

Press Release

Additional CO₂ credit for 48V hybrid technology from SEG Automotive

Boost Recuperation Machine recognized as EU eco-innovation

- Boost Recuperation Machine from SEG Automotive the first 48V machine with additional EU eco-credits
- Part of the overall strategy to reduce emissions from road transport
- Potential CO₂ penalty savings cover majority of system costs for car manufacturers

The EU has the strictest CO₂ legislation in the world for car manufacturers: from 2021, fleet consumption (according to NEDC) may only amount to 95g CO₂/km, and in 2025, the threshold will further decrease to 81g CO₂/km. For every gram over that threshold, a fine of 95€ per vehicle will be imposed - a huge challenge for the automotive industry. In addition to the gradual switch to electric vehicles, it is also important to limit CO₂ emissions from combustion engines. A feasible solution is the Boost Recuperation Machine (BRM) from SEG Automotive. It converts conventional combustion engines into 48V mild hybrids and thus saves up to 15% on both fuel and CO₂ emissions.¹ The EU has now officially recognized the BRM as an eco-innovation, which enables manufacturers to receive an additional CO₂ credit of just under 2g CO₂/km per vehicle.²

The EU recognizes particularly environmentally friendly technologies as eco-innovations and grants CO₂-credits for their positive effects in real-world operations. By employing such eco-innovations, vehicle manufacturers can further improve their fleet consumption values. Such credits have been available for SEG Automotive generators since 2015. The BRM is the first 48V machine that is recognized as an EU eco-innovation. Similar to KERS in Formula 1, the technology recuperates braking energy with a high degree of efficiency and later uses it for increased torque output. It also efficiently and reliably supplies the vehicle's electrical system. The BRM simply replaces the conventional generator in its space on the belt and transforms the vehicle into a 48V mild hybrid. This eliminates the need for complex and expensive high-voltage protection requirements and wiring harnesses. Only a small 48V battery (~ 0.5-1 kWh) and a DC/DC converter are required to supply the 12V electrical system.

¹ The savings of up to 15% refer to a vehicle without start/stop. Compared to vehicles with advanced start/stop technology, there are additional savings of up to 9% on fuel and CO₂.

² The exact credit is determined individually for each vehicle application. For most vehicles it will be in the range of 1.2 - 1.7g.

Efficient answer to stricter CO₂ legislation: Boost Recuperation Machine

CO₂ savings

Up to 19.5g/km
from recuperation
of braking energy

Up to 1.7g/km
as EU eco
innovation credit



CO₂ emission limits in Europe:

2015: 130g/km



2021: 95g/km

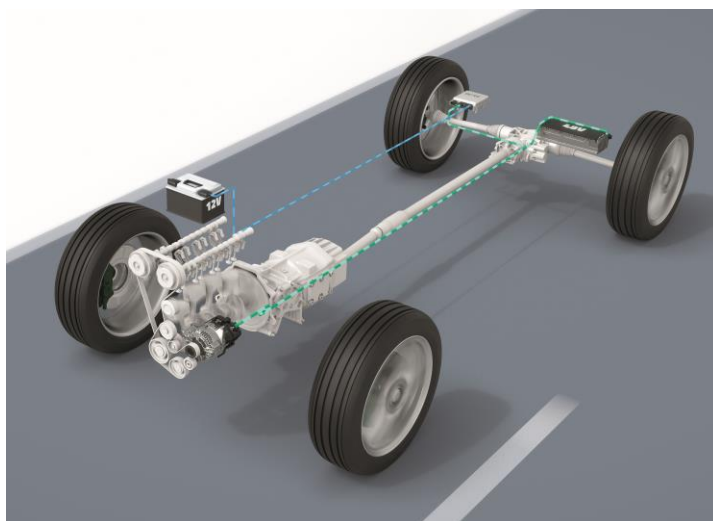


Manufacturers can reduce the
CO₂-value of their vehicles by
over 20 g/km through the
Boost Recuperation Machine.*

*Valid for vehicles without start/stop.
Compared to a vehicle with start/stops, the savings exceed 13 g/km.

"Comparing possible savings on fines with the low system costs, the switch from 12V to 48V practically finances itself for most manufacturers. In addition, the driver benefits from fuel savings and special features such as comfort-start or additional maximum torque. Last but not least, the environment also benefits - as the EU has confirmed by recognizing the Boost Recuperation Machine as an eco-innovation", explains Dr. Peter Sokol, Chief Executive Officer of SEG Automotive.

For SEG Automotive, the BRM is part of a consistent overall strategy for sustainable and profitable growth: significantly reducing emissions from passenger cars and commercial vehicles and thus contributing to climate protection - worldwide and across all drive technologies.



Powertrain architecture featuring 48V Boost Recuperation Machine and DC/DC converter

**About SEG Automotive**

SEG Automotive is closely linked to the history of the automobile. Emerged from the BOSCH Starter Motors & Generators division in January 2018, the company stands for more than a century of innovations in its product sector: from the invention of the starter motor and generator to Start/Stop and mild-hybridization. SEG Automotive makes a significant contribution to climate protection by reducing emissions across powertrain technologies: Fueled by its passion for innovation, the global supplier is driving the transition towards more efficient combustion engines, 48V hybrids and electrification.

Almost all automotive OEMs worldwide rely on SEG Automotive's global production network, which delivers high-performance, durable and competitive products with uniform quality standards. This global strength has its foundation in a cross-cultural team of around 7,000 employees in 14 countries in the world's most important automotive markets.

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