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# 2019 Mitsubishi Outlander PHEV – First Impressions

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The new (2019) version of Mitsubishi's Outlander PHEV SUV is even less taxing than its predecessor.

...says David miles (Miles Better News Agency).

The new 2019 Mitsubishi Outlander PHEV (Plug in Hybrid Electric Vehicle) five seater SUV with 4WD is now available in the UK priced from £34,255 including the Government's £2,500 plug-in vehicle grant. It is available at launch with five specification levels, Juro, 4h, 4hs, 5h and 5hs with the top model priced at £43,100. The best selling version is expected to be the 4h variant priced at £37,000.



All versions have a new 2.4 litre, four cylinder Otto and Atkinson combustion cycles petrol engine replacing the previous 2.0 litre MIVEC variable valve timing petrol unit. The new engine produces 135 hp (up from 121 hp) with greater torque ( 211 Nm or 156 lb.ft versus 190 Nm or 140 lb.ft). The rear electric motor output increases to 95 hp, the Lithium-ion battery benefits from a 10% increase in output, the electric generator output is increased by 10% and the front electric motor adds another 82 hp; the overall electric power capacity is increased to 13.8kWh. The technical changes result in the new WLTP Combined Cycle fuel economy figure, in operation for all new cars sold from September, of 139 mpg.

The Mitsubishi MIVEC variable valve timing system for the new 2.4 litre engine allows seamless switching between Otto and Atkinson combustion cycles depending on driving conditions. The Atkinson cycle mode allows the inlet valves to remain open for longer,



effectively reducing the compression volume, therefore decreasing its capacity and consequently burning less fuel under light load driving conditions. The Otto mode uses conventional valve opening times for maximum compression volume and performance.

With the new drivetrain and 4WD the new 2019 models, with their latest lower emissions, qualify for the government plug-in car grant thanks to its WLTP emissions of 46 g/km and EV electric only driving range of 28 miles or 35 miles for city driving. The low emissions also mean the vehicles attract the lowest Benefit-in-Kind tax rate of 13% for company car drivers. As for VED road tax costs, classed as an Alternative Fuel Discount vehicle, the First Year rate is a compelling £0 and the Standard rate for year two onwards is £130 rather than the conventional diesel/petrol cost of £140.

It has been these low tax and running costs that have played a major part in the Outlander PHEV's huge sales success since its launch in Japan in 2013 and Europe in 2014. It was the world's first PHEV SUV, it is the world's best selling PHEV with over 100,000 sales, it has been Europe's best selling PHEV for the last four years despite other new sales contenders entering the market, and it is still the UK's best selling PHEV.

Currently The Outlander 4WD range also consists of seven-seat 2.2 litre DI-D 147 hp turbodiesel models priced from £28,670 but these end their sales life at the end of this year. They are being replaced by 2.0 litre 150hp petrol seven-seat models with prices from £27,680.

Rob Lindley, managing director of Mitsubishi Motors in the UK said at this week's Outlander PHEV press launch that this year he expects to sell around 9,000 of the PHEV models and traditionally 53% go to retail customers. They will also sell around 2,000 of the diesel versions.

He added the new PHEV model delivers real-world driving fuel saving as the UK's average commuting distance is around 20 miles per day, so with an overnight charge the fuel saving is around £750 a year. But if it's 40 miles of commuting, with two charges a day, one at



home and one at work or at a charging point, the driver will save £930 a year. Drivers covering 18,000 miles a year can save up to £1,500 a year in fuel alone as well as the VED lower road tax and Benefit-in-Kind tax costs.

In addition to the powertrain changes the 2019 Outlander PHEV models have a number of other improvements in terms of specification and driving refinement. The front and rear shock absorbers have been revised to improve its low-speed ride and a new “Sport Mode” brings with it sharper throttle responses and more grip via the Super All-Wheel Control system. The steering ratio has also been revised and the power steering ECU re-mapped to offer more responsiveness and feel, while larger front brake discs boost stopping power. There’s also a new Snow mode to improve low-grip start-offs.

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There is a general improvement in overall refinement and lower noise intrusion levels. The front seats are more comfortable and supportive, there is new switchgear, a revised instrument cluster, the addition of rear ventilation vents and more convenient USB ports. In terms of exterior styling, there’s a restyled front end with a redesigned grille with honeycomb mesh, new bumper extension and fresh headlamp design. The rear end gets a new lower bumper extension and a large roof spoiler while new two-tone 18-inch multi-spoke alloys complete the exterior revisions.

The Outlander PHEV features Smartphone Link Display Audio which includes Apple CarPlay and Android Auto compatibility. Unfortunately no integrated sat-nav system is offered for any version, instead navigation has to be done by linking a mobile phone to the connectivity system, not very user-friendly and practical. But fitted as standard is an electronic pre-heater (and air-con) plus heated front seats, heated windscreen and dual-zone climate control. An electronic parking brake with brake auto hold, is located in the centre console, along with the Sport Mode and the EV priority switch. Other key features include a keyless operation system with Start/Stop button, front fog lamps, LED daytime running lamps and remote smartphone app compatibility. All of these features are standard in the entry-level



Juro model.

Going up a grade the 4h version's additions include added safety equipment such as a 360-degree camera, blind-spot warning, and rear-cross traffic alert. Other additions include the all new black headlining which complements the black leather interior, an 8-way electric powered driver's seat, heated steering wheel and power tailgate. Lighting is enhanced with LED headlamps, LED High Beam and LED front fog lamps.

The 4hs spec level includes Adaptive Cruise Control, Forward Collision Mitigation and Lane Departure Warning, front and rear parking sensors, Auto High-Beam and an Unintended Acceleration Mitigation System. The 5h and 5hs variants see additions such as premium leather upholstery, upgraded Alpine audio system, heated rear seats and LED exterior and interior lighting upgrades. But only 300 units of the 5h and 5hs are available for sale until the end of this year.



