Annual Eco-Efficiency Report for year 2020

Greenhouse Gas Emissions

GHG emissions

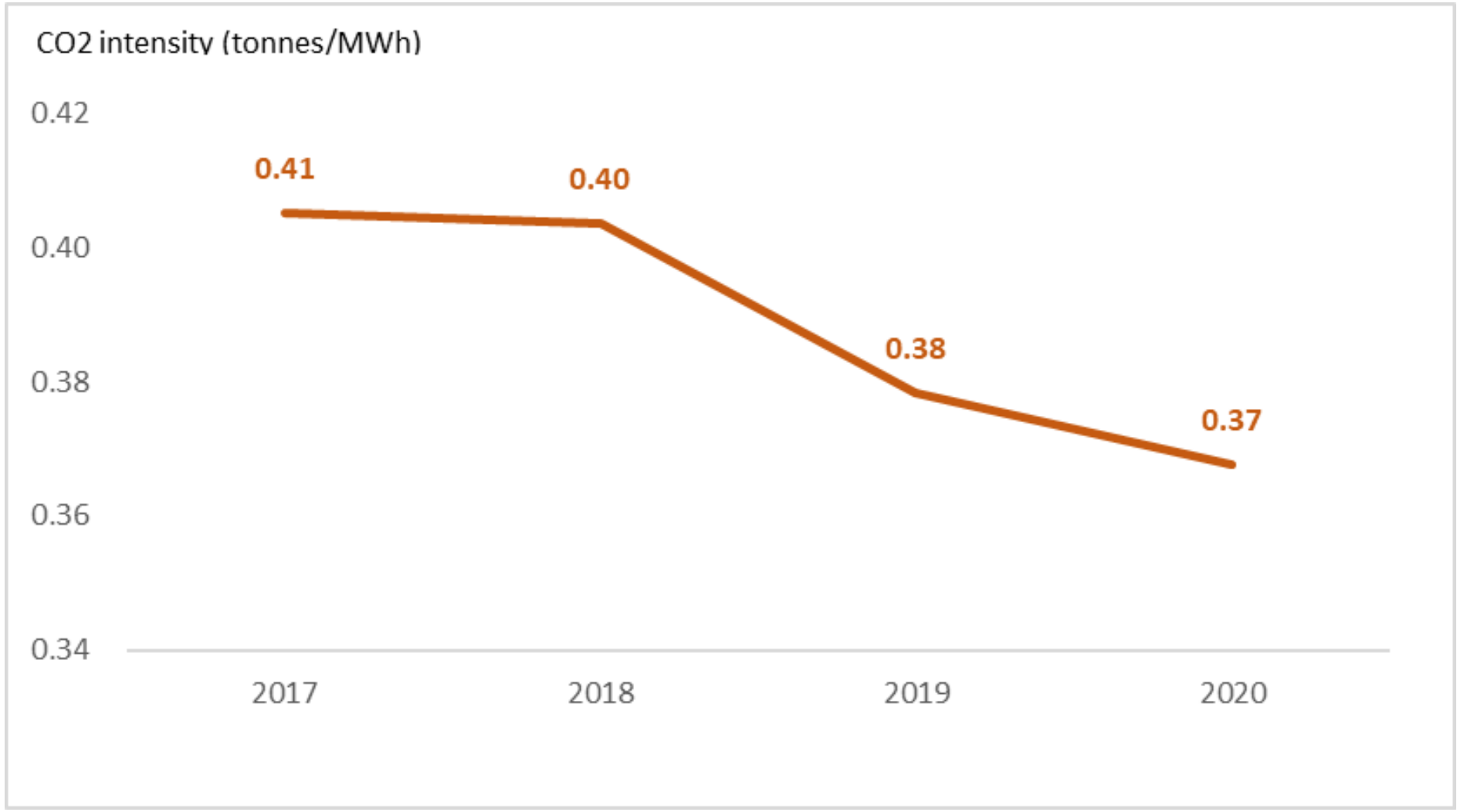
	Unit	2017	2018	2019	2020	2020 Target
Total GHG emissions	tonnes CO_2e	**4,110,404**	**4,560,716**	**5,204,784**	**5,396,460**	**5,501,415**
Direct GHG emissions (scope 1)*	tonnes CO_2e	4,109,813	4,559,001	5,203,068	5,395,590	5,500,000
Indirect GHG emissions (scope 2)	tonnes CO_2e	592	1,714	1,715	871	1,415
Total GHG emission intensity	tonnes CO2e/MWh	**0.41**	**0.40**	**0.38**	**0.37**	
Total generated energy	MWh	**10,147,874**	**11,296,324**	**13,749,533**	**14,674,424**	
Gas	MWh	10,087,610	11,186,528	12,897,162	13,344,326	
- Electricity	MWh	9,654,928	10,759,479	12,183,959	12,534,598	
- Steam	MWh**	432,682	427,049	713,203	809,728	
Renewable	MWh	60,264	109,796	852,371	1,330,099	

* Calculated using emission factor from IPCC AR5

** Thermal energy

Source : B.Grimm Power

GHG intensity



Source : B.Grimm Power

Key Operational Eco-efficiency

Eco-efficiency Performance

	Unit	2017	2018	2019	2020	2020 Target
Total Non-Renewable Energy Consumption	MWh	12,495,859	13,868,073	15,696,957	**16,305,781**	**16,500,000**
Total Net Fresh Water Consumption	Million cubic meters	15.56	16.83	19.85	**20.68**	**21.00**
Total Waste Disposed	metric tonnes		881	2,097	**236**	**1200**
Hazardous Waste Generated	metric tonnes		178	398	**149**	**230**
NO_X Emissions	metric tonnes	2,080	2,134	2,641	**2,823***	**2,800**
SO_X Emissions	metric tonnes	110	110	135	**130**	**140**
TPS (PM10)	metric tonnes	88	89	87	**93**	**100**
SF6 emissions	metric tonnes	0.04	0.04	0.04	**0.04**	**0.04**

*Less demand from Covid-19 leads to higher NOx concentration from the incomplete combustion of gas turbines. However, all plants are still maintaining a NOx level lower than the EIA's NOx limits, which can vary from 60 to 120 ppm.