

Trends in vehicle weight and CO₂

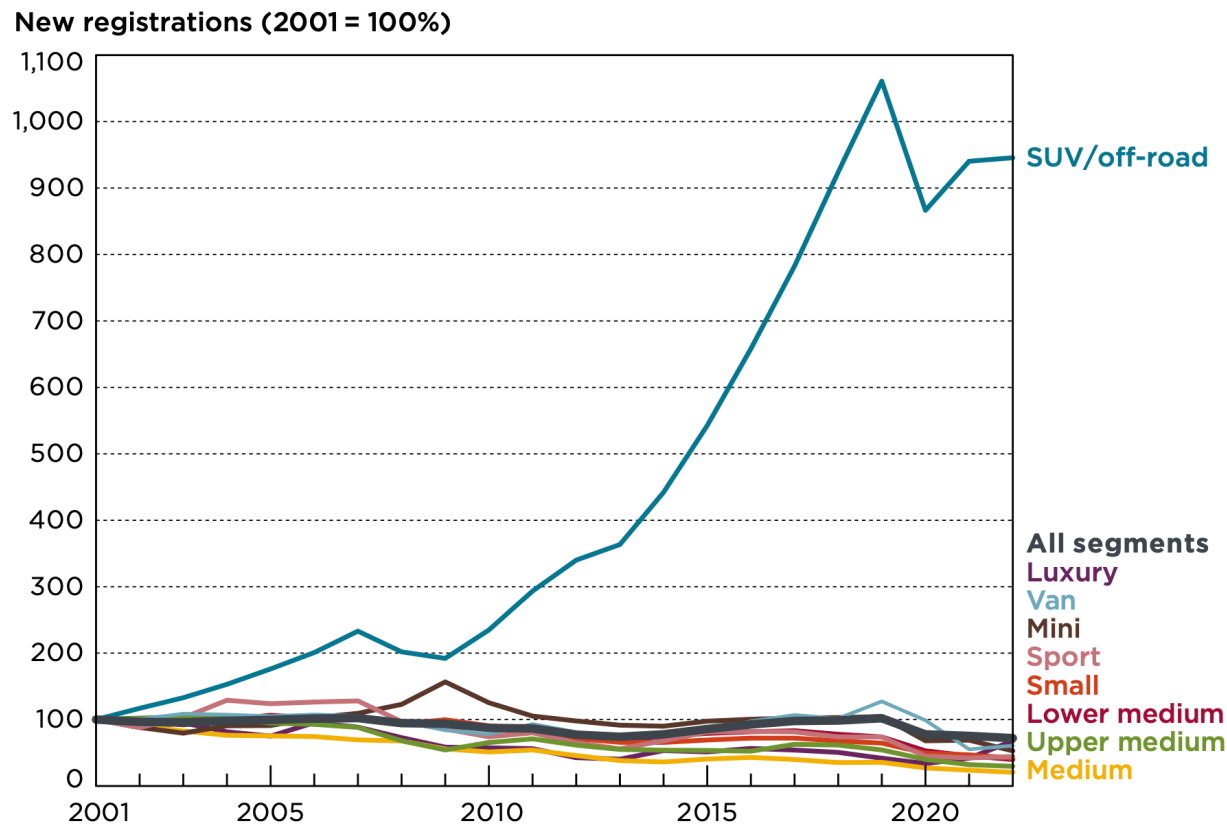
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Presentation the Joint Committee on Environment and Climate Action

Houses of the Oireachtais

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The market share of SUVs in Europe increased dramatically in previous years



Source: <https://theicct.org/series/eu-vehicle-market-statistical-pocketbook/>

Not all SUVs are overly heavy, but tend to have worse aerodynamic and hence higher CO₂ emissions



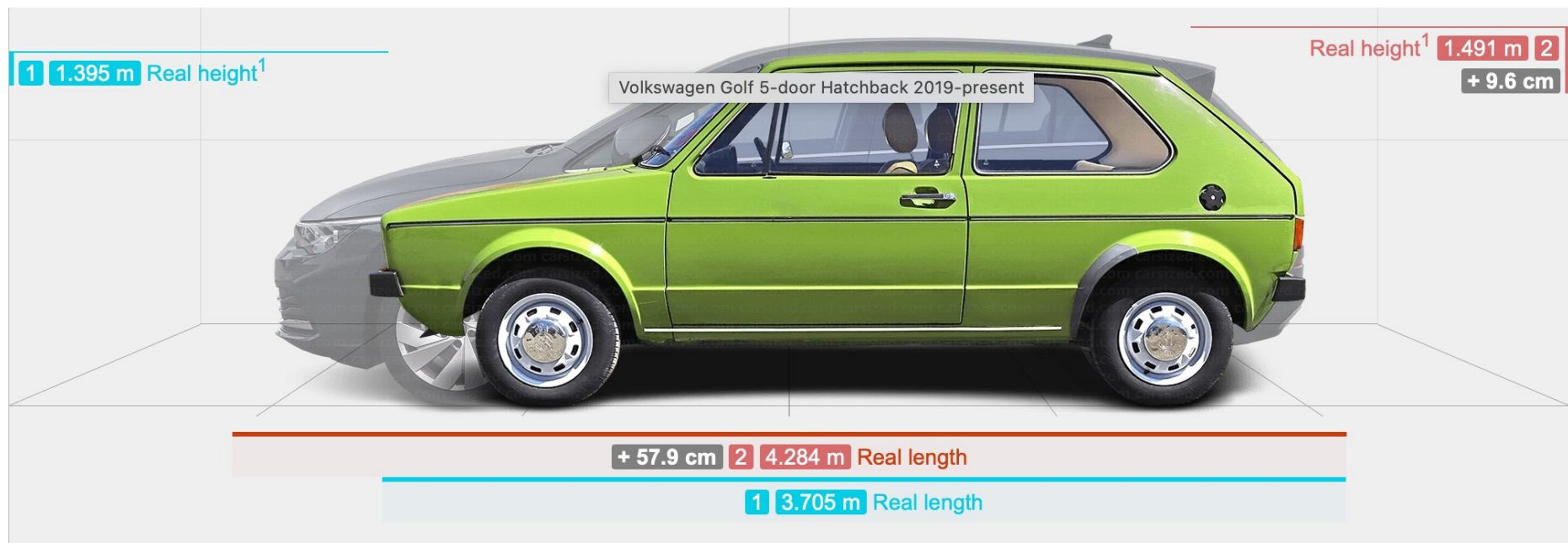
VW Golf 1.5 TSI	VW T-Roc 1.5 TSI
110 kW	110 kW
1,255 kg	1,257 kg
156 g CO ₂ / km	173 g CO ₂ / km

