Recovery of biogas from its waste landfills Biomethane injected into the natural gas distribution network

With WAGABOX® technology, Veolia recovers the methane produced by the degradation of organic waste at landfill sites and injects it directly into the natural gas distribution network.

Starting date of the project	November 2018				
Project Localisation Places of implementation of the project at this stage and targeted	Implemented on the Non-Hazardous Waste Landfills of Claye-Souilly (Seine et Marne), Saint Palais (Cher) and Le Ham (Manche).				
Project objectives	Recovering the methane produced	by the degradation	on of organic was	te at landfills and injecting it directly	into
Type of climate innovation of the project with a description of the problem/issue addressed	the natural gas distribution				
Detailed project description	Reducing net CO2 emissions to zei implementation of large-scale indus levers of Veolia's activities to contri a Grenoble-based startup, is an err of industrial and territorial ecology, energy.	ro by 2050, as se strial solutions. Th bute to this objec nblematic illustrati it will make it pos	t out in the Europ ne recovery of bio tive. This major p ion of this in terms sible to produce I	ean framework, requires the gas from landfill waste is one of the roject in partnership with Waga Ene s of its size and impact. A true exam ocal, renewable and low-carbon	key rgy, iple
	This innovation offers an energy efficiency three times higher than solutions consisting in burning biogas in an engine or a turbine to produce electricity. Biomethane can also be easily stored and transported using existing gas infrastructures.				
	By substituting biomethane for natu the use of fossil fuels.	iral gas, the WAG	ABOX® solution	avoids the carbon emissions caused	d by
	Reduction levers Details on the aspects of the project				
Main project's drivers for reducing the greenhouse gas emissions	Reduction lowers		Dotails on the	aspects of the project	
Main project's drivers for reducing the greenhouse gas emissions	Reduction levers	(including	Details on the	aspects of the project	
Main project's drivers for reducing the greenhouse gas emissions	Reduction levers	(including	Details on the	aspects of the project	
Main project's drivers for reducing the greenhouse gas emissions	Reduction levers □ Energy and resource efficiency behaviour) ⊠ Energy Decarbonisation □ Energy efficiency improvement	r (including	Details on the Substitution of r	aspects of the project	
Main project's drivers for reducing the greenhouse gas emissions	Reduction levers □ Energy and resource efficiency behaviour) ⊠ Energy Decarbonisation □ Energy efficiency improvement □ Improving efficiency in non-energies	r (including	Details on the Substitution of r	aspects of the project	
Main project's drivers for reducing the greenhouse gas emissions	Reduction levers □ Energy and resource efficiency behaviour) ⊠ Energy Decarbonisation □ Energy efficiency improvement □ Improving efficiency in non-energies □ Emissions absorption: creation	r (including s ergy resources of carbon	Details on the Substitution of r	aspects of the project	
Main project's drivers for reducing the greenhouse gas emissions	Reduction levers □ Energy and resource efficiency behaviour) ⊠ Energy Decarbonisation □ Energy efficiency improvement □ Improving efficiency in non-energies □ Emissions absorption: creation sinks, negative emissions (BECC)	r (including s ergy resources of carbon S, CCU/S,)	Details on the Substitution of r	aspects of the project	
Main project's drivers for reducing the greenhouse gas emissions	Reduction levers □ Energy and resource efficiency behaviour) ⊠ Energy Decarbonisation □ Energy efficiency improvement □ Improving efficiency in non-energience □ Emissions absorption: creation sinks, negative emissions (BECC) □ Financing low-carbon producer disinvestment from carbon assets	r (including s ergy resources of carbon <u>S, CCU/S,)</u> 's or	Details on the	aspects of the project	
Main project's drivers for reducing the greenhouse gas emissions	Reduction levers □ Energy and resource efficiency behaviour) ⊠ Energy Decarbonisation □ Energy efficiency improvement □ Improving efficiency in non-energies □ Emissions absorption: creation sinks, negative emissions (BECC) □ Financing low-carbon producerdisinvestment from carbon assets □ Reduction of other greenhouse	r (including sergy resources of carbon S, CCU/S,) 's or segases	Details on the Substitution of r	aspects of the project	
