

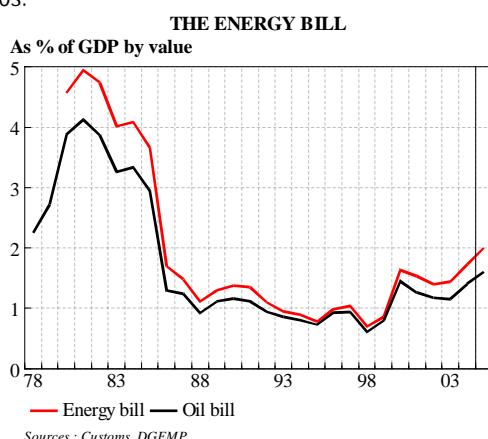
## OIL PRICE REDUCED GDP BY ½ POINT IN 2004-2005

## France's energy bill skyrocketed in 2004, impacted by the rise in the price of oil: it shot up 24.1 % and accounted for 1.75 % of GDP (up 0.3 points of GDP). Expectations for 2005 are for an increase on the same scale.

## While this shock cannot be categorised as insignificant – a little more than half a point of GDP in total – it only comes to a little more than a quarter of each of the two oil shocks that marked the start and the end of the 1970s. The rise in the price of petroleum products has been softened by the appreciation of the euro. Another mitigating factor is that the French economy is today less dependent on oil than it was in the 1970s: better energy use and the conversion of the economy towards services have led to a fall in the intensity of energy use for production. In addition, the move to nuclear power in 1974 led to a large reduction in the dependence on imported energy.

### Energy bill skyrocketed in 2004

France's energy bill – i.e., energy imports minus exports – increased by 24.1 % in 2004, after a rise of 5.4 % in 2003 and two years of decline. It came to € 28.35 billion, or 1.75 % of GDP, after 1.47 % in 2003, a high level, but nothing like those experienced in the 1980s.



This rise in the energy bill is largely due to the escalation in the price paid for oil – up 26.9 % to € 23.14 billion (after a rise of 2.9 % in 2003): as a share of GDP in 2004 it accounted for 1.4 % (up from 1.2 % the previous year). Oil was not the only energy product to record a price rise: the price of coal increased by 45 %, to € 1.29 billion, while the cost of gas rose 4.7 %, to € 5.9 billion.

This jump in the energy bill contributed to the worsening of the trade balance in 2004, which recorded a loss of € 8.4 billion, down from a one billion euro surplus in 2003.

### FOREIGN TRADE IN ENERGY PRODUCTS (in € mn. gross data)

	Imports (CIF)			Exports (FOB)			Balance (Imports – Exports)			
	2003	2004	03-04 (%)	2003	2004	03-04 (%)	2003	2004	03-04 (%)	03-04 (€ mn)
SMF*	955	1445	+51.3	66	156	+135.5	889	1289	+45.0	+400
CRUDE OIL	16244	19754	+21.6	17	0	-99.9	16226	19754	+21.7	+3528
REFINED PET. PROD.	6871	8978	+30.7	4859	5589	+15.0	2012	3389	+68.4	+1377
PETROL. TOTAL	23115	28732	+24.3	4876	5589	+14.6	18239	23143	+26.9	+4905
GAS	6277	6649	+5.9	334	427	+28.0	5943	6222	+4.7	+279
OIL & GAS	29392	35381	+20.4	5210	6016	+15.5	24182	29365	+21.4	+5184
ELECT.	577	690	+19.6	2807	2998	+6.8	-2230	-2308	+3.5	-78
<b>TOTAL</b>	<b>30924</b>	<b>37516</b>	<b>+21.3</b>	<b>8083</b>	<b>9170</b>	<b>+13.4</b>	<b>22841</b>	<b>28346</b>	<b>+24.1</b>	<b>+5506</b>

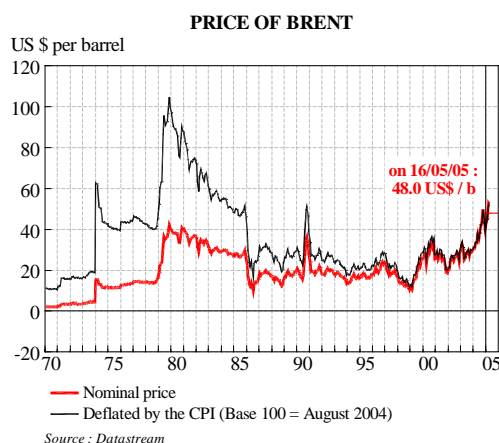
\* SMF: Solid mineral fuels

Source: DGEMP

This can be attributed to the upsurge in oil prices: on an annual average, the price of a barrel of Brent jumped more than 32 % from \$ 28.7 to \$ 38.2, reaching a peak of \$50 in October.

