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## **New Jeep® Wrangler 4xe Joins Renegade and Compass 4xe Models in Brand's Global Electric Vehicle Lineup**

*Advanced, Eco-friendly, Premium Technology Delivers Absolute and Quiet Open-air Freedom, an Even More Fun-to-drive On-road Experience and a New Level of Benchmark Jeep® Off-road Capability*

- 4xe electric vehicle technology is the natural evolution of nearly 80 years of Jeep® capability leadership
- Jeep 4xe vehicles provide new levels of efficiency, environmental responsibility, performance and capability, on and off the road
- Jeep Wrangler 4xe available in Europe, China and the United States by early 2021; Jeep Renegade 4xe and Compass 4xe models began arriving in Europe this summer
- Wrangler 4xe boasts 375 horsepower and delivers up to 21 miles of pure electric operation for daily commutes while providing nearly silent, zero-emission, open-air freedom without range anxiety
- Torque-on-demand electric power enhances Wrangler's on-road performance, delivering crisp launches from a standing start and plenty of low-speed thrust
- Low-speed, peak torque-on-demand raises Wrangler's legendary off-road benchmark to master off-road environments
- Wrangler 4xe is first and foremost a Jeep Wrangler with Trail Rated running gear: solid front and rear axles, full-time 4x4 two-speed transfer case, fully articulating suspension and 30 inches of water fording capability
- Wrangler 4xe's advanced turbocharged 2.0-liter four-cylinder engine, two electric motors and robust TorqueFlite eight-speed automatic transmission combine to deliver an estimated 50 MPGe
- 400-volt, 17 kWh, 96-cell battery pack mounts beneath second-row seat to protect it from outside elements and to preserve the interior space
- Wrangler 4xe features exclusive exterior design cues to signify efficient, environmentally friendly, electrification technology
- Available for order in Europe, Jeep Renegade 4xe and Compass 4xe deliver up to 240 horsepower and approximately 50 kilometers (31 miles) of zero-emission pure electric range

September 3, 2020, Auburn Hills, Mich. - The Jeep® brand has introduced its new Wrangler 4xe, marking the arrival of the most capable, technically advanced and eco-friendly Wrangler ever. Jeep Wrangler 4xe models will be available in Europe, China and the United States by early 2021. The Jeep Renegade 4xe and Compass 4xe models – introduced last year in Geneva – began arriving in Europe this summer. The new Jeep 4xe models follow the introduction of the Jeep Grand Commander PHEV in China last year.

The Wrangler 4xe's plug-in hybrid powertrain is capable of up to 21 miles of nearly silent, zero-emission, electric-only propulsion, making it commuter friendly as an all-electric daily driver without range anxiety and the most capable and eco-friendly Jeep vehicle off-road – combined with the open-air freedom that only Jeep Wrangler offers.

Jeep will offer electrification options on each nameplate in the next few years as it strives to become the leader in eco-friendly premium technology. Electrified Jeep vehicles will carry the 4xe badge. Jeep electric vehicles will be the most efficient and responsible Jeep vehicles ever, taking performance, 4x4 capability and driver confidence to the next level.

“Our Jeep 4xe vehicles will be the most efficient, responsible and capable that the brand has ever created,” said Christian Meunier, Global President of Jeep Brand - FCA. “We are committed to make Jeep the greenest SUV brand. The electrification of the Jeep lineup will allow commuters to travel solely on electric power, delivering an efficient and fun on-road experience and offering an ability to enjoy even more Jeep capability off-road in nearly complete silence.”

The Wrangler 4xe's advanced powertrain provides a unique on- and off-road experience through the combination of two electric motors, a high-voltage battery pack, a high-tech 2.0-liter turbocharged I-4 engine and robust TorqueFlite eight-speed automatic transmission. The most advanced powertrain ever developed for a Jeep Wrangler maximizes efficiency with an estimated 50 miles per gallon equivalent (MPGe) while eliminating range anxiety, delivering pure-electric operation for most daily commutes.

Torque from the electric motors in the Wrangler 4xe's hybrid powertrain arrives instantly on demand from the driver. The powertrain also delivers fuel-saving, seamless, start-stop operation of the engine.

Jeep has demonstrated 4x4 capability leadership for nearly 80 years. Jeep vehicles were the first to feature an automatic full-time four-wheel-drive system, first 4:1 transfer case and first electronic front sway-bar disconnect system. Merging electrification into the product lineup is a natural evolution.

The Jeep Wrangler 4xe will be sold globally, with electric vehicle (EV) charge port plugs tailored to specific regions. It is assembled at FCA's [Toledo Assembly Complex](#) in Toledo, Ohio.

