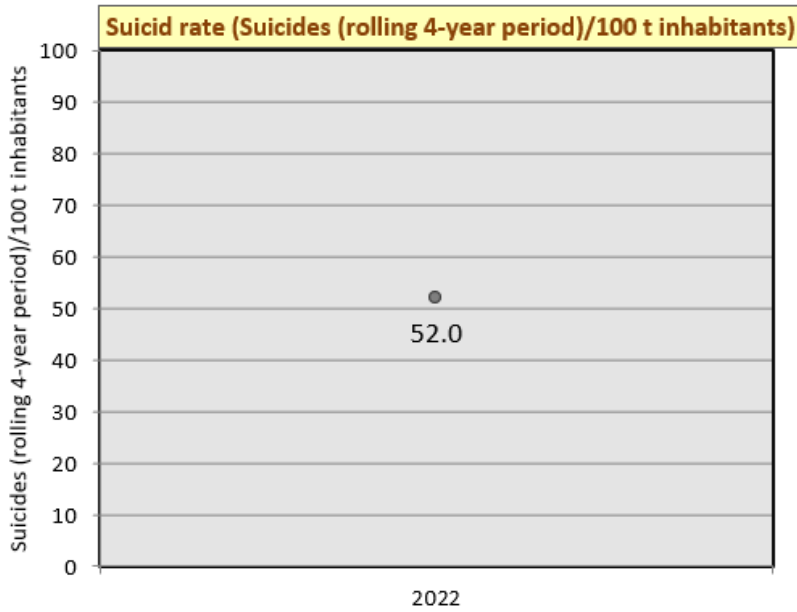
Renewable Energy



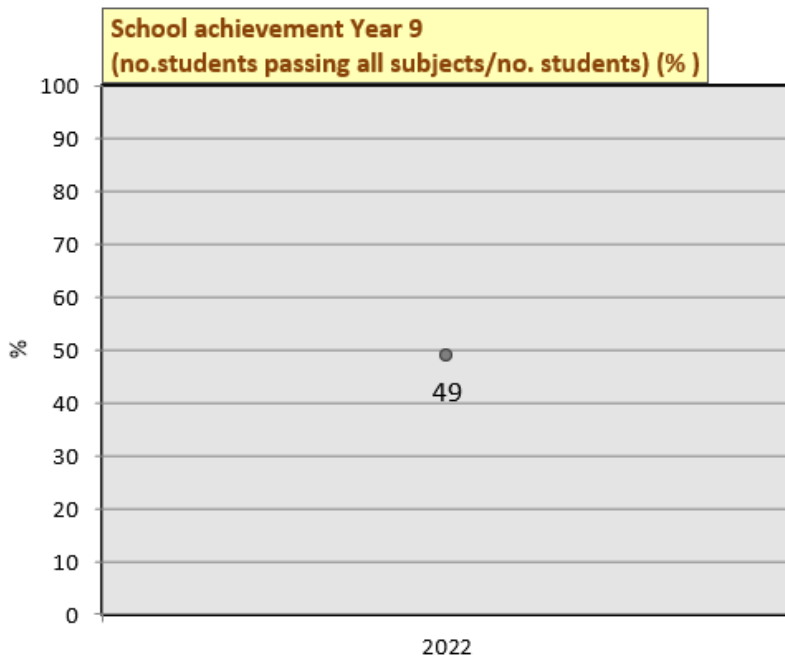
12. Specified Indicators

Specified Indicators are devised by the operator for local and/or internal performance assessment.

