Accountability report for underlying data method of impact measurement BNG bank

Reporting year 2021

HET pon | telos

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http://www.hetpon-telos.nl

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1 Introduction

1.1 Reading guide

This report describes the accountability for the underlying data of the methodology of the impact measurements of the BNG Bank loan portfolio. The method description and theoretic framework is described in the method report impact measurement by the BNG bank. The portfolio of the BNG contains of the sectors municipalities, social housing, healthcare and educational institutions. BNG Bank targets five SDGs on which she measures the impact. The five SDGs are sustainable cities and communities (SDG 11), good health and well-being (SDG 3), quality education (SDG 4), affordable and clean energy (SDG 7) and climate action (SDG 13).

In the chapters below an extensive description of the indicators per sector is given. First the municipality sector is described containing 21 indicators. Second the social housing sector is described containing 8 indicators. Third the educational institutions are described containing 3 indicators. Followed by the healthcare sector also containing 3 indicators. At last the CO_2 equivalent emissions of the total portfolio is described.

1.2 Score per indicator

Each indicator[1] is represented by a single total score. This total score is being calculated in one of three methods, namely

1. Total sum is calculated by adding the numbers for the different customers within the loan portfolio.
2. Total average is calculated by taking the arithmetic mean over the numbers for the customers within the loan portfolio.
3. Total percentage is calculated by taking the percentage over the original dataset for the customers in the loan portfolio (i.e. the percentage is not calculated by taking the means over the percentages for the different customers).

In the following table an overview is given of which method of calculating the total score is used per indicator and why the choice for this method has been made.

[1] A total score has not been calculated for the indicator *Percentage of green electricity in metro, tram, and ferry* due to an incomplete dataset. This will be supplemented when the data becomes available.

Sector	SDG	Name	Year	Unit	Total of loan portfolio			Comment
					sum	average	%	
Municipality	3.8	Average waiting times in mental health care	2021	# weeks		1		Average waiting time in weeks best illustrates actual waiting times
	3.8	Number of people outside Treek-norm on waiting list for nursing home care	2021	# persons	1			Total persons waiting best illustrates the number of people this concerns
	3.8	Average waiting times curative care 'Treek-norm'	2022	# weeks		1		Average waiting time in weeks best illustrates actual waiting times
	3.9	Nitrogen oxides (NOx) emissions	2019	kg	1			Total emission best illustrates changes in years
	3.9	Fine Particle (PM2.5) emissions	2019	kg	1			Total emission best illustrates changes in years
	3.9	Fine Particle (PM10) emissions	2019	kg	1			Total emission best illustrates changes in years
	3.9	Non-methane volatile organic compounds (NMVOS) emissions	2019	kg	1			Total emission best illustrates changes in years
	7.2	Total renewable energy	2019	TJ	1			Total energy best illustrates changes in years
	7.2	Total renewable electricity	2019	TJ	1			Total heath best illustrates changes in years
	7.2	Total renewable heat	2019	kWh	1			Total electricity best illustrates changes in years
	7.2	Capacity of solar panels per inhabitant	2020	Wp		1		Average capacity per inhabitant best illustrates changes in years
	11.1	Skewed rent	2019	% households			1	Total percentage best illustrates the magnitude of skewed rent
	11.1	Total registration time for social housing	2020	# months		1		Average number of months best illustrates actual waiting times
	11.1	Amount of newly build homes	2020	# residences	1			Total sum best illustrates the number of residences that have been build
	11.2	Number of inhabitants with access to public transportation	2021	# persons	1			Total sum best illustrates the number of people that have access to public transport and changes in years
	11.6	Percentage zero-emission buses	2021	% buses			1	Total percentage best illustrates the development towards a zero-emission bus fleet
	11.6	Percentage of green electricity in metro, tram, ferry	2021	% electricity				Total score has not been calculated due to an incomplete dataset
	11.6	Total amount of sorted household waste	2019	kg	1			Total sum best illustrates changes in years of the amount of sorted household waste
	11.6	Total amount of residual household waste	2019	kg	1			Total sum best illustrates changes in years of the amount of residual waste
	11.7	Public green space	2021	% surface area			1	Total percentage of surface area best illustrates the availability in public green space and developments between years
	13.2	CO2 equivalent emissions per municipality	2020	CO2-eq	1			Total emission best illustrates changes in years

Educational institution	4a	Investments in school buildings and grounds	2020	Euro	1			Total investments best illustrates the magnitude per year
	13.2	CO2 equivalent emissions per education institution	2020	CO2-eq	1			Total emission best illustrates changes in years
	7.3	Energy consumption educational buildings – electricity	2020	kWh	1			Total consumption best illustrates changes in years
	7.3	Energy consumption educational buildings – natural gas	2020	m3	1			Total consumption best illustrates changes in years
Social housing association	7.3	Energy consumption per social housing association – electricity	2020	kWh	1			Total consumption best illustrates changes in years
	7.3	Energy consumption per social housing association – natural gas	2020	m3	1			Total consumption best illustrates changes in years
	7.2	Presence of solar panels for social housing associations	2021	% houses			1	Total percentage of houses with solar panels best illustrates changes in years
	11.1	Financial accessibility social housings association	2021	% residences		1		Original data is only available in percentages, therefore the total score is the average of the percentages
	11.1	Amount of newly build social houses per social housing assocation	2019	# residences	1			Total sum best illustrates the number of residences that become available
	11.1	Total allocations within income limits	2019	# allocations	1			Total allocations best illustrates the magnitude per year
	11.1	Conformity of dwellings and target group	2019	% match		1		Original data is only available in percentages, therefore the total score is the average of the percentages
	13.2	CO2 equivalent emissions per social housing association	2020	CO2-eq	1			Total emission best illustrates changes in years
Healthcare institution	7.3	Energy consumption for healthcare institutions – electricity	2020	kWh	1			Total consumption best illustrates changes in years
	7.3	Energy consumption for healthcare institutions – gas	2020	m3	1			Total consumption best illustrates changes in years
	13.2	CO2 equivalent emissions per healthcare institution	2019	CO2-eq	1			Total emission best illustrates changes in years

2 Municipalities

2.1 General factsheet

Topic	Description
Portfolio covered	95.5% of BNG bank's portfolio is covered for this customer group. The percentage is in indication of the completeness of the dataset. It is calculated by looking at the collected data for all indicators for the customers in the loan portfolio of the BNG Bank. The percentage is lower than 100% if there are missing data. The missing data are either not available or it was not possible to collect or calculate these data correctly.
Indicators	- Average waiting times in mental healthcare - Number of people outside the Treek-norm on waiting list for nursing home care - Average waiting times curative care 'Treek-norm' - Nitrogen oxides (NOx) emissions - Fine Particle (PM2.5) emissions - Fine Particle (PM10) emissions - Non-methane volatile organic compounds (NMVOS) emissions - Total renewable energy - Total renewable electricity - Total renewable heat - Capacity of solar panels per inhabitant - Skewed rent - Total registration time for social housing - Amount of newly build homes - Number of inhabitants with access to public transportation - Percentage zero-emission buses - Percentage of green electricity in metro, tram, and ferry - Total amount of residual household waste - Total amount of sorted household waste - Public green space - CO_2 equivalent emissions per municipality
Limitations	-

2.2 Factsheets per indicator

2.2.1 Average waiting times in mental healthcare

Topic	Description
Data	Waiting times in mental healthcare per municipality
Calculation steps	The average waiting time in weeks of 16 types of client groups within the mental healthcare sector is calculated per healthcare-office region. The average waiting time for the healthcare-office region is then attributed to the municipalities within that healthcare-office region.
Limitations	The data is not available on the municipality level, therefore data per healthcare-office region is used and attributed to the municipalities within that healthcare-office region. The waiting times data does not include data of mental healthcare providers that have less than 10 practitioners employed. The dataset also does not contain data on independent practitioners.
SDG	SDG 3.8
Data quality estimate	3 – Average data that is peer/(sub)sector specific. The data of the regional division of municipalities and healthcare office-regions is only used to assign data to the municipality. The data on the waiting times within the mental healthcare sector comes with above mentioned limitations, therefore the data quality estimate score is 3.

Score	Quality requirement
1	Audited data or actual primary data
2	Non-audited data, or other primary data
3	Average data that is peer/(sub)sector-specific
4	Proxy data on the basis of region or country
5	Estimated data with very limited support

Topic	Description
Data	Regional division of municipalities and healthcare office-regions 2021
Data file	Indeling zorgkantoorregios en gemeenten 2021.csv
Data Source	Dutch Central Bureau of Statistics
Year	2021
Last update	7-7-2021
Date of download	5-1-2022
Link to webpage	https://opendata.cbs.nl/statline/#/CBS/nl/dataset/84929NED/table?ts=1641369222185
Filters used to obtain the datafile	Onderwerp: Codes en namen van gemeente; Code Lokalisering van gemeenten; Zorgkantoorregio's; Code, Naam Regio's: Gemeenten van het jaar 2021
Internal location	\Klantgroepen\Gemeenten\SDG_3.8_Wachttijden zorg\Indeling zorgkantoorregios en gemeenten 2021.csv
Data quality estimate	Score 1 – Audited data or actual primary data. This data contains the division of the healthcare-office regions as made by the Dutch government.
Unit of measurement	Not applicable
Selections	Not applicable
Data missing	Not applicable
Print Screens	\Klantgroepen\Gemeenten\ SDG_3.8_Wachttijden zorg\20220105_Indeling_Zorgkantoorregios.PNG \Klantgroepen\Gemeenten\ SDG_3.8_Wachttijden zorg\20220105_Indeling_Zorgkantoorregios_2.PNG

Topic	Description
Data	Factsheet Waiting times mental healthcare
Data file	Kopie van Data bij factsheet GGZ wachttijden oktober 2021.xlsx
Data Source	Vektis
Year	2021
Last update	29-11-2021
Date of download	5-1-2022
Link to webpage	https://www.vektis.nl/intelligence/publicaties/factsheet-wachttijdinformatie-ggz
Filters used to obtain the datafile	Not applicable
Internal location	\Klantgroepen\Gemeenten\ SDG_3.8_Wachttijden zorg\Kopie van Data bij factsheet GGZ wachttijden oktober 2021.xlsx
Data quality estimate	Score 3 - Average data that is peer/(sub)sector-specific. The data contains waiting times within the mental healthcare sector and is delivered to Vektis by mental healthcare providers themselves. Vektis cannot verify this data. Providers with less than 10 practitioners do not have to deliver their data, as well as independent practitioners. The data may therefore contain an over- or underestimation.
Unit of measurement	(Average) number of weeks
Selections	Not applicable
Data missing	Not applicable
Print Screens	\Klantgroepen\Gemeenten\ SDG_3.8_Wachttijden zorg\ 20220105_WachttijdenGGZ.PNG

2.2.2 Number of people outside the Treek-norm on waiting list for nursing home care

Topic	Description
Data	Number of people outside the Treek-norm on nursing home waiting lists per municipality
Calculation steps	The number of people on the waiting lists for nursing homes outside the 'Treek-norm' is calculated per healthcare-office region. The number of people on the waiting lists is then attributed to the municipalities within that healthcare-office region.
Limitations	The data is not available on the municipality level, therefore data per healthcare-office region is used and attributed to the municipalities within that healthcare-office region. The number of people on the waiting list does not indicate how long people are on the waiting list.
SDG	SDG 3.8
Data quality estimate	2 – Non-audited data, or other primary data. Healthcare offices publish quarterly an overview of amongst others the number of people waiting for a place in a nursing home. Zorgverzekeraars Nederland combines these overviews. Healthcare offices register these numbers themselves and are not checked by others.

Score	Quality requirement
1	Audited data or actual primary data
2	Non-audited data, or other primary data
3	Average data that is peer/(sub)sector-specific
4	Proxy data on the basis of region or country
5	Estimated data with very limited support

Topic	Description
Data	Regional division of municipalities and healthcare office-regions 2021
Data file	Indeling zorgkantoorregios en gemeenten 2021.csv
Data Source	Dutch Central Bureau of Statistics
Year	2021
Last update	7-7-2021
Date of download	5-1-2022
Link to webpage	https://opendata.cbs.nl/statline/#/CBS/nl/dataset/84929NED/table?ts=1641369222185
Filters used to obtain the datafile	Onderwerp: Codes en namen van gemeente; Code Lokalisering van gemeenten; Zorgkantoorregio's; Code, Naam Regio's: Gemeenten van het jaar 2021
Internal location	\Klantgroepen\Gemeenten\SDG_3.8_Wachttijden zorg\Indeling zorgkantoorregios en gemeenten 2021.csv
Data quality estimate	Score 1 – Audited data or actual primary data. This data contains the division of the healthcare-office regions as made by the Dutch government.
Unit of measurement	Not applicable
Selections	Not applicable
Data missing	Not applicable
Print Screens	\Klantgroepen\Gemeenten\SDG_3.8_Wachttijden zorg\ 20220105_Indeling_Zorgkantoorregios.PNG \Klantgroepen\Gemeenten\SDG_3.8_Wachttijden zorg\ 20220105_Indeling_Zorgkantoorregios_2.PNG

Topic	Description
Data	Number of people on waiting lists for nursing homes
Data file	Wachttijden verpleeghuizen.xlsx (from: Totaal Q3 2021 Rapport Wachtlijsten Verpleeghuiszorg(1)(1).pdf)
Data Source	Zorgverzekeraars Nederland
Year	Third quarter of 2021
Last update	2021
Date of download	10-1-2022
Link to webpage	https://www.zn.nl/zorgkantoren/wachtlijsten-langdurige-zorg
Filters used to obtain the datafile	No filters used
Internal location	\Klantgroepen\Gemeenten\SDG_3.8_Wachttijden zorg\ Wachttijden verpleeghuizen.xlsx
Data quality estimate	2 - Non-audited data, or other primary data. Healthcare offices publish quarterly an overview of amongst others the number of people waiting for a place in a nursing home. Zorgverzekeraars Nederland combines these overviews.
Unit of measurement	Number of people
Selections	Not applicable
Data missing	Not applicable
Print Screens	\Klantgroepen\Gemeenten\SDG_3.8_Wachttijden zorg\ 20220110_WachttijdenVerpleeghuizenPNG

2.2.3 Average waiting times curative care 'Treek-norm'

Topic	Description
Data	Waiting times curative care per care institution
Calculation steps	For every hospital or clinic, the average number of days that patients have to wait for the diagnostics, the treatment and outpatient care is calculated. Then the average number of days for the hospital or clinic in total is calculated.
Limitations	Dataset only includes data on hospitals and medical clinics
SDG	SDG 3.8
Data quality estimate	Score 2 Non-audited data, or other primary data. The data is collected as part of the 'Regeling Aanleveren wachttijden medisch-specialistische zorg'. The aim of this regulation is to make waiting times in the medical specialist care sector unambiguously accessible to both patient and healthcare insurance companies.

Score	Quality requirement
1	Audited data or actual primary data
2	Non-audited data, or other primary data
3	Average data that is peer/(sub)sector-specific
4	Proxy data on the basis of region or country
5	Estimated data with very limited support

Topic	Description
Data	Waiting times medical specialist care
Data file	Dataset Wachttijden medisch-specialistische zorg 28 december 2021.xlsx
Data Source	Nederlandse zorgautoriteit
Year	2021
Last update	29-12-2021
Date of download	6-1-2022
Link to webpage	https://puc.overheid.nl/nza/doc/PUC_651798_22/1/
Filters used to obtain the datafile	Not applicable
Internal location	\Klantgroepen\Gemeenten\SDG_3.8_Gemiddelde wachttijden ziekenhuizen\Dataset Wachttijden medisch-specialistische zorg 28 december 2021.xlsx
Data quality estimate	Score 2 Non-audited data, or other primary data. The data is collected as part of the 'Regeling Aanleveren wachttijden medisch-specialistische zorg'. The aim of this regulation is to make waiting times in the medical specialist care sector unambiguously accessible to both patient and healthcare insurance companies.
Unit of measurement	Median number of days
Selections	Not applicable
Data missing	Dataset only contains data on hospitals and clinics
Print Screens	\Klantgroepen\Gemeenten\SDG_3.8_Gemiddelde wachttijden ziekenhuizen\20220106_WachttijdenCuratieveZorg_1.PNG \Klantgroepen\Gemeenten\SDG_3.8_Gemiddelde wachttijden ziekenhuizen\20220106_WachttijdenCuratieveZorg_2.PNG \Klantgroepen\Gemeenten\SDG_3.8_Gemiddelde wachttijden ziekenhuizen\20220106_WachttijdenCuratieveZorg_3.PNG

2.2.4 Nitrogen oxides (NO_x) emissions

Topic	Description
Data	Emission of nitrogen oxides (NOx) including nitrogen dioxide in kg. Data on nitrogen oxide emissions per municipality obtained from RIVM: http://www.emissieregistratie.nl Data on inhabitants per municipality obtained from CBS: https://opendata.cbs.nl/statline/portal.html
Calculation steps	Step 1: Preparation source-data; herindelingsmodule Calculation steps on the original dataset with emission-data were not performed. The original dataset includes one region (region code 9999, Noordzee) that does not match any municipality and will be neglected. Limited calculation steps on the original dataset with inhabitants have been performed to adjust the 2019 municipality-data to the 2021 municipality boundaries. To correctly calculate the most recent (2019) emission data per inhabitant of each current (2021) municipality, the number of inhabitants per municipality of 2019 has been corrected to the 2021 municipality layout. This has been done using Centerdata "herindelingsmodule". The applied calculations are limited. In 2021 the municipalities Appingedam, Delfzijl, and Loppersum have merged into Eemsdelta. Furthermore, the inhabitants of former municipality Haaren have been divided into the municipalities Oisterwijk (factor 0,41), Vught (factor 0,34), Boxtel (factor 0,15), and Tilburg (factor 0,10). For more information and exact numbers, see HerindelingCenterData2021.xlsx. Step 2: Calculation by R-script The emissions of NOx in kg per municipality are divided by the number of inhabitants per municipality. This calculation is performed by an R-script. The script including precise comments on the performed steps can be found on \Klantgroepen\Gemeenten\SDG_3.9_Emissies lucht (NOx, PM2.5, PM10, NMVOS)\Emissies lucht NO fijnstof SDG.R The script writes data on nitrogen oxide emission and emissions per inhabitant of a municipality to: Klantgroepen\Gemeenten\SDG_3.9_Emissies lucht (NOx, PM2.5, PM10, NMVOS)\NO_vernieuwd.csv
Limitations	The most recent emission data available is of 2019. Emission data from region Noordzee is excluded from this calculation as it cannot be assigned to specific municipalities. The total of the emissions in the calculated dataset is therefore an underestimation of the total emission of the Netherlands. Emission data in the Netherlands is measured in kilograms per municipality. The international standard unit is µg/m^3. The data has not been recalculated to the international standard.
SDG	SDG 3.9
Data quality estimate	Score 2 – Non-audited data, or other primary data. Both emission data (RIVM) as well as number of inhabitants (CBS) have a data quality of 2.

Score	Quality requirement
1	Audited data or actual primary data
2	Non-audited data, or other primary data
3	Average data that is peer/(sub)sector-specific
4	Proxy data on the basis of region or country
5	Estimated data with very limited support

Topic	Description
Data	Emission of NOx in kg per municipality
Data file	ERemissie2019_export202201.csv
Data Source	RIVM (www.emissieregistratie.nl)
Year	2019
Last update	01-07-2021
Date of download	25-01-2021
Link to webpage	http://www.emissieregistratie.nl/erpubliek/erpub/selectie/criteria.aspx

Filters used to obtain the datafile	Stof: Fijnstof (PM10), Fijnstof (PM2.5), Stikstofoxiden (als NO2) Jaar: 2019 Per locatie; gebiedsindeling: Gemeenten
Internal location	Klantgroepen\Gemeenten\SDG_3.9_Emissies lucht (NOx, PM2.5, PM10, NMVOS)\ERemissie2019-export202201.csv
Data quality estimate	Score 2 Data is collected by RIVM on basis of organization reports and calculations of emissions in processes. The uncertainty factor is relatively large, however, approximately 17% on the scale of the Netherlands and somewhat larger per municipality. For further information see: http://www.emissieregistratie.nl/erpubliek/content/explanation.nl.aspx#dataverzameling
Unit of measurement	kg
Selections	Decimal point (.)
Data missing	Not applicable
Print Screens	In folder: Klantgroepen\Gemeenten\SDG_3.9_Emissies lucht (NOx, PM2.5, PM10, NMVOS)\

Topic	Description
Data	Inhabitants per municipality
Data file	inwoners 2019 indeling 2021.csv
Data Source	Dutch Central Bureau of Statistics Statline
Year	2019
Last update	09-06-2021
Date of download	03-12-2021
Link to webpage	https://opendata.cbs.nl/statline/portal.html?_la=nl&_catalog=CBS&tableId=03759ned&_theme=265
Filters used to obtain the datafile	Onderwerp: Bevolking per 1 januari Geslacht: Totaal mannen en vrouwen Leeftijd: Totaal Burgerlijke staat: Totaal burgerlijke staat Regio's: Gemeenten Perioden: 2019
Internal location	Klantgroepen\Gemeenten\Basisbestanden\Bevolking\inwoners 2019 indeling 2021.csv
Data quality estimate	Score 2 Based on registration data of the whole population. Data is checked and corrected if necessary by CBS. For more information about the data quality, see https://www.cbs.nl/nl-nl/onze-diensten/methoden/onderzoeksomschrijvingen/korte-onderzoeksbeschrijvingen/bevolkingsstatistiek
Unit of measurement	Number of inhabitants
Selections	Not applicable
Data missing	Not applicable
Print Screens	In folder: Klantgroepen\Gemeenten\Basisbestanden\Bevolking

2.2.5 Fine Particle (PM2.5) emissions

Topic	Description
Data	Emission of fine particles smaller than 2.5 microns (PM2.5) in kg. Data on fine particle emissions per municipality obtained from RIVM: www.emissieregistratie.nl Data on inhabitants per municipality obtained from CBS: https://opendata.cbs.nl/statline/portal.html
Calculation steps	Step 1: Preparation source-data; herindelingsmodule Calculation steps on the original dataset with emission-data were not performed. The original dataset includes one region (region code 9999, Noordzee) that does not match any municipality and will be neglected. Limited calculation steps on the original dataset with inhabitants have been performed to adjust the 2019 municipality-data to the 2021 municipality boundaries. To correctly calculate the most recent (2019) emission data per inhabitant of each current (2021) municipality, the number of inhabitants per municipality of 2019 has been corrected to the 2021 municipality layout. This has been done using Centerdata "herindelingsmodule". The applied calculations are limited. In 2021 the municipalities Appingedam, Delfzijl and Loppersum have merged into Eemsdelta. Furthermore, the inhabitants of former municipality Haaren have been divided into the municipalities Oisterwijk (factor 0,41), Vught (factor 0,34), Boxtel (factor 0,15) and Tilburg (factor 0,10). For more information and exact numbers, see HerindelingCenterData2021.xlsx. Step 2: Calculation by R-script The emissions of fine particles smaller than 2.5 microns (PM2.5) in kg per municipality are divided by the number of inhabitants per municipality. This calculation is performed by an R-script. The script including precise comments on the performed steps can be found on \Klantgroepen\Gemeenten\SDG_3.9_Emissies lucht (NOx, PM2.5, PM10, NMVOS)\Emissies lucht NO fijnstof SDG.R The script writes data on fine particle smaller than 2.5 microns (PM2.5) emission and emissions per inhabitant of a municipality to: Klantgroepen\Gemeenten\SDG_3.9_Emissies lucht (NOx, PM2.5, PM10, NMVOS)\PM2.5_vernieuwd.csv
Limitations	The most recent emission data available is of 2019. Emission data from region Noordzee is excluded from this calculation as it cannot be assigned to specific municipalities. The total of the emissions in the calculated dataset is therefore an underestimation of the total emission of the Netherlands. Emission data in the Netherlands is measured in kilograms per municipality. The international standard unit is µg/m^3. The data has not been recalculated to the international standard.
SDG	SDG 3.9
Data quality estimate	Score 2 – Non-audited data, or other primary data. Both emission data (RIVM) as well as number of inhabitants (CBS) have a data quality of 2.

Score	Quality requirement
1	Audited data or actual primary data
2	Non-audited data, or other primary data
3	Average data that is peer/(sub)sector-specific
4	Proxy data on the basis of region or country
5	Estimated data with very limited support

Topic	Description
Data	Emission of fine particles (PM2.5) in kg per municipality
Data file	ERemissie2019_export202201.csv
Data Source	RIVM (www.emissieregistratie.nl)
Year	2019
Last update	01-07-2021
Date of download	25-01-2021

Link to webpage	http://www.emissieregistratie.nl/erpubliek/erpub/selectie/criteria.aspx
Filters used to obtain the datafile	Stof: Fijnstof (PM10), Fijnstof (PM2.5), Stikstofoxiden (als NO2) Jaar: 2019 Per locatie; gebiedsindeling: Gemeenten
Internal location	Klantgroepen\Gemeenten\SDG_3.9_Emissies lucht (NOx, PM2.5, PM10, NMVOS)\ERemissie2019-export202201.csv
Data quality estimate	Score 2 Data is collected by RIVM on basis of organization reports and calculations of emissions in processes. The uncertainty factor is relatively large, however, approximately 17% on the scale of the Netherlands and somewhat larger per municipality. For further information see: http://www.emissieregistratie.nl/erpubliek/content/explanation.nl.aspx#dataverzameling
Unit of measurement	kg
Selections	Decimal point (.)
Data missing	Not applicable
Print Screens	In folder: Klantgroepen\Gemeenten\SDG_3.9_Emissies lucht (NOx, PM2.5, PM10, NMVOS)\

Topic	Description
Data	Inhabitants per municipality
Data file	inwoners 2019 indeling 2021.csv
Data Source	Dutch Central Bureau of Statistics Statline
Year	2019
Last update	09-06-2021
Date of download	03-12-2021
Link to webpage	https://opendata.cbs.nl/statline/portal.html?_la=nl&_catalog=CBS&tableId=03759ned&_theme=265
Filters used to obtain the datafile	Onderwerp: Bevolking per 1 januari Geslacht: Totaal mannen en vrouwen Leeftijd: Totaal Burgerlijke staat: Totaal burgerlijke staat Regio's: Gemeenten Perioden: 2019
Internal location	Klantgroepen\Gemeenten\Basisbestanden\Bevolking\inwoners 2019 indeling 2021.csv
Data quality estimate	Score 2 Based on registration data of the whole population. Data is checked and corrected if necessary by CBS. For more information about the data quality, see https://www.cbs.nl/nl-nl/onze-diensten/methoden/onderzoeksomschrijvingen/korte-onderzoeksbeschrijvingen/bevolkingsstatistiek
Unit of measurement	Number of inhabitants
Selections	Not applicable
Data missing	Not applicable
Print Screens	In folder: Klantgroepen\Gemeenten\Basisbestanden\Bevolking

2.2.6 Fine Particle (PM10) emissions

Topic	Description
Data	Emission of fine particles smaller than 10 microns, PM10, in kg. Data on fine particle emissions per municipality obtained from RIVM: www.emissieregistratie.nl Data on inhabitants per municipality obtained from CBS: https://opendata.cbs.nl/statline/portal.html
Calculation steps	Step 1: Preparation source-data; herindelingsmodule Calculation steps on the original dataset with emission-data were not performed. The original dataset includes one region (region code 9999, Noordzee) that does not match any municipality and will be neglected. Limited calculation steps on the original dataset with inhabitants have been performed to adjust the 2019 municipality-data to the 2021 municipality boundaries. To correctly calculate the most recent (2019) emission data per inhabitant of each current (2021) municipality, the number of inhabitants per municipality of 2019 has been corrected to the 2021 municipality layout. This has been done using Centerdata "herindelingsmodule". The applied calculations are limited. In 2021 the municipalities Appingedam, Delfzijl and Loppersum have merged into Eemsdelta. Furthermore, the inhabitants of former municipality Haaren have been divided into the municipalities Oisterwijk (factor 0,41), Vught (factor 0,34), Boxtel (factor 0,15) and Tilburg (factor 0,10). For more information and exact numbers, see HerindelingCenterData2021.xlsx. Step 2: Calculation by R-script The emissions of fine particles (PM10) in kg per municipality are divided by the number of inhabitants per municipality. This calculation is performed by an R-script. The script including precise comments on the performed steps can be found on \Klantgroepen\Gemeenten\SDG_3.9_Emissies lucht (NOx, PM2.5, PM10, NMVOS)\Emissies lucht NO fijnstof SDG.R The script writes data on fine particle (PM10) emission and emissions per inhabitant of a municipality to: Klantgroepen\Gemeenten\SDG_3.9_Emissies lucht (NOx, PM2.5, PM10, NMVOS)\PM10_vernieuwd.csv
Limitations	The most recent emission data available is of 2019. Emission data from region Noordzee is excluded from this calculation as it cannot be assigned to specific municipalities. The total of the emissions in the calculated dataset is therefore an underestimation of the total emission of the Netherlands. Emission data in the Netherlands is measured in kilograms per municipality. The international standard unit is µg/m^3. The data has not been recalculated to the international standard.
SDG	SDG 3.9
Data quality estimate	Score 2 – Non-audited data, or other primary data. Both emission data (RIVM) as well as number of inhabitants (CBS) have a data quality of 2.

