



# Energy price scenarios



The price cap reduces the impact of higher energy prices on the purchasing power of households. Nonetheless, the purchasing power of the average household will decline this year and next year by around 4% in total.

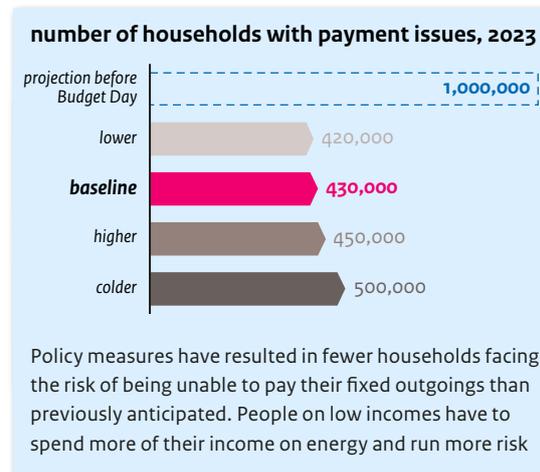
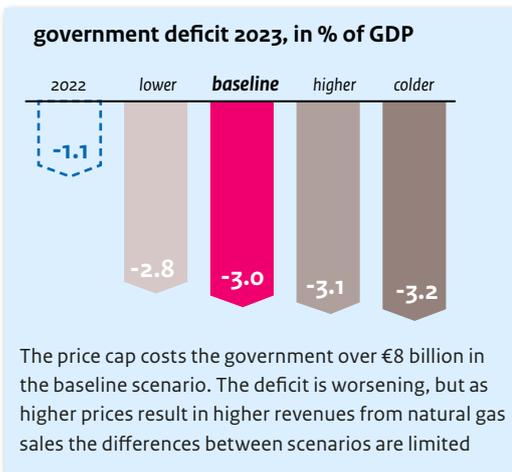
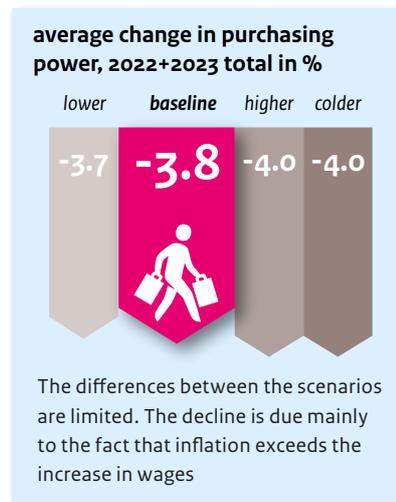
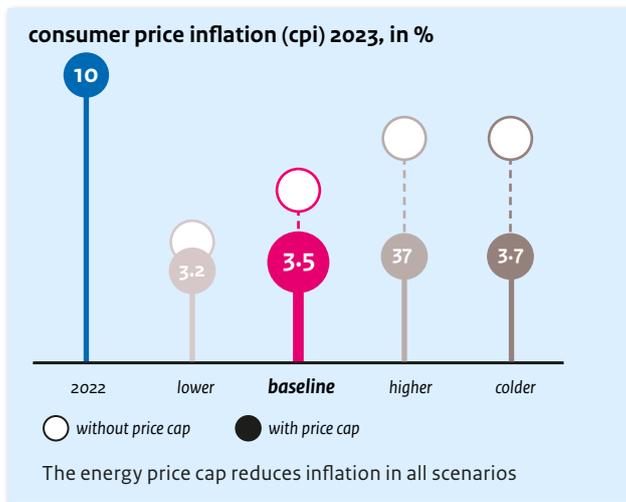
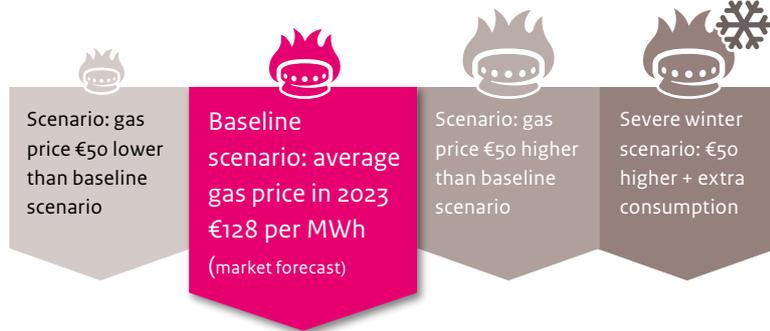
This publication contains new economic and budgetary insights based on a number of energy price scenarios.



Owing to the price cap and other additional spending announced by the government since 'Prinsjesdag' (Budget Day), the government deficit without additional funding will increase to 3% of GDP in 2023.

# Energy price scenarios

The price cap limits the risk of higher energy prices for households, but public finances worsen. We examine the economic consequences of different energy prices in four scenarios



## Towards a structural solution

Energy prices are expected to remain high for longer. The price cap does not provide a structural solution. People who are not in financial need of compensation still receive it and the incentive to save energy is reduced. This can actually boost inflation

- focus on increasing sustainability and energy conservation so that gas prices have less effect
- provide targeted compensation for the most vulnerable households
- higher wages boost purchasing power



# 1 Introduction and key messages

**This publication presents new economic and budgetary insights for 2022 and 2023 based on a number of energy price scenarios.** This includes the most important policy changes announced by the government on and since 'Prinsjesdag' (Budget Day), such as the energy price cap.<sup>1</sup> We have based ourselves on the most recent macroeconomic realized data. The purchasing power figures take into account the latest insights of Statistics Netherlands (CBS) on calculating the impact of energy prices on inflation, including not only the price of new energy contracts but also the price of current energy contracts.<sup>2</sup> Owing to the great uncertainty about the development of energy prices next year, we will present three energy price scenarios in addition to the baseline scenario, namely a scenario with lower energy prices, a scenario with higher energy prices and a scenario with both higher energy prices and increased consumption, for example due to a severe winter.

**In the baseline scenario, the purchasing power of an average household will decline by about 4% in total in 2022 and 2023, the price cap will prevent a further fall and deal with the risk of higher energy prices.**

The purchasing power figures for those two years should be viewed together, as the moment at which households will be faced with high energy prices differ greatly. The main reason for the decline in purchasing power is that inflation is higher than the increase in collectively negotiated wages. In the baseline scenario, consumer price inflation will be 3.5% in 2023. Without the price cap, inflation would have been 2.5 percentage points higher. The scenarios show that the price cap limits the risk of higher energy prices for households, with inflation rising by only 0.2 percentage points and purchasing power falling by only 0.2 percentage points in the high scenario compared with the baseline scenario. As a result of the policy, lower-income households receive the greatest compensation for the high rate of inflation. However, there is also inflation inequality as lower-income households tend, on average, to spend a larger proportion of their income on energy.<sup>3</sup> These differences in energy consumption are not included in the purchasing power figures, but they are included in the cost-of-living stress test. This stress test shows that in the baseline scenario about 430,000 households are at risk of being unable to pay their fixed and necessary expenses. The number of households at risk of getting into payment difficulties will increase slightly to 500,000 in a scenario with high prices and a severe winter.

**The costs of the price cap will result in a further deterioration of the EMU balance in 2023, but higher or lower energy prices will have only a limited effect on the EMU deficit as revenues from natural gas sales will move in line with those prices in 2023.** The costs of the price cap will depend on energy prices in 2023. These costs will be 8.4 billion euros in the baseline scenario, rising to 13.1 billion euros in the scenario involving a high market price for gas and increased consumption.<sup>4</sup> There is also the cost of extra expenditure measures announced by the government, including compensation for small and medium-sized enterprises (SME) to meet higher energy bills. As against this, there are the revenues from natural gas sales and one-off

---

<sup>1</sup> This is based on the policy assumptions supplied by the government departments to CPB Netherlands Bureau for Economic Policy Analysis on 8 November 2022. A number of new policy measures, including energy compensation for the public and semi-public sectors as announced in the Autumn Memorandum, were not part of these policy assumptions.

