BMW ActiveHybrid X6.
Contents.

Description in Brief.

- The BMW ActiveHybrid X6 is the world's first Sports Activity Coupé with full hybrid drive offering a driving experience quite unique both in the segment of BMW X models and in the hybrid segment as a whole. Through its combination of a V8 gasoline engine and electric drive, the BMW ActiveHybrid X6 offers a significant increase in dynamic performance together with a reduction of fuel consumption and emissions by approximately 20 per cent. This joint enhancement of driving pleasure and efficiency clearly proves that the BMW ActiveHybrid X6 is a typical BMW in the hybrid segment.

- BMW ActiveHybrid technology offers the driver three significant options: to drive under electric power alone, to use the power of the combustion engine, or to benefit form the combination of both drive modes. Driving completely free of CO_2 in the electric mode is possible up to a speed of 60 km/h or 37 mph. The combustion engine then cuts in as required (as a function of load conditions) and is automatically switched off when driving in overrun at a speed of less than 65 km/h or 40 mph.

- The drive system featured in the BMW ActiveHybrid X6 consists of a 300 kW/407 hp V8 power unit with BMW TwinPower Turbo Technology and two electric motors developing 67 kW/91 hp and, respectively, 63 kW/86 hp. Maximum system output is 357 kW/485 hp, peak torque is 780 Newton-metres/575 lb-ft. This makes the BMW ActiveHybrid X6 the most powerful hybrid vehicle in the world.

- Through its unique balance of performance and fuel economy the BMW ActiveHybrid X6 sets new standards both in the hybrid vehicle segment and in the overall market of BMW X models. Acceleration from a standstill to 100 km/h comes in 5.6 seconds. Average fuel consumption in the EU5 test cycle is 9.9 litres/100 km (equivalent to 28.5 mpg imp), the CO_2 emission rating is 231 grams/kilometre.

- Integration of the two electric motors in the two-mode active transmission of the BMW ActiveHybrid X6 allows two self-sufficient modes of operation. One mode is for setting off in particularly dynamic style and for driving at low speeds, the second is for driving at a higher speeds under

optimum conditions. This ensures all the benefits of BMW ActiveHybrid technology, with maximum efficiency under all loads and at all speeds. At the same time the seven-speed automatic transmission provided by the electric motors together with three planetary gearsets and four multiple-plate clutches ensures all the supreme driving behaviour, smoothness and performance so typical of BMW.

- When applying the brakes or taking back the gas pedal kinetic energy is converted into electrical energy and stored in the high-performance battery. To provide this benefit either one or both electric motors act as a generator, depending on driving conditions. The recuperation efficiency and output achieved by the system is 25 times greater than with Brake Energy Regeneration featured so far in BMW's production models.

- Electrical energy is stored in an NiMH high-performance battery with a capacity of 2.4 kWh. The temperature of the high-voltage battery is controlled as required and with maximum efficiency by liquid cooling interacting with the air conditioning and an external heat exchanger.

- The central electronic control unit ensures appropriate interaction of the combustion engine and electric drive crucial to the outstanding efficiency and unique qualities of the BMW ActiveHybrid X6. It converts high-voltage direct current from the high-performance battery into three-phase alternating current for the two electric motors in the hybrid transmission. It also coordinates all functions of the hybrid system including the distribution of torque and power between the combustion engine and the electric motors as well as the selection of gears.

- Over and above the electric motors, the high-performance battery also supplies electrical energy to the power-consuming items linked to the 12-volt on-board network. The BMW ActiveHybrid X6 is equipped with electromechanical power steering and an electrical climate compressor both remaining fully functional also when the combustion engine is switched off and enhancing the overall efficiency of the vehicle to an even higher standard through their on-demand consumption and uptake of energy.

- While braking the generator builds up stopping forces in the electric motors acting efficiently on all four wheels and precisely coordinated with the hydraulic brake effect in accordance with the driver's stopping and deceleration requirements. This provides not only optimum stopping power, but also the brake feeling so typical of BMW under all driving conditions including the all-electric mode. A further point is that like the

BMW X6, the BMW ActiveHybrid X6 comes with Dynamic Stability control incorporating an enhanced range of functions such as Dry Braking and Fading Compensation as well as an electromechanical and hydraulic parking brake complete with an Auto-Hold function.

- In its driving behaviour and motoring comfort, the BMW ActiveHybrid X6 offers all the standards provided by BMW's latest X models, without the slightest difference between the electrical and the combustion drive mode. Intelligent xDrive all-wheel-drive technology with permanent, variable power distribution front-to-rear enhances the unique driving dynamics of the vehicle to an even higher standard.

- The current operating mode and function of the drive system is clearly presented by appropriate displays in the instrument cluster and in the Control Display itself. The charge level of the high-performance battery at the disposal of the driver and the current operating mode are shown by appropriate gauges beneath the rev counter. Being informed of the power uptake when driving in the electric mode, the driver may if he wish maintain that mode longer in the interest of extra efficiency. And if he wishes the driver may also call up information on the current flow of energy in the Control Display.

