

# The BMW X5 xDrive40e. Contents.



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# 1. The BMW X5 xDrive40e. (Short version)



The first plug-in hybrid production car from the BMW core brand is a Sports Activity Vehicle. Permanent all-wheel drive and the BMW EfficientDynamics eDrive technology endow the BMW X5 xDrive40e with sensational sportiness and supreme poise on the one hand and outstanding efficiency on the other. With a total system output of 230 kW/313 hp generated by a four-cylinder petrol engine with BMW TwinPower Turbo technology and a synchronous electric motor, the BMW X5 xDrive40e achieves a combined fuel consumption of 3.4 – 3.3 litres per 100 kilometres (83.1 – 85.6 mpg imp) and a combined electricity consumption of 15.4 – 15.3 kWh over the same distance. CO<sub>2</sub> emissions come in at 78 – 77 grams per kilometre (figures according to EU test cycle for plug-in hybrid vehicles, may vary depending on the tyre format specified).

The use of BMW eDrive technology for exceptionally efficient performance as well as all-electric mobility with zero tailpipe emissions as and when required ushers in a whole new form of commanding driving experience in a sports activity vehicle. At the same time, the BMW X5 xDrive40e reaps the benefits of the technology and know-how transferred from the debut of the BMW i cars. The BMW i8 blazes a trail for sustainable driving pleasure with plug-in hybrid drive power, which can now also be enjoyed for the first time in a model from the BMW core brand.

## **Lithium-ion battery with flexible charging options, typical SAV versatility and an exclusive ambience.**

The energy for the electric motor integrated in the 8-speed Steptronic transmission is drawn from a lithium-ion battery, which also supplies power to the low-voltage battery for the 12V electrical system aboard the BMW X5 xDrive40e via a voltage transformer. It can be recharged by connecting to any standard domestic power socket or a **BMW i Wallbox**, as well as at public charging stations. To save space the high-voltage battery is housed underneath the luggage compartment floor, where it is also particularly well protected in the event of a crash. With 500 – 1,720 litres of luggage space, a three-part folding rear backrest and a luxuriously designed interior, the BMW X5 xDrive40e also boasts the high versatility associated with a large sports activity vehicle but blended with an exclusive ambience.

### **Intelligent powertrain control and eDrive button for intense hybrid driving and mobility with zero local emissions.**

The actual driving experience is likewise characterised by versatile and effortless performance. The intelligent hybrid powertrain control ensures that the engine and the electric motor act in unison in a way that optimises efficiency while also catering perfectly to the driver's wishes. The eDrive button on the centre console allows the driver to adjust the hybrid drive's operating mode. In the **AUTO eDrive** basic setting, the engine's power is boosted to noticeable effect when accelerating or during quick bursts of speed by the electric drive, whose full torque of 250 Newton metres (184 lb-ft) is on tap from standstill for instantaneous power delivery. The BMW X5 xDrive40e completes the sprint from 0 to 100 km/h (62 mph) in 6.8 seconds.

Alternatively, the **MAX eDrive** mode can be engaged, enabling the BMW X5 xDrive40e to run purely on electric power – when driving in urban traffic for instance – resulting in zero local emissions. When the high-voltage battery is fully charged, the vehicle has a range of up to 31 kilometres (approx. 19 miles) in the all-electric drive mode with a limited maximum speed of 120 km/h (75 mph). The **SAVE Battery** mode can also be activated at the touch of a button, causing the high-voltage battery's state of charge to be maintained or allowing energy to be accumulated again, e.g. by means of recuperation, if capacity is low. In this way, electrical energy can be deliberately conserved for all-electric driving later in the journey.

Regardless of the setting chosen with the eDrive button, the power stemming from both drive sources is permanently transmitted to the road via the intelligent all-wheel-drive system, BMW xDrive. The various vehicle set-ups that can be selected with the Driving Experience Control switch – COMFORT, SPORT and ECO PRO – are also available in all drive modes.

### **Hybrid-specific products and services from BMW ConnectedDrive and BMW 360° ELECTRIC.**

All of the driver assistance systems and mobility services from BMW ConnectedDrive offered as standard or as optional extras for the BMW X5 are also available to provide enhanced driving pleasure in the model variant with eDrive technology. An **intelligent energy management** function is also offered as a special model-specific feature that can be used in conjunction with the Navigation system Professional which is fitted as standard in the BMW X5 xDrive40e. Whenever route guidance is active, data on the route profile is factored into powertrain control along with real-time traffic information. When driving medium to long distances, the system can therefore ensure it is possible to drive purely on electric power on urban

sections by using Brake Energy Regeneration and managing the high-voltage battery's energy reserves in a targeted and efficient manner.

The hybrid-specific version of the BMW Remote app makes it possible to check the high-voltage battery's state of charge, locate public charging stations or call up efficiency evaluations for the BMW X5 xDrive40e on a smartphone. The auxiliary heating and ventilation functions can also be activated remotely.

The **BMW i Wallbox Pure** and **BMW i Wallbox Pro**, including installation service, are available for home charging as part of the BMW 360° ELECTRIC concept, offering customers a particularly fast and convenient means of recharging the high-voltage battery while parked. Model-specific assistance services are also available. The **ChargeNow** service provides cash-free access to an extensive partner network of charging stations and billing of the charging costs with the **ChargeNow** card. The mobility service **ParkNow Longterm**, meanwhile, makes it easier to find a parking space or locate and book a parking spot with charging facilities.

