



The Finnish Defence Forces

Environmental Report of the Finnish Defence Forces 2024



Contents

	Foreword	3
	Environmental strategy	4
1	Environmental responsibility is integrated into all Finnish Defence Forces activities.....	5
	Environmental management system.....	5
	Considering environmental issues in procurement.....	5
2	Environmental risk management and mitigation of environmental damage are proactive and effective.....	7
	Environmental permits	7
	Climate responsibility and energy efficiency	7
	Soil and water protection.....	8
	Taking natural values into account	11
	Chemical management.....	12
	Risk assessment of explosive storage facilities.....	12
	Investigating the environmental impacts of marine activities.....	13
3	The Finnish Defence Forces play an active societal role in environmental protection	14
	Cross-governmental cooperation	14
	International activities	14
4	Key figures.....	16
	Resources for environmental protection	16
	Contaminated areas.....	17
	Environmental damage	17
	Material recycling and waste.....	18
	Water consumption	19
	Fuel consumption and greenhouse gas emissions.....	20
	Fuel consumption and emissions in crisis management.....	21
	Energy consumption and emissions of properties	22
	Share of renewable sources of energy generation	23
	Summary of greenhouse gas emissions	23

Foreword

Performance through sustainability!

The deteriorated security situation and international activities have been increasingly visible in the environmental work of the Defence Forces as well. At the same time, the environmental crisis is expanding and related demands on the Defence Forces are becoming stricter. The security situation and the environmental crisis affect each other, and it is clear that neither can be ignored. The Defence Forces has always implemented environmental responsibility without compromising the national defence capability. However, now the potential of environmental responsibility has become emphasized in supporting performance. At best, environmental protection and sustainability measures not only enable activities but also improve the opportunities to act.

A good example of improving the opportunities to act is the 10-year development project on environmental protection of shooting and training areas. It has already progressed to its halfway point. In 2024, the development project continued, for example, with building off-road refueling sites and developing waste management solutions.

As biodiversity loss advances, the requirements for safeguarding biodiversity will become stricter. The Finnish Defence Forces will also take this more actively into account in its activities. The areas used by the Defence Forces are valuable as such from the perspective of natural values. Exercise activities also offer opportunities to promote natural values. The Defence Forces' own expertise in nature conservation has been strengthened, and nature conservation cooperation has been developed further.

In 2024, the Defence Forces has also been getting used to operating as part of NATO with regard to environmental responsibility. The internationalization of exercises has required the environmental protection function to develop guidelines and be more actively present. The number of cooperation groups on environmental protection has increased. The Defence Forces has been pleased to note that environmental issues are taken at least as seriously in NATO as they are nationally. The introduction of common standards has been smooth. It has further strengthened the status of environmental responsibility.



Even in the current security situation, the Defence Forces has not forgotten environmental issues and sustainable development. To safeguard the national defence capacity, it is important to be able to deal with environmental threats with others, carry our share of protecting the shared environment and turn the green transition to our advantage.

A handwritten signature in black ink, appearing to read 'Timo Saarinen'.

*Defence Command Chief of Logistics
Brigadier General Timo Saarinen*

Environmental strategy

The titles of the environmental report are based on the Environmental Strategy of the Finnish Defence Forces, which was published in 2021. The environmental strategy includes the target state for 2032 and the actions for achieving the target state. The starting point of the environmental strategy is that all activities of the Finnish Defence Forces are environmentally responsible and that the prerequisites for carrying out the statutory duties of the Finnish Defence Forces are safeguarded in all situations. In the target state, environmental management is of even higher quality than today and an established part of all activities of the Finnish Defence Forces. The development of environmental protection in the Defence Forces focuses on three main objectives, which are further divided into actions (figure below) and more detailed measures under them. Environmental responsibility is everybody's business and is included in all activities as necessary.

The environmental strategy is updated every four years, and the next strategy will be published in 2025.

ENVIRONMENTAL RESPONSIBILITY IS INTEGRATED INTO ALL FINNISH DEFENCE FORCES ACTIVITIES

- Environmental management system
- Guidelines for environmental protection
- Consideration of environmental aspects in projects
- Management of environmental data
- Developing environmental expertise and environmental awareness
- Environmental protection in emergency conditions
- Partnership cooperation

THE FINNISH DEFENCE FORCES PLAYS AN ACTIVE SOCIETAL ROLE IN ENVIRONMENTAL PROTECTION

- Management of community relations
- Environmental communications
- International cooperation
- Cross-governmental cooperation



ENVIRONMENTAL RISK MANAGEMENT AND MITIGATION OF ENVIRONMENTAL DAMAGE ARE PROACTIVE AND EFFICIENT

- Climate responsibility and energy efficiency
- Management of the environmental impacts of shooting activities
- Management of shooting noise
- Soil and water protection
- Management of contaminated sites
- Consideration of natural values
- Consideration of the environmental aspects of explosives lifecycle management
- Chemicals management
- Investigating the environmental impacts of marine activities
- Management of the environmental impacts of military aviation
- Developing the environmental protection in fuel logistics
- Other actions

1 Environmental responsibility is integrated into all Finnish Defence Forces activities

Environmental management system

The operating model of the Finnish Defence Forces' environmental management system was further established in 2024. Internal audits carried out by logistics regiments are part of developing the use of the environmental management system. In addition to audits, the logistics regiments support the units in the preparation and maintenance of environmental management system materials. A general observation made concerning 2024 is that the implementation of practical measures has been proceeding well, even though there are shortcomings in the maintenance of environmental programme documentation.

In 2024, the logistics regiments carried out 31 internal audits. The audits recorded a total of 116 corrective measures

and 43 positive observations. In addition to the audits by logistics regiments, military units have carried out their own internal audits. The audit results are regularly reviewed in internal meetings of the Defence Forces Logistics Command. This ensures that corrective measures are implemented and progress is made. These reviews also take account of the military units' own audits and their results.

Considering environmental aspects in procurement

Including environmental responsibility and sustainability into procurement is important for both national defence and the environment. The environmental criteria of procurement were actively developed in 2024, and the Ecologically Sustainable Procurement project was launched for 2024–2027.



Photo: Satu Hujanen, The Finnish Defence Forces

To support the project, an expert working group was set up with procurement experts from different administrative units of the Finnish Defence Forces as members. The aim of the working group is to map the current situation, identify good practices, and identify what needs to be done, as well as for what kind of procurements it is reasonable to set environmental criteria. Requirements related to environmental criteria should also be developed. Based on the work of the working group, the aim is to develop an operating model on how to put the environmental criteria into practice. The guiding principle of the project is that the sustainability of procurement supports sustainable defence.

