Fun facts:

Regenerative braking?

Hold on to your science seats. When the car is coasting and when the driver first touches the brake pedal, the electric motor acts as a generator. This slows the car and pumps electric power back into the battery. Only when the driver pushes harder on the brake pedal do the conventional brakes come into action. Basically, the momentum of the car is converted into extra electrical power during coasting and braking. This actually extends the car's range by converting energy that's normally wasted during braking. It sounds like magic, but our engineers assure us it's just brainiac stuff.

Does the smart electric drive use regenerative braking to help recharge the battery?

Abso-positively. (AKA, yes.) Each time you apply the brakes, the electric motor is instantly converted into a generator. The motor will slow the vehicle and produce electricity at the same time, so your charge goes further without wasting energy. As an additional option, you can set the level of regenerative braking by simply using the steering wheel's shift paddles.

Is there a smartphone application to monitor state of charge?

You betcha. Every smart electric drive comes loaded with the smart vehicle homepage. You can see exactly how much charge you electric drive has or do cool stuff like mark where you parked. So not only will you be fully informed of your electric drive's operations, you'll look awesome while doing it.

Driving tips for range maximization

- Use the pre-air conditioning function (with departure time) while the vehicle is connected to the charging infrastructure
- Park vehicle in parking garage when possible
- Use heated seats and reduce the use of interior heater
- Adjust driving style to include more conservative acceleration and more use of engine braking (allowing the vehicle to roll to a stop as opposed to applying mechanical brakes)
- Avoid high speeds (90 km/h and over) when possible
- Set heater/blower to speed 1 and 22°C
- The Eco display on the instrument panel generally expresses how efficient the driving style of the driver is in terms of acceleration, steady driving, and coasting. It can be a useful guide to help the driver maximize range.

smart electric drive information:

Information regarding range in cold or very hot temperatures

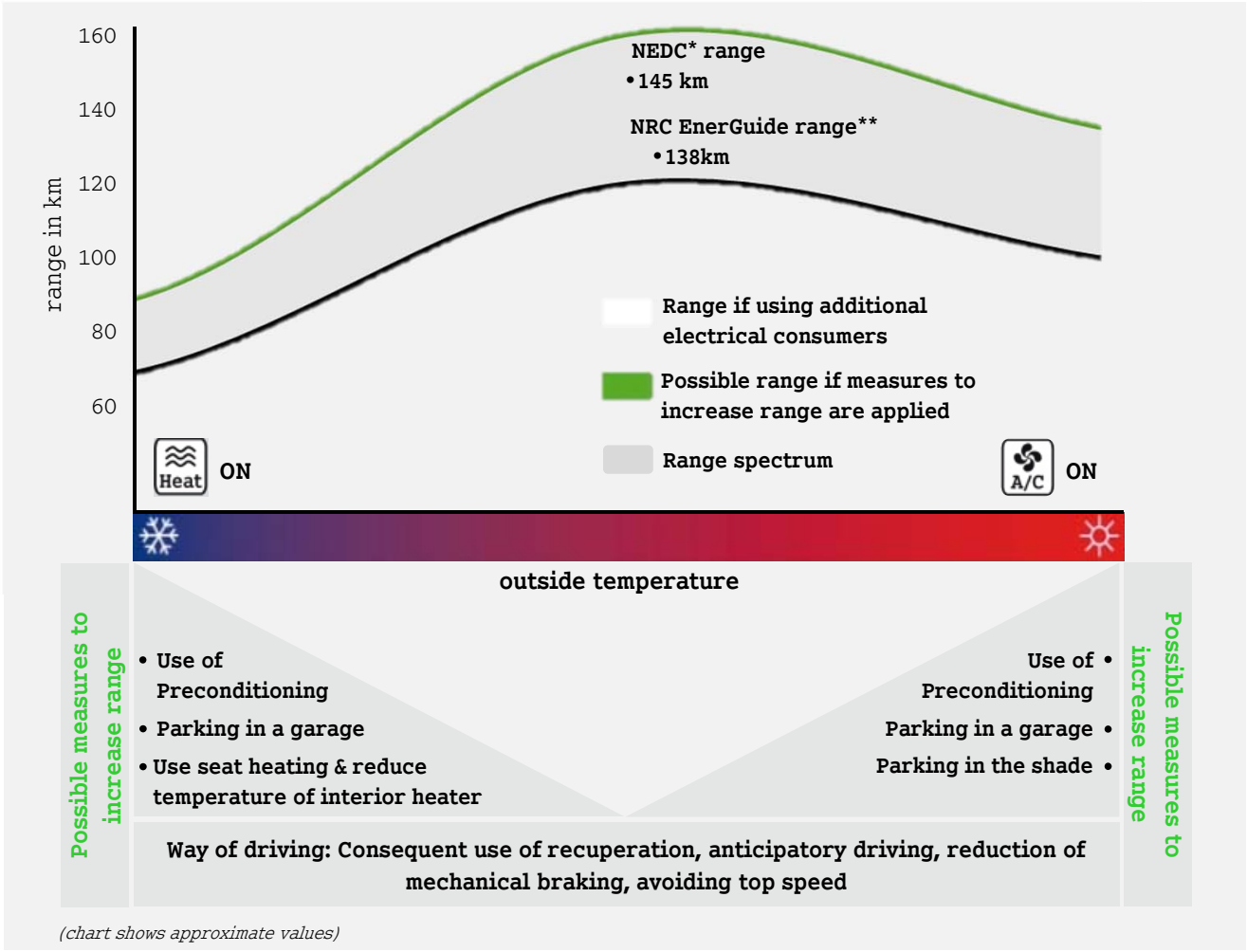
- Particularly in cold and very hot temperatures the ranges of electric vehicles may be reduced. At moderate temperatures (approx. 20°C) only approx. 10% of the total power consumption is required for electrical accessories, this percentage of total power consumption increases to 20-30% in very cold or very hot temperatures.

