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Equipping dwellings and buildings with technical installations and devices – preliminary results of the Census 2021



94.8%

The percentage of dwellings with a water supply system, lavatory and bathroom



83.9%

The percentage of buildings connected concurrently to water supply system, sewage system and central heating

This study presents the preliminary results of the National Population and Housing Census 2021 in terms of equipping dwellings and buildings in which the dwellings were located with technical installations and devices.

According to the preliminary results of the Census 2021, the number of dwellings and buildings equipped with particular installations and technical devices has increased compared to the results of Census 2011. The improvement in the level of equipment was the result of gminas investments in the development of the technical infrastructure of the network, renovations carried out to raise the standard of living of the oldest stocks, as well as a large number of well-equipped buildings and dwellings completed.

At the end of March 2021, the number of dwellings equipped with three basic sanitary and technical installations, i.e. water supply¹, lavatory and bathroom, amounted to over 14.5 million and accounted for 94.8% of all dwellings located in the country. At the same time, more than every second dwelling had additional central heating² and gas from the gas supply system.

Among the buildings where the dwellings were located, a complete set of technical devices, i.e. water supply system, sewage system and central heating, was provided to over 5.8 million buildings. Their share in the total number of buildings with dwellings amounted to 83.9%. Among buildings with basic technical devices, almost 2.7 million buildings were additionally equipped with gas from the gas supply system (38.3% of all buildings with dwellings).

Equipping dwellings with installations

In 2021, almost 14.9 million dwellings (i.e. 97.1% of all dwellings) were equipped with the most common installation, i.e. the water supply system. Compared to the Census 2011, the number of dwellings with a water supply system increased by almost 15%. There was also a rise in the number of dwellings with a bathroom (of 19.4%) and a flushable lavatory (of 16.2%), and their share in the total number of dwellings was 94.8%, each.

Over 12.9 million dwellings were equipped with central heating, i.e. by 19.6% more than in 2011, and their share in the total number of dwellings in Poland was 84.4%. Compared to the 2011 National Census, the number of dwellings equipped with gas from the gas supply system also increased, with almost 8.8 million at the end of March 2021 (i.e. 15.8% more than in 2011).

Over 97% of the dwellings were equipped with a water supply system, and 94.8% had a lavatory and a bathroom

¹ Applies to dwellings with a running water tap.

² Applies to dwellings equipped with central heating from heat supply system, collective heating from a heat source supplying one multi-dwelling building, individual and undefined central heating type.

Table 1. Equipping dwellings with sanitary and technical installations in 2011 and 2021

Specification	2011		2021		
	in thousands	in %	in thousands	in %	2011=100
Dwellings	13,495.4	100.0	15,340.1	100.0	113.7
of which fitted with:					
water supply system, lavatory and bathroom	12,147.7	90.0	14,534.8	94.8	119.7
with central heating ^a and gas from gas supply system	6,730.0	49.9	7,874.6	51.3	117.0
water supply system	12,965.8	96.1	14,894.8	97.1	114.9
lavatory	12,513.0	92.7	14,535.6	94.8	116.2
bathroom	12,175.0	90.2	14,534.8	94.8	119.4
central heating ^a	10,828.4	80.2	12,950.9	84.4	119.6
gas supply system	7,572.8	56.1	8,772.9	57.2	115.8

a It applies to dwellings equipped with central heating from heat supply system, collective heating from a heat source supplying one multi-dwelling building, individual central heating and undefined central heating type .

The number of individually heated dwellings (i.e. not using central heating from the network or collective heating from a heat source supplying one multi-dwelling building) amounted to over 8.1 million, including almost 5.9 million with the use of individually distributed central heating. In the case of individually heated dwellings, the most frequently used heating fuels were coal, natural gas and wood, while the least frequently were bio-oil, biogas and biomass from agricultural production.