### **Wide-ranging equipment options.**

The comprehensive standard specification of the BMW X5 on the plug-in hybrid model is extended to include the Navigation system Professional as well as an auxiliary heating and ventilation system. This is powered by electricity from the high-voltage battery or from the mains supply while charging. The BMW X5 xDrive40e additionally comes equipped as standard with the Adaptive Suspension Package Comfort including rear air suspension and Dynamic Damper Control.

Beyond this, practically all the optional extras offered for the BMW X5 can also be specified for the plug-in hybrid model. The Design Pure Experience and Pure Excellence packages for the exterior and interior are also available for the BMW X5 xDrive40e, as are the M Sport package and the bespoke features from BMW Individual.

Further information on official fuel consumption figures, specific CO<sub>2</sub> emission values and the electric power consumption of new passenger cars is included in the following guideline: "Leitfaden über Kraftstoffverbrauch, die CO<sub>2</sub>-Emissionen und den Stromverbrauch neuer Personenkraftwagen" (Guideline for fuel consumption, CO<sub>2</sub> emissions and electric power consumption of new passenger cars), which can be obtained from all dealerships, from the Deutsche Automobil Treuhand GmbH (DAT), Hellmuth-Hirth-Str. 1, 73760 Ostfildern-Scharnhausen and at <http://www.dat.de/en/offers/publications/guideline-for-fuel-consumption.html>. LeitfadenCO<sub>2</sub> (GuidelineCO<sub>2</sub>) (PDF – 2.7 MB)

## 2. At a glance.



### Positioning and market launch:

- The BMW Group is presenting the first ever plug-in hybrid production car from the BMW core brand.
- Supreme traction and sporty performance thanks to BMW xDrive permanent all-wheel drive, even in all-electric drive mode, exceptional efficiency underpinned by BMW EfficientDynamics eDrive technology.
- BMW X5 xDrive40e sports activity vehicle as a forward-looking blend of versatility and luxurious ambience with cutting-edge drive technology transferred from the development of BMW i cars.
- Can be ordered with almost the entire range of optional extras available for the BMW X5, including Design Pure Excellence and Pure Experience exterior and interior packages, the M Sport package and options from BMW Individual.
- European market launch starts in autumn 2015.

### Technical features:

- **BMW X5 xDrive40e:** four-cylinder in-line petrol engine with BMW TwinPower Turbo technology (TwinScroll turbocharger, High Precision Injection, VALVETRONIC variable valve timing, Double-VANOS); capacity: 1,997 cc, output: 180 kW/245 hp at 5,000 – 6,500 rpm, max. torque: 350 Nm (258 lb-ft) at 1,250 – 4,800 rpm; synchronous electric motor integrated in 8-speed Steptronic transmission, maximum output\*: 83 kW/113 hp at 3,170 rpm, max. torque: 250 Nm (184 lb-ft) at 0 rpm; max. system output: 230 kW/313 hp, max. system torque: 450 Nm (332 lb-ft), acceleration [0 – 100 km/h / 62 mph]: 6.8 seconds, top speed: 210 km/h (130 mph) (electronically limited), top speed on electric power: 120 km/h (75 mph, electronically limited), electric range\*\*: up to 31 km (approx. 19 miles), average consumption\*\*: 3.4 – 3.3 litres/100 km (83.1 – 85.6 mpg imp), 15.4 – 15.3 kWh/100 km, CO<sub>2</sub> emissions\*\*: 78 – 77 g/km, exhaust standard: EU6.

\* According to ECE R-85

\*\* Figures according to EU test cycle for plug-in hybrid vehicles, may vary depending on the tyre format specified.

- Lithium-ion high-voltage battery with 96 cells and a capacity of 9.0 kWh.
- High-voltage battery located underneath the luggage compartment floor with a slight reduction in luggage capacity (500 – 1,720 litres).
- High-voltage battery can be charged from standard domestic power sockets; **BMW i Wallbox** also available as part of the **BMW 360° ELECTRIC** concept along with model-specific services and Assistance Services; **ChargeNow** mobility service offers simple access to and straightforward use of public partner charging stations; **ParkNow Longterm** mobility service makes it easy to find parking spaces either with or without charging facilities.

#### **Driving dynamics and driving experience:**

- eDrive button for programming the hybrid character and selecting the modes AUTO eDrive, MAX eDrive and SAVE Battery.
- Driving Experience Control switch for activating the vehicle set-up modes COMFORT, SPORT and ECO PRO.
- In conjunction with the standard Navigation system Professional, intelligent energy management featuring an anticipatory powertrain strategy that takes the route profile, traffic situation and drive mode into account in order to make efficient use of the battery's remaining capacity and maximise the distance driven purely on electric power with zero local emissions.
- BMW X5 xDrive40e with model-specific chassis tuning, plus Dynamic Damper Control and self-levelling rear air suspension as standard.