Score	Quality requirement
1	Audited data or actual primary data
2	Non-audited data, or other primary data
3	Average data that is peer/(sub)sector-specific
4	Proxy data on the basis of region or country
5	Estimated data with very limited support

Topic	Description
Data	Emission of fine particles (PM10) in kg per municipality
Data file	ERemissie2019_export202201.csv
Data Source	RIVM (www.emissieregistratie.nl)
Year	2019
Last update	01-07-2021
Date of download	25-01-2021

Link to webpage	http://www.emissieregistratie.nl/erpubliek/erpub/selectie/criteria.aspx
Filters used to obtain the datafile	Stof: Fijnstof (PM10), Fijnstof (PM2.5), Stikstofoxiden (als NO2) Jaar: 2019 Per locatie; gebiedsindeling: Gemeenten
Internal location	Klantgroepen\Gemeenten\SDG_3.9_Emissies lucht (NOx, PM2.5, PM10, NMVOS)\ERemissie2019-export202201.csv
Data quality estimate	Score 2 Data is collected by RIVM on basis of organization reports and calculations of emissions in processes. The uncertainty factor is relatively large, however, approximately 17% on the scale of the Netherlands and somewhat larger per municipality. For further information see: http://www.emissieregistratie.nl/erpubliek/content/explanation.nl.aspx#dataverzameling
Unit of measurement	kg
Selections	Decimal point (.)
Data missing	Not applicable
Print Screens	In folder: Klantgroepen\Gemeenten\SDG_3.9_Emissies lucht (NOx, PM2.5, PM10, NMVOS)\

Topic	Description
Data	Inhabitants per municipality
Data file	inwoners 2019 indeling 2021.csv
Data Source	Dutch Central Bureau of Statistics Statline
Year	2019
Last update	09-06-2021
Date of download	03-12-2021
Link to webpage	https://opendata.cbs.nl/statline/portal.html?_la=nl&_catalog=CBS&tableId=03759ned&_theme=265
Filters used to obtain the datafile	Onderwerp: Bevolking per 1 januari Geslacht: Totaal mannen en vrouwen Leeftijd: Totaal Burgerlijke staat: Totaal burgerlijke staat Regio's: Gemeenten Perioden: 2019
Internal location	Klantgroepen\Gemeenten\Basisbestanden\Bevolking\inwoners 2019 indeling 2021.csv
Data quality estimate	Score 2 Based on registration data of the whole population. Data is checked and corrected if necessary by CBS. For more information about the data quality, see https://www.cbs.nl/nl-nl/onze-diensten/methoden/onderzoeksomschrijvingen/korte-onderzoeksbeschrijvingen/bevolkingsstatistiek
Unit of measurement	Number of inhabitants
Selections	Not applicable
Data missing	Not applicable
Print Screens	In folder: Klantgroepen\Gemeenten\Basisbestanden\Bevolking

2.2.7 Non-methane volatile organic compounds (NMVOS) emissions

Topic	Description
Data	Emission of non-methane volatile organic compounds, NMVOS, in kg. Data on fine particle emissions per municipality obtained from RIVM: www.emissieregistratie.nl Data on inhabitants per municipality obtained from CBS: https://opendata.cbs.nl/statline/portal.html
Calculation steps	Step 1: Preparation source-data; herindelingsmodule Calculation steps on the original dataset with emission-data were not performed. The original dataset includes one region (region code 9999, Noordzee) that does not match any municipality and will be neglected. Limited calculation steps on the original dataset with inhabitants have been performed to adjust the 2019 municipality-data to the 2021 municipality boundaries. To correctly calculate the most recent (2019) emission data per inhabitant of each current (2021) municipality, the number of inhabitants per municipality of 2019 has been corrected to the 2021 municipality layout. This has been done using Centerdata "herindelingsmodule". The applied calculations are limited. In 2021 the municipalities Appingedam, Delfzijl and Loppersum have merged into Eemsdelta. Furthermore, the inhabitants of former municipality Haaren have been divided into the municipalities Oisterwijk (factor 0,41), Vught (factor 0,34), Boxtel (factor 0,15) and Tilburg (factor 0,10). For more information and exact numbers, see HerindelingCenterData2021.xlsx. Step 2: Calculation by R-script The emissions of NMVOS in kg per municipality are divided by the number of inhabitants per municipality. This calculation is performed by an R-script. The script including precise comments on the performed steps can be found on \Klantgroepen\Gemeenten\SDG_3.9_Emissies lucht (NOx, PM2.5, PM10, NMVOS)\Emissies lucht NO fijnstof SDG.R The script writes data on NMVOS emission and emissions per inhabitant of a municipality to: Klantgroepen\Gemeenten\SDG_3.9_Emissies lucht (NOx, PM2.5, PM10, NMVOS)\NMVOS_vernieuwd.csv
Limitations	The most recent emission data available is of 2019. Emission data from region Noordzee is excluded from this calculation as it cannot be assigned to specific municipalities. The total of the emissions in the calculated dataset is therefore an underestimation of the total emission of the Netherlands. Emission data in the Netherlands is measured in kilograms per municipality. The international standard unit is µg/m^3. The data has not been recalculated to the international standard.
SDG	SDG 3.9
Data quality estimate	Score 2 Non-audited data, or other primary data. Both emission data (RIVM) as well as number of inhabitants (CBS) have a data quality of 2.

Score	Quality requirement
1	Audited data or actual primary data
2	Non-audited data, or other primary data
3	Average data that is peer/(sub)sector-specific
4	Proxy data on the basis of region or country
5	Estimated data with very limited support

Topic	Description
Data	Emission of NMVOS in kg per municipality
Data file	ERemissie2019_export202201.csv
Data Source	RIVM (www.emissieregistratie.nl)
Year	2019
Last update	01-07-2021
Date of download	25-01-2021

Link to webpage	http://www.emissieregistratie.nl/erpubliek/erpub/selectie/criteria.aspx
Filters used to obtain the datafile	Stof: Fijnstof (PM10), Fijnstof (PM2.5), Stikstofoxiden (als NO2) Jaar: 2019 Per locatie; gebiedsindeling: Gemeenten
Internal location	Klantgroepen\Gemeenten\SDG_3.9_Emissies lucht (NOx, PM2.5, PM10, NMVOS)\ERemissie2019-export202201.csv
Data quality estimate	Score 2 Data is collected by RIVM on basis of organization reports and calculations of emissions in processes. The uncertainty factor is relatively large, however, approximately 17% on the scale of the Netherlands and somewhat larger per municipality. For further information see: http://www.emissieregistratie.nl/erpubliek/content/explanation.nl.aspx#dataverzameling
Unit of measurement	kg
Selections	Decimal point (.)
Data missing	Not applicable
Print Screens	In folder: Klantgroepen\Gemeenten\SDG_3.9_Emissies lucht (NOx, PM2.5, PM10, NMVOS)\

Topic	Description
Data	Inhabitants per municipality
Data file	inwoners 2019 indeling 2021.csv
Data Source	Dutch Central Bureau of Statistics Statline
Year	2019
Last update	09-06-2021
Date of download	03-12-2021
Link to webpage	https://opendata.cbs.nl/statline/portal.html?_la=nl&_catalog=CBS&tableId=03759ned&_theme=265
Filters used to obtain the datafile	Onderwerp: Bevolking per 1 januari Geslacht: Totaal mannen en vrouwen Leeftijd: Totaal Burgerlijke staat: Totaal burgerlijke staat Regio's: Gemeenten Perioden: 2019
Internal location	Klantgroepen\Gemeenten\Basisbestanden\Bevolking\inwoners 2019 indeling 2021.csv
Data quality estimate	Score 2 Based on registration data of the whole population. Data is checked and corrected if necessary by CBS. For more information about the data quality, see https://www.cbs.nl/nl-nl/onze-diensten/methoden/onderzoeksomschrijvingen/korte-onderzoeksbeschrijvingen/bevolkingsstatistiek
Unit of measurement	Number of inhabitants
Selections	Not applicable
Data missing	Not applicable
Print Screens	In folder: Klantgroepen\Gemeenten\Basisbestanden\Bevolking

2.2.8 Total renewable energy

Topic	Description
Data	Total renewable energy in TJ Data on renewable energy obtained from Klimaatmonitor: https://klimaatmonitor.databank.nl/jive
Calculation steps	No calculations. Data directly from Klimaatmonitor. For the determination of the amount of renewable energy that is generated per municipality with several techniques, the total amount of generated renewable energy per province or RES-region is being used, as published by CBS (by order of Rijkswaterstaat). The amounts per municipality are not being published by CBS because of the traceability to individual installations. This is why the provincial or the regional amounts of energy is being divided by the municipalities within a province or region on the basis of the installed capacity per municipality or a different relevant distribution code. The data on the provincial level apply to: • Wind on land since 2002; • Geothermic since 2014; • Biomass boilers since 2014; • Biogas since 2014; • Bio-WKK since 2019 (total nationwide before then) Data and comments can be found in the file: \Klantgroepen\Gemeenten\SDG_7.2_Hernieuwbare energie\Tot_bekende_hern_energie_2019_inwoner_gemeente.xlsx
Limitations	The most recent data on renewable energy that is available is of 2019.
SDG	SDG 7.2
Data quality estimate	Score 2 – Non-audited data, or other primary data. Both klimaatmonitor as well as CBS data are highly reliable, but not audited and thereby score 2.

Score	Quality requirement
1	Audited data or actual primary data
2	Non-audited data, or other primary data
3	Average data that is peer/(sub)sector-specific
4	Proxy data on the basis of region or country
5	Estimated data with very limited support

Topic	Description
Data	Totaal bekende hernieuwbare energie (TJ) per gemeente in 2019
Data file	Totaal bekende hernieuwbare energie 2019 - Gemeent.xlsx
Data Source	Klimaatmonitor
Year	2019
Last update	11-2021
Date of download	25-11-2021
Link to webpage	https://klimaatmonitor.databank.nl/jive (Klimaatmonitor - Totaal bekende hernieuwbare energie (databank.nl))
Filters used to obtain the datafile	Onderwerp: Hernieuwbare energie – Totaal bekende hernieuwbare energie Niveau: Gemeente – alle gemeenten Jaar: Meest recente - 2019
Internal location	Klantgroepen\Gemeenten\SDG_7.2_Hernieuwbare energie\Ruwe data\Totaal bekende hernieuwbare energie 2019 - Gemeent.xlsx
Data quality estimate	Score 2 Klimaatmonitor obtains information from different sources. In the case of renewable energy, most information is provided by CBS, however several other sources are used

	to supplement this data. For more information see https://klimaatmonitor.databank.nl/content/overzicht-bronnen-en-methoden
Unit of measurement	TJ
Selections	Not applicable
Data missing	Not applicable
Print Screens	Klantgroepen\Gemeenten\SDG_7.2_Hernieuwbare energie\Totaal bekende hernieuwbare energie 2019 Gemeenten.PNG

2.2.9 Total renewable electricity

Topic	Description
Data	Total renewable electricity in kWh Data on renewable electricity obtained from Klimaatmonitor: https://klimaatmonitor.databank.nl/jive
Calculation steps	The total renewable electricity (in TJ) per municipality is multiplied by the conversion factor of TJ to kWh, which is 277 777.778 to calculate the total renewable energy in kWh. For the determination of the amount of renewable electricity that is generated per municipality with several techniques, the total amount of generated renewable electricity per province or RES-region is being used, as published by CBS (by order of Rijkswaterstaat). The amounts per municipality are not being published by CBS because of the traceability to individual installations. This is why the provincial or the regional amounts of energy is being divided by the municipalities within a province or region on the basis of the installed capacity per municipality or a different relevant distribution code. The data on the provincial level apply to: • Wind on land since 2002; • Geothermic since 2014; • Biomass boilers since 2014; • Biogas since 2014; • Bio-WKK since 2019 (total nationwide before then) Data, calculation steps and comments can be found in the file: \Klantgroepen\Gemeenten\Berekeningen\Tot_bekende_hern_elektriciteit_2019.xlsx
Limitations	The most recent data on renewable energy that is available is of 2019.
SDG	SDG 7.2
Data quality estimate	Score 2 – Non-audited data, or other primary data. Both klimaatmonitor as well as CBS data are highly reliable, but not audited and thereby score 2.

Score	Quality requirement
1	Audited data or actual primary data
2	Non-audited data, or other primary data
3	Average data that is peer/(sub)sector-specific
4	Proxy data on the basis of region or country
5	Estimated data with very limited support

Topic	Description
Data	Totaal bekende hernieuwbare elektriciteit (TJ) per gemeente in 2019
Data file	Totaal bekende hernieuwbare elektriciteit 2019 - G.xlsx
Data Source	Klimaatmonitor
Year	2019
Last update	11-2021
Date of download	25-11-2021
Link to webpage	https://klimaatmonitor.databank.nl/jive (Klimaatmonitor - Totaal bekende hernieuwbare elektriciteit (databank.nl))
Filters used to obtain the datafile	Onderwerp: Hernieuwbare energie – Totaal bekende hernieuwbare elektriciteit Niveau: Gemeente – alle gemeenten Jaar: Meest recente - 2019
Internal location	Klantgroepen\Gemeenten\SDG_7.2_Hernieuwbare energie\Ruwe data\Totaal bekende hernieuwbare elektriciteit 2019 - G.xlsx
Data quality estimate	Score 2 Klimaatmonitor obtains information from different sources. In the case of renewable electricity, most information is provided by CBS, however several other sources are

	used to supplement this data. For more information see https://klimaatmonitor.databank.nl/content/overzicht-bronnen-en-methoden
Unit of measurement	TJ
Selections	Not applicable
Data missing	Not applicable
Print Screens	Klantgroepen\Gemeenten\SDG_7.2_Hernieuwbare energie\Totaal bekende hernieuwbare elektriciteit 2019 Gemeenten.PNG

2.2.10 Total renewable heat

Topic	Description
Data	Total renewable heat in TJ Data on renewable energy obtained from Klimaatmonitor: https://klimaatmonitor.databank.nl/jive
Calculation steps	No calculations. Data directly from Klimaatmonitor. For the determination of the amount of renewable heat that is generated per municipality with several techniques, the total amount of generated renewable heat per province or RES-region is being used, as published by CBS (by order of Rijkswaterstaat). The amounts per municipality are not being published by CBS because of the traceability to individual installations. This is why the provincial or the regional amounts of energy is being divided by the municipalities within a province or region on the basis of the installed capacity per municipality or a different relevant distribution code. The data on the provincial level apply to: • Wind on land since 2002; • Geothermic since 2014; • Biomass boilers since 2014; • Biogas since 2014; • Bio-WKK since 2019 (total nationwide before then) Data and comments can be found in the file: \Klantgroepen\Gemeenten\SDG_7.2_Hernieuwbare energie\Tot_bekende_hern_warmte_2019.xlsx
Limitations	The most recent data on renewable heat that is available is of 2019.
SDG	SDG 7.2
Data quality estimate	Score 2 – Non-audited data, or other primary data. Both klimaatmonitor as well as CBS data are highly reliable, but not audited and thereby score 2.

Score	Quality requirement
1	Audited data or actual primary data
2	Non-audited data, or other primary data
3	Average data that is peer/(sub)sector-specific
4	Proxy data on the basis of region or country
5	Estimated data with very limited support

Topic	Description
Data	Total known renewable heat (TJ) per municipality in 2019
Data file	Totaal bekende hernieuwbare warmte 2019 - Gemeente.xlsx
Data Source	Klimaatmonitor
Year	2019
Last update	11-2021
Date of download	25-11-2021
Link to webpage	https://klimaatmonitor.databank.nl/jive (Klimaatmonitor - Totaal bekende hernieuwbare warmte (databank.nl))
Filters used to obtain the datafile	Onderwerp: Hernieuwbare energie – Totaal bekende hernieuwbare warmte Niveau: Gemeente – alle gemeenten Jaar: Meest recente - 2019
Internal location	Klantgroepen\Gemeenten\SDG_7.2_Hernieuwbare energie\Ruwe data\Totaal bekende hernieuwbare warmte 2019 - Gemeente.xlsx
Data quality estimate	Score 2 Klimaatmonitor obtains information from different sources. In the case of renewable heat, most information is provided by CBS, however several other sources are used to

	supplement this data. For more information see https://klimaatmonitor.databank.nl/content/overzicht-bronnen-en-methoden
Unit of measurement	TJ
Selections	Not applicable
Data missing	Not applicable
Print Screens	Klantgroepen\Gemeenten\SDG_7.2_Hernieuwbare energie\Totaal bekende hernieuwbare warmte 2019 Gemeenten.PNG

2.2.11 Capacity of solar panels per inhabitant

Topic	Description
Data	Capacity of solar panels per inhabitant
Calculation steps	The unit of downloaded data is Watt peak (Wp) per inhabitant. CBS publishes the capacity of solar panels since 2016. The total capacity of solar panels for the Netherlands can deviate from the total of all Dutch municipalities. This can be explained by that not all systems can be assigned to a municipality due to missing or flawed location data. Klimaatmonitor calculates the capacity of solar panels per inhabitant using CBS data as follows: pV (capacity) / inhabitants * 1000 Data, calculation steps and comments can be found in the file: \Klantgroepen\Gemeenten\SDG_7.2_Zonnestroom\Zonnestroom_2020_Gemcode.xlsx
Limitations	The most recent data is of 2020
SDG	SDG 7.2
Data quality estimate	2 – Non-audited data, or other primary data. Both klimaatmonitor as well as CBS data are highly reliable, but not audited and thereby score 2.

Score	Quality requirement
1	Audited data or actual primary data
2	Non-audited data, or other primary data
3	Average data that is peer/(sub)sector-specific
4	Proxy data on the basis of region or country
5	Estimated data with very limited support

Topic	Description
Data	Capacity of solar panels per inhabitant in 2020
Data file	Zonnestroom_per_inwoner_2020_GemCode.xlsx
Data Source	Klimaatmonitor
Year	2020
Last update	17/01/2022
Date of download	11/02/2022
Link to webpage	https://klimaatmonitor.databank.nl/jive
Filters used to obtain the datafile	Onderwerp: Lokale resultaten - Hernieuwbare energie - Zonnepanelen - Vermogen zonnepanelen per inwoner Niveau: Gemeente – alle gemeenten. N.B. For the calculation of total score: Nederland Jaar: Meest recente - 2020
Internal location	Klantgroepen\Gemeenten\SDG_7.2_Vermogen zonnepanelen\Ruwe data\Vermogen zonnepanelen per inwoner 2020 - Gemeenten.xlsx and Vermogen zonnepanelen per inwoner - Nederland.xlsx
Data quality estimate	Score 2 Klimaatmonitor obtains information from different sources. In the case of solar panels, most information is provided by CBS, however several other sources are used to supplement this data. For more information see https://klimaatmonitor.databank.nl/content/overzicht-bronnen-en-methoden
Unit of measurement	Watt peak (Wp)
Selections	Not applicable
Data missing	Not applicable
Print Screens	\Klantgroepen\Gemeenten\SDG_7.2_Vermogen zonnepanelen

2.2.12 Skewed rent

Topic	Description
Data	Number of households who are not appropriate housed (skewed rent) in social housings
Calculation steps	The percentage of households that are housed in a residence with a monthly rent that does not match the household income. This only concerns households in residences of social housing associations. A household lives in appropriate housing when the household income matches the monthly rent. There are two forms of skewness; expensive skewness and cheap skewness. Cheap skew occurs if the taxable household income is higher than or equal to €42,436 and the household is housed in a house with a rent lower than or equal to the liberalization limit (€720.47). A household is expensively skewed if it belongs to the rent allowance target group (based on income) and lives in a home with a rent above the capping limit (aftoppingsgrens). The capping limit is €607.46 for households with one or two persons and €651.03 for households with three or more persons. All amounts refer to the year 2019. Both types of skewness are measured in this indicator.
Limitations	Not applicable
SDG	SDG 11.1
Data quality estimate	Score 2 – Non-audited data, or other primary data. The data is consulted from the 'Lokale monitor wonen (LMW)'. This is an initiative from several parties (Woonbond, Aedes, VNG, G4 and G40). The data used in this monitor are registration data from the central bureau of statistics in the Netherlands.

Score	Quality requirement
1	Audited data or actual primary data
2	Non-audited data, or other primary data
3	Average data that is peer/(sub)sector-specific
4	Proxy data on the basis of region or country
5	Estimated data with very limited support

Topic	Description
Data	Households in association housing
Data file	Huishoudens in corporatiewoningen.xlsx
Data Source	Lokale monitor wonen (central bureau of statistics)
Year	2019
Last update	31-12-2019
Date of download	10-1-2022
Link to webpage	https://www.waarstaatjegemeente.nl/dashboard/dashboard/Lokale-Monitor-Wonen/
Filters used to obtain the datafile	Onderwerpen: huishoudens in corporatiewoningen Gebieden: Gemeenten van het jaar 2021 Periode 2019
Internal location	\Klantgroepen\Gemeenten\SDG_11.1_Scheefhuur\huishoudens in corporatiewoningen.xlsx
Data quality estimate	Score 2–This data contains the number of households living in an associated house.
Unit of measurement	households
Selections	Not applicable
Data missing	Not applicable
Print Screens	\Klantgroepen\Gemeenten\SDG_11.1_Scheefhuur\printscreen huishoudens in corporatiewoningen 1 \Klantgroepen\Gemeenten\SDG_11.1_Scheefhuur\printscreen huishoudens in corporatiewoningen 2

Topic	Description

Data	Households living in a suitable house
Data file	Passend gehuisvest.xlsx
Data Source	Lokale monitor wonen (central bureau of statistics)
Year	2019
Last update	31-12-2019
Date of download	10-1-2022
Link to webpage	https://www.waarstaatjegemeente.nl/dashboard/dashboard/Lokale-Monitor-Wonen/
Filters used to obtain the datafile	Onderwerpen: Passend wonen in een corporatiewoning Scheefheidhuurwoningen: Passend gehuisvest Gebieden: Gemeenten van het jaar 2021 Periode 2019
Internal location	\Klantgroepen\Gemeenten\SDG_11.1_Scheefhuur\passend gehuisvest.xlsx
Data quality estimate	Score 2 –This data contains the number of households living in an associated house which is suitable with their income
Unit of measurement	households
Selections	Not applicable
Data missing	Not applicable
Print Screens	\Klantgroepen\Gemeenten\SDG_11.1_Scheefhuur\printscreen passend gehuisvest 1 \Klantgroepen\Gemeenten\SDG_11.1_Scheefhuur\printscreen passend gehuisvest 2

Topic	Description
Data	Regional division of municipalities 2021
Data file	Kopie van gemeenten-alfabetisch-2021.xlsx
Data Source	Dutch Central Bureau of Statistics
Year	2021
Last update	1-1-2021
Date of download	12-1-2022
Link to webpage	https://www.cbs.nl/nl-nl/onze-diensten/methoden/classificaties/overig/gemeentelijke-indelingen-per-jaar/indeling-per-jaar/gemeentelijke-indeling-op-1-januari-2021
Filters used to obtain the datafile	Not applicable
Internal location	\Klantgroepen\Gemeenten\Basisbestanden\Gemeentelijke indelingen\ Kopie van gemeenten-alfabetisch-2021.xlsx
Data quality estimate	Score 1 – Regional division of municipalities as stated by the Dutch government
Unit of measurement	Not applicable
Selections	Not applicable
Data missing	Not applicable
Print Screens	\Klantgroepen\Gemeenten\Basisbestanden\Gemeentelijke indelingen\ 20220112_IndelingGemeenten_2021_1.PNG \Klantgroepen\Gemeenten\Basisbestanden\Gemeentelijke indelingen\ 20220112_IndelingGemeenten_2021_2.PNG

2.2.13 Total registration time for social housing

Topic	Description
Data	Total registration time for social housing
Calculation steps	No calculations were done on the original data set. The data is based on numbers delivered by social housing corporations themselves. The data is used to calculate a weighted average for the total registration time for social housing. Only municipalities where more than 70% of the data was available, are available in this dataset.
Limitations	Data is available for 231 municipalities.
SDG	SDG 11.1
Data quality estimate	2 – Non-audited data, or other primary data. Data is not audited, but is supplied by social housing associations themselves and therefore reliable.

Score	Quality requirement
1	Audited data or actual primary data
2	Non-audited data, or other primary data
3	Average data that is peer/(sub)sector-specific
4	Proxy data on the basis of region or country
5	Estimated data with very limited support

Topic	Description
Data	Total registration time for social housing per municipality
Data file	Wachttijden sociale huurwoningen.xlsx
Data Source	NOS op 3
Year	2020
Last update	24-4-2021
Date of download	25-1-2022
Link to webpage	https://app.nos.nl/op3/socialehuur/#/
Filters used to obtain the datafile	Not applicable
Internal location	[Werkmap\Klantgroepen\Gemeenten\SDG_11.1_Wachttijden sociale huurwoningen
Data quality estimate	2 – Non-audited data, or other primary data. Data is not audited, but is supplied by social housing associations themselves and therefore reliable.
Unit of measurement	Months
Selections	Not applicable
Data missing	Data for 121 municipalities is missing, as corporations did not deliver (enough) data to make the calculations
Print Screens	Werkmap\Klantgroepen\Gemeenten\SDG_11.1_Wachttijden sociale huurwoningen

Topic	Description
Data	Regional division of municipalities 2021
Data file	Kopie van gemeenten-alfabetisch-2021.xlsx
Data Source	Dutch Central Bureau of Statistics
Year	2021
Last update	1-1-2021
Date of download	12-1-2022

Link to webpage	https://www.cbs.nl/nl-nl/onze-diensten/methoden/classificaties/overig/gemeentelijke-indelingen-per-jaar/indeling-per-jaar/gemeentelijke-indeling-op-1-januari-2021
Filters used to obtain the datafile	Not applicable
Internal location	\Klantgroepen\Gemeenten\Basisbestanden\Gemeentelijke indelingen\ Kopie van gemeenten-alfabetisch-2021.xlsx
Data quality estimate	Score 1 – Regional division of municipalities as stated by the Dutch government
Unit of measurement	Not applicable
Selections	Not applicable
Data missing	Not applicable
Print Screens	\Klantgroepen\Gemeenten\Basisbestanden\Gemeentelijke indelingen\ 20220112_IndelingGemeenten_2021_1.PNG \Klantgroepen\Gemeenten\Basisbestanden\Gemeentelijke indelingen\ 20220112_IndelingGemeenten_2021_2.PNG

2.2.14 Amount of newly build homes

Topic	Description
Data	Amount of newly build homes
Calculation steps	None. Redistribution (herindeling) to municipalities of 2021 has been applied. Since 2012 the data are based on the Basisregistraties Adressen en Gebouwen (BAG).
Limitations	Most recent data available is of 2020
SDG	SDG 11.1
Data quality estimate	Score 2 - Primary data, not audited

Score	Quality requirement
1	Audited data or actual primary data
2	Non-audited data, or other primary data
3	Average data that is peer/(sub)sector-specific
4	Proxy data on the basis of region or country
5	Estimated data with very limited support

Topic	Description
Data	The amount of newly build homes
Data file	Aantal_nieuwbouwwoningen_2020.csv
Data Source	CBS
Year	2020
Last update	21/01/2022
Date of download	20/01/2022
Link to webpage	https://opendata.cbs.nl/statline#/CBS/nl/dataset/70072ned/table?ts=1643041448207
Filters used to obtain the datafile	Onderwerp Bouwen en wonen Woningvoorraad Nieuwbouwwoningen Perioden Jaren 2020 Regio's Gemeenten per provincie (select all)
Internal location	\Klantgroepen\Gemeenten\SDG_11.1_Aantal nieuwbouwwoningen
Data quality estimate	Score 2 - primary data
Unit of measurement	Amount of newly build homes
Selections	Not applicable
Data missing	Not applicable
Print Screens	\Klantgroepen\Gemeenten\SDG_11.1_Aantal nieuwbouwwoningen

2.2.15 Number of inhabitants with access to public transportation

Topic	Description
Data	Number of inhabitants that reside within 700 m of a station or stop that is serviced at least twice an hour. Data on public transportation obtained from gtfs OVapi: http://gtfs.ovapi.nl/ Data on inhabitants on a (hectare) grid obtained from CBS: https://www.cbs.nl/nl-nl/dossier/nederland-regionaal/geografische-data/kaart-van-100-meter-bij-100-meter-met-statistieken Data on municipality boundaries obtained from Nationaal Georegister: Nationaal georegister - bestuurlijke grenzen: gemeenten (https://www.nationaalgeoregister.nl/geonetwork/srv/dut/catalog.search#/metadata/e2ac0716-1fcc-4f7c-b704-d8c2ef8dffd6?tab=general)
Calculation steps	The calculation steps are performed in three ways, by 1) R-script, 2) in QGIS, 3) in Excel 1) R-script: Select only those stops or stations that are serviced at least twice an hour on weekdays between 7AM and 8PM. These are regularly serviced stops. Data from GTFS concerning public transportation schedules are downloaded. An R-script is used to perform the following steps and calculations (N.B. for more precise description of the steps review the R-script "R script regularly serviced public transport stops"): From the data only tram, underground, train, and bus services are subtracted. In the schedules only the weekdays are taken into account of which 20 randomly selected days per weekday are selected as a subsample. Public transport schedules for these 100 days are loaded and only the times between 7am and 8pm are taken into consideration. Within this timeframe the script counts the number of times a means of public transport, i.e. a bus, tram, train, or underground, services a stop or station. This calculation is done for all stops and stations. The number of times a stop or station is serviced is divided by the number of days (100) and the number of hours per day (13) to calculate how often a stop is serviced per hour on weekdays. Only those stops or stations that are frequented at least twice an hour are taken into consideration. These stops are saved to file PTstops_2ph_2021.csv 2) QGIS: Calculate the number of inhabitants that live within 700 meters of the regularly serviced stops. Those inhabitants have access to public transportation. Data from CBS (CBS vierkant) and geographical information of municipalities is combined with the regularly serviced stops from step 1 to calculate the number of inhabitants per municipality that live within 700 meters of regularly serviced public transport stops and the total inhabitants per municipality. Research indicates that 700 meters is approximately the maximum distance inhabitants travel by foot to a public transport stop, except for the larger stations or public transport hubs. The following steps were performed to calculate these data (N.B. for a more precise description of the steps review "QGIS public transportation script.docx"). Use the file created in step 1 to create an 700 meter buffer around regularly serviced Public Transport stops. Combine information on geographic location of municipalities with CBS vierkantstatistieken to create a 100m grid of points containing the municipality code and the number of inhabitants that live around that point. Select the points with municipality and inhabitant data that are located within the 700 meter bufferzone around the regularly serviced Public Transport stops. Calculate the number of inhabitants per municipality that live within 700 meters of a regularly serviced Public Transport stop. Save these to file (inhabitantsaccesstoPT_permunicipality.csv) 3) Excel: Clear out the whitelines in the .csv-file. Join the resulting data with municipality data on the basis of the gemeentecode and set the value for inhabitants of municipalities that are not present in the dataset to 0. Save this to file (numb_perc_inhabpermunic_accessPT.csv)
Limitations	The public transportation data regards schedules for the coming year (2022); it is thus not based on actual results of the past year.
SDG	SDG 11.2
Data quality estimate	Score 2 – Non-audited data, or other primary data.

