
# HOME GAS CONSUMPTION

Authors: Kim Kiekens and Ellen Vandewalle, Spring Stof.

Translation: Marine Faber Perrio, IEECP.

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www.spring-stof.be

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# About NUDGE

Efforts to induce energy-friendly behaviour from end-users through behavioural interventions are characterized by a lack of customer personalization ("one-size-fits-all interventions"), a partial understanding about how different interventions interact with each other, and contrasting evidence about their effectiveness, as a result of poor testing under real-world conditions.

NUDGE has been conceived to unleash the potential of behavioural interventions for long-lasting energy efficiency behaviour changes, paving the way to the generalized use of such interventions as a worthy addition to the policy-making toolbox. We take a mixed approach to the consumer analysis and intervention design with tasks combining surveys and field trials. Firmly rooted in behavioural science methods, we will study individual psychological and contextual variables underlying consumers' behaviour to tailor the design of behavioural interventions for them, with a clear bias towards interventions of the nudging type.

The designed interventions are compared against traditional ones in field trials (pilots) in five different EU states, exhibiting striking diversity in terms of innovative energy usage scenarios (e.g., PV production for EV charging, DR for natural gas), demographic and socio-economic variables of the involved populations, mediation platforms for operationalizing the intervention (smart mobile apps, dashboards, web portals, educational material and intergenerational learning practices).

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# Project partners

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# A LITTLE HISTORY

## 1. Heating through the ages

What heating system (or systems) and energy source(s) do you currently use to heat your home?

_____

_____

Look up on the Internet how the following heating sources or systems work. Write the number of the words in the left column with the appropriate meaning in the right column.

| | | | |
|---|---|---|---|
| Natural gas | 1 | ___ | Boiler in which wood chips are burnt to heat a house |
| Coal | 2 | ___ | A device in which natural gas is combusted and emits heat: this heat is used to heat e.g. radiators |
| Peat | 3 | ___ | Extracts heat from the air, soil or groundwater. It is a very energy-efficient way to heat well-insulated homes |
| Fuel oil | 4 | ___ | A synonym is a heat network: this is a heating system in which buildings are heated via an underground network of hot water pipes; this makes it possible to heat flats and several houses that are close together |
| Hybrid boiler | 5 | ___ | A heating system in which heat is generated centrally and transferred to other rooms using steam, water or air |
| Electric heating | 6 | ___ | Fossil fuel consisting of accumulations of plant remains formed and fossilised by nature in the past |
| Gas boiler | 7 | ___ | A system for heating a room by piping hot water through a system of pipes in the floor |
| Heat pump | 8 | ___ | Fossil fuel based on crude oil |
| Underfloor heating | 9 | ___ | Gases created from remains of plants and animals that are millions of years old, mainly used as fossil fuel |
| Central heating | 10 | ___ | A combination of a heat pump and a condensing boiler (on gas or fuel oil) |

| | | | |
|---|---|---|---|
| Pellet or biomass boiler | 11 | ___ | An electrical device that converts electricity into heat |
| District heating | 12 | ___ | Dried peat that can be used as fuel |

Which heat sources did humans use to heat themselves in the past and which ones do they (still) use in Belgium today? Indicate the period(s) with a cross.

| | Previously used (< 1900) | Now (still) used |
|---|---|---|
| Natural gas | | |
| Sun | | |
| Coal | | |
| Wood | | |
| Peat | | |
| Fuel oil | | |

Which heat systems did humans use to heat themselves in the past and which ones do they (still) use in Belgium today? Indicate the period(s) with a cross.

| | Previously used (< 1900) | Now (still) used |
|---|---|---|
| Hybrid boiler | | |
| Electric heating | | |
| Gas boiler | | |
| Fireplace | | |
| Closed stove | | |
| Heat pump | | |
| Underfloor heating | | |
| Central heating | | |
| Pellet or biomass boiler | | |
| District heating | | |

The last 200 years have seen a strong evolution in the use of energy sources for heating and heating systems thanks to technological developments and the increased availability of fossil energy sources.

# 2. Crises

In 1973, there was an oil crisis. Arab oil-producing countries deliberately carried out political actions against the West by creating an oil shortage. They raised the price of oil by 70% and reduced oil production by 5% every month so that the price per barrel of oil skyrocketed. A complete oil boycott was also introduced against a number of countries that had directly supported Israel in the Yom Kippur War. This had a major impact on the economy as many economic sectors depended on oil. The crisis led to stagflation, a combination of stagnation and inflation. The boycott was ended in 1974 after negotiations. [1]

What does stagnation mean?