The following influencing variables play a particularly large role:

- Electric vehicles are heated via electric heater boosters/PTC, while in vehicles with combustion engines, the waste heat of the engine can be utilized. Electric vehicles have the advantage that warm air is available immediately.

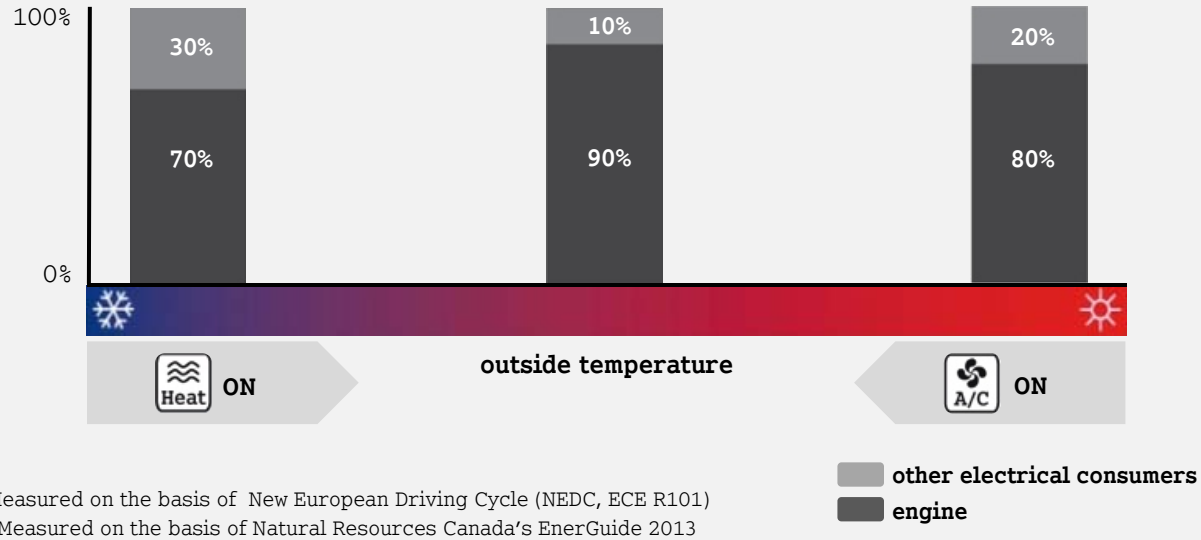
- Additional electrical consumers/components (12V electrical system) in the electric vehicle are supplied by the HV battery and not via the alternator as in vehicles with combustion engine

smart electric drive information: range spectrum



(chart shows approximate values)

