



The Polo

Environmental Commendation



Top marks for progress

The Environmental Commendation for the Polo

Volkswagen is well aware of its responsibility for its products. Environmental impacts occur not only during the service life of a vehicle but also during production of the raw materials, the manufacturing process and ultimately recycling and disposal.

In order to reduce environmental impacts to a reasonable minimum, the full life cycle of a product must be taken into account. To this end, Volkswagen draws up Life Cycle Assessments that analyse the creation of new vehicles, components and materials. On top of this we also consider the environmental impact of production of the fuel consumed during the vehicle's service life. In a Life Cycle Assessment in line with ISO 14040 the first step is to document all the relevant types and quantities of material and the types and quantities of energy consumed in the production, use and recycling of the product. Step two is a Life Cycle Impact Assessment which classifies the environmental impact of the product into categories such as global warming, photochemical ozone creation, soil and water acidification and eutrophication. This is followed

by interpretation of the findings of the first two steps. For the Life Cycle Assessment of the Polo we compared three diesel-engined models with 5-speed manual gearboxes and 55 kW (1.2 TDI¹, 1.2 TDI BlueMotion²) or 66 kW (1.2 TDI BlueMotion Technology)³ with a similarly powerful predecessor. For the petrol models, a Polo 1.2 TSI (77 kW) with six-speed manual gearbox⁴ and a 1.4 MPI (63 kW) with seven-speed DSG⁵ were compared with a similarly engaged predecessor. All current models comply with the Euro 5 exhaust emissions standard.

Urban/non-urban/combined, L/100 km; g CO₂/km

¹ 4.6/3.3/3.8 L/100 km; 99 g/km

² 4.0/2.9/3.3 L/100 km; 87 g/km

³ 4.6/3.2/3.7 L/100 km; 96 g/km

⁴ 6.8/4.5/5.3 L/100 km; 124 g/km

⁵ 7.7/4.7/5.8 L/100 km; 135 g/km

The Environmental Commendation

We use Environmental Commendations to inform our customers, our shareholders and other stakeholders within and outside the company how we are making Volkswagen's vehicles, components and production processes more environmentally compatible and what we have achieved in this respect. The information in this Environmental Commendation is based on a Life Cycle Assessment of the Polo which has been verified and certified by the technical inspection organisation TÜV NORD. The TÜV certificate confirms that the Life Cycle Assessment is based on reliable data and that the methods used to compile it comply with the requirements of ISO standards 14040 and 14044