Source: <https://www.autozeitung.de/vw-golf-vw-t-roc-vergleichstest-200966.html>

The general increase in vehicle weight is a problem for CO₂, pedestrian safety, and road infrastructure

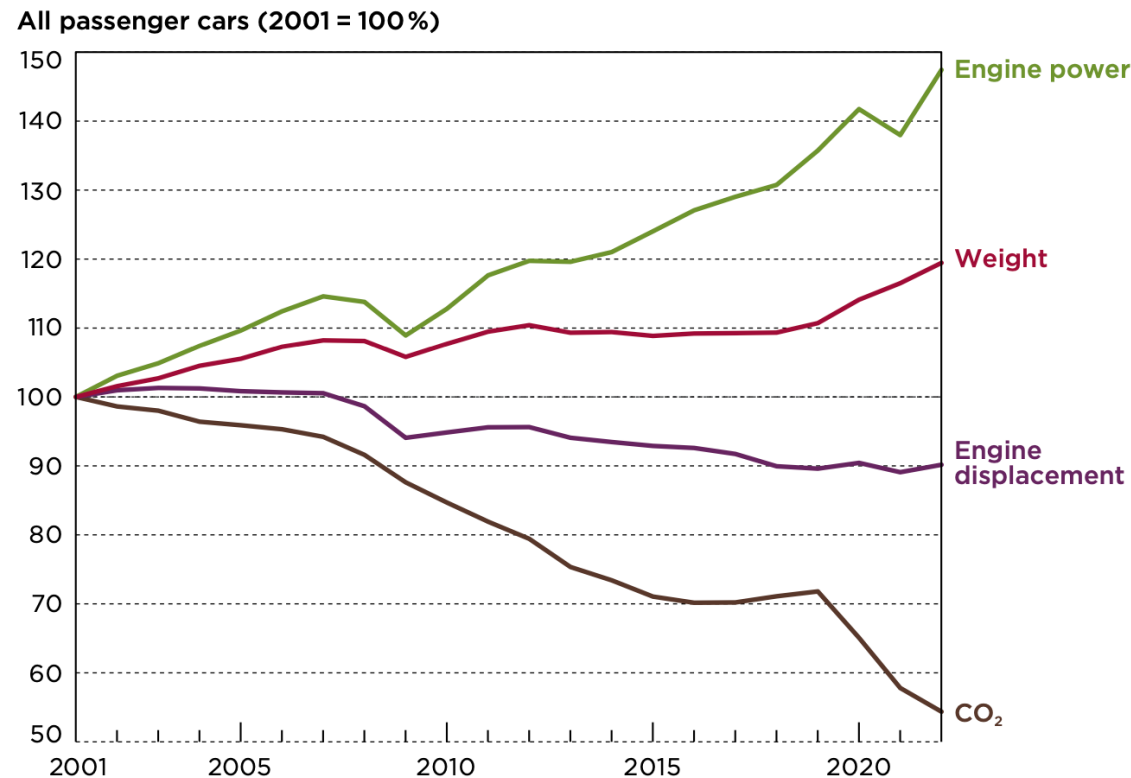
1974 VW Golf
750 kg

2023 VW Golf
1,270 kg



Source: <https://www.carsized.com/en/cars/compare/volkswagen-golf-1974-3-door-hatchback-vs-volkswagen-t-roc-2017-suv/>

CO₂ emissions could have been reduced more, if vehicle engine power and weight would have increased less



Source: <https://theicct.org/series/eu-vehicle-market-statistical-pocketbook/>

For electric cars, more weight means more energy consumption and more resources for battery production



BMW XM
110 kW
2,785 kg
88 km electric range (official)
1.6 l / 100km (official fuel consumption)
14.5 l / 100 km (real-world fuel consumption)

Source: <https://www.adac.de/rund-ums-fahrzeug/autokatalog/marken-modelle/bmw/bmw-xm/>

Integrating a weight-based element into national vehicle taxation provides a practical policy instrument

- In **Norway**, vehicle tax is based on vehicle mass
- In **France**, vehicle mass will become part of the 'bonus-malus' taxation system from 2024 onwards

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