



New Prius Recycling

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Long before the first new Prius reached the showroom, Toyota had plans in place to ensure that when the car reaches the end of its useful life it can be disposed of in an environmentally responsible fashion.

When its driving duties are done, more than 85 per cent of new Prius's can be recycled and more than 95 per cent of its materials can be recovered in a process that only accounts for a tiny proportion (approximately two per cent) of its full lifecycle CO2 emissions.

Special attention has been paid to the efficient recycling of new Prius's high voltage nickel-metalhydride battery with a new process that allows 95 per cent of the battery components to be recovered for re-use with near-zero emissions.

At the vehicle's end-of-life, the battery is removed at an authorised Prius service centre. Toyota has appointed authorised waste management companies in each country where the car is sold, which are responsible for transporting the batteries to one of three European Final Treatment Companies (FTCs): SNAP, Accurec and Umicore.

The recovery process begins with the removal of the battery's outer casing, which itself can be re-used in steel making processes. All the wires and electronic parts are sent to a specialist recovery company, while the power cells themselves are recycled using an induction-based vacuum thermal system.

This is an evolution of the traditional waste heat treatment process, but it consumes less energy, is almost emissions-free and is highly secure. The cells are put into a sealed container from which all air is removed, significantly reducing internal pressure. The container is then heated to 800°C. When the temperature reaches 400°C all organic materials break down into a mixture of oil and water, which is sent on to a licensed water treatment company for processing. The power cells are then exposed to hydrogen, which helps break the oxides down into metals.

What is left after the process is a highly concentrated nickel alloy which can be re-used as a raw material in the production of new batteries. All the other metallic elements recovered can be used in the manufacture of stainless or other specialist steels.

New Prius is on sale from 1 August, priced from £18,370 on the road.

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