The Finnish Defence Forces takes active part in international cooperation on environmental responsibility in procurement. Defence Forces' experts participate in the Green Procurement working group of the European Defence Agency's (EDA) Incubation Forum for circular economy in Defence (IF CEED). The working group focuses on promoting the sustainability of defence materiel procurement. The NORDEF-CO Environment and Hazardous Materials working group also exchanges information and experiences on taking environmental criteria into account in procurement.



Photo: Eero Sallinen, The Finnish Defence Forces

2 Environmental risk management and mitigation of environmental damage are proactive and efficient



Photo: Aku Korhonen, The Finnish Defence Forces

Environmental permits

In 2024, the Finnish Defence Forces received two environmental permit decisions, both issued by the Regional State Administrative Agency for Southern Finland. The permits concerned changing the test firing operations of the Explosives Centre Niinisalo Production Division and using waste in the backstop of the rocket launcher range to be built in the Syndalen shooting and training area. The environmental permit for the increased test firing activities at the Explosives Centre Niinisalo is valid for a fixed period until the end of 2029. The changed security environment has required that ammunition production be increased, which in turn has required an increase in test firings. Test firing ensures the quality of the products.

The permit for the construction of the backstop for the Syndalen rocket launcher range, on the other hand, enables the materials recovered from the operations of a steel plant to be used for building barrier structures. This saves virgin natural resources and promotes the circular economy.

In addition, in 2024, three Defence Forces fuel distribution points were registered in the environmental protection information system. Centres for Economic Development, Transport and the Environment (ELY Centres) carried out periodic inspections in accordance with environmental permits at 11 sites.

Climate responsibility and energy efficiency

Roadmap for emission reductions at the Finnish Defence Forces

The Defence Forces consumes transport fuels in land vehicles, marine traffic and military aviation for such purposes as troop training, training, mobility and transportation of troops and for regional surveillance tasks. The consumption of transport fuels is the most significant source of greenhouse gas emissions in the Defence Forces and a factor intensifying climate change. The volume of consumption is affected by the number of kilometers driven, which in turn



Photo: The Finnish Defence Forces

reflects the security situation and, for example, the activity level in international cooperation. However, emissions can be reduced at least proportionally by increasing the use of renewable fuels.

In 2022, the Ministry of Defence set a target for the Defence Forces to halve their emissions from fuel consumption in land and marine traffic by the end of 2030, compared to 2020. The aim was also to examine the possibilities of reducing emissions from military aviation. To achieve the tar-

gets, a roadmap for emission reductions was drawn up in 2023 on how to proceed towards them. The roadmap set targets for gradually increasing the share of renewable fuels. The target only concerned land transport, but renewable fuels have also been used in marine and military aviation fuels. In 2024, due to increased consumption, emissions were 17% higher than those calculated for 2020, but in relation to consumption, emissions have decreased by 11%. In the coming years, the aim is to increase the share of renewable fuels in land transport above the distribution obligation.

In addition, aviation fuel consumption is estimated to include a few per cent of renewable fuel. Technically, the share of renewable fuels could be higher, but their price and availability limit the use.

Soil and water protection

Master plan for surface water management and soil surveys of Pohjankangas

A plan for surface water management was drawn up for the Pohjankangas shooting and training area. It enhances the water protection of the shooting, explosion and training areas using natural methods. The surface waters entering the operating areas can be channeled past the sites, and



Roofed firing point for 300 m rifle range



Situational shooting range

Renovations in accordance with the environmental permit for the Hälvälä shooting range

In 2024, all the ranges for different types of shooting on the Hälvälä shooting range were finally put into the kind of condition required by the shooting range's environmental permit. The Hälvälä shooting range has a total of eight ranges for specific types of shooting, of which four were renovated (300 m rifle range, 150 m rifle range, situational shooting range and movement target range). The renovation included the cleaning of the backstop from contaminated soil, the installation of groundwater protection structures for the backstop and the construction of noise protection for the roofed rifle firing point.



Photo: The Finnish Defence Forces

the surface waters leaving the operating areas can be channeled from drainage ditches as surface run-off to undrained mires or wetlands. In practice, water would be managed by filling or damming up old ditches or digging feeder ditches. Possibilities of implementing shallow water wetlands and flood areas on flow paths by means of damming were also investigated. In some of the operating areas, surface waters were already found to be flowing as run-off through natural mires to ditches or water bodies. In such cases, water protection could not be enhanced any further with natural water protection structures.

The plan proposes several water protection solutions for the operating areas. Solutions may be introduced on sites where run-off waters may pose risks to sensitive natural areas or where increased levels of contaminants are continuously and persistently detected in surface waters.

Complementary soil surveys were also carried out in nine areas in the Pohjankangas shooting and training area. Samples were taken from surface soil using the so-called multi-incre-

ment sampling method. The surveys mainly focused on the firing points and target areas. The samples were examined for the concentrations of metals, explosives and their degradation products as well as powder components, petroleum hydrocarbons and perfluorinated compounds. The results of the studies will be utilized for developing environmental protection in the area.

Improvement project of shooting and training areas

The ten-year improvement project of shooting and training areas started in 2019 and reached its midway point in 2024. In 2024, the project implemented off-road refueling sites with soil and groundwater protection for the Pahkajärvi-Selänpää and Räyskälä training areas. The Säskylä fire combat and rescue training site was expanded, and its water treatment systems were improved. In addition, a plan for waste management was drawn up for the Vuosanka shooting and training area and a biowaste collection system for the Pahkajärvi lake was implemented. The risk assessment of the impacts on nature of the shooting and training areas was completed.



Selänpää



Räyskälä

Off-road refueling sites at Räyskälä and Selänpää

The purpose of off-road refueling sites is to protect the soil and groundwater when refueling vehicles in the field. Soil protection structures were built in the areas using asphalt, concrete and HDPE plastic mat. The areas are drained to the terrain through oil separation systems.



Säkylä fire combat and rescue training site

The expansion of the Säkylä fire combat and rescue training site improved the protection of soil and surface waters by expanding the structures of the existing training site and improving the efficiency of water treatment to better correspond with the current activities.