The percentage of dwellings equipped with central heating was 84.4%, and individually heated 53.2%

Table 2 Individually heated dwellings and the types of fuels and energy sources used to heat the dwellings

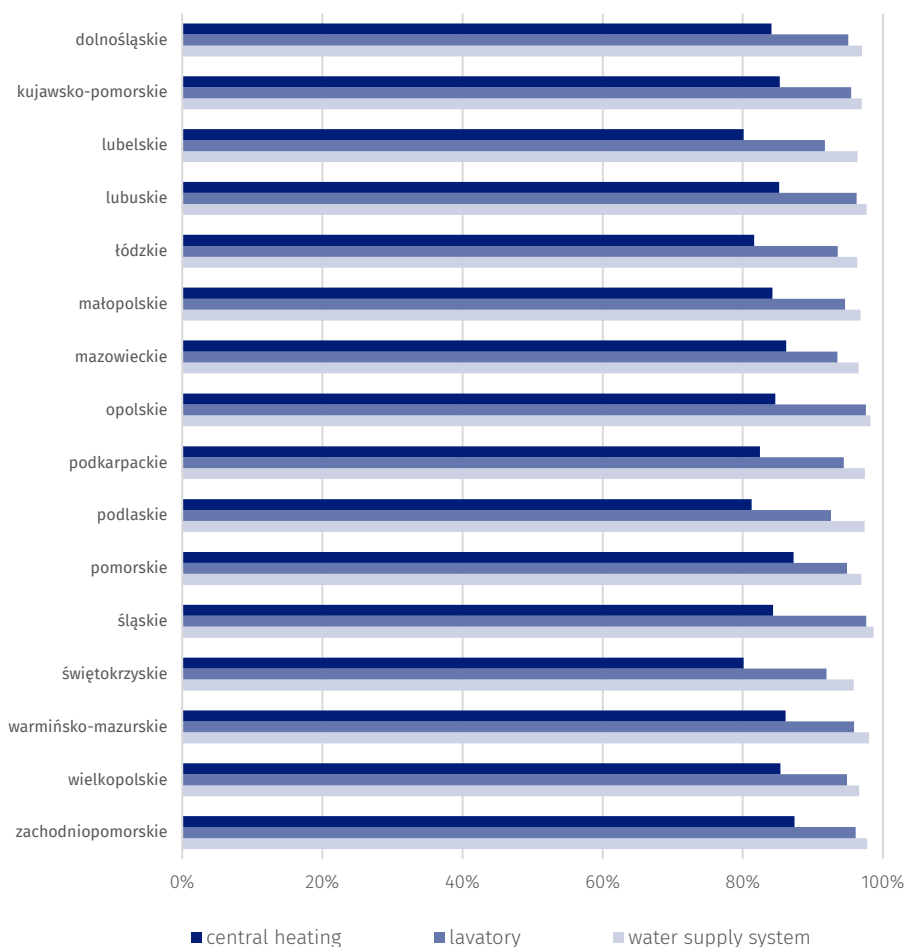
Specification	Individually heated dwellings		
	Total	individual central heating	in other way ^a
	in thousands		
Total	8,162.0	5,871.0	2,291.0
hard coal	2,216.0	1,730.4	485.6
brown coal	238.9	158.1	80.8
natural gas	1,952.1	1,663.4	288.6
liquefied gas	91.2	70.0	21.2
biogas	2.5	1.9	0.6
heating oil	60.2	47.0	13.2
bio-oil	0.2	0.1	0.1
electricity	172.6	109.6	63.0
wood	1,523.0	1,102.5	420.5
biomass from agricultural production	2.1	1.7	0.4
solar energy	10.7	6.7	3.9
ambient energy	73.9	52.5	21.4
other	18.3	14.5	3.8
undefined	1,800.4	912.3	888.1

a Applies to dwellings heated with the use of stoves (e.g. tiled) or other portable devices for solid fuels and other portable devices generating heat.

The best equipped with a water supply were dwellings located in the following voivodships: Śląskie (98.7%), Opolskie (98.2%) and Warmińsko-Mazurskie (98.0%), and in the voivodships: Śląskie and Opolskie (97.6% each) and the Lubuskie Voivodeship (96.3%). The lowest percentage of dwellings equipped with a water supply system was recorded in the following voivodeships: Świętokrzyskie (95.8%), Łódzkie (96.3%) and Lubelskie (96.4%), and in the following voivodeships: Lubelskie (91.7%), Świętokrzyskie (91.9%) and Podlasie (92.6%).

Central heating was most common installation in dwellings of voivodships: Zachodniopomorskie (87.4%), Pomorskie (87.2%) and Mazowieckie (86.2%), while the least frequent in the following voivodeships: Lubelskie and Świętokrzyskie (80.1% each) and Podlaskie (81.3%).