But core to all versions is the PHEV impressive drivetrain in its latest upgraded and more powerful form. There's no range anxiety with this vehicle as with pure electric cars. It can run on petrol only, or petrol-electric power via the hybrid system, or electric only, and to maximise the fuel economy it has that all important plug-in facility where the battery can be charged from a mains supply from home/office or any other public charging points. Using a quick charge electricity supply outlet 80% of the battery's capacity can be charged in 25 minutes. Using a domestic 13-amp plug socket a full charge takes four hours. The vehicle also has the function for the petrol engine to be used as a generator to charge the battery and the system includes regenerative braking which harvests electric power into the battery whilst on the move. This element is adjustable so on steep downhill road/off-road sections the driver can adjust the harvesting power from light to heavy via the gearshift paddles.



But to be most effective in terms of low fuel consumption and low emissions the plug-in facility must be used and that is the driver's choice. It has to be said that some company car drivers are attracted to the Outlander PHEV, not just because of the current desirability of fashionable SUVs, but because of the official homologated low CO2 figures which give it the lowest Benefit-in-Kind tax charge - whether they plug it in or not. It's the official figures that determine tax rates, not the figures actually produced during its use. The same applies with low VED road tax costs for business/fleet and retail customers who all benefit, but it's retail owners who are more likely to use the plug-in element to maximise on the fuel economy potential.

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Driving the latest technically upgraded Outlander PHEV this week over winding and hilly Cotswold and Oxfordshire roads a distance of 28 miles was covered in electric power only from a full charge which was reassuringly accurate with the official new WLTP Combined Cycle figure. Continuing further, 46 miles was driven using the petrol-electric hybrid system with regenerative energy capture and that resulted in a 109.4 mpg total figure for the overall test driving route. After another battery re-charge the return journey resulted in similar consistent figures.

With the combination of the petrol engine and one electric motor driving the front wheels and the rear electric motor driving the rear wheels, this was all done seamlessly and automatically, via an automatic Multimode eTransmission with hydraulic clutch. The response from the powertrain is strong thanks to the torque provided initially by the electric motors from instant start-off speeds and for outright acceleration it's smooth and acceptably fast enough. Using the larger new 2.4 litre petrol engine has reduced the noise intrusion into the vehicle, it sounds less stressed during acceleration and at higher cruising speeds. The driver can select electric power only for silent start-offs and trips into town for instance, and of course the electric battery power can be stored for use in zero emission zones. In EV only mode the top speed is 84 mph, in the petrol-electric hybrid configuration it's a stately 106 mph and zero to 62 mph takes 10.5 seconds.





Ride comfort, due to the suspension changes, has been improved but there were noticeable thumps and bumps felt more through the rear suspension units than the front, but overall the ride was generally compliant and comfortable. The Mitsubishi All-Wheel Control system reduces cornering body roll and during some test circuit driving the handling was surefooted and well balanced, even using much higher cornering speeds than you would use on public roads.

Being an SUV with all wheel drive the Outlander PHEV does have some off road abilities but it's better to say it's more competent on rough tracks than deep mud. Just as with driving on-road, away from the tarmac the twin electric motors, petrol engine and 4WD system are all controlled by a computer which works out what traction is needed where at each axle and wheel. Of course the 4WD system does provide added traction on-road during adverse conditions, remember last winter's weather? It also helps for towing, giving extra grip when needed for pulling a trailer, boat or caravan, and has a braked towing capacity of 1,500 kg (3,307 lb), less than its petrol and diesel stablemates due to its substantial kerb weight of 1,880 kg (3,968 lb).

## VERDICT

The Mitsubishi Outlander PHEV has been a huge sales success for the brand and the automotive industry. It has pioneered public acceptance and popularity of such petrol electric plug-in hybrid vehicles. They are not always bought for environmental reasons but more for lower tax and running costs - and who can blame today's harshly treated motorist for looking for tax efficiency rather than cleaner air efficiency.

**For:** Huge global sales success in its PHEV SUV class, low cost taxes, good real-life fuel economy potential providing the plug-in facility is used, improved higher technical specification and interior quality, comfortable ride, surefooted well balanced handling, 4WD traction.

**Against:** Only five seats for the PHEV Outlander models - diesel/petrol have seven, no integrated sat-nav system, only adequate performance in terms of top and acceleration



speeds.



Milestones and Wheels-Alive Tech. Spec. in Brief:

2019 Mitsubishi Outlander PHEV 4h SUV. (Expected best selling model).

Price: £37,000 including the £2,500 plug-in vehicle grant.

Drivetrain: 2.4 litre, four cylinder 135 hp, 211 Nm (156 lb.ft), petrol engine + 82 hp front and 95 hp rear electric motors, automatic Multimode eTransmission with 4WD.

Performance: 106 mph, 0-62 mph 10.5 seconds.



Fuel consumption: New WLTP Combined Cycle 139 mpg (109.4 mpg on test).

Emissions and taxation: CO2 46 g/km, EV driving range 28 miles, City Driving 35 miles, VED First Year road tax £0, Standard rate £130, BiK company car tax 13%.

Insurance Group: 31A.

Warranty: Five years/62,500 miles.

Dimensions/capacities: L 4,695 mm (15.40 ft), W 1,800 mm (5.91 ft), H 1,710 mm (5.61 ft), wheelbase 2,670 mm (8.76 ft), kerb weight 1,845 kg (4,068 lb), boot space 463 to 1,602 litres (16.35 to 56.57 cu.ft), braked towing weight 1,500 kg (3,307 lb), five doors/five seats.