<sup>2</sup> See the CBS publication of October 2022 ([link](#)) and the box on p. 11. Our models and publications also continue to make use of the official inflation rate according to the Consumer Price Index (CPI). Once it becomes clear how and when CBS will switch to a new measurement method, we will take account of this in our models and publications. If the official CPI is not the same under the new measurement method as under the current method at the moment of the switch, the official rate of consumer price inflation will give a distorted picture until a year after the switch.

<sup>3</sup> See also CPB's Central Economic Plan 2022, pp. 12-14. ([link](#))

<sup>4</sup> This has been calculated on the basis of a reimbursable profit margin of 31 cents per m<sup>3</sup>, which is also the figure used by the government, see p. 78 of the decision note accompanying the Budgetary Processing Memorandum for the parliamentary debate on the government's programme for 2023 ([link](#)). At present, the design and choice of the parameters have not yet been finalised. If the profit margins payable to suppliers are higher, the costs incurred by the government will also be higher. These amounts are exclusive of the VAT component as this is revenue for the government as well. The figures quoted in the Autumn Memorandum are inclusive of VAT.

expenditure windfalls. The expected government deficit for 2023 has increased sharply as a result of the purchasing power measures: when the draft Macro Economic Outlook (cMEV) was published in August the projected deficit was still 1.1% of GDP, but this had risen to 2.5% of GDP by the time the Macro Economic Outlook (MEV) itself was published and is now standing at 3.0% of GDP in the baseline scenario. However, the effect of a higher market price for gas on the EMU balance will be limited in 2023: in the scenario with higher energy prices and a severe winter, the EMU deficit will be 3.2% of GDP. This is because the higher costs of the price cap will be offset by the fact that government revenues from gas extraction also increase if the market price of gas is higher. This limits the effect of varying energy prices on the EMU balance.

**A situation in which energy prices remain high in the long term calls for a more targeted and structural approach.** In view of both the geopolitical situation and the energy transition process, it is conceivable that energy prices will remain high.<sup>5</sup> General support, such as the price cap, is not suitable as a structural solution to the fall in purchasing power since it has several disadvantages. For example, there is overcompensation: not all households need the compensation to avoid getting into payment difficulties. Also, there is less incentive to save energy as long as the market price is above the price cap. This creates the risk that energy prices and inflation will actually be boosted by this policy because energy consumption needs to be reduced given that the supply will fall. Moreover, the cap distorts the functioning of the energy market, resulting in undesirable outcomes.<sup>6</sup> The deterioration in public finances means that the financial burden falls on future generations. Revenues from natural gas sales are also expected to fall after 2023, as less natural gas will be extracted in line with the government's decision on natural gas extraction. The policy for 2023 has bought time, which must be used to switch to a more structural solution. Finally, the purchasing power of Dutch households will ultimately have to be restored primarily through wage adjustments. Government policy should therefore focus mainly on promoting sustainability and energy conservation and providing targeted compensation to the most vulnerable households.

---

<sup>5</sup> Both the TTF Natural Gas Futures (see figure 2.7) and the Climate and Energy Outlook 2022 of the Netherlands Environmental Assessment Agency (PBL) ([link](#)) show that the market price of gas is expected to remain in the long term at a markedly higher level than before the energy crisis.

<sup>6</sup> See also CPB ([link](#)) and Schinkel and Haan (2022, [link](#)).

## 2 Economic outlook

### 2.1 Baseline scenario

**Table 2.1 Baseline scenario, 2021-2023**

	2021	2022	2023
<b>Volume of GDP and spending</b>			
Gross domestic product (GDP, economic growth, %)	4.9	4.2	0.9
Household consumption (volume in %)	3.6	5.7	1.1
Public consumption (volume in %)	5.2	0.8	3.5
Investments (including stocks, volume in %)	2.9	2.5	-0.3
Exports of goods and services (volume in %)	5.2	4.6	2.4
Imports of goods and services (volume in %)	4.0	3.7	3.1
<b>Unemployment</b>			
Unemployment rate (level, % of the labour force)	4.2	3.6	4.4
<b>Consumer prices, collectively negotiated wages, purchasing power and stress test</b>			
National consumer price index (CPI, %)	2.7	10.0	3.5
Collectively negotiated wages in the private sector (%)	2.1	3.0	4.6
Purchasing power; static; median all households (%) (a)	0.7	-3.9	-0.3
Affordability stress test (number of households in thousands) (b)	.	.	430
<b>Public sector finances</b>			
EMU balance (% of GDP)	-2.6	-1.1	-3.0
EMU debt (year-end, % of GDP)	52.4	49.5	49.8
<p>(a) The purchasing power figures take into account the latest information from CBS on calculating the impact of energy prices on inflation, see CBS (<a href="#">link</a>) and the box on p. 11. These are median purchasing power figures. The annual median purchasing power figures cannot be totalled to arrive at a cumulative figure over a period of years.</p> <p>(b) The stress tests have been used to examine how many households have insufficient income to meet their regular commitments and pay for basic necessities (see <a href="#">link</a>).</p>			

#### Economic development

**Economic growth in 2023 will be positive but only moderate.** After growing strongly in the first half of 2022, the economy has slowed in the second half of the year. The economy contracted by 0.2% in the third quarter of 2022, and a similar fall is expected in the fourth quarter. As economic growth was still so strong in the first half of the year, the rate of annual growth is still high at 4.2%. Growth will pick up again on a quarterly basis in 2023, resulting in GDP growth of 0.9% for the year as a whole.

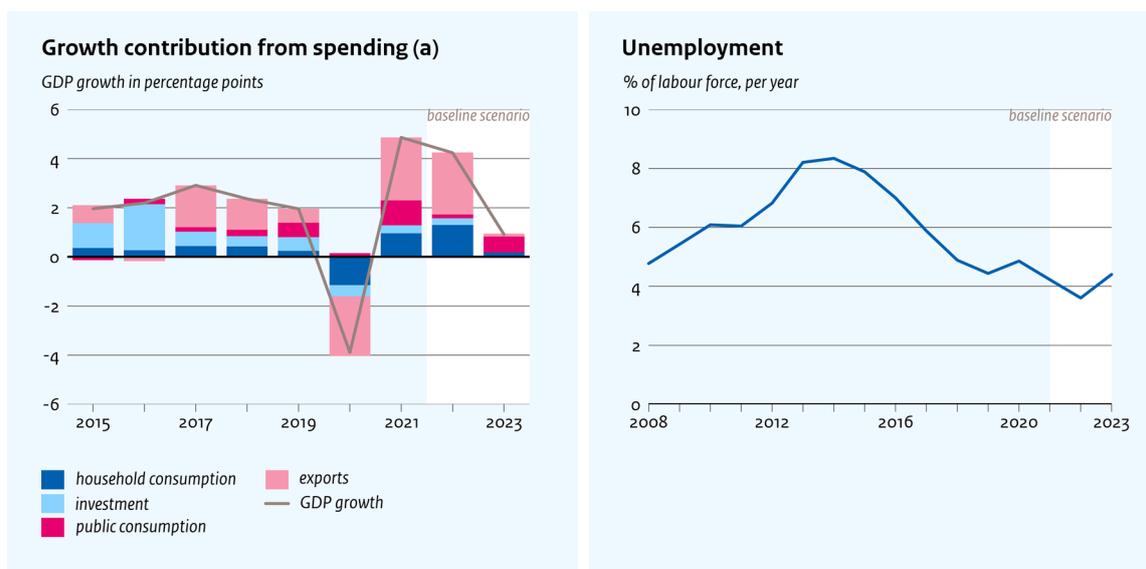
**Growth of average household consumption remains positive despite the high inflation.** Inflation is hitting more and more the budget of households, for example because their energy contract is expiring and also because the prices of more and more other goods and services are rising. Consumption growth is therefore slowing and is even negative at the end of 2022. In 2023 consumption will grow by 1.1%. The measures taken by the government to reduce energy prices for households and businesses and support

purchasing power make that households have more to spend. Public consumption will also generate growth as the government is setting aside more money for public services, for example for the reception of Ukrainian refugees and for education. Health care expenditure is also rising.