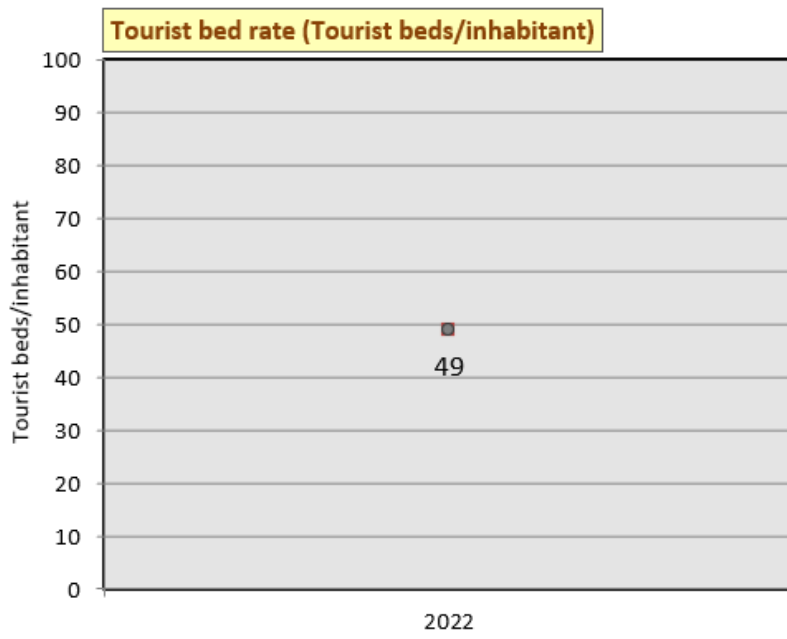
Suicid rate (Suicides (rolling 4-year period)/100 t inhabitants)



School achievement Year 9 (no.students passing all subjects/no. students) (%)



Tourist bed rate (Tourist beds/inhabitant)



The supplied data has been compiled by **Destination Järvsö** in the prescribed manner, authorised by a senior executive of the company and submitted for an annual assessment.

CONCLUSION AND RECOMMENDATIONS

Congratulations, **Destination Järvsö** has met the requirements to be recognised as an EarthCheck Benchmarked Destination.

In addition to having a Sustainability Policy in place, 16 of the assessed EarthCheck indicators are at or above the Baseline level.

From the benchmarking data provided, 13 indicators, *Energy Consumption, Potable Water Consumption, Waste Sent to Landfill, Nitrous Oxides Produced, Sulphur Dioxide Produced, Green Space, Destination Safety – Homicide Rate, Destination Safety – Theft Rate, Destination Safety – Assault Rate, Waste Recycling Rating, Paper Products Rating, Cleaning Products Rating, and Pesticide Products Rating*, are at or above the Best Practice level.

The 4 indicators that fell below the Baseline level were *Particulate Matter Produced, Water Samples Passed, Habitat Conservation Area, and Accredited Operations*.

The value for Habitat Conservation Area was 17.1% below the Baseline. **Destination Järvsö** is encouraged to promote habitat conservation of land, wetlands and waterways to aid biodiversity conservation and support habitat protection within the region.

The value for Accredited Operations was 5% below the Baseline. **Destination Järvsö** is encouraged to promote environmental accreditation to hotels, restaurants and other business within the destination

Destination Järvsö is encouraged to continue to make improvements in the above indicator/s and to ensure that any indicator/s below baseline is addressed in the organisation's risk assessment and long term sustainability approach.

Improvements in all the EarthCheck indicators will not only help the environment, but can also help reduce operational costs. Due to the positive commitment that **Destination Järvsö** has demonstrated to the environment, the assessors are confident that they can maintain or improve performance, where appropriate and practical, in all indicators. In particular over the next 12 months, **Destination Järvsö** is encouraged to ensure that Water Samples Passed, Habitat Conservation Area, and Accredited Operations are at Baseline performance or better. In line with EarthCheck Policy this would enable **Destination Järvsö** to continue to meet the benchmarking requirements of the EarthCheck program.

APPENDIX

ONSITE RENEWABLE ENERGY GENERATION

The Benchmarking Assessors sought clarification with regards to the significant increase in Onsite Renewable Energy Generation.

Destination Järvsö provided the following response for clarification:

"Yes, it is correct.