### **Wrangler 4xe Advanced Powertrain Combines Electric Motors, Turbo Engine**

The Jeep Wrangler 4xe powertrain integrates two electric motors and a 400-volt battery pack with a fuel-efficient, turbocharged, four-cylinder engine and TorqueFlite eight-speed automatic transmission. This configuration maximizes the efficiency of the hybrid propulsion components and mates them with the Wrangler's world-renowned and proven driveline.

Key elements of the Wrangler 4xe powertrain include 375 horsepower (280 kW), 470 lb.-ft. (637 N•m) of torque and an estimated 50 MPGe from the following components:

- 2.0-liter turbocharged I-4
- Engine-mounted motor generator unit
- Transmission-mounted motor generator unit integrated into eight-speed automatic transmission (ZF 8P75PH)
- 400-volt, 17-kWh, 96-cell lithium-ion, nickel manganese cobalt battery pack

The 2.0-liter turbocharged I-4 engine is part of FCA's Global Medium Engine family. The high-tech, direct-injection engine uses a twin-scroll, low-inertia turbocharger mounted directly to the cylinder head, along with a dedicated cooling circuit for the turbocharger, intake air and throttle body for exceptional responsiveness, performance and fuel efficiency.

A high-voltage, liquid-cooled motor generator unit mounts at the front of the engine, replacing the conventional alternator. A robust belt connects the motor generator to the engine crankshaft pulley. The motor generator spins the engine for nearly seamless, fuel-saving, start-stop operation and generates electricity for the battery pack. The Wrangler 4xe does not use a conventional 12-volt starter motor. The Wrangler 4xe is equipped with a 12-volt battery to run accessories.

The second high-voltage motor generator is mounted at the front of the transmission case, replacing the conventional torque converter of an automatic transmission.

Two clutches work to manage power and torque from the e-motor and engine. A binary clutch (on/off) is mounted between the engine and the motor. When this clutch is open there is no mechanical linkage between the engine and the e-motor, which enables it to propel the Wrangler 4xe in electric-only mode.

When the binary clutch is closed, torque from the 2.0-liter engine and the e-motor flow combine through the automatic transmission. A variable clutch mounted behind the e-motor manages engagement with the transmission to improve drivability and efficiency.

### **Battery Pack Preserves Interior Room**

The Jeep Wrangler 4xe's 400-volt, 17-kWh, 96-cell lithium-ion battery pack uses nickel manganese cobalt (NMC) graphite chemistry. The pack and controls mount underneath the second-row seat, where it is protected from outside elements. The Wrangler 4xe's second-row seat is redesigned, allowing the bottom cushion to flip forward for access to the battery.

Encased in an aluminum housing, the pack is fitted with a dedicated heating and cooling circuit to keep the battery at its optimum temperature for best performance. The temperature control circuit includes a dedicated heater unit and a chiller that uses the Wrangler air-conditioning refrigerant to reduce coolant temperature when needed.

The Wrangler 4xe hybrid system includes an Integrated Dual Charging Module (ICDM), which combines a battery charger and a DC/DC converter in a single unit that is more compact than two separate components, and a next-generation Power Inverter Module (PIM) that is reduced in size. These components are housed and protected from damage in a steel structure mounted below the battery pack.

All high-voltage electronics, including the wiring between the battery pack and the electric motors, are sealed and waterproof. Like all Trail Rated Jeep Wranglers, the Wrangler 4xe is capable of water fording up to 30 inches (76 cm).

The electric charge port features a push-open/push-close cover and is located on the left front cowl of the Wrangler 4xe for convenient nose-in parking at charging locations. The charge port includes LED indicators of charging status. An LED battery level monitor is mounted on top of the instrument panel, making it easy to check battery state of charge at a glance during charging.

### **Wrangler 4xe E Selec Modes**

The Jeep Wrangler 4xe driver can tailor the hybrid powertrain to best suit each trip, whether it is filling the needs of most daily commuters in pure-electric operation, a night on the town or quietly exploring nature off-road.

The Wrangler 4xe hybrid powertrain has three modes of operation, known as E Selec. The driver can select the desired powertrain mode via buttons mounted on the instrument panel, to the left of the steering wheel. Regardless of the mode selected, the Wrangler 4xe operates as hybrid once the battery nears its minimum state of charge.

- **Hybrid:** The default mode blends torque from the 2.0-liter engine and electric motor. In this mode, the powertrain will use battery power first, then add in propulsion from the 2.0-liter turbocharged I-4 when the battery reaches minimum state of charge
- **Electric:** The powertrain operates on zero-emission electric power only until the battery reaches the minimum charge or the driver requests more torque (such as wide-open throttle), which engages the 2.0-liter engine
- **eSave:** Prioritizes propulsion from the 2.0-liter engine, saving the battery charge for later use, such as EV off-roading or urban areas where internal combustion propulsion is restricted. The driver can also choose between Battery Save and Battery Charge during eSave via the Hybrid Electric Pages in the Uconnect monitor

To help optimize the benefit of the E Selec modes, the Wrangler 4xe driver information display and the Uconnect touchscreen feature Hybrid Electric Vehicle Pages. The Hybrid Electric Vehicle Pages let owners monitor power flow and see the impact of regenerative braking, schedule charging times to take advantage of lower electric rates, and view their driving history with a detail of electric and gasoline usage.

