

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029~	
(NOx or NOx+NMHC / CO / PM (, PN)) or (NOx / HC / CO / PM (, PN)) Unit: g/kWh															
U.S.A	0kW ≤ 8kW	Tier 4 7.5/8.0/0.40[G2+NRTC]													
	8kW ≤ 19kW	Tier 4 7.5/6.6/0.40[G2+NRTC]													
	19kW ≤ 37kW	Tier 4 4.7/5.0/0.03[C1+NRTC]													
	37kW ≤ 56kW	Tier 4 4.7/5.0/0.02[C1+NRTC]													
	56kW ≤ 75kW	Tier 4 0.40/0.19/5.0/0.02[C1+NRTC]													
130kW ≤ 560kW	Tier 4 0.40/0.19/3.5/0.02[C1+NRTC]														
(EPA APU)	Phase 1 (optional) PM=0.15g/kWh			Phase 1 PM=0.15g/kWh			Phase 2 PM=0.02g/kWh or retrofit DPF								
(CARB APU)	Phase 2 PM=0.02g/kWh or retrofit DPF														
(APU: Auxiliary Power Unit (not to power truck))															
(CARB TRU)	(in-use req.) 7yrs after vehicle MY ULETRU(PM=0.03g/kWh)														
* TRU: Transport Refrigeration Unit															
EU	0kW ≤ 8kW	Stage V 7.50/8.00/0.40 [G2 or C1]													
	8kW ≤ 19kW	Stage V 7.50/6.60/0.40 [G2 or C1]													
	19kW ≤ 37kW	Stage IIIA 7.5/5.5/0.6 [C1]													
	37kW ≤ 56kW	Stage IIIA 4.7/5.0/0.025 [C1+NRTC]													
	56kW ≤ 75kW	Stage IV 0.40/0.19/5.0/0.025 [C1+NRTC]													
75kW ≤ 130kW	Stage IV 0.40/0.19/5.0/0.025 [C1+NRTC]														
130kW ≤ 560kW	Stage V 0.40/0.19/3.50/0.015, 1x10 <sup>-12</sup> [C1+NRTC]														
130kW ≤ 560kW	Stage V 0.40/0.19/3.50/0.015, 1x10 <sup>-12</sup> [C1+NRTC]														
Japan	< 19kW	Voluntary emission regulations Tier 2 (LEMA) Tier 4 equivalent													
	8kW < 19kW	Designation System of the Low Emission Construction Machineries Tier 3 7.5/5.0/0.8, 40(smoke%) [C1]													
	19kW ≤ 37kW	Designation System of the Low Emission Construction Machineries Tier 3 6.0/1.0/5.0/0.4, 40(smoke%) [C1]													
	37kW ≤ 56kW	Designation System of the Low Emission Construction Machineries Tier 3 4.0/0.7/5.0/0.3, 35(smoke%) [C1]													
	56kW ≤ 75kW	Designation System of the Low Emission Construction Machineries Tier 3 4.0/0.7/5.0/0.25, 30(smoke%) [C1]													
	75kW ≤ 130kW	Designation System of the Low Emission Construction Machineries Tier 3 3.6/0.4/5.0/0.2, 25(smoke%) [C1]													
	19kW ≤ 37kW	*Smoke applied to machines only.													
	37kW ≤ 56kW	on/off 2014 Regulation 4.0/0.7/5.0/0.03 [C1+NRTC], 0.5(smoke[m <sup>-1</sup> ])													
	56kW ≤ 75kW	on/off 2014 Regulation 4.0/0.7/5.0/0.025 [C1+NRTC], 0.5(smoke[m <sup>-1</sup> ])													
	75kW ≤ 130kW	on/off 2014 Regulation 0.4/0.19/5.0/0.02 [C1+NRTC], 0.5(smoke[m <sup>-1</sup> ])													
130kW ≤ 560kW	on/off 2014 Regulation 0.4/0.19/3.5/0.02 [C1+NRTC], 0.5(smoke[m <sup>-1</sup> ])														
China	0kW ≤ 19kW	*no flexibility period													
	19kW ≤ 37kW	*no flexibility period													
	37kW ≤ 56kW	*no flexibility period													
	56kW ≤ 75kW	*no flexibility period													
	75kW ≤ 130kW	*no flexibility period													
130kW ≤ 560kW	*no flexibility period														
Beijing	0kW ≤ 8kW	Stage IV 7.5/5.5/0.6 [G2 or C1]+NRTC													
	8kW ≤ 19kW	Stage IV 7.5/5.5/0.6 [G2 or C1]+NRTC													
	19kW ≤ 37kW	Stage IV 7.5/5.5/0.6 [C1+NRTC]													
	37kW ≤ 56kW	Stage IV 4.7/5.0/0.025 [C1+NRTC]													
	56kW ≤ 75kW	Stage IV 4.7/5.0/0.025 [C1+NRTC]													
75kW ≤ 130kW	Stage IV 3.3/0.19/5.0/0.025 [C1+NRTC]														
130kW ≤ 560kW	Stage IV 3.3/0.19/5.0/0.025 [C1+NRTC]														
Korea	0kW ≤ 8kW(Const.)	Stage IV 7.5/8.0/0.4 [G2+NRTC]													
	8kW ≤ 19kW(Const.)	Stage IV 7.5/6.6/0.4 [G2+NRTC]													