**Businesses face a lot of uncertainties.** Households and businesses abroad are also feeling the effects of high prices and growing uncertainty. This means that demand from the Netherlands' export partners will grow rather less rapidly and hence that exports will increase more slowly than in recent years. Investments will contract by 0.3% in 2023. Businesses have become more pessimistic as they expect a fall in both domestic and foreign demand. Moreover, they have to deal with rising costs and the continuing problem of finding enough staff. At the same time, restrictions on nitrogen emission, personnel and materials make it difficult to achieve housebuilding targets. Although the government will invest more next year, there is a serious downward risk of delay due to nitrogen emission restrictions.

**Unemployment is rising slightly and will amount to 4.4% of the labour force next year.** The growth in employment stagnates in line with stagnating demand for goods and services at home and abroad. Businesses will be less inclined to expand their production and some may even reduce or close down their operations. However, demand for labour in the public sector remains as high as ever. This is partly responsible for the tightness of the labour market. Unemployment is expected to remain below the multi-annual average in the next two years (figure 2.1, right column).

**Figure 2.1 Public consumption will boost growth in 2023; unemployment to remain at a historical low**



(a) The final and accumulated intermediate imports have been deducted from the expenditure categories.

Source: CBS and CPB ([link](#))

## Inflation and wages

**In the baseline scenario inflation (CPI) amounts to 10% in 2022 and 3.5% in 2023, the price cap reduces inflation by about 2.5 percentage points in 2023.**<sup>7</sup> From 1 January 2023 onwards, the plan is that households pay a maximum price for gas of €1.45 per m<sup>3</sup> up to a consumption of 1,200 m<sup>3</sup> and a maximum price for electricity of €0.40 per kWh up to a consumption of 2,900 kWh. The energy consumption in excess of the ceiling will be charged at the rate provided for in the energy contract. We assume that the price developments in the gas market have a direct effect on the variable supply rates for gas and electricity for consumers and that there is an average profit margin of 31 cents per m<sup>3</sup> between the market price for gas and the price charged to consumers (exclusive of tax).<sup>8</sup> The market price for gas in the baseline scenario is based on the average TTF Futures for week 44 (31 October to 4 November), where the market price for gas in 2023 will average €128 per MWh. This is just a snapshot of the price in the current volatile market and the market prices may turn out to be higher or lower, perhaps substantially. The discount of €190 on the energy bill in November and December does not affect the CPI as measured by CBS.<sup>9</sup>

**The rise in food prices is a major contributor to inflation.** Since the start of this year, consumer prices of food, beverages and tobacco have risen sharply. This rise follows the increase in production costs,<sup>10</sup> which is partly due to the higher prices of energy and commodities. A slight fall in producer prices for food is not expected until the second half of 2023. As such a fall will be passed on to consumers only after some delay, food prices in the baseline scenario are expected to remain high throughout 2023.

**Core inflation – defined as the change in the cost of goods and services, excluding energy, food, alcoholic beverages and tobacco – will remain high at 4.5% in 2023.** This is due in part to the increase in producer prices. Faced with the higher costs of energy, (imported) semi-finished goods and transport, Dutch manufacturers are increasing their selling prices. This is contributing to the broadening of inflation. Moreover, higher wages are pushing up core inflation as they are to some extent being passed on in consumer prices. And we assume that in 2023 the prices of some goods and services will be indexed in accordance with the official CPI of 2022, thereby raising prices by more than the increase in cost prices. The increase in core inflation in 2023 will be mitigated by the fact that the average rent increase will be relatively moderate. This is mainly due to the agreed rent reduction for low-income households in housing association accommodation.

**Gas market price trend is very uncertain.** At present, gas market prices seem stable, but how they will move remains uncertain and depends on factors such as winter temperatures, demand for gas and to what extent alternatives to Russian gas can be found. This is why we will present a number of additional scenarios setting out possible alternative development for gas market prices (see section 2.2). These scenarios compute the effect on consumer energy prices and hence the direct effect on consumer price inflation. These scenarios do not take into account indirect effects on inflation, for example pass-through effects on wages or the energy costs for businesses.

---

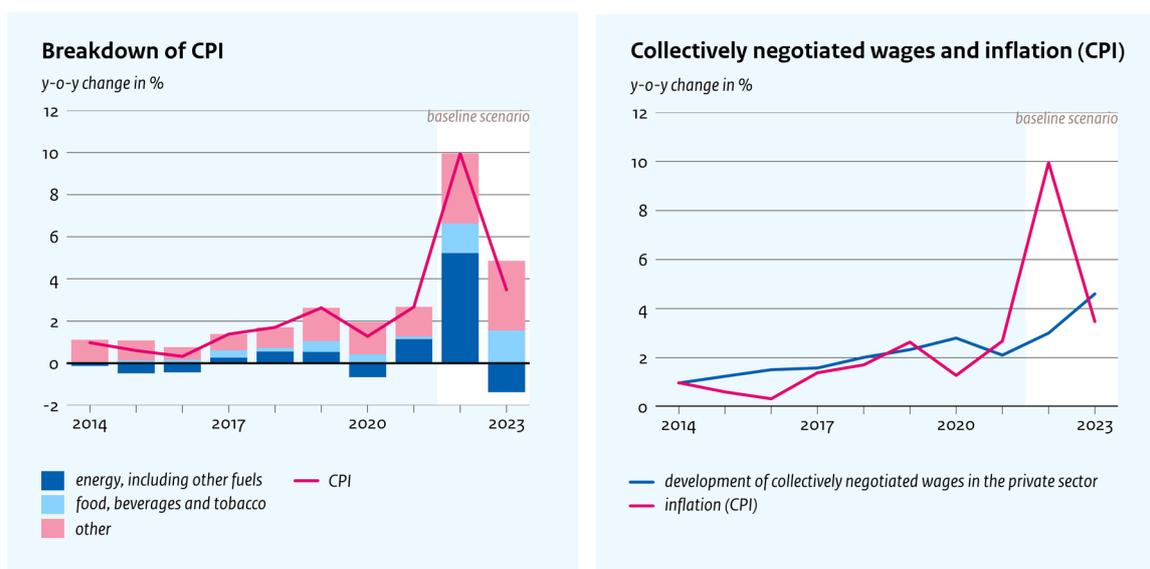
<sup>7</sup> This is the immediate deflationary impact of the price cap and takes no account of the indirect inflationary effect of the price cap as people have more to spend.

<sup>8</sup> See p. 78 of the decision note accompanying the Budgetary Processing Memorandum for the parliamentary debate on the government's programme for 2023 ([link](#)).

<sup>9</sup> See CBS ([link](#)).

<sup>10</sup> See CBS ([link](#)).

**Figure 2.2 Inflation will remain high and collectively negotiated wages will continue to rise in 2023**



Source: CBS and CPB ([link](#))

**The 3.0% rise in collectively negotiated wages in the private sector in 2022 lags far behind inflation, but will increase to 4.6% in 2023.** Recently concluded collective agreements have shown a slight increase in pay since the summer. For example, the collective agreement for the metal working and electrical engineering sector (an agreement with a relatively large weight) increased collectively negotiated wages by 5.5% with effect from 1 December 2022.<sup>11</sup> We expect the collective agreements that will be concluded in the near future to show comparable wage growth due to the continuing tightness of the labour market and the high rate of inflation. The increase in the national minimum wage (NMW) in 2023 also has an upward impact on the growth of collectively negotiated wages.

**A tight labour market and inflation compensation will also increase incidental wages.** To attract and retain staff, businesses are rewarding them with promotions, bonuses and extra pay increments. They also compensate their staff for high inflation by means of payments outside the framework of the collective agreement. This creates positive incidental wage growth and results in higher growth of gross pay.