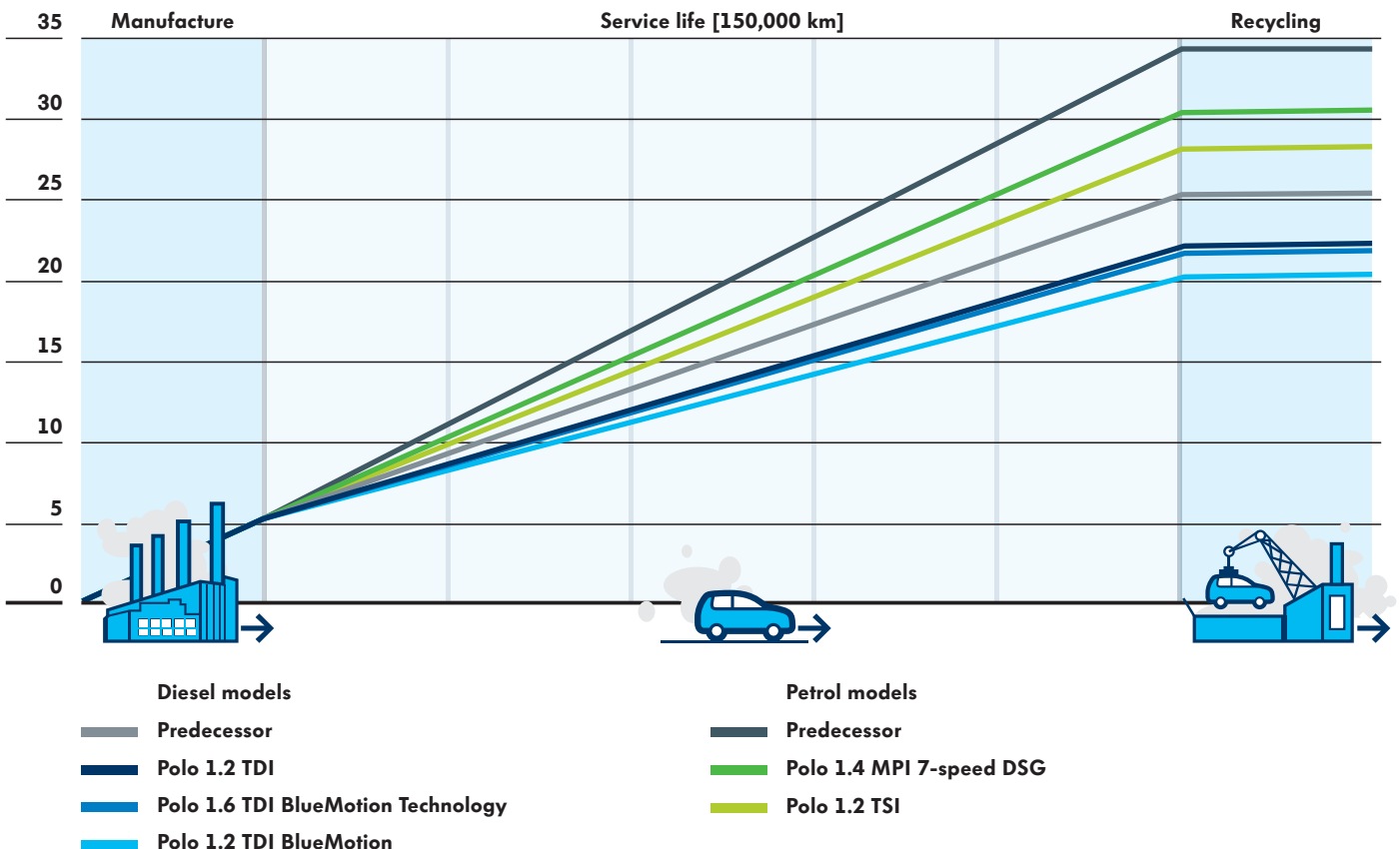
An impressive balance sheet

True to our goal of ensuring that each new model outperforms its predecessor in ecological terms, the latest Polo presents a better balance sheet over its full life cycle with regard to its environmental impact. The improvements are largely accounted for by lower fuel consumption and the resultant drop in driving emissions and the accompanying reduced environmental impact of the fuel production process.

For an assumed lifetime mileage of 150,000 kilometres our calculations for the diesel models indicate life-cycle CO₂

emissions of 14.9 metric tons (1.2 TDI), 14.4 metric tons (BlueMotion Technology) and 13.1 metric tons (BlueMotion). Viewed over the full life cycle and considering all the relevant greenhouse gases, this means a reduction compared with the predecessor model of approximately 13% for the 1.2 TDI and 15% for the BlueMotion Technology. The BlueMotion model achieves even greater savings, at 20%. During their service lives, the petrol-engined 1.4 MPI equipped with seven-speed DSG emits 20.3 metric tons of CO₂ and the 1.2 TSI 18.6 metric tons of

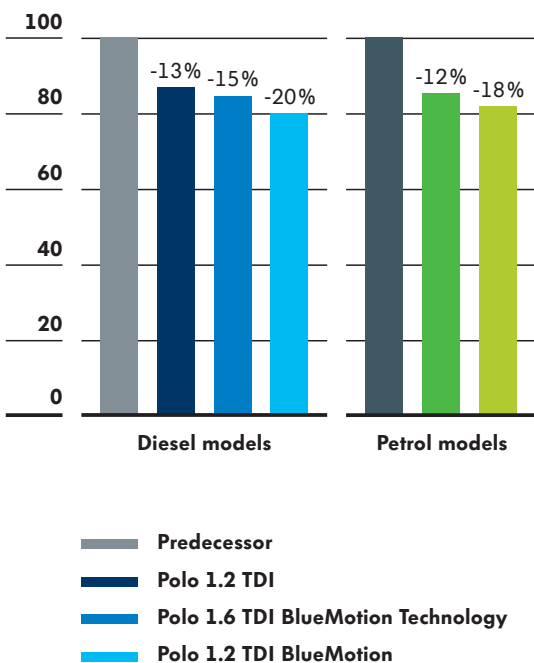
Comparison of impact on global warming potential † CO₂ equivalents



