

Session 4, 25. November

Green NCAP

**A Consumer's Decision – The Independent
Vehicle Sustainability Assessment
Programme**

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**17th International A3PS Conference Eco-Mobility
24-25 November 2022, Austria**

Who We Are – Our Motivation

Consumers need trustworthy support when choosing a vehicle

- Complex markets, growing amounts of information and an increasing choice of products
 - particularly true for the process of buying a **“green” vehicle**
- Vehicle’s sustainability and environmental impact are increasingly important considerations
- Limited information about the **true environmental performance**
- Many consumers are confused by the media



Who We Are – Our Objectives

The Green New Car Assessment Programme aims to inform consumers and other stakeholders

- Provide comprehensive, simple, objective rating information
 - Stimulate real green cars to enter the market
 - Reduce pollutant and greenhouse gas [GHG] emissions
 - Restoring consumer confidence in test information
- Spark competition among vehicle manufacturers
- Inspire the legislator and provide evidence for future legislation
- Transparency and making available detailed test result and analysis



Who We Are – Our Approach

Develop an assessment of a vehicle's environmental performance for passenger cars and light commercial vehicles

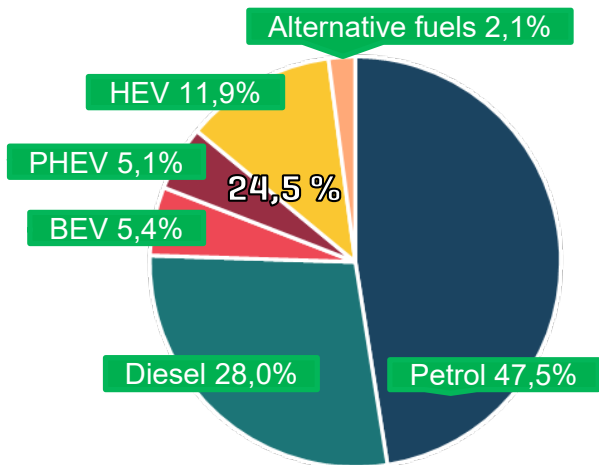
- Build a programme based on **advanced vehicle testing** under **demanding** conditions
- Develop an understandable vehicle **rating system** for evaluation of the test results
 - **Clean Air Index**: performance of a vehicle in significantly reducing pollutant emissions
 - **Energy Efficiency Index**: evaluates the amount of energy needed to propel the vehicle
 - **Greenhouse Gas Index**: assesses the amount of emitted climate-damaging gases