Score	Quality requirement
1	Audited data or actual primary data
2	Non-audited data, or other primary data
3	Average data that is peer/(sub)sector-specific
4	Proxy data on the basis of region or country
5	Estimated data with very limited support

Topic	Description
Data	Public transportation information (o.a. routes, stops, stop_times, trips) of buses, trams, undergrounds, trains and ferries in the Netherlands.
Data file	In Folder: gtfs-openov-nl agency.txt calendar_dates.txt feed_info.txt routes.txt shapes.txt stop_times.txt stops.txt trips.txt
Data Source	GTFS OVapi
Year	2021
Last update	08-12-2021 (frequently updated)
Date of download	09-12-2021
Link to webpage	http://gtfs.ovapi.nl/
Filters used to obtain the datafile	Not applicable
Internal location	Klantgroepen\Gemeenten\SDG_11.2_Toegang OV\Ruwe data\
Data quality estimate	Score 2 Data is provided by General Transit Feed Specification (gtfs.org), an organization that stimulates open data for public transportation organizations. The different Dutch organizations for public transport provide the data for the gtfs.ovapi.nl platform. This data is provided on the basis of best-effort, thus there is no service level agreement. See gtfs.ovapi.nl/README for more information.
Unit of measurement	Several units (date, time, location, number)
Selections	Not applicable
Data missing	Not applicable
Print Screens	Klantgroepen\Gemeenten\SDG_11.2_Toegang OV\Printscreens\

Topic	Description
Data	Data on inhabitants of the Netherlands on a 100 x 100m grid
Data file	cbs_vk100_2020.gpkg
Data Source	Dutch Central Bureau of Statistics Statline
Year	2020
Last update	01-03-2021
Date of download	09-12-2021
Link to webpage	https://www.cbs.nl/nl-nl/dossier/nederland-regionaal/geografische-data/kaart-van-100-meter-bij-100-meter-met-statistieken
Filters used to obtain the datafile	Year: 2020 (most recent)
Internal location	Klantgroepen\Gemeenten\SDG_11.2_Toegang OV\Ruwe data\2021-cbs_vk100_2020_v1\cbs_vk100_2020_v1-geopackage\cbs_vk100_2020.gpkg
Data quality estimate	Score 2
Unit of measurement	Number of inhabitants
Selections	Not applicable
Data missing	Not applicable
Print Screens	In folder: Klantgroepen\Gemeenten\SDG_11.2_Toegang OV\Printscreens\

Topic	Description
Data	Data on geographic location of Dutch municipalities
Data file	20211220_bestuurlijke_grenzen_gemeenten_georegister.gpkg
Data Source	Nationaal Georegister (kadaster)
Year	2021
Last update	10-02-2021
Date of download	20-12-2021
Link to webpage	https://www.nationaalgeoregister.nl/geonetwork/srv/dut/catalog.search#/metadata/35359958-c40a-486f-9cf5-567a94de905e?tab=general (bestuurlijkegrenzen:gemeenten wfs)
Filters used to obtain the datafile	Year: 2021
Internal location	Klantgroepen\Gemeenten\SDG_11.2_Toegang OV\Ruwe data\
Data quality estimate	Score 2
Unit of measurement	multipolygon
Selections	Not applicable
Data missing	Not applicable
Print Screens	In folder: Klantgroepen\Gemeenten\SDG_11.2_Toegang OV\Printscreens\

2.2.16 Percentage zero-emission buses

Topic	Description
Data	The data is obtained from CROW: https://crow.databank.nl/jive?cat_open_code=cgdggibcigwZhegg&var=sb_rap
Calculation steps	To calculate the % of zero emission buses, the amount of buses on hydrogen and electricity was divided by the total amount of buses in a municipality (concession area)
Limitations	The municipality data is based on the data from the concession areas, meaning that municipalities belonging to a specific concession area have the same amount of buses. This is a logical inference, as buses are not confined to specific municipalities, but drive around the concession area. Which municipalities belongs to which concession area is shown in the datafile.
SDG	SDG 11.6
Data quality estimate	Score 2 – Non-audited data, or other primary data.

Score	Quality requirement
1	Audited data or actual primary data
2	Non-audited data, or other primary data
3	Average data that is peer/(sub)sector-specific
4	Proxy data on the basis of region or country
5	Estimated data with very limited support

Topic	Description
Data	Percentage zero emission buses
Data file	%Emissievrije bussen.xlsx
Data Source	CROW
Year	2021
Last update	27-10-2021
Date of download	16-12-2021
Link to webpage	https://crow.databank.nl/jive?cat_open_code=cgdggibcigwZhegg&var=sb_rap
Filters used to obtain the datafile	Mobiliteitscore Schone Bussen Aantallen Elektrisch Waterstof Totaal
Internal location	\Klantgroepen\Gemeenten\SDG_11.6_Emissievrije bussen\%Emissievrije bussen.xlsx
Data quality estimate	2 – Non-audited data, or other primary data.
Unit of measurement	% zero-emission buses
Selections	Not applicable
Data missing	Not applicable
Print Screens	"\Klantgroepen\Gemeenten\SDG_11.6_Emissievrije bussen\Emissievrije bussen 2021.PNG"

2.2.17 Percentage of green electricity in metro, tram, and ferry

Topic	Description
Data	The data is obtained from several sources. GVB: https://jaarverslag.gvb.nl/ (Jaarverslag 2020, gvb.nl) U-OV: https://www.u-ov.info/zakelijk/duurzaam-ov
Calculation steps	No calculations
Limitations	Data is based on content in the annual report of the public transportation organizations (if present). Otherwise data from the website of the organizations is used. Data is available of two of the four major city regions, namely Amsterdam and Utrecht. In the data of the GVB, Amsterdam city region, only data on electric ferries has been included (32% of the fleet). The remaining 68% of the fleet consists of mainly diesel engine driven ferries. No information was available for RET and HTM, the public transportation organizations for Rotterdam and The Hague city region, respectively.
SDG	SDG 11.6
Data quality estimate	Score 3 – Average data that is peer/(sub)sector-specific

Score	Quality requirement
1	Audited data or actual primary data
2	Non-audited data, or other primary data
3	Average data that is peer/(sub)sector-specific
4	Proxy data on the basis of region or country
5	Estimated data with very limited support

Topic	Description
Data	Percentage of green electricity in metro, tram, and ferry
Data file	% groene stroom tram metro.xlsx
Data Source	GVB, U-OV
Year	2021
Last update	-
Date of download	25-01-2022
Link to webpage	GVB: https://jaarverslag.gvb.nl/ (Jaarverslag 2020, gvb.nl) U-OV: https://www.u-ov.info/zakelijk/duurzaam-ov
Filters used to obtain the datafile	-
Internal location	\Klantgroepen\Gemeenten\SDG_11.6_Groene stroom metro tram pont\% groene stroom tram metro.xlsx
Data quality estimate	Score 3
Unit of measurement	%
Selections	Not applicable
Data missing	Data of RET and HTM (city regions of Rotterdam and The Hague) are missing
Print Screens	\Klantgroepen\Gemeenten\SDG_11.6_Groene stroom metro tram pont\

2.2.18 Total amount of residual household waste

Topic	Description
Data	The data is obtained from CBS: https://opendata.cbs.nl/statline/#/CBS/nl/dataset/83452NED/table?ts=1638976050279
Calculation steps	No calculations were performed. Missing data in 2019 is filled with data from 2018. Non-segregated household waste is waste that is collected by municipalities at households including waste of small stores and businesses that is collected at the same time and in the same way as that from households. Thus, a (small) part of the collected waste does not originate from households.
Limitations	Data is not final yet and may slightly change per year
SDG	SDG 11.6
Data quality estimate	Score 2 - Non-audited data, or other primary data

Score	Quality requirement
1	Audited data or actual primary data
2	Non-audited data, or other primary data
3	Average data that is peer/(sub)sector-specific
4	Proxy data on the basis of region or country
5	Estimated data with very limited support

Topic	Description
Data	Amount of residual household waste
Data file	HH_restafval_perinwoner_2019.xlsx
Data Source	CBS
Year	2019
Last update	9-12-2021
Date of download	9-12-2021
Link to webpage	https://opendata.cbs.nl/statline/#/CBS/nl/dataset/83452NED/table?ts=1638976050279
Filters used to obtain the datafile	Afvalsoort: Gemengd huishoudelijk afval; Overig huishoudelijk afval Regio's: alle gemeenten Perioden: 2018 2019 Onderwerp: Hoeveelheid huishoudelijk afval
Internal location	\Klantgroepen\Gemeenten\SDG_11.6_Afval\hh_restafval_perinwoner_2019.xlsx
Data quality estimate	2
Unit of measurement	Kg per inhabitant
Selections	Not applicable
Data missing	Missing data filled with 2018 data. If 2018 data was missing, data not filled.
Print Screens	\Klantgroepen\Gemeenten\SDG_11.6_Afval\

2.2.20 Total amount of sorted household waste

Topic	Description
Data	The data is obtained from CBS: https://opendata.cbs.nl/statline/#/CBS/nl/dataset/83452NED/table?ts=1638976050279
Calculation steps	No calculations were performed. Missing data in 2019 is filled with data from 2018. Sorted household waste is waste that is collected at households by municipalities including waste of small stores and businesses that is collected at the same time and in the same way as that from households. E.g. the amount of textile, used paper, and cardboard, which are collected by schools, associations and charities is often collected at the same time and in the same way as that from households. Thus, a (small) part of the collected waste does not originate from households.
Limitations	Data is not final yet and may slightly change per year
SDG	SDG 11.6
Data quality estimate	Score 2 - Non-audited data, or other primary data

Score	Quality requirement
1	Audited data or actual primary data
2	Non-audited data, or other primary data
3	Average data that is peer/(sub)sector-specific
4	Proxy data on the basis of region or country
5	Estimated data with very limited support

Topic	Description
Data	Amount of sorted household waste
Data file	Gescheiden_afval_perinwoner_2019.xlsx
Data Source	CBS
Year	2019
Last update	9-12-2021
Date of download	9-12-2021
Link to webpage	https://opendata.cbs.nl/statline/#/CBS/nl/dataset/83452NED/table?ts=1638976050279
Filters used to obtain the datafile	Afvalsoort: Gescheiden ingezameld fijn afval; Gescheiden ingezameld grof afval Regio's: alle gemeenten Perioden: 2018 2019 Onderwerp: Hoeveelheid huishoudelijk afval
Internal location	\Klantgroepen\Gemeenten\SDG_11.6_Afval\hh_restafval_perinwoner_2019.xlsx
Data quality estimate	2
Unit of measurement	Kg per inhabitant
Selections	Not applicable
Data missing	Missing data filled with 2018 data. If 2018 data was missing, data not filled.
Print Screens	\Klantgroepen\Gemeenten\SDG_11.6_Afval\

2.2.21 Public green space

Topic	Description
Data	Public green space
Calculation steps	No calculations were done on the original data set. The percentage of trees and low greens of the total surface of the public space. The map presents an image of the locations of public green space in the Netherlands. All trees, bushes and low vegetation are being presented in a grid map with a resolution of 10 x 10 meters. The percentage of vegetation is expressed in the color green per grid cel. This map is a composition of the maps "Bomen in Nederland", "Struiken in Nederland", and "Lage vegetatie in Nederland", but vegetation in agricultural areas is being included as well.
Limitations	No limitations
SDG	SDG 11.7
Data quality estimate	2 – Non-audited data, or other primary data.

Score	Quality requirement
1	Audited data or actual primary data
2	Non-audited data, or other primary data
3	Average data that is peer/(sub)sector-specific
4	Proxy data on the basis of region or country
5	Estimated data with very limited support

Topic	Description
Data	Public green space
Data file	Oppervlakte openbare ruimte groen 2021 - Gemeente.xlsx
Data Source	Climate Adaptation Services via Waarstaatjegemeente.nl
Year	2021
Last update	2021
Date of download	11-1-2022
Link to webpage	https://www.waarstaatjegemeente.nl/jive?workspace_guid=50c9fe92-c238-458d-83a1-a63892e41d40
Filters used to obtain the datafile	Duurzame leefomgeving: Klimaatadaptatie Klimaatadaptatie: Openbaar groen Percentage: Oppervlakte openbare ruimte groen totaal zonder agrarisch In m^2: Oppervlakte openbare ruimte groen
Internal location	\Klantgroepen\Gemeenten\SDG_11.7_Openbaar groen\Oppervlakte openbare ruimte groen 2021 - Gemeente.xlsx
Data quality estimate	2 – This data contains the number of squared meters and percentage of greenery in public space per municipality. This data is collected by Climate Adaptation Services
Unit of measurement	Surface area percentage (surface area in m^2)
Selections	Not applicable
Data missing	Not applicable

Print Screens	\Klantgroepen\Gemeenten\SDG_11.7_Openbaar groen\20220111_OpenbaarGroen1.PNG \Klantgroepen\Gemeenten\SDG_11.7_Openbaar groen\20220111_OpenbaarGroen2.PNG \Klantgroepen\Gemeenten\SDG_11.7_Openbaar groen\20220111_OpenbaarGroen3.PNG

Topic	Description
Data	Regional division of municipalities 2021
Data file	Kopie van gemeenten-alfabetisch-2021.xlsx
Data Source	Dutch Central Bureau of Statistics
Year	2021
Last update	1-1-2021
Date of download	12-1-2022
Link to webpage	https://www.cbs.nl/nl-nl/onze-diensten/methoden/classificaties/overig/gemeentelijke-indelingen-per-jaar/indeling-per-jaar/gemeentelijke-indeling-op-1-januari-2021
Filters used to obtain the datafile	Not applicable
Internal location	\Klantgroepen\Gemeenten\Basisbestanden\Gemeentelijke indelingen\ Kopie van gemeenten-alfabetisch-2021.xlsx
Data quality estimate	1 – Regional division of municipalities as stated by the Dutch government
Unit of measurement	Not applicable
Selections	Not applicable
Data missing	Not applicable
Print Screens	\Klantgroepen\Gemeenten\Basisbestanden\Gemeentelijke indelingen\ 20220112_IndelingGemeenten_2021_1.PNG \Klantgroepen\Gemeenten\Basisbestanden\Gemeentelijke indelingen\ 20220112_IndelingGemeenten_2021_2.PNG

2.2.22 CO_2 equivalent emissions per municipality

Topic	Description
Data	For scope 1 natural gas use and scope 2 electricity use, data of 2020 has been used. For scope 1 fossil use by company vehicles, the calculation has been made with partial use of 2019 data. The data used in this approach come from multiple sources. Data regarding the average number of employees (Full Time Equivalent; FTE) per size of municipality comes from A&O fonds gemeenten. A&O is an organization for all Dutch municipalities. A&O provides practical tools, knowledge, and subsidies for municipalities. This data is available on the aggregation level of municipality size classes. Data on the number of inhabitants per municipality comes from the Dutch Central Bureau of Statistics (CBS) and is available on the aggregation level of municipalities. It contains the population per municipality on January 1 of each year. It is based on the population register of a municipality and is therefore highly reliable. Data about the number of jobs (FTE) per COROP (NUTS3) area comes from Lisa. Lisa is the national information system for jobs in the Netherlands and contains a database with data of all locations where paid work is done. This data is available on the aggregation level of COROP (NUTS3) areas. A COROP area is a regional area within the Netherlands. There are in total 40 COROP areas. A COROP area has a central location, surrounded by a service area. A COROP area can contain multiple municipalities, but is usually smaller than a province.[2] Data about the supply of energy to the sector public administration and government services comes from the Dutch Central Bureau of Statistics (CBS). The data covers the supply of electricity and natural gas to businesses and other utility buildings. The data is based on the connection register of the energy network and is therefore very reliable. Data is divided by sector and region. Data about the number of kilometers driven with a vehicle per year comes from the Dutch Central Bureau of Statistics (CBS) and covers the number of company vehicles owned by companies per sector. The data originally comes from motor vehicle registration (RDW) and is therefore reliable. Data about the number of kilometers driven with a vehicle per year comes from the Dutch Central Bureau of Statistics (CBS) and covers the average kilometers per year of a passenger vehicle with a Dutch registration. The original data comes from the online kilometer registration (OKR) of the RDW and is therefore reliable. For scope 3, most recent data about CO_2 equivalent emissions by the Dutch economy is from 2019. Therefore, for scope 3 data from the years 2017, 2018 and 2019 are used for the calculations. Data about the standard business classification (standaard bedrijfsindeling) comes from the Dutch Central Bureau of Statistics (CBS). CBS uses the standard business classification to classify business units by their main activity. Data about CO_2 equivalent emissions by the Dutch economy to the air also comes from the Dutch Central Bureau of Statistics (CBS). The data contains emissions of harmful substances to the air. The data is based on the environmental accounts. Environmental accounts links the system of national accounts and environmental statistics. Environmental accounts include both physical and monetary data on the environment. The main sources for the environmental accounts are the environmental statistics (mainly emission registrations), the energy statistics (mainly Dutch energy balance) and the national accounts. The National Accounts contain data on the monetary value of all produced goods and services in the Netherlands. These data come from the Dutch Central Bureau of Statistics (CBS) as well as the data about the expenses of municipalities. The municipalities are the source for these data themselves.

[2] https://www.cbs.nl/nl-nl/dossier/nederland-regionaal/gemeente/gemeenten-en-regionale-indelingen/landelijk-dekkende-indelingen

	They deliver the data directly to CBS in an uniform prescribed format. CBS does not check or edit these data. The OECD has developed the Classification of the Function of Government (COFOG) which classifies government expenditure data from the System of National Accounts by the purpose for which the funds are used. Municipal budgets are divided into 48 tasks (second level), clustered in 9 divisions (first level). The tasks indicate the purpose of the expenditure. The following tasks are included: management and support; safety; traffic, transport and water management; economy; education; sport, culture and recreation; social domain; public health and environment; public housing, spatial planning and urban renewal. The expenditures are also classified by economic categories. This indicates the type of expenditure. The following categories are included: salaries and social charges; taxes; goods and services; transfers; interest and dividends; financial transactions; settlements.
Calculation steps	**Scope 1 natural gas and scope 2 electricity** For the sector public administration and government services, the supply of natural gas and electricity is known (CBS) per COROP (NUTS3) area. This includes municipalities, but also other governments. To calculate scope 1 and 2 for municipalities, several calculation steps were necessary. The number of employees (in FTE) that works for the total public administration and government services sector is known for each COROP area. For every municipality, the number of employees in FTE working for the municipality is calculated. Using the percentage based on the number of employees in FTE working for municipalities per COROP area and the total number of employees in FTE working in the public administration and government services sector per COROP area, the supply of natural gas and electricity per COROP area is calculated. Afterwards, the supply of natural gas and electricity can be calculated per municipality. First the number of FTE per municipality was calculated (A) using the average number of FTE per municipality size (A&O fonds gemeenten). According to the populations of each municipality, the municipality is assigned to one of the five size classes: G4, > 100.000 inhabitants (excluding the G4 municipalities: Amsterdam, Rotterdam, Den Haag, and Utrecht), 50.000 to 100.000 inhabitants, 20.000 to 50.000 inhabitants and < 20.000 inhabitants. For each municipality, the percentage of inhabitants was calculated relative to the total number of inhabitants for all municipalities in one size class. This percentage is multiplied by the number of FTE per municipality of that particular size. This results in the number of FTE per municipality (A). This number was added up for each COROP area (B). Per COROP area, the total number of FTE is known with the public administration and government services sector. The number of FTE working for municipalities per COROP area (B) is divided by the total number of FTE in the public administration and government services sector to result in the percentage of FTE working in municipalities, relative to all FTE in the sector public administration and government services per COROP area (C). The supply of natural gas and electricity for the public administration and government services sector is known per COROP area (CBS). The percentage of FTE working in municipalities relative to all FTE in the public administration and government services sector per COROP area was multiplied by the supply of natural gas and electricity for public administration and government services sector. This results in the supply of natural gas and electricity per municipality within a COROP area (D). The final calculation done to calculate the CO_2 equivalent emissions for scope 1 and 2 started with the number of FTE per municipality (A). This number was divided by the sum of all FTE working for a municipality within one COROP area, to result in the percentage of FTE per municipality relative to the total of FTE working in municipalities within a COROP area (E). This percentage (E) was multiplied by the supply of natural gas and electricity per municipality within a COROP area (D), to result in the supply of natural gas and electricity per municipality (F). The amount of natural gas per municipality (F) was multiplied by the emission factor for natural gas (1,785 kg CO_2 equivalent emissions per m^3; Table 12-1) and the amount of electricity was multiplied by the emission factor for electricity (0,405 kg CO_2 equivalent emissions per kWh; Table 12-1). The amount of CO_2 equivalent emissions is divided by the factor 1000, to result in ton CO_2 equivalent emissions for scope 1 (natural gas) and scope 2 (electricity). **Scope 1 fossil fuel for company vehicles**

Scope 1 emissions also includes the fossil fuel of company vehicles. This calculation also starts with the average number of FTE per municipality (A). This number (A) has been divided by all FTE working at all the Dutch municipalities, to result in the percentage of FTE of a municipality relative to all FTE working at Dutch municipalities (G).

It is known how many company vehicles are used in the public administration and government services sector (H; CBS). To calculate the total number of company vehicles for Dutch municipalities (I), the number of company vehicles used by the public administration and government services sector (H) was multiplied by the average percentage of FTE working at municipalities.

The total number of company vehicles for Dutch municipalities (I) was multiplied by the percentage of FTE of that municipality, relative to all FTE working in Dutch municipalities (G) to result in the number of company vehicles per municipality (J). This (J) was multiplied by the number of kilometers driven per company vehicle (all fuel types) and multiplied by the emission factor (0,163 kg CO_2 equivalent emissions/km; Table 12-1), to result in the CO_2 equivalent emissions for company vehicles.

The final calculated values for scope 1, 2, 3, and total balance sheet were reallocated to the municipality classification of the year 2021.

Scope 3

For the calculation of scope 3 only one economic category is relevant: "Goods and Services". This category describes the expenses of municipalities for goods and services for which they pay, either in a purchase or in hire construction. A number of subcategories can be distinguished. Category 3.1 describes expenses on the purchase or sale of areal positions. Category 3.2 are the purchases of sustainable goods and services. These are goods with a lifespan longer than one year. Category 3.3 (areal lease) and category 3.4 (social benefits) are not included due to the nature of the underlying goods or services. Category 3.5 describes the insourced employees and category 3.8 contains other goods and services, such as tools, food, and other expenses.

To calculate the GHG emissions for scope 3 for municipalities, it's necessary to have per subcategory mentioned above (3.1, 3.2, 3.5, and 3.8) a value that links CO_2 equivalent emissions (per kg) and expenses (in Euro). To come to this value per category as a first step, the most appropriate production sector(s) (the standard business format; SBI codes; CBS) has to be linked to the four mentioned categories. So that in a next step, using the environmental accounts, the expenses could be linked to the emission data.

First, we had a closer look at the description of the 4 mentioned categories (3.1, 3.2, 3.5, and 3.8).[3] According to the detailed description, the most appropriate production sector(s) was/were linked to the category (Table 1). Category 3.1 was linked to only one sectoral production category, whereas categories 3.2, 3.5, and 3.8 were linked to multiple sectoral production categories. The share of each production sector per subcategory is unknown. Therefore, the share of each production sector per category was assumed by the researchers of Het PON & Telos. The weighing was done based on an estimate of the relative share of the various relevant industries in the expenditure per subcategory (Table 2).

Table 1. The categories with the linked sectoral production category

Category	SBI code
3.1	Rental and trading real estate (L)
3.2	Industry (C); construction industry (F); wholesale and retail, and repair of motor vehicles (G); rental and trading of real estate (L); consultancy, research, rental of movable property, other services (M/N); public administration, public services and compulsory social security (O).
3.5	Consultancy, research, rental of movable property, other services (M/N); public administration, public services and compulsory social security (O).
3.8	Extraction of minerals (B); industry (C); production, distribution and trading of electricity, natural gas, steam and chilled air (D); water collection and distribution; waste and waste water management and remediation (E); rental of movable property and other services (N); public administration, public services and compulsory social security (O).

[3] https://findo.nl/content/30---Goederen-en-diensten

Table 2. The share of each production sector per subcategory

Category	Share per SBI code
3.1	100% L
3.2	20% C-F-G-L 10% M/N 10% O
3.5	50% M/N 50% O
3.8	20% B-C-D-E 10% N 10% O

Based on the method described above we know per subcategory the composition per production sectors (in %)(A). Using the environmental accounts we know per production sector the total CO_2 equivalent emissions and we know the annual monetary value per production sector. So we can calculate per production sector the CO_2 equivalent emissions per Euro (B). Knowing A and B we can calculate for each subcategory the specific CO_2 equivalent emissions per Euro expenditure (C).

For reporting year 2021 this resulted in the following value for kg CO_2 per Euro (C).
Category 3.1: 0.01 kg CO_2 per Euro
Category 3.2: 0.20 kg CO_2 per Euro
Category 3.5: 0.03 kg CO_2 per Euro
Category 3.8: 0.47 kg CO_2 per Euro

The IV3 spending database of all municipalities was used (CBS, Statline). From this database the categories 3.1, 3.2, 3.5, and 3.8 were selected. Only the positive expenditures were taken into account. The expenditure of the municipality per sub-function and category was multiplied by the kg CO_2 per Euro (C). This resulted in kg CO_2 equivalent emissions per expenditure (D). Per municipality these values for all the subfunctions x subcategories were added up to result in scope 3 per municipality in kg. Finally, the CO_2 equivalent emissions were calculated per municipality.

The expenses on natural gas and electricity are supposedly also included in the spending on category 3.8. Therefore in the end, the scope 1 and scope 2 emissions were subtracted from the total scope 3 emissions to avoid double counting.

