



in4mo Energy consumption-2025

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1 Introduction

The primary objective of this report is to determine in4mo's total energy usage in 2025 and the associated carbon footprint. This assessment utilizes statistical data from Technopolis concerning electricity, water, district heating, and waste, with online tools employed to calculate the corresponding CO2 emissions.

2 In4mo's office

In4mo Solera Head office is in Espoo, Finland. The total area used for operations is mentioned below.

Innopoli1 Campus m2	In4mo m2	Share of the company in percentage
25192	692	3 %

3 In4mo Electricity (kWh) 2025

Total electricity consumption by in4mo Solera office was 67000,88 kWh in 2025

Months- 2024	KWH-2025
Jan	6642,83
Feb	5959,36
Mar	6451,68
Apr	6217,34
May	6505,33
Jun	6589,74
Jul	7668,62
Aug	4452,81
Sep	4346,60
Oct	4144,21
Nov	3938,94
Dec	4083,43
Total	67,000.88

CO2 in Kg
9492,30

According to Finnish Energy (Energiatollisuus ry) and the European Environment Agency (EEA):

- Finland's grid electricity emission factor is ~0.110 kg CO₂/kWh (2023 average due to clean mix of nuclear, hydro, and renewables)
- 86,293.62 kWh×0.110 kg CO₂/kWh=9,492.30 kg CO₂

4 In4mo District heating [kWh]

Total district heating consumption for the company was 100 kWh.

Month	District heating [kWh]
Jan	10177,11
Feb	10051,63
Mar	7464,62
Apr	4936,17
May	2985,82
Jun	629,40
Jul	413,84
Aug	285,86
Sep	846,78
Oct	3245,19
Nov	4369,55
Dec	5677,41
Total	51073,38

CO2 in Kg
0*

As per Fortum district heating is 0g Co2/kWh.

The emission for our Ekoplus (Fortum Eko) product is **0 g CO₂/kWh**, as it is generated using renewable energy sources and recovered waste heat—both classified as emission-free production methods. (See email attached at the end of the document for reference.)

5 In4mo Water [m³]

The total amount of water used in 2025 was 101,13 which is 21,22 m3 less than 2024.

Month	Water share of in4mo in [m³]
Jan	9,70
Feb	10.26
Mar	9,61
Apr	9,03
May	9,86
Jun	10,16
Jul	6,75
Aug	8,82
Sep	7,52
Oct	7,15
Nov	6,49
Dec	5,78
Total	101,13
CO2 in Kg	
71,80	

In Finland, the Helsinki Water Utility reports that the CO₂ emissions associated with water usage amount to approximately 0.71 kg CO₂ per cubic meter (m³). This figure accounts for both the production and distribution of drinking water, as well as the treatment of wastewater.

6 Annual Laptop CO2 emission

A laptop generates 4.74g of CO₂ per hour used by an employee.

Hourly CO2 (Grams)	Daily CO2/g (7,5h)	Annual Emissions per employee in a year (247 days) Grams	Annual Emission in Kg per employee	Annual emission by 43 employees in kg
4,74	35,55	8781	8,78	351,23

7 Commuting

A total of 21 employees commute to office, contributing 881.67 kg of CO₂ to the atmosphere.

Name	Travel mode	Travel KM per day approx (to-return)	Annual travelled KM	Grams	CO ₂ kg
Employee A	Car	24	1728	35596,8	35,60
Employee B	Car	20	1920	39552	39,55
Employee C	Car	18	3888	80092,8	80,09
Employee D	Car	16	3456	71193,6	71,19
Employee E	Car	24	4608	94924,8	94,92
Employee F	Car	24	4608	94924,8	94,92
Employee G	Car	20	1920	39552	39,55
Employee H	Car	22	3696	76137,6	76,14
Employee I	Car	24	4032	83059,2	83,06
Employee J	Car	24	4032	6048	6,05
Employee K	Car	24	4032	83059,2	83,06
Employee L	Car	25	5400	8100	8,10
Employee M	Car	22	1056	21753,6	21,75
Employee N	Car	24	2880	59328	59,33
Employee O	Train	25	5400	8100	8,10
Employee P	Train	25	5400	8100	8,10
Employee Q	Train	45	528	792	0,79
Employee R	Train	22	528	792	0,79
Employee S	Train	20	3360	5040	5,04
Employee T	Train	30	3360	5040	5,04
Employee U (electric)	Car	20	4320	60480	60,48
Total	881,67				

Employee commuting to the office is calculated based on the frequency of their office visits, ranging from 10% (e.g., once every two weeks) to 100% (daily commuting), to reflect their actual travel-related impact.

