



Climate account 2022

Scope 1, 2 & 3
NIRÁS A/S

November 2023

Content

1	Executive summary	3
2	Introduction	5
2.1	Reporting period	5
2.2	Organizational boundaries and method	5
2.3	Improvements and re-calculation	6
3	Results 2018 - 2022	7
3.1	Emissions from energy	9
3.2	Emissions from transport	10
3.3	Emissions from purchased goods and services	11
4	Location based approach	13
5	Key Performance Indicators	13
6	Method	14
6.1	Location based and market based method	15
6.2	Data	15
6.2.1	Energy data and estimates	15
6.2.2	Fuel use in company vehicles	15
6.2.3	Business travel by air flight	16
6.2.4	Business travel in employee vehicles	16
6.2.5	Purchase data	16
<hr/>		
	Appendix 1: Emissions factors	17

1 Executive summary

This climate account reports the Scope 1, 2 and 3 emissions for the Danish consultancy company NIRAS A/S Denmark. NIRAS is an international multidisciplinary consultancy company headquartered in Denmark with activities in countries across the world.

The aim of the climate account is to estimate the greenhouse gas (GHG) emissions caused by NIRAS' activities in Denmark in 2022. NIRAS A/S climate account 2022 is based on the standards and methods of the Greenhouse Gas Protocol¹.

The total scope 1, 2 and 3 emissions from NIRAS' Danish activities **in 2022 are 10.538 ton CO₂ equivalents (CO₂e)**. The development of emissions in the years 2018-2022 is shown in Table 1.1 and Figure 1-1.

Table 1.1 Total scope 1, 2 and 3 emissions in 2018-2022 (following the market based approach) distributed in scopes and consumption categories.

Ton CO ₂ e Scopes	2018	2019	2020	2021	2022	% Distribution in 2022	% Development 2021-2022
Scope 1	577	725	662	811	702	7%	-13%
Scope 2	1.012	1.115	1.012	1.006	348	3%	-65%
Scope 3	13.030	11.799	8.468	9.316	9.488	90%	2%
Total	14.619	13.639	10.141	11.133	10.538	100%	-5%

Ton CO ₂ e Consumption categories	2018	2019	2020	2021	2022	% Distribution in 2022	% Development 2021-2022
Energy	1.495	1.740	1.562	1.707	830	8%	-51%
Transport	3.511	3.237	1.771	1.754	2.585	25%	47%
Purchase of goods and services	9.614	8.661	6.808	7.672	7.124	68%	-7%
Total	14.619	13.639	10.141	11.133	10.538	100%	-5%

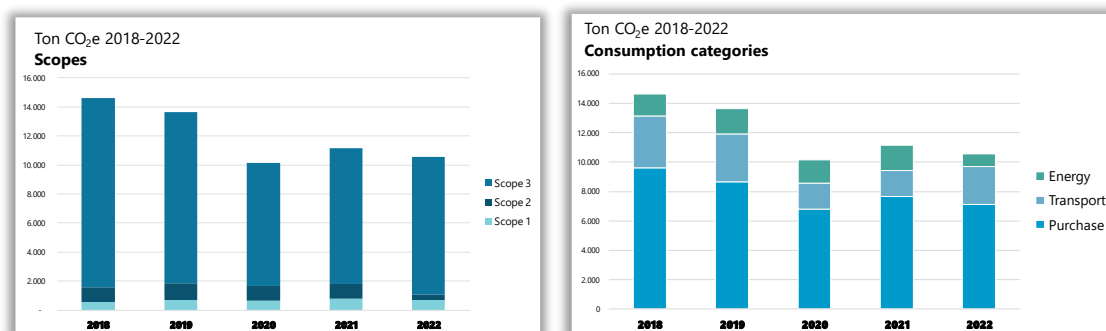


Figure 1-1 Total emissions in 2018-2022 distributed in scopes (left) and consumption categories (right).

Total emissions have decreased by 5% from 2021 to 2022. The climate account 2022 has switched to calculating results using the market based approach, following the GHG-Protocol, instead of the former location based method. Results from 2018-2021 have been re-calculated and results across years are comparable.

¹ ghgprotocol.org/standards

In 2022 we see a more normalized consumption pattern since the pandemic. When relating to the year 2019, we however still assume to see a shift to more working from home and Teams meetings causing a lower level of transport to meetings and overall less consumption related to being at the office.

In 2022, emissions from energy consumption have decreased by 51%. This is mainly due to the purchase of green certificates covering a large share of NIRAS' total electricity use.

Emissions from transport activities increased by 47%, after a drastic decrease during the pandemic, indicating that travel activities are returning to normal.

Emissions from purchases has decreased by 7%. This is due to various factors and mainly a higher quality data processing method which now processes every purchase made instead of more grouped purchase account categories.

2 Introduction

This climate account reports the Scope 1, 2 and 3 emissions for the Danish consultancy company NIRAS A/S Denmark. NIRAS is an international multidisciplinary consultancy company headquartered in Denmark with activities in countries across the world.

