Volkswagen is also highlighting its spectrum of efficiency and electrification solutions all the way to further optimized battery-powered propulsion as in the new e-Golf and the coming new MEB-based electric vehicles exemplified by its series of I.D. concepts.

“Partially and fully electric drive systems form a key pillar of our drive system strategy. Our range of technology, especially that available for the Golf, now covers all customer preferences. The new ‘Coasting – Engine off’ micro hybrid system represents a low-cost level of electric-powered motoring on a 12-volt basis.” — said Friedrich Eichler, Head of Volkswagen Powertrain Development.

**COASTING – ENGINE OFF**

In the new Golf TSI BlueMotion, which launches this summer, the system works in tandem with a model DQ200 DSG gearbox. In a speed range of up to 130 km/h (81 mph) it offers the driver hybrid-style characteristics: lift off the throttle, and the Golf can coast with the engine completely deactivated. The system reduces fuel consumption in practical use by up to 0.4 liters/100 km and compared to the current coasting function with the engine running by 0.2 liters/100 km.

This new Volkswagen system adds a compact lithium-ion battery to the 12-volt vehicle electrics, with the battery supplying the electric consumer units with power when coasting. A so-called Q-diode regulates the current flow between the lithium-ion and lead-acid batteries.

At the end of the coasting phase the Golf TSI BlueMotion’s engine, a highly efficient 1.5 TSI Evo, is started in one of several different ways, depending on driving speed and situation: using the starter, using the clutches of the DSG gearbox or in combined fashion using starter and clutch.

**CNG AND LAMBDA SPLIT PROCESS**

Volkswagen has been represented in the marketplace with CNG engines since 2002. A special feature of the new three-cylinder turbocharged engine with a cubic capacity of 1.0 litre and high torque of 66 kW (90 PS) that is being shown at the Vienna Motor Symposium is its bivalent concept: it can be run on petrol or CNG. In gas-powered mode it works in a particularly low-emission manner – and that applies both to CO₂ and NOx particulate emissions.

The compact 1.0 TGI is a new engine specification for the small car class in the Volkswagen Group. A key factor in its low emissions is the optimum conversion of the methane in the exhaust gas. In order to bring the catalytic converter quickly up to operating temperature and keep it there, Volkswagen has developed a lambda split process.

During warm running and under low load two cylinders are fired using a rich mixture and one using a lean mixture. An important component of the technology here is the so-called lambda probe with no dew-point end. Thanks to electric heating, it is able to take up its regulating function within no more than ten seconds of a cold start, even if the exhaust gas and exhaust system still contain certain amounts of condensation.

The activities promoting CNG drive systems go well beyond technical solutions. In addition to the Group’s extensive range of models, Volkswagen is also conducting an intensive dialogue with other market participants and political players. In collaboration with energy providers, the gas industry, other OEMs and federal government ministries, the company is driving forward activities that continue to make CNG known and attractive as a fuel.

**THE 38TH VIENNA MOTOR SYMPOSIUM VOLKSWAGEN IS INTRODUCING A NEW, MORE FUEL-EFFICIENT “COASTING - ENGINE OFF” MICRO HYBRID SYSTEM - WHICH SHUTS OFF THE ENGINE COMPLETELY - AS WELL AS A NEW, COMPACT THREE-CYLINDER NATURAL GAS ENGINE FOR THE POLO.**