Limitations	A risk of double counting arises from that local and regional government related collaborations, companies, and projects might be included in the financial and emission reporting of municipalities and provinces. This can only be assessed by individual entities, and this has not been corrected for in this report. Limitations of the current method are that the supplies of natural gas and electricity per municipality are unknown. It is therefore calculated according to the size of the municipality and available data on the aggregation level of the COROP (NUTS3) area. There is also no data registered about company vehicles (number of vehicles, type of vehicle, type of fuel etc.) per municipality. The best possible result is achieved by using the current model(s). An uncertainty in the method for scope 3 described under calculations in this factsheet is that the exact share of each production sector per category is unknown. It was not possible to specify this by more detailed information from several municipalities. Therefore a share was assumed by the researchers of Het Pon & Telos. Another limitation is the possible double counting in scope 1 and 2 in comparison to scope 3. However, by using the current model(s), the best result possible is achieved. For scope 3 emission data from 2019 was used to calculate scope 3 2020 as 2020 data was not available yet.
SDG	SDG 13.2

Data quality estimate	Score 3 **Score** / **Quality requirement** 1 – Audited data or actual primary data 2 – Non-audited data, or other primary data 3 – Average data that is peer/(sub)sector-specific 4 – Proxy data on the basis of region or country 5 – Estimated data with very limited support

Topic	Description
Data	Number of jobs (FTE) per size of municipality
Data file	Not applicable
Data Source	A & O fonds gemeenten
Year	Data used from 2020 to calculate scope 1 natural gas use and scope 2 electricity use
Last update	Not applicable
Date of download	Received by email: 8-6-2021
Link to webpage	https://personeelsmonitor2020.aeno.nl/
Filters used to obtain the datafile	Not applicable
Internal location	Klantgroepen\Gemeenten\SDG_13.2_CO2-emissies gemeenteportefeuille\ Ruwe data\Email: RE Data Personeelsmonitor 2020
Data quality estimate	Score 2 Data quality is indicated as high, as it has directly been acquired from municipalities, using a questionnaire.
Unit of measurement	Occupation in FTE
Selections	Not applicable
Data transformation	Not applicable
Data missing	Not applicable
Print Screens	Not applicable

Topic	Description
Data	Inhabitants per municipality
Data file	20210601 ruwe data bevolking per gemeente 2020.xls
Data Source	Dutch Central Bureau of Statistics Statline
Year	2020
Last update	9-6-2021
Date of download	1-6-2021
Link to webpage	https://opendata.cbs.nl/#/CBS/nl/dataset/03759ned/table
Filters used to obtain the datafile	Onderwerp: Bevolking per 1 januar Geslacht: Totaal mannen en vrouwen Leeftijd: Totaal mannen en vrouwen Burgerlijke staat: Totaal burgerlijke staat Perioden: 2020 Regio's: Gemeenten per provincie
Internal location	Klantgroepen\Gemeenten\Basisbestanden\Bevolking\
Data quality estimate	Score 2 Based on registration data of the whole population. Data is checked and corrected if necessary by CBS. For more information about the data quality, see https://www.cbs.nl/nl-nl/onze-diensten/methoden/onderzoeksomschrijvingen/korte-onderzoeksbeschrijvingen/bevolkingsstatistiek
Unit of measurement	Number of inhabitants

Selections	Not applicable
Data transformation	Not applicable
Data missing	Not applicable
Print Screens	In folder: Klantgroepen\Gemeenten\Basisbestanden\Bevolking

Topic	Description
Data	Number of jobs (FTE) per COROP (NUTS3) area
Data file	20210705 ruwe data aantal overheidsbanen per corop.xlsx
Data Source	Lisa; het werkgelegenheidsregister van Nederland
Year	Data used from 2020 to calculate scope 1 natural gas and scope 2 electricity use
Last update	July 2021
Date of download	5-7-2021
Link to webpage	https://www.lisa.nl/data/gratis-data/overzicht-lisa-data-per-corop
Filters used to obtain the datafile	Welke coropgebieden: allemaal Welke jaren: 2020 Welke sectoren: Overheid Welke gegevens: Banen totaal
Internal location	Klantgroepen\Gemeenten\SDG_13.2_CO2-emissies gemeenteportefeuille\ Ruwe data\
Data quality estimate	Score 2 Data from LISA are based on observations/measurements of all locations of companies. Self-employed persons are taken into account as well. This makes it possible to present an overview of employment on both geographic and sectoral level.
Unit of measurement	FTE
Selections	Not applicable
Data transformation	Not applicable
Data missing	Not applicable
Print Screens	In folder: Klantgroepen\Gemeenten\SDG_13.2_CO2-emissies gemeenteportefeuille\Printscreens\Overheidsbanen

Topic	Description
Data	Supply of energy to the public administration and government services sector
Data file	20211006 ruwe data elektra aardgas.xlsx
Data Source	Dutch Central Bureau of Statistics Statline
Year	2020
Last update	8-10-2021
Date of download	11-10-2021
Link to webpage	https://opendata.cbs.nl/statline/#/CBS/nl/dataset/82538NED/table?ts=1597657120347
Filters used to obtain the datafile	Onderwerp: Geleverd aardgas, geleverde elektriciteit Perioden: 2020 Regio's: COROP gebieden per provincie Bedrijfstakken/branches: Bedrijfstakken 1e digit (SBI 2008), O Openbaar bestuur en overheidsdiensten
Internal location	Klantgroepen\Gemeenten\SDG_13.2_CO2-emissies gemeenteportefeuille\ Ruwe data
Data quality estimate	Score 2. Highly reliable data, because of the manner of registration. There are multiple control and correction methods used, which can be found here: https://www.cbs.nl/nl-nl/onze-diensten/methoden/onderzoeksomschrijvingen/korte-onderzoeksbeschrijvingen/leveringen-van-elektriciteit-en-aardgas-via-het-openbare-net
Unit of measurement	Natural gas: 1000 m^3 Electricity: 1000 kWh
Selections	Not applicable

Data transformation	In sheet Aardgas en elektra O sector bew, the missing values are replaced by data from previous years as described in column Data missing.
Data missing	For CR15, CR17 and CR36 natural gas 2018 data is used. For CR33, CR35 and CR37 natural gas 2019 data is used. For CR20 and CR21 electricity 2019 data is used.
Print Screens	In folder: Klantgroepen\Gemeenten\SDG_13.2_CO2-emissies gemeenteportefeuille\Printscreens\Aardgas & elektra

Topic	Description
Data	Number of company vehicles owned by companies in the public administration and government services sector
Data file	20210601 ruwe data bedrijfsautos 2019.xlsx
Data Source	Dutch Central Bureau of Statistics Statline
Year	Data used from 2019 to calculate scope 1 fossil fuel use by vehicles
Last update	20-4-2021
Date of download	1-6-2021
Link to webpage	https://opendata.cbs.nl/statline/#/CBS/nl/dataset/81481NED/table?ts=1626174554210
Filters used to obtain the datafile	Onderwerp: Bedrijfsbestelauto's Bedrijfstakken/branches: O Openbaar bestuur en overheidsdiensten Bedrijfsgrootte/leeftijd bestelauto: Totaal Perioden: 2019
Internal location	Klantgroepen\Gemeenten\SDG_13.2_CO2-emissies gemeenteportefeuille\Ruwe data
Data quality estimate	Score 2 The research method of this data can be found here: https://www.cbs.nl/nl-nl/onze-diensten/methoden/onderzoeksomschrijvingen/korte-onderzoeksbeschrijvingen/bezit-en-gebruik-bestelauto-s The additional research report can be found here: https://www.cbs.nl/nl-nl/onze-diensten/methoden/onderzoeksomschrijvingen/aanvullende%20onderzoeksbeschrijvingen/bezit-en-gebruik-bestelauto-s Data comes from motor vehicle registration (RDW) and data is checked on content, quality and usability by CBS
Unit of measurement	Number of company vehicles
Selections	Not applicable
Data transformation	Not applicable
Data missing	Not applicable
Print Screens	In folder: Klantgroepen\Gemeenten\SDG_13.2_CO2-emissies gemeenteportefeuille\Printscreens\20210601 bedrijfsautos 2019.png

Topic	Description
Data	Average kilometers driven with a passenger vehicle with a Dutch registration per year
Data file	20210601 ruwe data km bedrijfswagens.xlsx
Data Source	Dutch Central Bureau of Statistics Statline
Year	Data used from 2019 to calculate scope 1 fossil fuel use by vehicles
Last update	4-11-2020
Date of download	1-6-2021
Link to webpage	https://opendata.cbs.nl/statline/#/CBS/nl/dataset/71107ned/table?ts=1626174732075
Filters used to obtain the datafile	Gewichtsklasse leeggewicht: Totaal Leeftijd voertuig: Totaal Tenaamstelling: Bedrijf Brandstofsoort: Alle brandstofsoorten Onderwerp: Gemiddelde jaarkilometrage Perioden: 2019
Internal location	Klantgroepen\Gemeenten\SDG_13.2_CO2-emissies gemeenteportefeuille\Ruwe data

Data quality estimate	Score 2 The research method of this data can be found here: https://www.cbs.nl/nl-nl/onze-diensten/methoden/onderzoeksomschrijvingen/korte-onderzoeksbeschrijvingen/verkeersprestaties-personenauto-s The original data comes from the online kilometer registration (OKR) of the RDW. This data is very reliable.
Unit of measurement	Kilometers
Selections	Not applicable
Data transformation	Not applicable
Data missing	Not applicable
Print Screens	In folder: Klantgroepen\Gemeenten\SDG_13.2_CO2-emissies gemeenteportefeuille\Printscreens\20210601 km bedrijfswagens.png

Topic	Description
Data	Gemeenten 2020 onbewerkte IV3-data
Data file	20210928 passiva gemeenten 2020.xlsx
Data Source	Dutch Central Bureau of Statistics Statline
Year	2021
Last update	22-09-2021
Date of download	28-09-2021
Link to webpage	https://iv3statline.cbs.nl/#/IV3/nl/dataset/45050NED/table?ts=1632405785668
Filters used to obtain the datafile	Gemeenten: allemaal Verslagsoort: Jaarrekening Categorie: Ultimo Onderwerp: 2e plaatsing Taakveld/balanspost: Passiva
Internal location	Klantgroepen\Gemeenten\SDG_13.2_CO2-emissies gemeenteportefeuille\Ruwe data
Data quality estimate	Score 2 High quality data. The data is directly delivered to CBS by municipalities from internal accounting systems. The data has not been edited by CBS.
Unit of measurement	Euro
Selections	No specific selections
Data transformation	No specific transformations
Data missing	No missing data
Print Screens	In folder: Klantgroepen\Gemeenten\SDG_13.2_CO2-emissies gemeenteportefeuille\Printscreens\iv3

Topic	Description
Data	Municipalities per COROP region
Data file	20210802 corop gemeente indeling 2020.xlsx
Data Source	Dutch Central Bureau of Statistics Statline
Year	2021
Last update	18-12-2020
Date of download	2-8-2021
Link to webpage	https://opendata.cbs.nl/#/CBS/nl/dataset/84721NED/table?dl=2A5C9
Filters used to obtain the datafile	Regio's: alle gemeenten Onderwerp: Codes en namen van gemeenten / lokaliseringen van gemeente (COROP)
Internal location	Original data: Gemeenten\SDG_13.2_CO2-emissies gemeenteportefeuille\Ruwe data\20210802 corop gemeente indeling 2020.xlsx
Data quality estimate	Score 1
Unit of measurement	Not applicable

Selections	Not applicable
Data transformation	Not applicable
Data missing	No missing data
Print Screens	In folder: Gemeenten\SDG_13.2_CO2-emissies gemeenteportefeuille\Printscreens\COROP

Topic	Description
Data	Standard business format: description per sectoral production category. The description of the sectoral production categories in this document is used to link categories of municipalities their finances to one or more sectoral production categories.
Data file	2021EP02 SBI Structuur_WEB.pdf
Data Source	CBS
Year	2019
Last update	2021
Date of download	23-09-2021
Link to webpage	https://www.cbs.nl/nl-nl/onze-diensten/methoden/classificaties/activiteiten/sbi-2008-standaard-bedrijfsindeling-2008/de-structuur-van-de-sbi-2008-versie-2019
Filters used to obtain the datafile	Not applicable
Internal location	Klantgroepen\Gemeenten\SDG_13.2_CO2-emissies gemeenteportefeuille\Ruwe data
Data quality estimate	Not applicable
Unit of measurement	Not applicable
Selections	Not applicable
Data transformation	Not applicable
Data missing	Not applicable
Print Screens	Not applicable

Topic	Description
Data	CO2 equivalent emissions to the air by the Dutch economy
Data file	20211027 CO2 emissies 17 18 19.xlsx
Data Source	Dutch Central Bureau of Statistics Statline
Year	2019
Last update	9-11-2020
Date of download	27-10-2021
Link to webpage	https://opendata.cbs.nl/#/CBS/nl/dataset/83300NED/table?dl=5932E
Filters used to obtain the datafile	Onderwerp: Broeikasgassen (klimaatverandering); Broeikasgas-equivalent Perioden: 2017, 2018, 2019 Nederlandse economie: Economische activiteiten A, B, C, D, E, F, G-I, J, K, L, M-N, O-Q, R-U
Internal location	Klantgroepen\Gemeenten\SDG_13.2_CO2-emissies gemeenteportefeuille\Ruwe data
Data quality estimate	Score 3 The research method used to obtain the data can be found here: https://www.cbs.nl/nl-nl/onze-diensten/methoden/onderzoeksomschrijvingen/korte-onderzoeksbeschrijvingen/milieurekeningen Data is based on environmental accounts. Important sources for the environmental accounts are environmental statistics, such as emission registrations, energy statistics (Dutch energy balance) and a macro economic system used by CBS.
Unit of measurement	CO_2 equivalent emissions: mln kilogram
Selections	Not applicable
Data transformation	Calculations were made with the data as described in the section calculation steps of municipalities (scope 3).
Data missing	Not applicable

Print Screens	In folder: Klantgroepen\Gemeenten\SDG_13.2_CO2-emissies gemeenteportefeuille\Printscreens\20211027 broeikasgas-equivalent_1.PNG

Topic	Description
Data	The monetary value of all produced goods and services in the Netherlands
Data file	20210923 bbp 18 19 20.xlsx
Data Source	Dutch Central Bureau of Statistics Statline
Year	2020
Last update	24-06-2021
Date of download	23-09-2021
Link to webpage	https://opendata.cbs.nl/#/CBS/nl/dataset/84087NED/table?ts=1601538240382
Filters used to obtain the datafile	Perioden: 2018/2019/2020 Onderwerp: BBP vanuit de productie: Output basisprijzen; intermediair verbruik (-) Bruto toegevoegde waarde basisprijzen; A, B, C, D, E, F, G-I, J, K, L, M-N, O-Q, R-U
Internal location	Klantgroepen\Gemeenten\SDG_13.2_CO2-emissies gemeenteportefeuille\Ruwe data
Data quality estimate	Score 3 Based on registered production statistics. The data quality has increased due to a number of checks and control functions in the method. The research method used to obtain the data can be found here: : https://www.cbs.nl/nl-nl/onze-diensten/methoden/onderzoeksomschrijvingen/korte-onderzoeksbeschrijvingen/nationale-rekeningen
Unit of measurement	Mln Euro
Selections	Not applicable
Data transformation	Calculations were made with the data as described in the section calculation steps of municipalities (scope 3)
Data missing	Not applicable
Print Screens	In folder: Klantgroepen\Gemeenten\SDG_13.2_CO2-emissies gemeenteportefeuille\Printscreens\20210923 bbp vanuit productie 18 19 20.PNG

Topic	Description
Data	Expenses of all Dutch municipalities per IV3/COFOG code
Data file	20210923 iv3 2020 gemeente.xlsx
Data Source	Dutch Central Bureau of Statistics Statline
Year	2020
Last update	2020: 22-09-2021
Date of download	23-09-2021
Link to webpage	2020: https://iv3statline.cbs.nl/#/IV3/nl/dataset/45050NED/table?ts=1632405785668
Filters used to obtain the datafile	Onderwerp: 2e plaatsing Taakveld/balanspost: alle taakvelden 0 t/m 8 Verslagsoort: Jaarrekening Gemeenten: alle gemeenten
Internal location	Klantgroepen\Gemeenten\SDG_13.2_CO2-emissies gemeenteportefeuille\Ruwe data
Data quality estimate	Score 2 High data quality. Data is directly supplied by municipalities from internal accounting systems. Provinces deliver the data to CBS, the data has not been edited by CBS.
Unit of measurement	Euro
Selections	Not applicable
Data transformation	Not applicable
Data missing	2020: Data for the municipalities ‘Hof van Twente’ and ‘Renswoude’ is missing

Print Screens	In folder: Klantgroepen\Gemeenten\SDG_13.2_CO2-emissies gemeenteportefeuille\Printscreens\iv3

3 Social housing associations

3.1 General factsheet

Topic	Description
Portfolio covered	86.2% of BNG bank's portfolio is covered for this costumer group. The percentage is in indication of the completeness of the dataset. It is calculated by looking at the collected data for all indicators for the customers in the loan portfolio of the BNG Bank. The percentage is lower than 100% if there are missing data. The missing data are either not available or it was not possible to collect or calculate these data correctly.
Indicators	- Energy consumption per social housing association – electricity (kWh) - Energy consumption per social housing association – natural gas (m^3) - Presence of solar panels for social housing associations - Amount of newly build social housings for social housing associations - Financial accessibility social housings - Total allocations within income limits - Conformity of dwellings and target group - CO_2 equivalent emissions per social housing association
Limitations	-

3.2 Factsheets per indicator

3.2.1 Energy consumption per social housing association – electricity (kWh)

Topic	Description
Data	The data used in this approach are from multiple sources. Most data are from The Human Environment and Transport Inspectorate (ILenT): National Authority of Social Housing Associations, Aedes, and the Dutch Central Bureau of Statistics (CBS). Data on dwellings per association and municipality, and types of dwellings are coming from The National Authority of Social Housing Associations, and are available at the level of individual social housing associations. These data are based on audited registration data, provided by the social housing associations themselves, and therefore very reliable. Data on average floor space per dwelling are based on registration data from the Dutch Central Bureau of Statistics (CBS). This data is based on the "Basisregistratie Adressen en Gebouwen" (BAG), which includes of all buildings in the Netherlands. It therefore is very reliable. This data is available at the aggregation level of municipalities. Data of the number of residents per households are based on registration data from the Dutch Central Bureau of Statistics (CBS). The whole Dutch population is in this sample. This data is available at the aggregation level of municipalities. The data on electricity use is based on connection registers of energy network companies, collected by the Dutch Central Bureau of Statistics (CBS). It is based on actual energy consumption, and therefore very reliable. This data is aggregated on the basis of type of dwelling, number of residents in households, and average floor space.
Calculation steps	The exact use of electricity per social housing association is unknown. Therefore, an estimation had to be made. To make this estimation as accurate as possible, various calculations were made. The electricity use based on connection registers of energy network companies, collected by the Dutch Central Bureau of Statistics (CBS) is used and is allocated to the individual housing associations on the basis of various characteristics. The following characteristics were taken into account: the number of rental units per social housing association in a certain municipality, type of rental unit (different types

	of single-family houses or multifamily house), the floor surface of the rental unit, the estimated number of residents per rental unit, and floor surface.
Limitations	The distribution of households by type of single-family houses dates from 2015. This data is dated, but researchers of Het PON & Telos assume that this distribution has not changed significantly over the past 5 years.
SDG	SDG 7.3
Data quality estimate	Score 2

Score	Quality requirement
1	Audited data or actual primary data
2	Non-audited data, or other primary data
3	Average data that is peer/(sub)sector-specific
4	Proxy data on the basis of region or country
5	Estimated data with very limited support

Topic	Description
Data	General data on social housing associations
Data file	dVI2019H1
Data Source	Inspectie Leefomgeving en Transport (ilent); Autoriteit Woningcorporaties
Year	2019
Last update	17-7-2021
Date of download	20-7-2021
Link to webpage	https://data.overheid.nl/dataset/verantwoordingsinformatie-woningcorporaties-dvi2019-hfd1
Filters used to obtain the datafile	Not applicable
Internal location	Klantgroepen\Woningcorporaties\Basisbestanden
Data quality estimate	Score 1 Audited data per social housing association specific.
Unit of measurement	Not applicable
Selections	Not applicable
Data transformation	Not applicable
Data missing	Not applicable
Print Screens	In folder: Klantgroepen\Woningcorporaties\Basisbestanden

Topic	Description
Data	Municipalities and codes
Data file	Gebieden_in_Nederland_2020_20072021_170653
Data Source	Dutch Central Bureau of Statistics Statline
Year	2020
Last update	18 December 2020
Date of download	20-7-2021
Link to webpage	https://opendata.cbs.nl/#/CBS/nl/dataset/84721NED/table?dl=B165
Filters used to obtain the datafile	Not applicable
Internal location	Klantgroepen\Woningcorporaties\Basisbestanden
Data quality estimate	Not applicable
Unit of measurement	Not applicable
Selections	Not applicable
Data transformation	Not applicable
Data missing	Not applicable
Print Screens	In folder: Klantgroepen\Woningcorporaties\Basisbestanden

Topic	Description
Data	Number of dwellings per social housing association and municipality
Data file	DVI2019 H2
Data Source	Inspectie Leefomgeving en Transport (ilent); Autoriteit Woningcorporaties
Year	2019
Last update	5-7-2021
Date of download	20-7-2021
Link to webpage	https://data.overheid.nl/dataset/verantwoordingsinformatie-woningcorporaties-dvi2019-hfd2
Filters used to obtain the datafile	Not applicable
Internal location	Klantgroepen\Woningcorporaties\Basisbestanden
Data quality estimate	Score 1 Audited data per social housing association specific.
Unit of measurement	Number of dwellings
Selections	Not applicable
Data transformation	Not applicable
Data missing	For five social housing associations it was unknown in which municipality the dwellings were located. In that case the number of dwellings were added to one of the other municipalities the social housing association had dwellings. The number of dwellings varied from 1 till 21 and the impact is insignificant.
Print Screens	In folder: Klantgroepen\Woningcorporaties\Basisbestanden

Topic	Description
Data	Type of dwellings per social housing association
Data file	Type - woningcorporaties
Data Source	Aedes Datacentrum; dVi (de Verantwoordingsinformatie)
Year	2018 & 2019 only the year 2019 used for calculations
Last update	23-4-2021
Date of download	20-7-2021
Link to webpage	https://aedesdatacentrum.nl/jive
Filters used to obtain the datafile	Beschikbaarheid > kenmerken woningen > aantallen > type > Eengezinswoningen, Etagebouw zonder lift, Etagebouw met lift en hoogbouw Alle woningcorporaties Jaren: 2018 en 2019
Internal location	Klantgroepen\Woningcorporaties\Basisbestanden
Data quality estimate	Score 1 Audited data per social housing association specific.
Unit of measurement	Number of dwellings
Selections	Not applicable
Data transformation	Not applicable
Data missing	For 4 social housing associations data of 2018 and 2019 were missing. In that case data of 2017 was used from the spreadsheet of last year.
Print Screens	In folder: Klantgroepen\Woningcorporaties\Basisbestanden

Topic	Description
Data	Average floor space per type of dwelling and municipality
Data file	20210720 - Gemiddelde oppervlakte per type woning
Data Source	CBS, Statline
Year	2019 & 2020 only the year 2020 used for calculations
Last update	2-4-2021

Date of download	21-7-2021
Link to webpage	https://opendata.cbs.nl/statline/#/CBS/nl/dataset/82550NED/table?dl=566F4
Filters used to obtain the datafile	Bouwjaarklasse: Totaal Woningtype: Totaal, Eengezinswoning, Meergezinswoning Regio's: Totalen, gemeenten per provincie Perioden: 2019, 2020 Onderwerp: Gemiddelde oppervlakte
Internal location	Klantgroepen\Woningcorporaties\Basisbestanden
Data quality estimate	Score 1 Based on audited registration data of all buildings registered in BAG (Basisregistratie Adressen en Gebouwen). Municipalities are responsible for the collection of this data. Kadaster and the Ministry of Infrastructure and Water Management perform a triennial audit.
Unit of measurement	m^2
Selections	Not applicable
Data transformation	Not applicable
Data missing	For the calculations no crucial data was missing.
Print Screens	In folder: Klantgroepen\Woningcorporaties\Basisbestanden

Topic	Description
Data	Total number of households per municipality
Data file	20210721 – Totaal particuliere huishoudens
Data Source	Dutch Central Bureau of Statistics Statline
Year	2019 & 2020 only the year 2020 used for calculations
Last update	11-08-2020
Date of download	21-7-2021
Link to webpage	https://opendata.cbs.nl/statline/#/CBS/nl/dataset/71486ned/table?dl=566F8
Filters used to obtain the datafile	Leeftijd referentiepersoon: Totaal Onderwerp: Particuliere huishoudens: samenstelling Regio's: Totalen, gemeenten per provincie Perioden: 2019, 2020
Internal location	Klantgroepen\Woningcorporaties\Basisbestanden
Data quality estimate	Score 1 Based on audited registration data of all Dutch citizens. More information: https://www.cbs.nl/nl-nl/onze-diensten/methoden/onderzoeksomschrijvingen/korte-onderzoeksbeschrijvingen/huishoudensstatistiek
Unit of measurement	Number of households
Selections	Not applicable
Data transformation	Not applicable
Data missing	For the calculations no crucial data was missing.
Print Screens	In folder: Klantgroepen\Woningcorporaties\Basisbestanden

Topic	Description
Data	Total number citizens living in households per municipality
Data file	20210721 – Totaal in particuliere huishoudens
Data Source	Dutch Central Bureau of Statistics Statline
Year	2019 & 2020 only the year 2020 used for calculations
Last update	9-7-2021
Date of download	21-7-2021
Link to webpage	https://opendata.cbs.nl/statline/#/CBS/nl/dataset/71488ned/table?dl=566F9
Filters used to obtain the datafile	Geslacht: Mannen en vrouwen Leeftijd: Totaal

	Onderwerp: Personen in particuliere huishoudens Regio's: Totalen, gemeenten per provincie Perioden: 2019, 2020
Internal location	Klantgroepen\Woningcorporaties\Basisbestanden
Data quality estimate	Score 1 Based on audited registration data of all Dutch citizens. More information: https://www.cbs.nl/nl-nl/onze-diensten/methoden/onderzoeksomschrijvingen/korte-onderzoeksbeschrijvingen/huishoudensstatistiek
Unit of measurement	Number of citizens living in households
Selections	Not applicable
Data transformation	Not applicable
Data missing	For the calculations no crucial data was missing.
Print Screens	In folder: Klantgroepen\Woningcorporaties\Basisbestanden

Topic	Description
Data	Average electricity use per inhabitant, type of dwelling, number of residents in households and average floor space
Data file	202110721 – Elektriciteitslevering vanuit het openbare net
Data Source	Dutch Central Bureau of Statistics Statline
Year	2018 & 2019 only the year 2019 used for calculations
Last update	19-1-2021
Date of download	21-7-2021
Link to webpage	https://opendata.cbs.nl/statline/#/CBS/nl/dataset/83882NED/table?dl=566FA
Filters used to obtain the datafile	Woningkenmerken: Alle (Gebruiks)oppervlakteklasse: Alle Bewonersklasse woningen: Alle Onderwerp: Elektriciteitsleveringen; openbare net Percentielen: Gemiddelde Perioden: 2018, 2019
Internal location	Klantgroepen\Woningcorporaties\SDG_7.3_kWh elektriciteitsverbruik corporatiewoningen in portefeuille
Data quality estimate	Score 2 Highly reliable data, because of the manner of registration. There have been a lot of control- and correction methods used, which can be found here: https://www.cbs.nl/nl-nl/onze-diensten/methoden/onderzoeksomschrijvingen/korte-onderzoeksbeschrijvingen/energiekentallen-woningen It is not score 1 because links are made between several registers to do the calculations.
Unit of measurement	kWh per inhabitant
Selections	Not applicable
Data transformation	Not applicable
Data missing	For the calculations no crucial data was missing.
Print Screens	In folder: Klantgroepen\Woningcorporaties\SDG_7.3_kWh elektriciteitsverbruik corporatiewoningen in portefeuille

Topic	Description
Data	Number of dwellings per type of dwelling in the Netherlands
Data file	Maatwerk-Woningkenmerken-tijdreeks
Data Source	CBS, Maatwerktabel
Year	2016
Last update	April 2016
Date of download	21-07-2021
Link to webpage	https://www.cbs.nl/nl-nl/maatwerk/2016/14/woningkenmerken-tijdreeks

Filters used to obtain the datafile	Not applicable
Internal location	Klantgroepen\Woningcorporaties\SDG_7.3_kWh elektriciteitsverbruik corporatiewoningen in portefeuille
Data quality estimate	Score 2 Based on WoON questionaire (woon onderzoek Nederland). This is a sample survey. This means that the data are based on reliable estimates, with a 95% confidence interval. More information: http://www.cbs.nl/nl-NL/menu/themas/bouwen-wonen/methoden/dataverzameling/korte-onderzoeksbeschrijvingen/woningonderzoek-nederland-art.htm
Unit of measurement	Percentage of households per type of single-family houses
Selections	Not applicable
Data transformation	For terraced houses and corner houses one percentage was divided by 2 to have one percentage for each type of house.
Data missing	Not applicable
Print Screens	Not applicable

3.2.2 Energy consumption per social housing association - natural gas (m^3)

Topic	Description
Data	The data used in this approach are from multiple sources. Most data are from The Human Environment and Transport Inspectorate (ILenT): National Authority of Social Housing Associations, Aedes, and the Dutch Central Bureau of Statistics (CBS). Data on energy labels, dwellings per association and municipality, and types of dwellings are coming from The National Authority of Social Housing Associations, and are available at the level of individual social housing associations. These data are based on audited registration data, provided by the social housing associations themselves, and therefore very reliable. Data on average floor space per dwelling are based on registration data from the Dutch Central Bureau of Statistics (CBS). This data is based on the "Basisregistratie Adressen en Gebouwen" (BAG), which includes of all buildings in the Netherlands. It therefore is very reliable. This data is available at the aggregation level of municipalities. Data of the number of residents per households are based on registration data from the Dutch Central Bureau of Statistics (CBS). The whole Dutch population is in this sample. This data is available at the aggregation level of municipalities. The data on natural gas use is based on connection registers of energy network companies, collected by the Dutch Central Bureau of Statistics (CBS). It is based on actual energy consumption, and therefore very reliable. This data is aggregated on the basis of type of dwelling, energy label, and average floor space. The data on electricity use is based on connection registers of energy network companies, collected by the Dutch Central Bureau of Statistics (CBS). It is based on actual energy consumption, and therefore very reliable. This data is aggregated on the basis of type of dwelling, number of residents in households, and average floor space. The data on district heating is based on connection registers of energy network companies, collected by the Dutch Central Bureau of Statistics (CBS). It is based on actual energy consumption, and therefore very reliable. This data is aggregated on the basis of type of dwelling, number of residents in households, and average floor space. In a few cases of missing data, data from 2017 has been used because data from 2018 and 2019 was not available. If that is the case, it is shown in the calculations sheets.
Calculation steps	The exact use of natural gas per social housing association is unknown. Therefore, an estimation had to be made. To make this estimation as accurate as possible, various calculations were made. The

	natural gas consumption of certain types of homes collected by the Dutch Central Bureau of Statistics (CBS) is used and is allocated to the individual housing associations on the basis of various characteristics. The following characteristics were taken into account: energy-labels of the rental units, the number of rental units per social housing association in a certain municipality, the type of rental unit (different types of single-family houses or multifamily house), and the floor surface of the rental unit.
Limitations	The distribution of households by type of single-family houses dates from 2015. This data is dated, but researchers of Het PON & Telos assume that this distribution has not changed significantly over the past 5 years.
SDG	SDG 7.3
Data quality estimate	Score 2