### 3. BMW xDrive meets BMW eDrive: The BMW X5 xDrive40e.



A Sports Activity Vehicle (SAV) from BMW is once again pointing the way ahead to a highly innovative form of driving pleasure. The BMW X5 xDrive40e is the first plug-in hybrid production car from the BMW core brand. It expertly combines the versatility and luxurious ambience of a large SAV model with the superb traction offered by the BMW xDrive intelligent all-wheel-drive system as well as BMW EfficientDynamics eDrive technology for exemplary efficiency.

The intelligently controlled interaction between the combustion engine and the electric drive, which together generate a system output of 230 kW/313 hp, endows the BMW X5 xDrive40e with exceptionally dynamic acceleration while also substantially cutting fuel consumption and emissions in everyday driving. It returns a combined fuel consumption of 3.4 – 3.3 litres for every 100 kilometres (83.1 – 85.6 mpg imp) and a combined electricity consumption of 15.4 – 15.3 kWh. CO<sub>2</sub> emissions come in at 78 – 77 grams per kilometre (figures according to EU test cycle for plug-in hybrid vehicles, may vary depending on the tyre format specified).

The use of BMW eDrive technology for exceptionally efficient performance as well as all-electric mobility with zero tailpipe emissions as and when required ushers in a whole new form of commanding driving experience in a sports activity vehicle. At the same time, the BMW X5 xDrive40e reaps the benefits of the technology and know-how transferred from the debut of the BMW i cars. The BMW i8 blazes a trail for sustainable driving pleasure with plug-in hybrid drive power, which can now also be enjoyed for the first time in a model from the BMW core brand.

#### **Drive duo and permanent all-wheel drive for trademark driving pleasure and maximum efficiency.**

Thanks to its duo of drive units, the intelligent hybrid powertrain control and permanent all-wheel drive, the BMW X5 xDrive40e promises utterly effortless performance and supreme efficiency out on the road. Its drive system comprises a four-cylinder petrol engine with BMW TwinPower Turbo technology and a synchronous electric motor integrated in the 8-speed Steptronic transmission. The lithium-ion high-voltage battery pack can be topped up with mains electricity from any standard domestic power socket or – particularly quickly, safely and conveniently – from the **BMW i Wallbox**, as well as at public charging stations. The high-voltage battery, which also

supplies power to the battery for the 12V electrical system via a voltage transformer, is housed underneath the luggage compartment floor, where it is particularly well protected in the event of a crash. The BMW X5 xDrive40e offers a luggage capacity of 500 – 1,720 litres. The standard charging cable can be stored in a hinged compartment under the luggage compartment floor. The plug-in hybrid model thus provides all the versatility associated with a large sports activity vehicle in terms of not just its driving qualities but also its levels of spaciousness.

The BMW X5 xDrive40e furthermore succeeds in fusing its versatility and supreme poise with a level of efficiency that simply places it in a class of its own. Short everyday journeys in urban areas can be easily completed with zero tailpipe emissions, while actual fuel consumption is reduced substantially when driving for distances of up to 25 kilometres (approx. 15 miles) in urban traffic. Capable of consuming between just zero and 3.0 litres of fuel for every 100 kilometres in such situations (zero consumption – 94.2 mpg imp), the BMW X5 xDrive40e sets new benchmarks for efficiency in its segment. On longer journeys, meanwhile, when both engine and motor need to be deployed, the powertrain system that has been systematically geared towards maximising efficiency keeps the fuel consumption and emissions figures far lower than in comparable models with similar power outputs. Assuming the high-voltage battery is fully charged, daily commutes of between 50 and 60 kilometres (approx. 30 – 37 miles) can therefore be completed in practice with a fuel consumption of no more than 6.5 litres per 100 kilometres (min. 43.5 mpg imp), depending on driving style. What's more, when the fuel tank is filled to its 85-litre capacity and the high-voltage battery pack is charged, the BMW X5 xDrive40e also boasts the customary long-distance capabilities for travelling on holiday, for example, when it still succeeds in keeping fuel consumption below the 11.0 litres per 100 kilometres mark (min. 25.7 mpg imp). The plug-in hybrid drive system aboard the BMW X5 xDrive40e thus produces major efficiency savings in everyday driving situations when compared to conventionally powered models in this segment.

### **BMW TwinPower Turbo and BMW eDrive technologies mated to perfection.**

The 2.0-litre internal combustion engine fitted in the BMW X5 xDrive40e has already won the coveted title of "International Engine of the Year" three times and features a TwinScroll turbocharger, High Precision Injection, VALVETRONIC variable valve timing and variable camshaft control on both the intake and exhaust sides (Double-VANOS). The most powerful four-cylinder petrol unit in the BMW Group's engine portfolio stands out for its eager power delivery, delightfully free-revving performance and highly refined

running characteristics. It generates a maximum output of 180 kW/245 hp and 350 Newton metres (258 lb-ft) of peak torque.

The electric motor puts an output of 83 kW/113 hp on tap, while its maximum torque of 250 Newton metres (184 lb-ft) is available from the word go in typical electric drive fashion. This has the effect of boosting the engine's output for thrilling, instantaneous responsiveness and power build-up with absolutely no delay when accelerating from stationary, as well as far more dynamic performance whenever a quick burst of speed is required. The BMW X5 xDrive40e completes the 0 to 100 km/h (62 mph) sprint in just 6.8 seconds and has an electronically limited top speed of 210 km/h (130 mph). In all-electric drive mode, meanwhile, the vehicle is capable of a top speed of 120 km/h (75 mph), again electronically limited.

