

PRESS RELEASE

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RENAULT Z.E. CONCEPT, AN ALL-ELECTRIC CONCEPT CAR WHICH PROVIDES A GLIMPSE OF MOBILITY IN THE FUTURE

In parallel to its new TCe and dCi engine ranges, Renault is furthering its strategy aimed at curbing CO₂ emissions with the development of electric vehicles. Since the beginning of 2008, the Renault-Nissan Alliance has signed agreements with several states and regions (Israel, Denmark, Portugal, Japan's Kanagawa prefecture, the state of Tennessee in the USA), which will lead to the mass marketing of this form of vehicle from 2011.

Z.E. Concept ('Z.E.': Zero Emission) is Renault's vision of the electric vehicle as an efficient, userfriendly zero-emission car. Based on the brand new Renault Kangoo be bop, Z.E. Concept features a design which has been adapted to the spirit of an electric vehicle, with the focus on minimizing energy consumption while at the same time providing core comfort features.

The energy consumption of auxiliary functions such as lighting, heating, climate control, etc. is a key factor when it comes to an electric vehicle's range, so special attention has been paid to optimize energy management. Z.E. Concept also incorporates several interactive information features which are easy to use.

Z.E. Concept is powered by a 70kW electric motor with torque of 226Nm, with lithium-ion batteries.

Energy saving management at the heart of Z.E. Concept's design

Z.E. Concept is based on Kangoo be bop and its compact dimensions (length: 3.95m, height: 1.85m) favour manoeuvrability in and about town. This electric vehicle was designed to minimize energy consumption, without forgetting modern comfort-related refinements.

The employment of **heat-reflective paint** and **insulating bodywork** featuring large surface areas contributes to the reduction of temperature fluctuations which traditionally prompt the use of climate control or heating systems which are big consumers of energy. Insulation is further optimized by the use of **acid green-tinted glass for the glazed areas**.

The bodywork functions along the same lines as a Thermos flask. It comprises two insulating panels with a sandwich of air.

This air, which is still the most effective insulant known today, limits variations in temperature between the exterior and the interior of the car.

Solar panels, positioned on the roof, power a temperature regulation system. Cooling the inside of a vehicle uses a great deal of energy, but this system permits a pleasant temperature to be maintained in the cabin, even at standstill or when parking, and avoids having to switch on the climate control when starting the vehicle.

Meanwhile, the layout of the heating and climate control functions has been thought through to produce a particularly efficient trade-off between performance and energy consumption. For example, the impression of heat is especially felt on the face and hands. Accordingly, if the cabin temperature is 15°C but warmth can be channelled as close as possible to key zones (a heated steeringwheel, for example), the driver will feel comfortable while using less electrical energy.

The conventional drag-producing exterior mirrors have been replaced by streamlined, low-energy cameras which are also powered by the roof-mounted solar panels to enhance all-round visibility, especially when manoeuvring. The low-drag full-disc aluminium alloy wheels also improve aerodynamic performance.

The headlamps use efficient, high-performance light-emitting diodes (LEDs) which are not only long lasting but also low consumers of energy.

Optimizing energy management is consequently a key aspect of the research that has gone into the technology employed for this concept car.

An interactive, user-friendly vehicle

The Z.E. Concept concept car offers motorists and passengers a pleasant, relaxing ride and this sensation is enhanced by a number of interactive communication features. For example, logos light up to signal that the vehicle recognizes its occupants as they approach.

Z.E. Concept illustrates Renault's vision of mobility in the future. As a socially responsible vehicle, it is equipped with polyurethane gel bumpers, for example. These deform easily to soak up minor knocks, while pedestrians are reassured by their absorbent aspect.

A linear display on the outside of the door provides a visual indication of how much range remains even before the driver gets into the vehicle. This display is redolent of a cell phone charge-indicator. As a vehicle of the future, Z.E. Concept is seen as a simple link in the overall mobility chain. To facilitate getting around in areas where space is a premium, an electric scooter is packed into the boot and is charged via the car's own system. To make loading easier, the rear hatch-type tailgate combines with a wide, folding sill which enables this scooter – or any other item – to be slid into the boot.

Z.E. Concept contains very few fluids that need recycling at the end of its lifecycle.

The smart navigation interfaces feature an innovative approach to alleviating the vehicle's energy requirements. Indeed, electricity can be saved by making journeys easier. The MMIs (Man Machine Interfaces) are able to pinpoint the nearest car parks equipped with charging stations as a function of the remaining range, making Z.E. Concept a car which not only warns and calculates, but which also thinks ahead...

Information is relayed from the vehicle to the driver and vice-versa via a cell phone which connects directly to the dashboard.

Using a cell phone-based navigation system avoids the necessity for an energy-consuming onboard computer. The dashboard itself takes the form of two distinct functional units:

a new-format minimalist display which provides specific data relating to the electric motor,

- a remotely-positioned control between the seats incorporating a touchpad to facilitate the keying in of data.

All-electric power, zero emissions

Z.E. Concept is equipped with a 70kW electric motor which delivers torque of 226Nm, making it particularly flexible, responsive and comfortable to use. Batteries are lithium-ion type.

Z.E. Concept provides a foretaste of the Renault electric vehicle which will be easy to use, practical and efficient.

Dimensions

Length (mm)	3,945
Width (mm)	1,856
Height (mm)	1,748
Height with tailgate open (mm)	1,902
Wheelbase (mm)	2,406
Front track (mm)	1,572
Rear track (mm)	1,572
Front overhang (mm)	794
Rear overhang (mm)	745
Unlade weight (kg)	1,520

Technical data

Power source	Electric motor	
Power output	Peak output: 70kW (95hp). Continuous output: 50kW	
Maximum torque	226Nm	
Battery type	Lithium-ion	
Transmission	Direct with front/rear reducer and inverter	
Traction	Electric	
Tyres	245/35R21	
Wheels	Diameter: 21"/Width: 8.5"	

Partners

D 3	Bodywork
Michelin	Pilot Sport PS2 tyres
Samsung	Samsung F480 cell phone
	for communication with the
	vehicle