Score	Quality requirement
1	Audited data or actual primary data
2	Non-audited data, or other primary data
3	Average data that is peer/(sub)sector-specific
4	Proxy data on the basis of region or country
5	Estimated data with very limited support

Topic	Description
Data	General data on social housing associations
Data file	dVI2019H1
Data Source	Inspectie Leefomgeving en Transport (ilent); Autoriteit Woningcorporaties
Year	2019
Last update	17-7-2021
Date of download	20-7-2021
Link to webpage	https://data.overheid.nl/dataset/verantwoordingsinformatie-woningcorporaties-dvi2019-hfd1
Filters used to obtain the datafile	Not applicable
Internal location	Klantgroepen\Woningcorporaties\Basisbestanden
Data quality estimate	Score 1 Audited data per social housing association specific.
Unit of measurement	Not applicable
Selections	Not applicable
Data transformation	Not applicable
Data missing	Not applicable
Print Screens	In folder: Klantgroepen\Woningcorporaties\Basisbestanden

Topic	Description
Data	Number of dwellings per social housing association and energy label
Data file	dPI2020 H2
Data Source	Inspectie Leefomgeving en Transport (ilent); Autoriteit Woningcorporaties
Year	2020
Last update	23-08-2021
Date of download	24-8-2021
Link to webpage	https://data.overheid.nl/dataset/prognose-informatie-woningcorporaties-dpi2020-hfd2
Filters used to obtain the datafile	Not applicable
Internal location	Klantgroepen\Woningcorporaties\Basisbestanden
Data quality estimate	Score 1

	Audited data per social housing association specific. There were some issues about the data quality found by the WSW (Waarborgfonds Sociale Woningbouw), which can be found here: https://servicedesk.sbr-wonen.nl/support/solutions/articles/75000055665-kwaliteit-van-de-aangeleverde-gegevens-dpi2020
Unit of measurement	Energy index
Selections	Only TI (institution with its own annual accounts) was selected.
Data transformation	Transformation of Energy-index to Energy-label: Energy Index <= 0,6 AAA 0,6 < Energy Index <= 0,8 AA 0,8 < Energy Index <= 1,2 A 1,2 < Energy Index <= 1,4 B 1,4 < Energy Index <= 1,8 C 1,8 < Energy Index <= 2,1 D 2,1 < Energy Index <= 2,4 E 2,4 < Energy Index <= 2,7 F Energy index > 2,7 G Energy Index unknown O For the calculations the categories AAA / AA / A were added up to category A
Data missing	Not applicable
Print Screens	In folder: Klantgroepen\Woningcorporaties\Basisbestanden

Topic	Description
Data	Number of dwellings per social housing association and municipality
Data file	DVI2019 H2
Data Source	Inspectie Leefomgeving en Transport (ilent); Autoriteit Woningcorporaties
Year	2019
Last update	5-7-2021
Date of download	20-7-2021
Link to webpage	https://data.overheid.nl/dataset/verantwoordingsinformatie-woningcorporaties-dvi2019-hfd2
Filters used to obtain the datafile	Not applicable
Internal location	Klantgroepen\Woningcorporaties\Basisbestanden
Data quality estimate	Score 1 Audited data per social housing association specific.
Unit of measurement	Number of dwellings
Selections	Not applicable
Data transformation	Not applicable
Data missing	For five social housing associations it was unknown in which municipality the dwellings were located. In that case the number of dwellings were added to one of the other municipalities the social housing association had dwellings. The number of dwellings varied from 1 till 21 and the impact is insignificant.
Print Screens	In folder: Klantgroepen\Woningcorporaties\Basisbestanden

Topic	Description
Data	Type of dwellings per social housing association
Data file	Type - woningcorporaties
Data Source	Aedes Datacentrum; dVi (de Verantwoordingsinformatie)
Year	2018 & 2019 only the year 2019 used for calculations
Last update	23-4-2021

Date of download	20-7-2021
Link to webpage	https://aedesdatacentrum.nl/jive
Filters used to obtain the datafile	Beschikbaarheid > kenmerken woningen > aantallen > type > Eengezinswoningen, Etagebouw zonder lift, Etagebouw met lift en hoogbouw Alle woningcorporaties Jaren: 2018 en 2019
Internal location	Klantgroepen\Woningcorporaties\Basisbestanden
Data quality estimate	Score 1 Audited data per social housing association specific.
Unit of measurement	Number of dwellings
Selections	Not applicable
Data transformation	Not applicable
Data missing	For 4 social housing associations data of 2018 and 2019 were missing. In that case data of 2017 was used from the spreadsheet of last year.
Print Screens	In folder: Klantgroepen\Woningcorporaties\Basisbestanden

Topic	Description
Data	Average floor space per type of dwelling and municipality
Data file	20210720 - Gemiddelde oppervlakte per type woning
Data Source	CBS, Statline
Year	2019 & 2020 only the year 2020 used for calculations
Last update	2-4-2021
Date of download	21-7-2021
Link to webpage	https://opendata.cbs.nl/statline/#/CBS/nl/dataset/82550NED/table?dl=566F4
Filters used to obtain the datafile	Bouwjaarklasse: Totaal Woningtype: Totaal, Eengezinswoning, Meergezinswoning Regio's: Totalen, gemeenten per provincie Perioden: 2019, 2020 Onderwerp: Gemiddelde oppervlakte
Internal location	Klantgroepen\Woningcorporaties\Basisbestanden
Data quality estimate	Score 1 Based on audited registration data of all buildings registered in BAG (Basisregistratie Adressen en Gebouwen). Municipalities are responsible for the collection of this data. Kadaster and the Ministry of Infrastructure and Water Management perform a triennial audit.
Unit of measurement	m^2
Selections	Not applicable
Data transformation	Not applicable
Data missing	For the calculations no crucial data was missing.
Print Screens	In folder: Klantgroepen\Woningcorporaties\Basisbestanden

Topic	Description
Data	Average natural gas use per square meter, type of dwelling, energy label and average floor space.
Data file	20210824 – Aardgaslevering woningkenmerken
Data Source	CBS, Statline
Year	2018 & 2019 only the year 2019 used for calculations
Last update	19-1-2021
Date of download	24-8-2021
Link to webpage	https://opendata.cbs.nl/#/CBS/nl/dataset/83878NED/table?dl=57BFE
Filters used to obtain the datafile	Bouwjaarklasse: Totaal (Gebruiks)oppervlakteklasse: Alle

	Woningkenmerken: Alle Onderwerp: Aardgasleveringen; openbare net Energielabelklasse: Alle Percentielen: Gemiddelde Perioden: 2018, 2019
Internal location	Klantgroepen\Woningcorporaties\SDG_7.3_m3 gasverbruik corporatiewoningen in portefeuille
Data quality estimate	Score 2 Highly reliable data, because of the manner of registration. There have been a lot of control- and correction methods used, which can be found here: https://www.cbs.nl/nl-nl/onze-diensten/methoden/onderzoeksomschrijvingen/korte-onderzoeksbeschrijvingen/energiekentallen-woningen It is not a score 1 because links are made between several registers to do the calculations.
Unit of measurement	m^3/m^2
Selections	Not applicable
Data transformation	Not applicable
Data missing	Not applicable
Print Screens	In folder: Klantgroepen\Woningcorporaties\SDG_7.3_m3 gasverbruik corporatiewoningen in portefeuille

Topic	Description
Data	Number of dwellings per type of dwelling in the Netherlands
Data file	Maatwerk-Woningkenmerken-tijdreeks
Data Source	CBS, Maatwerktabel
Year	2016
Last update	April 2016
Date of download	21-07-2021
Link to webpage	https://www.cbs.nl/nl-nl/maatwerk/2016/14/woningkenmerken-tijdreeks
Filters used to obtain the datafile	Not applicable
Internal location	Klantgroepen\Woningcorporaties\SDG_7.3_m3 gasverbruik corporatiewoningen in portefeuille
Data quality estimate	Score 2 Based on WoON questionaire (woon onderzoek Nederland). This is a sample survey. This means that the data are based on reliable estimates, with a 95% confidence interval. More information: http://www.cbs.nl/nl-NL/menu/themas/bouwen-wonen/methoden/dataverzameling/korte-onderzoeksbeschrijvingen/woningonderzoek-nederland-art.htm
Unit of measurement	Percentage of households per type of single-family houses
Selections	Not applicable
Data transformation	For terraced houses and corner houses one percentage was divided by 2 to have one percentage for each type of house.
Data missing	Not applicable
Print Screens	Not applicable

3.2.3 Presence of solar panels for social housing associations

Topic	Description
Data	The presence of solar panels per social housing association . The dataset contains for each housing association: Total number of houses with solar panels Percentage of houses with solar panels Percentage of single-family houses with solar panels

	This data is based on datasets of the energy consumption for housing associations from two network operators: Liander and Enexis.
Calculation steps	The data is obtained by performing the following steps: Each year we collect the energy consumption for all houses owned by housing associations from network operators. This leads to a dataset containing the energy consumption and energy redelivery per house. The data is available for all houses located in the areas where Liander or Enexis is active (1.3 million houses). The presence of solar panels can be indicated by the value of energy redelivery. When the energy redelivery is above zero we assume there are solar panels present at a house. Per housing association the following values are obtained: - total of houses - total of houses with solar panels Percentages can be obtained by dividing the houses with solar panels by the total of houses for which data is available. When the data is available for less than 60% of the houses per corporation, values are replaced by '*'.
Limitations	The data is only available for houses located in the areas where Liander and Enexis are active. This means that the information is available for 60% of all houses owned by housing associations.
SDG	SDG 7.2
Data quality estimate	3 – Average data that is peer/(sub)sector-specific

Score	Quality requirement
1	Audited data or actual primary data
2	Non-audited data, or other primary data
3	Average data that is peer/(sub)sector-specific
4	Proxy data on the basis of region or country
5	Estimated data with very limited support

Topic	Description
Data	Energy redelivery per house owned by housing associations
Data file	22012022-aanwezigheidzonnepanelen
Data Source	Republiq
Year	2021
Last update	03-11-2021
Date of download	08-12-2021
Link to webpage	Not applicable
Filters used to obtain the datafile	Netbeheerder_elektra = Liander or netbeheerder_elektra=Enexis
Internal location	Klantgroepen\Woningcorporaties\SDG_7.2_Zonnepanelen
Data quality estimate	3
Unit of measurement	kWh
Selections	Not applicable
Data missing	Data is missing for the houses that are not located in one of the areas where Liander or Enexis is active.
Print Screens	Internal location Republiq

3.2.4 Amount of newly build social houses per social housing associations

Topic	Description
Data	Number of new units per year per housing association divided in rental and owner-occupied. Data on new owner occupied units obtained from dVi woningcorporaties: https://data.overheid.nl/
Calculation steps	The data is obtained by performing the following steps: Download the number of independent rental units, and new rental units per year per housing association from Aedes Datacentrum. Obtain the number of new owner-occupied homes per year by downloading the dVi files. Chapter one of dVi contains the names and institution numbers of the housing associations. Chapter two contains the number of new realized units per year and the corresponding institution number. By joining both chapters on institution number the number of new units per housing association are obtained. The results of both steps are joined on name of housing association. Multiple housing associations have merged in the period 2016-2019. The measure values in this dataset are given for each housing association for each year. When an institution does not longer exist after a merge, the values are set at zero from the year of the merge. From that year on the values of new units are added to the values of the institution that remains or arises after the merge. The column 'corporatie'_huidig' contains the current name of each housing association.
Limitations	Not applicable
SDG	SDG 11.1
Data quality estimate	1 - Audited data or actual primary data

Score	Quality requirement
1	Audited data or actual primary data
2	Non-audited data, or other primary data
3	Average data that is peer/(sub)sector-specific
4	Proxy data on the basis of region or country
5	Estimated data with very limited support

Topic	Description
Data	Number of rental units and number of new rental units per housing association.
Data file	Kopie van 20220120 – 4. Aantal nieuwe verhuurwoningen
Data Source	Aedes Datacentrum
Year	2016-2019
Last update	19-11-2020
Date of download	08-12-2021
Link to webpage	https://aedesdatacentrum.nl/jive/ ?Var=dvi_21_2,dvi_21_7,dvi_21_14,dvi_21_15 ,dvi_21_16,dvi_21_17,dvi_22a_6,dvi_22a_17,dvi_22a_7,dvi_22a_18& Mostrecentperiods=5&geolevel=nederland&geoitem=1&geocompare=
Filters used to obtain the datafile	Year: 2016, 2017, 2018, 2019 Subjects: Zelfstandige huurwoningen DAEB, Zelfstandige huurwoningen niet-DAEB, nieuwbouw woongelegenheden Level: woningcorporatie
Internal location	Klantgroepen\Woningcorporaties\SDG_11.1_Nieuwbouw woongelegenheden
Data quality estimate	1
Unit of measurement	Number of rental units
Selections	Not applicable
Data missing	Not applicable

Print Screens	Internal location Republiq

Topic	Description
Data	Accountability information housing associations (adresgegevens woningcorps… 2019)
Data file	Kopie van 20220120 – 4. Aantal nieuwe verhuurwoningen
Data Source	Inspectie Leefomgeving en Transport (Rijk)
Year	2019
Last update	13-09-2021
Date of download	08-12-2021
Link to webpage	https://data.overheid.nl/dataset/verantwoordingsinformatie-woningcorporaties-dvi2019-hfd2
Filters used to obtain the datafile	Not applicable
Internal location	Klantgroepen\Woningcorporaties\SDG_11.1_Nieuwbouw woongelegenheden
Data quality estimate	1
Unit of measurement	Units
Selections	Not applicable
Data missing	Not applicable
Print Screens	Internal location Republiq

Topic	Description
Data	Accountability information housing associations (adresgegevens woningcorps… 2019)
Data file	Kopie van 20220120 – 4. Aantal nieuwe verhuurwoningen
Data Source	Inspectie Leefomgeving en Transport (Rijk)
Year	2018
Last update	02-10-2021
Date of download	08-12-2021
Link to webpage	https://data.overheid.nl/dataset/verantwoordingsinformatie-woningcorporaties-dvi2018-hfd1
Filters used to obtain the datafile	Not applicable
Internal location	Klantgroepen\Woningcorporaties\SDG_11.1_Nieuwbouw woongelegenheden
Data quality estimate	1
Unit of measurement	Not applicable
Selections	Not applicable
Data missing	Not applicable
Print Screens	Internal location Republiq

Topic	Description
Data	Accountability information housing associations (adresgegevens woningcorps… 2019)
Data file	Kopie van 20220120 – 4. Aantal nieuwe verhuurwoningen
Data Source	Inspectie Leefomgeving en Transport (Rijk)
Year	2018
Last update	04-10-2021
Date of download	08-12-2021
Link to webpage	https://data.overheid.nl/dataset/verantwoordingsinformatie-woningcorporaties-dvi2018-hfd2
Filters used to obtain the datafile	Not applicable

Internal location	Klantgroepen\Woningcorporaties\SDG_11.1_Nieuwbouw woongelegenheden
Data quality estimate	1
Unit of measurement	Units
Selections	Not applicable
Data missing	Not applicable
Print Screens	Internal location Republiq

Topic	Description
Data	Accountability information housing associations (adresgegevens woningcorps… 2019)
Data file	Kopie van 20220120 – 4. Aantal nieuwe verhuurwoningen
Data Source	Inspectie Leefomgeving en Transport (Rijk)
Year	2017
Last update	26-09-2021
Date of download	08-12-2021
Link to webpage	https://data.overheid.nl/dataset/verantwoordingsinformatie-woningcorporaties-dvi2017-hfd1
Filters used to obtain the datafile	Not applicable
Internal location	Klantgroepen\Woningcorporaties\SDG_11.1_Nieuwbouw woongelegenheden
Data quality estimate	1
Unit of measurement	Not applicable
Selections	Not applicable
Data missing	Not applicable
Print Screens	Internal location Republiq

Topic	Description
Data	Accountability information housing associations (adresgegevens woningcorps… 2019)
Data file	Kopie van 20220120 – 4. Aantal nieuwe verhuurwoningen
Data Source	Inspectie Leefomgeving en Transport (Rijk)
Year	2017
Last update	26-09-2021
Date of download	08-12-2021
Link to webpage	https://data.overheid.nl/dataset/verantwoordingsinformatie-woningcorporaties-dvi2017-hfd2
Filters used to obtain the datafile	Not applicable
Internal location	Klantgroepen\Woningcorporaties\SDG_11.1_Nieuwbouw woongelegenheden
Data quality estimate	1
Unit of measurement	Number of units
Selections	Not applicable
Data missing	Not applicable
Print Screens	Internal location Republiq

Topic	Description
Data	Accountability information housing associations (adresgegevens woningcorps… 2019)
Data file	Kopie van 20220120 – 4. Aantal nieuwe verhuurwoningen
Data Source	Inspectie Leefomgeving en Transport (Rijk)
Year	2016
Last update	20-09-2021

Date of download	08-12-2021
Link to webpage	https://data.overheid.nl/dataset/verantwoordingsinformatie-woningcorporaties-dvi2016-hfd1
Filters used to obtain the datafile	Not applicable
Internal location	Klantgroepen\Woningcorporaties\SDG_11.1_Nieuwbouw woongelegenheden
Data quality estimate	1
Unit of measurement	Not applicable
Selections	Not applicable
Data missing	Not applicable
Print Screens	Internal location Republiq

Topic	Description
Data	Accountability information housing associations
Data file	Kopie van 20220120 – 4. Aantal nieuwe verhuurwoningen
Data Source	Inspectie Leefomgeving en Transport (Rijk)
Year	2016
Last update	04-10-2021
Date of download	08-12-2021
Link to webpage	https://data.overheid.nl/dataset/verantwoordingsinformatie-woningcorporaties-dvi2016-hfd2
Filters used to obtain the datafile	Not applicable
Internal location	Klantgroepen\Woningcorporaties\SDG_11.1_Nieuwbouw woongelegenheden
Data quality estimate	1
Unit of measurement	Number of units
Selections	Not applicable
Data missing	Not applicable
Print Screens	Internal location Republiq

3.2.5 Financial accessibility social housings

Topic	Description
Data	All data used for this indicator comes from the Aedes benchmark 'individuele benchmarkpositie van corporaties 2021'.
Calculation steps	In 2021, the Aedes benchmark has been published for the eighth year and has developed into a leading instrument for the benchmark of social housings associations. The benchmark gives insight in the performance of social housing associations and enables comparison between housing associations. A total of 269 housing associations are represented in the Aedes benchmark. That represents 98% of all Dutch social housing associations. Social housing dwellings are considered to be financial accessible when the rental price is categorized as 'tot de aftoppingsgrens'. This means the rental price of the dwelling can't exceed a certain price. For 2021, the 'aftoppingsgrens' was €633.25 for one- and two-person households and €678.66 for multi-person households. The 'liberalisatiegrens' is the maximum rent that can be charged for a social housing dwelling. In 2021, the 'liberalisatiegrens' was €752.33. If this price is exceeded, it is no longer considered to be a social housing dwelling.

<table>
<tr><td></td><td>The percentage of financial accessible social housing dwellings is calculated by Aedes. Aedes divides the number of allocated dwellings in rental price category ‘tot de aftoppingsgrens’ by the number of allocated dwellings in rental price category ‘tot de liberalisatiegrens’. This gives the percentage of allocated dwellings ‘tot de aftoppingsgrens’ within the total allocated social housing dwellings.

The exact number and definitions can be find :
https://www.woningmarktbeleid.nl/actueel/nieuws/2020/11/18/inkomens--en-huurgrenzen-huurtoeslag-2021-bekend</td></tr>
<tr><td>Limitations</td><td>No limitations</td></tr>
<tr><td>SDG</td><td>SDG 11.1: Sustainable cities and communities</td></tr>
<tr><td>Data quality estimate</td><td>All the data is primary data which is obtained directly from the social housing associations. No calculations or estimations needed.

Data quality score = 1

<table><tr><th>Score</th><th>Quality requirement</th></tr><tr><td>1</td><td>Audited data or actual primary data</td></tr><tr><td>2</td><td>Non-audited data, or other primary data</td></tr><tr><td>3</td><td>Average data that is peer/(sub)sector-specific</td></tr><tr><td>4</td><td>Proxy data on the basis of region or country</td></tr><tr><td>5</td><td>Estimated data with very limited support</td></tr></table></td></tr>
</table>

Topic	Description
Data	Benchmark with data from all social housing associations
Data file	Aedes-benchmark 2021 individuele resultaten corporaties
Data Source	Aedes
Year	2021
Last update	18-11-2021
Date of download	06-01-2022
Link to webpage	https://aedes.nl/aedes-benchmark/benchmarkresultaten-en-publicaties
Filters used to obtain the datafile	Not applicable
Internal location	Klantgroepen\Woningcorporaties\Basisbestanden
Data quality estimate	1
Unit of measurement	Percentages
Selections	Not applicable
Data missing	Not applicable
Print Screens	Klantgroepen\Woningcorporaties\Basisbestanden\Printscreens

3.2.6 Total allocations within income limits

Topic	Description
Data	All data for this indicator is obtained from dVi woningcorporaties H5.2.1 via: https://data.overheid.nl/
Calculation steps	The data is obtained by performing the following steps: Obtain the total allocations for all housing associations by downloading dVi chapter five. Tab 'data 5.2.1.' shows the total allocations for one-person, two-person and multi-person households, both above and below the retirement age and also above and below income limits. Allocations are also differentiated based on rental prices in categories 'basishuur', boven kwaliteitskortingsgrens onder laagste aftoppingsgrens', boven laagste aftoppingsgrens onder liberalisatiegrens' and 'tot en met kwaliteitskortingsgrens'. In order to calculate the total allocations within income limits we add up the following allocations: - Total number of allocations for one-person households, both above en below retirement age, below income limits for all rental price categories. - Total number of allocations for two-person households, both above en below retirement age, below income limits for all rental price categories. - Total number of allocations for multi-person households, both above en below retirement age, below income limits for all rental price categories. - Total number of allocations below income limits for price category 'boven liberalisatiegrens'. The exact numbers of all the limits and categories can be obtained from: https://www.woningmarktbeleid.nl/actueel/nieuws/2020/11/18/inkomens--en-huurgrenzen-huurtoeslag-2021-bekend Inkomensgrenzen passend toewijzen 2021 Eenpersoonshuishouden €23.725 Meerpersoonshuishouden €32.200 Eenpersoonsouderenhuishouden €23.650 Meerpersoonsouderenhuishouden €32.075
Limitations	No limitations
SDG	SDG 11.1: Sustainable cities and communities
Data quality estimate	All the data is primary data which is obtained directly from the social housing associations. No calculations or estimations needed. Data quality score = 1

Score	Quality requirement
1	Audited data or actual primary data
2	Non-audited data, or other primary data
3	Average data that is peer/(sub)sector-specific
4	Proxy data on the basis of region or country
5	Estimated data with very limited support

Topic	Description
Data	Accountability information housing associations
Data file	dVi2019 H5
Data Source	Inspectie Leefomgeving en Transport (Rijk)

Year	2019
Last update	09-01-2022
Date of download	12-01-2022
Link to webpage	https://data.overheid.nl/dataset/verantwoordingsinformatie-woningcorporaties-dvi2019-hfd5
Filters used to obtain the datafile	Not applicable
Internal location	Klantgroepen\Woningcorporaties\SDG_11.1_Toewijzingen binnen inkomensgrenzen
Data quality estimate	1
Unit of measurement	Number of allocations
Selections	Not applicable
Data missing	Not applicable
Print Screens	Klantgroepen\Woningcorporaties\SDG_11.1_Toewijzingen binnen inkomensgrenzen

3.2.7 Conformity of dwellings and target group

Topic	Description
Data	All data used for this indicator comes from the Aedes benchmark 'individuele benchmarkpositie van corporaties 2021'.
Calculation steps	In 2021, the Aedes benchmark has been published for the eighth year and has developed into a leading instrument for social housings associations as bechmark. The benchmark gives insight in the performance of social housing associations and enables comparison between housing associations. A total of 269 housing associations are represented in the Aedes benchmark. That represents 98% of all Dutch social housing associations. The conformity of dwellings and target group is calculated by Aedes. Aedes first obtains the total number of dwellings per housing association from the dVi files. The target group is obtained by adding three categories of households: - Households in the target group (based on the income limits see 3.2.6 for the exact numbers) that currently live in a social housing dwelling, regardless of rental price. - Households not in the target group that currently live in a social housing dwelling, with rental price in category 'tot aftoppingsgrens'. - The demand for social housing dwellings from (semi-)starters like young adults or divorcees. The conformity of dwellings and target group is then calculated by dividing the demand from the three categories of households by the total number of dwellings per social housing association multiplied by 100.
Limitations	No limitations
SDG	SDG 11.1
Data quality estimate	All the data is primary data which is obtained directly from the social housing associations. No calculations or estimations needed. Data quality score = 2

Score	Quality requirement
1	Audited data or actual primary data
2	Non-audited data, or other primary data
3	Average data that is peer/(sub)sector-specific
4	Proxy data on the basis of region or country
5	Estimated data with very limited support

Topic	Description
Data	Benchmark with data from all social housing associations
Data file	Aedes-benchmark 2021 individuele resultaten corporaties
Data Source	Aedes
Year	2021
Last update	18-11-2021
Date of download	06-01-2022
Link to webpage	https://aedes.nl/aedes-benchmark/benchmarkresultaten-en-publicaties
Filters used to obtain the datafile	Not applicable
Internal location	Klantgroepen\Woningcorporaties\Basisbestanden
Data quality estimate	1
Unit of measurement	Percentages
Selections	Not applicable
Data missing	Not applicable
Print Screens	Klantgroepen\Woningcorporaties\Basisbestanden

3.2.8 CO_2 equivalent emissions per social housing association

Topic	Description
Data	The data used in this approach are from multiple sources. Most data are from The Human Environment and Transport Inspectorate (ILenT): National Authority of Social Housing Associations, Aedes, and the Dutch Central Bureau of Statistics (CBS). Data on energy labels, dwellings per association and municipality, and types of dwellings are coming from The National Authority of Social Housing Associations, and are available at the level of individual social housing associations. These data are based on audited registration data, provided by the social housing associations themselves, and therefore very reliable. Data on average floor space per dwelling are based on registration data from the Dutch Central Bureau of Statistics (CBS). This data is based on the "Basisregistratie Adressen en Gebouwen" (BAG), which includes of all buildings in the Netherlands. It therefore is very reliable. This data is available at the aggregation level of municipalities. Data of the number of residents per households are based on registration data from the Dutch Central Bureau of Statistics (CBS). The whole Dutch population is in this sample. This data is available at the aggregation level of municipalities. The data on natural gas use is based on connection registers of energy network companies, collected by the Dutch Central Bureau of Statistics (CBS). It is based on actual energy consumption, and therefore very reliable. This data is aggregated on the basis of type of dwelling, energy label, and average floor space. The data on electricity use is based on connection registers of energy network companies, collected by the Dutch Central Bureau of Statistics (CBS). It is based on actual energy consumption, and therefore very reliable. This data is aggregated on the basis of type of dwelling, number of residents in households, and average floor space. The data on district heating is based on connection registers of energy network companies, collected by the Dutch Central Bureau of Statistics (CBS). It is based on actual energy consumption, and therefore very reliable. This data is aggregated on the basis of type of dwelling, number of residents in households, and average floor space.
Calculation steps	**Scope 1: Natural gas** The exact use of natural gas per social housing association is unknown. Therefore, an estimation had to be made. To make this estimation as accurate as possible, various calculations were made. The natural gas consumption of certain types of homes collected by the Dutch Central Bureau of Statistics (CBS) is used and is allocated to the individual housing associations on the basis of various characteristics. The following characteristics were taken into account: energy-labels of the rental units, the number of rental units per social housing association in a certain municipality, the type of rental unit (different types of single-family houses or multifamily house), and the floor surface of the rental unit. Unfortunately, no data is available about the car fleet of the social housing associations, therefore this is not taken into account in scope 1. **Scope 2: District heating** No exact district heating statistics per social housing association are known. Therefore, an estimation had to be made. To make this estimation as accurate as possible, various calculations were made. First the amount of natural gas consumption is calculated as described at scope 1 and as a last step, based on the share of district heating in a municipality, the amount of district heating is determined and the remaining amount of natural gas use is reported under scope 1. It can be expected that social housing associations have a higher than average percentage of district heating. However, no data is available for this. So this has not been taken into account. **Scope 2: Electricity use** The exact use of electricity per social housing association is unknown. Therefore, an estimation had to be made. To make this estimation as accurate as possible, various calculations were made. The electricity use based on connection registers of energy network companies, collected by the Dutch

	Central Bureau of Statistics (CBS) is used and is allocated to the individual housing associations on the basis of various characteristics. The following characteristics were taken into account: the number of rental units per social housing association in a certain municipality, type of rental unit (different types of single-family houses or multifamily house), the floor surface of the rental unit, the estimated number of residents per rental unit, and floor surface.
Limitations	Due to data availability, only independent dwellings have been taken into account for the calculation of the total CO_2 equivalent footprint. This is about 85.3% of all the property of the social housing associations. Besides, 7% of the property consists of parking spaces (which generally do not use any energy). The remaining property consists of care-units (6%) or commercial real estate (1.4%). Unfortunately, there is not enough data available to make reliable assumption about this part of the possession. The distribution of households by type of single-family houses dates from 2015. This data is dated, but researchers of Het PON & Telos assume that this distribution has not changed significantly over the past 5 years.
SDG	SDG 13
Data quality estimate	Score 2

Score	Quality requirement
1	Audited data or actual primary data
2	Non-audited data, or other primary data
3	Average data that is peer/(sub)sector-specific
4	Proxy data on the basis of region or country
5	Estimated data with very limited support

All datafiles presented in the paragraphs 3.2.1 and 3.2.2 are also used for the calculation of this indicator. Below only the datafiles are presented that were additionally used.