### **BMW xDrive permanent all-wheel drive even in all-electric mode.**

The power stemming from the two drive units is transformed into effortless forward motion courtesy of the 8-speed Steptronic transmission and the BMW xDrive permanent all-wheel-drive system. The BMW X5 xDrive40e can be optionally equipped with shift paddles on the steering wheel, enabling the driver to swiftly make manual gear selections with the greatest of ease. Regardless of the proportion of drive power being sourced from the engine and motor respectively, xDrive ensures supreme traction in all weather and road surface conditions, together with optimised handling stability and increased agility when powering through corners. An electronically controlled multi-plate clutch provides the basis for fully variable distribution of the drive torque between the front and rear wheels. As it is linked up to the DSC (Dynamic Stability Control), the xDrive system is furthermore capable of acting in advance to counter vehicle understeer or oversteer and to always direct drive power in such a way as to optimise the handling dynamics.

### **Driving Experience Control switch and eDrive button allow the vehicle set-up and powertrain control to be configured as desired.**

The eDrive button on the centre console lets the driver modify the powertrain control. When the vehicle is first started, the default **AUTO eDrive** setting is activated, with both engine and electric motor working highly efficiently in tandem. The electric motor alone is used for setting off with normal power requirements, while the engine cuts in at around 70 km/h (44 mph) or when the driver wishes to accelerate very sharply. In this mode, the intelligent operating strategy determines the most efficient drive combination at all times and switches to it automatically. The driver can also switch to the all-electric drive mode setting **MAX eDrive**, in which the vehicle is powered solely by the electric motor. This mode is designed for comfortable driving with zero

local emissions without the engine being started, and offers a maximum range of 31 kilometres (approx. 19 miles) at a limited top speed of 120 km/h (75 mph).

The third mode that can be activated is the **SAVE Battery** setting, which allows the driver to save or build up the high-voltage battery's energy reserves for a later point in time. When driving on the motorway, for instance, the state of charge can be kept constant or even boosted in order to use the high-voltage battery's power for all-electric driving in urban areas later in the journey. In this way, the stored electrical energy can be selectively deployed exactly when required.

The BMW X5 xDrive40e also comes as standard with a Driving Experience Control switch, just like the conventionally powered model variants of the sports activity vehicle. This can be used to activate the vehicle set-up modes COMFORT, SPORT and ECO PRO, which each have the effect of altering the throttle mapping, the steering characteristics, the responses of the 8-speed Steptronic transmission, as well as the characteristics of the Dynamic Damper Control included as standard on the BMW X5 xDrive40e. The ECO PRO mode furthermore triggers efficiency-optimised control of electrically powered comfort functions, such as the air conditioning, seat heating and heated mirrors. Besides this, when travelling on the overrun at speeds between 0 and 160 km/h (0 – 100 mph), the coasting function shuts off the engine, allowing the vehicle to glide along without burning any fuel.

The modes selectable with the eDrive button and the Driving Experience Control switch can be combined with one another at will, allowing the powertrain control and vehicle set-up to be tailored precisely to the prevailing situation and the driver's personal preferences. In this way, comfort, sportiness and efficiency can each be combined with high-intensity hybrid driving as desired.

### **Instrument cluster and Control Display with hybrid-specific readouts.**

The BMW X5 xDrive40e comes as standard with a black-panel instrument cluster which has had hybrid-specific functions added to its array of readouts. The drive readiness display positioned in the lower part of the engine rev counter switches from "OFF" to "READY" when the start/stop button is pressed. The high-voltage battery's state of charge is visualised in the form of a battery symbol below the gear display. The Driving Experience Control switch setting is also indicated, as is the operating mode selected with the eDrive button. Depending on the selected drive mode, information on the vehicle's electric and total range, current fuel or electricity consumption,

recuperation of electrical energy in the high-voltage battery and the progress of vehicle charging can likewise all be shown in the instrument cluster.

Model-specific menu options and readouts are also available in the iDrive operating system's Control Display. An energy flow display can be called up while on the move, illustrating in graphical form the interaction between combustion engine and electric motor as well as how energy is being fed to the high-voltage battery. Charging of the battery from the mains power supply can also be controlled from the iDrive menu. A **timer function** is available for this purpose, which can factor in a planned departure time as entered by the driver. In addition to this, preconditioning of both the interior and the battery can be programmed in the iDrive menu as well. Timer-controlled cooling or heating ensures a pleasant temperature inside the passenger compartment ready for the start of the journey, while the high-voltage battery can also be cooled so that it is in an optimum operating state at the time of departure. The electrically powered auxiliary heating and ventilation function is also part of the standard specification on the BMW X5 xDrive40e. It can either run on mains electricity during vehicle charging or be powered by the high-voltage battery if it has sufficient capacity.

**BMW X5 xDrive40e: a classic sports activity vehicle offering unique hybrid performance.**

Exclusive, bespoke design touches on the model's exterior clearly identify the BMW X5 xDrive40e as a classic sports activity vehicle while also making its unique hybrid capabilities plain to see. The most noticeable feature is the charging connection for the high-voltage battery located in the left front wing. Blue light effects also appear here at the start of the charging process to indicate the flow of energy. The exhaust system on the BMW X5 xDrive40e has a twin-tailpipe design with trapezoidal tips. Besides the model badge at the front of the vehicle's flanks, the "eDrive" logo already familiar from the BMW i models graces the tailgate, the door sill strips with their blue background colour, as well as the centre console.