Pahkajärvi biowaste container

In late autumn, a biowaste container was built in the Pahkajärvi shooting and training area in connection with the loading dock of the cooking shelter. The volume of the concrete element container is 12 cubic meters. The container is emptied using a vacuum truck. There is an access with steel rails to the container from the dock. The container collects the biowaste from field cookers and field meals which were previously delivered to the Vekaranjärvi garrison. Thanks to the biowaste container, there is no longer need for extra traffic and transportation of biowaste between the training area and the garrison.

**Activated carbon container****Full storage containers**

Restoration of groundwater containing explosive agents using activated carbon in Taipalsaari shooting and training area

A pilot study was carried out in Taipalsaari shooting and training area to examine the functionality of activated carbon treatment in the purification of groundwater containing explosive agents. A total of 100,000 liters of water containing explosive agents was pumped into storage bladders through an activated carbon filtration unit from a depth of more than 40 m. During pumping, the concentrations of explosive agents in the water were monitored by taking water samples before and after activated carbon filtration. The activated carbon proved to work very well in binding explosive agents: before filtration, the concentrations of TNT and RDX in water exceeded the substance-specific environmental quality standards, but no concentrations were found in the waters after the filtration.

Photos: Defence Properties Finland

Taking natural values into account

Natural values are taken into account in all Defence Forces activities, including the planning of exercises and construction projects. Especially in 2024, studies focused on sites where endangered species occur in areas administered by the Finnish Defence Forces.

The sun-exposed habitat built next to the Säkylä shooting and training area barrier was monitored between 2013 and 2024. Plant seeds and saplings were planted and endangered species relocated in the area. The development of vegetation and the subsequent occurrence of insects has already been monitored six times on the same sites. The natural vegetation for a sun-exposed habitat has developed slowly. At the front of the backdrop barrier, which is exposed to wear, the plants have not developed as desired. At the back of the barrier, on the other hand, the vegetation has become established. The number of plants thriving in the sun-exposed habitat on the site has increased from three to nine species over a ten-year period. The number of plant species will be increased in the coming years by re-



Photo: Defence Properties Finland

locating new plants. The monitoring covers nine different types of insects. Some of the insects require an open terrain exposed to wear. For example, the rattle grasshopper thrives in the sand pits of the shooting range. Butterflies would benefit from relocations to increase the volume of, for example, wild thyme, which is naturally slow to regenerate. Pines should also be cleared to keep the site open. Monitoring of the site and the development of the sun-exposed habitat will continue in the coming years.

Chemical management

The Finnish Defence Forces launched a national restoration project for chemical sites in 2024. The project will renovate all chemical sites to comply with current chemical and environmental regulations.

Environmental risk assessments will be utilized in the planning of the sites. The necessary measures will be assessed based on the purpose of the use and the environmental conditions in the area.

Due to the increase in international exercises, several new environmental protection structures have been planned. Their construction on shooting and training areas began in 2024. Environmental protection structures are made to manage chemical risks in, for example, off-road refueling and equipment storage and washing activities.

New fuel distribution stations were built in three garrisons around Finland, and two new distribution stations will be completed in early 2025.

Risk assessment of explosives storage facilities

The Defence Forces conducts environmental risk assessments for areas with explosives storage facilities. The Environmental Protection Act requires that operators have sufficient knowledge of the environmental impacts and risks of their operations, and of ways to reduce adverse impacts. The environmental risk assessment assesses the risk of operations, especially for groundwater, but also for surface water and soil.



Photo: Defence Properties Finland



Photo: Joni Ilmanen, The Finnish Defence Forces

The starting point for the environmental risk assessment of explosives storages is that normal operations do not pose an environmental risk to groundwater or surface water. However, the environmental risk assessment also assesses the impacts of a potential explosives accident on groundwater and surface water. The environmental risk statement provides instructions for follow-up measures.

The environmental risk assessment of explosive storage facilities was developed in 2024 so that sites with important nature values were also included in the assessment in addition to surface and groundwater.

Investigating the environmental impacts of maritime activities

Marine environmental impact assessments were conducted in 2024 by means of sediment surveys (2) and underwater noise measurements. The impacts of maritime activities were studied from sediments both in shallow offshore areas and in deep-sea areas. According to the results, the activities have not caused sediment pollution. Underwater noise emissions and their impacts were measured at different depths and distances. Top noise levels and impact distances for fish and marine mammals were measured for the noise emissions from marine operations.

3 The Finnish Defence Forces plays an active societal role in environmental protection

Cross-governmental cooperation

The Defence Forces organizes an annual one-day discussion event between the Defence Forces' environmental experts and environmental authorities. The events address topical issues and challenges related to environmental permits in particular. In 2024, the event was organized as a remote meeting with 19 authorities from the Centres for Economic Development, Transport and the Environment (ELY Centres) and Regional State Administrative Agencies, as well as experts from the Defence Command and the Finnish Defence Forces Logistics Command.

In addition, the ELY Centre for Lapland made a visit to get acquainted with the functions of the Rovajärvi shooting and training area.

International activities

In 2024, environmental responsibility work became clearly more international than before. The participation of foreign troops in exercises has increased, and more English-language instructions and support are needed in the practical implementation of environmental protection measures. In addition to NATO cooperation forums, the Defence

Forces participates actively in EDA and NORDEFECO cooperation groups related to, for example, sustainable procurement and the management of the environmental impacts of shooting activities. Defence Properties Finland's environmental experts also participate actively in international environmental cooperation.

As a result of NATO membership, the ratification and implementation of the common NATO standards in the Finnish Defence Forces has also been part of the work in 2024. The Defence Forces has been familiar with NATO environmental protection standards, and its own activities have already been fairly compatible with them. In 2024, the standards concerning the coordination of the planning process and environmental system of operations and the monitoring and documentation of environmental protection during military operations were ratified. The NATO Standardization Agreement (STANAG) includes five Allied Joint Environmental Protection Publication (AJEPP) standards, in addition to which other sets of standards also contain environmental guidelines. Cooperation related to the maintenance of standards and other environmental protection is carried out in the NATO Working Group on Environmental Protection (EPWG),



Photo: Oscar Halminen, The Finnish Defence Forces



Nordic Response 2024

The extensive international Nordic Response 2024 exercise (NR24) carried out in Northern Finland and Norway in spring 2024 serves as an example of internationalizing exercise activities. International maps and guidelines related to environmental and nature conservation were drawn up for the exercise. The planning, carried out in cooperation with Norway and Sweden, took several months. The exercise was mainly carried out on private lands. It meant that the operations had to be planned with extra care. A total of five environmental protection experts participated in the exercise in different organizations and at different stages of the exercise.