- The particularly prominent Powerdome on the engine lid gives the BMW ActiveHybrid X6 a very distinctive look versus the "regular" BMW X6 as a significant visual highlight. "ActiveHybrid" model designations on the tailgate trim bar and on the front doors, the designation "BMW ActiveHybrid" on the door entry covers on either side, 19-inch light-alloy wheels (or, as an option, 20-inch light-alloy wheels in aerodynamically optimised Streamline design), as well as exterior paintwork in exclusive Bluewater metallic for the first time on a BMW X6 serve furthermore to highlight the particular character of this unique car.

- The BMW ActiveHybrid X6 combines innovative drive technology with the unique concept of a Sports Activity Coupé. The very progressive and exclusive character of this outstanding vehicle is further underlined by a particularly wide range of standard features as well as attractive options. The BMW ActiveHybrid X6 comes as standard with features such as comfort seats, automatic air conditioning, cruise control, the BMW Professional navigation system and Park Distance Control. A further important feature is the electrical opening and closing function on the tailgate. Options include an extended range of nappa leather upholstery in an exclusive Ivory White/Black colour combination

complete with double blue seams, a glass sliding/vent roof, a trailer towbar, as well as the complete range of BMW ConnectedDrive including innovative driver assistance systems.

- The safety features offered by the BMW ActiveHybrid X6 include frontal and side airbags, head airbags at the side, crash-activated headrests at the front, runflat tyres as well as a Tyre Defect Indicator enabling the driver to monitor the pressure individually in each tyre. BMW Adaptive Headlights complete with a Bending Light function supplement the bi-xenon headlights with their daytime driving lights featured as standard.

Fascinating Efficiency: The BMW ActiveHybrid X6.

BMW ActiveHybrid technology combines superior driving dynamics with equally superior efficiency pointing far into the future, brining together both of these qualities to offer a truly unique driving experience.

The world's first Sports Activity Coupé with full hybrid drive therefore capitalises on the options offered by combining the combustion engine and the electric motor with a standard of perfection never seen before. BMW ActiveHybrid technology offers a significant increase in driving dynamics and at the same time reduces fuel consumption by approximately 20 per cent versus a comparable vehicle powered by a combustion engine alone. The result is even greater Sheer Driving Pleasure combined with enhanced fuel economy and CO_2 management providing the kind of progress to make the BMW ActiveHybrid X6 a typical BMW in the hybrid market.

The overall drive system featured in the BMW ActiveHybrid X6 consists of a 300 kW/407 hpV8 gasoline engine with BMW TwinPower Turbo Technology and two electric synchronous motors delivering 67 kW/91 hp and, respectively, 63 kW/86 hp. Maximum system output is 357 kW/485 hp, peak torque is 780 Newton-metres/575 lb-ft.

Precisely controlled interaction of the three power units optimises the overall efficiency of the BMW ActiveHybrid X6 at all speeds, with acceleration from a standstill to 100 km/h in 5.6 seconds. Top speed of the BMW ActiveHybrid X6 is limited electronically to 236 km/h or 146 mph (250 km/h or 155 mph with the optional Sports Package, with average fuel consumption in the EU test cycle of 9.9 litres/100 km (equal to 28.5 mpg imp) and a CO_2 emission rating of 231 grams per kilometre.

BMW's first full hybrid model is able to run exclusively on electric power – and that is entirely free of CO_2 – up to a speed of 60 km/h or 37 mph, with the combustion engine being activated automatically whenever required.

Ideal variation of the two drive modes for enhanced efficiency and dynamism is ensured by The two-mode active transmission provides the ideal combination of the two power modes for enhanced efficiency and dynamic performance at all times. With the two electric motors, three planetary gearsets and four multiple-plate clutches, drive power is transmitted

through a seven-gear automatic transmission operated by the driver of the BMW ActiveHybrid X6 via an electronic gear selector lever and, respectively, shift paddles on the steering wheel.

BMW's intelligent xDrive all-wheel-drive system spreads out engine power variably between the front and rear wheels.

The electric motors receive their energy from an NiMH high-performance battery positioned beneath the floor of the luggage compartment and feeding electric power also to the car's on-board network. Luggage compartment capacity is therefore the same as on the "regular" BMW X6 with its combustion engine. When applying the brakes or taking back the gas pedal kinetic energy is converted into electrical energy and is stored in the high-performance battery. To provide this function either one or both of the electric motors acts as a generator, feeding electric power generated without the slightest increase in fuel consumption directly into the high-voltage battery. Subsequent use of this energy to provide extra drive power significantly reduces the consumption of fuel.

BMW ActiveHybrid technology raises the development of drive systems enhancing both efficiency and dynamism in one to a new, unprecedented standard, clearly confirming BMW's superior competence in development in this area. Now the introduction of this innovative technology in such an exceptional vehicle concept adds a particularly fascinating motoring experience through the efficiency achieved in this way. Through its size, character and driving dynamics, the world's one and only Sports Activity Coupé is particularly well-suited to combine the progressiveness and the potential of BMW ActiveHybrid technology to a standard never seen before.

Unique efficiency ensured by two-mode active transmission.
BMW ActiveHybrid technology has been developed specifically for use in a particularly dynamic vehicle in this segment and for a broad range of practical use going far beyond city traffic as such. The big advantage, therefore, is the overall optimisation of drivetrain efficiency in all speed ranges and under all conditions.