**The cumulative growth of collectively negotiated wages in 2022 and 2023 lags behind (core) inflation** In 2023, businesses are expected to continue raising their sales prices and the labour income share will fall. This suggests that at macro level there is scope for a further wage rise, although this will vary greatly from sector to sector and industry to industry. As import prices in particular are rising due to higher energy prices, gross domestic income is growing by 2.4 percentage points less than GDP in 2022.<sup>12</sup> The question is how the consequences of this ‘collective loss of wealth’ will ultimately be apportioned: full compensation for the real loss of income for both households and businesses is not feasible. It is therefore important that wages do not automatically increase in line with full inflation in order to prevent a wage-price spiral.<sup>13</sup>

<sup>11</sup> Source: AWWN ([link](#)). The average increase in collectively negotiated wages over the entire term of this collective agreement will be 6% (12-month average).

<sup>12</sup> In the Macro Economic Outlook this was 3.3 percentage points for 2022, see CPB ([link](#)).

<sup>13</sup> See CPB ([link](#)).

## Public finances

**Due to the price cap, the risk of higher energy prices is largely borne by the government.** Naturally, the costs of the price cap for households and other small (low volume) users will depend on energy prices in 2023. With the energy prices in the baseline scenario, the extra government expenditure will amount to 8.4 billion euros (10.2 billion euros including VAT).<sup>14</sup> The higher the price of energy, the more the costs will rise. The scenarios in section 2.2 show how government finances will be affected by higher and lower energy prices.

**Besides the price cap, the government has also announced extra spending measures since the publication of the Budget Memorandum.**<sup>15</sup> In 2022, 3.2 billion euros will be spent on the payment of a sum of 190 euros to all households in November and December as compensation for the higher energy prices. The government estimates the cost of the Energy Cost Contribution Scheme (TEK) to help energy-intensive SMEs with their higher energy bills at 1.7 billion euros.<sup>16</sup> The expenditure to meet the reception costs of refugees from Ukraine is 0.8 billion euros higher in 2022, and the expenditure on the SDE++ Renewable Energy Grant Scheme has been adjusted downwards by 1.6 billion euros. Furthermore, the corona expenditures have been adjusted downwards. In addition, the government has brought forward 0.5 billion euros from 2023 to 2022 for the payment of the energy allowance to low-income households. Extra underspending (i.e. funds budgeted but not disbursed) is expected in 2022 and 2023 in view of the new realized data published by CBS.

**Extra taxation measures have also been introduced since Budget Day.** In 2022, the solidarity charge levied on gas producers will yield the government a net sum of 3.2 billion euros. The tax-reduction measures for 2023 announced in the Budget, which were to take the form of a reduction of energy tax, have been reversed. These measures consist of an increase of the reduction in energy tax (3.0 billion euros) and a lowering of gas and electricity in the first tax bracket (0.7 billion and 1.7 billion euros respectively). The planned inframarginal levy on electricity producers will yield a total of 1.8 billion euros in 2022 and 2023.<sup>17</sup>

**In the baseline scenario, a lower market price for gas depresses the government's revenues from natural gas sales.** The market price for gas in the baseline scenario is lower than in the Macro Economic Outlook, resulting in lower estimated revenues from gas extraction. The revenues from natural gas sales will be 7.4 billion euros in 2022 and 9.7 billion euros in 2023. These include the revenue from the Mining Act (*Mijnbouwet*) levy and the profits of Energie Beheer Nederland (EBN). In 2022 the revenues from natural gas sales will be reduced by the new solidarity charge. Part of the solidarity charge is payable by EBN, which is state-owned. For the part of the charge payable by EBN this will reduce the revenues from natural gas sales but increase tax revenues, the net effect on the EMU balance will be nil. In addition, the market price for gas also has a knock-on effect on the compensation that must be paid under the terms of the Norg Agreement.<sup>18</sup>

**In the baseline scenario, the government deficit will be 3.0% of GDP in 2023.** The government deficit was still 1.1% of GDP in 2022. The deficit will be higher in 2023 than in 2022, mainly due to the planned spending increases laid down in the Coalition Agreement. There is also the additional expenditure associated with the energy crisis. The government has announced that it will take measures in the spring to cover this extra expenditure in the budget. As the details of how this is to be covered are not yet known, we have not taken it

---

<sup>14</sup> The scenarios allow for a profit margin of 31 cents per m<sup>3</sup>, which is also the figure used by the government. At present, however, the design and choice of the parameters have not yet been finalised.

<sup>15</sup> The budgetary estimates in this baseline scenario are rougher than those used in standard projections such as the Central Economic Plan (CEP) and the Macro Economic Outlook.

<sup>16</sup> Letter to Parliament: [link](#).

<sup>17</sup> What exact form the measures will take and how they will be implemented is still uncertain. The total amount of 1.8 billion euros has been supplied by the government, in accordance with the budgetary estimate in the letter to Parliament [link](#).

<sup>18</sup> The parties to the Norg Agreement agreed that the underground storage of gas in Norg would be used to expedite the phasing out of gas production in Groningen while at the same time maintaining delivery certainty. For this, the government will pay the going rate.

into account in the baseline scenario. The debt ratio will be 49.8% of GDP in 2023. This is lower than in 2021 owing to the denominator effect: as a result of rising prices and a high rate of economic growth in 2022, nominal GDP is increasing sharply.

### **Purchasing power and affordability for households**

**As a result of high inflation, median purchasing power will fall by 3.9% in 2022 and 0.3% in 2023.** For this calculation we have used the new inflation research series of CBS; see also the box 'New CPI research series for purchasing power figures' on p. 11. Recent research by CBS shows that if not only new but also existing energy contracts are taken into account, inflation will be lower in 2022. However, as some of the energy contracts will expire in 2023 inflation will actually be higher in 2023. As a result, purchasing power will thus fall less in 2022 than on the basis of the official consumer price inflation and will fall slightly in 2023 instead of rising.

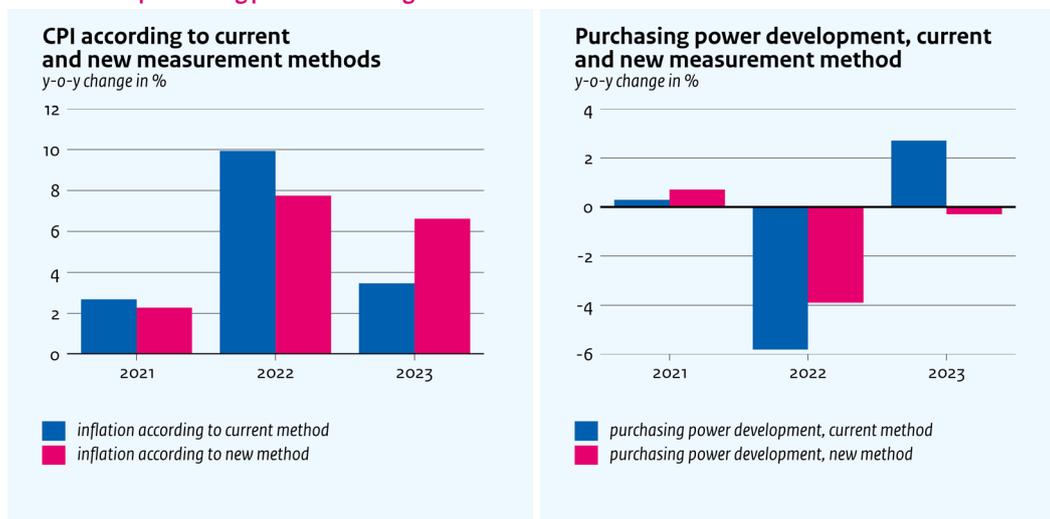
# New CPI research series for purchasing power figures

When energy prices are calculated in the official CPI, presently only the prices of new energy contracts are taken into account. CBS is currently examining new measurement methods that also take into account existing energy contracts. In the models and publications of CPB Netherlands Bureau for Economic Policy Analysis we continue to use the official CPI, but when calculating the purchasing power figures we use an estimate of inflation calculated in accordance with the new measurement methods as they provide a better reflection of the average rate of inflation affecting households ([link](#)). Only when the official rate of consumer price inflation is no longer distorted by the switch to a new measurement method will we revert to using the official consumer price inflation figure in our calculations of purchasing power.