Working days	90 %	80 %	70 %	60 %	50 %	40 %	30 %	20 %	10 %
240	216	192	168	144	120	96	72	48	24

Air Travel

			CO2 Amount (KG)	
From	To	CO2 Amount in t		KM
Helsinki	Gdansk	0,457	45,7	1500
Oslo	Kjevi	0,53	530	2000
Helsinki	Oslo	0,0457	45,7	3000
Helsinki	Oslo	0,0457	45,7	3000
Helsinki	Oslo	0,0457	45,7	3000
Helsinki	Oslo	0,0457	45,7	3000
Helsinki	Oslo	0,0457	45,7	3000
Helsinki	Oslo	0,0457	45,7	3000
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Helsinki	Oslo	0,0457	45,7	3000
Helsinki	Oslo	0,0457	45,7	3000
Helsinki	Oslo	0,0457	45,7	3000
Helsinki	Oslo	0,0457	45,7	3000
Helsinki	Oslo	0,0457	45,7	3000
Helsinki	Oslo	0,0457	45,7	3000
Helsinki	Warsaw	0,515	515	1900
Helsinki	Barcelona	0,921	5300	920
Helsinki	Barcelona	0,921	5300	920
Helsinki	Dresden	0,613	613	2500
Helsinki	Madrid	1	1000	5900
Helsinki	Madrid	1	1000	5900
Helsinki	Madrid	1	1000	5900
Helsinki	Madrid	1	1000	5900
Helsinki	Brisbane	7,1	7100	29400

Helsinki	Brisbane	7,1	7100	29400
Helsinki	Brisbane	7,1	7100	29400
Helsinki	Brisbane	7,1	7100	29400

Total CO2 in KG: 46211,8

Total CO2 in t: 37,2



Source: https://co2.myclimate.org/en/flight_calculators/new

8. Total waste

In 2025, the building generated a total of 53.033 tonnes of waste across various waste streams. Based on in4mo's allocated share of 2.88%, approximately 1.53 tonnes of waste were attributable to in4mo. The main waste streams included energy waste, ash, mixed waste, cardboard, biowaste, and glass. Waste volumes are monitored monthly to ensure transparent tracking and to support continuous improvement in waste reduction and management practices.

Based on Finnish waste-management emission factors aligned with the Julia 2030 methodology, the estimated greenhouse gas emissions associated with the treatment of the building's total waste were approximately 20,400 kg CO₂e in 2025. Based on in4mo's 2.88% allocation, this represents approximately 590 kg CO₂e attributable to in4mo.