The two-mode active transmission is based on an ECVT (electric continuously variable transmission) operating in two separate modes. One mode is for setting off with particular power and for driving at low speeds, the second is for motoring at high speeds.

When setting off only one of the two electric motors is activated. Then, as soon as the driver requires more power, the second electric motor

automatically activates the combustion engine and subsequently serves as a generator providing a permanent supply of electric power.

When driving steadily at a higher speed most of the power required is delivered by the combustion engine in a largely mechanical process. Here again, one of the two electric motors acts as a generator.

Together with the mechanical components, the electric motors form a joint transmission unit providing the optimum transmission ratio at all times as a function of driving conditions. The mechanical link within the two-mode active transmission is provided by three planetary gearsets in a configuration dividing the drive power generated by the combustion engine and the two electric motors into two transmission modes and therefore ensuring a degree of variability in combining the two power sources conventional hybrid drive would not be able to provide.

The two operating modes of the electric motors are supplemented and enhanced by fixed transmission ratios providing a total of seven gears for full use of the highly efficient hybrid function throughout the vehicle's complete range of operation and at the same time maintaining the driving performance so typical of BMW.

Conventional but unique all in one: V8 gasoline engine with BMW TwinPower Turbo Technology and High Precision Injection.
The combustion engine is a technically unique eight-cylinder featured for the first time in the BMW X6 xDrive50i. The world's first V8 gasoline engine with two turbochargers in the V-section between the two rows of cylinders excels in particular through its smooth development of power setting in from the start and continuing in an ongoing surge throughout the entire speed range. The exceptionally spontaneous and direct response of this V8 with BMW TwinPower Turbo Technology results directly from the compact configuration of the engine allowing short manifolds as well as large cross-sections on the intake and exhaust side.

Displacing 4.4 litres, this outstanding eight-cylinder delivers maximum output of 300 kW/407 hp consistently maintained between 5,500 and 6,400 rpm. Superior torque of 600 Newton-metres/442 lb-ft is maintained all the way from 1,750 to 4,500 rpm, with High Precision Injection ensuring precise supply of fuel at all times.

Piezo-injectors positioned in the middle between the valves ensure a smooth, efficient and clean combustion process, the V8 naturally fulfilling both the European EU5 standard as well as the ULEV II limits in the USA.

Compared with the power unit featured in the BMW X6 xDrive50i, this new engine has been modified in numerous respects to the specific requirements of the BMW ActiveHybrid X6. The first point is that there is no starter, no alternator and belt drive for the climate compressor and hydraulic pump on the power steering. The main and low-temperature circuits in the cooling system have been modified for all-electric operation, the low-temperature circuit already serving to cool the charge air in the combustion engine being used additionally to cool the power electronics.

A specifically designed hybrid engine cover, finally, marks a clear difference versus the power unit in the BMW X6 xDrive50i.

Electric motors for enhanced performance on no extra fuel.
When accelerating the eight-cylinder power unit of the BMW ActiveHybrid X6, joining forces with the electric motors, ensures optimum efficiency and dynamic performance. As soon as the driver requires more power the two electric motors fed by the high-voltage energy battery supply additional torque for enhanced performance. This boost effect significantly increases the overall output of the BMW ActiveHybrid X6, without any increase in fuel consumption.

While the two electric motors have almost the same output, they have been modified in their performance characteristics to meet individual requirements. The power delivered is 67 kW/91 hp and. respectively, 63 kW/86 hp, with peak torque of 260 Newton-metres/192 lb-ft and 280 Newton-metres/206 lb-ft.

The electric motors support the combustion engine effectively throughout the entire speed range, the additional electrically generated drive power serving to reduce the power output required on the combustion engine when driving steadily at a higher speed. This shift in load is perfectly controlled at all times to give the overall system enhanced efficiency and its maximum effect under practical driving conditions.

The electronic control unit is also able to provide a consistent, ongoing surge of power, maximum power being generated when shifting gears through the so-called response boost effect. When kicking down the accelerator for maximum acceleration, the control unit generates stationary boost right from the start in the initial downshift phase, interaction of response boost and stationary boost ensuring a very spontaneous and direct response to every movement of the gas pedal.

Maximum system output is 357 kW/485 hp, with peak torque of 780 Newton-metres/575 lb-ft. This makes the BMW ActiveHybrid X6 the most powerful hybrid vehicle in the world, with acceleration from a standstill to 100 km/h in just 5.6 seconds and top speed is limited electronically to 236 km/h or 146 mph (or, respectively, 250 km/h or 155 mph with the optional Sports Package).

The unique positon of BMW ActiveHybrid X6 within the BMW X segment as a whole follows very clearly and convincingly from the comparison of these performance figures, on the one hand, with the vehicle's fuel consumption and emission ratings, on the other. The BMW ActiveHybrid X6 combines its supreme dynamism with equally fascinating efficiency, with fuel average fuel consumption in the EU test cycle of just 9.9 ltr/100 km (equal to 28.5 mpg imp) and a CO_2 rating of 231 grams per kilometre.