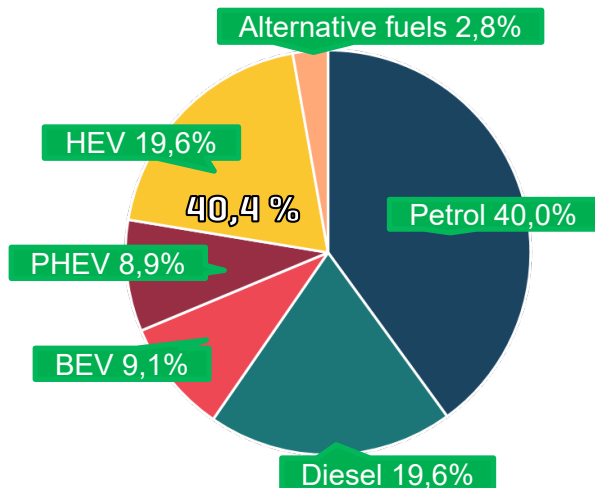
Vehicle Selection

New Car Market by Fuel Types

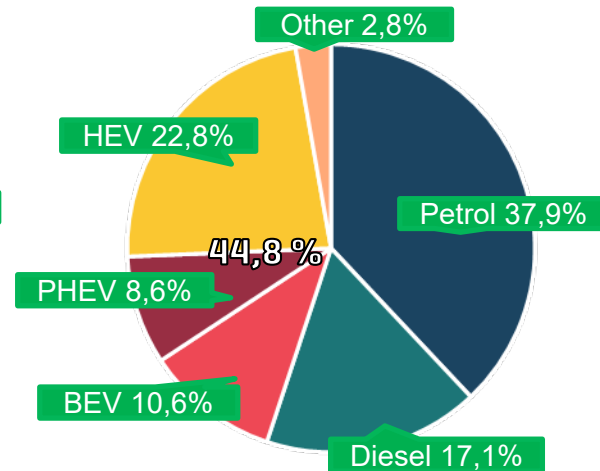
Total Market **2020**:
9.942.509 units



Total Market **2021**:
9.742.606 units



Total Market **Q1-Q3 2022**:
6.784.090 units

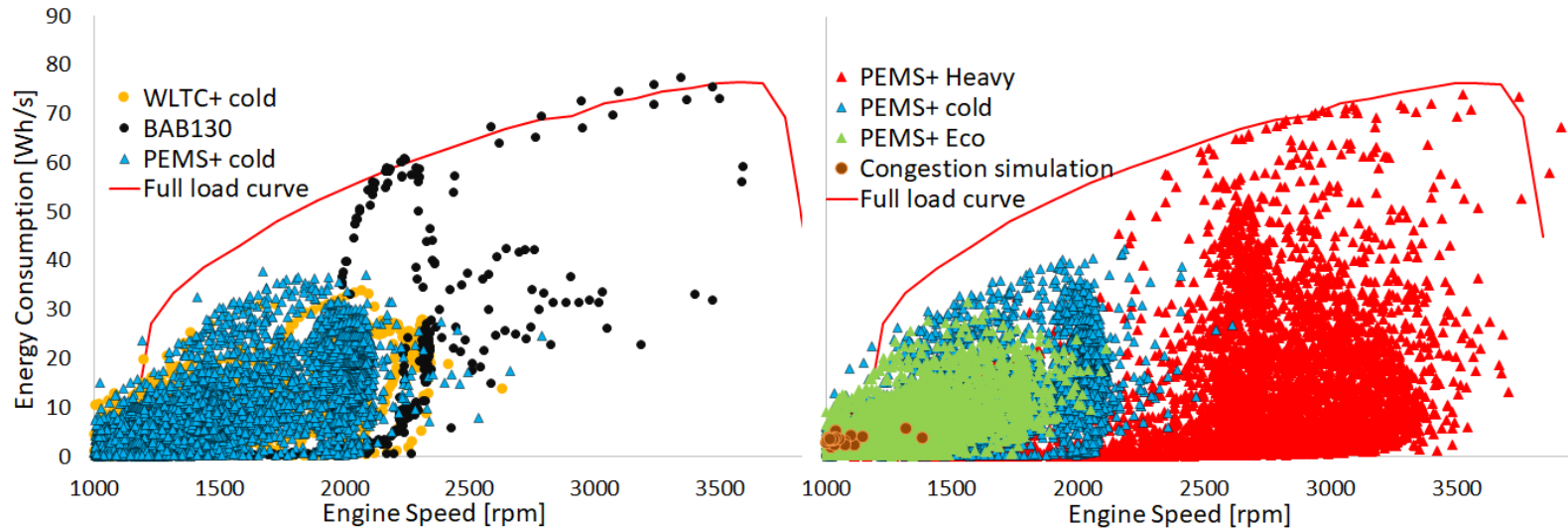


■ Petrol ■ Diesel ■ BEV ■ PHEV ■ HEV ■ Alternative fuels

Source: ACEA 2022

Test Methodology

The robustness of vehicle's performance is addressed by exploring the engine operating map by additional consumer relevant tests



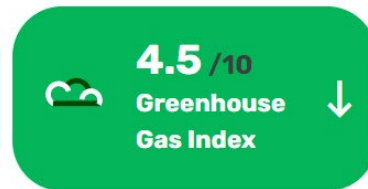
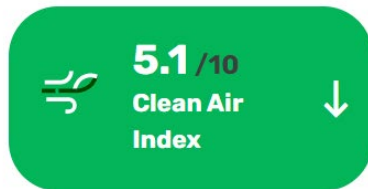
Rating System



2022

Road Traveller

2.0 petrol 4x4 auto



Health

1/3

Wallet

1/3

Planet

1/3

Check the latest ratings on www.greenncap.com

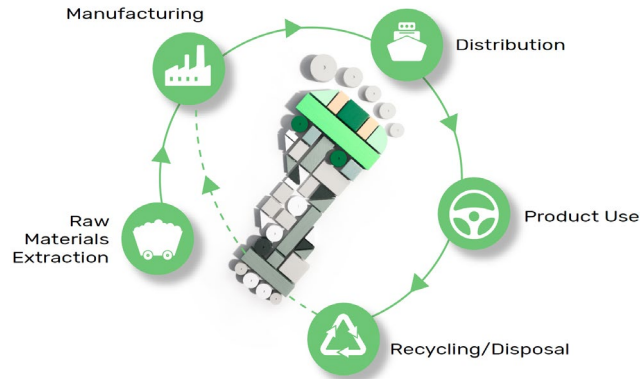
Life Cycle Assessment

“There is international consensus that the environmental effects of transportation systems can only be truly analysed and compared on the basis of Life Cycle Assessment (LCA) including the production, operation and the end-of-life treatment of the various facilities.”

