

## Calculating the Eco-Points

For the environmental rating of passenger cars Topten uses a system which has been developed by the institute for research in energy and environment in Heidelberg (Institut für Energie- und Umweltforschung, IFEU). It has last been updated in 2011, according to recent scientific findings. The four categories of environmental effects contribute to the calculation of the Eco-points as follows:

- 60% Category A: CO<sub>2</sub> – global warming
- 20% Category B: noise emissions
- 15% Category C: air pollutants affecting human health
- 5% Category D: nature pollution

### Category A: CO<sub>2</sub> – global warming

A car's CO<sub>2</sub>-emissions are rated here with a linear function. For CO<sub>2</sub>-emissions of 60 grams per kilometer 10 points are granted, while 180 grams of CO<sub>2</sub> per kilometer score 0 points. Vans that emit more than 180 grams get negative points in this category. The precise formula for calculating the category A Eco Points for cars with CO<sub>2</sub>-emissions of 60 g/km or more is:

$$\text{Eco Rating points} = (180 - x) * 0.0833 \quad , \quad x = \text{CO}_2\text{-emissions in g/km}$$

### Category B: noise emissions

The rating is based on a model's indications of the type test. The scale runs linearly between 10 points for 65 dB(A) and 0 points for 75 dB(A) and more.

### Categories C and D

These categories are all rated according to the same scheme. A car's score in these categories is defined by its emission class (Euro 5 or Euro 6), according to the following table:

Emission class	Points	
	C: air pollutants	D: nature pollution
Euro 5 gasoline	9.35	7.6
Euro 5 gasoline, with direct fuel injection	7.48	7.6
Euro 5 diesel	6.4	2.8
Euro 6 gasoline	9.35	7.6
Euro 6 gasoline, with direct fuel injection	7.48	7.6
Euro 6 diesel	8.4	6.8

Cars with natural gas are treated like gasoline cars, because both use an Otto engine

### Total Eco points

For a car's total score (Eco points) the scores of the single environmental effect categories are weighted, added up and multiplied by 10:

$$\text{Eco points} = 10 * (\text{score}(\text{cat.A}) * 0.6 + \text{score}(\text{cat.B}) * 0.2 + \text{score}(\text{cat.C}) * 0.15 + \text{score}(\text{cat.D}) * 0.05 )$$

The minimum score necessary for Topten can be found in Topten's Selection criteria ([www.topten.eu](http://www.topten.eu) > Cars > Selection criteria).