

Introduction to Green NCAP

A New Consumer Programme For
Greener Cars

Partnership



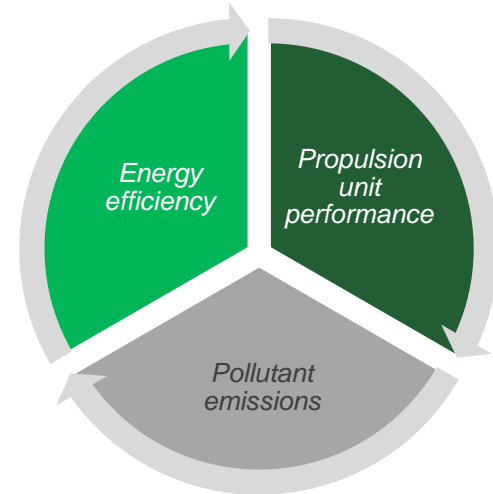
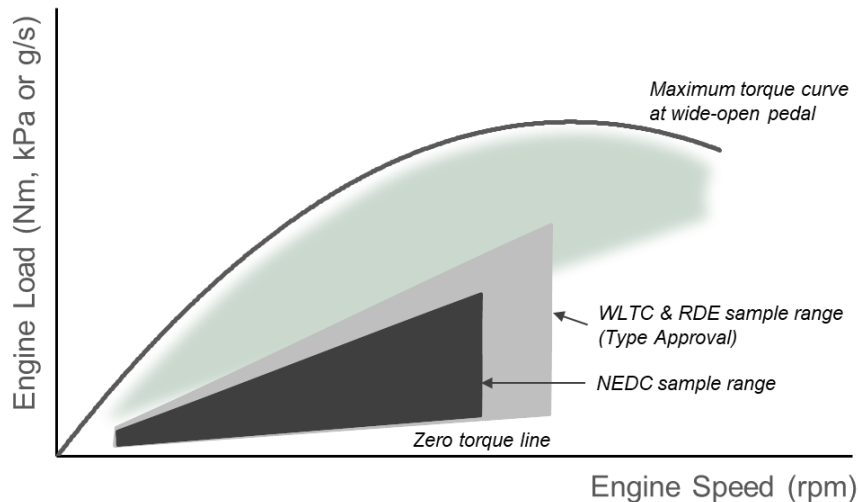
Aims

- Provide comprehensive, simple rating information to consumers, and detailed technical information to experts
 - Stimulate real green cars to enter the market
 - Reduce pollutant and noise exposure damaging to human health
 - Restoring consumer confidence by reducing the gap between claimed and real-world consumption
- Spark competition among vehicle manufacturers
 - Transparency and making available detailed test result and analysis



Main Assessment Principle

- The vehicle's propulsion unit shall be clean and energy efficient in every feasible engine **speed and engine load** operation point on and under the maximum torque curve



Test Matrix Overview



Laboratory*

Approval test cycles under average ambient conditions (@ 14°C)

→ WLTC+ cold engine (2x)

Robustness*

(Laboratory & Real-World)

Custom-tailored tests with variations of vehicle settings, low and high engine load

- WLTC warm engine (reg.)
- WLTC warm (eco mode)
- WLTC warm (sport mode)
- BAB130 motorway
- PEMS+ warm Eco
- PEMS+ warm Heavy load

PEMS*

(Real-World)

Custom-tailored approval driving tests under real-world ambient conditions

→ PEMS+ cold engine (reg.)

Engine Load

(Max Curve Mapping)

Custom-tailored sweep test to visualise maximum engine load operation sampling

→ Sweep test to log maximum engine load versus engine speed (fully depressed accelerator pedal)

*Pollutants, GHG Emissions, Fuel/Energy Consumption, in future real-world Driving Range will be added.

Note: Independent, direct access to vehicle data via ODB interface or remotely via telematics unit is required