Photos: The Finnish Defence Forces

in which Finland was involved for many years even before joining NATO.

In addition to NATO cooperation, bilateral cooperation with the United States was prepared in 2024 in accordance with the DCA signed in December 2023. More detailed arrangements for environmental protection will be agreed upon by means of an Implementing Arrangement (IA) document, supplementing the agreement, in 2025. Cooperation with Sweden has also been developed systematically, and the guideline for host country support relating to this collaboration has also included environmental protection entries.

Crisis management creates one international dimension of environmental responsibility. When an operation is set up, an environmental baseline report is prepared and, when the operation ends, a camp-specific national final report on environmental protection is prepared. Finland ended its participation in the crisis management operation in Iraq at the end of 2024. At the time of setting up the Iraqi camp (2016), a baseline report was prepared to determine the state of the area before the camp. The final report examined the operation of Camp Lion and its potential environmental impacts by comparing them with the results of the baseline study. Finns operated at Camp Lion for seven years. The participants had been instructed to take environmental issues

into account, so no environmental impacts caused by the camp activities were observed in the area. The greatest environmental risks were associated with the use of petroleum products and the storage of cars.

National environmental protection reports on crisis management operations in previous years have been prepared, for example, on the operations in Afghanistan, Lebanon, Kosovo and Bosnia-Herzegovina.



Photo: Ella Haataja, The Finnish Defence Forces

4 Key figures

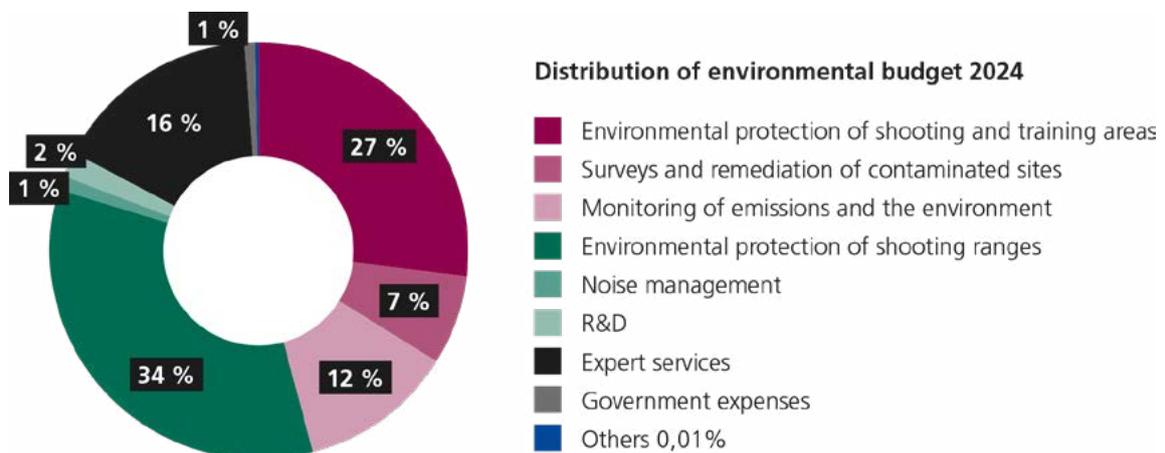


Photo: The Finnish Defence Forces

Resources for environmental protection

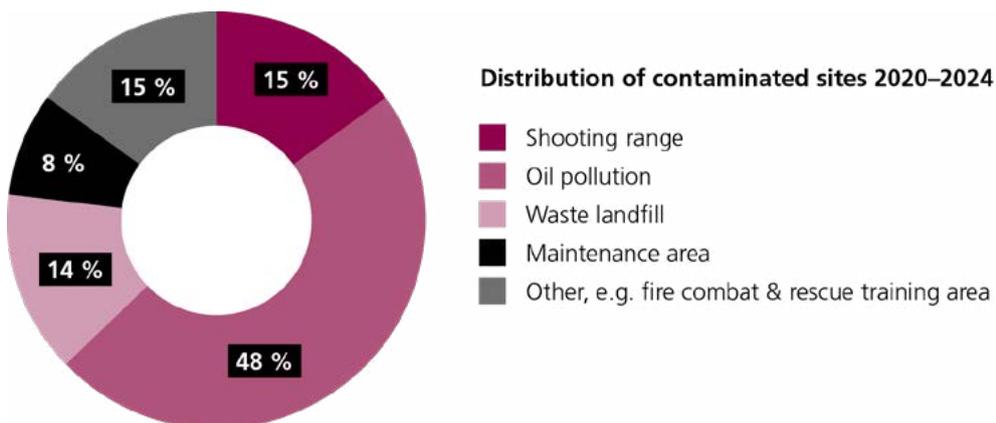
For quite a long time the budget reserved for environmental protection in the Defence Forces has been approximately 4 million euros a year. In many years, the funding has been found insufficient. This also applied to 2024, when the deficit was adjusted with additional funding of 1 million euros at the end of the year. The need for additional funding is due to the general increase in costs and the large number of sites in need of remediation. Most of the additional funding granted was transferred to 2025, as it was not sensible to launch projects during the winter.

The most financially significant projects implemented in 2024 were the implementation of the environmental protection structures of the Hälvälä shooting range, the completion of the off-road refueling site in Selänpää-Pahkajärvi, the construction of the Räyskälä off-road refueling site and the expansion of the Säkylä fir fire combat and rescue training area.



Contaminated areas

Remediation work was done on four sites in 2024. Two of these were related to oil pollution and two to waste. Surveys were conducted at 10 sites, most of which were related to suspected oil pollution. Surveys were also conducted at maintenance sites and in fire and rescue training areas.



Year	Inspected sites (pcs)	Remediated sites (pcs)
2020	3	11
2021	6	8
2022	7	6
2023	10	8
2024	10	4
Total	36	37

Environmental damage

In 2024, a total of 76 environmental damages were reported. All of them were small (< 100 l) fuel or hydraulic oil leaks due to vehicle damage, overfilling or other human error.

