

ANNEX to Monitoring report No 5

JI Track II Project “Lapes Landfill Gas Utilization and Energy Generation”, JI Registration Reference Number 0049, project of Ekoresursai, UAB project and monitoring plan change

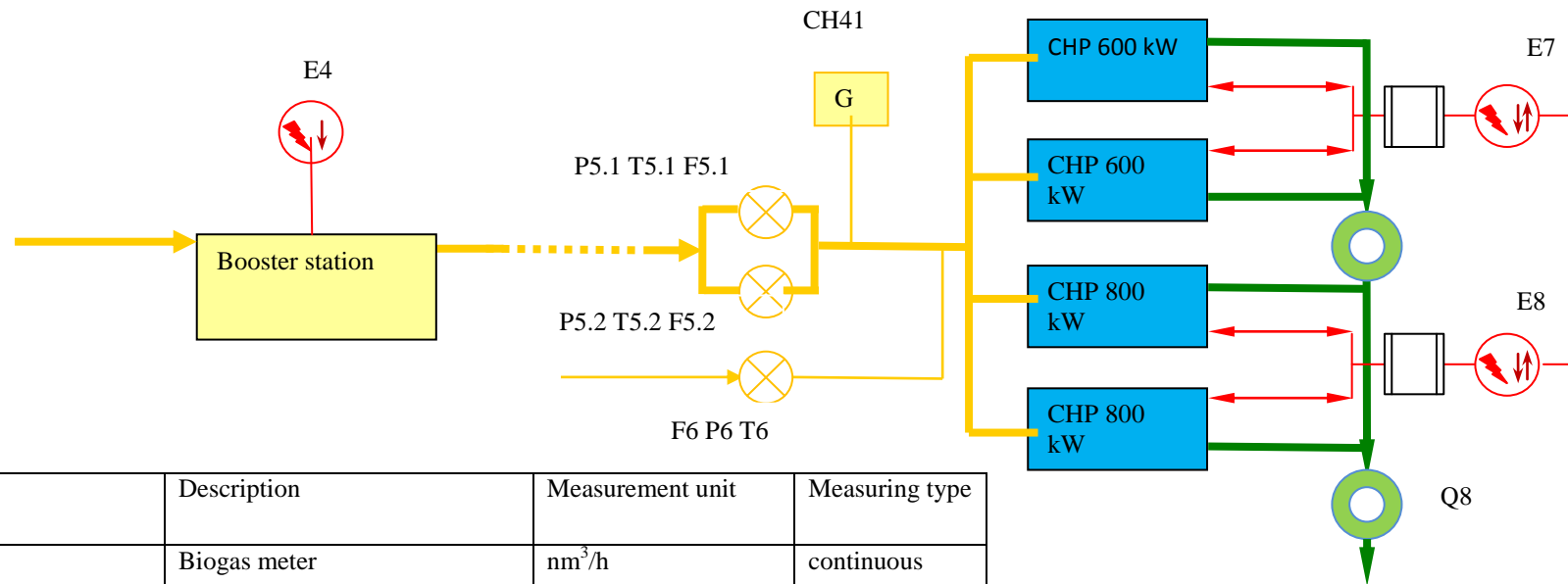
1. Project change

In 23 December 2011 was finalized installation of biogas extraction system in Lapes landfill fields II-III, booster station and additional CHP plants with capacities of 1,6MWe and 1,57 MWth (construction completion certificate 23 December, 2011 No. SUA -2773-(15.34)). Natural gas as additional fuel source is not used any more since 01/03/2012. Additional CHPs are installed due to low efficiency of existing cogeneration plant (35% electrical efficiency TEDOM, new one MWM advanced technology CHP plants with 42.5% efficiency). Another aim of increasing of CHP plant capacity is additional heat energy requirement from district heating network consumers.

2. Monitoring plan change

Emission reduction calculation methodology remains without any changes compare to version described in the PDD , however new monitoring scheme and amended list of the monitoring parameters is applied since 23/12/2011, as described in Annex1.

Annex 1. MONITORING SCHEME (is applied since 23/12/2011)



Symbol	Description	Measurement unit	Measuring type
	Biogas meter	nm ³ /h	continuous
	Electricity meter one direction	kWh/kVar	continuous
	Electricity meter two direction	kWh/kVar	continuous
	Gas analyzer	CH ₄ /CO ₂ /O ₂ /H ₂ S	continuous
	Heat meter	MWh	continuous
	0.4/10 kV transformer		continuous
	Natural gas meter	nm ³ /h	continuous

Symbol	Description
	Biogas
	8,5 Biogas line
	Natural gas
	Heat energy
	Electricity power

Monitoring parameters

ID number	Data variable	Source of data	Data unit	Measured (m), calculated (c), estimated (e)	Recording
1. F5.1 F5.2	Total amount of landfill gas captured	Continuous flow meter at Point 1	m ³	M	Cont.
2. T5.1 F5.2	Temperature of the landfill gas	Continuous measurement at Point 1	°C	M	Cont.
3. P5.1 P5.2	Pressure of the landfill gas	Continuous measurement at Point 1	Pa	M	Cont.
4. CH ₄ 1	Methane fraction in LFG	Continuous measurement at Point 1	m ³ _{CH₄} /m ³ _{LFG} (vol-%)	M	Cont.
5. E4	Electricity used in the MPR Station	Continuous metering at Point 4	MWh	M	Cont.
6. F6	Flow of natural gas	Point 6	m ³	M	Cont.
7. P6	Pressure of natural gas	Point 6	Pa	M	Cont.
8. T6	Temperature of natural gas	Point 6	°C	M	Cont.
9. E7 E8	Electricity generated by the project	Continuous energy metering at Point 7	MWh	M	Cont.
10. Q8	Heat generated by the project	Continuous energy metering at Point 8	MWh	M	Cont.