Clean Air Index

6.2/10



X-Road Traveller

2.0 petrol, 4x4 auto



Energy Efficiency
Index

3.4/10

Example vehicle - Not rated

Datasheet Explained

3.1
/10



Clean Air Tests



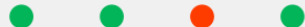
Laboratory test

HC CO NO_x PN

0/9 Cold Test*



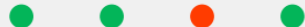
1.7/3 Warm Test*



1.7/3 Eco Mode*



1.7/3 Sport Mode*



0/9 Highway*



Road test

5.5/7 On-Road Drive*



Robustness

6.7
/10



Energy Efficiency Tests



Laboratory test

Energy

8.5/10 Cold Test*



2.6/3 Warm Test*



2.6/3 Eco Mode*



2.6/3 Sport Mode*



6.2/10 Highway*



Consumption

Fuel

Average consumption

5 l/100km

Worst-case consumption

6 l/100km

Published ratings in 2019



July 2019

★★★★★
2019
Nissan LEAF
40 kWh N-CONNECTA 4x2 electric automatic



10.0  /10
Clean Air Index

8.5  /10
Energy Efficiency Index

★★★★★
2019
Opel/Vauxhall Corsa
1.0 i 4x2 petrol manual



9.0  /10
Clean Air Index

6.0  /10
Energy Efficiency Index

★★★★★
2019
Mercedes-Benz C-Class
C220d 4Matic 4x4 diesel automatic



10.0  /10
Clean Air Index

5.3  /10
Energy Efficiency Index

★★★★★
2019
Audi A4 Avant g-tron
4x2 Euro 6b CNG automatic



8.7  /10
Clean Air Index

4.7  /10
Energy Efficiency Index


★★★★★
2019
Renault Scenic
Blue dCi 150 4x2 diesel manual




8.6  /10
Clean Air Index

5.9  /10
Energy Efficiency Index


October 2019



SEAT
★★★★★
SEAT Arona
1.5 TSI 4x2 PETROL MANUAL




SKODA
★★★★★
Škoda Octavia
2.0 TDI DSG 4x2 DIESEL AUTOMATIC



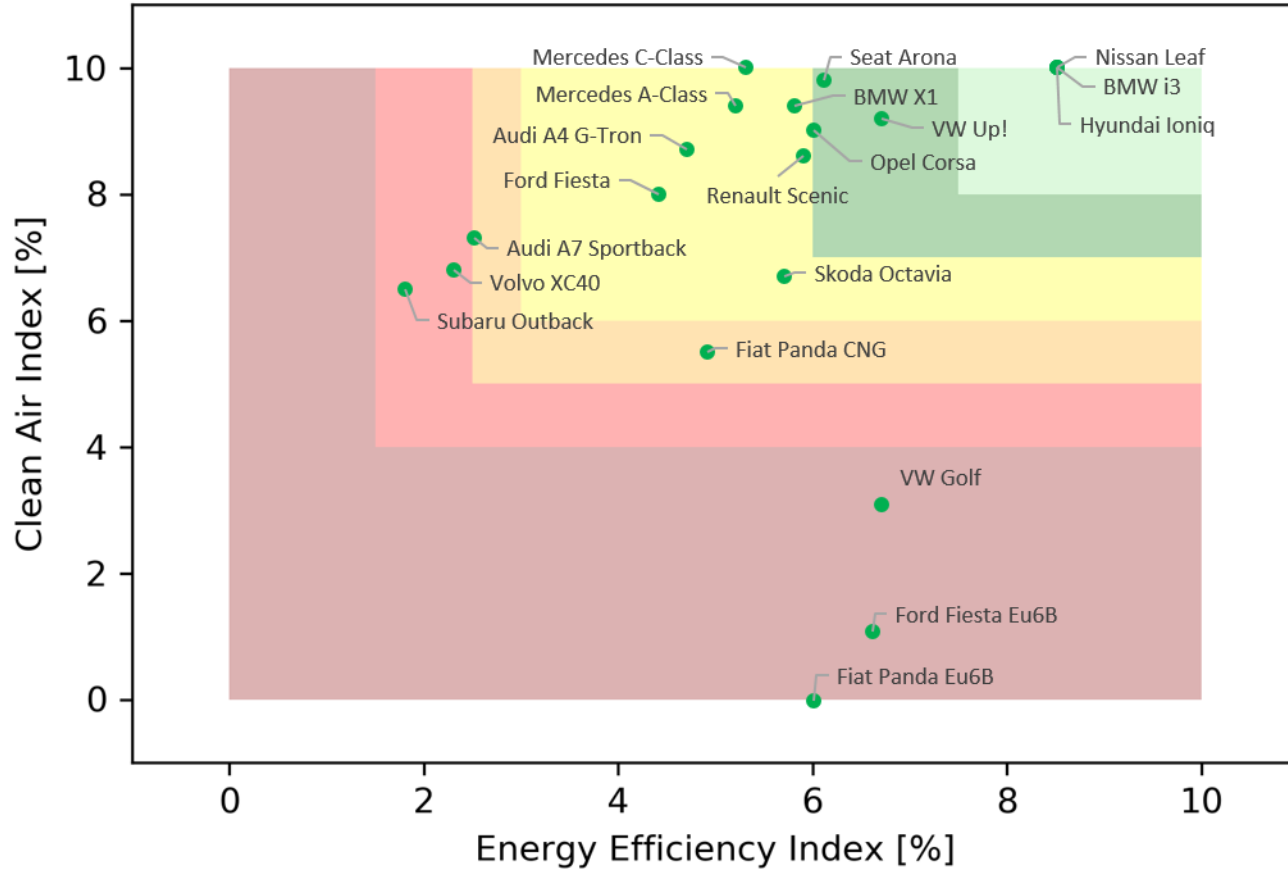
FIAT
★★★★★
FIAT Panda
0.9 TWINAIR 4x2 CNG-PETROL MANUAL

February 2019

| | | | |
|--|---|---|--|
|  Ford Fiesta 1L GDI EcoBoost (Euro6b) |  Ford Fiesta 1L GDI EcoBoost (Euro6d Temp) |  Volvo XC40 T5 AWD (Euro6d Temp) |  Mercedes A200 120 kW (Euro6d Temp) |
|  Fiat Panda 0.9L Twinair (Euro6b) |  VW UPI GTI (Euro6d Temp) |  Subaru Outback 2.5i (Euro6d Temp) |  Hyundai Ioniq PEV (Euro6b) |
|  VW Golf 1.6L TDI (Euro6b) |  Audi A7 TDI Sportsback (Euro6d Temp) |  BMW X1 18d (Euro6d Temp) |  BMW i3 18d PEV (Euro6b) |

Battery Electric P Petrol D Diesel

Rating Overview 2019 releases



Next Steps

- Test & rating system procedure updates (2019/2020), among others
 - Rolling resistance, PEMS+ for improved Energy Efficiency Index
 - Extension to HEVs
 - Introduction dedicated GHG third pillar based on CO₂, N₂O and CH₄ emissions, first step towards Well-to Wheel assessment
- New results to be published in 2020
 - EC Sponsored GVI project to add 49 results in 2020





For more information, please visit our website at www.greenncap.com