

Greenhouse Gas Emissions from Reykjavik Energy Group 2016-2019

The greenhouse gasses accounted for are carbon dioxide (CO₂), methane (CH₄), sulphur hexafluoride (SF₆), tetrafluorethane (HFC-134a) and nitrous dioxide (N₂O). Greenhouse gas emissions from ON Power's geothermal power plants in Nesjavellir and Hellisheidi are based on their operations along with drilling of makeup wells in the geothermal fields. Veitur Utilities' emissions from its supply and distribution system are due to the operation of backup generators. In 2019 the emission of carbon dioxide from Hellisheidi and Hverahlid increased compared to 2016 while it was reduced in Nesjavellir. Methane emissions from Nesjavellir increased while decreasing at Hellisheidi and Hverahlid. Greenhouse gas emissions from the vehicle fleet were reduced from previous years. Sulphur hexafluoride (SF₆) is used as insulating gas in high-voltage electrical equipment in ON Power's power plants and Veitur Utilities' supply and distribution system. SF₆ is also used in tracer flow test (TFT) measurements of high-temperature production wells.

GREENHOUSE GAS	ORIGIN	UNIT	2016	2017	2018	2019
Carbon dioxide (CO₂)	Nesjavellir	t	14,700	14,000	14,200	12,000
	Hellisheidi and Hverahlid	t	26,100	23,600	25,200	28,100
	Low-temperature geothermal fields	t	0	0	0	0
	Supply and distribution system	t	2	3	1	2
	Vehicle fleet (CO ₂ equivalents)	t	560	550	500	470
	Flights, international and domestic (CO ₂ equivalents)	t	65	70	75	100
	Employee transport to and from work (CO ₂ equivalents)	t	105	105	120	110
	Office waste for landfilling (CO ₂ equivalents)	t	14	27	14	12
	Worksite waste for landfilling (CO ₂ equivalents)	t	280	360	320	305
	Organic waste for compost (CO ₂ equivalents)	t	4	5	5	8
Total CO₂	t	41,830	38,720	40,435	41,107	
Methane (CH₄)	Nesjavellir	kg	44,000	31,000	30,000	57,000
	Hellisheidi and Hverahlid	kg	48,000	49,000	50,000	45,000
	Total CH₄	kg	92,000	80,000	80,000	102,000
Nitrous oxide (N₂O)	Supply and distribution system	kg	0	0	0	0
	Total N₂O	kg	0	0	0	0
Tetrafluorethane (HFC-134a)	Supply and distribution system	kg	15	15	15	15
	Total HFC-134a	kg	15	15	15	15
Sulphur hexafluoride (SF₆)¹	Nesjavellir	kg				
	Hellisheidi	kg	0.26			
	Tracer flow tests (TFT) in the Hengill area	kg	0.08	0.08	0.09	0.07
	Supply and distribution system	kg				
	Total SF₆	kg	0.34	0.08	0.09	0.07

¹Total quantity of SF₆ in Veitur utilities' electronic equipment is approx. 4.3 tonnes and approx. 1 tonne in supplies. Total quantity of SF₆ in ON Power's electronic equipment is approx. 60 kg. RE's R&D holds approx. 0.33 kg of SF₆ in supplies.

Information for global warming potential (GWP) of greenhouse gasses, see: http://www.ipcc.ch/pdf/assessmentreport/ar5/wg1/WG1AR5_Chapter08_FINAL.pdf and in an annex on conversion coefficients