	19kW ≤ 37kW(Const.)	Stage IV 4.7/5.0/0.03 [C1+NRTC]													
	37kW ≤ 56kW(Const.)	Stage IV 4.7/5.0/0.03 [C1+NRTC]													
	56kW ≤ 130kW(Const.)	Stage IV 0.4/0.19/5.0/0.025 [C1+NRTC]													
130kW ≤ 560kW(Const.)	Stage IV 0.4/0.19/3.5/0.025 [C1+NRTC]														
India	0kW ≤ 8kW (Ag.)	Stage IV 7.5/8.0/0.4 [G2+NRTC]													
	8kW ≤ 19kW(Ag.)	Stage IV 7.5/6.6/0.4 [G2+NRTC]													
	19kW ≤ 37kW(Ag.)	Stage IV 4.7/5.0/0.03 [C1+NRTC]													
	37kW ≤ 56kW(Ag.)	Stage IV 4.7/5.0/0.03 [C1+NRTC]													
	56kW ≤ 130kW(Ag.)	Stage IV 0.4/0.19/5.0/0.025 [C1+NRTC]													
130kW ≤ 560kW(Ag.)	Stage IV 0.4/0.19/3.5/0.025 [C1+NRTC]														
Brazil	0kW ≤ 8kW (Ag.)	Bharat Stage IIIA 8.5/5.5/0.80 [C1]													
	8kW ≤ 19kW(Ag.)	Bharat Stage IIIA 8.5/5.5/0.80 [C1]													
	19kW ≤ 37kW(Ag.)	Bharat Stage IIIA 7.5/5.0/0.60 [C1]													
	37kW ≤ 56kW(Ag.)	Bharat Stage IIIA 4.7/5.0/0.40 [C1]													
	56kW ≤ 75kW(Ag.)	Bharat Stage IIIA 4.0/5.0/0.30 [C1]													
75kW ≤ 130kW(Ag.)	Bharat Stage IIIA 4.0/3.5/0.20 [C1]														
130kW ≤ 560kW(Ag.)	Bharat Stage IIIA 4.0/3.5/0.20 [C1]														
Australia NSW	0kW ≤ 8kW (Gen set)	CPCB II 7.5/3.5/0.3 [D2]													
	8kW ≤ 19kW(Gen set)	CPCB II 7.5/3.5/0.3 [D2]													
	19kW ≤ 37kW(Gen set)	CPCB II 4.7/3.5/0.3 [D2]													
	37kW ≤ 56kW(Gen set)	CPCB II 4.7/3.5/0.3 [D2]													
	56kW ≤ 75kW(Gen set)	CPCB II 4.7/3.5/0.3 [D2]													
75kW ≤ 800kW(Gen set)	CPCB IV+ 0.67/0.19/3.5/0.03 smoke 0.7m <sup>-1</sup>														
56kW ≤ 560kW(Gen set)	CPCB IV+ 0.67/0.19/3.5/0.03 smoke 0.7m <sup>-1</sup>														
Chile	19kW ≤ 37kW(Ag.)	Proconve MAR-I 7.5/5.5/0.6 [C1]													
	37kW ≤ 56kW(Ag.)	Proconve MAR-I 4.7/5.0/0.4 [C1]													
	56kW ≤ 75kW(Ag.)	Proconve MAR-I 4.7/5.0/0.4 [C1]													
	75kW ≤ 130kW(Ag.)	Proconve MAR-I 4.0/5.0/0.3 [C1]													
	130kW ≤ 560kW(Ag.)	Proconve MAR-I 4.0/3.5/0.2 [C1]													
Morocco	0kW ≤ 19kW	Stage IIIA equivalent													
	19kW ≤ 37kW	Stage IIIA equivalent													
	37kW ≤ 56kW	Stage IIIA equivalent													
	56kW ≤ 75kW	Stage IIIA equivalent													
	75kW ≤ 130kW	Stage IIIA equivalent													
130kW ≤ 560kW	Stage IIIA equivalent														
Indonesia	0kW ≤ 19kW	Stage IIIA equivalent													
	19kW ≤ 37kW	Stage IIIA equivalent													
	37kW ≤ 56kW	Stage IIIA equivalent													
	56kW ≤ 75kW	Stage IIIA equivalent													
	75kW ≤ 130kW	Stage IIIA equivalent													
130kW ≤ 560kW	Stage IIIA equivalent														
South Africa	0kW ≤ 19kW	Stage IIIA equivalent													
	19kW ≤ 37kW	Stage IIIA equivalent													
	37kW ≤ 56kW	Stage IIIA equivalent													
	56kW ≤ 75kW	Stage IIIA equivalent													
	75kW ≤ 130kW	Stage IIIA equivalent													
130kW ≤ 560kW	Stage IIIA equivalent														
Tanzania	0kW ≤ 19kW	Stage IIIA equivalent													
	19kW ≤ 37kW	Stage IIIA equivalent													
	37kW ≤ 56kW	Stage IIIA equivalent													
	56kW ≤ 75kW	Stage IIIA equivalent													
	75kW ≤ 130kW	Stage IIIA equivalent													
130kW ≤ 560kW	Stage IIIA equivalent														
Tunisia	0kW ≤ 19kW	Stage IIIA equivalent													
	19kW ≤ 37kW	Stage IIIA equivalent													
	37kW ≤ 56kW	Stage IIIA equivalent													
	56kW ≤ 75kW	Stage IIIA equivalent													
	75kW ≤ 130kW	Stage IIIA equivalent													
130kW ≤ 560kW	Stage IIIA equivalent														
NOTE: Depending on regulation, smoke requirement and/or D2 cycle for Gen.set may be applied.															