The weakening of the US dollar limited the rise in the price of a barrel in euro terms (cutting it to 20.6 %). The rise in the price of gas was limited in annual average terms, reflecting its indexation delayed by around six months on the price of oil: as a result, the gas bill will rise more in 2005. The price of coal leaped, boosted by strong demand from steel firms worldwide. On the upside, the

surplus provided by trade in electricity grew slightly, thanks to nuclear production.



As at the end of February 2005, the surge in the cost of energy had not abated: on a 12-month-to-date basis, it has risen 33 %, after a 27 % rise in January and 24 % in December, to reach € 29.7 billion, still inflated by the skyrocketing prices of oil and coal. In our central scenario (average price of a barrel of Brent at \$48 and one euro worth \$1.30), the oil bill will add another 0.2 points to GDP and the energy bill as a whole - 0.3 point.

### Reduction in energy dependence since 30 years ago

While the rise in the prices of energy in 2004-2005 had a marked impact on the economy, cutting GDP by a quarter of a point in each of these two years, that impact is much less in scope than the one experienced during either of the oil shocks of 1973-1974 and 1986-1981, when resources worth 2 points of GDP were transferred into the coffers of the oil-producing countries.

There has been a movement towards more efficient energy use since 1973, provoked both by the oil price rise and – for a time – by the implementation of a new energy-control policy. In addition, the growing weight in the economy of service businesses, which consume less energy, has lessened the energy intensity of production.

The upshot is that a final energy consumption figure (made up of all primary energy consumption, minus the consumption of the energy industry (electricity plants, refineries, etc.)), per GDP unit by volume dropped 37 % between 1973 and 2004.

### ENERGY INTENSITY WITH RELATION TO GDP BY VOLUME – BASE 100 = 1973

	1973	1980	1990	2000	2002	2003	2004
CONSUMPTION OF PRIMARY ENERGY *	100	88.6	84.8	82.3	81.4	80.9	79.5
OF WHICH: CONSUMPTION OF PRIMARY ENERGY IN THE FORM OF PETR. PROD.	100	73.9	48.5	43.3	41.4	40.6	39.6
CONSUMPTION OF FINAL ENERGY*	100	84.1	70.8	65.2	65.1	63.5	62.4
OF WHICH: CONSUMPTION OF FINAL ENERGY IN PETROL. PROD.	100	77.1	55.5	47.7	47.1	45.6	44.4

\* Corrected for climate

Source: DGEMP

Consumption of primary energy has increased since 1990 only by an average of 1.4 %: stable in 2003, it grew by just 0.7 % last year, and stands at 276.2 million tonnes oil equivalent (MTOE).

Consumption of final energy stands at 161.2 MTOE, up 0.6 %.

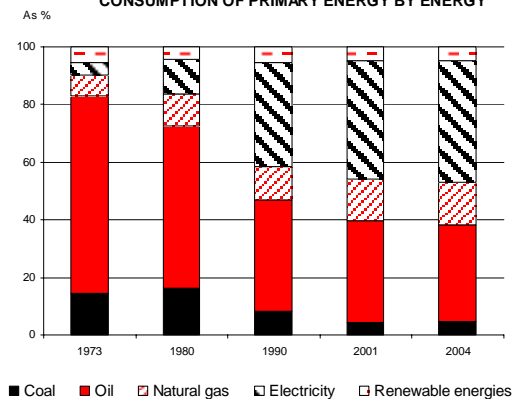
Another factor that lessens the impacts of the rise in oil prices is that France has sharply increased its energy independence by raising greatly the national production of primary energy. Production reached 138 MTOE in 2004, as against 43.5 MTOE in 1973. Unlike other countries such as Germany and the UK, for example, France is almost completely lacking in fossil energy resources (coal, petroleum and natural gas only represent 2.1 % of the production of primary energy, and that figure is constantly falling). By developing the only two possible means of producing energy from domestic resources – nuclear power (78 % of electricity production is nuclear) and renewable energies – the country's energy independence rate has shot up from 23.9 % in 1973 to 50 % in 1990, and has stabilised at that level since.

#### Energy consumption by form of energy

	1973	1990	2004		1973	1990	2004
Primary consumption (MTOE)	177.6	229.3	276.2	Final consumption (MTOE)	133.6	142.6	161.2
As % of the total	100.0	100.0	100.0	As % of the total	100.0	100.0	100.0
Coal	14.5	8.1	4.8	Coal	13.2	7.2	3.9
Oil	68.3	38.7	33.6	Oil	63.7	50	45.4
Gas	7.5	11.5	14.6	Gas	6.6	16.3	21.8
Electricity	4.3	36.4	42.5	Electricity	9.7	18.6	22.4
Renewable energies	5.3	5.3	4.6	Renewable energies	6.7	7.9	6.5
Energy independence as a %	24.5	48.8	50.2				

At the same time, the weighting of oil in the consumption of energy, while it is still significant, has lessened considerably: oil now (2004) represents only 33.6 % of primary energy consumption, as against 70 % in 1973. Primary consumption of oil came down 0.2 % in 2004, after four successive pronounced drops, amounting to 92.8 MTOE; in 1973 the MTOE was 121.4. Over a thirty-year period, the quantity of oil per unit of GDP by volume has declined by more than 60 %.