All-electrical driving mode reducing emissions to zero.
With its combination of two-mode active transmission and high-performance battery, the BMW ActiveHybrid X6 is able to run on its electric motors alone. This makes it a zero emission vehicle under such conditions, fulfilling even the strictest requirements foreseen for the future and ensuring the highest conceivable level of mobility.

The BMW ActiveHybrid X6 may run on electric power alone regardless of the ambient temperature, minimum operating temperatures being required only for the engine coolant, transmission fluid and high-voltage battery. A further requirement is that the high-performance battery is adequately charged.

Top speed in the electric mode is 60 km/h or 37 mph, maximum range is 2.5 kilometres (1.6 miles).

While driving electrically, the BMW ActiveHybrid X6 retains all its safety and comfort functions. The brakes remain fully operative thanks to electronic vacuum supply, not requiring the combustion engine to develop their full effect. The same applies to the EPS Electronic Power Steering, with steering assistance being generated as required and with maximum efficiency by an electric motor.

Even the air conditioning remains fully available without any restrictions, running efficiently on an electrical climate compressor. And since the high-performance battery supplies electric power to the complete 12-volt on-board network through a voltage converter regardless of the driving mode, all other power-consuming items such as the lights and the on-board entertainment system remain fully functional at their usual, consistent level.

Recuperation: electric power generated without additional fuel consumption.

The BMW ActiveHybrid X6 features an enhanced version of Brake Energy Regeneration already used in BMW's current models running on a combustion engine alone, generating the electric power saved in the high-performance battery. In this case the electric motors act as generators in overrun and when applying the brakes in order to feed electric power into the high-voltage battery unit, again in the interest of maximum efficiency.

This uses energy otherwise simply lost in conventional vehicles as heat escaping through the brakes – and depending on road speed, one or both of the electric motors may perform this function.

The power delivered by the generator is approximately 50 kW, about 25 times as much as the power provided so far by Brake Energy Regeneration.

Generator delivering electrical brake power.

In the generator mode the two electric motors supply a lot of the energy required to slow down the vehicle whenever necessary. Indeed, the stopping power generated in this way is up to 3 metres/sec^2 or, respectively, 0.3 g in a purely recuperative process, significantly reducing the load acting on the mechanical brake system.

Sensotronic Brake Actuation (SBA) in the BMW Active Hybrid X6 may be used at any time without a direct mechanical connection between the brake pedal and the hydraulic circuit. Pedal movement is recorded by sensors and split up by a control unit into brake power generated in a regenerating and in a hydraulic process. At the same time an integrated pedal force simulator generates the usual brake feeling for the driver as an additional factor in this brake-by-wire solution.

The active brake servo builds up brake pressure with electrical control according to the signals emitted by the control unit. To ensure brake power assistance also in the all-electric mode, the BMW ActiveHybrid X6 comes furthermore with an electrical under-pressure pump replacing the vacuum pressure in the intake system of the combustion engine on a conventional vehicle. A mechanical fallback function, in turn, guarantees full operation of the brake system in the event of a failure or deficiency in the electrical system, in which case the stopping power required is generated by the hydraulic system alone, like on a conventional vehicle.

The primary task of the SBA system is to split up the brake power required by the driver into a regenerating and a hydraulic brake factor. Via the xDrive

powertrain, the hybrid system in the BMW ActiveHybrid X6 is able to transmit brake forces to all four wheels generated by the stopping power of the recuperative electric motors. And whenever the stopping power required exceeds the level of 3 metres/sec^2, the control unit builds up additional brake force through the mechanical brake by means of the active brake servo.

In braking situations critical to driving stability the control unit receives additional signals from the DSC Dynamic Stability Control, intervening in the brakes and engine management to keep the vehicle safely on course. This ensures safe braking manoeuvres under all conditions, with all driving stability systems developing their complete effect when required regardless of whether the stopping power needed is generated electrically or hydraulically.

A further point is that all driving stability systems are tailored in their operation to the dynamic character of the Sports Activity Coupé also on the BMW ActiveHybrid X6. DTC Dynamic Traction Control selected at the touch of a button, for example, provides maximum traction and drive power on loose surfaces such as snow or sand thanks to its higher slip thresholds. And with the DTC mode activated, the driver may opt for a particularly sporting style of motoring all the way to a controlled power slide in bends.

BMW xDrive: intelligent all-wheel drive for extra performance, optimum driving stability and supreme traction.
The sports-oriented driving behaviour of the BMW ActiveHybrid X6 is also attributable to xDrive all-wheel-drive technology. Permanent all-wheel drive with electronically controlled, variable distribution of drive power front-to-rear gives the BMW ActiveHybrid X6, like all BMW X models, not only superior traction, but also enhanced driving dynamics.

BMW xDrive qualifies as an intelligent all-wheel-drive system in particular through the smooth division of drive power ensured by a power divider with an electronically controlled multiple-plate clutch feeding the appropriate level of power to the right axle with optimum wheel contact and grip on the road.

Under normal conditions BMW xDrive spreads out drive power to the front and rear axle in a 40:60 split, sensors consistently measuring wheel slip both front and rear. The system is able to vary the balance of drive power within fractions of a second, BMW xDrive, unlike conventional all-wheel-drive systems, thus looking ahead and not only responding when a wheel is already spinning.

