



Benchmark values for the 2021-22 compliance period

	Benchmark for electricity generation (tCO <sub>2</sub> per MWh)					
	Value in 2019-2020	Balance Value 2021	2021		2022	
			Value	Decline rate compared to first plan	Value	Decline rate compared to first plan
Conventional coal plants above 300 MW	0.877	0.8210	0.8218	6.3%	0.8177	6.8%
Conventional coal plants below 300 MW	0.979	0.8920	0.8773	10.4%	0.8729	10.8%
Unconventional coal	1.146	0.9627	0.9350	18.4%	0.9303	18.8%
Natural gas	0.392	0.3930	0.3901	0.5%	0.3901	0.5%

	Benchmark for heat production (tCO <sub>2</sub> per GJ)					
	Value in 2019-2020	Balance Value 2021	2021		2022	
			Draft value	Decline rate compared to first plan	Draft value	Decline rate compared to first plan
Conventional coal plants above 300 MW	0.126	0.1100	0.1111	12.1%	0.1105	12.4%
Conventional coal plants below 300 MW	0.126	0.1100	0.1111	12.0%	0.1105	12.4%
Unconventional coal	0.126	0.1111	0.1111	11.9%	0.1105	12.4%
Natural gas	0.059	0.056	0.056	5.1%	0.0557	5.6%



Allocation formula for a coal-fired power generator

$$A = A_e + A_h, \text{ in which } A_e = Q_e * B_e * F_i * F_r * F_f \text{ and } A_h = Q_h * B_h$$

A: Total allowances for a coal-fired power generator, tCO<sub>2</sub>

A<sub>e</sub>: Allowances for electricity generation, tCO<sub>2</sub>

A<sub>h</sub>: Allowances for heat production, tCO<sub>2</sub>

Q<sub>e</sub>: Net electricity generation, MWh

B<sub>e</sub>: Benchmark for electricity generation, tCO<sub>2</sub>/MWh

F<sub>i</sub>: Cooling system adjustment factor

F<sub>r</sub>: Heat/electricity production ratio adjustment factor

F<sub>f</sub>: Load efficiency adjustment factor

Q<sub>h</sub>: Net heat production, GJ

B<sub>h</sub>: Benchmark for heat production, tCO<sub>2</sub>/GJ



Allocation formula for a gas-fired power generator

$$A = A_e + A_h, \text{ in which } A_e = Q_e * B_e * F_r \text{ and } A_h = Q_h * B_h$$

A: Total allowances for a gas-fired power generator, tCO<sub>2</sub>

A<sub>e</sub>: Allowances for electricity generation, tCO<sub>2</sub>

A<sub>h</sub>: Allowances for heat production, tCO<sub>2</sub>

Q<sub>e</sub>: Net electricity generation, MWh

B<sub>e</sub>: Benchmark for electricity generation, tCO<sub>2</sub>/MWh

F<sub>r</sub>: Heat/electricity production ratio adjustment factor

Q<sub>h</sub>: Net heat production, GJ

B<sub>h</sub>: Benchmark for heat production, tCO<sub>2</sub>/GJ