_____

What does inflation mean?

_____

Why were car-free Sundays (reintroduced) at this time?

_____

_____

More information: https://historiek.net/oliecrisis-van-1973-gevolgen-autoloze-zondag/80648/

A second oil crisis arose in 1979 due to unrest in the Middle East when the Shah of Persia had to flee during the Iranian Revolution.

We can see parallels with the current European energy crisis. This started with the aftershocks of the pandemic. Demand rose faster than supply in 2021. On top of that came exceptional weather phenomena linked to climate change.

Recent summers have been dry and hot, causing, for instance, Norwegian hydropower plants to generate less electricity due to less rainfall, nuclear plants to have less cooling water and German coal plants to have supply problems due to the low water level of the Rhine.

Corrosion problems also occurred at several reactors of French nuclear power plants, causing them to generate much less electricity. But the main cause was Russian manipulation of gas exports (long before the war in Ukraine started). This pushed up energy prices, both of gas and of oil and electricity. It is not yet clear when prices will fall back to normal levels. In the meantime, there is a risk that we could once again fall into a stagflation scenario. [2]

# CURRENT HEATING METHODS IN FLANDERS

The way we heat our homes and buildings has changed significantly over the last century. People continue to look for more efficient ways that have less impact on the climate and environment.

About 70% of households in Flanders heated their homes with natural gas in 2019. [3]

Look at Table 1 and complete the questions below:

*Table 1: Heating mode of Flemish households in 2019 [4]*

| | | Property type | | | |
|---|---|---|---|---|---|
| | TOTAL | Open | Semi open | Closed | Apartment |
| | (n=1001) | (n=387) – A | (n=227) – B | (n=226) – C | (n=159) – D |
| Natural gas / other mains gas | 68 | 49 | 69 A | 82 AB | 77 A |
| Fuel oil (heating oil) | 16 | 33 BCD | 16 CD | 8 | 5 |
| Elecktricity | 9 | 5 | 8 | 6 | 16 ABC |
| Wood | 2 | 6 BCD | 2 | 0 | 0 |
| Pellets | 2 | 3 D | 4 D | 2 | 0 |
| Heat pump | 1 | 3 D | 1 | 1 | 0 |
| Butane or propane gas | 1 | 2 | 0 | 0 | 0 |
| Solar energy | 0 | 0 | 0 | 1 | 0 |
| Coal | 0 | 0 | 0 | 0 | 0 |
| Connected to heat network | 0 | 0 | 0 | 0 | 0 |
| Other energy source | 0 | 0 | 0 | 0 | 0 |

Besides natural gas, which two heating sources are still commonly used in Flanders to heat a home?

_____

_____

Look at the differences between house types in Table 1. Describe the most striking differences between the heating sources among the types of dwellings.

_____

_____

How can you show these differences clearly in one or more graphs? Make these graph(s) on a separate sheet of paper (graph paper). *Tip: Think about what type of graph you want to make (bar graph, pie chart, …), name the axes, note the units in brackets, note the numbers or percentages.*

A summary table with pros and cons of different heating systems can be found on the following website: https://speedheat.co.za/comparing-home-heating-systems/

# EXTRACTION OF PETROLEUM AND NATURAL GAS

Petroleum, also called crude oil or petroleum, and natural gas are fossil fuels. Petroleum and natural gas are hydrocarbons: they are often found together and can be extracted through deep drilling in the earth's crust. Drilling can be done on land, but also at sea with drilling rigs. [5, 6, 7]

**S**ee how natural gas and oil can be extracted in the following video: https://www.nam.nl/gas-en-oliewinning/het-winnen-van-aardgas/historie-van-aardgas-en-olie.html

Two types of natural gas are currently supplied in Belgium:

- Rich gas is high-calorific. It is supplied at gas pressure 21 mbar. This gas comes from Qatar, Russia and the North Sea, among others.
- Poor gas is low-calorific. It is supplied under gas pressure 25 mbar. This gas only comes from the Netherlands. [8]

You need more m³ of natural gas with poor gas to achieve the same level of heat. Which type of gas you get delivered depends on the region you live in (see https://www.gasverandert.be/nl). [9]

In Belgium, all homes will switch from poor gas to rich gas by 2025 as the Netherlands reduces exports of poor gas. During this switchover, your appliances and home pressure regulator should be checked. When this conversion is scheduled can be found on the following website: https://www.fluvius.be/sites/fluvius/files/2020-05/conversie-laag-naar-hoog-calorisch-gas.pdf.