Environmental damage (pcs)	2020	2021	2022	2023	2024
Small (< 100 l)	75	77	66	59	76
Medium-sized (100 to 1,000 l)	3	11	2	8	-
Large (> 1,000 l)	-	-	1	-	-

Material recycling and waste

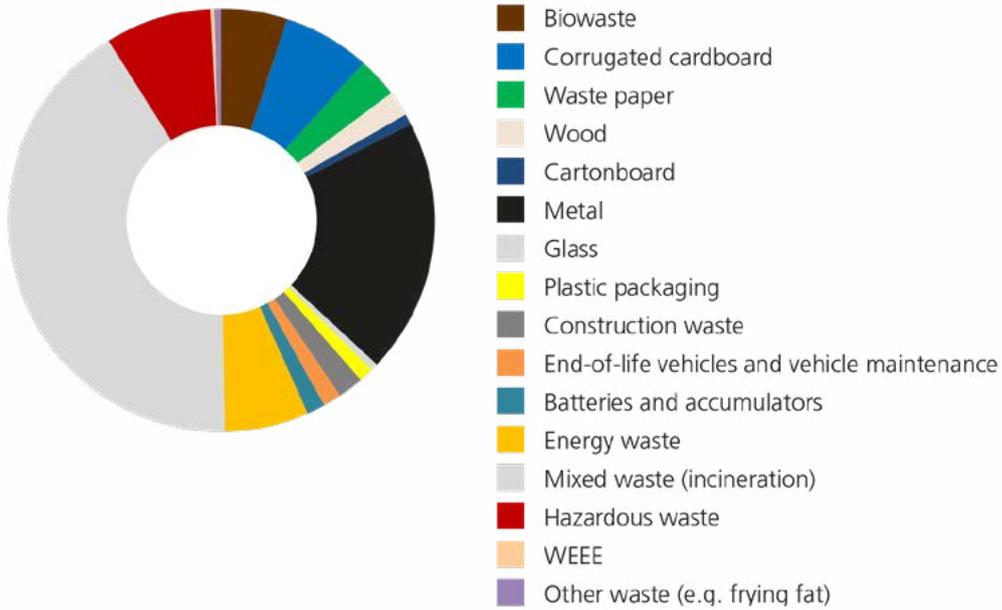
Defence Properties Finland provides the Finnish Defence Forces with municipal waste management services and is responsible for monitoring waste volumes. Most of the waste produced by the defence administration comparable to municipal waste is included in the monitoring. In addition to the above, waste fractions managed by the Finnish Defence Forces under their own agreements include electrical and electronic waste (WEEE), metal scrap and hazardous waste.

In 2024, the total amount of waste increased by 2% from 2023. This is explained, for example, by an increase in the recycling of batteries and accumulators and an increase in the amount of waste generated during vehicle maintenance and the number of end-of-life vehicles. The latter also includes recyclable tires and pre-treated vehicles.

The amount of mixed waste has increased slightly from the previous year, while the amount of biowaste has continued to decrease. The Defence Forces and Defence Properties Finland continue their active efforts to increase the recycling rate. In 2025, Defence Properties Finland will carry out a sorting campaign.

Waste fractions by type of treatment (tonns)	2020	2021	2022	2023	2024
Recycled materials, total	4 341	4 395	4 104	3 525	3 834
Biowaste	610	677	613	506	464
Corrugated cardboard	382	353	424	490	579
Waste paper	264	283	815	277	259
Wood	210	231	265	25	191
Cartonboard	58	67	67	61	54
Metal	2 680	2 609	1 529	1 593	1 727
Glass	49	56	48	67	49
Plastic packaging	14	37	54	178	88
Construction waste	74	82	239	296	179
Batteries and accumulators			45	11	128
Rubber			6		
End-of-life vehicles and vehicle maintenance				22	116
Energy recovery	405	431	466	585	556
Energy waste	405	431	466	585	556
Waste incineration, total	3 488	3 823	4 412	3 663	3 674
Mixed waste	3 488	3 823	4 366	3 637	3 668
Incineration of waste failing to meet energy efficiency requirements			45	26	6
Separate processing, total	997	790	640	874	768
Hazardous waste	727	605	533	835	710
Other waste (e.g. frying fat)	25	18	17	20	34
Electrical and electronic waste (WEEE)	245	167	91	19	24
TOTAL AMOUNT OF WASTE	9 231	9 439	9 622	8 648	8 832

Waste distribution 2024



Water consumption

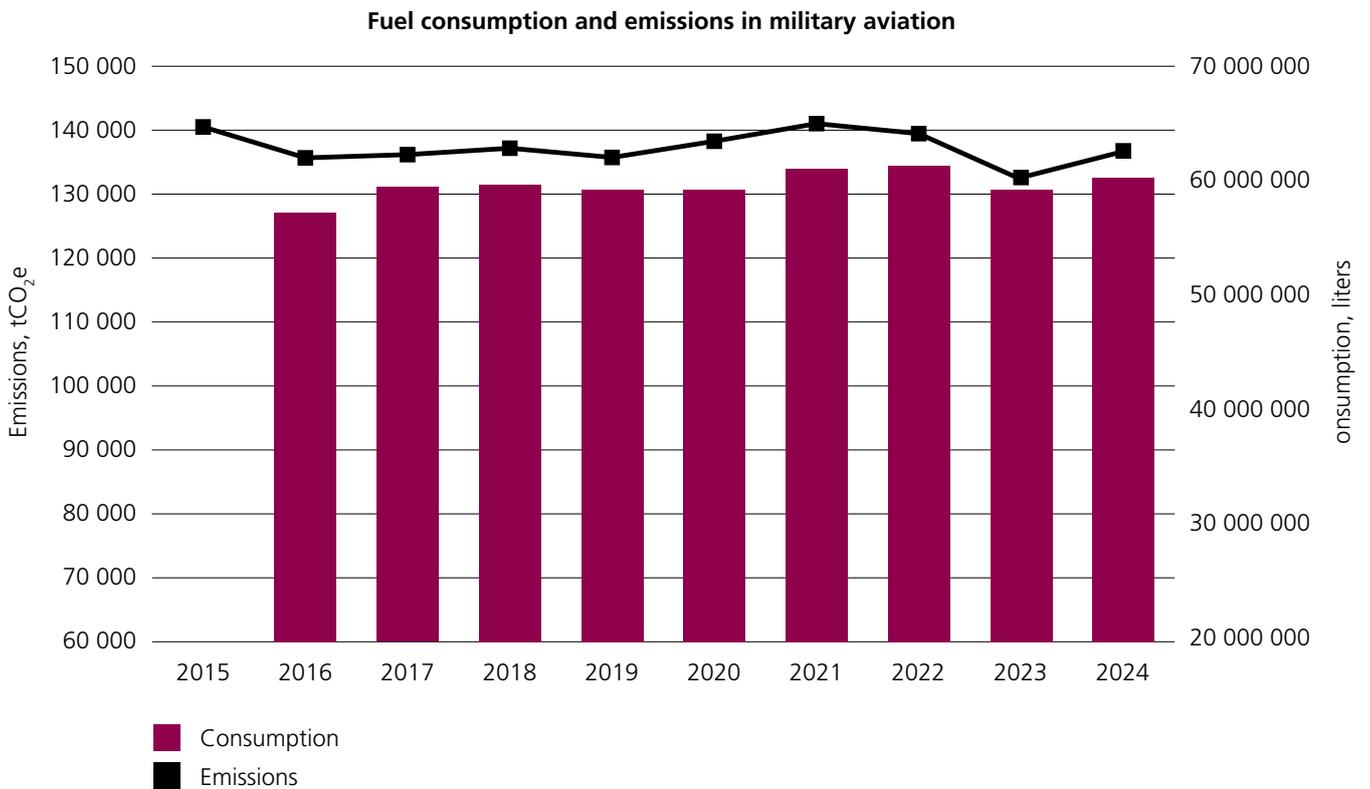
Since 2010, the water consumption of the Finnish Defence Forces (about 1 million m³/a) has decreased annually due to reductions in operations and measures aimed at reducing water consumption in properties. After this, consumption has remained fairly stable.