Regenerative braking is a key part of the Wrangler 4xe eco-friendly equation. When the driver steps on the brake pedal, the powertrain control engages the maximum available regenerative braking, up to 0.25 g, from the electric motors to slow the vehicle, augmented with the Wrangler's traditional friction brakes. The regenerative braking feature also extends the replacement period for brake pads.

With 4x4 engaged, all four wheels feed torque for regenerative braking, maximizing the energy recovery. Electricity due to regenerative braking is fed to the battery pack to maintain or increase the state of charge.

The Wrangler 4xe also features the ability to maximize regenerative energy production via a driver-selectable Max Regen feature.

When Max Regen is engaged, a more assertive regenerative braking calibration occurs when the vehicle sees zero throttle input from the driver (coasting). Max Regen can slow the Wrangler 4xe faster than standard regenerative braking and generate more electricity for the battery pack. Once selected, the Max Regen feature remains engaged until driver deselects it.

### **Off-road Legend**

[Jeep Wrangler's](#) heritage is defined by its legendary off-road capability. All Wrangler 4xe power modes are available when the drivetrain is shifted to 4Lo. The seamless integration of electric power into the 4x4 drivetrain elevates the Wrangler 4xe to new levels of off-road performance.

Enthusiasts will find that the instant availability of torque from the Wrangler 4xe's electric motor delivers a more precise and controlled driving experience for climbing and crawling – there's no need to build up engine rpm to get the tires to move, minimizing driveline shock loading and maximizing control and speed.

In EV mode, the Wrangler 4xe treads lightly and silently, conserving fuel and allowing occupants to focus solely on the sights and full sounds of nature.

The new Jeep Wrangler 4xe is available in three models: Sahara 4xe, Rubicon 4xe and High Altitude 4xe. Wrangler Sahara 4xe and High Altitude 4xe models are equipped with full-time 4x4 systems, front and rear next-generation Dana 44 axles and are fitted with the Selec-Trac two-speed transfer case with a 2.72:1 low-range gear ratio. The intuitive system allows the driver to set it and forget it in any environment.

An available Trac-Lok limited-slip rear differential provides extra grip and capability in low-traction situations, such as driving over sand, gravel, snow or ice.

Wrangler Rubicon 4xe models carry the Rock-Trac 4x4 system that includes a two-speed transfer case with a 4:1 low-range gear ratio, full-time 4x4, front and rear next-generation Dana 44 axles, Tru-Lok electric front- and rear-axle lockers. The Wrangler Rubicon 4xe has an impressive crawl ratio of 77.2:1, which makes scaling any obstacle easy. Wrangler Rubicon models also offer improved articulation and total suspension travel with help from a front axle, electronic sway-bar disconnect. Together, these components contribute to the maximum off-road prowess Wrangler Rubicon is known for.

The Wrangler 4xe includes Selec-Speed Control with Hill-ascent and Hill-descent Control. This allows drivers to control vehicle speed up and down steep, rugged grades with the transmission shift lever.

Like every Jeep Wrangler, the Jeep Wrangler 4xe models wear a Trail Rated badge that signifies legendary 4x4 capability with equipment that includes:

- Skid plates and front and rear tow hooks
- Wrangler Rubicon 4xe approach angle of 44 degrees, breakover angle of 22.5 degrees, departure angle of 35.6 degrees and ground clearance of 10.8 inches (27.4 cm)
- Aggressive, available, 17-inch, off-road wheels and 33-inch tires standard on Rubicon 4xe; 20-inch wheels standard on Wrangler 4xe and Sahara 4xe
- Up to 30 inches (76 cm) of water fording

All 4xe models maintain Wrangler's renowned ease of customization with a host of Jeep Performance Parts from Mopar, available when the vehicle arrives in showrooms.

### **'Electric Blue' Design Cues Mark Wrangler 4xe**

The 2021 Jeep Wrangler 4xe maintains a sculptural design aesthetic that's bold and functional, with a wide stance and trapezoidal wheel flares.

Exclusive content identifies the Jeep Wrangler 4xe as the most technologically advanced Wrangler ever. New Electric Blue coloring on the front and rear Rubicon tow hooks stands out against the black bumpers. The unique blue coloring also traces the Rubicon name on the hood, Jeep badge and the Trail Rated badge. Select Easter egg design cues also receive the Electric Blue shade. The black hood decal is outlined in the special color with "4xe" that lets the body color show through.