The aim of the climate account is to estimate the greenhouse gas emissions caused by NIRAS A/S Denmark's activities in 2021. NIRAS A/S climate account 2021 is based on the standards and methods of the Greenhouse Gas Protocol².

2.1 Reporting period

This climate account covers NIRAS' activities in Denmark in the period January 1st to December 31st 2021. The 2018 account is calculated as the base year and results are presented from 2018-2021.

The climate account is reporting annually and currently reported half a year behind the financial reports, due to delays in data from landlords and suppliers.

2.2 Organizational boundaries and method

This climate account includes the Danish part of NIRAS A/S. The operational boundary covers emissions caused by activities executed out of NIRAS' operations in offices located in Denmark. All Danish offices are included in NIRAS' Climate Account 2022. These are:

Allerød	Kolding	Holstebro	Esbjerg
Aalborg	Odense	København	Kalundborg*
Aarhus	Holbæk	Næstved	

*New in 2022.

For this inventory, all internal activities are included. In this context, external activities refer to those conducted on behalf of projects, for which NIRAS act as consultant. As an example, the purchases for external projects, such as material for construction of roads, is excluded from the account. Activities related to NIRAS services on the project are included. As an example the business travel activities for NIRAS employees on projects is included.

This climate account includes all scope 1 and 2 emissions, as well as the majority of 3 emissions, from NIRAS' activities. The following consumption categories within scope 1 and 2 are included:

Categories included	
Scope 1	Natural gas for heating Use of company cars*
Scope 2	Electricity Electricity use in company cars District heating

Within the 15 scope 3 emission categories³, Table 2.1 shows which categories are included and which are excluded. Six categories are included (white) and nine categories excluded (grey) or included in one of the other categories .

² NIRAS' climate account is reported based on the principles of The Greenhouse Gas Protocol A Corporate Accounting and Reporting Standard, revised edition, GHG Protocol Scope 2 Guidance and the Corporate Value Chain (Scope 3) Accounting and Reporting Standard.

³ Following the Greenhouse Gas Protocol.

Table 2.1 Overview of included and excluded scope 3 categories, following the Greenhouse Gas Protocol, in this climate account.

Scope 3 categories	Comment
1. Purchased goods and services	Included.
2. Capital goods	Included in category 1, and not specified separately.
3. Fuel- and energy-related activities	Included.
4. Upstream transportation and distribution	Only reported separately in 2022.
5. Waste generated in operations	Included in category 1, and not reported separately.
6. Business travel	Included.
7. Employee commuting	Not included.
8. Upstream leased assets	No leased assets, besides company cars included under cat 1 and Scope 1 / 2 (for fuel / electricity consumption).
9. Downstream transportation and distribution	Not relevant.
10. Processing of sold products	Not relevant - no sale of physical products.
11. Use of sold products	Not relevant - no sale of physical products.
12. End-of-life treatment of sold products	Not relevant - no sale of physical products.
13. Downstream leased assets	Not relevant - no leased assets.
14. Franchises	Not relevant - no franchises.
15. Investments	Not relevant.

The results of this climate account are presented on both a market based and location based calculation approach. NIRAS has chosen the market based approach as the primary reporting since the 2022 account due to the purchase of green certificates for electricity. The difference between the two methods is explained in the Method section 6.1.

2.3 Improvements and re-calculation

NIRAS has conducted their climate account since 2013. 2018 was the first year that the climate account included a full scope 3 inventory, including emissions from purchased goods and services.

For the climate account of 2022, the calculation method switched to the market based method and the years 2018-2021 were re-calculated. In 2022 NIRAS has purchased green certificates for a large share of electricity, which is represented in the results as a decrease in emissions from electricity.

During the preparation of this 2022 account updates which affect the scope 3 emissions, have been made. This mainly relates to the detail level that purchase data has been processed on. Former years data from purchase was processed on a more grouped level and the 2022 data on a more detailed level. This has caused a shift in some emissions, for example the shift of some emissions related to purchase that has now been processed as transport. Overall the results are comparable from 2018-2022 and the 2022 results have higher validity and quality.

Another improvement is the use of supplier specific emission data from the canteen supplier of the Allerød office, where monetary values were used before. This gives the ability to follow emissions more accurately calculated from the various food groups that go into preparing the food.

3 Results 2018 - 2022

The total emissions from NIRAS A/S' Danish activities in 2022, calculated by the market based method, were **10,538 Ton CO₂e**. Results are listed in scopes and scope categories in Table 3.1 and visualized in Figure 3-1.

Table 3.1 Total emissions 2018-2022 in scope 1, and 2 and scope 3 distributed in relevant scope 3 categories..