# GAS CONSUMPTION IN THE HOME

Since most households today use gas for heating, we are going to take a closer look at our gas consumption. To properly interpret our consumption, we first need to know some units and symbols.

## 1. Some units and symbols

We express the consumption of gas in **kilowatt hours**. What does kilowatt hour mean?

You know the distance travelled and speed. The distance travelled is a length and is expressed in metres (m) or kilometres (km). The kilo expresses a thousand, so 1 km = 1000 m (see table 2). Speed is road travelled divided by the time it takes to travel that road, so speed is expressed in metres per second (m/s) or kilometres per hour (km/h).

For the consumption of gas, water or electricity, one also has two concepts namely the amount of gas, water or electricity and the flow rate or power of gas, water or electricity.

Gas and electricity are forms of energy (E). For energy, we have a quantity of energy. The quantity of energy has as its unit the joule [J], named after the English physicist James Joule.

The *power* (P) is the amount of energy per unit of time with the unit Joule per second [J/s] and it is also called watt [W], after the Scottish engineer James Watt who invented the steam engine.

The power of energy is often expressed in kilowatts (kW): 1 kW = 1,000 watts.

The unit of energy most commonly used is the kilowatt-hour (kWh): this is the amount of energy consumed with a power of 1 kW for 1 hour.

How do you convert **joules** into kilowatt hours?

1 kWh = 3.6 MJ

What does megajoule mean? Look it up in table 2.

---

Gas consumption is expressed in kilowatt hours (kWh). The amount of gas in cubic metres ($m^3$) is converted to kWh where, on average, 1 $m^3$ roughly corresponds to 11.6 kWh for rich gas and 10.3 kWh for poor gas. [9]

*Table 2: Prefixes of the International System of Units (SI)*

| Factor | Name | Symbol |
|---|---|---|
| $10^{12}$ | tera | T |
| $10^{9}$ | giga | G |
| $10^{6}$ | mega | M |
| $10^{3}$ | kilo | k |
| $10^{2}$ | hecto | h |
| $10^{1}$ | deka | da |

| Factor | Name | Symbol |
|---|---|---|
| $10^{-1}$ | deci | d |
| $10^{-2}$ | centi | c |
| $10^{-3}$ | milli | m |
| $10^{-6}$ | micro | µ |
| $10^{-9}$ | nano | n |
| $10^{-12}$ | pico | p |

**An example: what can you do with 1 $m^3$ (or about 10 kWh) of gas?**

With 1 $m^3$ of gas, you can heat 250 litres of water to 40 degrees. That is roughly equivalent to showering 4 times 5 minutes. [10]

# 2. Your own gas consumption

Indicate which functions in your home use gas for:

O Heating O Cooker O .....

O Warm water O None

There is a big difference in gas consumption depending on the functions for which gas is used. Table 3 shows the annual consumption of natural gas for different consumers according to the functions used.

*Table 3: Annual consumption of natural gas for different consumers according to the functions used [11]*

| Use | Consumer | Annual gas meter consumption (in kWh) |
|---|---|---|
| Cooking and hot water | Small consumer | 2.326 |
| | Relatively small consumer | 4.652 |
| Heating and other uses | Typical household consumption | 23.260 |
| | Large consumer | 34.890 |

How much natural gas does a typical family that heats and cooks on natural gas consume on average per day? _____

Do you think we use about the same amount of gas every day throughout the year? Why or why not?

_____

_____

On average, 80 per cent of gas consumption goes to heating and 20 per cent to hot water. How much hot water you consume depends mainly on the number of people and your showering habits. Some hot water also goes to washing dishes. The type of home and the number of occupants also play a role. [12]

Figure 1 shows an example of a family's actual and expected consumption of natural gas (read from the EnergyID platform).