For the realisation period up to and including August 2022 we are using the average of the published bandwidth for electricity and gas inflation from the CBS publication of October 2022 ([link](#)). For the development thereafter in 2022 and 2023 we are using an estimate of how energy tariffs will develop, based on a weighting of the estimated prices of new energy contracts and the prices of contracts previously concluded. For the distribution among the different contract terms, we use the electricity and gas contract terms distribution published by the Dutch Authority for Consumers and Markets (ACM) in August 2022 ([link](#)). Where we have assumed that the share of fixed contracts will continue to decline.

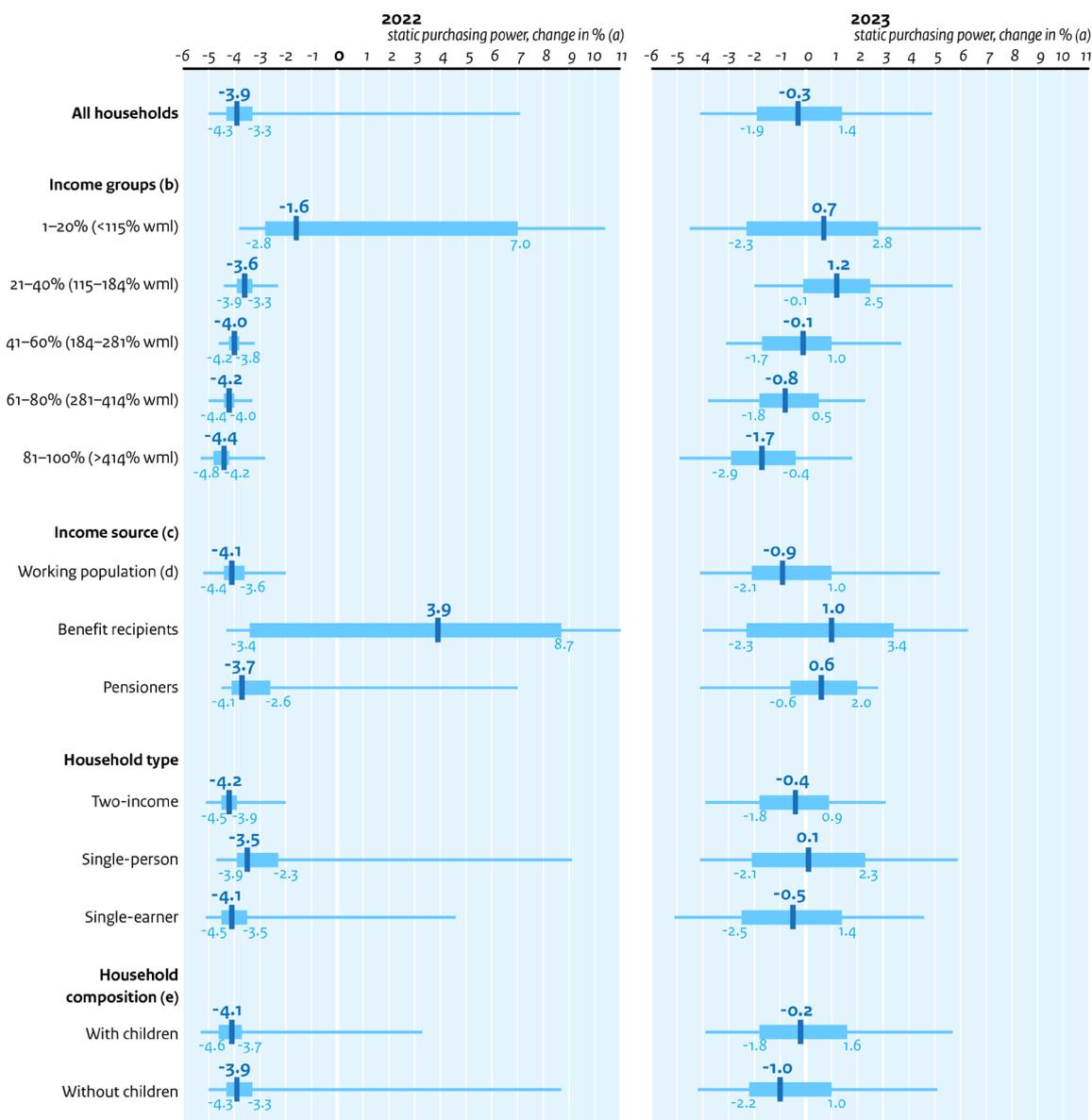
As the new method takes into account the fact that some households still pay lower prices under a previously concluded fixed contract, consumer price inflation will be lower in 2021 and 2022 according to the new measurement method compared to the current measurement method (left figure). According to the new measurement method, consumer price inflation will actually be higher in 2023 as more and more existing contracts expire. The median purchasing power will be 1.9 percentage points higher in 2022 than on the basis of the official consumer price inflation and 3.0 percentage points lower in 2023 (right figure).

## Inflation and purchasing power according to the official CPI and the new measurement method

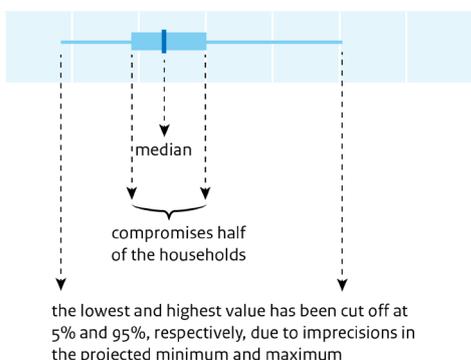


Source: CBS and CPB ([link](#))

Figure 2.3 Development of purchasing power in 2022 and 2023 (boxplot)



How to read the table?



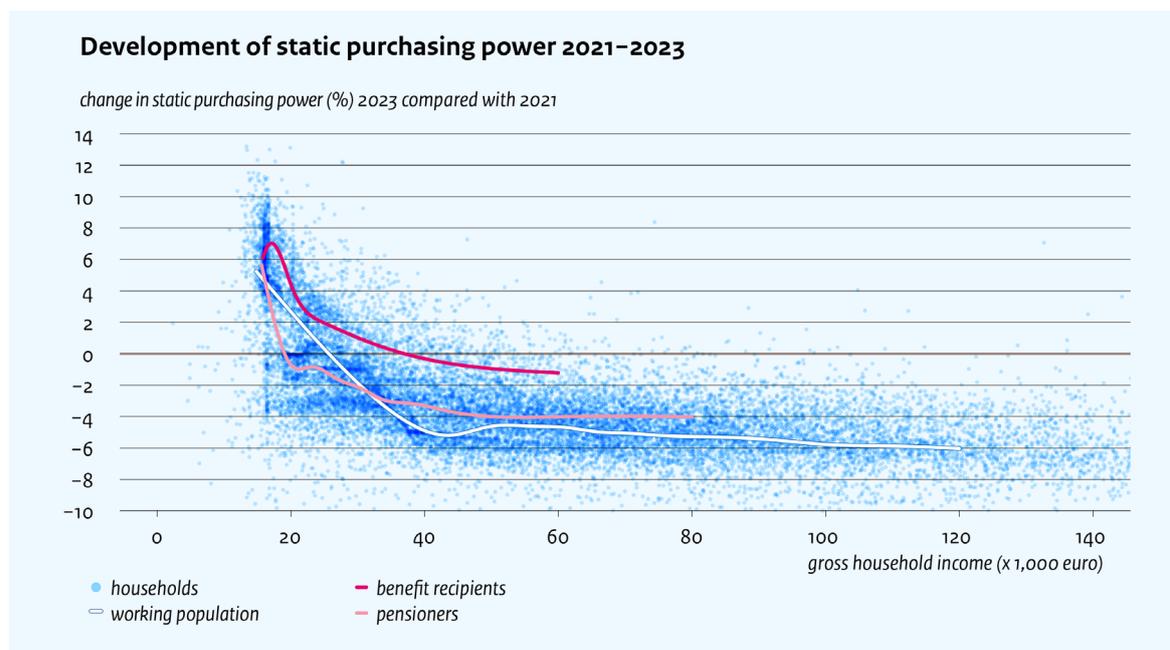
The 'median' is the middle value of a series of figures, ordered from low to high. A median purchasing power development of 1.3% for all households means that, for half of them, purchasing power development will be 1.3% or less, while, for the other half, it will be 1.3% or more. For half of the households, purchasing power development will be within the blue bar, with one quarter below and one quarter above the median. For the other half, purchasing power development will be outside this range. The box plot's whiskers show the lowest and highest development in purchasing power.

