# green ncap

# MAZDA MX-30

## R-EV PLUG-IN HYBRID FWD AUTOMATIC

**2024** | ★★★☆☆ | **64%**

**7.8** /10
**Clean Air Index**

**5.9** /10
**Energy Efficiency Index**

**5.6** /10
**Greenhouse Gas Index**

# 7.8 /10 Clean Air Tests

| | Laboratory Test | NMHC | NO$_x$ | NH$_3$ | CO | PN |
|---|---|---|---|---|---|---|
| 8.0/10 | Cold Test | 🟠 | 🟢 | 🟡 | 🟠 | 🟢 |
| 8.3/10 | Warm Test | 🟢 | 🟢 | 🟡 | 🟠 | 🟡 |
| 6.5/10 | Highway | 🟢 | 🟡 | 🟡 | 🟤 | 🟠 |
| 0.0/10 | Cold Ambient Test | 🔴 | 🟡 | 🟠 | 🔴 | 🟤 |

| | Road Test | | | | | |
|---|---|---|---|---|---|---|
| 8.5/10 | On-Road Drive | ⚪ | 🟢 | ⚪ | 🟡 | 🟡 |
| 4.4/5 | On-Road Short Trip | ⚪ | 🟢 | ⚪ | 🟡 | 🟢 |
| 6.9/8 | On-Road Heavy Load | ⚪ | 🟢 | ⚪ | 🟡 | 🟡 |
| 5.0/5 | On-Road Light Load | ⚪ | 🟢 | ⚪ | 🟢 | 🟢 |
| 1.0/2 | Congestion | ⚪ | 🟠 | ⚪ | ⚪ | ⚪ |

| ⚪ n.a. | 🟢 good | 🟡 adequate | 🟠 marginal | 🟤 weak | 🔴 poor |
|---|---|---|---|---|---|

## Comments

The MX-30 R-EV impressed with very good and robust particle emissions control and scored well for that pollutant even in the Cold Ambient Test at -7°C.  The output of both hydrocarbons and carbon monoxide, however, seems to be very challenging in cold start conditions and went over the gross exceedance threshold in the -7°C test, resulting in no score for that test.  Nevertheless, owing to its ability to drive high distances in electric mode, the MX-30 R-EV still obtains a creditable total score in this part of the assessment.

# 5.9 /10 ⚡ Energy Efficiency Tests

| | Laboratory Test | Energy |
|---|---|---|
| **6.6**/10 | **Cold Test** | 🟡 |
| **3.7**/10 | **Warm Test** | 🟠 |
| **0.0**/10 | **Highway** | 🔴 |
| **0.0**/10 | **Cold Ambient Test** | 🔴 |

| | Consumption | | | Driving Range | | |
|---|---|---|---|---|---|---|
| | **petrol** | **electric** | | **petrol** | **electric** | |
| **Average** | **4.5** l | **10.2** kWh | /100 km | **586** | **80** | km |
| **Worst-case** | **13.5** l | **0.0** kWh | /100 km | **371** | **0** | km |

Consumption in WLTC+ Battery Depleting Cycle: 1.5 l/100 km fuel + 17 kWh/100 km electricity

| n.a. | good | adequate | marginal | weak | poor |
|---|---|---|---|---|---|
| ⚪ | 🟢 | 🟡 | 🟠 | 🟤 | 🔴 |
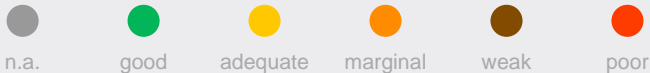
## Comments

In combustion engine mode with an empty battery, the MX-30 R-EV doesn't shine with fuel efficiency. A figure of 7.5 l/100 km in the standard Cold lab test is meagre and the thirst can even reach 12.2 in the Highway Test and 13.5 l/100 km in the -7°C Test.  An On-Road Drive with 10 l/100 km is a weak result.  But the car is meant to be operated primarily in electric mode, with a charged battery, and this is where it delivers EV-like consumption values.  The high electric driving range more than compensates for the combustion mode inefficiencies and helps it reach a high score of 5.9/10.

