

Overview of fuel efficiency and CO₂ emission standards of passenger cars and light-commercial vehicles around the world

Table 7. Overview of off-cycle credit system in passenger car fuel economy standards

Region	Technology	Max. Credit
EU	Eco-innovation technologies: LED lights, 48V motor generator with DC/DC converter, alternator, 12V motor generator, and smart diesel fuel heater	7 g/km (before 2025) 6 g/km (2025-2029) 4 g/km (2030-2034) Internal combustion engine vehicles (ICEVs) only
	Kinetic Energy Recovery System (KERS)	0.15 l/100km
China	High-efficiency A/C	0.20 l/100km
	16 menu off-cycle technologies and additional technologies upon application	10 g/mi (pre MY 2023) 15 g/mi (MY 2023-2026) 10 to 0 g/mi, EVs excluded (MY 2027-2032 proposal)
U.S.	A/C refrigerant leakage/alternative refrigerant	6.3 g/mi or 13.8 g/mi (whichever is higher) (before MY 2027)
	A/C efficiency	5.0 g/mi EVs excluded (MY 2027-2032 proposal)
	Regenerative braking	9 g/km
Start-Stop System		
Tire pressure monitoring system		
6 or more Speed Transmission		
Brazil	Start-Stop System	PVs: 0.227 MJ/km LCVs: 0.0439 MJ/km
	Front grille control system	0.0049 MJ/km
	Gear Shift Indicator (GSI)	0.0134 MJ/km
	Tire Pressure Monitoring System (TPMS)	0.0134 MJ/km
	High efficiency lights (LEDs)	0.0079 MJ/km
South Korea	Tire Pressure Monitoring System (TPMS)	17.9 g/km or 4.5km/l
	Low friction tires	
	Gear Shift Indicator (GSI)	
	High-efficiency A/C	
	Other technologies	
UK	Eco-innovation technologies: LED lights, 48V motor generator with DC/DC converter, alternator, 12V motor generator, and smart diesel fuel heater	7 g/km
Mexico (proposal)	Off-cycle credits (menu technology and additional technology upon approval)	6.25 g/km
	High efficiency lights	0.36 g/km
	Active aerodynamic improvements	1.2 g/km
	Heat recovery technology	1.55 g/km
	Engine with stop-start system	1.15 g/km
	Active engine heating system	1.1 g/km
	Active transmission heating system	1.21 g/km
	Thermal controls	1.9 g/km

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Solar panels	1.6 (battery charge + active cabin ventilation 75w) 2.0 g/km (battery charge 75w)
Tire Pressure Monitoring System (TPMS)	0.6 g/km
Electric heater circulation system	1.92 g/km
A/C refrigerant leakage	4.12 g/km (MY 2025 – 2027 only)
A/C refrigerant leakage/alternative refrigerant	9.04 g/km (MY 2025 – 2027 only)
A/C efficiency; 8 menu off-cycle technologies	6.22 g/km (MY 2025 – 2027 only)