Energy consumption in relation to the outside temperature



*Measured on the basis of New European Driving Cycle (NEDC, ECE R101)
**Measured on the basis of Natural Resources Canada's EnerGuide 2013

smart electric drive information: Q&A (charging)

Charging

Is there anything I need to do to prepare my home/garage for the smart electric drive?

Customers should identify a convenient area to charge, such as a garage. The 120V charge cord that comes standard with the smart will meet some customers' charging needs. However, for those that want to charge faster, an optional 240V charging station is available to purchase through Bosch Electric Vehicle Solutions.

What charger comes with the vehicle?

smart electric drive comes standard with a 120V portable charge cord. This unit will be compatible with most common household outlets, and will take between 0 to 16 hours depending on the HV battery level of charge, battery temperature and ambient temperature. Level 1 charging (120V) provides flexibility to users as an additional charging method. It can be a primary charger for users driving a maximum of 20 to 30 km per day.

Can any standard 120V household outlet be used and what is the amp draw?

Yes, any standard 120V outlet can be used. It is designed to work on a 120V/15 amp or 120V/20 amp circuit.

Who do I call about installing a 240V charge station in my home or business?

smart's home charging provider, Bosch Electric Vehicle Solutions, provides customers with a one-stop shopping experience for both purchasing and installing their 240V charging station for home or business.

Does the 240V charging station cost include installation? If not, how much will installation cost be?

No. Installation cost is separate. A charging station should be professionally installed by a licensed electrician. Contact our service provider Bosch Electric Vehicle Solutions for an installation cost estimate
Web **www.pluginnow.com/go/smart.** The price may be higher or lower depending on the specific installation requirements and specifications for your home.

When is the optimal charging time?

In principle, it makes no difference when the battery is charged because there is no memory effect. Different hydro providers may charge less for off-peak charging.

Battery

What effect do high outside temperatures or very low temperatures have on the smart fortwo electric drive?

The vehicle is equipped with both a battery heating system and a battery cooling system for the high-voltage battery. This allows the vehicle to be operated in a very wide temperature window. At very high or very low outside temperatures, performance may be limited depending on the charge level of the high-voltage battery. The decisive factor here is not the ambient temperature, but the cell temperature within the battery. For example, at cell temperatures below -25 C, the battery can no longer output any power for technical reasons.

What is the manufacturer warranty on the battery?

The normal smart Canada warranty applies to the electric drive. This is four years or 80,000 km, whichever occurs first.

What is the weight difference between the gasoline and the electric drive smart? What effects can be seen due to this?

The gasoline smart fortwo coupé and cabriolet weigh 820kg and 840kg, respectively. The electric drive coupé and cabriolet weigh 900kg and 920kg, respectively, for a weight difference of 80 kg between the two models. The weight of the battery is the main cause of this difference. As the battery is housed underneath the driver and passenger seats, the effects can be noticed in the driving dynamics. The heavier weight causes a lower center of gravity, which results in better driving dynamics.

How often does the battery have to be serviced?

Power control check: battery service every 20,000km or 1x annually

Replacement of desiccant cartridges: every 40,000km or after 2 years

Does the battery become hot during operation?

Its temperature rises as energy is taken from it. This is why the battery is cooled by a water heat exchanger. The air conditioning is also used if necessary in high-voltage applications. A battery management system continuously monitors the voltage, current and temperature. If one of these parameters reaches a specified limit value, the electronics reduce the power. This rules out the possibility of overload.

What happens if the battery runs out while driving?

The drive system shuts off when the minimum battery charge level specified by the battery management system (BMS) is reached. This protects the battery from deep discharge. The drive system can be temporarily reactivated once in order to park the vehicle in a safe place by switching the ignition off and back on.