Benefiting from these abilities, BMW xDrive raises the driving dynamics of the BMW ActiveHybrid X6 to an even higher level by recognising even the

slightest tendency to over- or understeer right from the start and taking appropriate counter-action.

EPS Electronic Power Steering for even greater driving comfort.
The BMW ActiveHybrid X6 is the first BMW X model to feature EPS Electronic Power Steering. This allows active steering assistance both when driving with the combustion engine and in the all-electric mode.

EPS provides optimum steering assistance under all conditions to give the driver that special feeling so typical of the BMW brand. Another advantage is the further reduction of fuel consumption, EPS significantly reducing the energy required for steering assistance compared with conventional, hydraulic power steering, since Electronic Power Steering only becomes active when steering assistance is actually required or desired by the driver. So when driving straight ahead in a straight line, for example, the electric motor does not consume any energy whatsoever.

Electronic Power Steering on the BMW ActiveHybrid X6 comes complete with fully integrated speed-related Servotronic steering assistance, the reduction of assistance at high speeds ensuring not only safe directional stability but also extremely precise steering behaviour in bends as well as the safe feeling at high speeds again so characteristic of a BMW. At low speeds, on the other hand, for example when parking, extra power assistance significantly reduces the steering forces required.

Liquid cooling for even greater performance on the high-performance battery.
The high-voltage battery featured in the BMW ActiveHybrid X6 comes in nickel-metal hydrid technology (NiMH). Capacity is 2.4 kWh, with 1.4 kWh available actively for practical use. Maximum output, in turn, is 57 kW, with the battery's control unit permanently determining the output level currently available as well as the charge status of the battery.

The high-performance battery comes with its own liquid cooling system incorporating a heat exchanger to cool the battery through the flow of air from the outside and, additionally, through the cooling circuit in the air conditioning. These two circuits are activated either individually or in combination with one another, depending on current requirements, the control unit selecting the most effective and efficient cooling option as a function of ambient temperature and the temperature of the high-voltage storage unit.

Cooling by the air conditioning is activated by an appropriate switch valve, with the electrical climate compressor being switched on automatically whenever required. The interior and the high-voltage battery being cooled separately of one another, cooling is far more efficient than with a system using air cooling only, raising the energy storage medium to a far higher level of performance and retaining the hybrid functions longer in extreme weather and whenever the driver prefers a very sporting style of motoring. Ultimately, this gives BMW ActiveHybrid X6 an outstanding potential in driving dynamics far superior to other hybrid vehicles in the market.

Intelligent energy management and integral safety concept.
Power electronics developed especially for BMW ActiveHybrid technology ensures energy management on board the BMW ActiveHybrid X6 both very efficient and flexible in use. The electronic control system consistently controls the distribution of energy as a function of ambient conditions, the status of the vehicle, and the demands made by the driver. The most important incoming and control factor for the operating strategy chosen is the charge status of the high-performance battery saving the electrical energy generated through recuperation.

The BMW ActiveHybrid X6 naturally complies in full with the integral safety concepts developed for hybrid vehicles by BMW. With central control functions being integrated both in the power electronics and the energy battery, the system has the ideal starting point for fulfilling all kinds of international crash test standards as well as the demanding internal standards of the BMW Group, in particular guaranteeing the highest level of operating safety on all components in the high-voltage on-board network.

Some of the features of this safety concept are the different colours of cables to avoid any confusion, the presentation of clear safety warnings and the all-round cover on the entire system using extra-large insulation panels and newly developed connectors.

The high-voltage battery is housed in a high load-resistant steel casing and is fitted firmly inside the car, just above the rear axle at an extremely safe point for the event of a collision. The status of the storage modules is constantly supervised by integrated safety electronics, the driver being informed immediately of any malfunction and, wherever necessary, the entire system being automatically discharged and deactivated.

In the event of a collision, the system is switched off automatically within fractions of a second, the car’s central safety electronics assessing the

severity of an accident and ensuring a safe operating mode as a function of current, individual requirements.

Special hybrid drive Auto Start Stop function.
In city traffic the BMW ActiveHybrid X6 can be run in the all-electric mode without using the combustion engine. A further advantage is that the vehicle comes with a new generation of Auto Start Stop technology featured here for the first time. Tailored specifically to the requirements of a hybrid car, this new Auto Start Stop function allows a much higher standard of comfort and is available more often than the conventional system. Automatic deactivation of the combustion engine at a road junction or at the traffic lights does not in any way impair the driving experience, just as the V8 power unit will start again immediately as soon as the driver presses down the gas pedal.

BMW ActiveHybrid X6 provides the Auto Start Stop function consistently at all outside temperatures, no matter how cold or how hot.

As long as the engine is switched off, the electric climate compressor automatically maintains the climate and temperature desired within the passenger compartment. All other electrically operated functions are also maintained, with the on-board network being consistently supplied with power from the high-voltage storage unit. The only way to deactivate the special hybrid Auto Start Stop function is by choosing the manual gearshift mode on the automatic transmission.