JOANNEUM RESEARCH



LCA in Green NCAP - Overview



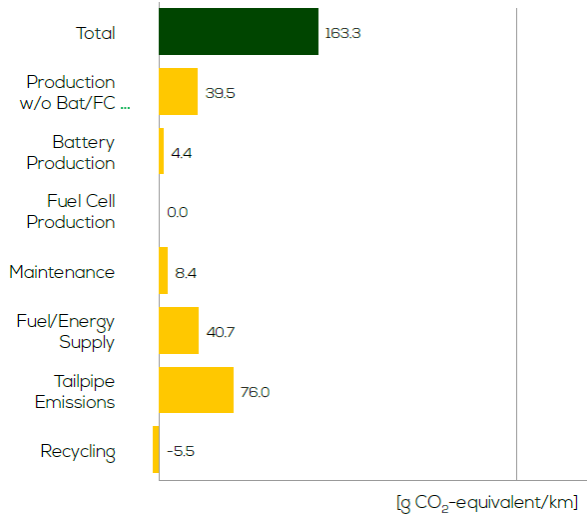
1. **FIA LCA expert tool 2.0** developed by “JOANNEUM RESEARCH”
 - “mother” of all derivative LCA tools and functions
 - deep analysis of different scenarios, freely selectable parameters
2. **Static Consumer Information Package** [published 21. April]
 - LCA analysis [avg. EU27+UK] of 61 previously tested vehicles [2019-2021]
3. **Interactive LCA Consumer Online Platform 1.0** [launch 1. December 2022]
 - online LCA platform, different countries, huge number of vehicles