Inside, the Wrangler 4xe Rubicon includes unique Electric Blue stitching on the seats and trim.

The 2021 Jeep Wrangler 4xe is available in 10 exterior colors: Black, Bright White, Firecracker Red, Granite Crystal Metallic, Hella Yella, Hydro Blue (late availability), Sting-Gray, Snazzberry, Sarge and Billet Silver Metallic. Two Wrangler interior options are available in the 4xe version: Black with Heritage Tan cloth and Black with Dark Saddle leather.

### **Jeep Renegade 4xe and Jeep Compass 4xe**

Presented globally in March 2019 at the Geneva Motor Show, the new Renegade 4xe and Compass 4xe are the first Jeep models with plug-in hybrid electric technology available in Europe. Their arrival was celebrated in January with the exclusive First Edition – a special launch edition made available for customer previews and pre-booking on a dedicated website for select European markets. Renegade 4xe and Compass 4xe began arriving in the European market this summer. Both Renegade 4xe and Compass 4xe models feature a no-compromise hybrid solution that integrates the unmatched technical layout of each Jeep SUV and takes their capability to the next level through some of the most advanced technology, which combines enhanced performance (up to 240 horsepower), improved safety (four-wheel drive is always available) and low environmental impact (less than 50 g/km of CO<sub>2</sub> in the hybrid mode).

The combination of a 1.3-liter turbocharged gasoline engine and the electric unit guarantees performance and extraordinary driving pleasure: acceleration from 0 to 100 km/h in less than 7.5 seconds and full electric top speed is 130 km/h, which reaches 200 km/h in the hybrid mode.

With the new hybrid technology, Jeep Renegade 4xe and Compass 4xe further improve their benchmark off-road capability courtesy of the greater torque offered by the combination between the two power sources. Thanks to the new Jeep 4xe technology, traction to the rear axle is not provided by a prop shaft, but through the dedicated electric motor. This allows the two axles to be separated and control the torque independently in a more effective way than a mechanical system, giving instant electric boost to the rear wheels when needed.

The new Jeep Renegade 4xe and Jeep Compass 4xe began arriving in Jeep dealerships across Europe this summer with a full lineup to include Limited, S and Trailhawk trims, all with four-wheel-drive configuration.

### **Mopar and Jeep Performance Parts Supports Launch of Most Capable, Technically Advanced, Eco-friendly Jeep Wrangler Ever**

When the new 2021 Jeep Wrangler 4xe (pronounced 4byE) plug-in hybrid joins the Jeep brand's global electric vehicle lineup later this year, Jeep Performance Parts and Mopar will offer a wide variety of factory-engineered, quality-tested performance parts and accessories for the most capable, technically advanced and eco-friendly SUV on the planet.

The comprehensive portfolio of more than 300 Jeep Wrangler products will include exclusive Jeep Performance Parts (JPP) offerings, allowing customers the opportunity to expand upon the Wrangler's fun-to-drive on- and off-road experiences. An industry-first, OEM-developed JPP 2-inch lift kit is specifically engineered and tuned for the Wrangler 4xe plug-in hybrid application. Additional products will include beadlock-capable wheels, off-road bumpers, LED off-road lights and rock rails, just to name a few. More detailed information will be available closer to launch.

In addition, Jeep Performance Parts and Mopar will offer a 240-volt at-home electric vehicle (EV) wall charger on Amazon.com and quality installation services, giving customers a fast and convenient way to charge their vehicles at home.

Unlike any other aftermarket offerings, Jeep Performance Parts and accessories are backed by a full factory warranty. The products are created in close conjunction with the Jeep brand, engineering and product design-office teams for development, testing and validation. Strict standards and factory-exclusive data — information not available to the aftermarket — are used to seamlessly integrate performance parts and accessories in order to deliver proper fit, finish and quality right down to the color, grain, and appearance of each product.

### **Jeep Brand**

Built on more than 80 years of legendary heritage, Jeep® is the authentic SUV brand that delivers legendary off-road capability, interior refinement, high-tech features and versatility to people who seek extraordinary journeys. The Jeep brand delivers an open invitation to live life to the fullest by offering a broad portfolio of vehicles that continues to

provide owners with a sense of safety and security to handle any journey with confidence. Jeep Wave, a premium owner loyalty and customer care program that is available to the entire Jeep 4x4 lineup, is filled with benefits and exclusive perks to deliver Jeep brand owners the utmost care and dedicated 24/7 support. The legendary Jeep brand's off-road capability is enhanced by a global electrification initiative that is transforming 4xe into the new 4x4. All Jeep brand vehicles in North America will offer an electrified variant by 2025.

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