Ton CO ₂ e		2018	2019	2020	2021	2022	% of 2022 emissions	% Development 2021-2022	
Scope 1		577	725	662	811	702	7%	-13%	
Natural gas for heating		277	382	346	501	347	3%	-31%	
Use of company cars		300	343	316	310	355	3%	15%	
Scope 2		1.012	1.115	1.012	1.006	348	3%	-65%	
Electricity		902	1.019	955	938	271	3%	-71%	
District heating		110	96	57	58	53	1%	-8%	
Electricity in company cars		-	-	-	10	23	0%	129%	
Scope 3		13.030	11.799	8.468	9.316	9.488	90%	2%	
Purchased goods and services*	Category**	1	10.016	8.771	6.824	7.687	7.296	69%	-5%
Upstream fuel- and energy use		3	297	329	281	288	251	2%	-13%
Upstream transportation and distribution		4	-	-	-	-	12	0%	
Business travel		6	2.717	2.699	1.362	1.341	1.928	18%	44%
Total		14.619	13.639	10.141	11.133	10.538	100%	-5%	

*Includes emissions from categories 2, 4 (year 2018-2021) and 5 that are not reported separately.

**Scope 3 category following the Green House Gas Protocol Scope 3 Guidance.

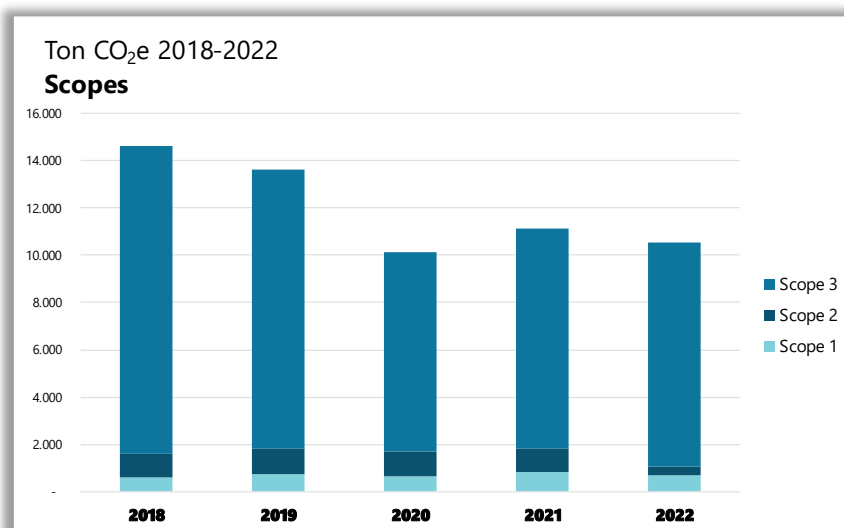


Figure 3-1 Distribution of emissions on scopes for 2018-2022.

In Table 3.2 and Figure 3-2 the total emissions are distributed into energy-, transport- and purchase related emissions.

Table 3.2 Scope 1, 2 and 3 emissions distributed in to energy-, transport- and purchase related emissions from 2018-2022.

Ton CO ₂ e*	2018	2019	2020	2021	2022	% of 2022 emissions	% Development 2021-2022
Energy	1.495	1.740	1.562	1.707	830	8%	-51%
Transport	3.511	3.237	1.771	1.754	2.585	25%	47%
Purchase of goods and services	9.614	8.661	6.808	7.672	7.124	68%	-7%
Total	14.619	13.639	10.141	11.133	10.538	100%	-5%

*Incl. scope 1, 2 and 3 emissions.

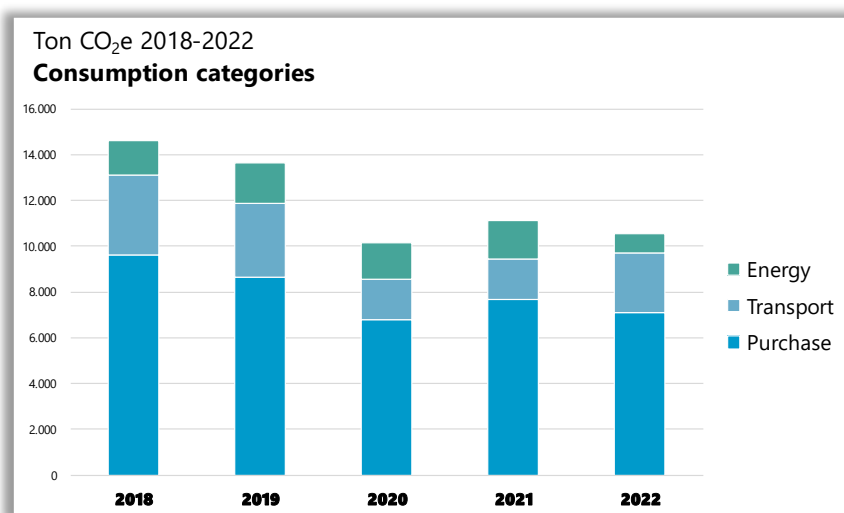


Figure 3-2 Scope 1, 2 and 3 emissions distributed in to energy-, transport- and purchase related emissions from 2018-2022.

In 2022 we see a more normalized energy consumption since the pandemic. When relating to the year 2019, we however still assume to see a shift over to more working from home and more Teams based meeting causing a lower level of transport to meetings.

In all years, **purchase** is the source of the majority of emissions, constituting 68% of the emissions in the 2022 account, an decrease of 7% from 2021.

Energy related emissions decreased by 51% from 2021 and constitutes 8% of the 2022 account. The decrease is mainly due to the purchase of certificates for green electricity in 2022.