In recent years, the installation of solar power systems has increased significantly in Sweden, and this trend is also reflected in the Ljusdal municipality. The reported amount of self-consumed solar power in Järvsö is an estimate based on the solar power produced in Ljusdal municipality and an estimated self-consumption rate. Below, I have included a table with data from Statistics Sweden regarding the estimated solar power production in Sweden ("Riket") and Ljusdal municipality for 2021 and 2022 (statistics began being reported in 2021). As you can see, there has been a significant increase at both levels."

Elproduktion och bränsleanvändning (MWh) efter region, produktionsätt, bränsletyp och år

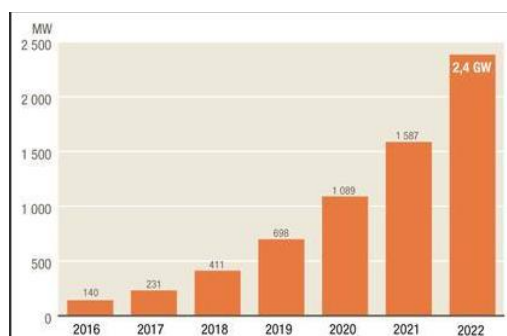
Resultat

Verktyg Pivoter manuellt Pivoter medsols Pivoter motsols

	2019	2020	2021	2022
00 Riket				
Solkraft				
Elproduktion	1 127 000	1 963 000
2161 Ljusdal				
Solkraft				
Elproduktion	1 398	2 540

<https://www.statistikdatabasen.scb.se/sq/154313>

"I also include a graph illustrating how the installed capacity of solar power has increased over a longer period."



<https://www.energimyndigheten.se/nyhetsarkiv/2023/antalet-solcellsanlaggningar-fortsatter-att-oka/>

Therefore, the Benchmarking Assessors maintained the original data.

ONSITE WASTEWATER TREATMENT

The Benchmarking Assessors sought clarification with regards to the multiple entries for Onsite Wastewater Treatment and an additional entry for the 2022 reporting period.

Destination Järvsö provided the following response for clarification:

"No, please see notes in the tables.

There are four wastewater treatment plants in the Järvsö parish: Järvsö, Nor, Harsa, and Nybo. I entered data for each of the four treatment plants as separate facilities in MyEarthCheck. It is likely that I entered them in a different order for 2021 and 2022, which would explain the incorrect pairing of the facilities between the years. I did not realize that the order of entry was significant.

I do not understand why there are five facilities in myEarthCheck instead of four, as I only entered four. There was also an issue with this indicator previously; I initially registered values for the four wastewater treatment plants, and the next time I checked, there were eight—four with different values that I had input. I removed all of them and re-entered the data. This time, an additional facility was added, which I evidently did not notice. I am unsure if there is an error in the system or if I simply do not understand how it functions.

- If this method of entering data is not correct, please advise me on how I should proceed instead.

The increased BOD value for the Järvsö wastewater treatment plant in 2022 is primarily due to a process error at the facility, which has now been resolved. The higher and more varied values for Harsa, Nybo, and Nor are mainly because they are simpler wastewater treatment plants that at times receive large volumes of extraneous water (rainwater, meltwater, etc.). The Järvsö wastewater treatment plant has a more technically advanced system.

Nonetheless, the variations remain within reasonable limits, according to environmental inspectors who oversee the wastewater treatment plants to ensure compliance with relevant legislation."

	BOD ₇ - årsmedelvärde utg. vatten (mg/l)			
	Järvsö ARV	Nybo ARV	Nor ARV	Harsa ARV
2020	1,5	2,1	3,3	23,4
2021	2,3	4,3	15,1	26,4
2022	5,7	33,3	4,8	63,6

	kL/day			
	Järvsö ARV*	Nybo ARV*	Nor ARV**	Harsa ARV**
2020	757,17	4,21	9,85	19,92
2021	753,33	4,24	9,27	11,91
2022	557,18	10,07	33,32	23,06
	kL/day			

Therefore, the Benchmarking Assessors deleted the additional entry and amended the data to match the figures confirmed above.