Apart from Dynamic Damper Control, the standard specification for the BMW X5 xDrive40e also includes self-levelling rear air suspension. The 2-zone automatic climate control that features as standard on all BMW X5 model variants is extended to include an auxiliary heating and ventilation system comprising an electric instantaneous water heater and an electric refrigerant compressor. In addition to this, all of the optional extras from the BMW X5 range are available, with the exception of the third row of seats, the Adaptive Suspension Package Dynamic, Active Steering, the Multifunctional Instrument Display, comfort seats in the rear and the ski/snowboard bag. The BMW X5 xDrive40e can equally be specified with the

Design Pure Experience or Design Pure Excellence packages for the exterior and interior to emphasise either the sports activity vehicle's robust, versatile nature or its exclusive, luxurious character. The plug-in hybrid model can also be ordered with the M Sport package and the bespoke features offered by BMW Individual.

The Navigation system Professional is another standard feature in the BMW X5 xDrive40e. The cruise control system with braking function and the Driving Assistant, both likewise included as standard, can be complemented by the wealth of BMW ConnectedDrive options on offer, including Driving Assistant Plus featuring Active Cruise Control with Stop & Go function, Collision Warning with braking function and Traffic Jam Assistant, BMW Head-Up Display, the BMW Night Vision system with pedestrian and animal recognition as well as Dynamic Light Spot, Lane Change Warning, Parking Assistant, rear view camera, Surround View and Speed Limit Info including No Passing Info display. All driver assistance systems are also available when driving in all-electric mode. The Adaptive LED Headlights, Comfort Access, as well as the full selection of 19- and 20-inch light-alloy wheels, are available to order for the BMW X5 xDrive40e. 18-inch light-alloy wheels in double-spoke design are fitted as standard.

### **Highly versatile charging options as well – thanks to pioneering products and services from BMW 360° ELECTRIC.**

The plug-in hybrid design of the BMW X5 xDrive40e provides the ideal basis for extensive use of the electric drive system for highly efficient mobility, even including urban driving with zero tailpipe emissions. Its high-voltage battery offers a gross energy capacity of 9.0 kilowatt hours (kWh) and can be topped up with energy from any domestic power socket, from a Wallbox that has been designed for higher currents as well as at public charging stations. The standard charging cable can be kept in a compartment underneath the luggage compartment floor.

When hooked up to a conventional **domestic power socket** the high-voltage battery can be fully recharged from flat in around 3 hours and 50 minutes. A tailor-made solution for safe, simple and extra-fast battery charging at home is available for the BMW X5 xDrive40e under the umbrella of **BMW 360° ELECTRIC**. The **BMW i Wallbox Pure** is capable of replenishing the high-voltage battery at a charging rate of 3.5 kW (16 A/230 V). As a result, it takes 2 hours and 45 minutes to fully recharge an empty battery pack. Charging progress can be checked on a graphic displayed in the vehicle's instrument cluster or on a smartphone using the BMW Remote app. The home charging station comes in a second version, the **BMW i Wallbox Pro**, offering added convenience features. It comes

equipped with a 7-inch colour monitor, whose user-friendly touchscreen indicates how vehicle charging is progressing as well as allowing customised settings to be made for load management and self-produced electricity. The data displayed on the monitor includes the quantity of energy supplied and information on preceding charge cycles.

Under the umbrella of **BMW 360° ELECTRIC** customers are offered an all-embracing service concept covering everything from the supply and installation of the charging station to maintenance, advice and other services. There is also the **ChargeNow** service, comprising a **ChargeNow** card that grants straightforward access to partner charging stations and can also be used for convenient billing of the monthly energy costs. The **ParkNow Longterm** mobility service simplifies the task of finding a parking space in urban centres and also helps with finding and booking a parking spot with access to charging facilities. Beyond this, the BMW 360° ELECTRIC portfolio also comprises maintenance, assistance and other customer services that have been specially tailored to this model.

Innovative new functions from BMW ConnectedDrive furthermore help to plan journeys in such a way that the vehicle drives on electric power alone as much as possible and at maximum efficiency at all times. The Navigation system Professional fitted in the BMW X5 xDrive40e as standard gives drivers the option of calculating a hybrid-specific ECO PRO route to an entered destination, which makes allowance for factors such as the traffic situation, the route profile and driving style. The intelligent energy management function in the BMW X5 xDrive40e utilises the available data on the route profile for all navigation-assisted journeys anyway, together with real-time traffic information. This forms the basis for anticipatory and efficiency-optimised powertrain control that keeps fuel consumption as low as possible while making intensive use of electric mobility, for example when nearing the journey's destination. On a longer journey that goes through both rural and built-up areas, for instance, Brake Energy Regeneration can be employed and the engine's load points deliberately raised at higher speeds to ensure there are sufficient power reserves for completing the urban sections in all-electric drive mode. What's more, the locations of public charging stations are added to the selection of points of interest on the navigation map whenever route guidance is activated.