Additional displays informing the driver of the operating status and efficiency of the hybrid system.
Operation of the hybrid system and current operating conditions are presented clearly and understandably in the displays. The most important information is shown in the central instrument cluster, clearly separated according to the various operating modes. Further information and technical explanations, in turn, are shown in the Info Display in the centre console.

The drive displays are split up into a conventional rev counter for the combustion engine and special displays for electric drive in the lower part of the instrument cluster. Clear visual presentation of these functions shows the driver that the vehicle is ready to go. The electric drive displays relevant to the driver are the charge status of the high-voltage storage unit, the recuperation display, the support provided by the electric motors when accelerating through their boost function, as well as the driving stages in the all-electric mode. In the Control Display this information is supplemented by additional data on current operating conditions and the current flow of energy.

Specific set-up of the suspension and the lightweight brakes.
The chassis and suspension of the BMW Active Hybrid X6 is largely the same as the technology already featured on the BMW X6 xDrive50i. The front axle is a double track arm configuration ensuring excellent driving dynamics, superior motoring comfort and smooth directional stability. The Integral IV rear axle has been modified to reflect the specific characteristics of the hybrid model in terms of weight distribution and drive power, guaranteeing absolute supremacy on the road also ensured by self-levelling with air suspension providing a consistent ride height also when carrying a heavy load.

Lightweight brakes decelerate the BMW ActiveHybrid X6 by means of swing-calliper brake discs incorporating covers and pistons made of aluminium. Brake disc diameter is 385 millimetres or 15.2" up front and 345 millimetres or 13.6" at the rear. The entire brake system ensures a high standard of comfort in applying the brakes and extreme resistance to fading.

Consistent lightweight engineering serves to reduce unsprung masses and improve the vehicle's driving comfort and agility.

Very attractive 19-inch light-alloy rims in V-spoke design come as standard, and 20-inch light-alloy rims in aerodynamically optimised Streamline design have been developed exclusively for the BMW ActiveHybrid X6 as an option. In each case the tyres are runflat tyres enabling the driver to continue to the workshop even after a complete loss of pressure. And it almost goes without saying that the BMW ActiveHybrid X6 comes as standard with a Tyre Defect Indicator incorporating individual tyre pressure control.

Bodyshell and safety: intelligent lightweight construction, optimised occupant safety.
Intelligent lightweight construction and a special structure for maximum solidity also characterise the bodyshell of the BMW ActiveHybrid X6. Apart from frontal and hip thorax airbags, curtain head airbags at the side are also standard within the interior.

The BMW ActiveHybrid X6 comes with three-point inertia-reel seat belts on all seats featuring belt force limiters and belt latch tensioners on the front seats. To protect the occupants from cervical spine injury in the event of a collision at the rear, the front seats feature crash-activated headrests, the rear seats come as standard with ISOFIX child seat fastenings.

All restraint systems are masterminded by central safety electronics, rollover sensors serving to activate the curtain airbags and belt latch tensioners in the event of an impending rollover.

Featured as standard, dual bi-xenon headlights not only ensure optimum illumination of the road ahead in the dark, but also provide a daytime light function through their corona rings. The BMW ActiveHybrid X6 furthermore comes as standard with a light and rain sensor automatically controlling the vehicle's lights and screenwipers as required. Additional comfort at night is provided by the High Beam Assistant featured as part of BMW ConnectedDrive.

Another feature available as an option is Adaptive Headlights following the road ahead in providing exact the right illumination. This option comes complete with Bending Lights and variable light distribution broadening the light beam to provide a wider range of vision as a function of road speed. As an option, finally, information relevant to the driver may be projected on to the windscreen via the Head-Up Display in a particularly ergonomic position.

Over and above safety-relevant driver assistance systems, BMW ConnectedDrive offers a range of further services enhancing driver comfort and allowing optimised use of the infotainment systems in the BMW ActiveHybrid X6. This range of mobility services comprises features such as BMW Assist with a telephone enquiry service and an Enhanced Emergency Call function including automatic detection of the vehicle's location, BMW Online, BMW TeleServices as well as unrestricted use of the internet in the vehicle.

Supreme level of standard equipment including the Professional navigation system and comfort seats.

The BMW ActiveHybrid X6 comes as standard with the BMW Professional navigation system masterminded via iDrive likewise featured as standard or, respectively, with enhanced voice control. Using BMW Routes, in turn, BMW ConnectedDrive customers are able to retrieve the most beautiful routes directly in the car via BMW Online at the touch of a button. And apart from navigation data, the user is also able to save his personal music collection on a hard disc within the car offering a capacity of no less than 80 GB.

Other features coming as standard are electrically adjustable comfort seats with a memory function, cruise control and Park Distance Control. A further feature likewise coming as standard is an electrical opening and closing function on the tailgate.

Side View and Top View are available as optional extras.

Other options include an extended range of nappa leather upholstery in an exclusive Ivory White/Black colour combination with blue double stitching, a glass sliding/vent roof, and a towbar with a removable ball head.

The BMW ActiveHybrid X6: Sports Activity Coupé of the highest standard, BMW ActiveHybrid with maximum efficiency.