Topic	Description
Data	Percentage of dwellings connected to district heating per municipality
Data file	20210824 – Aandeel stadsverwarming - Gemeenten
Data Source	Klimaatmonitor; CBS, Statline
Year	2018 & 2019 only the year 2019 used for calculations
Last update	10-6-2021
Date of download	24-8-2021
Link to webpage	https://klimaatmonitor.databank.nl/Jive
Filters used to obtain the datafile	Energieverbruik > Gebouwde Omgeving (fysieke eenheden) > Woningen > Stadsverwarming Alle gemeenten Jaren: 2018, 2019
Internal location	Klantgroepen\Woningcorporaties\SDG_13.2_ CO2-emissies woningbouwcorporaties
Data quality estimate	Score 3 Highly reliable data, because of the manner of registration. There have been a lot of control- and correction methods used, which can be found here: https://www.cbs.nl/nl-nl/onze-diensten/methoden/onderzoeksomschrijvingen/korte-onderzoeksbeschrijvingen/energiekentallen-woningen Data is available on municipality level and unknown per dwelling. Calculation steps performed by klimaatmonitor are unknown.
Unit of measurement	Percentage of district heating per municipality
Selections	Not applicable
Data transformation	Not applicable

Data missing	For the calculations no crucial data was missing.
Print Screens	Klantgroepen\Woningcorporaties\SDG_13.2_ CO2-emissies woningbouwcorporaties

Topic	Description
Data	Energy-content of natural gas
Data file	Energie-inhoud aardgas
Data Source	Klimaatmonitor
Year	2020
Last update	10-7-2019
Date of download	24-8-2021
Link to webpage	https://klimaatmonitor.databank.nl/Jive
Filters used to obtain the datafile	Emissie-, energie- en temperatuurfactoren > Energie-inhoud aardgas (onderwaarde, in GJ/m^3) Nederland Jaren: 2019, 2020
Internal location	Klantgroepen\Woningcorporaties\SDG_13.2_ CO2-emissies woningbouwcorporaties
Data quality estimate	Score 1 Official statistic. https://www.infomil.nl/onderwerpen/duurzaamheid-energie/energiebesparing/vragen-antwoorden/overige-vragen/omrekening-verbruik/
Unit of measurement	GJ/m^3
Selections	Not applicable
Data transformation	Not applicable
Data missing	Not applicable
Print Screens	Klantgroepen\Woningcorporaties\SDG_13.2_ CO2-emissies woningbouwcorporaties

Topic	Description
Data	Total balance sheet
Data file	dVi2019H3 Balanstotaal 2019
Data Source	Inspectie Leefomgeving en Transport (ilent); Autoriteit woningcorporaties
Year	2019
Last update	5-7-2021
Date of download	20-7-2021
Link to webpage	https://data.overheid.nl/dataset/verantwoordingsinformatie-woningcorporaties-dvi2019-hfd3
Filters used to obtain the datafile	Sheet: data 3.1 Column B (Soort_instelling) selected on TE Column D (Jaar) selected on 2019 Column E (Balanskant) selected on PASSIVA Columun F (Balanstype) selected on PASSIVA
Internal location	Klantgroepen\Woningcorporaties\SDG_13.2_ CO2-emissies woningbouwcorporaties
Data quality estimate	Score 1 Audited data per social housing association specific.
Unit of measurement	Euro
Selections	Not applicable
Data transformation	Not applicable
Data missing	Not applicable
Print Screens	Klantgroepen\Woningcorporaties\SDG_13.2_ CO2-emissies woningbouwcorporaties

4 Educational institutions

4.1 General factsheet

Topic	Description
Portfolio covered	63.3% of BNG bank's portfolio is covered for this costumer group. 34% of customers is a non-authorized educational institution. The percentage is in indication of the completeness of the dataset. It is calculated by looking at the collected data for all indicators for the customers in the loan portfolio of the BNG Bank. The percentage is lower than 100% if there are missing data. The missing data are either not available or it was not possible to collect or calculate these data correctly.
Indicators	- Energy consumption educational buildings – electricity (kWh) - Energy consumption educational buildings – natural gas (m^3) - CO_2 equivalent emissions per education institution - Investments in school buildings and grounds
Limitations	Not applicable

4.2 Factsheet per data source used per indicator

4.2.1 Energy consumption educational buildings – electricity (kWh)

Topic	Description
Data	Energy consumption (in total and per m^2) for educational institutions in primary, secondary and higher education.
Calculation steps	For primary and secondary education another approach is used than for higher education. Therefore the calculation steps are explained separately. Primary and secondary education The following steps are performed: 1) Inventory buildings 2) Joining consumption data 3) Data validation 4) Create output file 1) Inventory buildings We combine the sources of DUO to obtain a list of all addresses used for primary and secondary education. Addresses with multiple house numbers are split into unique addresses. We join this list on address with BAG (Basisregistratie Adressen en Gebouwen) to obtain the unique ID's (pand-id and verblijfsobject-id) belonging to the buildings. 2) Joining consumption data We add consumption data to each building. In first instance, we use consumption data from the network operators. At the beginning of 2021, this was requested from the three largest operators (Enexis, Liander and Stedin). Where this data is not available, we supplement it with estimated values (these values are calculated by Republiq). 3) Data validation To make sure that the data is reliable, we carry out the following checks: - There are 318 establishments where multiple establishments are located in one building. To prevent square meters being counted twice, the surface area per building is divided equally among the various establishments.

	- Unrealistic electricity consumption per m² is corrected. When the electricity consumption of an establishment is higher than 100 kWh per m², we mark this as unreliable and replace this value with an estimated value (these values are calculated by Republiq).. - We check whether the surface is realistic. We use an upper limit of 50,000 m² for this. If the surface area is larger than 50,000 m², we will replace it with a more realistic number (these numbers are calculated by Republiq), namely 2,500 m² An unrealistic surface can be the result of incorrect data in the BAG or it can happen that an entire building has been included while the school location only concerns a small part of a building. There are 4 locations where the surface is corrected. 4) Create output file The following measure values are grouped for each education institution: - Total surface - Total electricity consumption in kWh (years 2016-2020) - Average electricity consumption in kWh per m² (years 2016-2020) Higher education The following steps are performed: 1) Inventory buildings 2) Request to network operators 3) Processing consumption data 4) Estimate missing consumption data 5) Creating the overview of consumption data per institution 1) Inventory buildings We manually looked up which buildings are used for higher education. For the relevant educational institutions, we based ourselves on the list of addresses of higher professional education institutions and universities in the Netherlands that DUO publishes. We then make a link with the BAG to find the associated buildings. 2) Request to network operators Due to privacy reasons it is not allowed to provide consumption data for individual buildings. It is allowed to provide these for cluster of buildings (10 to 15 buildings). We therefore make clusters of the buildings, taking into account the owner of the buildings and the type of building. Where possible, clusters consist only of buildings of the same owner. If this is not possible, buildings are merged into a cluster. Clusters are made as followed: 1. The network operator is assigned to the buildings. This is done on the basis of address details and the area division of the operators (see: https://data.overheid.nl/dataset/gebiedsbedrijven-netbeheers-elektriciteit--gas-en-water). We only request consumption data from the three largest network operators (Enexis, Liander and Stedin). Together they provide approximately 95% of the buildings with energy. For buildings that fall in an area of another operator we make an estimate of the consumption (this estimations is made by Republiq). 2. The request for data is at the level of unique addresses. We therefore group the data by zip code, house number and house number addition. The number of unique addresses is counted per institution. 3. We make clusters of at least 15 addresses. Where possible, we create multiple clusters per institution. 4. We create joint clusters for institutions with fewer than 15 unique addresses. We calculate the average surface area of the buildings per institution. We then create clusters of at least 15 buildings, in which the buildings of institutions with a comparable surface area end up in the same cluster. 3) Processing consumption data From the network operators we receive per cluster the standard annual consumption (in Dutch standaard jaarverbruik (SJV)). We divide this by the average surface of buildings from a cluster to obtain consumption data per m². The consumption data per m² is assigned to the individual buildings belonging to a cluster. Next, we perform a check on outliers. When the electricity consumption of an establishment is higher than 200 kWh per m² or lower than 5 kWh per m², we mark this as unreliable and replace this value with an estimated value (this estimation is made by Republiq).

	4) Estimate missing consumption data We use the actual consumption data to calculate an average value for electricity usage and gas usage. This is done per year for different classes of building years. For the buildings with missing consumption data an estimation for gas and electricity is assigned on the basis of the building period. 5) Overview per educational institution For each educational institution we group the following measures: - Total surface of buildings - Total energy consumption (in kWh) - Average energy consumption (in kWh per m^2)
Limitations	It is not possible to assign actual consumption data to every building. For the buildings where this is not possible, we make an estimation of the consumption data.
SDG	SDG 7.3
Data quality estimate	3 – Average data that is peer/(sub)sector-specific

Score	Quality requirement
1	Audited data or actual primary data
2	Non-audited data, or other primary data
3	Average data that is peer/(sub)sector-specific
4	Proxy data on the basis of region or country
5	Estimated data with very limited support

Topic	Description
Data	Addresses of all primary school locations
Data file	Republiq - Klantgroepen\Onderwijsinstellingen\Elektriciteit en gasverbruik
Data Source	DUO
Year	2021
Last update	01-12-2021
Date of download	06-12-2021
Link to webpage	https://duo.nl/open_onderwijsdata/databestanden/po/adressen/adressen-po-3.jsp
Filters used to obtain the datafile	Not applicable
Internal location	Republiq - Klantgroepen\Onderwijsinstellingen\Elektriciteit en gasverbruik
Data quality estimate	1
Unit of measurement	Not applicable
Selections	Not applicable
Data missing	Not applicable
Print Screens	Internal location Republiq

Topic	Description
Data	Addresses of all school locations in special education
Data file	Republiq - Klantgroepen\Onderwijsinstellingen\Elektriciteit en gasverbruik
Data Source	DUO
Year	2021
Last update	01-12-2021
Date of download	06-12-2021
Link to webpage	https://duo.nl/open_onderwijsdata/databestanden/po/adressen/adressen-po-4.jsp

Filters used to obtain the datafile	Not applicable
Internal location	Republiq - Klantgroepen\Onderwijsinstellingen\Elektriciteit en gasverbruik
Data quality estimate	1
Unit of measurement	Not applicable
Selections	Not applicable
Data missing	Not applicable
Print Screens	Internal location Republiq

Topic	Description
Data	Addresses of all school locations in secondary education
Data file	Republiq - Klantgroepen\Onderwijsinstellingen\Elektriciteit en gasverbruik
Data Source	DUO
Year	2021
Last update	01-12-2021
Date of download	06-12-2021
Link to webpage	https://duo.nl/open_onderwijsdata/databestanden/vo/adressen/adressen-vo-2.jsp
Filters used to obtain the datafile	Not applicable
Internal location	Republiq - Klantgroepen\Onderwijsinstellingen\Elektriciteit en gasverbruik
Data quality estimate	1
Unit of measurement	Not applicable
Selections	Not applicable
Data missing	Not applicable
Print Screens	Internal location Republiq

Topic	Description
Data	Addresses HBO institutions and universities
Data file	Republiq - Klantgroepen\Onderwijsinstellingen\Elektriciteit en gasverbruik
Data Source	DUO
Year	2021
Last update	01-12-2021
Date of download	06-12-2021
Link to webpage	https://duo.nl/open_onderwijsdata/databestanden/ho/adressen/adressen-ho1.jsp
Filters used to obtain the datafile	Not applicable
Internal location	Republiq - Klantgroepen\Onderwijsinstellingen\Elektriciteit en gasverbruik
Data quality estimate	1
Unit of measurement	Not applicable
Selections	Not applicable
Data missing	This dataset only contains one main address per institution. We manually added all the addresses belonging to an institution by searching on the website of each institution.
Print Screens	Internal location Republiq

Topic	Description
Data	Consumption data public real estate
Data file	Republiq - Klantgroepen\Onderwijsinstellingen\Elektriciteit en gasverbruik
Data Source	Republiq
Year	2021

Last update	18-5-2021
Date of download	08-12-2021
Link to webpage	Not applicable
Filters used to obtain the datafile	Not applicable
Internal location	Republiq - Klantgroepen\Onderwijsinstellingen\Elektriciteit en gasverbruik
Data quality estimate	3
Unit of measurement	kWh for electricity and m^3 for gas
Selections	Not applicable
Data missing	Data is missing for the buildings not located in one of the areas where Liander, Enexis or Stedin is active.
Print Screens	Internal location Republiq

Topic	Description
Data	Values for gas and electricity (used for estimation)
Data file	Bijlage 1 – Kengetallen energieverbruik
Data Source	Republiq
Year	2022
Last update	18-1-2022
Date of download	18-01-2022
Link to webpage	Not applicable
Filters used to obtain the datafile	Not applicable
Internal location	Republiq - Klantgroepen\Onderwijsinstellingen\Elektriciteit en gasverbruik
Data quality estimate	3
Unit of measurement	kWh for electricity
Selections	Not applicable
Data missing	Not applicable
Print Screens	Internal location Republiq

4.2.2 Energy consumption educational buildings – natural gas (m^3)

Topic	Description
Data	Energy consumption (in total and per m^2) for educational institutions in primary, secondary and higher education.
Calculation steps	For primary and secondary education another approach is used than for higher education. Therefore the calculation steps are explained separately. Primary and secondary education The following steps are performed: 1) Inventory buildings 2) Joining consumption data 3) Data validation 4) Create output file 1) Inventory buildings We combine the sources of DUO to obtain a list of all addresses used for primary and secondary education. Addresses with multiple house numbers are split into unique addresses. We join this list on address with BAG (Basisregistratie Adressen en Gebouwen) to obtain the unique ID's (pand-id and verblijfsobject-id) belonging to the buildings. 2) Joining consumption data We add consumption data to each building. In first instance, we use consumption data from the network operators. At the beginning of 2021, this was requested from the three largest operators (Enexis, Liander and Stedin). Where this data is not available, we supplement it with estimated values (these values are calculated by Republiq). 3) Data validation To make sure that the data is reliable, we carry out the following checks: - There are 318 establishments where multiple establishments are located in one building. To prevent square meters being counted twice, the surface area per building is divided equally among the various establishments. - Unrealistic electricity consumption per m^2 is corrected. When the electricity consumption of an establishment is higher than 100 kWh per m^2, we mark this as unreliable and replace this value with an estimated value (these values are calculated by Republiq).. - We check whether the surface is realistic. We use an upper limit of 50,000 m^2 for this. If the surface area is larger than 50,000 m^2, we will replace it with a more realistic number (these numbers are calculated by Republiq), namely 2,500 m^2 An unrealistic surface can be the result of incorrect data in the BAG or it can happen that an entire building has been included while the school location only concerns a small part of a building. There are 4 locations where the surface is corrected. 4) Create output file The following measure values are grouped for each education institution: - Total surface - Total electricity consumption in kWh (years 2016-2020) - Average electricity consumption in kWh per m^2 (years 2016-2020) Higher education The following steps are performed: 1) Inventory buildings 2) Request to network operators 3) Processing consumption data 4) Estimate missing consumption data 5) Creating the overview of consumption data per institution 1) Inventory buildings We manually looked up which buildings are used for higher education. For the relevant educational institutions, we based ourselves on the list of addresses of higher professional education institutions

<table>
<tr><td></td><td>and universities in the Netherlands that DUO publishes. We then make a link with the BAG to find the associated buildings.

2) Request to network operators
Due to privacy reasons it is not allowed to provide consumption data for individual buildings. It is allowed to provide these for cluster of buildings (10 to 15 buildings). We therefore make clusters of the buildings, taking into account the owner of the buildings and the type of building. Where possible, clusters consist only of buildings of the same owner. If this is not possible, buildings are merged into a cluster.

Clusters are made as followed:
1. The network operator is assigned to the buildings. This is done on the basis of address details and the area division of the operators (see: https://data.overheid.nl/dataset/gebiedsbedrijven-netbeheers-elektriciteit--gas-en-water). We only request consumption data from the three largest network operators (Enexis, Liander and Stedin). Together they provide approximately 95% of the buildings with energy. For buildings that fall in an area of another operator we make an estimate of the consumption (this estimations is made by Republiq).
2. The request for data is at the level of unique addresses. We therefore group the data by zip code, house number and house number addition. The number of unique addresses is counted per institution.
3. We make clusters of at least 15 addresses. Where possible, we create multiple clusters per institution.
4. We create joint clusters for institutions with fewer than 15 unique addresses. We calculate the average surface area of the buildings per institution. We then create clusters of at least 15 buildings, in which the buildings of institutions with a comparable surface area end up in the same cluster.

3) Processing consumption data
From the network operators we receive per cluster the standard annual consumption (in Dutch standaard jaarverbruik (SJV)). We divide this by the average surface of buildings from a cluster to obtain consumption data per m^2. The consumption data per m^2 is assigned to the individual buildings belonging to a cluster.
Next, we perform a check on outliers. When the electricity consumption of an establishment is higher than 200 kWh per m^2 or lower than 5 kWh per m^2, we mark this as unreliable and replace this value with an estimated value (this estimation is made by Republiq).

4) Estimate missing consumption data
We use the actual consumption data to calculate an average value for electricity usage and gas usage. This is done per year for different classes of building years. For the buildings with missing consumption data an estimation for gas and electricity is assigned on the basis of the building period.

5) Overview per educational institution
For each educational institution we group the following measures:
- Total surface of buildings
- Total gas consumption (in m^3)
- Average gas consumption (in m^3 per m^2)</td></tr>
<tr><td>Limitations</td><td>It is not possible to assign actual consumption data to every building. For the buildings where this is not possible, we make an estimation of the consumption data.</td></tr>
<tr><td>SDG</td><td>SDG 7.3</td></tr>
<tr><td>Data quality estimate</td><td>3 – Average data that is peer/(sub)sector specific

<table><tr><th>Score</th><th>Quality requirement</th></tr><tr><td>1</td><td>Audited data or actual primary data</td></tr><tr><td>2</td><td>Non-audited data, or other primary data</td></tr><tr><td>3</td><td>Average data that is peer/(sub)sector-specific</td></tr><tr><td>4</td><td>Proxy data on the basis of region or country</td></tr><tr><td>5</td><td>Estimated data with very limited support</td></tr></table></td></tr>
</table>

Topic	Description
Data	Addresses of all primary school locations
Data file	Republiq - Klantgroepen\Onderwijsinstellingen\Elektriciteit en gasverbruik
Data Source	DUO
Year	2021
Last update	01-12-2021
Date of download	06-12-2021
Link to webpage	https://duo.nl/open_onderwijsdata/databestanden/po/adressen/adressen-po-3.jsp
Filters used to obtain the datafile	Not applicable
Internal location	Republiq - Klantgroepen\Onderwijsinstellingen\Elektriciteit en gasverbruik
Data quality estimate	1
Unit of measurement	Not applicable
Selections	Not applicable
Data missing	Not applicable
Print Screens	Internal location Republiq

Topic	Description
Data	Addresses of all school locations in special education
Data file	Republiq - Klantgroepen\Onderwijsinstellingen\Elektriciteit en gasverbruik
Data Source	DUO
Year	2021
Last update	01-12-2021
Date of download	06-12-2021
Link to webpage	https://duo.nl/open_onderwijsdata/databestanden/po/adressen/adressen-po-4.jsp
Filters used to obtain the datafile	Not applicable
Internal location	Republiq - Klantgroepen\Onderwijsinstellingen\Elektriciteit en gasverbruik
Data quality estimate	1
Unit of measurement	Not applicable
Selections	Not applicable
Data missing	Not applicable
Print Screens	Internal location Republiq

Topic	Description
Data	Addresses of all school locations in secondary education
Data file	Republiq - Klantgroepen\Onderwijsinstellingen\Elektriciteit en gasverbruik
Data Source	DUO
Year	2021
Last update	01-12-2021
Date of download	06-12-2021
Link to webpage	https://duo.nl/open_onderwijsdata/databestanden/vo/adressen/adressen-vo-2.jsp
Filters used to obtain the datafile	Not applicable
Internal location	Republiq - Klantgroepen\Onderwijsinstellingen\Elektriciteit en gasverbruik
Data quality estimate	1
Unit of measurement	Not applicable
Selections	Not applicable

Data missing	Not applicable
Print Screens	Internal location Republiq

Topic	Description
Data	Addresses HBO institutions and universities
Data file	Republiq - Klantgroepen\Onderwijsinstellingen\Elektriciteit en gasverbruik
Data Source	DUO
Year	2021
Last update	01-12-2021
Date of download	06-12-2021
Link to webpage	https://duo.nl/open_onderwijsdata/databestanden/ho/adressen/adressen-ho1.jsp
Filters used to obtain the datafile	Not applicable
Internal location	Republiq - Klantgroepen\Onderwijsinstellingen\Elektriciteit en gasverbruik
Data quality estimate	1
Unit of measurement	Not applicable
Selections	Not applicable
Data missing	This dataset only contains one main address per institution. We manually added all the addresses belonging to an institution by searching on the website of each institution.
Print Screens	Internal location Republiq

Topic	Description
Data	Consumption data public real estate
Data file	Republiq - Klantgroepen\Onderwijsinstellingen\Elektriciteit en gasverbruik
Data Source	Republiq
Year	2021
Last update	18-5-2021
Date of download	08-12-2021
Link to webpage	Not applicable
Filters used to obtain the datafile	Not applicable
Internal location	Republiq - Klantgroepen\Onderwijsinstellingen\Elektriciteit en gasverbruik
Data quality estimate	3
Unit of measurement	m^3
Selections	Not applicable
Data missing	Data is missing for the buildings not located in one of the areas where Liander, Enexis or Stedin is active.
Print Screens	Internal location Republiq

Topic	Description
Data	Values for gas and electricity (used for estimation)
Data file	Republiq - Klantgroepen\Onderwijsinstellingen\Elektriciteit en gasverbruik
Data Source	Republiq
Year	2022
Last update	18-1-2022
Date of download	18-01-2022
Link to webpage	Not applicable
Filters used to obtain the datafile	Not applicable

Internal location	Republiq - Klantgroepen\Onderwijsinstellingen\Elektriciteit en gasverbruik
Data quality estimate	3
Unit of measurement	kWh for electricity and m^3 for gas
Selections	Not applicable
Data missing	Not applicable
Print Screens	Internal location Republiq

4.2.3 CO_2 equivalent emissions per education institution

An important remark is that for the indicators: Energy consumption educational buildings – electricity (kWh) and natural gas (m^3) , the used data source(s) are different than the data sources used for the indicator: CO_2 equivalent emissions per education institution. The used data sources for the latter indicator are specified in this paragraph.

Topic	Description
Data	Data about the supply of energy to the education sector comes from the Dutch Central Bureau of Statistics (CBS). Data covers the supply of electricity and natural gas to businesses and other utility buildings. The supply is via public network. Data is dived by sector and region and comes from connection registers of the energy companies. It is based on actual energy consumption, and therefore very reliable. Data about transaction prices for natural gas and electricity comes from the Dutch Central Bureau of Statistics (CBS). The data is obtained from energy companies by sending them surveys. Data of the addresses of the location of education organizations, data of number of pupils/students per location of the education organizations, costs for energy per education organization and total assets per education organization come from DUO: the Dutch Education Service of Ministry of Education, Culture and Science. Data of actual natural gas and electricity use per educational organization is not available. Data of the costs for energy and water are collected by the ministry of Education, Culture and Science. It is assumed that costs for water are negligible compared to costs for energy. Based on the factsheet energy data primary schools, water usage is less than 5% of the total costs of energy and water.[4]
Calculation steps	Per municipality it is known how much natural gas and electricity is delivered to the education sector per year. According to the average price for natural gas and electricity the total costs for natural gas and electricity for the education sector was calculated per municipality. Afterwards, the percentage of costs for natural gas and electricity was calculated relative to the total costs for natural gas, plus electricity. Percentage of costs for natural gas for the education sector per municipality (A) = costs for natural gas / total costs for natural gas + electricity Percentage of costs for electricity for education sector per municipality (B) = costs for electricity / total costs for natural gas + electricity The average price for natural gas was calculated according to four consumption classes, provided by CBS. To calculate the price for natural gas per m^3, the conversion factor for natural gas of 0.03165 GJ/m^3 was used (Klimaatmonitor). The average price for electricity was calculated according to six consumption classes provided by CBS. Per education organization, the total costs for energy and water are known (DUO). As stated earlier, the costs for water are not taken into account. The total costs for energy have to be dived in costs for natural gas and costs for electricity. An education organization ('bevoegdgezag') can have several schools located in different municipalities. Per school location, the municipality is known. Per 'BRIN-number' the number of students is known. If a BRIN-number has locations in multiple municipalities, the number of students is equally divided over the locations, as the exact number of students per BRIN-number in a municipality is not known. According to this information, the percentage of students per education organization ('bevoegdgezag') per municipality was calculated. Percentage students per education organization per municipality (C) = number of students per education organization per municipality / total number of students per education organization.