The BMW Remote app also comes in a hybrid-specific version and lets the driver retrieve information on the high-voltage battery's state of charge even when they are away from the vehicle by using a smartphone. The app also displays the location of public charging stations. Efficiency evaluations for the last journey completed can be viewed on the smartphone as well, along with

the total distance driven purely on electric power and the amount of fuel saved by using mains electricity. The auxiliary heating and ventilation functions of the BMW X5 xDrive40e can similarly be activated remotely with the help of the BMW Remote app.

**Production at the BMW Spartanburg plant: centre of excellence for BMW X models and hybrid technology.**

The BMW X5 xDrive40e is being produced at the BMW Spartanburg plant in the US state of South Carolina. This is where all other model variants of the sports activity vehicle are also built together with the BMW X6, BMW X3 and BMW X4 models. It has been over 15 years since the first-generation BMW X5 went into production, during which time this US plant has evolved into the global centre of excellence for BMW X models.

The BMW X5 xDrive40e is assembled in parallel with both the other model variants of the BMW X5 and the BMW X6 on a shared production line. Special assembly steps have been added to the manufacturing process for integrating the hybrid-specific components. The high-voltage battery is manufactured in a newly constructed production hall on the site of the BMW Spartanburg plant. All production processes are subject to the same strict quality and safety standards that the BMW Group applies worldwide. The BMW Spartanburg plant furthermore stands out for its extremely resource-efficient system of energy supply. It was here that the intelligent Energy Data Management System (iEDMS) with continuous and comparative power consumption measurement was first implemented. Moreover, a large part of the energy required for vehicle production is obtained from methane gas with the help of highly efficient turbine generators.

## 4. Specifications. BMW X5 xDrive40e.



<b>BMW X5 xDrive40e</b>		
<b>Body</b>		
No. of doors/seats		5 / 5
Length/width/height <sup>1)</sup> (unladen)	mm	4886 / 1938 / 1762
Wheelbase	mm	2933
Track, front/rear	mm	1644 / 1650
Turning circle	m	12.7
Fuel tank capacity	approx. ltr	85
Engine oil <sup>2)</sup>	ltr	5.0
Weight (unladen) to DIN/EU	kg	2230 / 2305
Max load to DIN	kg	750
Max permissible weight	kg	2980
Max axle load, front/rear	kg	1250 / 1755
Max trailer load, braked (12%/unbraked)	kg	2700 / 750
Max roof load/towbar download	kg	100 / 140
Luggage comp. capacity	ltr	500 – 1720
Air resistance	c <sub>d</sub> x A	0.31 x 2.84
<b>Drive system</b>		
Drive concept		Full hybrid drive, permanent torque vectoring to all four wheels from one or both units via BMW xDrive
System output	kW/hp	230 / 313
<b>Combustion engine</b>		
Config./No. of cyls./valves		In-line / 4 / 4
Engine technology		BMW TwinPower Turbo technology: TwinScroll turbocharger, High Precision Injection, fully variable valve control (VALVETRONIC), Double VANOS variable camshaft control
Effective capacity	cm <sup>3</sup>	1997
Bore/stroke	mm	90.1 / 84.0
Compression ratio	:1	10.0
Fuel grade		min RON 91
Output	kW/hp	180 / 245
at	rpm	5000 – 6500
Torque	Nm	350
at	rpm	1250 – 4800
<b>Electric motor</b>		
Motor technology		BMW eDrive technology: synchronous electric motor integrated in 8-speed Steptronic transmission, generator function for energy recuperation for the high- voltage battery
Max. output <sup>3)</sup>	kW/hp	83 / 113
at	rpm	3170
Rated output	kW/hp	55 / 75
at	rpm	5000
Torque	Nm	250
at	rpm	0
Recuperation output	kW	20
<b>High-voltage battery</b>		
Storage technology / installation		Lithium-ion / underneath luggage comp.
Voltage	V	351
Capacity (gross)	kWh	9.0
Charging time for 100% charge		< 2.8 h at 3.5 kW (16 A / 230 V)
<b>Transmission</b>		
Type of transmission		8-speed Steptronic
Gear ratios	I :1	4.714
	II :1	3.143
	III :1	2.106
	IV :1	1.667
	V :1	1.285
	VI :1	1.000
	VII :1	0.839
	VIII :1	0.667
	R :1	3.317
Final drive	:1	3.154