The BMW ActiveHybrid X6 combines an innovative vehicle concept with cutting-edge drivetrain technology to provide a truly unique driving experience. The enhancement of both dynamic performance and all-round efficiency gives BMW's Sports Activity Coupé, as unique as it already is, additional fascination and appeal, BMW ActiveHybrid technology achieving a supreme level of efficiency in this outstanding model, confirming BMW's great competence in the area of drivetrain development.

From outside the BMW ActiveHybrid X6 differs through only a few details from the "regular" models with their conventional drivetrain technology. With its elegant and dynamically flowing roofline and features typical of a BMW X model, the Sports Activity Coupé offers a uniquely sporting rendition of this very special vehicle with its unprecedented character also in the full hybrid variant.

The space available and driving comfort likewise reflect the supreme standard this dynamic four-seater already offers in the versions already available. And apart from the special hybrid displays in the instrument cluster, door entry trim covers proudly bearing the designation "BMW ActiveHybrid" on the driver's and front passenger's doors add a particular highlight and sign of distinction.

Particularly the very impressive Powerdome on the engine compartment lid ensures a clear distinction of this very special vehicle from outside, "ActiveHybrid" model designations on the tailgate trim bar and the front doors as well as body paint in exclusive Bluewater metallic offered for the first time on a BMW X6 likewise alluding to the very special character of this very special vehicle.

Specifications.
BMW ActiveHybrid X6.

			BMW ActiveHybrid X6
Body			
No of doors/seats			5 / 4
Length/width/height (unladen)		mm	4877 / 1983 / 1697
Wheelbase		mm	2933
Track, front/rear		mm	1644 / 1706
Turning circle		m	12.8
Tank capacity		app ltr	85
Cooling system incl heater		ltr	21.8
Engine oil[1)]		ltr	8.5
Weight, unladen, to DIN/EU		kg	2450 / 2525
Max load to DIN		kg	575
Max permissible		kg	3025 / 3100
Max axle load, front/rear		kg	1460 / 1590
Max trailer load (12%), braked/unbraked		kg	2000 / 750
Max roofload/max towbar		kg	100 / 120
Luggage capacity		ltr	470-1350
Air drag		Cd x A	0.36 x 2.82
Gasoline engine Config/No of cyls/valves			V / 8 / 4
Engine technology			BMW TwinPower Turbo, High Precision Injection
Capacity, effective		cc	4395
Stroke / bore		mm	88.3 / 89
Compression ratio		:1	10.0
Fuel grade			Min 95 RON
Max output		kW/hp	300 / 407
at		rpm	5500-6400
Max torque		Nm/lb-ft	600/442
at		rpm	1750-4500
Electric motor 1 Configuration			Electric synchronous motor
Max output		kW/hp	67 / 91
at		rpm	2750
Max torque		Nm/lb-ft	260/192.
at		rpm	0
Electric motor 2 Configuration			Electric synchronous motor
Max output		kW/hp	63 / 86
at		rpm	2500
Max torque		Nm/lb-ft	280/206
at		rpm	0
Overall system output		KW/hp	357 / 485
Overall system torque		Nm/lb-ft	780/575
Electrical System			
Battery/location		Ah/–	2 x 70 / luggage compartment
High-voltage battery/location		kWh/–	2.4 / luggage compartment
Transmission			
Type			Seven-speed automatic transmission, electronic gear selector lever, shift paddles on steering wheel
Gear ratios	I	:1	3.889
	II	:1	2.619
	III	:1	1.800
	IV	:1	1.300
	V	:1	1.000
	VI	:1	0.825
	VII	:1	0.723
	Reverse	:1	Variable
Final drive		:1	3.640

Specifications.
BMW ActiveHybrid X6.