Transport constitutes 25% of the 2022 account. Emissions seem to increase by 47% from 2021, although this mainly is due to a shift in method which has moved some emissions from purchase over to transport.

In the following section, each of the three categories are further detailed.

3.1 Emissions from energy

Table 3.3 and Figure 3-3 show the distribution of the emissions from NIRAS' energy consumption which constitutes 8% of the total emissions in 2022. Table 3.4 and Figure 3-4 show the development of NIRAS' actual energy use, regardless of the emissions per energy use.

Table 3.3 Energy related emissions 2018-2022.

Ton CO ₂ e*	2018	2019	2020	2021	2022	% of 2022 emissions	% Development 2021-2022
Natural gas for heating	311	451	397	568	418	50%	-26%
Electricity**	1.046	1.169	1.094	1.067	345	42%	-68%
District heating	138	120	71	72	66	8%	-8%
Total	1.495	1.740	1.562	1.707	830	100%	-51%

*Emissions from scope 1 and 2 and scope 3 upstream.

**Only electricity from energy use in offices, not including electricity use in company cars which is located in transport.

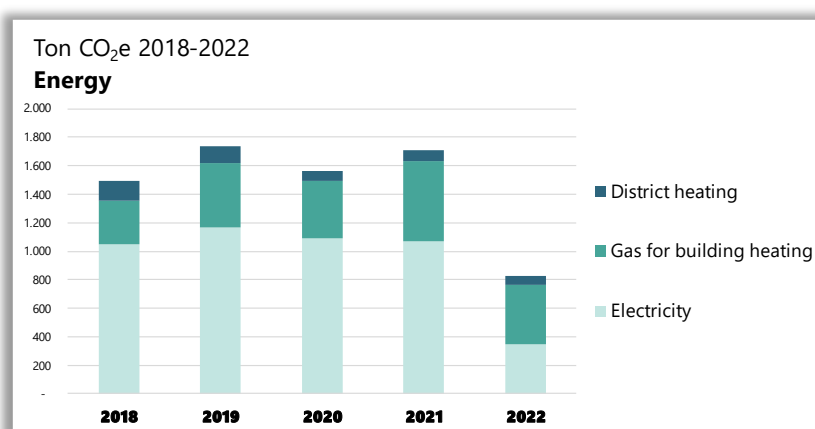


Figure 3-3 Energy related emissions 2018-2022.

Table 3.4 Actual energy use in 2018-2022.

Actual energy use	Unit	2018	2019	2020	2021	2022	% Development 2021-2022
Total electricity use*	kWh	2.654.645	2.915.973	2.511.637	2.256.716	2.168.161	-4%
Electricity from the grid	kWh	2.312.492	2.732.940	2.349.447	2.100.256	1.969.321	-6%
Electricity from own production	kWh	342.153	183.033	162.190	156.460	198.840	27%
District heating	kWh	873.570	921.494	587.258	618.682	561.247	-9%
Natural gas	m³	132.048	217.934	211.824	277.655	242.669	-13%

*Only electricity from energy use in offices, not including electricity use in company cars.

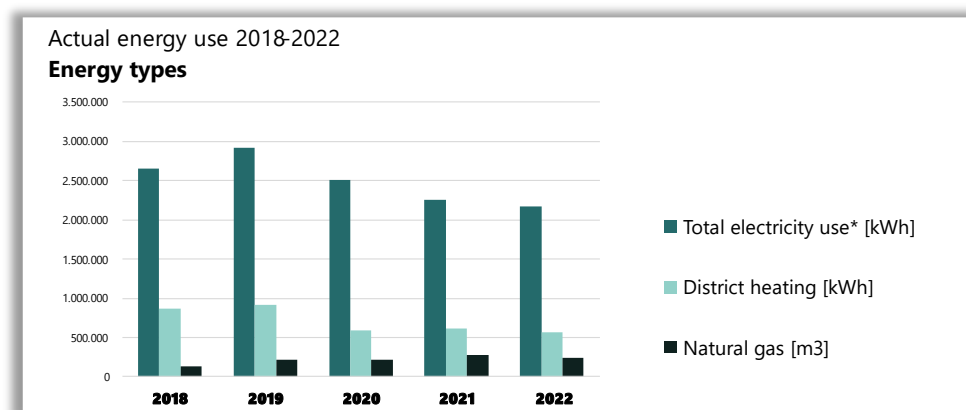


Figure 3-4 Actual energy use 2018-2022.

The method used for 2018-2022 results is the market based method which take into account NIRAS' purchase of green certificates for electricity.

Certificates are only purchased in 2022, why emissions from electricity are reduced by 68% form 2021-2022. The actual electricity consumption (regardless of emissions) from the grid is decreased by 6% and the total electricity consumption is decreased 4%. The difference is due to a 27% higher consumption from NIRAS' own solar panels producing renewable energy

The consumption of district heating has decreased by 9% and the emissions decreased by 8%. The emissions are calculated using grid specific emission factors for each location. Due to the energy crisis, an increase in some emission factors due to the use of coal and other fossil fuels, could be the cause of the emissions not decreasing even more.