- (a) Not including incidental changes in income.
- (b) Gross labour income or welfare benefits on household level; the national minimum wage (nwm) in 2021 is around 22,558 euros. Income groups have been divided into five groups of equal size in ascending order of income, each containing 20% of all households.
- (c) The categorisation according to source of income is based on the highest income source per household, with households of which the main income is derived from investments or products having been categorised under the employed. Households on early retirement income or student grants as their main source of income have been excluded.
- (d) Changes in purchasing power for the employed do not include incidental wage changes, such as bonuses received or lost.
- (e) The categorisation according to household composition is based on the presence of children of up to eighteen years and excludes pensioner households.

Source: CPB ([link](#))

The purchasing power figures for 2022 and 2023 are best viewed in conjunction with each other: an average household will lose about 4% in purchasing power over this period. The moment when households are faced with high inflation varies greatly. Although we have taken into account the price of both new and existing energy contracts when calculating inflation, the moment when an individual household is faced with higher energy prices varies greatly. This is not reflected in the annual purchasing power figures, but is taken into account in the cumulative figures.<sup>19</sup> The purchasing power of a large proportion of households will decline over this period, mainly because inflation is rising faster than collectively negotiated wages.

Figure 2.4 Development of households' purchasing power in 2022 and 2023 in total



Source: CPB ([link](#))

The purchasing power figures of people with the lowest incomes will remain positive in this period, but some of this group are experiencing payment difficulties. The lowest income category and benefit recipients will, on average, see an increase in their purchasing power, particularly because many policy measures are designed to help those on lower incomes. For example, in 2023 the minimum wage will rise by 10%, there will be an increase in the healthcare benefit, the renting benefit and supplementary child benefit, and households with an income of up to 120% of the guaranteed minimum income will receive an energy allowance in both 2022 and 2023. However, the lowest incomes are, on average, hit harder by inflation than is reflected in the general inflation figure for purchasing power, as they spend a larger share of their income on energy.<sup>20</sup> The cost-of-living stress test, which does take this relatively high rate of energy consumption into account, shows that a third of households with an income of up to 120% of the guaranteed minimum income are exposed to the risk of payment difficulties (see figure 2.6).

The cost-of-living stress test shows that some 430,000 households run the risk of being unable to continue meeting their regular commitments and paying for basic necessities. In the stress test we look at

<sup>19</sup> Another factor affecting the timing of the purchasing power effects for specific households is that after publication of the Macro Economic Outlook it became known that municipal authorities would already be allowed to disburse 500 of the 1,300 euros in energy allowance in 2022. That means that the energy allowance is in fact 1,800 euros in 2022 and 800 euros in 2023. Households that are entitled to this energy allowance will therefore receive an extra plus of 500 euros in the purchasing power figures in 2022 but a minus in 2023 (as the energy allowance will be 1,000 euros lower than in 2022). However, this makes no difference to the cumulative purchasing power over the two years.

<sup>20</sup> See also pages 12 to 14 of CPB's Central Economic Plan 2022 ([link](#)).

whether households have sufficient income to meet their regular commitments and pay for basic necessities, according to the ‘basic needs’ budget of the Netherlands Institute for Social Research (SCP).<sup>21</sup> We have assumed for this purpose that everyone has a new energy contract. The policy announced in the Budget Memorandum proved reasonably effective in preventing problems for many households at risk of getting into payment difficulties as a consequence of high inflation. The number of households in payment difficulties almost halved in comparison with the 1 million at-risk households according to the draft Macro Economic Outlook.<sup>22</sup> As assistance is also provided by the subsequently announced energy price cap, the number of households at risk of getting into payment difficulties will fall further from 540,000 to 430,000.<sup>23</sup> As part of this policy is temporary, purchasing power will fall in 2024 (if energy prices remain high and policy remains unchanged), particularly in the case of the lower incomes. This increases the risk of a rise in the number of households in payment difficulties.

**The middle and higher-income categories will experience a decline in purchasing power in this period, but run only a limited risk of getting into payment difficulties.** The policy announced in the Budget Memorandum is less targeted at support for households in these categories, partly because they run only a limited risk of getting into payment difficulties (see figure 2.6). However, these households too are benefiting from the introduction of the energy price cap.<sup>24</sup> In addition, the middle incomes will benefit from the increase in the employment tax credit. However, as total inflation in 2022 and 2023 will be much higher than the rise in collectively negotiated wages, the purchasing power of these income categories will fall. Finally, the median purchasing power of pensioners will increase in 2023 as pensions will be more indexed. Although the purchasing power of the average pensioner will decline in total over the two-year period, this will be less than among the working population.

## 2.2 Scenarios with alternative energy prices.

**Owing to the high uncertainty about the development of energy prices, we have drawn up three additional scenarios examining what will happen if the market price for gas develops differently.** In the baseline scenario, the market price for gas is based on the average TTF Futures for week 44 (31 October to 4 November). In the additional scenarios we show what happens if the price turns out to be higher or lower. From January 2023 onwards, the market price for gas is €50/MWh lower in the low scenario and €50/MWh higher in the high scenario than in the baseline scenario. We also show a scenario in which not only the market price for gas is higher but a severe winter also pushes up gas consumption by 15%. Just as in the baseline scenario, we have assumed that the market price for gas has a knock-on effect on the variable delivery tariffs for both gas and electricity.<sup>25</sup> These scenarios only show the direct effects of different energy prices. They take no account of the knock-on effect on other prices and wages.

---

<sup>21</sup> For the approach taken, see Schulenberg and Vlekke, 2022, *Stresstest kosten van levensonderhoud*, CPB ([link](#)).

<sup>22</sup> See page 8 of the Macro Economic Outlook 2023 and compare the draft Macro Economic Outlook (without the additional policy from the Budget Memorandum) and the Macro Economic Outlook (including policy) ([link](#)).

<sup>23</sup> As the reduction of energy tax announced in the Budget Memorandum has been shelved, this has not been taken into account in this calculation. To calculate energy consumption, we have used the Climate and Energy Outlook 2022 of the Netherlands Environmental Assessment Agency (PBL), which shows that household energy consumption will fall slightly on average in the next year. We have assumed for this purpose that households will continue to use energy in the same way as in 2021 and, for example, will not turn off their heater completely on account of the higher energy prices.

<sup>24</sup> The energy price cap is reflected in the purchasing power figures through inflation. As a result, everyone benefits equally from this price cap in the purchasing power figures, although in practice the actual benefit depends on energy consumption.

<sup>25</sup> More specifically, we assume that the variable delivery tariffs for electricity will rise or fall just as much in percentage terms as the variable delivery tariffs for gas.