[4] http://32lessenvoordetoekomst.nl/wp-content/uploads/2018/02/24.Energie-besparen-op-school-Factsheet-energiegegevens.pdf

	The next step was to divide the total costs for energy per education organization to the municipalities that have locations of that organization according to the percentage of students (C). Costs per education organization per municipality = % of students per education organization per municipality (C) * total costs for energy of education organization. The costs per education organization per municipality are divided in costs for natural gas and electricity according to % of costs for natural gas per municipality (A) and % of costs for electricity per municipality (B). After this step, the costs for natural gas and electricity per education organization per municipality were added up, to come to the total costs for natural gas (D) and electricity (E) per education organization. According to the total costs for natural gas (D) and electricity (E) per education organization the correct price per GJ for natural gas and per kWh for electricity was chosen according to the usage of natural gas and electricity (lower price when use is higher). To convert GJ natural gas to m^3 the conversion factor for natural gas of 0.03165 GJ/m^3 was used (Klimaatmonitor, 2020). The costs for natural gas and electricity per education organization were divided by the cost per m^3 (natural gas) and per kWh (electricity). Thereafter, the m^3 natural gas was multiplied by the emission factor for natural gas and divided by 1000 to result in ton of CO_2 equivalent emissions for scope 1. The kWh electricity was multiplied by the emission factor for electricity and divided by 1000 to result in ton of CO_2 equivalent emissions for scope 2. Per education organization the total balance sheet (equity + total debts) was used to make the attribution to the bank as described in section Attribution below.
Limitations	A limitation is that for some municipalities data on the supply of natural gas and electricity to the education sector is missing. If that was the case, the national average % of costs for natural gas per municipality and national average % of costs for electricity per municipality was used. For some education organizations, the exact number of students per municipality was estimated as the number of students per 'BRIN-number' is known and some BRIN-numbers have locations in multiple municipalities. As the exact ratio on how the students are divided over these locations is not known, the students are equally divided over the locations. These numbers were used to calculate the total number of students per education organization per municipality and the percentage of students per municipality per education organization. The education organizations that have BRIN-numbers with locations in multiple municipalities are marked in the calculation sheets. For calculations data portfolio with data 31-12-2020 is used.
SDG	SDG 13.2
Data quality estimate	Score 2

Score	Quality requirement
1	Audited data or actual primary data
2	Non-audited data, or other primary data
3	Average data that is peer/(sub)sector-specific
4	Proxy data on the basis of region or country
5	Estimated data with very limited support

Topic	Description
Data	Supply of energy to the education sector
Data file	20211007 elektra en aardgas onderwijs.xlsx
Data Source	Dutch Central Bureau of Statistics Statline
Year	Data used from 2020 to calculate scope 1 natural gas and scope 2 electricity use
Last update	8-10-2021
Date of download	18-10-2021
Link to webpage	https://opendata.cbs.nl/statline/#/CBS/nl/dataset/82538NED/table?ts=1597657120347
Filters used to obtain the datafile	Onderwerp: Geleverd aardgas, geleverde elektriciteit Perioden: 2020

	Regio's: Gemeenten per provincie Bedrijfstakken/branches: Bedrijfstakken 1e digit (SBI 2008), P Onderwijs
Internal location	Klantgroepen\Onderwijsinstellingen\Reductie CO-emissies onderwijs
Data quality estimate	Score 2 Highly reliable data, because of the registration manner. Different control and correction methods are used, which can be found here: https://www.cbs.nl/nl-nl/onze-diensten/methoden/onderzoeksomschrijvingen/korte-onderzoeksbeschrijvingen/leveringen-van-elektriciteit-en-aardgas-via-het-openbare-net
Unit of measurement	Natural gas: 1000 m^3 Electricity: 1000 kWh
Selections	Not applicable
Data transformation	When data was missing, data from another year was used. This is marked in the calculation sheet.
Data missing	For the calculations no crucial data was missing.
Print Screens	In folder: Klantgroepen\Onderwijsinstellingen\Printscreens\20211007 aardgas en elektra onderwijs 2020.PNG

Topic	Description
Data	Transaction prices for natural gas and electricity
Data file	20210921 ruwe data aardgas en elektriciteitsprijs.xlsx
Data Source	Dutch Central Bureau of Statistics Statline
Year	Data used from 2020 to calculate scope 1 natural gas use and scope 2 electricity use
Last update	30-06-2021
Date of download	21-09-2021
Link to webpage	https://opendata.cbs.nl/statline/#/CBS/nl/dataset/81309NED/table?ts=1599143752393
Filters used to obtain the datafile	Belastingen: Inclusief btw en belastingen Onderwerp: Aardgasprijs verbruiksklassen niet-huishoudens/ elektriciteitsprijs verbruiksklassen niet-huihoudens Perioden: 2020 Prijscomponenten: Transactieprijs
Internal location	Klantgroepen\Onderwijsinstellingen\Reductie CO-emissies onderwijs
Data quality estimate	Score 2 The research method used to obtain the data can be found here: https://www.cbs.nl/nl-nl/onze-diensten/methoden/onderzoeksomschrijvingen/korte-onderzoeksbeschrijvingen/aardgas-en-elektriciteit-gemiddelde-prijzen-van-eindverbruikers. The data is obtained from energy companies via surveys
Unit of measurement	Natural gas: GJ calculated to m^3 Electricity: Euro per kWh
Selections	Transaction prices natural gas Euro per GJ: 4 usage classes 1 till 10 TJ 10 till 100 TJ 100 till 1000 TJ 1000 TJ and more Transaction prices electricity Euro per kWh: 6 usage classes 20 till 500 MWh 500 till 2000 MWh 2000 till 20000 MWh 20000 till 70000 MWh 70000 till 150000 MWh

	150000 MWh and more
Data transformation	For the minimum and maximum usage per class the total price was calculated (Euro per GJ). This is used to choose the correct price per education organization. If the organization uses less energy or natural gas the price per GJ is higher. The average price for natural gas over the 4 usage classes and average price for electricity over the 6 usage classes were used to calculate the percentage of costs for natural gas and electricity per municipality (see previous data file and calculation steps)
Data missing	Not applicable
Print Screens	In folder: Klantgroepen\Onderwijsinstellingen\Printscreens\20210921 aardgas en elektriciteitsprijs.PNG

Topic	Description
Data	Energy-content of natural gas
Data file	20210921 energie-inhoud aardgas onderwaarde in gj_m3.xlsx
Data Source	Klimaatmonitor
Year	2020
Last update	23-09-2020
Date of download	21-09-2021
Link to webpage	https://klimaatmonitor.databank.nl/Jive
Filters used to obtain the datafile	No filters used
Internal location	Klantgroepen\Onderwijsinstellingen\Reductie CO-emissies onderwijs
Data quality estimate	Score 1 Official statistic. https://www.infomil.nl/onderwerpen/duurzaamheid-energie/energiebesparing/vragen-antwoorden/overige-vragen/omrekening-verbruik/
Unit of measurement	GJ/m^3
Selections	Not applicable
Data transformation	Not applicable
Data missing	Not applicable
Print Screens	In folder: Klantgroepen\Onderwijsinstellingen\Printscreens\20210921 energie inhoud aardgas.PNG

Topic	Description
Data	Registration numbers of schools and universities
Data file	Several files, see internal locations in this table.
Data Source	DUO: Education Service of Ministry of Education, Culture and Science
Year	Data used from 2020 to calculate scope 1 natural gas use and scope 2 electricity use
Last update	1-7-2021
Date of download	19-7-2021
Link to webpage	***Primary schools*** https://duo.nl/open_onderwijsdata/databestanden/po/adressen/adressen-po-1.jsp ***Secondary schools*** https://duo.nl/open_onderwijsdata/databestanden/vo/adressen/adressen-vo-6.jsp ***Special primary and secondary schools*** https://duo.nl/open_onderwijsdata/databestanden/po/adressen/adressen-po-2.jsp ***Secondary vocational education*** https://duo.nl/open_onderwijsdata/databestanden/mbo/adressen/adressen-mbo-2.jsp ***Higher professional education and universities*** https://duo.nl/open_onderwijsdata/databestanden/ho/adressen/adressen-ho3.jsp
Filters used to obtain the datafile	Not applicable
Internal location	Klantgroepen\Onderwijsinstellingen\Reductie CO-emissies onderwijs\Ruwe data\Bevoegd gezag nr

	02-adressen-bevoegde-gezagen.xlsx 03-bevoegde-gezagen-hbo-en-wo.xlsx 03-bevoegde-gezagen-vo.xlsx 05-besturen-bo.xlsx 06-bevoegde-gezagen-speciaal-basisonderwijs.xlsx
Data quality estimate	Not applicable
Unit of measurement	Not applicable
Selections	Not applicable
Data transformation	Not applicable
Data missing	Not applicable
Print Screens	In folder: Klantgroepen\Onderwijsinstellingen\Printscreens\Bevoegd gezag nr

Topic	Description
Data	Addresses of schools and universities
Data file	Several files, see internal locations in this table.
Data Source	DUO: Education Service of Ministry of Education, Culture and Science
Year	Data used from 2020 to calculate scope 1 natural gas use and scope 2 electricity use
Last update	1-7-2021
Date of download	19-7-2021
Link to webpage	***Primary schools*** https://duo.nl/open_onderwijsdata/databestanden/po/adressen/adressen-po-3.jsp ***Secondary schools*** https://duo.nl/open_onderwijsdata/databestanden/vo/adressen/adressen-vo-2.jsp ***Special primary and secondary schools*** https://duo.nl/open_onderwijsdata/databestanden/po/adressen/adressen-po-2.jsp ***Secondary vocational education*** https://duo.nl/open_onderwijsdata/databestanden/mbo/adressen/adressen-mbo-1.jsp ***Higher professional education and universities*** https://duo.nl/open_onderwijsdata/databestanden/ho/adressen/adressen-ho1.jsp
Filters used to obtain the datafile	Not applicable
Internal location	Klantgroepen\Onderwijsinstellingen\Reductie CO-emissies onderwijs\Ruwe data\BRIN nummer 01-adressen-instellingen (1).xlsx 01-instellingen-hbo-en-wo.xlsx 02-alle-vestigingen-vo (1).xlsx 02-hoofdvestigingen-sbo-so-en-vso (1).xlsx 03-alle-vestigingen-bo (2).xlsx
Data quality estimate	Not applicable
Unit of measurement	Not applicable
Selections	Not applicable
Data transformation	Not applicable
Data missing	Not applicable
Print Screens	In folder: Klantgroepen\Onderwijsinstellingen\Printscreens\Brin nr

Topic	Description
Data	Number of pupils or students per education organization
Data file	Several files, see internal locations in this table
Data Source	DUO: Education Service of Ministry of Education, Culture and Science
Year	2020

Last update	Primary schools 17-12-2020, higher professional education 17-02-2021, secondary vocational education 04-02-2021, secondary schools 21-12-2020, universities 17-02-2021.
Date of download	2-8-2021
Link to webpage	***Primary schools*** https://duo.nl/open_onderwijsdata/databestanden/po/leerlingen-po/po-totaal/bo-gewicht-leeftijd.jsp ***Secondary schools*** https://duo.nl/open_onderwijsdata/databestanden/vo/leerlingen/leerlingen-vo-1.jsp ***Secondary vocational education*** https://duo.nl/open_onderwijsdata/databestanden/mbo/studenten/studenten-mbo1.jsp ***Higher professional education*** https://duo.nl/open_onderwijsdata/databestanden/ho/ingeschreven/hbo.jsp ***Universities*** https://duo.nl/open_onderwijsdata/databestanden/ho/ingeschreven/wo.jsp
Filters used to obtain the datafile	Not applicable
Internal location	Klantgroepen\Onderwijsinstellingen\Reductie CO-emissies onderwijs\Ruwe data\Aantal leerlingen 20210802 aantal leerlingen bo.xlsx 20210802 aantal leerlingen HBO.xlsx 20210802 aantal leerlingen mbo.xlsx 20210802 aantal leerlingen vo.xlsx 20210802 aantal leerlingen wo.xlsx
Data quality estimate	Score 2 Registration data
Unit of measurement	Not applicable
Selections	Not applicable
Data transformation	Not applicable
Data missing	Not applicable
Print Screens	In folder: Klantgroepen\Onderwijsinstellingen\Printscreens\Aantal leerlingen

Topic	Description
Data	Energy and water costs per education organization
Data file	20210921 14-lasten-2016-2020.xlsx
Data Source	DUO: Education Service of Ministry of Education, Culture and Science
Year	2020
Last update	15-09-2021
Date of download	21-09-2021
Link to webpage	https://duo.nl/open_onderwijsdata/databestanden/onderwijs-algemeen/financiele-cijfers/verantwoording-xbrl.jsp
Filters used to obtain the data file	Not applicable
Internal location	Klantgroepen\Onderwijsinstellingen\Reductie CO-emissies onderwijs\Ruwe data
Data quality estimate	Score 2 Schoolboards send the data to DUO. The numbers are not checked by accountants or by DUO/the Ministry of Education, Culture and Science.
Unit of measurement	Euro
Selections	Not applicable
Data transformation	Not applicable
Data missing	Not applicable
Print Screens	In folder: Klantgroepen\Onderwijsinstellingen\Printscreens\20210921 financiele gegevens duo.PNG

Topic	Description
Data	Total assets per education organization
Data file	20210921 01-balans-2016-2020.xlsx
Data Source	DUO: Education Service of Ministry of Education, Culture and Science
Year	2020
Last update	15-09-2021
Date of download	21-09-2021
Link to webpage	https://duo.nl/open_onderwijsdata/databestanden/onderwijs-algemeen/financiele-cijfers/verantwoording-xbrl.jsp
Filters used to obtain the datafile	Not applicable
Internal location	Klantgroepen\Onderwijsinstellingen\Reductie CO-emissies onderwijs\Ruwe data
Data quality estimate	Score 2 Schoolboards send the data to DUO. The numbers are not checked by accountants or by DUO/the Ministry of Education, Culture and Science.
Unit of measurement	Euro
Selections	Not applicable
Data transformation	Not applicable
Data missing	Not applicable
Print Screens	In folder: Klantgroepen\Onderwijsinstellingen\Printscreens\20210921 financiele gegevens duo.PNG

4.2.4 Investments in school buildings and grounds

Topic	Description
Data	Investments in school buildings and grounds
Calculation steps	No calculations were done on the original data set. The data is delivered by school boards via their yearly financial statement of 2019, supplied in XBRL. Complemented with the yearly financial statements of 2015 to 2018, the data provides a perennial perspective. The data are not audited by an accountant, The Ministry of Education or DUO. But are audited by the institutions.
Limitations	No limitations
SDG	SDG 4: Quality education
Data quality estimate	2 – Non-audited data, or other primary data. The data is delivered by school boards via their yearly financial statements. These financial statements are audited by an accountant, but the data is not audited by DUO or the Ministry of Education, where the used dataset comes from.

Score	Quality requirement
1	Audited data or actual primary data
2	Non-audited data, or other primary data
3	Average data that is peer/(sub)sector-specific
4	Proxy data on the basis of region or country
5	Estimated data with very limited support

Topic	Description
Data	Investments in school buildings and grounds
Data file	Kopie van 05-materiele-vaste-activa-2016-2020.xlsx

Data Source	DUO
Year	2020
Last update	2021
Date of download	11-1-2022
Link to webpage	https://duo.nl/open_onderwijsdata/databestanden/onderwijs-algemeen/financiele-cijfers/verantwoording-xbrl.jsp
Filters used to obtain the datafile	No filters used
Internal location	Klantgroepen\Onderwijsinstellingen\Investeringen gebouwen
Data quality estimate	2 – Non-audited data, or other primary data. Data comes from the 2020 financial statements of the school board. Data is not audited by an accountant or by the ministery of Education, Culture and Science or DUO.
Unit of measurement	Euros
Selections	Only data from 2020 is used
Data missing	Not applicable
Print Screens	\Klantgroepen\Onderwijsinstellingen\Printscreens\20220111 investeringen panden.PNG

5 Healthcare institutions

5.1 General factsheet

Topic	Description
Portfolio covered	83.1% of BNG bank's portfolio is covered for this costumer group. The percentage is in indication of the completeness of the dataset. It is calculated by looking at the collected data for all indicators for the customers in the loan portfolio of the BNG Bank. The percentage is lower than 100% if there are missing data. The missing data are either not available or it was not possible to collect or calculate these data correctly.
Indicators	- Energy consumption (in total and per m^2) for healthcare institutions – electricity - Energy consumption (in total and per m^2) for healthcare institutions - gas - CO_2 equivalent emissions per healthcare institution
Limitations	-

5.2 Factsheet per data source used per indicator

5.2.1 Energy consumption healthcare institutions – electricity (kWh)

Topic	Description
Data	Energy consumption (in total and per m^2) for healthcare institutions.
Calculation steps	The following steps are performed: Inventory of all healthcare institutions Inventory of all cadastral parcels owned by healthcare institutions Inventory of all buildings owned by healthcare institutions Request to network operators Processing consumption data Estimate missing consumption data Creating the overview of consumption data per institution Inventory of all healthcare institutions BNG Bank has provided an overview of healthcare institutions from its portfolio. In total there are 449 unique institutions (based on KVK number). Inventory of all cadastral parcels owned by healthcare institutions We have inventoried the properties of the healthcare institutions via Kadaster. Kadaster has provided an overview of the cadastral parcels and associated rights for each institution. The total list consisted of 65,804 records from a total of 439 unique healthcare institutions. Inventory of all buildings owned by healthcare institutions In this step we looked for the buildings on the cadastral parcels from step 2. First, we matched the results from Kadaster with BAG (Basisregistratie Adressen en Gebouwen). Then, we looked at whether we could link additional buildings by performing a spatial match. For part of the parcels Kadaster provided an VBO-id (verblijfsobject-ID). This VBO-id is an unique ID for the building or buildings that are placed on the parcel. We joined the set from Kadaster with the BAG on VBO-id to find the corresponding addresses. We performed a spatial match by combining a shapefile of cadastral parcels with a shapefile of all buildings in the Netherlands. This resulted in a list with all parcels and the corresponding buildings

	placed on this parcel. We joined this list on parcel-ID with the result from Kadaster to obtain the buildings that are placed on the parcels in ownership of healthcare institutions. We combined the results from the match on VBO-id and the spatial match to obtain a list with all parcels and corresponding addresses. If several healthcare institutions have rights for the same parcel, we let the right of ownership prevail over other rights. The result of this step is an overview of 62,153 unique addresses with the corresponding institution. Request to network operators Due to privacy reasons it is not allowed to provide consumption data for individual buildings. It is allowed to provide these for cluster of buildings (10 to 15 buildings). We therefore make clusters of the buildings, taking into account the owner of the buildings and the type of building. Where possible, clusters consist only of buildings of the same owner. If this is not possible, buildings are merged into a cluster. Clusters are made as followed: The network operator is assigned to the buildings. This is done on the basis of address details and the area division of the operators (see: https://data.overheid.nl/dataset/gebiedsbedrijven-netbeheers-elektriciteit--gas-en-water). We only request consumption data from the three largest network operators (Enexis, Liander and Stedin). Together they provide approximately 95% of the buildings with energy. For buildings that fall in an area of another operator we make an estimate of the consumption (this estimation is made by Republiq) . The request for data is at the level of unique addresses. We therefore group the data by zip code, house number and house number addition. The number of unique addresses is counted per institution. We make clusters of at least 15 addresses. Where possible, we create multiple clusters per institution. We create joint clusters for institutions with fewer than 15 unique addresses. We calculate the average surface area of the buildings per institution. We then create clusters of at least 15 buildings, in which the buildings of institutions with a comparable surface area end up in the same cluster. Processing consumption data From the network operators we receive per cluster the standard annual consumption (in Dutch standaard jaarverbruik (SJV)). We divide this by the average surface of buildings from a cluster to obtain consumption data per m^2. The consumption data per m^2 is assigned to the individual buildings belonging to a cluster. Next, we perform a check on outliers. If a value is higher or lower than two times standard deviation from the average, this value is detected as outlier. This is done separately for gas and for electricity. Outliers are replaced by missing values. Estimate missing consumption data We use the actual consumption data to calculate an average value for electricity usage and gas usage. This is done per year for different classes of building years and surfaces. For the buildings with missing consumption data an estimation for gas and electricity is assigned on the basis of the building period and surface class. Overview per healthcare institution For each healthcare institution we group the following measures: Total surface of buildings Total energy consumption (in kWh) Average energy consumption (in kWh per m^2)
Limitations	It is not possible to assign actual consumption data to every building. For the buildings where this is not possible, we make an estimation of the consumption data.
SDG	SDG 7.3
Data quality estimate	3 – Average data that is peer/(sub)sector-specific **Score** **Quality requirement**

1	Audited data or actual primary data
2	Non-audited data, or other primary data
3	Average data that is peer/(sub)sector-specific
4	Proxy data on the basis of region or country
5	Estimated data with very limited support

Topic	Description
Data	Healthcare institutions
Data file	Klantgroepen\Zorginstellingen\SDG_7.3_Energieverbruik
Data Source	BNG Bank
Year	2021
Last update	22-11-2021
Date of download	22-11-2021
Link to webpage	Not applicable
Filters used to obtain the datafile	Not applicable
Internal location	Internal location Republiq
Data quality estimate	2
Unit of measurement	Not applicable
Selections	Not applicable
Data missing	Not applicable
Print Screens	Internal location Republiq

Topic	Description
Data	Cadastral parcels in ownership of healthcare institutions
Data file	Internal location Republiq
Data Source	Kadaster
Year	2021
Last update	09-12-2021
Date of download	09-12-2021
Link to webpage	Not applicable
Filters used to obtain the datafile	Not applicable
Internal location	Republiq -> Klantgroepen\Zorginstellingen\SDG_7.3_Energieverbruik
Data quality estimate	2
Unit of measurement	Not applicable
Selections	Not applicable
Data missing	Not applicable
Print Screens	Internal location Republiq

Topic	Description
Data	Energy consumption (Enexis)
Data file	Internal location Republiq
Data Source	Enexis
Year	2021
Last update	23-12-2021
Date of download	23-12-2021
Link to webpage	Not applicable

Filters used to obtain the datafile	Not applicable
Internal location	Republiq -> Klantgroepen\Zorginstellingen\SDG_7.3_Energieverbruik
Data quality estimate	3
Unit of measurement	kWh for electricity
Selections	Not applicable
Data missing	For some clusters we did not receive consumption data. This can have several causes: Enexis could not find an address (this is most often the case for addresses with an add-on. For example house number 1-A) The address is assigned to a connection for large consumption (grootverbruik). Net operators are not allowed to share this data.
Print Screens	Internal location Republiq

Topic	Description
Data	Energy consumption (Liander)
Data file	Internal location Republiq
Data Source	Liander
Year	2022
Last update	12-01-2022
Date of download	12-01-2022
Link to webpage	Not applicable
Filters used to obtain the datafile	Not applicable
Internal location	Republiq -> Klantgroepen\Zorginstellingen\SDG_7.3_Energieverbruik
Data quality estimate	3
Unit of measurement	kWh
Selections	Not applicable
Data missing	For some clusters we did not receive consumption data. This can have several causes: Liander could not find an address (this is most often the case for addresses with an add-on. For example house number 1-A) The address is assigned to a connection for large consumption (grootverbruik). Net operators are not allowed to share this data.
Print Screens	Internal location Republiq

Topic	Description
Data	Energy consumption (Stedin)
Data file	Internal location Republiq
Data Source	Stedin
Year	2022
Last update	14-01-2022
Date of download	14-01-2022
Link to webpage	Not applicable
Filters used to obtain the datafile	Not applicable
Internal location	Republiq -> Klantgroepen\Zorginstellingen\SDG_7.3_Energieverbruik
Data quality estimate	3
Unit of measurement	kWh
Selections	Not applicable
Data missing	For some clusters we did not receive consumption data. This can have several causes: Stedin could not find an address (this is most often the case for addresses with an add-on. For example house number 1-A)

	The address is assigned to a connection for large consumption (grootverbruik). Net operators are not allowed to share this data.
Print Screens	Internal location Republiq

Topic	Description
Data	Values for gas and electricity (used for estimation)
Data file	Bijlage 1 – Kengetallen energieverbruik
Data Source	Republiq
Year	2022
Last update	18-1-2022
Date of download	18-01-2022
Link to webpage	Not applicable
Filters used to obtain the datafile	Not applicable
Internal location	Republiq -> Klantgroepen\Zorginstellingen\SDG_7.3_Energieverbruik
Data quality estimate	3
Unit of measurement	kWh for electricity and m^3 for gas
Selections	Not applicable
Data missing	Not applicable
Print Screens	Internal location Republiq

5.2.2 Energy consumption healthcare institutions – natural gas (m^3)

Topic	Description
Data	Energy consumption (in total and per m^2) for healthcare institutions. Energy consumption is divided in usage of electricity in kWh and gas in m^3.
Calculation steps	The following steps are performed: Inventory of all healthcare institutions Inventory of all cadastral parcels owned by healthcare institutions Inventory of all buildings owned by healthcare institutions Request to network operators Processing consumption data Estimate missing consumption data Creating the overview of consumption data per institution Inventory of all healthcare institutions BNG Bank has provided an overview of healthcare institutions from its portfolio. In total there are 449 unique institutions (based on KVK number). Inventory of all cadastral parcels owned by healthcare institutions We have inventoried the properties of the healthcare institutions via Kadaster. Kadaster has provided an overview of the cadastral parcels and associated rights for each institution. The total list consisted of 65,804 records from a total of 439 unique healthcare institutions. Inventory of all buildings owned by healthcare institutions In this step we looked for the buildings on the cadastral parcels from step 2. First, we matched the results from Kadaster with BAG (Basisregistratie Adressen en Gebouwen). Then, we looked at whether we could link additional buildings by performing a spatial match. For part of the parcels Kadaster provided an VBO-id (verblijfsobject-ID). This VBO-id is an unique ID for the building or buildings that are placed on the parcel. We joined the set from Kadaster with the BAG on VBO-id to find the corresponding addresses.

	We performed a spatial match by combining a shapefile of cadastral parcels with a shapefile of all buildings in the Netherlands. This resulted in a list with all parcels and the corresponding buildings placed on this parcel. We joined this list on parcel-ID with the result from Kadaster to obtain the buildings that are placed on the parcels in ownership of healthcare institutions. We combined the results from the match on VBO-id and the spatial match to obtain a list with all parcels and corresponding addresses. If several healthcare institutions have rights for the same parcel, we let the right of ownership prevail over other rights. The result of this step is an overview of 62,153 unique addresses with the corresponding institution. Request to network operators Due to privacy reasons it is not allowed to provide consumption data for individual buildings. It is allowed to provide these for cluster of buildings (10 to 15 buildings). We therefore make clusters of the buildings, taking into account the owner of the buildings and the type of building. Where possible, clusters consist only of buildings of the same owner. If this is not possible, buildings are merged into a cluster. Clusters are made as followed: The network operator is assigned to the buildings. This is done on the basis of address details and the area division of the operators (see: https://data.overheid.nl/dataset/gebiedsbedrijven-netbeheers-elektriciteit--gas-en-water). We only request consumption data from the three largest network operators (Enexis, Liander and Stedin). Together they provide approximately 95% of the buildings with energy. For buildings that fall in area of another operator we make an estimate of the consumption. The request for data is at the level of unique addresses. We therefore group the data by zip code, house number and house number addition. The number of unique addresses is counted per institution. We make clusters of at least 15 addresses. Where possible, we create multiple clusters per institution. We create joint clusters for institutions with fewer than 15 unique addresses. We calculate the average surface area of the buildings per institution. We then create clusters of at least 15 buildings, in which the buildings of institutions with a comparable surface area end up in the same cluster. Processing consumption data From the network operators we receive per cluster the standard annual consumption (in Dutch standaard jaarverbruik (SJV)). We divide this by the average surface of buildings from a cluster to obtain consumption data per m^2. The consumption data per m^2 is assigned to the individual buildings belonging to a cluster. Next, we perform a check on outliers. If a value is higher or lower than two times standard deviation from the average, this value is detected as outlier. This is done separately for gas and for electricity. Outliers are replaced by missing values. Estimate missing consumption data We use the actual consumption data to calculate an average value for electricity usage and gas usage. This is done per year for different classes of building years and surfaces. For the buildings with missing consumption data an estimation for gas and electricity is assigned on the basis of the building period and surface class. Overview per healthcare institution For each healthcare institution we group the following measures: Total surface of buildings Total gas consumption (in m^3) Average gas consumption (in m^3 per m^2)
Limitations	It is not possible to assign actual consumption data to every building. For the buildings where this is not possible, we make an estimation of the consumption data.
SDG	SDG 7.3
Data quality estimate	3 – Average data that is peer/(sub)sector-specific **Score** **Quality requirement**

1	Audited data or actual primary data
2	Non-audited data, or other primary data
3	Average data that is peer/(sub)sector-specific
4	Proxy data on the basis of region or country
5	Estimated data with very limited support

Topic	Description
Data	Healthcare institutions
Data file	Internal location Republiq
Data Source	BNG Bank
Year	2021
Last update	22-11-2021
Date of download	22-11-2021
Link to webpage	Not applicable
Filters used to obtain the datafile	Not applicable
Internal location	Republiq -> Klantgroepen\Zorginstellingen\SDG_7.3_Energieverbruik
Data quality estimate	2
Unit of measurement	Not applicable
Selections	Not applicable
Data missing	Not applicable
Print Screens	Internal location Republiq

Topic	Description
Data	Cadastral parcels in ownership of healthcare institutions
Data file	Internal location Republiq
Data Source	Kadaster
Year	2021
Last update	09-12-2021
Date of download	09-12-2021
Link to webpage	Not applicable
Filters used to obtain the datafile	Not applicable
Internal location	Republiq -> Klantgroepen\Zorginstellingen\SDG_7.3_Energieverbruik
Data quality estimate	2
Unit of measurement	Not applicable
Selections	Not applicable
Data missing	Not applicable
Print Screens	Internal location Republiq

Topic	Description
Data	Energy consumption (Enexis)
Data file	Internal location Republiq
Data Source	Enexis
Year	2021
Last update	23-12-2021
Date of download	23-12-2021
Link to webpage	Not applicable

Filters used to obtain the datafile	Not applicable
Internal location	Internal location Republiq
Data quality estimate	3
Unit of measurement	m^3 for gas
Selections	Not applicable
Data missing	For some clusters we did not receive consumption data. This can have several causes: Enexis could not find an address (this is most often the case for addresses with an add-on. For example house number 1-A) The address is assigned to a connection for large consumption (grootverbruik). Net operators are not allowed to share this data.
Print Screens	Internal location Republiq

Topic	Description
Data	Energy consumption (Liander)
Data file	Internal location Republiq
Data Source	Liander
Year	2022
Last update	12-01-2022
Date of download	12-01-2022
Link to webpage	Not applicable
Filters used to obtain the datafile	Not applicable
Internal location	Internal location Republiq
Data quality estimate	3
Unit of measurement	m^3 for gas
Selections	Not applicable
Data missing	For some clusters we did not receive consumption data. This can have several causes: Liander could not find an address (this is most often the case for addresses with an add-on. For example house number 1-A) The address is assigned to a connection for large consumption (grootverbruik). Net operators are not allowed to share this data.
Print Screens	Internal location Republiq

Topic	Description
Data	Energy consumption (Stedin)
Data file	Internal location Republiq
Data Source	Stedin
Year	2022
Last update	14-01-2022
Date of download	14-01-2022
Link to webpage	Not applicable
Filters used to obtain the datafile	Not applicable
Internal location	Internal location Republiq
Data quality estimate	3
Unit of measurement	m^3 for gas
Selections	Not applicable
Data missing	For some clusters we did not receive consumption data. This can have several causes: Stedin could not find an address (this is most often the case for addresses with an add-on. For example house number 1-A)

	The address is assigned to a connection for large consumption (grootverbruik). Net operators are not allowed to share this data.
Print Screens	Internal location Republiq

Topic	Description
Data	Values for gas and electricity (used for estimation)
Data file	Bijlage 1 – Kengetallen energieverbruik
Data Source	Republiq
Year	2022
Last update	18-1-2022
Date of download	18-01-2022
Link to webpage	Not applicable
Filters used to obtain the datafile	Not applicable
Internal location	Internal location Republiq
Data quality estimate	3
Unit of measurement	m^3 for gas
Selections	Not applicable
Data missing	Not applicable
Print Screens	Internal location Republiq

5.2.3 CO_2 equivalent emissions per healthcare institution

An important remark is that for the indicators: Energy consumption healthcare institutions – electricity (kWh) and natural gas (m^3), the used data source(s) are different than the data sources used for the indicator: CO_2 equivalent emissions per healthcare institution. The used data sources for the latter indicator are specified in this paragraph.

