GLOBAL EYE NEWS

A fresh look at the world

The Z-Hydro is a reworking of the Nissan 370Z R34 car but with major alterations to the body, engine, interiors, braking system and trim

Images courtesy of Marangoni Tyre

Driving hydro power forward

Z-Hydro uses energy from water to reduce emissions and fuel consumption

A new demo car from Italian tyre manufacturer Marangoni Tyre is pushing the boundaries of technological advancement and ecology with the Nissan Z-Hydro, a vehicle with a clever hydro system.

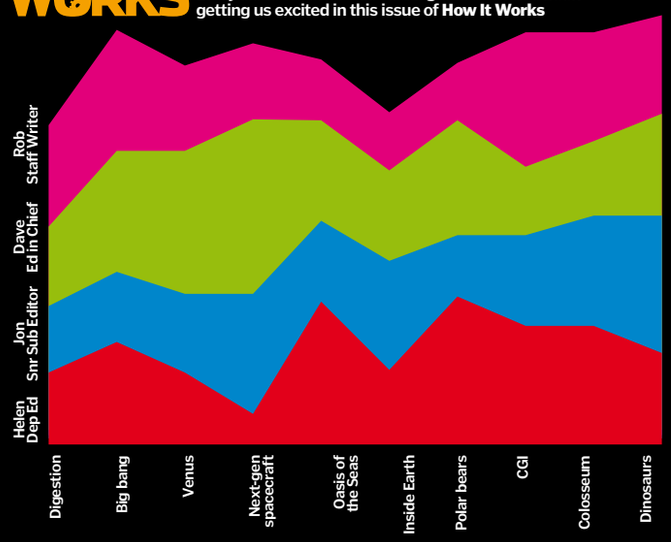
This tuning project, handled by Florence-based TRC Italia, features the body of Nissan's 370Z R34. However, under the hood of the Z-Hydro is an engine that boasts a highly innovative water system that produces a gas called oxyhydrogen. In harmony with the Nissan car's original engine, this oxyhydrogen works to minimise emissions and cut unburned hydrocarbons to almost zero. Unburned hydrocarbons are the hydrocarbons (or basic organic compounds containing only hydrogen and carbon) that are emitted when petrol is burned in an engine.

The oxyhydrogen gas is produced in water tanks above the central crossbar of the front bumper by a process of electrolysis, which uses electrical current to break the water molecules down into their component parts – oxygen and hydrogen. The gas is then injected into the engine's intake where it is combined with the regular fuel, reducing emissions.

The process, which is completely independent and can be deactivated via a switch on the dashboard, consumes about 500ml of water every 500km and can be refilled in the same way as you would the engine oil. Converting a car to run on oxyhydrogen partially replaces fuel, increasing the car's mileage by 40 per cent, thereby significantly reducing petrol bills.

HOW IT WORKS EXCITE-O-METER!

Every issue we offer this visual guide to what's been getting us excited in this issue of **How It Works**



It's been a very cold issue for **How It Works** this month. The heating broke down in our office on the coldest day of the year, prompting us to consider a 'how do boilers work' feature as we sat with our hot water bottles and endless cups of tea to keep warm. And yet the cold did nothing to diminish Dave's perpetual excitement. This month we discovered that everyone's mad about dinosaurs except Helen – must be a girl thing. Plus we were surprised to see that the human digestive system got the least excited response from the team. It must be our delicate disposition.

This day in history

28 January: How It Works issue four goes on sale but what else happened on this day in history?

1547 Obese serial divorcer Henry VIII dies, leaving his son Edward VI to take over as king.

1813 The novel that always seems to be getting a remake, Jane Austen's *Pride And Prejudice* is published.

1855 The first locomotive to travel from the Atlantic to the Pacific via the Panama Canal Railway crosses Central America.

1884 If you remember last issue's Mariana Trench article, you might recall the name Jacques Piccard. He built the Bathyscaphe Trieste submersible with his father, Auguste, who was born on this day in 1884. That's some coincidence.

1887 This is apt considering the weather we've been having: in 1887 snowflakes measuring 15 inches wide and eight inches thick fell during a snowstorm in the western US state of Montana.