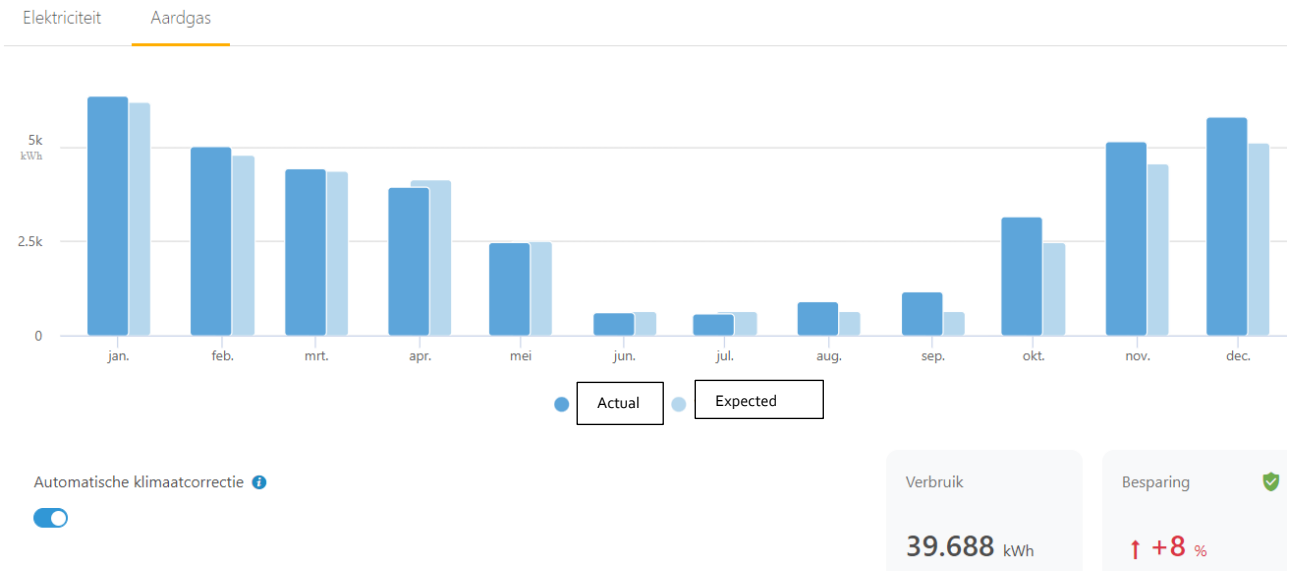



*Figure 1: Natural gas consumption of a household in 2021 [13]*

The family in the chart has heating and hot water on natural gas. Cooking they do on electricity. There are 4 of them and they live in a detached house with limited insulation. Compare this family's annual consumption with the average consumption of a family (see table 3). What do you observe?

_____

_____

In which months was the most gas consumed? In which months the least? How can you explain the differences?

_____

_____

Look at your own consumer profile of natural gas in EnergyID by month. What do you observe? Is it similar to Figure 1?

_____

_____

_____

Compare your own annual consumption with the average consumption. What do you observe? Can you explain this?

_____

_____

Compare your actual consumption with the expected consumption: what do you observe? Can you explain this?

_____

_____

Now check your gas consumption per day. At which hours of the day do you consume the most? Can you explain this?

_____

_____

Is this the same every day? Why or why not?

_____

_____

# 3. Gas prices

**How is the price of natural gas consumption determined?**

- Energy costs: price per kilowatt-hour (kWh) set by the supplier (fixed or variable price)
- Network costs: distribution network tariff, meter rental and transmission tariff (depending on the region you live in)
- Charges: taxes imposed by the government
- VAT (21% on some parts of the bill)

Figure 2 shows this breakdown in a graph.

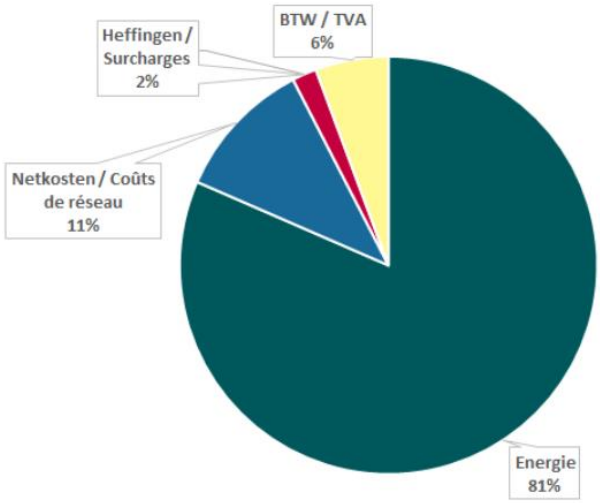



*Figure 2: Structure of the price of natural gas consumption [14]*

The **average gas price** per year of a gas-heated home can be found in Table 4.