Chart 1 The percentage of dwellings equipped with sanitary and technical installations by voivodships



Equipping buildings with technical devices

As of March 31, 2021, 96.2% of the more than 6.9 million buildings with dwellings were buildings connected to the water supply (i.e. almost 6.7 million). Compared to 2011, the number of such buildings increased by 14.9%. Over 6.4 million buildings were equipped with sewage system, ie 92.7% of all buildings with dwellings, and their number increased by 17.5% compared to 2011.

At the same time, almost 6 million buildings had central heating (ie 85.9% of all buildings with dwellings), and their number increased by 31.3% in the inter-census period. On the other hand, over 2.7 million buildings were connected to the gas from gas supply

The percentage of buildings equipped with a water supply system was 96.2%, 92.7% with a sewage system, and 85.9% with central heating

system (ie 30.6% more than in 2011), and their share amounted to 40.3% of the total number of buildings with dwellings.

Table 3 Buildings according to the degree of equipment with technical devices in 2011 and 2021.

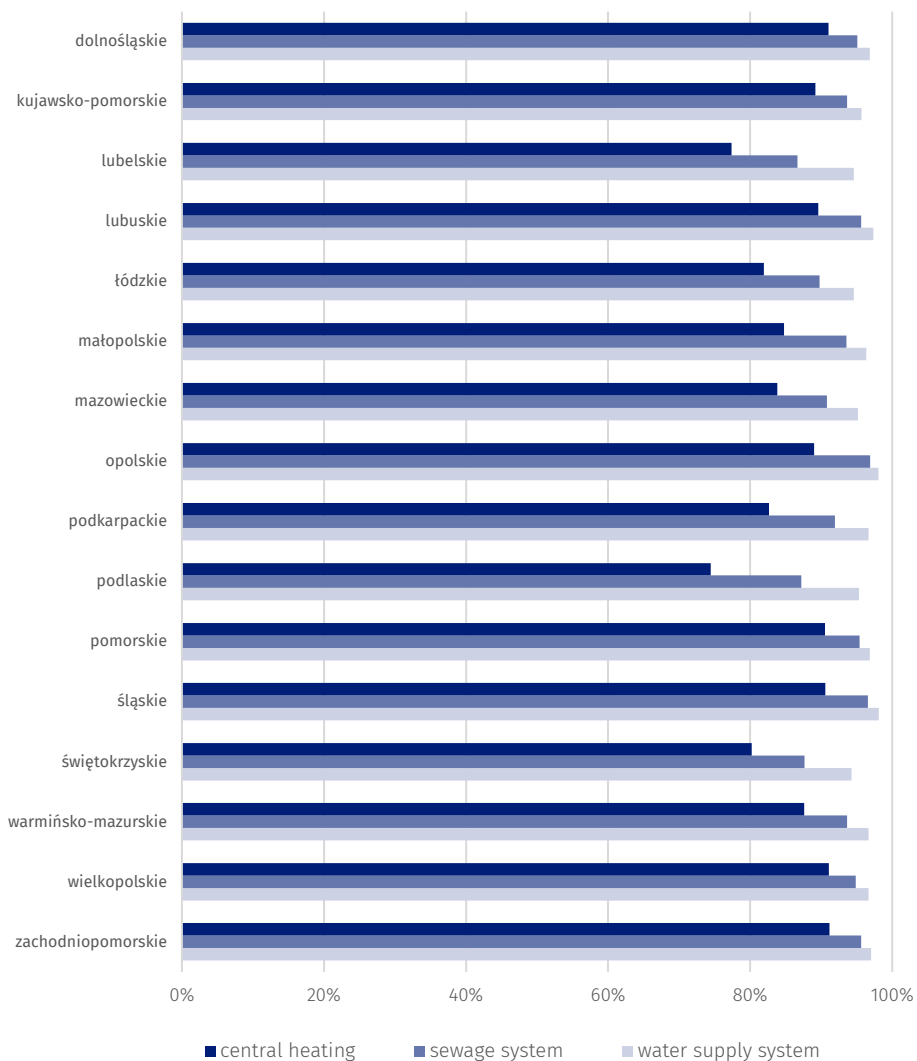
Specification	2011		2021		
	in thousands	in %	in thousands	in %	2011=100
Buildings	6 047.1	100.0	6 947.8	100.0	114.9
of which fitted with:					
water supply system, sewage system and central heating ^a	4 507.1	74.5	5 827.0	83.9	129.3
Of which gas from gas supply system	1 894.9	31.3	2 662.5	38.3	140.3
water supply system, sewage system without central heating ^a	963.6	15.9	608.0	8.8	63.1
Water supply sytem	5 816.1	96.2	6 682.6	96.2	114.9
Sewage system	5 480.7	90.6	6 440.3	92.7	117.5
Central heating ^a	4 545.3	75.2	5 965.8	85.9	131.3
gas supply system	2 140.7	35.4	2 796.8	40.3	130.6