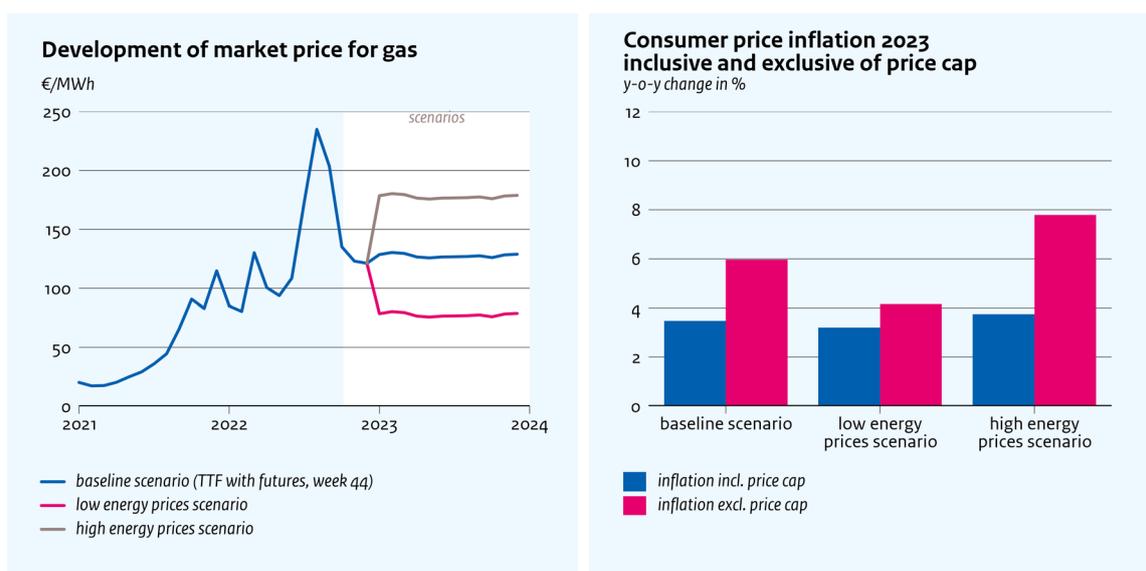
**Table 2.2 Scenarios 2023**

	2022	2023	2023	2023	2023
	baseline scenario		low energy prices scenario	high energy prices scenario	high energy prices + severe winter scenario
<b>Volume of GDP and spending</b>					
Gross domestic product (GDP, economic growth, %)	4.2	0.9	1.1	0.8	0.6
Household consumption (volume in %)	5.7	1.1	1.1	0.9	0.8
Public consumption (volume in %)	0.8	3.5	3.5	3.5	3.5
Investments (including stocks, volume in %)	2.5	-0.3	-0.1	-0.6	-0.8
Exports of goods and services (volume in %)	4.6	2.4	2.5	2.3	2.3
Imports of goods and services (volume in %)	3.7	3.1	3.1	3.1	3.2
<b>Unemployment</b>					
Unemployment rate (level, % of the labour force)	3.6	4.4	4.3	4.5	4.6
<b>Consumer prices, purchasing power and stress test</b>					
National consumer price index (CPI, %)	10.0	3.5	3.2	3.7	3.7
Purchasing power; static; median all households (%) (a)	-3.9	-0.3	-0.2	-0.5	-0.5
Affordability stress test (number of households in	.	430	420	450	500
<b>Public sector finances</b>					
EMU balance (% of GDP)	-1.1	-3.0	-2.8	-3.1	-3.2
EMU debt (year-end, % of GDP)	49.5	49.8	49.4	50.1	50.3

(a) The purchasing power figures take into account the latest views of CBS on how energy prices should be included when calculating inflation; see CBS ([link](#)) and the box on p. 11. These are median purchasing power figures. The annual median purchasing power figures cannot be totalled to arrive at a cumulative figure over a period of years.

(b) The aim of the stress tests is to determine how many household have insufficient income to meet their regular commitments and pay for basic necessities (see [link](#)).

**Figure 2.5 Gas prices (left) and CPI development with and without energy price cap (right) in scenarios**



Source: Datastream and CPB ([link](#))

**If the market price for gas is 50 euros per MWh higher or lower from January 2023 onwards, this will have hardly any effect on the energy prices charged to households owing to the price cap.** This is because the price cap will be lower than the estimated energy prices in both the high and the low scenarios. Without the price cap, inflation in 2023 would be 7.8% in the high scenario and 4.2% in the low scenario. The price cap therefore ensures that consumer price inflation is considerably less sensitive to alternative developments in the market price of gas in the coming year.

**As consumer price inflation hardly changes in the alternative scenarios as a consequence of a higher or lower market price of gas, the effects on economic growth are also small.** The differences in consumption growth between the scenarios are limited because the price cap means that households are largely insulated against higher energy prices. In the scenarios with higher energy prices, businesses will be faced with higher energy costs. As a result, investment will fall slightly further and unemployment will rise more than in the baseline scenario. If the winter turns out to be more severe than expected and households use more gas, the impact on the economy will be somewhat greater. This is because the Netherlands will have to import more gas.

**The effect of higher energy prices on public finances is limited because next to the extra costs of the price cap revenues from natural gas sales also increase.** Approximately 7 billion Nm<sup>3</sup> of the gas consumed by households falls under the price cap. Some of this is supplied under fixed contracts. If the market price for gas is 50 euros per MWh higher from January 2023 onwards and electricity tariffs rise along with the variable delivery tariffs for gas, the expenditure on the price cap will increase by 3.7 billion euros. At the same time, the income from gas extraction (including corporation tax) will increase by about 80% of the 14.3 billion Nm<sup>3</sup> of extracted gas (of which 2 billion Nm<sup>3</sup> will come from Groningen in 2023). This increase amounts to 4.1 billion euros (excluding corporation tax) and consists of the income from the Mining Act (*Mijnbouwwet*) and the profits of Energie Beheer Nederland (EBN). Moreover, although the costs of the price cap for small-volume users, the electricity compensation and the compensation for small and medium-sized enterprises (SME) will rise, together these extra costs will still be lower than the extra revenue from natural gas sales (including corporation tax). The converse happens in the low energy prices scenario. This limits the sensitivity of public finances to fluctuating energy prices. The costs of the price cap will rise even more in the case of the scenario involving both higher energy prices and higher gas consumption, but in that scenario the income from the energy tax will also increase. The EMU balance will therefore be 0.1% of GDP lower in the higher energy price scenario and 0.2% of GDP lower in the scenario with both higher energy prices and a severe winter.

**The estimated development of purchasing power in 2023 hardly differs in the alternative scenarios from that in the baseline scenario.** The impact of significantly higher or lower energy prices on inflation is limited as a consequence of the introduction of the energy price cap. The purchasing power of an average household is two tenths lower (-0.5%) in the high energy price scenario and one tenth higher (-0.2%) in the low energy price scenario than in the baseline scenario (-0.3%).