LCA - Static Consumer Information Package

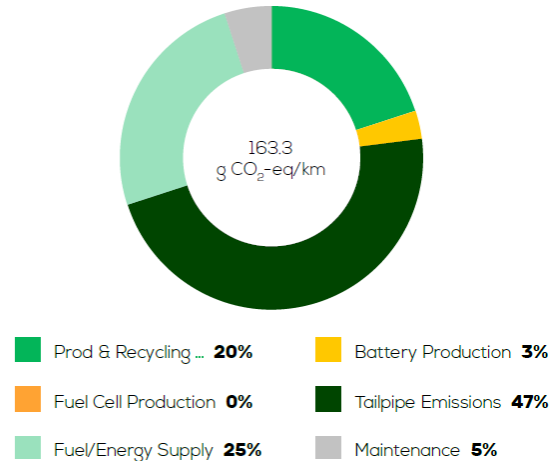


Greenhouse Gas (GHG) Emissions

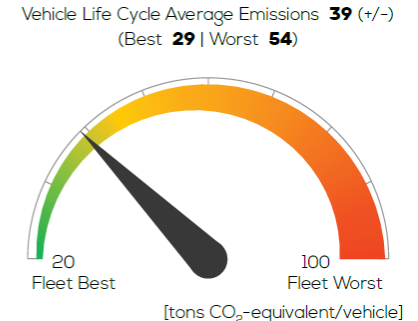
Estimated Average GHG Emissions



GHG Emission Contributions



Total GHG Emissions



“Static” because: EU average electricity, 240.000 km fix, 16 years fix

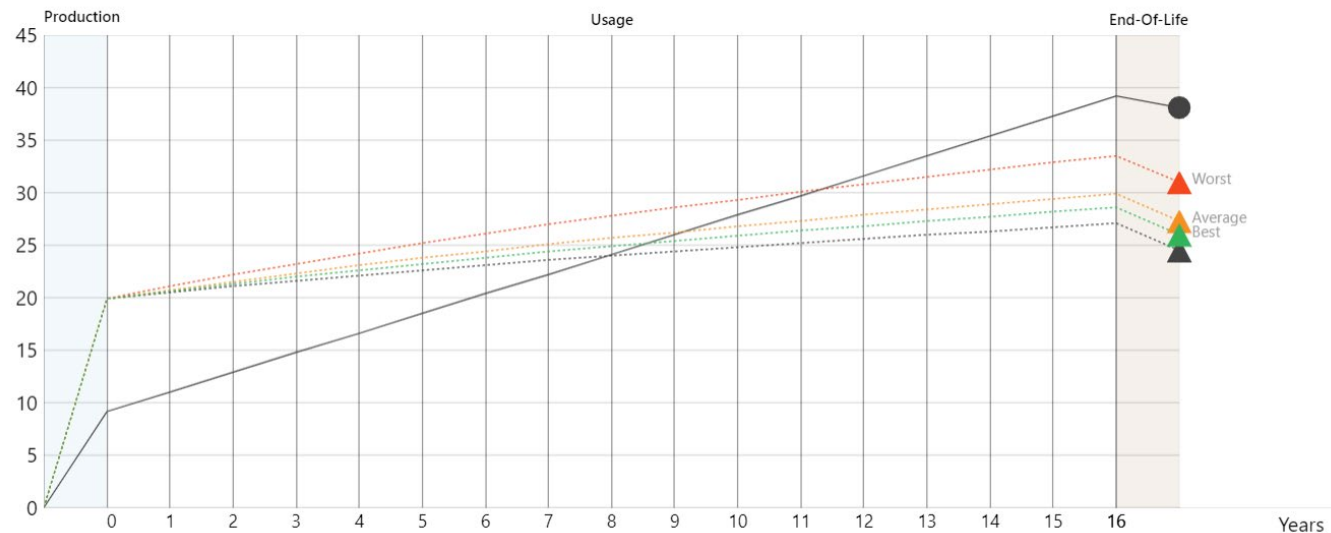
LCA - Consumer Online Platform 1.0



- Comparison of up to 3 vehicles in the same conditions [country and mileage]
- More than 30.000 vehicles available for selection. Green NCAP tested vehicles offer measured consumption values [best/average/worst].
- Types: ICE [E10, B7, CNG] / BEV/ PHEV / HEV / FC
- 27 EU members, UK, CH, EU average, EU renewable mix
- 5.000 - 50.000 km/a, max 240.000 km
- Greenhouse gas emissions [GHG in CO₂-eq.] and Primary Energy Demand [PED in MWh]
- Country Comparison [1 vehicle with 2 electricity mixes]

LCA - Consumer Online Platform 1.0

In Tonnes CO₂-Equivalent ⓘ



Total: 160,000 km | 16 years | Austria

● Skoda Karoq 1.6 TDI SCR
Ambition DSG Diesel Automated Manual Transmission (duplex clutch)

▲ Ford Mustang Mach-E Extended Range
AWD Electricity (kWh) Reduction Transmission

