

What can I choose in the calculator?

The calculator lets you choose the share of Gasoline & Diesel vehicles in the total car fleet in Switzerland in the selected year (2035 or 2050).

Gasoline & Diesel Vehicles



epSos.de, via Wikimedia Commons

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IMPACT - What are the impacts of Gasoline & Diesel vehicles?

In Switzerland, maintaining the dominance of gasoline & diesel vehicles in the vehicle fleet will have the following impacts:

Energy system

- 😊 Reduces final energy demand (for diesel and gasoline) slightly over time due to improving vehicle efficiency.
- 😊 No impact on electricity consumption or grid balancing.
- 😊 No impact on the share of renewable energy sources in the energy mix.
- 😊 No impact on energy independence and energy security compared to today.

Environment & Climate

- 😊 Small improvement in global CO2 emissions over time due to efficiency improvements.
- 😊 Little impact on current levels of harmful pollutants, except by replacement of oldest vehicles.
- 😊 Little impact on current levels of noise pollution.
- 😊 Little impact on current levels of deposited waste and environmental impacts related to mining and end of life scrappage.

Society & Economy

- 😊 Likely to have limited impact on the cost of the energy transition.
- 😊 Likely to have limited impact on total cost of ownership of vehicles – efficiency gain partly offset by increasing capital & maintenance costs.
- 😊 Likely to have limited impact on balance of payments compared to today.
- 😊 Slight negative impact on Confederation income from the tax on slightly declining sales of mineral oil under the current taxation system.

GLOBAL MARKET - What is the global market for Gasoline & Diesel vehicles?

In 2011, the total EU passenger car stock was 242 million (483 vehicles per 1000 inhabitants), compared to 163 million in 1990 (an average yearly growth rate of 1.9%).[1]

Between 2001 and 2012, the stock of diesel passenger cars in total passenger cars in the EU-27 rose from 35% to 55% (with 42% gasoline passenger cars and 3% hybrid, electric and natural gas passenger cars in 2012).[2]

DEFINITION / CONSTRAINTS

DEFINITION - What are Gasoline & Diesel vehicles?

Gasoline and Diesel are the most common fuels for the Internal Combustion Engine (ICE). The ICE converts heat from combustion into mechanical power, transmitted to the wheels via a gearbox.

The ICE has seen significant improvements regarding its air quality emissions through use of catalytic converters and particle filters. More recently, efficiency has also improved through better optimisation, engine down-sizing (using a turbocharger to maintain power), and reduced friction. The ICE is likely to continue to improve its efficiency and carbon footprint further, thanks to technologies such as hybridisation, biofuels and natural gas, which are covered as separate topics.

In most global markets Gasoline is the dominant fuel for cars, and Diesel for trucks. However the Diesel engine is popular in European cars, due to its efficiency and high fuel taxation.

CONSTRAINTS - What are the key barriers facing BEVs deployment?

- Dependent on imported, carbon-emitting fossil fuels – biofuels cannot displace fossil in its entirety.
- Cannot deliver zero emissions at point of use.

ASSUMPTIONS - What are the assumptions considered in the calculator?

You will find more information about the passenger transport model of the calculator [here](#).

REFERENCES

[1] [European Commission, Mobility and Transport: Statistical pocketbook 2013.](#)

[2] [Eurostat 2013, Energy, Transport and Environment Indicators.](#)

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#content .bloc.triple { width: 915px; } #wrapper #content .bloc.bgWhite { background: #fff; }
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font-size: 18px; } #wrapper #content #lexiqueWrapper .ulWrapper ul li a.active { color: #000; }
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'ProximaNovaCond-Regular'; font-size: 24px; margin-bottom: 6px; } #wrapper #content
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100%; height: 550px; background: #e8e8e8; } /* TEXTE PAGES ET ADMION */ #content.text,
.redactor_box { font-family: Arial, Helvetica, Sans Serif; font-size: 16px; color: #333333; padding:
20px; } #content.text body, .redactor_box body { background: none; } #content.text h1,
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li.next { width: 11px; height: 20px; } .pagination ul li.prev, .pagination ul li.nobl, .pagination ul li.next
{ border-left: 0; } .paddedContent { padding: 20px; } #sponsorsWrapper { margin: 40px 0 30px
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transform: uppercase; } #sponsorsWrapper .sponsor { float: left; margin-right: 60px; } .dokuwiki
div.page { overflow: auto; }
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