WASTE SENT TO LANDFILL

The Benchmarking Assessors sought clarification with regards to the significant decrease in uncompacted waste sent to landfill.

Destination Järvsö provided the following response for clarification:

"No, it is not correct.

We have also noted the anomalous results but have previously been unable to determine if there was an error. We have now discovered inaccuracies in our calculation method, which means that even our calculations for previous years also contain errors. How should we address this? I can perform a new calculation using the corrected method for all years since 2017."

Therefore, the Benchmarking Assessors further clarified regarding the calculations for the landfilled waste as well as requested for the updated/correct waste figures for past years.

Destination Järvsö provided the following response for clarification:

"The table below contains the data for waste sent to landfill from Järvsö Parish for all years from 2017, both with the previous method (which contains errors) and the updated method."

Year	Waste sent to landfill Järvsö kg (Previous method)	Waste sent to landfill Järvsö kg (Updated method)
2017	281913	178426
2018	328774	216283
2019	245112	141449
2020	271779	150376
2021	199563	144960
2022	100960	137304
2023	100373	141879

"I don't know if the specifics of the errors are of significance to you, but I will outline them here:

- The way the waste management company reported data to the database we draw information from (Avfallsweb) was changed for one category in 2021. This error affects the years 2021-2022.*
- One category has been incorrectly counted as landfill. This error affects all years.*
- One category was included in another category, resulting in double reporting. This error affects all years."*

Therefore, the Benchmarking Assessors amended the all the landfill waste data since 2017 accordingly.

ADDITIONAL COMMENTS

The Benchmarking Assessors also noticed that the reported values for Water Samples Passed and Accredited Operators have both decreased significantly compared to previous reporting periods. The auditor is requested to review these during the audit.



EARTHCHECK

Benchmarks Assessed by EarthCheck

SUMMARY OF SUPPLIED BENCHMARKING DATA

Activity Measures

Person Years	5,035
Total Destination Area	77,120

Supplied Benchmarking Data

Energy

Energy Consumption (GJ / Person Year)

Supplied	542,906.300 GJ
Calculated	107.8 GJ / Person Year
Baseline	176.5 GJ / Person Year
Best Practice	123.5 GJ / Person Year
Difference	12.7% better than the Best Practice level

Green Power (Purchased Electricity) (%)

Supplied	69.0%
Calculated	69.0%

Greenhouse Gas Emissions (Scope 1 and Scope 2) (t CO₂-e / Person Year)

Supplied	15,918 t CO ₂ -e
Calculated	3.16 t CO ₂ -e / Person Year
Baseline	4.1 t CO ₂ -e / Person Year
Best Practice	2.9 t CO ₂ -e / Person Year
Difference	22.0% better than the Best Practice level

Direct Emissions (Scope 1) (t CO₂-e / Person Year)

Supplied	15,662.5 t CO ₂ -e
Calculated	3.1 t CO ₂ -e / Person Year

Indirect Emissions (Scope 2) (t CO₂-e / Person Year)

Supplied	255.5 t CO ₂ -e
Calculated	0.05 t CO ₂ -e / Person Year

Indirect Emissions (Scope 3) (t CO₂-e / Person Year)

Supplied	935 t CO ₂ -e
Calculated	0.19 t CO ₂ -e / Person Year

Waste Indirect Emissions (Scope 3) (kg CO₂-e / Person Year)

Supplied	935 t CO ₂ -e
Calculated	0.19 t CO ₂ -e / Person Year

Water

Potable Water Consumption (kL / Person Year)

Supplied	240901.0 kL
Calculated	47.8 kL / Person Year
Baseline	620.9 kL / Person Year
Best Practice	434.6 kL / Person Year
Difference	89% better than the Best Practice level

Recycled / Captured Water (%)