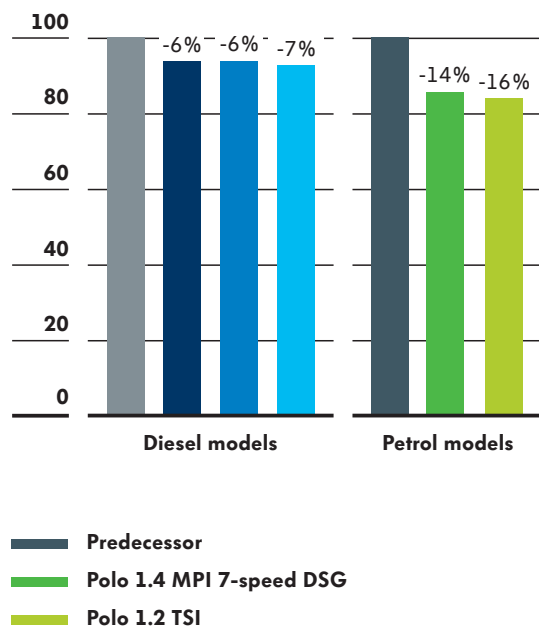
CO₂. Over their full life cycle, the petrol-engined models therefore achieve reductions in CO₂ emissions of 12% and 18% respectively. The overall reduction in emissions of greenhouse gases over the full life cycle is significant, since the 1.4-litre model, for example, emits approximately 4.2 metric tons less CO₂ than its predecessor. The true scale of this reduction is illustrated by the fact that the entire production process for a Polo 1.4 MPI with seven-speed DSG generates approximately five metric tons of greenhouse gases. In overall terms, we have therefore achieved our

objective of continuing the technical development of our vehicles at the same time as making them more environmentally compatible. In addition, the reduction in fuel consumption and the associated savings in terms of fuel production lead to a further easing of the burden on the environment, for example in terms of emissions that can lead to impairment of local air quality (photochemical ozone creation potential). Further details on the Life Cycle Assessment of the Polo can be found in the Background Report to the Environmental Commendation at www.environmental-commendation.com.

Reduction in global warming potential over full life cycle for diesel and petrol models in %



Reduction in photochemical ozone creation potential over full life cycle for diesel and petrol models in %





Environmental Description, Polo

Generally improved environmental profile over the full vehicle life cycle compared with the predecessor model due to lower fuel consumption and reduced emissions

Global warming potential – less CO₂ emissions overall*

- Diesel models: -13% (1.2 TDI*), -15% (1.6 TDI BlueMotion Technology*), -20% (BlueMotion*)
- Petrol models: -12% (1.4 MPI) or -18% (1.2 TSI*)

Reduced photochemical ozone creation potential (improvement of local air quality)*

- Diesel models: -6% (1.2 TDI*), -6% (1.6 TDI BlueMotion Technology*), -7% (BlueMotion*)
- Petrol models: -14% (1.4 MPI), -16% (1.2 TSI*)

Reduced driving emissions (CO₂)*

- Diesel models: 99 g/km (1.2 TDI*), 96 g/km (1.6 TDI BlueMotion Technology*), 87 g/km (BlueMotion*) compared with 119 g/km (predecessor 1.4 TDI*)
- Petrol models: 135 g/km (1.4 MPI) or 124 g/km (1.2 TSI*) compared with 159 g/km (predecessor 1.6 MPI*)

Reduction of fuel consumption through

- tyres with optimised rolling resistance
- smart lightweight design (use of high-strength and extremely high-strength steels, aluminium and magnesium components and composite materials)
- Volkswagen DSG dual-clutch transmissions (petrol models)
- electrical components with optimized efficiencies
- BlueMotion Technologies (start-stop system, regenerative braking)

Resource conservation through

- use of long-lasting components (maintenance-free particulate filters and catalytic converters, long-life lamps)
- lifetime oil fill for electro-hydraulic steering

Eco-friendly materials

- use of recycled plastics (e.g. for sound deadening materials)
- use of renewable materials (e.g. for filters and floor matting)

* Applies to the actual vehicles assessed in this test series. See inside for fuel consumption and emissions figures

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