^a It applies to buildings equipped with central heating from heat supply system, collective heating from a heat source supplying one multi-dwelling building, individual central heating and undefined central heating type.

The buildings with dwellings were the best equipped with a water supply system in the following voivodships: Opolskie, Śląskie (98.1% each) and Lubuskie (97.3%), and with sewage system in the following voivodships: Opolskie (96.9%), Śląskie (96.6%), as well as in the Lubuskie and zachodniopomorskie (95.6% each). The lowest share of buildings equipped with a water supply system was recorded in the following voivodships: Świętokrzyskie (94.3%), Lubelskie and Łódzkie (94.6% each), and the sewage system in the following voivodships: Lubelskie (86.6%), Podlaskie (87.2%) and Świętokrzyskie (87.7%).

Central heating was most common in buildings with dwellings in the following voivodships: Zachodniopomorskie (91.2%), Wielkopolskie (91.1%) and Dolnośląskie (91.0%). Central heating in buildings was the least frequent in the following voivodships: Podlaskie (74.4%), Lubelskie (77.4%) and Świętokrzyskie (80.2%).

Wykres 2 Percentage of buildings equipped with technical devices by voivodships



General notes for tables

Due to the rounding of data, in some cases the sums of components may differ from the given values "in total". Relative numbers (percentages) were calculated on the basis of absolute data, expressed with greater precision than given in the tables.

In case of quoting Statistics Poland data, please provide information: "Source of data: Statistics Poland", and in case of publishing calculations made on data published by Statistics Poland, please include the following disclaimer: "Own study based on figures from Statistics Poland".

Methodology

The National Census of Population and Housing 2021 was conducted on the territory of the Republic of Poland from 1st April to 30th September 2021, covering population as of 31st March 2021.

The thematic scope of the census and the rules for its implementation were specified in the Act of August 9, 2019 on the national census of population and housing in 2021 (Journal of Laws from 2019, item 1775; from 2020, item 1486; from 2021, items 615 and 1143) and Regulation (EC) of the European Parliament and of the Council No. 763/2008 from 9th July 2008 on population and housing censuses (Journal of Laws of UE L 218 from 13th August 2008, p. 14), together with implementing acts.

The thematic scope was consulted with key data recipients, in particular public administration units and research centers, which use statistical data to perform their statutory tasks.³

The census study was carried out as a complete study and included:

- individuals permanently residing or temporarily staying in dwellings, buildings and other inhabited non-dwellings,
- individuals who do not have a residence,
- dwellings, buildings, collective accommodation facilities and inhabited non-dwellings.

The census did not include:

- heads and foreign staff of diplomatic missions and consular offices of foreign countries, their family members and other persons enjoying privileges and immunities under law, international agreements or universally recognized international customs,
- dwellings, buildings, facilities and premises owned by diplomatic representations or consular offices of foreign countries.

Participation in the census was obligatory, and Polish residents were required to provide accurate, complete and truthful answers (Article 28 (1) of the Law on the National Census).

Data sources

In accordance with the provisions of the Act on the National Census 2021, the population and housing census was carried out using a mixed method, i.e. using data from administrative sources and data collected from respondents.

The data covered by the information scope of the census was obtained from the surveyed population through the electronic census form and using the following data collection channels:

- online self-enumeration (CAWI);
- telephone interview conducted using census helpline (the so-called census on demand);
- telephone interview conducted by census enumerators (CATI);
- direct interview conducted by census enumerators (CAPI), which due to the pandemic situation in the country could have been conducted from 21st June to 30th September 2021.