Topic	Description
Data	Data on energy costs per healthcare institute per year, are coming from the compulsory annual reports of the healthcare institutions (DigiMV) to the Ministry of Health, Welfare and Sport. The Ministry of Health, Welfare and Sport combines the data of all individual annual reports in a dataset. Data of the total balance sheet per healthcare institute per year, are coming from the compulsory annual reports of the healthcare institutions (DigiMV) to the Ministry of Health, Welfare and Sport. The Ministry of Health, Welfare and Sport combine the data of all individual annual reports in a dataset. Data about transaction prices for natural gas and electricity come from the Dutch Central Bureau of Statistics (CBS). The data is obtained from energy companies by sending them surveys. Geographically based annual averages (provinces/NUTS2) for commuting distance data is coming from the Dutch Central Bureau of Statistics (CBS). Just as the Geographically based annual averages (provinces/NUTS2) for business travel distance and distance travelled per means of transportation data. Healthcare sector specific electricity and natural gas use data is retrieved from CBS Statline, and is highly reliable because it is based on network registrations. The trends in energy consumption in these data have been used to estimate the energy use for individual healthcare institutions in reporting year 2020 and 2021. In a few cases data was taken from the annual reports of the healthcare institutions. If that is the case, it is shown in the calculations sheets and the annual reports are included in the data folder.
Calculation steps	Scope 1 emissions are the direct GHG emissions of the organizations. For healthcare organizations, these emissions result from the use of natural gas for heating of buildings, or for disinfection of medical tools. Scope 2 emissions include the indirect GHG emissions from consumption of purchased electricity, heat or steam. Because the heat and steam use per healthcare organization is unknown, scope 2 will be based on the use of purchased electricity. The datasets of the Ministry of Health, Welfare and Sport for the year 2018 and 2019 contain data on energy and maintenance costs and no separate data for natural gas and electricity or energy. It is not possible to derive electricity and natural gas costs from the combined figure for energy and maintenance. Energy costs can be quite stable over time, however, the costs for maintenance can vary greatly amongst different institutions and years. Therefore, the data for energy and maintenance costs cannot be used. Because the datasets of the Ministry of Health, Welfare and Sport for the year 2018 and 2019 don't contain data on the costs for natural gas and electricity (energy), the dataset from 2017 had to be used again to calculate the scope 1 and 2 CO_2 equivalent emissions for reporting year 2021. The dataset from 2017 contains 1959 healthcare institutions. Five hundred two healthcare institutions reported costs for natural gas use and electricity use. Three hundred and thirty-eight healthcare institutions reported total energy costs. To divide the energy costs in costs for natural gas and electricity the 502 healthcare institutions were divided into 7 categories: university medical center, general hospital, categorical hospital, rehabilitation center, independent treatment center, a group of mental healthcare/home care/care for disabled/forensic care, and other care. For each category, the average distribution of energy costs between natural gas and electricity was determined.

	The 338 healthcare institutions were also divided in the 7 categories and according to the average distribution between natural gas and electricity of the 502 healthcare institutions the energy costs of the 338 institutions were divided between natural gas and electricity. Based on the energy prices for natural gas and electricity in 2017, the amount of natural gas (GJ) and electricity (kWh) has been calculated. The amount of natural gas in GJ has been converted to m^3 by using the conversion factor for natural gas: 0.03165 GJ/m^3. Then the amount of natural gas and electricity is converted into kg CO_2 equivalent using the emission factor for natural gas and electricity. To calculate the scope 1 and 2 CO_2 equivalent emissions for reporting year 2021 healthcare sector specific electricity and natural gas use, retrieved from CBS Statline was used to determine the change in natural gas and electricity use over time. Between 2017 and 2019 (reporting years 2019 and 2021) natural gas use in the healthcare sector decreased by 8.0%, electricity use did not change. In some exceptional cases costs for natural gas or electricity or total energy costs have been extracted from the annual reports of the healthcare institutions. If so, this has been indicated in the calculation sheets. **Scope 3** Scope 3 covers all other indirect emissions. In the current report, scope 3 is incomplete and only emissions from employee commuting and business travel is included in the calculations. From the datasets of the Ministry of Health, Welfare and Sport available for 2019 the number of employees in FTE were used for the calculations. According to the average distance a person travels per year by bus/tram/metro, train, bike, car as driver, car as passenger, foot (6 travel types), the percentage of travelling per travel type was calculated. For every type of transport the number of employees is multiplied by the average distance a person travels per year for work and by percentage of transport type to come to the number of kilometer travelled per year with the 6 travel types. Afterwards, the kilometers per year per travel type was multiplied by the corresponding emission factor resulting in kilogram CO_2 equivalent for each travel type. For car as driver and car as passenger the total kilometer travelled per year was first divided by 1,39 (Conversion factor for passenger kilometers to vehicle kilometers (the average occupancy rate of vehicles is 1.39 per car) (www.CO2emissiefactoren, 2020) and then multiplied by the corresponding emission factor resulting in kilogram CO_2 equivalent. The kilogram CO_2 equivalent for each travel type was added up to result in scope 3. After calculating the scope 1, 2, and 3 CO_2 equivalent emissions, this total amount is multiplied by the percentage of loan of the healthcare institutions in the total balance sheet. When for example the percentage loan in the total balance sheet is 25%, 25% of scope 1, 2, and 3 CO_2 equivalent emissions were allocated to the bank. In the datasets of the Ministry of Health, Welfare and Sport the data of the total balance sheet were missing in the datasets of the years 2018 and 2019. Therefore, the total balance sheet data of 2017 had to be used. In some exceptional cases total balance sheet of 2018 and 2019 were in the dataset of the year 2018 and 2019. If so, this has been indicated in the calculation sheets. The absolute CO_2 equivalent emissions and relative emission are reported per scope. To calculate the relative emission, the absolute CO_2 equivalent emissions are divided by the loans covered with a CO_2-footprint to calculate the relative emissions in ton CO_2-eq per million EUR. For calculation of the coverage rate only the healthcare institutions were taken into account for whom we were able to calculate scope 1 and 2.
Limitations	The datasets of the Ministry of Health, Welfare and Sport for the years 2018 and 2019 contain data on energy and maintenance costs and no separate data for natural gas and electricity or energy. It is not possible to derive electricity and natural gas costs from the combined figure for energy and maintenance. Energy costs can be quite stable over time, however, the costs for maintenance can vary greatly amongst different institutions and years. Therefore, the data for energy and maintenance costs cannot be used.

	Because the datasets of the Ministry of Health, Welfare and Sport for the years 2018 and 2019 don't contain data on the costs for natural gas and electricity (energy), the dataset from 2017 had to be used again to calculate the scope 1 and 2 CO_2 equivalent emissions for reporting year 2021. In addition, some mistakes were discovered in the dataset from 2017. Therefore, the scope 1 and 2 CO_2 equivalent emissions for reporting years 2019 and 2020 had to be recalculated. The dataset contains 1959 healthcare institutions. Five hundred two healthcare institutions reported costs for natural gas use and electricity use. Three hundred and thirty-eight healthcare institutions reported total energy costs, but these costs were reported in either the column of natural gas or electricity. Last year's calculations assumed that these were not total energy costs, but costs for natural gas or electricity depending on the column in which the costs were reported. This year by checking some annual reports of the healthcare institutions it was discovered that these costs were total energy costs. Ideally, emissions from other sources in the primary process of healthcare organizations should be taken into account as well. For example emissions of other gasses from ambulances and trauma helicopters used for medical procedures. Unfortunately, the data provided on these issues is insufficient to be able to make reliable estimations. Therefore, only natural gas use is taken into consideration under scope 1. Scope 3 covers all other indirect emissions. Some examples of scope 3 activities prominent in healthcare include emissions from employee commuting, business travel, waste processing, and food processing. Unfortunately, no data was available to make estimations for waste and food processing.
SDG	SDG 13
Data quality estimate	Score 3

Score	Quality requirement
1	Audited data or actual primary data
2	Non-audited data, or other primary data
3	Average data that is peer/(sub)sector-specific
4	Proxy data on the basis of region or country
5	Estimated data with very limited support

Topic	Description
Data	Concern codes and KvK data per healthcare organisation
Data file	x7conc_total_VOLLEDIG sheet: X7conc_total_VOLLEDIG_1
Data Source	CIBG; Ministerie van Volksgezondheid Welzijn en Sport
Year	2017
Last update	Unknown
Date of download	26-10-2020
Link to webpage	https://www.jaarverantwoordingzorg.nl/gegevens-bekijken/verantwoordingsgegevens-per-verslagjaar-datasets
Filters used to obtain the datafile	Not applicable
Internal location	Klantgroepen\Zorginstellingen\SDG_11.2_CO2-emissies zorginstellingen\Ruwe data
Data quality estimate	Score 2 Data is acquired by CIBG from individual annual reports of healthcare organisations. The source data in the annual report is audited, the composite dataset of CIBG is not.
Unit of measurement	Not applicable
Selections	Not applicable
Data transformation	Not applicable
Data missing	Not applicable

Print screens	Not applicable

Topic	Description
Data	Cost for natural gas use and electricity use or cost for energy (natural gas use + electricity use)
Data file	x7conc_total_VOLLEDIG sheet: x7conc_total_VOLLEDIG_20
Data Source	CIBG; Ministerie van Volksgezondheid Welzijn en Sport
Year	2017
Last update	Unknown
Date of download	26-10-2020
Link to webpage	https://www.jaarverantwoordingzorg.nl/gegevens-bekijken/verantwoordingsgegevens-per-verslagjaar-datasets
Filters used to obtain the datafile	Not applicable
Internal location	Klantgroepen\Zorginstellingen\SDG_11.2_CO2-emissies zorginstellingen\Ruwe data
Data quality estimate	Score 2 Data is acquired by CIBG from individual annual reports of healthcare organisations. The source data in the annual report is audited, the composite dataset of CIBG is not.
Unit of measurement	Euro
Selections	Not applicable
Data transformation	The database contains cost for natural gas and electricity use from 502 healthcare institutions and contains cost for energy from 338 healthcare institutions. For the 338 healthcare institutions, the energy costs are divided between natural gas and electricity costs on the basis of the natural gas and electricity costs of the 502 healthcare institutions as described earlier in the section calculations. This transformation is performed in the file: Zorginstellingen\Scopes\20210714 overzicht cijfers zorginstellingen.xls
Data missing	From 1119 healthcare institutions (1959 – 502 – 338) data is missing. This leads to missing data for scope 1, 2 and 3. For the healthcare institutions of which the loan amount was more than 1% of the total the healthcare sector the annual reports of these healthcare institutions were checked for energy data. However, this was not very successful because often cost for energy and maintenance are reported as one value.
Print screens	Not applicable

Topic	Description
Data	Energy prices natural gas and electricity
Data file	Aardgas en elektriciteit, gemiddelde prijzen van eindverbruikers
Data Source	CBS, Statline
Year	2015-2020
Last update	31-3-2021
Date of download	14-6-2021
Link to webpage	https://opendata.cbs.nl/statline/#/CBS/nl/dataset/81309NED/table?ts=1603723562973
Filters used to obtain the datafile	Jaar: 2015-2020 Onderwerp: Aardgasprijs verbruiksklassen niet-huishoudens Elektriciteitsprijs verbruiksklassen niet-huishoudens Prijscomponenten: Transactieprijs Belastingen: Inclusief btw en belastingen
Internal location	Klantgroepen\Zorginstellingen\SDG_11.2_CO2-emissies zorginstellingen\Ruwe data
Data quality estimate	Score 2

	The research method to obtain these data can be find here:korte onderzoeksbeschrijving Aardgas en elektriciteit, gemiddelde prijzen van eindverbruikers. The data is obtained from energy companies by sending them surveys.
Unit of measurement	Natural gas: Euro/GJ Electricity: Euro/kWh
Selections	Not applicable
Data transformation	Not applicable
Data missing	Not applicable
Print screens	In folder: Klantgroepen\Zorginstellingen\Printscreens\20210614 aardgas en elektriciteit, gemiddelde prijzen en eindverbruikers Statline.png

Topic	Description
Data	Energy use per sector
Data file	Energiebalans; aanbod en verbruik, sector
Data Source	CBS, Statline
Year	2016-2019
Last update	16-12-2020
Date of download	14-6-2021
Link to webpage	https://opendata.cbs.nl/statline#/CBS/nl/dataset/83989NED/table?ts=1603793762059
Filters used to obtain the datafile	Onderwerp: energie aanvoer Sectoren: overige afnemers / Q Gezondheids- en welzijnszorg Perioden: 2016-2020 Energiedragers: Aardgas Elektriciteit en warmte / elektriciteit
Internal location	Klantgroepen\Zorginstellingen\SDG_11.2_CO2-emissies zorginstellingen\Ruwe data
Data quality estimate	Score 2 Data is not audited, but a plausibility check is built in. For more information, see: https://www.cbs.nl/nl-nl/onze-diensten/methoden/onderzoeksomschrijvingen/korte-onderzoeksbeschrijvingen/nederlandse-energiehuishouding--neh--
Unit of measurement	PJ
Selections	Not applicable
Data transformation	This data is used to calculate the difference in energy supply to the healthcare sector between the years 2017 and 2018 and between the years 2018 and 2019. This transformation is performed in the file: Zorginstellingen\Scopes\20210614 Scopes zorginstellingen rapportagejaar 2021.xls in sheet Ruwe data energie sector
Data missing	Not applicable
Print screens	In folder: Klantgroepen\Zorginstellingen\Printscreens\20210614 energiebalans; aanbod en verbruik, sector Statline.png

Topic	Description
Data	Energy-content of natural gas
Data file	Energie-inhoud aardgas (onderwaarde_in GJ_m3)
Data Source	Klimaatmonitor
Year	2020
Last update	Unknown
Date of download	14-6-2021
Link to webpage	https://klimaatmonitor.databank.nl/Jive
Filters used to obtain the datafile	Not applicable
Internal location	Klantgroepen\Zorginstellingen\SDG_11.2_CO2-emissies zorginstellingen\Ruwe data
Data quality estimate	Score 1 Official statistic. https://www.infomil.nl/onderwerpen/duurzaamheid-energie/energiebesparing/vragen-antwoorden/overige-vragen/omrekening-verbruik/

Unit of measurement	GJ/m^3
Selections	Not applicable
Data transformation	Not applicable
Data missing	Not applicable
Print screens	In folder: Klantgroepen\Zorginstellingen\Printscreens\20210614 energieinhoud aardgas (onderwaarde in GJ per m^3) 2020 De Klimaatmonitor.png

Topic	Description
Data	Total balance sheet healthcare institutions
Data file	x7conc_total_VOLLEDIG sheet: x7conc_total_VOLLEDIG_11
Data Source	CIBG; Ministerie van Volksgezondheid Welzijn en Sport
Year	2016 & 2017 only data of the year 2017 used for calculations
Last update	Unknown
Date of download	26-10-2020
Link to webpage	https://www.jaarverantwoordingzorg.nl/gegevens-bekijken/verantwoordingsgegevens-per-verslagjaar-datasets
Filters used to obtain the datafile	Not applicable
Internal location	Klantgroepen\Zorginstellingen\SDG_11.2_CO2-emissies zorginstellingen\Ruwe data
Data quality estimate	Score 2 Data is acquired by CIBG from individual annual reports of healthcare organizations. The source data in the annual report is audited, the composite dataset of CIBG is not.
Unit of measurement	Euro
Selections	Not applicable
Data transformation	Not applicable
Data missing	For the calculations of reporting year 2021, total balance sheet data is missing from 96 healthcare institutions in the loan portfolio of the bank. The loan amount of these 96 healthcare institutions is 16% of the total loans in the healthcare sector.
Print screens	Not applicable

Topic	Description
Data	Concern codes and KvK data per healthcare organisation
Data file	DigiMV2019_20210816_concernbreed_deel1.ods Sheet: x9conc.total_1
Data Source	CIBG; Ministerie van Volksgezondheid Welzijn en Sport
Year	2019
Last update	Unknown
Date of download	31-8-2021
Link to webpage	https://www.jaarverantwoordingzorg.nl/gegevens-bekijken/documenten/publicaties/2021/08/17/digimv-2019-deel-1
Filters used to obtain the datafile	Not applicable
Internal location	Klantgroepen\Zorginstellingen\SDG_11.2_CO2-emissies zorginstellingen\Ruwe data
Data quality estimate	Score 2 Data is acquired by CIBG from individual annual reports of healthcare organizations. The source data in the annual report is audited, the composite dataset of CIBG is not.
Unit of measurement	Not applicable
Selections	Not applicable
Data transformation	Not applicable
Data missing	Not applicable
Print screens	Not applicable

Topic	Description
Data	Total balance sheet healthcare institutions
Data file	DigiMV2019_20210816_concernbreed_deel1.ods Sheet: x9conc.total_4
Data Source	CIBG; Ministerie van Volksgezondheid Welzijn en Sport
Year	2018 & 2019
Last update	Unknown
Date of download	31-8-2021
Link to webpage	https://www.jaarverantwoordingzorg.nl/gegevens-bekijken/documenten/publicaties/2021/08/17/digimv-2019-deel-1
Filters used to obtain the datafile	Not applicable
Internal location	Klantgroepen\Zorginstellingen\SDG_11.2_CO2-emissies zorginstellingen\Ruwe data
Data quality estimate	Score 2 Data is acquired by CIBG from individual annual reports of healthcare organizations. The source data in the annual report is audited, the composite dataset of CIBG is not.
Unit of measurement	Euro
Selections	Not applicable
Data transformation	Not applicable
Data missing	In this database a lot of data is missing. Only a few numbers could be used for the calculations.
Print screens	Not applicable

Topic	Description
Data	Total balance sheet healthcare institutions
Data file	DigiMV2019_20210816_concernbreed_deel1.ods Sheet: x9conc.total_4
Data Source	CIBG; Ministerie van Volksgezondheid Welzijn en Sport
Year	2018 & 2019
Last update	Unknown
Date of download	31-8-2021
Link to webpage	https://www.jaarverantwoordingzorg.nl/gegevens-bekijken/documenten/publicaties/2021/08/17/digimv-2019-deel-1
Filters used to obtain the datafile	Not applicable
Internal location	Klantgroepen\Zorginstellingen\SDG_11.2_CO2-emissies zorginstellingen\Ruwe data
Data quality estimate	Score 2 Data is acquired by CIBG from individual annual reports of healthcare organizations. The source data in the annual report is audited, the composite dataset of CIBG is not.
Unit of measurement	Euro
Selections	Not applicable
Data transformation	Not applicable
Data missing	In this database a lot of data is missing. Only a few numbers could be used for the calculations.
Print screens	Not applicable

Topic	Description
Data	Villages and cities overview in the Netherlands.
Data file	Woonplaatsen_in_Nederland_2017_27102020_155216
Data Source	CBS, Statline
Year	2017
Last update	15-3-2017
Date of download	27-10-2020

Link to webpage	https://opendata.cbs.nl/statline/#/CBS/nl/dataset/83689NED/table?ts=1603810311539
Filters used to obtain the datafile	Woonplaatsen: Woonplaatsen op alfabet Onderwerp: woonplaatscode Gemeente: naam / code Provincie: naam / code Landsdeel: naam /code
Internal location	Klantgroepen\Zorginstellingen\SDG_11.2_CO2-emissies zorginstellingen\Ruwe data
Data quality estimate	Score 1
Unit of measurement	Not applicable
Selections	Not applicable
Data transformation	Not applicable
Data missing	Not applicable
Print screens	In folder: Klantgroepen\Zorginstellingen\Printscreens\Woonplaatsen

Topic	Description
Data	Average mobility per person per year
Data file	Mobiliteit; per persoon, persoonskenmerken, motieven en regio's Sheet: Mobiliteit_per_persoon_persoo
Data Source	CBS, Statline
Year	2018-2020
Last update	30-6-2021
Date of download	7-7-2021
Link to webpage	https://opendata.cbs.nl/statline/#/CBS/nl/dataset/84713NED/table?ts=1603811773192
Filters used to obtain the datafile	Populatie: 12 jaar of ouder Marge: waarde Regio's: provincies Reismotieven: van en naar het werk & zakelijk, beroepsmatig Persoonskenmerken: participatie: werkzaam 30 uur pw of meer Geslacht: totaal mannen en vrouwen Onderwerp: gemiddeld per persoon per jaar / afstand Perioden: 2018-2020
Internal location	Klantgroepen\Zorginstellingen\SDG_11.2_CO2-emissies zorginstellingen\Ruwe data
Data quality estimate	Score 3 With sample surveys, such as the ODiN, information is collected from only part of the population. The estimated results based on the sample data are generally not equal to the actual values and therefore have margins of inaccuracy. For more information, see https://www.cbs.nl/nl-nl/onze-diensten/methoden/onderzoeksomschrijvingen/korte-onderzoeksbeschrijvingen/onderweg-in-nederland
Unit of measurement	km
Selections	Not applicable
Data transformation	Per province the data for travel motive: to and from work and work kilometers were added.
Data missing	For the year 2020 some data is missing. For two missing numbers, 2019 data is used. For two other missing numbers, 2019 data was not available and therefore data from a larger region of the Netherlands was used. E.g.: if the data for the province of Flevoland is missing, than the data for Oost-Nederland (LD) was used. These adjustments are shown in the file: Zorginstellingen\Data\Mobiliteit, per persoon, persoonskenmerken, motieven en regio's.xls in sheet Bewerking bij missende data.
Print screens	In folder: Klantgroepen\Zorginstellingen\Printscreens\20210707 mobiliteit; per persoon, persoonskenmerken, motieven en regio's Statline deel 1 20210707 mobiliteit; per persoon, persoonskenmerken, motieven en regio's Statline deel 2

Topic	Description
Data	Average mobility per person per year (part 2)
Data file	Mobiliteit; per persoon, persoonskenmerken, motieven en regio's Sheet: Mobiliteit_per_persoon_persoo2
Data Source	CBS, Statline
Year	2018-2020
Last update	30-6-2021
Date of download	7-7-2021
Link to webpage	https://opendata.cbs.nl/statline/#/CBS/nl/dataset/84713NED/table?ts=1603811773192
Filters used to obtain the datafile	Populatie: 12 jaar of ouder Marge: waarde Regio's: landsdelen: Oost-Nederland en West Nederland Reismotieven: van en naar het werk & zakelijk, beroepsmatig Persoonskenmerken: participatie: werkzaam 30 uur pw of meer Geslacht: totaal mannen en vrouwen Onderwerp: gemiddeld per persoon per jaar / afstand Perioden: 2018-2020
Internal location	Klantgroepen\Zorginstellingen\SDG_11.2_CO2-emissies zorginstellingen\Ruwe data
Data quality estimate	Score 3 With sample surveys, such as the ODiN, information is collected from only part of the population. The estimated results based on the sample data are generally not equal to the actual values and therefore have margins of inaccuracy. For more information, see https://www.cbs.nl/nl-nl/onze-diensten/methoden/onderzoeksomschrijvingen/korte-onderzoeksbeschrijvingen/onderweg-in-nederland
Unit of measurement	km
Selections	Not applicable
Data transformation	Not applicable
Data missing	Data in this file was used to fill up the missing values in sheet Mobiliteit_per_persoon_persoo
Print screens	In folder: Klantgroepen\Zorginstellingen\Printscreens\20210707 mobiliteit; per persoon, persoonskenmerken, motieven en landsdelen Statline

Topic	Description
Data	Transportation methods used per person per province
Data file	Mobiliteit__per_persoon_persoonskenmerken_voervoerwijzen_en_regio_s_28092021_33501 Sheet: Mobiliteit_per_persoon_persoo
Data Source	CBS, Statline
Year	2020
Last update	30-6-2021
Date of download	28-9-2021
Link to webpage	https://opendata.cbs.nl/statline/#/CBS/nl/dataset/84709NED/table?ts=1603813016233
Filters used to obtain the datafile	Populatie: 12 jaar of ouder Geslacht: totaal mannen en vrouwen Persoonskenmerken: werkzaam 30 uur pw of meer Vervoerswijzen: totaal / personenauto (bestuurder) / personenauto (passagier) / trein / bus-tram-metro / fiets / lopen / overige vervoerswijze Onderwerp: gemiddeld per persoon per jaar / afstand Periode: 2020 Marge: waarde Regio's: totalen / landsdelen / provincies / overig
Internal location	Klantgroepen\Zorginstellingen\SDG_11.2_CO2-emissies zorginstellingen\Ruwe data

Data quality estimate	Score 3 With sample surveys, such as the ODiN, information is collected from only part of the population. The estimated results based on the sample data are generally not equal to the actual values and therefore have margins of inaccuracy. For more information, see https://www.cbs.nl/nl-nl/onze-diensten/methoden/onderzoeksomschrijvingen/korte-onderzoeksbeschrijvingen/onderweg-in-nederland
Unit of measurement	km
Selections	Not applicable
Data transformation	From the original data in sheet: Mobiliteit_per_persoon_persoo a pivot table was made. In the pivot table some numbers were missing.
Data missing	For the missing values the lowest possible available geographic scale level was used. E.g.: if the data for the province of Groningen is missing, than the data for Noord-Nederland (LD) was used. If that data was not available too, the data for the whole Netherlands was used. The transformed data is in sheet: Data gebruikt voor berekeningen.
Print screens	In folder: Klantgroepen\Zorginstellingen\Printscreens\mobiliteit vervoerswijzen afstand per persoon per jaar v1 t/m v5

Topic	Description
Data	FTE per healthcare institution
Data file	DigiMV2019_20210616_concernbreed_deel2.ods Sheet: x9conc_total_24 FTE zorginstellingen
Data Source	CIBG; Ministerie van Volksgezondheid Welzijn en Sport
Year	2019
Last update	Unknown
Date of download	27-10-2021
Link to webpage	https://www.jaarverantwoordingzorg.nl/gegevens-bekijken/verantwoordingsgegevens-per-verslagjaar-datasets
Filters used to obtain the datafile	Not applicable
Internal location	Klantgroepen\Zorginstellingen\SDG_11.2_CO2-emissies zorginstellingen\Ruwe data
Data quality estimate	Score 2 Data is acquired by CIBG from individual annual reports of healthcare organizations. The source data in the annual report is audited, the composite dataset of CIBG is not.
Unit of measurement	FTE
Selections	Not applicable
Data transformation	Sum of personnel in paid employment, self-employed persons and hired staff.
Data missing	There is data missing in this data file. However, when this data was missing also the energy data was missing, so it had no extra consequences for the calculations.
Print screens	Not applicable

6 CO_2 equivalent emissions of the total loan portfolio of the BNG Bank

6.1 General factsheet

Topic	Description
Portfolio covered	89% of the loan portfolio of the BNG Bank is covered with a CO_2 footprint.
Indicators	CO_2 equivalent emissions for the total loan portfolio of the BNG Bank
Limitations	For details we refer to the report GHG Emissions of BNG Bank Loan Portfolio; Reporting year 2021
Data quality estimate	Data quality estimate is different per sector. For details we refer to the report GHG Emissions of BNG Bank Loan Portfolio; Reporting year 2021; Table S-2.

Score	Quality requirement
1	Audited data or actual primary data
2	Non-audited data, or other primary data
3	Average data that is peer/(sub)sector-specific
4	Proxy data on the basis of region or country
5	Estimated data with very limited support

6.2 Factsheet per data source used per indicator

6.2.1 CO_2 equivalent emissions for the total loan portfolio of the BNG Bank

Topic	Description
Data	For details we refer to the report GHG Emissions of BNG Bank Loan Portfolio; Reporting year 2021
Calculation steps	For details we refer to the report GHG Emissions of BNG Bank Loan Portfolio; Reporting year 2021
Limitations	For details we refer to the report GHG Emissions of BNG Bank Loan Portfolio; Reporting year 2021
SDG	SDG 13
Data quality estimate	Data quality estimate is different per sector. For details we refer to the report GHG Emissions of BNG Bank Loan Portfolio; Reporting year 2021; Table S-2.

Score	Quality requirement
1	Audited data or actual primary data
2	Non-audited data, or other primary data
3	Average data that is peer/(sub)sector-specific
4	Proxy data on the basis of region or country
5	Estimated data with very limited support

For detailed information about the used datafiles etc. we refer to the report GHG Emissions of BNG Bank Loan Portfolio; Reporting year 2021.

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About Het PON & Telos

Improving social decision-making

Het PON & Telos is a social knowledge organization at the heart of society. We consider it our mission to improve social decision-making. We do this by linking scientific knowledge to practical knowledge. In this process every voice counts! We collect, investigate, analyze, and interpret opinions and facts using stimulating approaches and innovative methods. In doing so, we are always focused on sustainable development: the harmonious connection between social, environmental and economic objectives. In this way we contribute to the quality of society at large, now and in the future.

With a multidisciplinary and creative team of nearly 30 research consultants, we work mainly for local and regional authorities in the Netherlands, but also for corporate bodies, banks, care and welfare institutions, funds, and social organizations. We work closely with civic organizations and other knowledge institutions and are an official partner of Tilburg University. We use our knowledge and insights to advise initiators, policy-makers and managers. This enables them to make informed choices and give a positive impulse to the society of tomorrow.

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