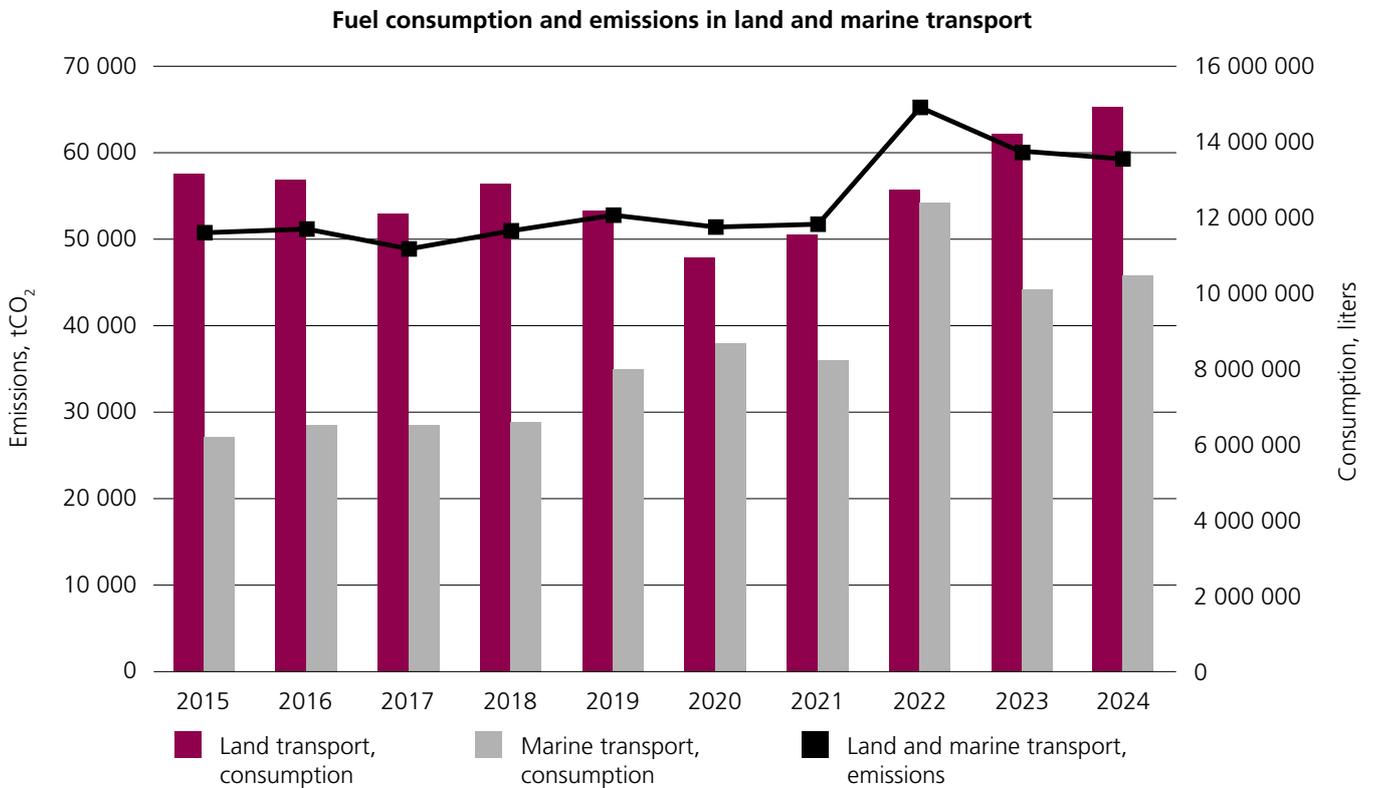
Water consumption



Fuel consumption and greenhouse gas emissions

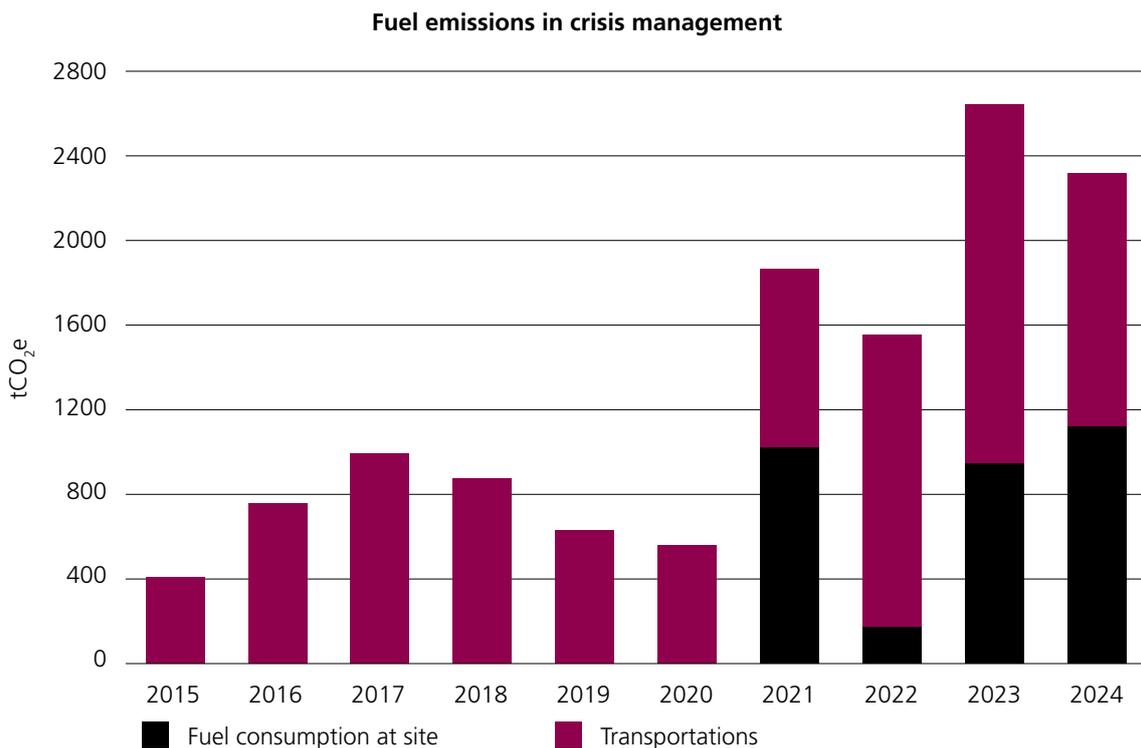
In 2024, the share of renewable fuel in land transport fuels was 13,5 %, i.e. in line with the general distribution obligation. In addition, about 10 % of the marine fuels were such that they contained enough renewables to reach the share required by the distribution obligation (13,5 %). Marine transport sector mainly uses fossil fuels, as not all engine types have been approved for renewables. According to data, fuel used in military aviation contains a few per cent of synthetic (renewable) fuel. This has been included in the calculation for 2024 (share of renewables 2 %).





Fuel consumption and emissions in crisis management

In crisis management, fuel emissions consist of international transports and fuel used at site. The fuel used at site was not reported before 2021.

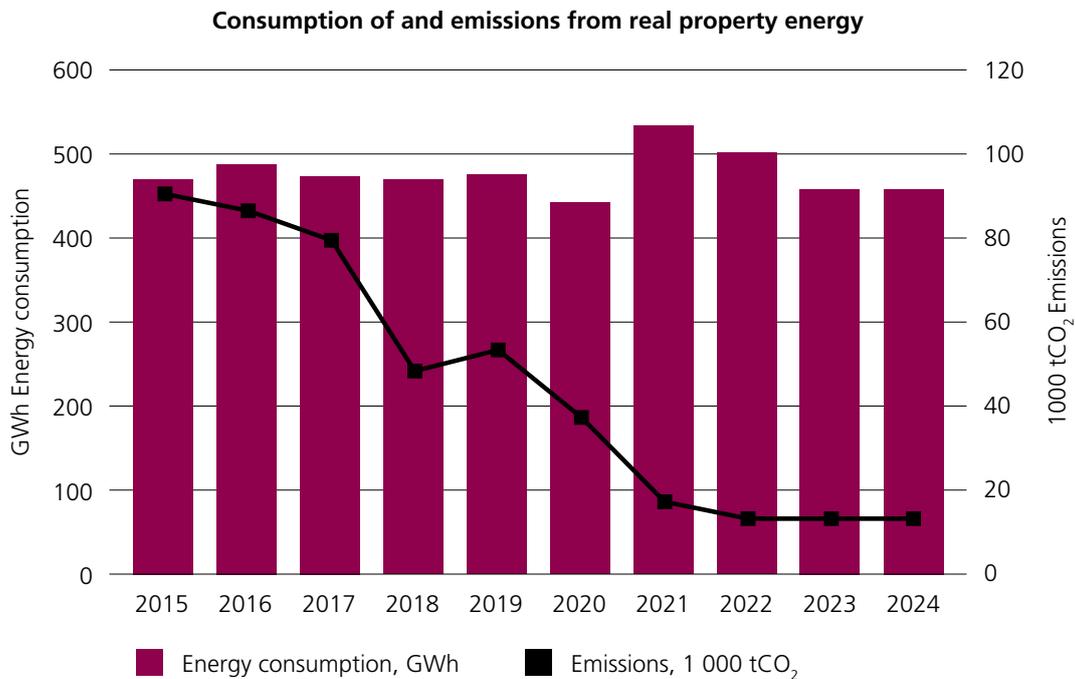