³ A detailed report on the conducted public consultations is available on the website of Statistics Poland at: <https://stat.gov.pl/en/national-census/national-population-and-housing-census-2021/> - accessed: 26th May 2022.

Selected census terms and definitions

Selected census terms and definitions relate directly to the discussed research topic.

Dwelling – premises for a permanent residence of persons – built or remodelled for residential purposes structurally separated by fixed walls within a building, into which a separate access leads from a staircase, a passage, a common hall or directly from a street, a courtyard or a garden, comprising one or several rooms and auxiliary spaces whether or not it is inhabited under one or more legal titles.

Dwelling fitted with water supply system A dwelling fitted with a tap with running water within its premises. 'Water supply system' is understood as a system (including the recipient installations in the dwelling), which supplies water from the waterworks (by means of active connections).

Dwelling fitted with sewage system A dwelling fitted with sewage installation (in which there is a sanitary system) which discharge sewage into the sewage system.

Dwelling fitted with a bathroom A dwelling, in which there is a room, with a bathtub or a shower (or both of them), as well as a system discharging wastewater to the sewage system, or to the local appliances (septic tanks, household wastewater treatment systems).

Dwelling equipped with flushable toilet A dwelling fitted with a sanitary system within its premises, connected to the water supply system, and discharging wastewater to the sewage system, or to the local appliances (septic tanks, household wastewater treatment systems).

Dwelling fitted with central heating A dwelling fitted with a system within the premises, which supplies heat from a central heating source, i.e. heat and power stations, thermal power stations, a local boiler house within the premises of the housing estate, a central heating furnace installed in own boiler house or in any other room. Electric floor heating is also regarded as central heating. It includes dwellings fitted with central heating, where heat is supplied from a boiler house in an individual building and also dwelling fitted with an on-site distributor type installation including a heating device.

Dwelling fitted with gas from gas supply system A dwelling fitted with a system within the premises, which (along with recipient installations in the dwelling) supplies gas to active connections.

Building – a construction permanently connected with the ground, with foundation, separated by means of construction partitions (walls and covers) surrounded by walls and covered by a roof, with or without a cellar, together with built in plumbing, sewerage, heating, electrical, gas and other installations, as well as with built in furniture constituting normal building installations.

Building equipped with water supply system A building in which all or some dwellings are equipped with a tap with running water or in case when in the building there are not dwellings with running water but it is situated outside the dwelling but in the building, e.g in the passage.

Building equipped with sewage supply system A building inside of which - in dwellings or in the corridor - there is installation (to which devices like: a sink, a flushed toilet, a washbasin, a bathtub are connected), enabling drainage of waste and wastewater (so-called household wastewater) to collectors such as the network, a septic tank, an independent wastewater treatment system, a canal.

Building equipped with central heating A building in which all or some of dwellings are connected to an installation delivering heat from a central source of its production as well as a boiler house in an individual building. A central source of heating includes: a power plant, a heating plant, an off-site boiler house or a local boiler house in a multi-dwelling building also a building equipped with an on-site distributor type installation including a heating device.

Building equipped with gas from gas supply system A building in which all or some of dwellings are equipped with gas supply system.

Dissemination of the results of the National Census 2021

The results of the census will be made available according to a schedule that is publicly available to recipients of the information. Preliminary data, taking into account the division into voivodships, will be disseminated successively from April to July 2022. Data at the lower levels of the country's administrative division, including for communes, will be disseminated from September 2022. The results of the census will be published on the [Information Portal of Statistics Poland](#) (news releases and publications) and at the [Local Data Bank](#).

The modernized [Geostatistics Portal](#) will be used for the cartographic presentation of spatial data.







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Related information

[Preliminary results of the national population and housing census](#)

[National population and housing census 2021 - research methodology and organization](#)

[National Census of Population and Housing 2021. Report on preliminary results](#)

Terms used in official statistics

[Dwelling](#)

[Dwelling fitted with \(sanitary and technical\) installations](#)

[Dwelling fitted with water supply system](#)

[Dwelling fitted with sewage system](#)

[Dwelling fitted with a bathroom](#)

[Dwelling equipped with flushable toilet](#)

[Dwelling fitted with central heating](#)

[Dwelling fitted with gas from gas supply system](#)

[Building](#)

[Building equipped with water supply system](#)

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