Supplied	0%
Calculated	0%

Waste

Waste Sent to Landfill (m³ / Person Year)

Supplied	457.7 m ³
Calculated	0.091 m ³ / Person Year
Baseline	1.5 m ³ / Person Year
Best Practice	1.0 m ³ / Person Year
Difference	90.9% better than the Best Practice level

Recycled / Reused / Composted Waste (%)

Supplied	64.0%
Calculated	64.0%

Waste Sent for Incineration (m³ / Person Year)

Supplied	8,374.4 m ³
Calculated	1.7 m ³ / Person Year

Sector Specific

Nitrous Oxides Produced (kg / Person Year / Hectare)

Supplied	137,401 kg
Calculated	0.49 kg / Person Year / Hectare
Baseline	0.93 kg / Person Year / Hectare
Best Practice	0.65 kg / Person Year / Hectare
Difference	25.3% better than the Best Practice level

Sulphur Dioxide Produced (kg / Person Year / Hectare)

Supplied	10,885 kg
Calculated	0.04 kg / Person Year / Hectare
Baseline	0.90 kg / Person Year / Hectare
Best Practice	0.63 kg / Person Year / Hectare
Difference	93.6% better than the Best Practice level

Particulate Matter Produced (kg / Person Year / Hectare)

Supplied	369,360 kg
Calculated	1.31 kg / Person Year / Hectare
Baseline	0.7 kg / Person Year / Hectare
Best Practice	0.5 kg / Person Year / Hectare
Difference	87% below the Baseline level

Water Samples Passed (%)

Supplied	27.0%
Calculated	27.0%
Baseline	70 %
Best Practice	100 %
Difference	43.0% below the Baseline level

Habitat Conservation Area (%)

Supplied	2.9%
Calculated	2.9%
Baseline	20 %
Best Practice	26 %
Difference	17.1% below the Baseline level

Green Space (%)

Supplied	95.0%
Calculated	95.0%
Baseline	15 %
Best Practice	20 %
Difference	75.0% better than the Best Practice level

Accredited Operations (%)

Supplied	0%
Calculated	0%
Baseline	5 %
Best Practice	6.5 %
Difference	5.0% below the Baseline level

Significant Site Maintenance Fund (%)

Supplied	N/A
Calculated	N/A

Destination Safety – Homicide Rate (%)

Supplied	0.0%
Calculated	0.0%
Baseline	0.087%

Best Practice	0.061%
Difference	0.061% better than the Best Practice level

Destination Safety – Theft Rate (%)

Supplied	0.9%
Calculated	0.9%
Baseline	4.0%
Best Practice	2.8%
Difference	1.9% better than the Best Practice level

Destination Safety – Assault Rate (%)

Supplied	0.6%
Calculated	0.6%
Baseline	0.92%
Best Practice	0.64%
Difference	0.04% better than the Baseline level

Socio-Economic Benefit – Unemployment Rate (%)

Supplied	6.5%
Calculated	6.5%
Baseline	6.5%
Best Practice	4.6%
Difference	at the Baseline level

Water Savings

Water Savings Rating (Points)

Supplied	60.3 Points
Calculated	60.3 Points
Baseline	50 Points
Best Practice	80 Points
Difference	10.3 Points better than the Baseline level

Waste Recycling

Waste Recycling Rating (Points)

Supplied	88.9 Points
Calculated	88.9 Points
Baseline	50 Points
Best Practice	80 Points
Difference	8.9 Points better than the Best Practice level

Paper

Paper Products Rating (Points)

Supplied	87.9 Points
Calculated	87.9 Points
Baseline	50 Points
Best Practice	80 Points
Difference	7.9 Points better than the Best Practice level

Cleaning

Cleaning Products Rating (Points)

Supplied	89.9 Points
Calculated	89.9 Points
Baseline	50 Points
Best Practice	80 Points
Difference	9.9 Points better than the Best Practice level