Energy consumption and emissions of properties

Defence Properties Finland is responsible for the Defence Forces’ energy supply and emission reduction measures related to property energy consumption. Defence Properties Finland also reports on energy consumption and emissions as part of the Senate Group’s sustainability reporting.

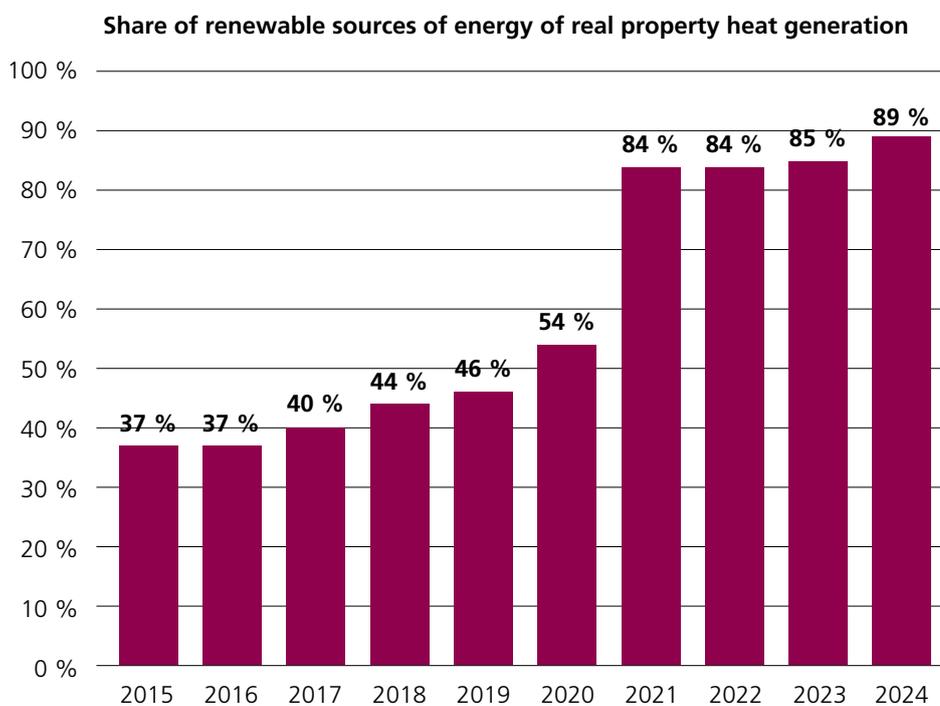
Over the past 10 years, CO₂ emissions from property energy have decreased significantly from about 50 000 tCO₂/a to 13 000 tCO₂/a. The Energy and Climate Programme 2021–2025 estimated that a 60 % reduction in emissions from the level of 2020 will be achieved by 2025. This target was already achieved in 2022 (64%), but since then emissions have remained roughly unchanged. The main factors contributing to reduced emissions have been the increased use of carbon-neutral district and regional heat and the replacement of oil heating sites with fossil-free energy solutions. Electricity has been carbon neutral since 2018.