The use of natural gas has decreased by 13% compared to 2021. Natural gas is the energy source used in the largest office in Allerød and is an energy source with a higher level of emissions per unit of heat, compared to district heating. The natural gas related emissions have decreased by 26% from 2021.

3.2 Emissions from transport

Table 3.5 and Figure 3-5 show the distribution of the emissions from NIRAS' transport activities which constitutes 25% of the total emissions in 2022.

Table 3.5 Transport related emissions 2018-2022.

Ton CO ₂ e*	2018	2019	2020	2021	2022	% of 2022 emissions	% Development 2021-2022
Business travel by airplane	1.433	1.469	487	493	878	34%	78%
Business travel in employee cars	1.284	1.230	875	848	867	34%	2%
Fuels in company cars**	391	429	393	398	471	18%	19%
Other transport	377	78	1	3	360	14%	-
Freight	26	32	15	12	8	0,3%	-29%
Total	3.511	3.237	1.771	1.754	2.585	100%	47%

*Emissions from scope 1 and 2 and 3.

**Emissions from electricity use in electrical vehicles constitutes about 12 ton CO₂ in 2021 and about 25 ton CO₂ in 2022.

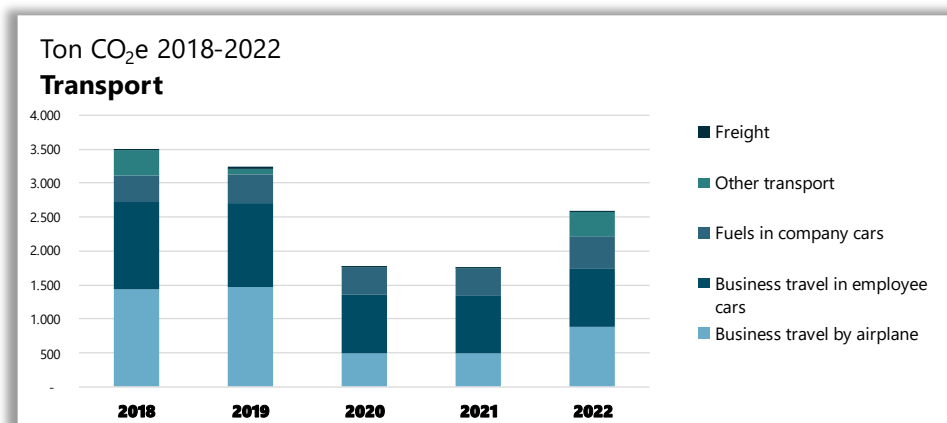


Figure 3-5 Transport related emissions 2018-2022.

Emissions from driving NIRAS' company cars constitutes 18% of emissions from transport. In line with the total emissions related to transport, the emissions from this category have increased from 2021 to 2022 with 19%, perhaps due to less effects from the pandemic. 2021 and 2022 are the first years which NIRAS has electrical vehicles (EVs) in their fleet of company cars with only a couple on the roads from late 2021. In 2022 the emissions from company EVs was approximately 25 ton CO₂e, which is about 5% of emissions from company cars. This is not the same as saying that 5% of the km driven comes from EV, as this must be higher due to lower emissions per km in a EV is lower than a fossil car.

Business travel in employee cars constitute 34% of the emissions from transport and have increased by 2% compared to 2021.

34% of emissions from transport are from business travel by airplane. Emissions from business travel by airplane have increased by 78% from 2021 to 2022. The emissions from air transport are roughly two thirds of the pre-lockdown level in 2019.

Other transport mainly relates to public transport by employees which has almost not existed in the pandemic period. Freight has decreased by 29%.

Emissions from employee commuting has been calculated based on a questionnaire survey in the largest office in Allerød regarding how employees commute. From this it was calculated that employee commuting results in approximately 2.500 ton CO₂e in 2022, corresponding to about 19% of the total emissions. This has not been included in the overall results as data is only available for the year 2022.

3.3 Emissions from purchased goods and services

Table 3.6 and Figure 3-6 show the distribution of NIRAS' purchase related emissions which constitutes 68% of the total emissions in 2022.

Table 3.6 Purchase related emissions 2018-2022.

Ton CO ₂ e	2018	2019	2020	2021	2022	% of 2022 emissions	% Development 2021-2022
IT (incl. telephone)	1.259	1.125	1.146	1.180	1.745	24%	48%
Rent of premises	1.694	1.205	1.181	1.199	1.134	16%	-5%

Operation and maintenance of buildings	695	943	668	652	749	11%	15%
Canteen	1.840	1.859	1.234	1.094	685	10%	-37%
Seminars and conferences	203	269	31	68	567	8%	739%
Other consultancy services	468	481	498	576	354	5%	-39%
Meetings and catering	372	318	193	392	316	4%	-19%
Insurance	123	93	129	191	270	4%	41%
Hotels and business travels	422	264	61	85	249	3%	192%
Various purchases	494	282	257	341	223	3%	-35%
Subscriptions, memberships, sponsorships, networking	74	106	98	155	188	3%	21%
PR, communication and print	168	170	109	137	158	2%	15%
Transport and travel activities (parking and bridges tolls)					139	2%	
Office supplies	50	42	34	32	115	2%	261%
Social arrangements					111	2%	
Employee benefits	1.359	1.098	748	1.178	72	1%	-94%
Vehicles	393	407	419	392	48	1%	-88%
Total	9.614	8.661	6.808	7.672	7.124	100%	-7%