# 5.6/10 ☁ Greenhouse Gases Tests

| Greenhouse gases | $CO_2$ | $N_2O$ | $CH_4$ |
|---|---|---|---|
| **5.9**/10 Cold Test | 🟠 | 🟢 | 🟢 |
| **1.9**/10 Warm Test | 🟤 | 🟢 | 🟢 |
| **0.0**/10 Highway | 🔴 | 🟢 | 🟢 |
| **0.0**/10 Cold Ambient Test | 🔴 | 🟢 | 🟢 |

| 🔘 n.a. | 🟢 good | 🟡 adequate | 🟠 marginal | 🟤 weak | 🔴 poor |
|---|---|---|---|---|---|

## Comments

In combustion mode, the MX-30 R-EV collects all the foreseen bonus points for good methane and laughing gas control.  Due to the high fuel consumption, however, the car can't score well when operated with empty battery and it barely gets scores of 1.8 and 1.9 in the standard lab tests. However, the good score in EV mode operation, combined with the high electric driving range again help the Mazda receive a good result, and underline once again that this vehicle should be driven in electric mode, and that the combustion engine should be used only as a backup.

# Our Verdict

Tested here is the Mazda MX-30 e-SKYACTIV R-EV – a highly interesting vehicle, classified as a Plug-In Hybrid, but with a powertrain that is designed differently to most of today's PHEVs. The car uses a "series" architecture, where its electric motor is always directly driving the wheels, and can operate as a pure electric vehicle as long as there is electricity available in the battery. Due to its relatively big capacity of 17.8 kWh, the MX-30 R-EV can go in electric mode for long distances – Green NCAP measured up to 81 km pure electric range. Eventually, when the battery is empty, the combustion machine – a rotary generator, is activated as a range extender and starts delivering the necessary driving power to the electric motor. Green NCAP's results show that the combustion mode operation is not favourable – emissions and consumption are high, so the owners better charge the battery again at earliest convenience. But this Mazda is designed rather as an electric vehicle with all the benefits of a small battery (compared to pure EVs). It can cover most everyday trips as an electric car and offers the comfort and confidence of going further in petrol mode, should the trip be longer than expected.

Green NCAP's PHEV test score is a combination of weighted results in electric and combustion mode, with the discriminator being the equivalent all electric range (EAER) as measured by the programme (Green NCAP's test deviates from the type approval test due to testing with active air-conditioning). Thanks to a value of 74.9 km, the electric mode contributes by 60% to the total score and compensates the combustion mode weaknesses, which only accounts for 40% of the score. The tested Mazda is a special vehicle, which targets exactly the audience who wish to drive an electric car and can charge it in most cases, but need the confidence the combustion engine provides when there is no charging opportunity nearby. With a creditable weighted Average Score of 64%, the MX30 e-SKYACTIVE R-EV collects 3½ Green stars.

# Disclaimer ⬈

# Specification

### Tested Car
JMZDR6WJJ0021xxxx

| Publication Date | Vehicle Class | Tyres | Emissions Class |
|---|---|---|---|
| 12 2024 | Small Family Car | 215/55R18 95H | Euro 6d AP |

| Mass | Engine Size | System Power/Torque | Declared $CO_2$ |
|---|---|---|---|
| 1,806 kg | 1660 (830x2*) *: rotary factor | 125 kW/260 Nm | 21 g/km |

| Declared Battery Capacity | Declared Driving Range | Declared Consumption |
|---|---|---|
| n.a. | Overall Electric (WLTP) 85 km<br>City 110 km | 1 l/100 km<br>17.5 kWh/100 km |

### Heating Concept
PTC & Heat pump

**green ncap ◗◗**

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