Pesticides

Pesticide Products Rating (Points)

Supplied	100.0 Points
Calculated	100.0 Points
Baseline	50 Points
Best Practice	80 Points
Difference	20.0 Points better than the Best Practice level

Selected Indicators

Carbon Sequestration (%)

Supplied	100.0%
Calculated	100.0%

Renewable Energy (%)

Supplied	57.0%
Calculated	57.0%

Specified Indicators

Suicid rate (Suicides (rolling 4-year period)/100 t inhabitants)

Supplied	14.3
Calculated	14.3

School achievement Year 9 (no.students passing all subjects/no. students) (%)

Supplied	49%
Calculated	49%

Tourist bed rate (Tourist beds/inhabitant)

Supplied	0.65
Calculated	0.65

DETERMINATION OF BASELINE AND BEST PRACTICE LEVELS

General

The values for the Baseline and Best Practice levels for each indicator are derived from extensive worldwide research into available and appropriate case studies, industry surveys, engineering design handbooks, energy, water and waste audits, and climatic and geographic conditions.

National and regional data for per capita energy use, greenhouse gas and other emissions, wastes to landfill and water consumption, where available provide background data for normalisation of the expected performance values for per customer or employee, and/or overall performance of an enterprise being benchmarked. They are used to gauge the regional or national situation and environmental performances that an enterprise is based in, and hence what are reasonable levels to expect the enterprise to achieve.

A benchmarking result at, or above, the Baseline level demonstrates to all stakeholders that the enterprise is achieving above average performance. A result below the Baseline level indicates that an enterprise can and should carry out actions that will make beneficial improvements in performance.

Consideration of Climate

A major determinant of energy consumption in some sectors, primarily those centred on buildings such as accommodation, visitor centres and administration offices will be the dominant climatic conditions in which the enterprise is located. In general, to maintain the same level of indoor comfort, enterprises operating in hot or cold climates will consume more energy than those in temperate climates.

Similarly, it is recognised that in certain sectors a major determinant of potable water consumption will be the climate in which an enterprise is located, in particular those with large grounds and/or significant water-based facilities or activities. That is, enterprises located in hot climates are more likely to consume more potable water than equivalent ones located in cooler climates. Factors that are likely to lead to a higher level of potable water consumption, for example in the accommodation sector, include increased evaporation rates of swimming pools, personal bathing and irrigation demands of grounds. In consideration of this factor, Baseline and Best Practice levels can vary in relation to country location.

Waste Sent to Landfill

The benchmark indicator used for Waste Sent to Landfill is given in litres as waste bins are usually calibrated by volume, and it has been found that the majority of operations do not have access to the weight of material disposed of. However, if a weight is supplied, standard factors are used to convert from weight (e.g., kilograms (kg)) to volume (e.g., cubic metres (m³) or litres (L)). These are: 1 kg (uncompacted waste) = 0.00333333 m³ or 3.33333 L and 1 kg (compacted waste) = 0.00153846 m³ or 1.53846 L.

Operations should make note of the level of compaction when submitting data for assessment by EarthCheck.

Review of Performance Levels

The Baseline and Best Practice performance levels for EarthCheck indicators are continuously reviewed and are likely to change over time. This review by a team of international experts, takes into account "business-as-usual" changes in practices, equipment and facilities, as well as regulations and general improvement trends in performance and procedures. This review is used to update the levels of Baseline and Best Practice, and provides useful feedback to the user of the indicators.

The list below summarises the basic generic rules used to determine Baseline and Best Practice levels for EarthCheck indicators.

- If relevant enterprise sector specific case studies are not available for a type of activity in a designated region, then national averages will be used to ascertain the Baseline level. In this case, the Best Practice level will be set at a minimum of 30% better performance than the Baseline.
- If case study or national data are not available for a specific indicator, then the first enterprise that benchmarks will have its results set as 15% better than Baseline (i.e., half way between Baseline and Best Practice).