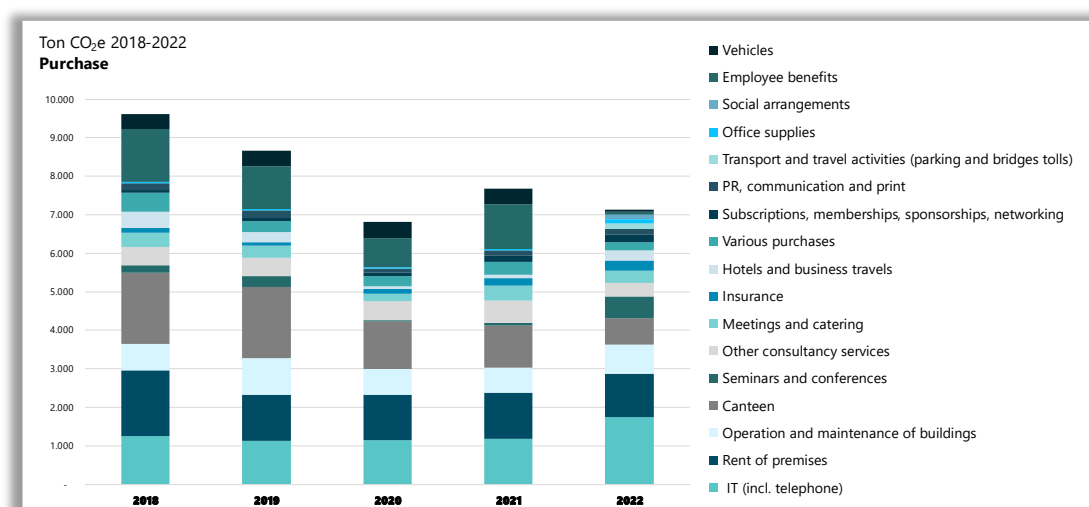


Figure 3-6 Purchase related emissions 2018-2022.

The largest contribution to emissions is IT (incl. telephone) contributing with 24% of emissions from purchases. These emissions have increased by 48% from 2021 to 2022. This is could partly be due to the higher detail level that data has been processed on in 2022 which shows a more correct image of emissions.

The second largest contributor is the rent of premises which contributes to 16% of emissions, as NIRAS leases many office locations. Emissions have decreased by 5%.

Emissions from operation and maintenance of buildings also contributes to 11% of the total emissions from purchases, and has increased by 15% from 2021.

The canteens at NIRAS' office locations that contributes to 10% of total emissions from purchases has decreased by 37 % from 2021. The previous data used to calculate emissions from canteens includes some uncertainty in terms of quality. In 2022 data from the largest canteen in Allerød was now supplier specific which is a much higher data quality. This means that former years have had a higher uncertainty and that we now in 2022 can follow more specific emissions from the canteen.

4 Location based approach

Table 4.1 and Figure 4-1 present the total emissions calculated by a location based approach. The main difference from the market based method, is that the location based approach does not takes into account the purchase and sale of renewable energy based electricity, based on certificates in the market. The approach is further explained in the method section.

From the location based method we do not see the same decrease in total emissions because the purchase of green certificates have no effect using this method.

Table 4.1 Total location based emissions 2018- 2022.

Ton CO ₂ e						% distribution in 2022	% development 2021-2022
Location based	2018	2019	2020	2021	2022		
Scope 1	577	725	662	811	702	7%	-13%
Scope 2	577	504	351	347	217	2%	-37%
Scope 3	13.007	11.767	8.427	9.313	9.562	91%	3%
Total	14.161	12.995	9.439	10.471	10.482	100%	0,10%

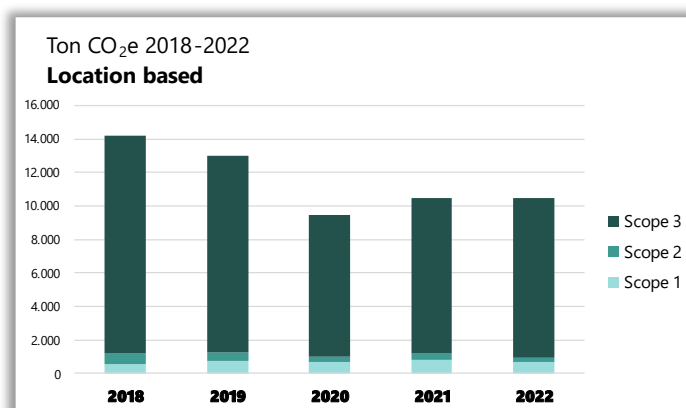


Figure 4-1 Total emission calculated using the location based approach 2018-2022.

5 Key Performance Indicators

The following section provides selected Key Performance Indicators (KPIs) for the energy consumption of NIRAS A/S' Denmark.