<b>BMW X5 xDrive40e</b>		
<b>Driving Dynamics and Safety</b>		
Suspension, front	Double track control arm with double joint principle, small, negative steering roll radius, anti-dive	
Suspension, rear	Integral-IV rear axle, spatial suspension with anti-squat and anti-dive, air suspension with automatic self-levelling	
Brakes, front	Single-piston floating-calliper disc brakes, inner-vented	
Brakes, rear	Single-piston floating-calliper disc brakes, inner-vented	
Driving stability systems	Standard: DSC incl. ABS and Dynamic Traction Control (DTC), Cornering Brake Control (CBC), Dynamic Brake Control (DBC), Dry Braking function, Fading Compensation, Start-Off Assistant; DSC linked to xDrive all-wheel-drive, Automatic Differential Brake (ADB-X), Hill Descent Control (HDC), Dynamic Damper Control	
Safety equipment	Standard: airbags for driver and front passenger, side airbags for driver and front passenger, head airbags for front and rear seats, crash-activated head restraints at the front, three-point inertia-reel seatbelts on all seats with integrated belt latch tensioner and belt force limiter at the front, crash sensors, rollover sensors, Tyre Defect Indicator	
Steering	Electric Power Steering (EPS) with Servotronic function	
Steering transmission, overall	:1	19.1
Tyres, front/rear	255/55 R18 109 V XL	
Rims, front/rear	8.5J x 18 light-alloy	
<b>Performance</b>		
Weight-to-power ratio (DIN)	kg/kW	9.7
Specific output combustion engine	kW/ltr	90.1
Acceleration 0–100 km/h	s	6.8
Maximum speed	km/h	210
Maximum speed electric	km/h	120
EU cycle electric range	km	up to 31
<b>Offroad specifications</b>		
Overhang angle, front/rear	°	25.0 / 22.5
Ramp angle	°	20.0
Ground clearance (unladen)	mm	209
Fording depth (at 7 km/h)	mm	500
<b>BMW EfficientDynamics</b>		
BMW EfficientDynamics standard measures	BMW eDrive technology, Brake Energy Regeneration with recuperation display, Electric Power Steering (EPS), hybrid-specific Auto Start Stop function, ECO PRO mode with coasting function, intelligent lightweight construction, optimised aerodynamic attributes, active air vents, on-demand operation of ancillary units, map-controlled oil pump, efficiency-optimised rear differential and power divider, tyres with reduced roll resistance	
<b>Fuel consumption EU<sup>4)</sup></b>		
With standard wheels and tyres		
combined	ltr/100km	3.3
CO <sub>2</sub> emissions from fuel	g/km	77
Power consumption combined	kWh	15.3
With rims 9J x 19 front, 10J x 19 rear and tyres 255/50 R19 front, 285/45 R19 rear, with rims 10J x 20 front, 11J x 20 rear and tyres 275/40 R20 front, 315/35 R20 rear		
combined	ltr/100km	3.4
CO <sub>2</sub> emissions from fuel	g/km	78
Power consumption combined	kWh	15.4
Emission rating	EU6	

Specifications apply to ACEA markets/data relevant to homologation apply in part only to Germany (weight, maximum speed)  
All data are provisional