*Table 4: Average gas price per year of homes with gas heating [15]*

| Month | Price (euro) |
|---|---|
| January 2021 | 1 071,18 |
| February 2021 | 1 113,76 |
| March 2021 | 1 113,63 |
| April 2021 | 1 136,32 |
| May 2021 | 1 175,57 |
| June 2021 | 1 255,81 |
| July 2021 | 1 380,85 |
| August 2021 | 1 517,70 |

| Month | Price (euro) |
|---|---|
| October 2021 | 2 235,20 |
| November 2021 | 2 781,38 |
| December 2021 | 2 455,51 |
| January 2022 | 3 631,37 |
| September 2022 | 8 103,03 |
| October 2022 | 5 922,38 |
| January 2023 | 3 305,57 |
| Feburary 2023 | 2 609,49 |

| | | | |
|---|---|---|---|
| September 2021 | 1 621,35 | March 2023 | 2 298,98 |

You can note that the price of gas varies by month and has increased very much because of the energy crisis as we have already described in the section on crises. This has a big impact on the expenses of many families.

Suppose a family with an annual income of €50 000 for the year 2021 had to pay the average gas price of January 2021. What percentage of annual income did this gas bill amount to for this family?

_____

How many euros was this family left with per month in 2021?

_____

What percentage of annual income will the September 2022 gas price be for this family??

_____

You used to be able to choose either a fixed or a variable energy contract. With a fixed energy contract, the price is fixed for the period of the energy contract. Then you know exactly what you will pay. This therefore offers more certainty, but is in normal circumstances slightly more expensive than a variable energy contract.

Who had the most price advantage in the huge price increase: someone with a current fixed or variable contract? Look at table 4 and justify your answer.

_____

_____

**Price of heating per day::**

On average, a home consumes about 50 kWh of gas per day for heating. How much does it cost to heat your home for 1 day at the March 2023 rate of €0.10/kWh?

_____

In winter, gas consumption is more like 100 kWh per day. So then this actually costs double to heat your house.

However, your gas consumption is charged per year where you pay the same advance per month, but you consume the most gas in the winter months of the year.

**Social tarif**

For some individuals and families with limited resources, energy costs are very difficult to pay. They are entitled to a social tariff or the social maximum price: this is a greatly reduced rate for electricity and natural gas. This is granted to people who receive certain benefits or allowances [16, 17]. In Belgium, the poverty threshold is an income of €2 696 per month for a family with 2

adults and 2 children. Based on this limit, about 9% of the Flemish population belongs to the group at risk of poverty. [18]

Recently, the social tariff was greatly expanded to help many more households reduce energy costs, as energy bills have since become unaffordable for many households.

Do you think this social tariff has an impact on gas consumption in these households?

_____

_____

For your gas consumption, you pay a monthly advance that is calculated based on your gas consumption from the previous year.

For some households, prepaid (formerly the budget meter) is provided. This is a payment system where you pay in advance for your electricity or gas consumption. You then recharge this with a certain credit. Then you can consume electricity or gas until this credit runs out. After that, you have to recharge. [19]

What is an advantage of this system over paying in advance?

_____

What is a disadvantage?

_____

Brainstorm with your neighbour how you would have gas consumption paid for so that it is affordable for people in poverty and so that all people are encouraged to consume as little as possible. Write down your arguments below that you can use to convince politicians.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

# 4. Reducing gas consumption

How much gas we consume in a home depends on the following factors. For each factor, write down the details of the home you live in. You can discuss the data you don't know at home.

- Number of people in the dwelling: _____
- Consumption behaviour of the persons in the dwelling

  how many degrees is the heating set to when you are at home?_____

  how many degrees is the heating set at when no one is at home? _____

  in which places is the heating on? _____

  _____

  how often is a shower taken? _____

  how often is a bath taken? _____
- Type of housing: _____
- Insulation of the house (year of construction): _____
- Living area: _____
- The weather: the temperature is expressed in degree days (the temperature differences from 16.5°C of the day and two days before are taken into account) [20]

Now we will look at which factors we can adjust.

Since 80% of our gas consumption in the home goes to heating (if you heat your home with gas as the main source), we will first look at how we can save on our heating. Milieu centraal gives 6 tips to heat without wasting by adjusting our behaviour and our thermostat, with an estimate of how much you can save on average by doing so. Read the tips below and mark the ones you and your family can apply at home.