Table 5.1 Key Performance Indicators: Total energy consumption and Renewable energy share 2018- 2022.

KPI	Unit	2018	2019	2020	2021	2022	% Development 2021-2022
-----	------	------	------	------	------	------	-------------------------

Total energy consumption	GJ	21.434	27.031	23.251	25.008	22.517	-10%
Renewable energy share	%	45	43	46	42	49	7 % points

The **total energy consumption** includes all energy sources and transportation, converted to GJ using standard factors for energy units conversion and conversion factors from the Danish Energy Authority.

To calculate **the renewable energy share**, the average renewable energy share of the electric and district heating grids have been used as stated by the Danish Energy Authority in the yearly published Energistatistik for the grid purchased energy, as well as the electricity produced and consumed from solar panels installed at NIRAS offices. For the renewable share of the gas and fuels consumption, the share of biogas in the Danish gas grid and the share of biobased fuels in fuels have been used.

Following the **RE100 technical guidelines** a renewable energy share of the electricity consumed by the company must be calculated separately based on the share of electricity the company has a unique claim on. This includes the electricity produced on and consumed from PV solar cells installed at NIRAS offices and the purchase of renewable electricity via certificates or other market measures.

In 2022 NIRAS consumed 199 MWh of electricity produced on solar cells installed at NIRAS offices, out of a total electricity consumption of 2.222 MWh (including electricity for electrical vehicles). A large share of the electricity use from the grid is in 2022 covered by green certificates. This gives a renewable energy share of the electricity consumption of 69% (rounded) following the RE100 approach.

6 Method

The following section briefly describes the method and data used to establish NIRAS A/S Denmark's 2022 climate account.

NIRAS' climate account follows the Greenhouse Gas Protocol (GHG Protocol), which is an internationally recognized standard for the calculation of climate accounts⁴. The emissions are calculated in CO₂-equivalents (CO₂e).

Six greenhouse gases are addressed in the GHG protocol, which are calculated as CO₂e, based on the global warming potential (GWP values) for the individual gases. Greenhouse gases have various effects and lifespan in the atmosphere and thereby affect the climate differently.

This climate account includes emissions from the following greenhouse gases and their GWP value:

- Carbon dioxide (CO₂): 1 kgCO₂e/ kg
- Methane (CH₄): 28 kg CO₂e/ kg
- Nitrous oxide (N₂O): 265 kg CO₂e/ kg

Additional greenhouse gases (SF₆, HFCs, PFCs) are not included and their contribution is considered neglectable.

The climate account does not include biogenic CO₂-emissions.

⁴ NIRAS' climate account is reported based on the principles of The Greenhouse Gas Protocol A Corporate Accounting and Reporting Standard, revised edition, GHG Protocol Scope 2 Guidance and the Corporate Value Chain (Scope 3) Accounting and Reporting Standard.

6.1 Location based and market based method

When applying the location based method, emissions are calculated using an emission factor corresponding to the average composition of the electricity grid.

When applying the market based method, the trading of renewable energy is taken into account and affects the applied emission factor. As illustrated in Figure 6.1, part of the electricity produced from renewable energy sources is purchased as green certificates on the market (a). These are therefore not considered a part of the residual electricity grid for companies and organization that do not contribute to the trading of green certificate (b) and therefore the emissions factor applied (when not trading) is based on a higher share of non-renewable energy (c). As a consequence, if a company does not purchase green certificates, its electricity consumption is associated with higher emissions under the market based approach than under the location based approach.

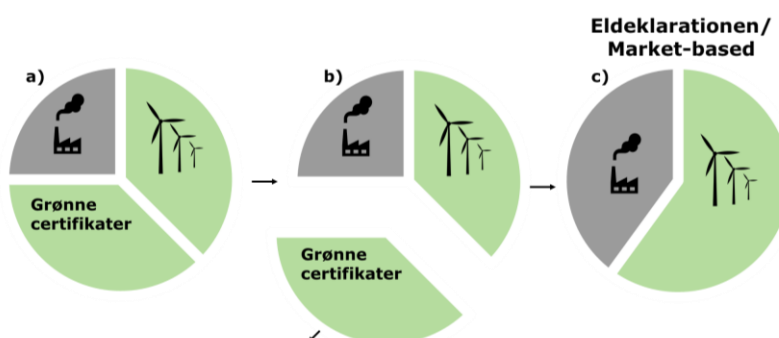


Figure 6.1 Illustration of the market based method.

6.2 Data

6.2.1 Energy data and estimates

The energy consumptions included in the accounts are based on physical data on amounts of consumption of electricity (in kWh), districts heating (in MWh) and natural gas (in nm³). Data is primarily collected from invoices from landlords, as NIRAS leases most of their office spaces. Some data from the Allerød office is measured directly from meters.

In a few cases, energy consumption of electricity and district heating is based on estimates. These estimates were used when no reliable data was available from landlords. Estimates for district heating are based on the average consumption per m² in the given year, calculated from the locations with actual data. The offices are as a rule smaller offices with a limited energy consumption, compared to the energy consumption in larger offices and the total energy consumption in NIRAS' offices in the given year.