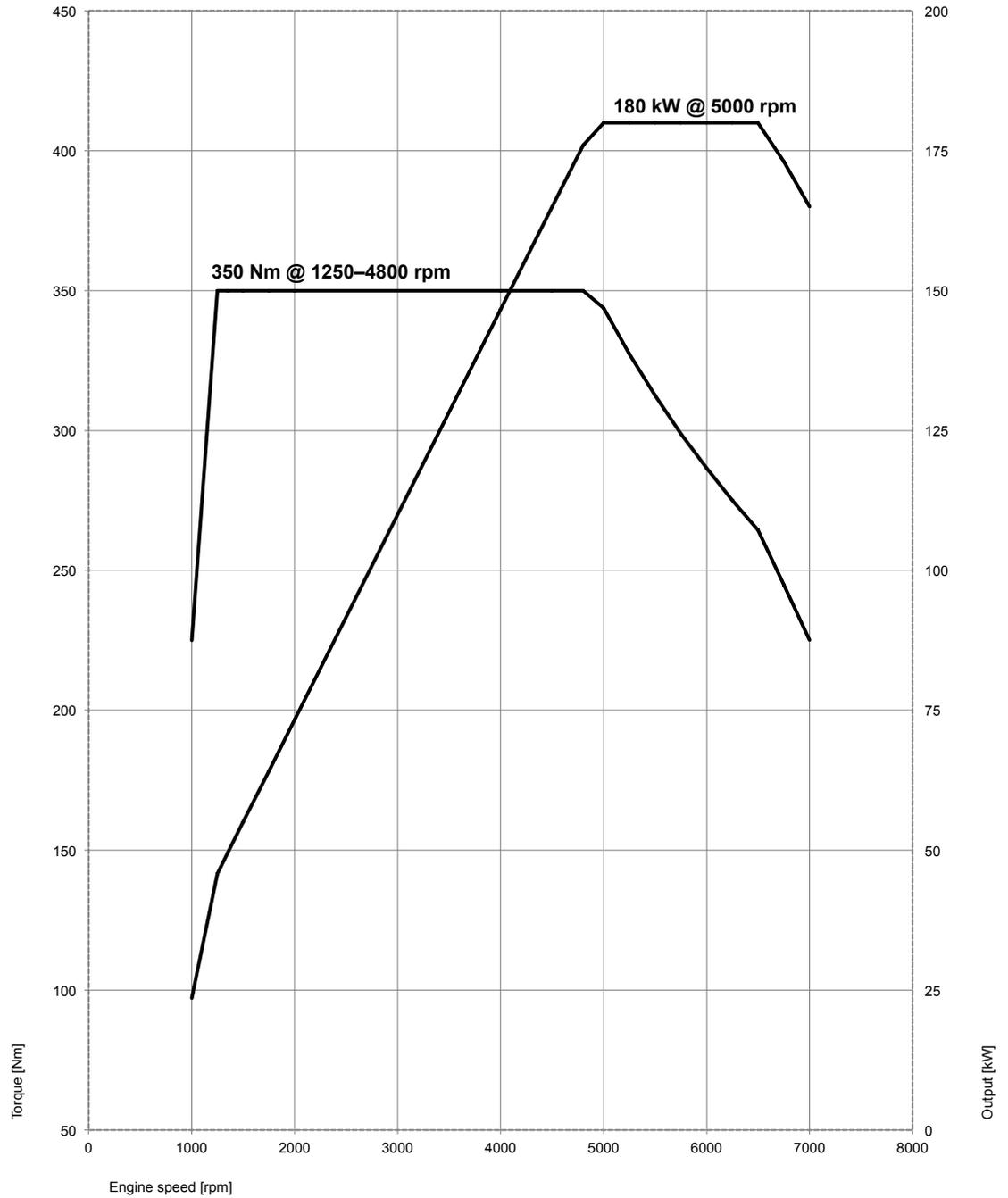
<sup>1)</sup> Height including roof fin

<sup>2)</sup> Oil change

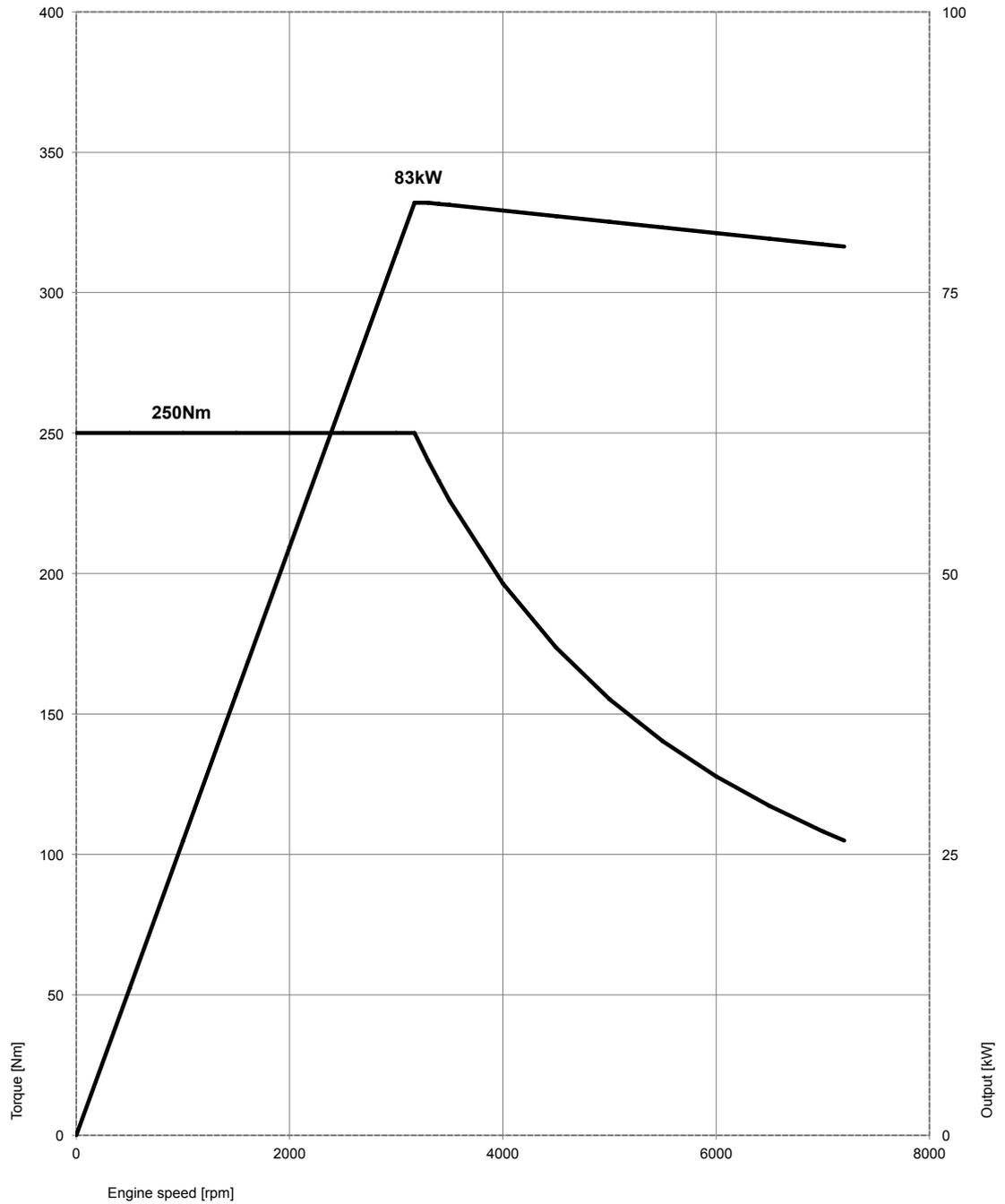
<sup>3)</sup> According to ECE R-85

<sup>4)</sup> Fuel consumption and CO<sub>2</sub> emission figures depend on the specified tyre format

## 5. Output and torque diagrams. BMW X5 xDrive40e. Combustion engine.



# BMW X5 xDrive40e. Electric motor.



## 6. Exterior and interior dimensions.