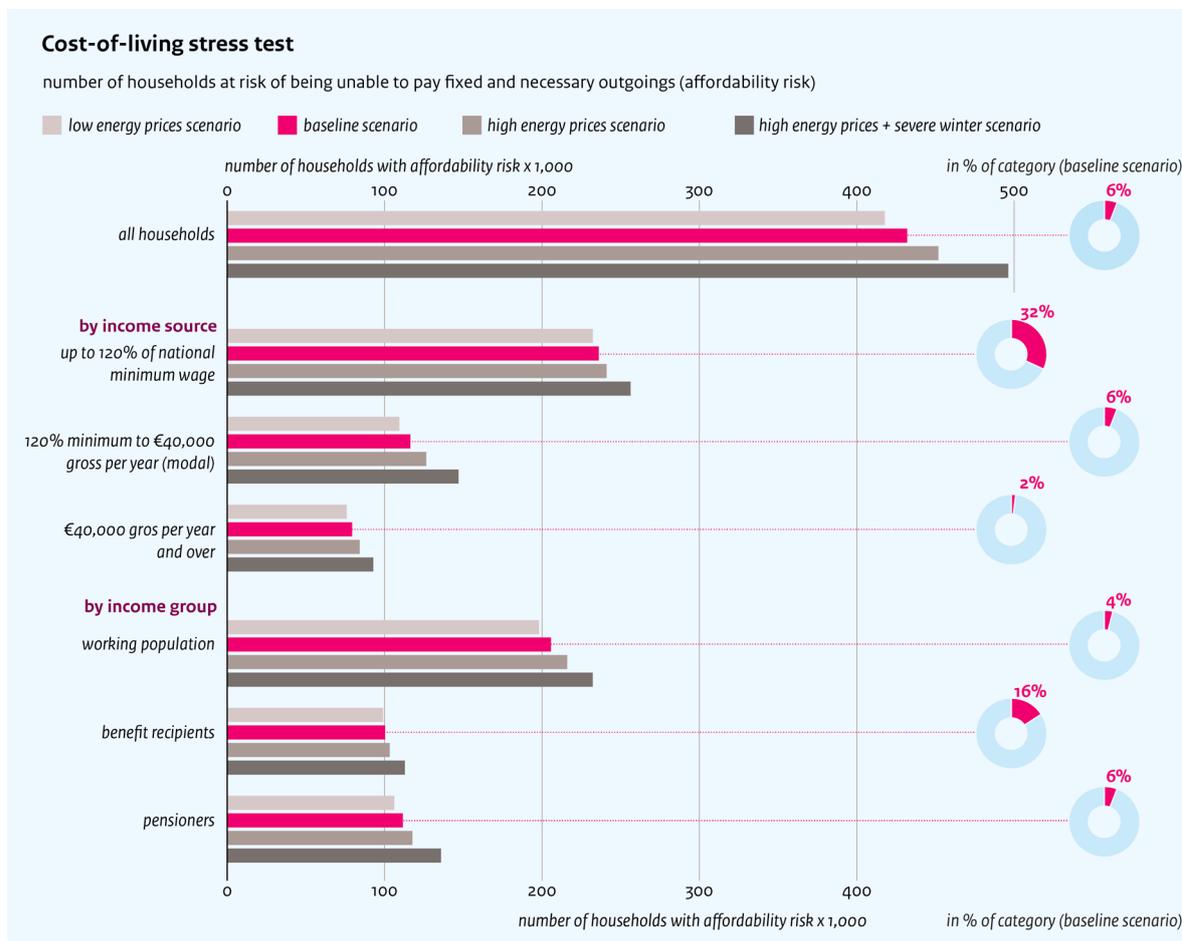
**The cost-of-living stress test shows that the energy price cap helps to ensure that the number of households at risk of getting into payment difficulties increases only slightly in the case of an energy price rise, whether or not in combination with higher energy consumption.** In the high energy price scenario, the number of households at risk of facing payment difficulties increases from 430,000 to 450,000. In the severe winter scenario, gas consumption rises by some 15%.<sup>26</sup> Combined with high energy prices, this causes the number of households at risk of facing payment difficulties to rise to 500,000. In general, the extra

---

<sup>26</sup> 2010 was the coldest year in the last 20 years. In a comparably cold year, the gas consumption of households is about 15% higher than in a more normal year (see Netherlands Environmental Assessment Agency (PBL) 2022: "*Herziening weerscorrectie voor ruimteverwarming*"). For the purposes of the severe winter scenario we have therefore increased gas consumption of households by 15%.

households facing payment difficulties in comparison with the baseline scenario have a below-modal income. Finally, we have also calculated a scenario based on low energy prices (and a normal winter). In that case, the number of households at risk of facing payment difficulties will be 420,000 rather than 430,000.

**Figure 2.6 Risk of getting into payment difficulties**



Source: CPB and SCP ([link](#))

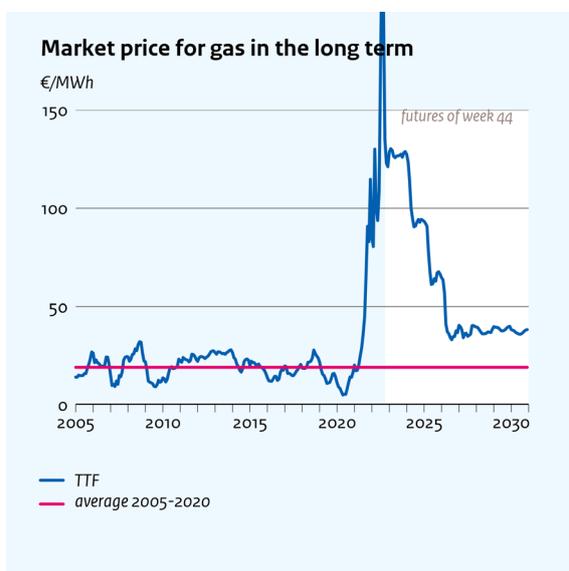
## 2.3 Towards a structural solution

**The scenarios in this publication show that the policy measures in 2023 will limit the impact of the energy crisis on purchasing power, but worsen public finances.** The price cap reduces inflation by 2.5 percentage points in 2023, while at the same time shifting the risk of higher energy prices to the government and thus reducing uncertainty for households. However, the price cap is not an efficient measure and entails high costs. Government spending will thus increase and, without additional funding, the government balance will worsen further to 3.0% of GDP in 2023. The fact that this deterioration is only limited is because the high gas prices will also result in high revenues from gas sales in 2023. However, these revenues will fall in 2024 because 20% less gas will then be extracted in accordance with the decision on gas extraction, mainly due to the discontinuation of gas extraction in Groningen. The deterioration of public finances means that the financial burden falls on future generations.

**As energy prices are expected to remain high in the longer term, policy must focus on structural adjustment.** In view of the geopolitical situation and developments on the international energy market in the

context of the energy transition, it seems likely that even after 2023 energy prices will remain at a much higher level than before the energy crisis, see figure 2.7.<sup>27</sup> This underlines the need to focus policy on making structural adjustments to the economy. The permanent energy price shock is therefore essentially different in nature from the temporary supply shock caused by the coronavirus crisis.<sup>28</sup>

**Figure 2.7 Market prices for gas expected to be higher in the long term**



Source: Datastream and CPB ([link](#))

**General purchasing power compensation such as the energy cap does not provide a structural solution.**

Besides the impact of the measures on public finances, the policy also has other drawbacks. The general price cap is untargeted, as not all households need the compensation to avoid getting into financial difficulties. Also, there is less incentive to save energy while the market price is above the price cap.<sup>29</sup> Dependence on gas will exist for longer and prices will remain higher for longer. The risk of this policy is that it will actually boost energy prices and inflation, while energy consumption needs to be reduced as supplies are dwindling. The way the current scheme is designed increases the risk that energy suppliers will be overcompensated, thereby resulting in less efficient procurement.<sup>30</sup> It is important that energy market policies are coordinated as best one can at a European level.

**A situation in which energy prices remain high in the longer term calls for a more targeted and structural approach.**

The 2023 policy has bought time which can be used for making the transition to a more structural situation. Ultimately, structural recovery of purchasing power will have to come from an adjustment of wages. The government can then use targeted and temporary instruments to help the most vulnerable households pay their energy bills. Thereafter, structural policy can focus mainly on conservation and energy savings of households and businesses and facilitating the switch from business models that are no longer viable with higher energy prices.

<sup>27</sup> The Climate and Energy Outlook 2022 of the Netherlands Environmental Assessment Agency (PBL) ([link](#)) also shows that gas prices are expected to remain at a much higher level in the long term than before the energy crisis.

<sup>28</sup> See DNB and CPB, 2022, *Lessen uit de coronacrisis voor huidige steunbeleid* ([link](#)).

<sup>29</sup> The gas and electricity consumption of 80% of the lowest income households that are not at risk of getting into payment difficulties does not exceed the cap. Among the lowest income households at risk of payment difficulties, that figure is half.

<sup>30</sup> See also CPB ([link](#)) and Schinkel and Haan (2022, [link](#)).