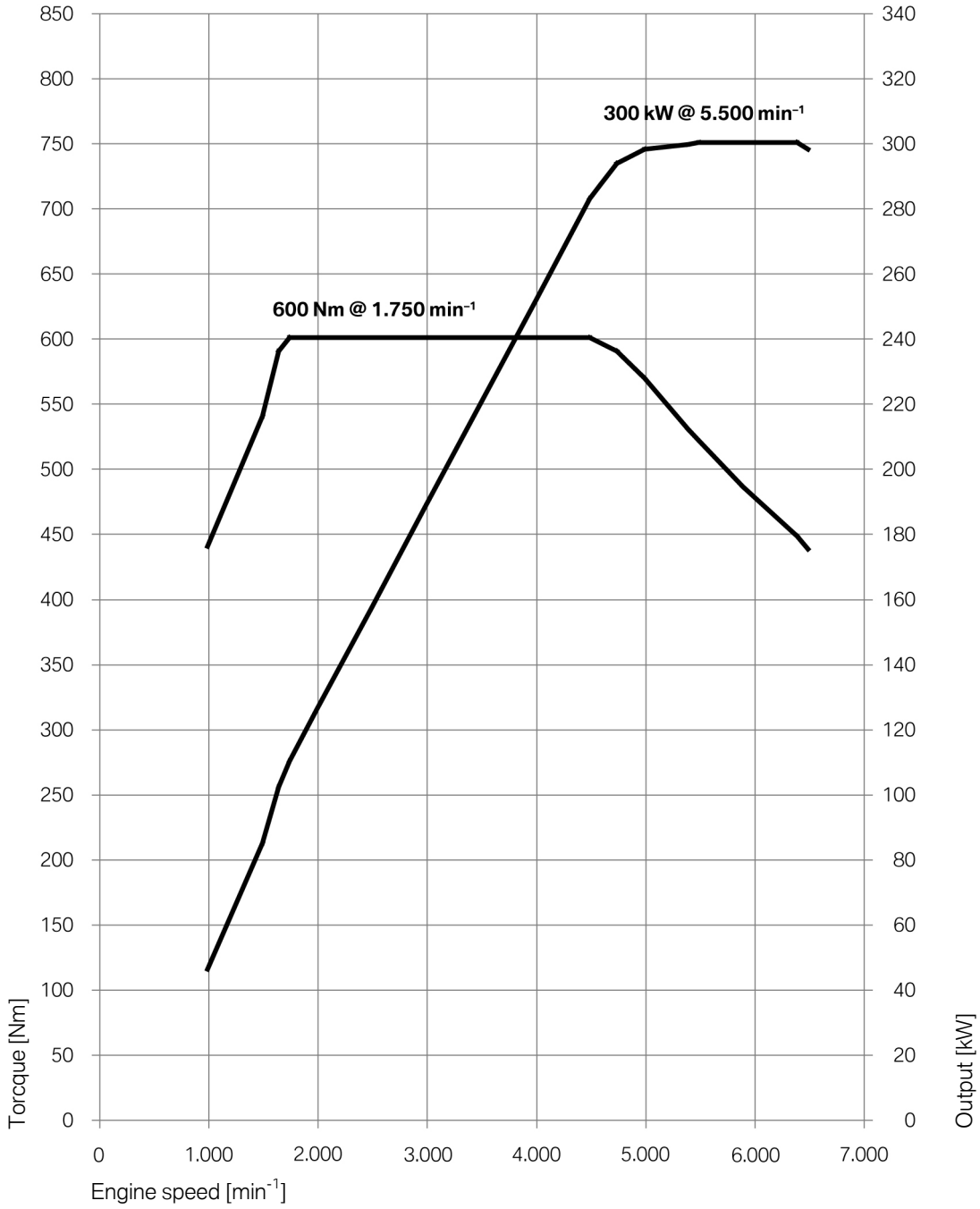
		BMW ActiveHybrid X6
Driving Dynamics and Safety		
Suspension, front		Double track arm axle
Suspension, rear		Integral-IV axle in lightweight steel, air suspension with automatic self-levelling
Brakes, front		Single-piston frame-calliper disc brakes
Diameter	mm	385 x 36 / vented
Brakes, rear		Single-piston swing-calliper disc brakes
Diameter	mm	345 x 24 / vented
Driving stability systems		Standard: DSC incl ABS, ASC, ADB-X, DTC Dynamic Traction Control, CBC Cornering Brake Control, DBC Brake Assistant, Hill Descent Control, Trailer Stability Control, Dry Braking, Brake Standby, Fading Compensation, Start-Off Assistant, Auto Hold, networked with intelligent xDrive all-wheel drive
Safety equipment		Standard: frontal airbags for driver and front passenger, side airbags for driver and front passenger, head airbags front and rear, crash-activated headrests at the front, three-point inertia-reel belts on all seats at the front with belt stoppers, belt latch tensioners and belt force limiters, crash sensors, rollover sensor system, Tyre Defect Indicator with individual pressure control on each wheel
Steering		Rack-and-pinion steering; 3,1 turns; Electronic Power Steering (EPS)
Steering ratio, overall	:1	19.5
Permanent all-wheel drive/ power distribution		Variable
Tyres, front/rear		255/50 R19 107W XL RSC
Rims, front/rear		9J x 19 light-alloy
BMW ConnectedDrive		
Comfort		Optional: BMW Assist featuring Inquiry Service, remote control functions and V-Info+, BMW TeleServices, integration of mobile terminals
Infotainment		Optional: access to the internet, BMW Online incl Parkinfo, NationalInfo, Google directory, News, real-time weather, Office functions, BMW Routes and music title update online
Safety		Optional: Adaptive Headlights with Bending Lights, High-Beam Assistant, Park Distance Control, Top View, back-up camera, BMW Night Vision, Head-Up Display, cruise control, Automatic/Enhanced Emergency Call
Performance		
Power-to-weight ratio	kg/kW	8.2
Output per litre	kW/ltr	68.3
Acceleration 0–100 km/h	sec	5.6
Standing start	sec	24.9
Top speed	km/h(mph)	236(146)
Top speed, electric	km/h(mph)	60(37)
Fuel consumption in EU		
Urban	ltr/100 km	10.8
Extra-urban	ltr/100 km	9.4
Combined	ltr/100 km	9.9
CO_2	g/km	231
Emission rating		EU5
Miscellaneous		
Overhang angle, front/rear	°	26.1 / 25.9
Ramp angle	°	19.7
Ground clearance		
on unladen weight	mm	219

Specifications applicable to ACEA markets/homologation data apply to Germany only in part (weight)

[1] Oil change

Output and Torque Diagrams.

BMW ActiveHybrid X6 xDrive50i.



Interior and Exterior Dimensions.