Main project's drivers for reducing the greenhouse gas emissions	Reduction levers □ Energy and resource efficiency behaviour) ⊠ Energy Decarbonisation □ Energy efficiency improvement □ Improving efficiency in non-energy □ Emissions absorption: creation sinks, negative emissions (BECC) □ Financing low-carbon producerd disinvestment from carbon assets □ Reduction of other greenhouse emission	r (including rss ergy resources of carbon S, CCU/S,) rs or s e gases	Details on the Substitution of r	aspects of the project	
Main project's drivers for reducing the greenhouse gas emissions Emission scope(s) on which the project has a significant impact and quantification of GHG emission reductions per emission scope	Reduction levers □ Energy and resource efficiency behaviour) ⊠ Energy Decarbonisation □ Energy efficiency improvement □ Improving efficiency in non-energy □ Emissions absorption: creation sinks, negative emissions (BECC □ Financing low-carbon producer disinvestment from carbon assets □ Reduction of other greenhouse	y (including ergy resources of carbon S, CCU/S,) s or gases Aspects of the contributing to of emissions b category	Details on the Substitution of r bubstitution of r project the reduction by emission	Aspects of the project Inatural gas by biomethane Inatural gas by biomethan	
Main project's drivers for reducing the greenhouse gas emissions Emission scope(s) on which the project has a significant impact and quantification of GHG emission reductions per emission scope	Reduction levers □ Energy and resource efficiency behaviour) ⊠ Energy Decarbonisation □ Energy efficiency improvement □ Improving efficiency in non-energies □ Emissions absorption: creation sinks, negative emissions (BECC □ Financing low-carbon producer disinvestment from carbon assets □ Reduction of other greenhouse emission	r (including sergy resources of carbon S, CCU/S,) rs or gases Aspects of the contributing to of emissions b category	Details on the Substitution of the Substitution of the project the reduction by emission	Aspects of the project natural gas by biomethane Quantification of associated GHG emissions by emission category Please follow the quantification methodology used in the Afep guidelines.	
Main project's drivers for reducing the greenhouse gas emissions Emission scope(s) on which the project has a significant impact and quantification of GHG emission reductions per emission scope	Reduction levers □ Energy and resource efficiency behaviour) ⊠ Energy Decarbonisation □ Energy efficiency improvement □ Improving efficiency in non-energies □ Emissions absorption: creation sinks, negative emissions (BECC) □ Financing low-carbon producerdisinvestment from carbon assets □ Reduction of other greenhouse emission ■ Reduction of the company's case of the second se	r (including sergy resources of carbon S, CCU/S,) rs or a gases Aspects of the contributing to of emissions b category rbon dependence Methane recover	Details on the Substitution of r Substitution of r project the reduction y emission	aspects of the project natural gas by biomethane Quantification of associated GHG emissions by emission category Please follow the quantification methodology used in the Afep quidelines. 21,1 kt CO2/year	

	Scope 2			
	Indirect emissions associated			
	with the company's electricity			
	and heat consumption			
	Scope 3			
	Emissions induced (upstream			
	or downstream) by the			
	company's activities, products			
	and/or services in its value			
	chain.			
	Increase of carbon sinks	•	•	
	Emissions Absorption			
	Carbon sinks creation,			
	(BECCS, CCU/S,)			
	GHG emissions avoided by the	e company at third parties		
	Avoided Emissions	Substitution of natural gas by	24 kt CO2/year	
	Emissions avoided by the	biomethane		
	activities, products and/or			
	services in charge of the			
	project, or by the financing of			
	emission reduction projects.			J
	Clarification on the calculation of	or other remarks:		
	The WAGABOX® solution allows the biomethane has an emission fate	he recovery of 118 182 MWh PCI/ye actor of 23,4 kgCO2eq/MWh PCI.	ear of biomethane. We can consider	r that
	The emission factor of natural gas i all other things being equal, avo	s about 227 kgCO2/MWh PCI. The ids 203.6 kgCO2/MWh COD, i.e.	injection of biomethane into the netw for this installation more than 24	vork, ,000
	tCO2/year.			
	On the other hand, if the methane treatment by combustion would hav recovery of methane by the WAN hazardous waste storage facility.	from the decomposition of the was ve resulted in the emission of 21,00 GABOX® solution therefore also	ste had not been recovered, its ordi 0 tCO2eq (GWP at 100 years = 30). avoids 21 000 tCO2/year at the	nary The non-
	In total, more than 45 000 tCO2eq/	vear are avoided by the WAGABO	X® solution.	