	2020		2021		2022		2023		2024	
	MWh	tCO ₂								
Heat consumption	235 180	36 610	295 650	16 900	273 850	13 150	245 170	12 700	243 456	13 121
Electricity consumption	205 570	0	236 360	0	225 790	0	211 570	0	218 436	0
Total	440 750	36 610	532 010	16 900	499 640	13 150	456 740	12 700	461 894	13 121



Share of renewable sources of energy generation

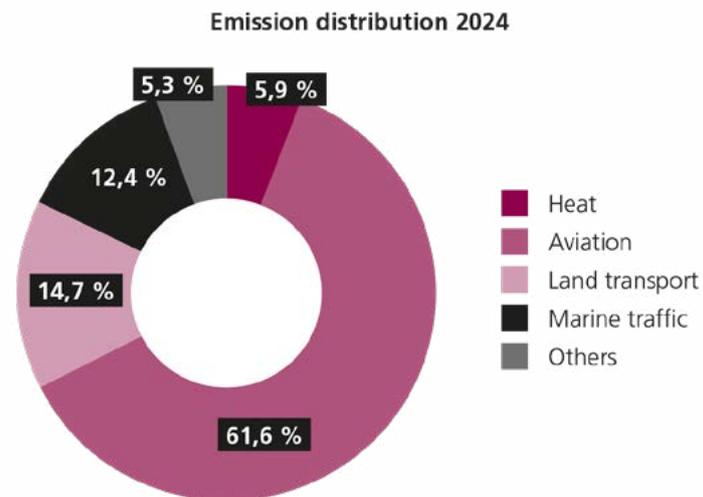
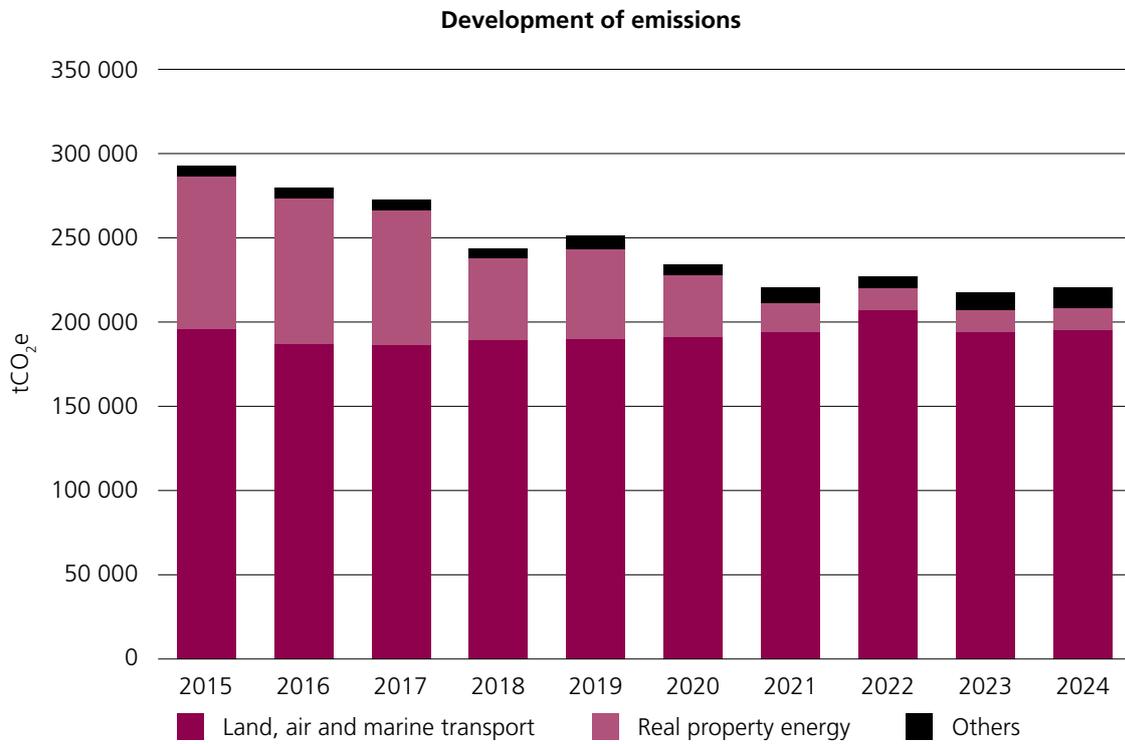
In heat production, the large share of renewables has been achieved through competitive tendering and by moving away from fossil oil heating also at sites with own heating.



Summary of greenhouse gas emissions

Emission source	2020 1 000 tCO ₂ e	2021 1 000 tCO ₂ e	2022 1 000 tCO ₂ e	2023 1 000 tCO ₂ e	2024 1 000 tCO ₂ e
Heat	37	17	13	13	13
Electricity	0	0	0	0	0
Military aviation	139	141	140	133	136
Land transport	28	30	33	34	33
Marine traffic	23	22	33	27	27
Official travel*					5,2
Materiel decommissioning	3,3	4,6	3,4	3,5	3,3
Emergency power	1,0	1,2	0,7	0,8	0
Crisis management	0,6	1,9	1,6	2,6	0
Refrigerants	1,8	1,9	1,8	4,0	3,3
Total	233	220	226	217	221

*In 2024, official travel by air and train has been added to the summary of greenhouse gas emissions.





The Finnish Defence Forces
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