● — WLTP consumption data provided by Skoda

▲ — WLTP consumption data provided by Ford

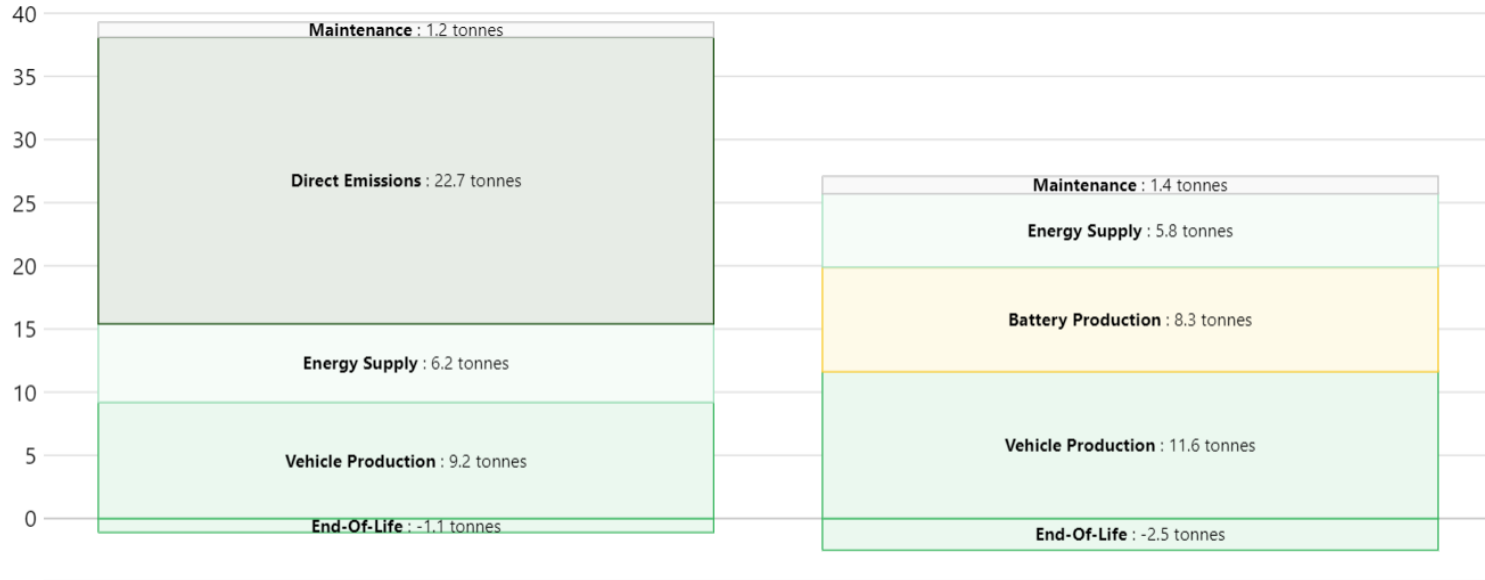
▲ — Green NCAP lab test worst case

▲ — Green NCAP lab test average case

▲ — Green NCAP lab test best case

LCA - Consumer Online Platform 1.0

In Tonnes CO₂-Equivalent



Skoda Karoq 1.6 TDI SCR
Total: 38.1 tonnes

Ford Mustang Mach-E Extended Range
Total: 24.6 tonnes

Total: 160,000 km | 16 years | Austria

LCA in Green NCAP's rating scope

Rating System



2022

Road Traveller

2.0 petrol 4x4 auto

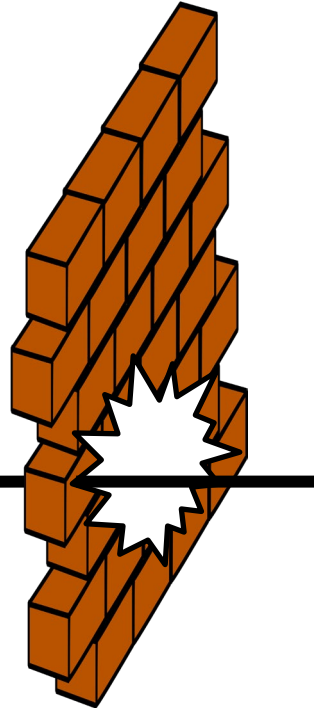


New 2022: GHG index based on WtW+

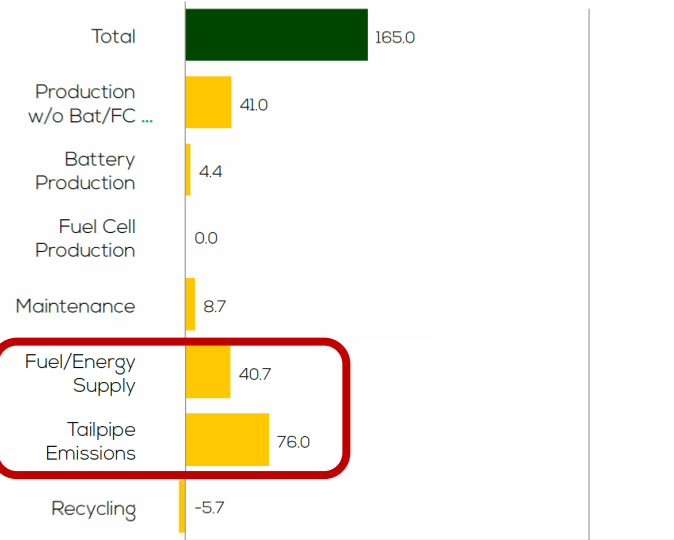
LCA Information

Greenhouse gases

Primary Energy Demand



Estimated Average GHG Emissions



[g CO₂-equivalent/km]

Summary



- Green NCAP aims to inform consumers and other stakeholders about the real environmental performance of vehicles using an easy-to-understand rating system
- JOANNEUM RESEARCH's Life Cycle Assessment methodology and data are combined with Green NCAP's measurements to deliver realistic, state-of-the-art LCA estimations
- A Life Cycle Assessment Information Package and a Consumer Interactive Tool are developed to assess the greenhouse gas emissions and the primary energy demand
- By implementing the Well-to-Wheel+ analysis into the greenhouse gas scoring pillar, Green NCAP provides a fairer comparison between the different propulsion types

Thank You!



Bundesministerium
für Verkehr und
digitale Infrastruktur



Department
for Transport



Generalitat de Catalunya
Government of Catalonia



TNO innovation
for life



bast

Applus⁺
IDIADA



UTAC CERAM

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