#### CONSUMPTION OF PRIMARY ENERGY BY ENERGY

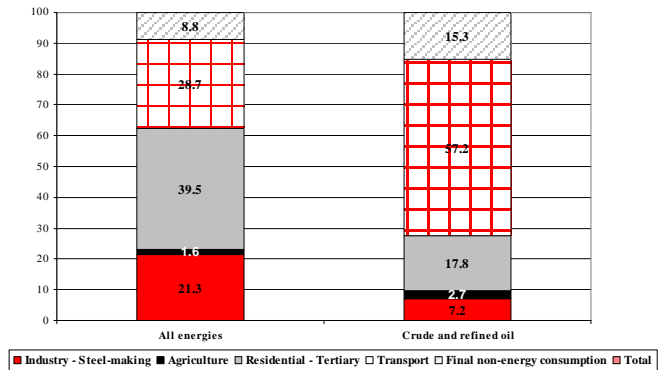


Gas's share in primary consumption has also diminished, amounting to 5 % in 2004, whereas consumption of gas continues to decline, that decline being 3.5 % in 2004. In 2004 nuclear electricity was the preponderant form of primary energy: its share has risen ten-fold in 30 years, growing from 4.3 % to 42.5 %, with a particularly fast growth in the 1980s. Consumption of nuclear energy continues to rise (up 1.4 % in 2004). On the other hand, the share of gas, consumption of which rose 1.4 % in 2004, has doubled (from 7 % to 15 %). The rest of primary energy consumption comes from renewable energies, whose share has remained stable at around 5 % over the last 30 years.

#### Changes in the structure of consumption by sector

There has been little change in the structure of consumption of final energy by sector over the last 30 years. The share of final energy consumption by the Tertiary Residential is located in the region of 39 %, as in 1973; non-energy consumption (chiefly petrochemical raw materials, bitumen, and lubricants), which accounted for 16 MTOE in 2004, represents 8.8 % of the total, as opposed to 7.6 % in 1973, whereas that of agriculture has shown a slight fall (from 2.1 % to 1.7 %). Transport has consumed an increasing amount of energy – 51 MTOE in 2004 (to 28.7 %, from 18.1 % in 1973), while industry consumes less (from 33.3 % in 1973 to 21.3 %).

#### FINAL CONSUMPTION BY SECTOR IN 2004 \*

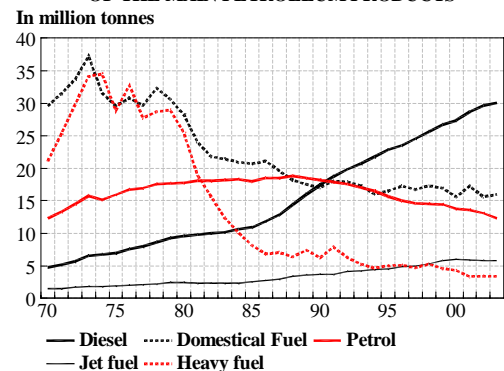


Sources : DGEMP, Observatoire de l'Énergie  
\*Reduced by the consumption of the energy industry (electric power stations, refining)

After an historic drop in 2003 (down 1.8 %), the consumption of the various sectors was on an upward trend in 2004, with the return to economic growth: a 0.8 % increase for industry, 0.3 % for residential-tertiary, and 0.7 % for transport.

Transport is responsible for more than half the final consumption of petroleum products (57.2 % in 2004, as opposed to 42 % in 1973). The growing transportation needs have resulted in an impressive rise in the consumption of fuel oil and a trend rise in the consumption of jet fuel. With more people opting for diesel cars, though, gasoline consumption has declined since the end of the 1980s.

#### CHANGE IN THE CONSUMPTION OF THE MAIN PETROLEUM PRODUCTS



Source : DGEMP

This increase in the consumption of fuel oil has to some extent compensated for the sharp drop in the 1980s in requirements for heavy fuel oil (the electronic programme, the reduction in the weighting of the large consuming industries) and the slower drop in the demand for domestic fuel oil (even roughly stabilising since the mid-1990s).

The final consumption of electricity is approximately 63 % from the residential-tertiary sector, and nearly 33 % from industry. Conversely, coal consumption is now almost entirely attributable to industry.

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