	2025-01	2025-02	2025-03	2025-04	2025-05	2025-06	2025-07	2025-08	2025-09	2025-10	2025-11	2025-12	Vhteensä	IN4MO share 2.88%
Jätejakeeseen kohdistumaton palvelu	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vaaralliset jätteet	0,017	0	0	0	0,26	0	0	0	0,28	0	0	0,165	0,722	0,0207936
Pahvi	0,896	0,768	0,928	0,872	0,832	0,832	0,928	0,832	0,832	0,976	0,768	0,896	10,36	0,298368
Biojäte	0,48	0,384	0,384	0,432	0,384	0,384	0,432	0,384	0,384	0,48	0,384	0,48	4,992	0,1437696
Sekajäte	0,495	0,396	0,396	0,495	0,396	0,426	0,495	0,42	0,839	0,495	0,396	0,495	5,744	0,1654272
Pakkausmuovi	0,206	0,206	0,257	0,206	0,289	0,396	0,238	0,29	0,317	0,317	0,317	0,396	3,435	0,098928
Tietosuojamateriaali	0,013	0	0	0,013	0	0	0,012	0	0	0,012	0	0,024	0,073	0,0021024
Kartonki	0,448	0,384	0,416	0,416	0,416	0,416	0,416	0,416	0,416	0,448	0,384	0,448	5,024	0,1446912
Keräyspaperi	0,348	0,252	0,348	0,396	0,348	0,348	0,552	0,348	0,396	0,348	0,348	0,3	4,332	0,1247616
Sekalainen puu	0	0	0	0	0	0,6	0	0	0	0,62	0	0,54	1,76	0,050688
Kirkas kalvomuovi	0,009	0,009	0	0,008	0,018	0,016	0,008	0	0,008	0	0,028	0,008	0,112	0,0032256
Pakkausmetalli	0,092	0,092	0,092	0,092	0,092	0,092	0,092	0,092	0,092	0,185	0,092	0,092	1,201	0,0345888
Pakkauslasi	0,192	0,192	0,096	0,096	0,096	0,192	0,096	0,192	0,096	0,192	0,096	0,096	1,632	0,0470016
Energia	0	0	1,34	0	0	0	0	0	2,98	7,4	0	0	11,72	0,337536
Muut	0	0	0	0	0,004	0	0	0	0	0	0,462	0	0,466	0,0134208
Puulavat ja -pakkaukset	0	0	0	0	0	0,64	0	0	0	0,4	0,3	0,12	1,46	0,042048
Yhteensä	3,196	2,683	4,257	3,026	3,135	4,342	3,269	2,974	6,64	11,873	3,575	4,06	53,033	1,5273504

Waste stream	Amount (t)	Factor used*	Estimated CO ₂ e
Hazardous waste	0,501388889	1.41 kg/kg	1.02 t
Ash	0,666666667	~0.057 kg/kg**	0.59 t
Biowaste	0,855555556	0.06 kg/kg	0.30 t
Glass	0,725	0.57 kg/kg	3.27 t
Cardboard	0,427083333	0.07 kg/kg	0.24 t
Data-protection material	0.073	1.05 kg/kg***	0.08 t
Paper	5.024	1.05 kg/kg	5.28 t
Mixed wood	0,569444444	0.02 kg/kg	0.04 t
Clear film plastic	0,077777778	0.07 kg/kg	0.01 t
Metal	0,18125	0.13 kg/kg	0.16 t
Packaging glass	0,480555556	0.57 kg/kg	0.93 t

Energy waste	0,958333333	0.53 kg/kg	6.21 t
Other	0,323611111	0.41 kg/kg***	0.19 t
Batteries/packaging	0,361111111	1.41 kg/kg***	2.06 t
Total	53.033 t		≈20.36 t CO₂e

9. Total CO2

Energy	kg
Electricity	9492,30
District heating	0
Water	71,80
Laptop	351,23
Employee Traveling	881,67
Air travel	46211,8
Waste	590

Total CO2 in KG
57,598.80

10. Conclusion

Based on the calculation, in4mo's total estimated CO₂ emissions are approximately 57,598.8 kg CO₂ (57.6 tonnes). Air travel is by far the largest contributor, accounting for approximately 80% of the total emissions, followed by electricity at around 16.5%. Employee travelling, laptops, water, and waste contribute comparatively smaller amounts.

Overall, the results indicate that reducing business air travel would provide the greatest opportunity for in4mo to reduce its overall carbon footprint, while continued use of renewable energy and improvements in travel and waste management can further support emission reductions.

*Reference Fortum Plus

<EXT>VS: Fortum EkoPlus

HT

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Hi Usman,

The emission of our Ekoplus (Fortum Eko) product is 0 g CO2/kWh. It is produced with renewable energy sources and waste heat, both of which are considered emission-free production methods. Our Eko production is certified with a guarantee of origin of heat. Can you get ahead with this information?

Best regards,

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