For office locations with no data on electricity consumption, the only available data has been spend data in DKK. Therefore an average price of 2 DKK per kWh electricity has been used to calculate the electricity use for all the relevant years.

6.2.2 Fuel use in company vehicles

Values for the amount of gasoline and diesel consumed in NIRAS' company vehicle, are based primarily on data collected from the leasing company, reported in liters and divided into gasoline and diesel.

A small amount of NIRAS' fuel use is not purchased with the leasing company's petrol card but from an employee's own expense, and is thereby not included in the data from the leasing company. This data is found in NIRAS' economy management system as purchase data.

Electricity use in company cars is collected directly from the supplier of the charging subscription, in physical amounts.

6.2.3 Business travel by air flight

NIRAS uses a travel agency for booking of air transport, Carlson Wagonlit Travels (CWT). They supply NIRAS with annual reports on calculated emissions which is used directly in the climate account. The emission reports are based on the total Green House Gas (GHG) emissions, reported in carbon dioxide equivalent (CO₂e kg) and includes carbon dioxide plus methane (CH₄) and nitrous oxide (N₂O), converted to carbon dioxide equivalents and based on guidelines produced by DEFRA's GHG Conversion Factors. The emissions are calculated from total distance of a flight, based on origin and destination airports as well as class of flight (economy, premium economy, business, first). Factors used do not include an "uplift" for Radiative Forcing (RF).

NIRAS also purchases flight transportation through other booking sites, which is located in spend data. The emissions from this are calculated by using the emission factor from EXIOBASE for air transport. This top down approach provides less accurately calculated emissions than the button-up approach used by CWT.

6.2.4 Business travel in employee vehicles

The emissions from the amount of km which employees have driven in their own cars for company related business travel is based on data collected from NIRAS' economy management system's "kørselsgodtgørelse". Data is specified in km driven from which emissions are calculated based on average data for liter gasoline/diesel used per km as well as statistics on percentage gasoline and diesel driven vehicles on the Danish roads.

6.2.5 Purchase data

Purchase data is extracted directly from NIRAS' accounting system Maconomy. The data is specified on the detail level of streamlined accounts, used every year, and only for the Danish company numbers in the system.

For this account 2022, the purchase data is processed on a more detailed level down to every spend based input in the system, which results in a much higher quality of results.

Each spend based input is processed by removing spend on taxes, salary and other spends that do not cause CO₂ emissions. The spend data is then matched with the relevant emission factors from the EXIOBASE database as well as assigned a consumption category in order to group emissions into a tangible amount of categories, which are the same every year, for more streamlined reporting.

Appendix 1: Emission factors

2022

	Unit	Data Source
Petrol (Company cars)	Kg CO ₂ e/L	Calculated from percentage mix (ENS, 2022), Energistatistik 2022 (Energistyrelsen, 2022), and (DEFRA, 2021).
Diesel (Company cars)	Kg CO ₂ e/L	Calculated from percentage mix (ENS, 2022), Energistatistik 2021 (Energistyrelsen, 2022), and (DEFRA, 2022).
Business travel with employee cars	Kg CO ₂ /km	Calculated from DCE (2020), (DST, 2021), and (DEFRA, 2022).
Natural gas	Kg CO ₂ e/m ³	Calculated from Energistatistik 2022 (Energistyrelsen 2022) and upstream emissions from DEFRA and Evida.
Electricity - <i>Location based</i>	Kg CO ₂ e/kWh	Scope 2 - Final environmental declaration of 1 kWh electricity, 2022 (Adjusted for transmission loss 102,56 %)-125 % method. Scope 3 - 5 % distribution loss (Energinet, 2022) and upstream emissions (DEFRA).
Electricity - <i>Market based</i>	Kg CO ₂ e/kWh	Scope 2 - Energinet, Eldeklaration, General declaration 2022. Scope 3 - Upstream emissions (DEFRA 2022).
ARHK Fjernvarme	Kg CO ₂ e/kWh	Data about district heating supply 2022 ("Varmevirkningsgradsmetoden" with 125%) (Energistyrelsen). The 125 % methods relates to the allocation of CO ₂ -emissions when coproducing electricity and heat. This method has been chosen to align with the methods used for calculating the emission factors for electricity. Upstream emissions are calculated as a 20% distribution loss.
ALBK Fjernvarme	Kg CO ₂ e/kWh	
NFAK Fjernvarme	Kg CO ₂ e/kWh	
CPHO Fjernvarme	Kg CO ₂ e/kWh	
LOLK Fjernvarme	Kg CO ₂ e/kWh	
ESBK Fjernvarme	Kg CO ₂ e/kWh	
HOLK Fjernvarme	Kg CO ₂ e/kWh	
ODEK Fjernvarme	Kg CO ₂ e/kWh	
FRHK Fjernvarme	Kg CO ₂ e/kWh	
NAEO Fjernvarme	Kg CO ₂ e/kWh	

Emission factors used for calculating emissions from purchase data are from the latest updated version of the database EXIOBASE v3.3.16b2 (2011 hybrid), published August the 7th 2020, and adjusted for inflation 2022.