1. Close all doors in the house and only heat rooms where you spend a lot of time. (240 €/year*)
2. Set your thermostat to 15°C at night (17-18°C for underfloor heating). (180 €/year*)
3. When you're at home, set your thermostat 1 degree lower than you're used to. When you're busy, 19°C is often warm enough. (90 €/year*)
4. Set your thermostat to 15°C if no one is at home during the day (17-18°C with underfloor heating). (160 €/year*)
5. Don't heat your bedroom. (80 €/year*)
6. Set your thermostat to 15°C an hour before you go to sleep. (20 €/year*) [21]

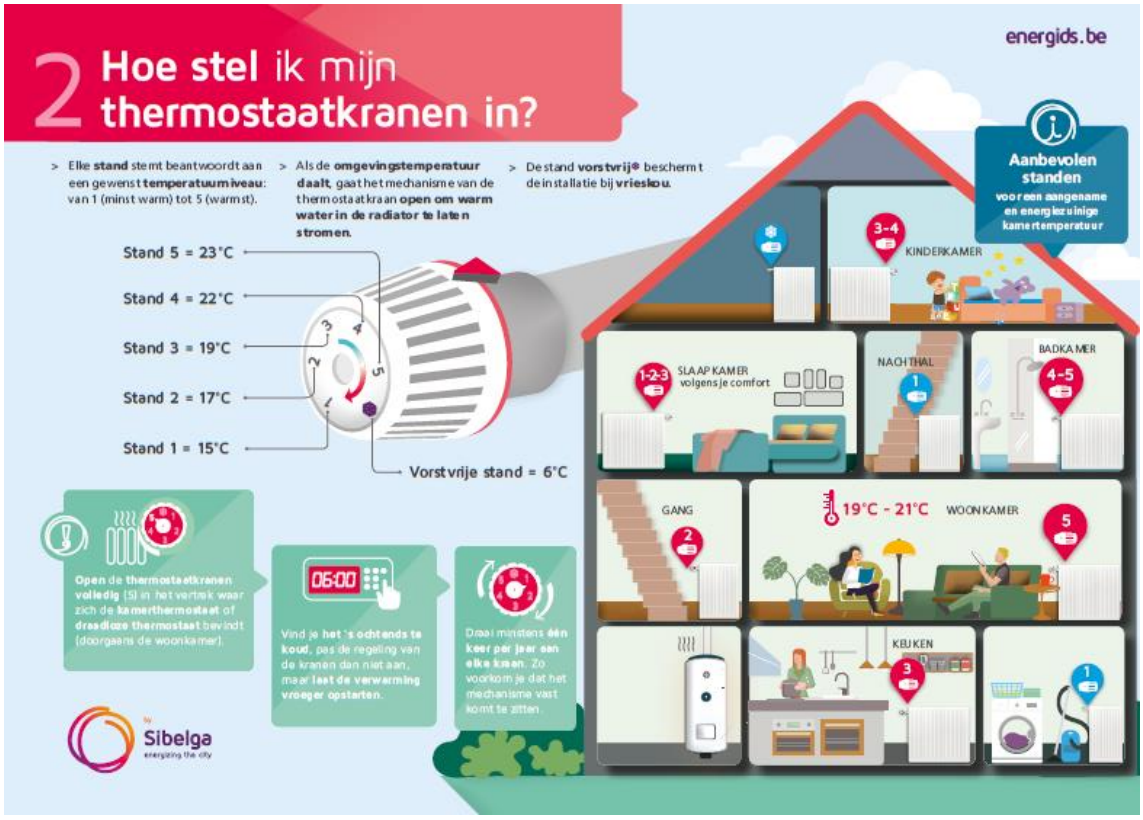
* These prices were based on rates before the energy crisis, so you can save a lot more with these!

Read Sibelga's energy tips (energids.be) in Figure 3 to set your thermostatic taps. Do you think this would be useful to reduce gas consumption in your home? Why or why not?

_____

_____

_____



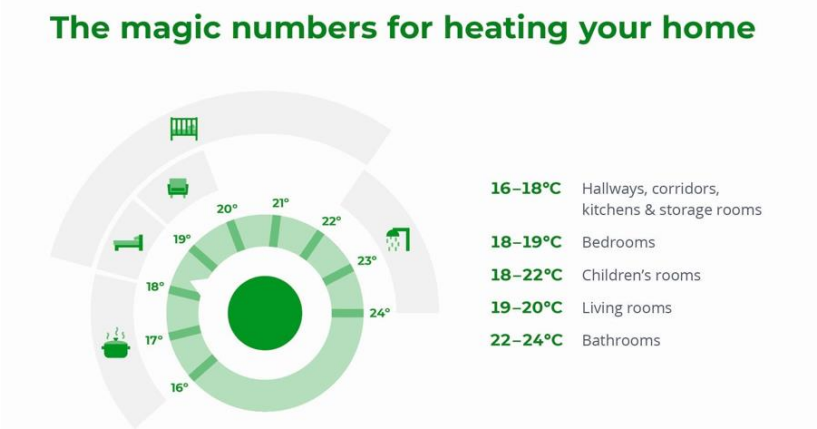




*Figure 3: Tips for setting thermostatic valves*

The second largest consumption of gas goes to hot water. How can you consume less hot water?

_____

_____

_____

Those who cook on a gas cooker consume on average about 37 m³ of gas annually. This costs around 20 euros per household. So you can save much less on this than reducing your heating consumption. Do you have any ideas how you can still cook more economically?

_____

_____

_____

Besides behaviour change, you can also save a lot by insulating your home. Discuss at home how well your house is insulated.

If you insulate the roof of your house, you will save 9 to 11 m³ of gas per m² of roof according to several installers. This would save several hundred euros a year. Do the math for a roof area of 90 m². (Count 0.10 € per kWh.)

_____

_____

If insulating a sloped roof costs an average of €32 per m², in how much time will I recoup this cost?

_____

_____

What can you insulate besides your roof?

_____

_____

A heat scan or heat photo is increasingly used to find out where heat is leaking from our homes. Figure 4 shows an example of a heat photo or heat scan of a house.

*Figure 4: Heat photo of a house [22]*

Such a heat scan (also called an infrared photo) is made with a thermal imaging camera that can capture infrared thermal radiation. Inside the camera is a microbolometer that is heated by infrared radiation. Temperature differences are converted into electrical voltage, which in turn is converted into an image. On the most commonly used devices, blue indicates cold and red indicates heat. [22]

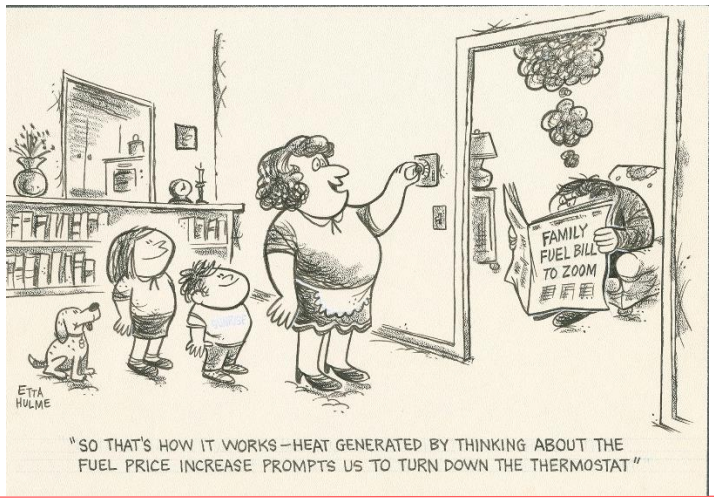
**Assignment:**
Together, we find a common target. Discuss with your classmates what behaviours you could change together to reduce your gas consumption. What is achievable for everyone? How will you approach this? How can you convince each other? Write down here your joint target and how you will try to achieve it. Note, formulate this SMART (specific, measurable, acceptable, realistic and time-bound).

_____

_____

_____

_____



Think of a **slogan and/or icon** to hang up in the house to remind your family members of this goal:

**Personal target:** In addition, write down 3 personal goals (SMART) that you can achieve at home to reduce gas consumption and note how you can motivate your housemates to join in.

_____

_____

_____

_____

_____

_____

# GAS CONSUMPTION IN EUROPE

How homes are heated in other countries in Europe varies greatly from country to country. Table 5 gives an overview for 2020.

*Table 5: Heating sources in Europe in 2020 [23]*

**Share of fuels in the final energy consumption in the residential sector for space heating, 2020**
(%)

| | Solid fossil fuels, peat, peat products, oil shale and oil sands | Natural gas | Oil and petroleum products | Renewables and biofuels | Electricity | Heat |
|---|---|---|---|---|---|---|
| **EU** | **4.2** | **38.0** | **15.6** | **26.8** | **5.2** | **10.2** |
| Belgium | 0.6 | 44.1 | 41.5 | 10.5 | 3.0 | 0.2 |
| Bulgaria | 7.4 | 6.0 | 0.1 | 61.9 | 8.6 | 15.9 |
| Czechia | 14.2 | 24.8 | 0.8 | 41.9 | 5.0 | 13.3 |
| Denmark | : | 17.2 | 3.2 | 38.0 | 3.9 | 37.7 |
| Germany | 0.8 | 43.8 | 28.0 | 16.8 | 1.7 | 9.0 |
| Estonia | 0.1 | 6.1 | 0.3 | 51.5 | 5.5 | 36.6 |
| Ireland | 17.2 | 21.9 | 54.8 | 2.3 | 3.7 | : |
| Greece | 0.1 | 16.9 | 46.7 | 29.0 | 5.2 | 2.1 |
| Spain | 0.6 | 27.4 | 31.3 | 32.8 | 7.9 | 0.0 |
| France | 0.1 | 35.7 | 13.6 | 34.1 | 12.6 | 3.9 |
| Croatia | 0.1 | 23.8 | 4.0 | 63.4 | 1.8 | 6.9 |
| Italy | : | 59.9 | 6.9 | 28.9 | 0.4 | 3.8 |
| Cyprus | : | : | 62.6 | 21.3 | 16.0 | : |
| Latvia | 0.2 | 8.0 | 3.3 | 52.3 | 0.9 | 35.3 |
| Lithuania | 3.3 | 11.9 | 1.9 | 46.1 | 1.5 | 35.3 |
| Luxembourg | 0.1 | 56.8 | 31.9 | 4.1 | 7.1 | : |
| Hungary | 1.9 | 84.2 | 0.1 | : | 2.3 | 11.6 |
| Malta | : | : | 21.0 | 43.5 | 35.4 | : |
| Netherlands | 0.0 | 83.9 | 0.6 | 9.3 | 2.9 | 3.2 |
| Austria | 0.4 | 26.8 | 18.1 | 35.4 | 4.7 | 14.6 |
| Poland | 40.3 | 15.9 | 0.7 | 21.0 | 1.0 | 21.1 |
| Portugal | : | 1.8 | 6.1 | 86.8 | 5.2 | 0.1 |
| Romania | 0.6 | 32.0 | 0.0 | 52.8 | 0.2 | 14.3 |
| Slovenia | 0.0 | 11.6 | 15.9 | 56.2 | 7.0 | 9.4 |
| Slovakia | 1.9 | 45.8 | 0.2 | 28.4 | 7.0 | 16.7 |
| Finland | 0.1 | 0.6 | 5.2 | 40.4 | 24.8 | 29.0 |
| Sweden | : | 0.3 | 4.6 | 19.7 | 28.7 | 46.7 |
| Norway | : | 0.1 | 0.2 | 35.5 | 60.7 | 3.5 |
| North Macedonia | 0.2 | 0.0 | 1.2 | 51.3 | 37.2 | 10.1 |
| Albania | : | : | 19.9 | 27.9 | 52.2 | : |
| Serbia | 11.4 | 9.6 | 0.9 | 53.7 | 6.2 | 18.3 |
| Bosnia and Herzegovina | 4.4 | 2.2 | 2.0 | 83.6 | 0.4 | 7.4 |
| Kosovo* | 1.3 | : | : | 84.3 | 12.1 | 2.4 |
| Moldova | 4.0 | 19.7 | 0.0 | 64.6 | 0.5 | 11.2 |
| Georgia | 0.0 | 73.2 | : | 24.9 | 1.9 | : |

(*)This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo declaration of independence.

*Source:* Eurostat (online data code: nrg_d_hhq)

eurostat

In which 3 European countries is natural gas most used as a home heating system compared to the other European countries according to Table 5 of 2020? Why would it be used the most?

_____

Which 3 European countries use the most renewable energy sources?

_____

If you were building a new house in Belgium right now, which heating system would you choose and why?

_____



NUDGE Nudging consumers towards energy efficiency through behavioural science
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# HOME UPDATE

Check your gas consumption at least once a week on the EnergyID dashboard. Note which hours of the day you consume the most. Are these the same hours every day?

Week 1: _____

Week 2: _____

Week 3: _____

Week 4: _____

Week 5: _____

Week 6: _____

Does this match the hours when you are at home and need heating and hot water? Discuss with your family members whether you can match your consumption even better.

Write down a quiz question on gas consumption with four answer options and hand it in the next lesson.

_____

_____

_____

_____

_____

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