	•			
Modality of verification of the	Calculation standard used (ADE	ME hase GHG protocol etc.) C	arbone base of ADEME	
Modality of verification of the quantification.	Calculation standard used (ADE Verification of the calculation (in	ME base, GHG protocol, etc.) : C nternal or external) : Use of GRDF	arbone base of ADEME	
Modality of verification of the quantification. Other environmental and social	Calculation standard used (ADE Verification of the calculation (in The project is part of a contribution	ME base, GHG protocol, etc.) : C nternal or external) : Use of GRDF to various SDGs (Sustainable Dev	arbone base of ADEME consumption data relopment Goals) :	
Modality of verification of the quantification. Other environmental and social benefits of the project	Calculation standard used (ADE Verification of the calculation (in The project is part of a contribution	ME base, GHG protocol, etc.) : C ternal or external) : Use of GRDF to various SDGs (Sustainable Dev	arbone base of ADEME consumption data /elopment Goals) :	
Modality of verification of the quantification. Other environmental and social benefits of the project	Calculation standard used (ADE Verification of the calculation (in The project is part of a contribution In addition to GHGs, this combustion of biogas (S Infrastructure, and SDG	ME base, GHG protocol, etc.) : C iternal or external) : Use of GRDF to various SDGs (Sustainable Dev project avoids the emission of othe DG 7 Clean and Affordable Energy 13 Action on Climate Change).	arbone base of ADEME - consumption data velopment Goals) : er pollutants produced by the r, SDG 9 Industry, Innovation,	
Modality of verification of the quantification. Other environmental and social benefits of the project	Calculation standard used (ADE Verification of the calculation (in The project is part of a contribution In addition to GHGs, this combustion of biogas (S Infrastructure, and SDG It is a territory-wide indus transformation (SDG 11 Achieving the Goals).	ME base, GHG protocol, etc.) : C iternal or external) : Use of GRDF ito various SDGs (Sustainable Dev project avoids the emission of othe DG 7 Clean and Affordable Energy 13 Action on Climate Change). strial ecology project with a partners Sustainable Cities and Communitie	arbone base of ADEME consumption data velopment Goals) : er pollutants produced by the r, SDG 9 Industry, Innovation, ship approach to accelerate ecologi es and SDG 17 Partnerships for	ical
Modality of verification of the quantification. Other environmental and social benefits of the project	Calculation standard used (ADE Verification of the calculation (in The project is part of a contribution In addition to GHGs, this combustion of biogas (S Infrastructure, and SDG It is a territory-wide indus transformation (SDG 11 Achieving the Goals).	ME base, GHG protocol, etc.) : C iternal or external) : Use of GRDF to various SDGs (Sustainable Dev project avoids the emission of othe DG 7 Clean and Affordable Energy 13 Action on Climate Change). strial ecology project with a partner Sustainable Cities and Communities ibutes to the creation of qualified in wth).	arbone base of ADEME - consumption data velopment Goals) : er pollutants produced by the r, SDG 9 Industry, Innovation, ship approach to accelerate ecologi es and SDG 17 Partnerships for idustrial jobs in France (SDG 8 Deco	ical ent
Modality of verification of the quantification. Other environmental and social benefits of the project	 Calculation standard used (ADE Verification of the calculation (in The project is part of a contribution In addition to GHGs, this combustion of biogas (S Infrastructure, and SDG It is a territory-wide industransformation (SDG 11 Achieving the Goals). Finally, this project contribution 	ME base, GHG protocol, etc.) : C iternal or external) : Use of GRDF to various SDGs (Sustainable Dev project avoids the emission of othe DG 7 Clean and Affordable Energy 13 Action on Climate Change). strial ecology project with a partner. Sustainable Cities and Communities ributes to the creation of qualified in wth).	arbone base of ADEME - consumption data velopment Goals) : er pollutants produced by the r, SDG 9 Industry, Innovation, ship approach to accelerate ecologi es and SDG 17 Partnerships for udustrial jobs in France (SDG 8 Deco	ical ent
Modality of verification of the quantification. Other environmental and social benefits of the project Project maturity level	 Calculation standard used (ADE Verification of the calculation (in The project is part of a contribution In addition to GHGs, this combustion of biogas (S Infrastructure, and SDG It is a territory-wide industransformation (SDG 11 Achieving the Goals). Finally, this project contrivor work and economic grow Prototype laboratory test (TRL 7 	ME base, GHG protocol, etc.) : C internal or external) : Use of GRDF to various SDGs (Sustainable Dev project avoids the emission of othe DG 7 Clean and Affordable Energy 13 Action on Climate Change). strial ecology project with a partner. Sustainable Cities and Communities ibutes to the creation of qualified in wth).	arbone base of ADEME - consumption data velopment Goals) : er pollutants produced by the r, SDG 9 Industry, Innovation, ship approach to accelerate ecologi es and SDG 17 Partnerships for udustrial jobs in France (SDG 8 Deco	ical ent
Modality of verification of the quantification. Other environmental and social benefits of the project Project maturity level	Calculation standard used (ADE Verification of the calculation (in The project is part of a contribution In addition to GHGs, this combustion of biogas (S Infrastructure, and SDG It is a territory-wide indus transformation (SDG 11 Achieving the Goals). Finally, this project contr work and economic grow	ME base, GHG protocol, etc.) : C iternal or external) : Use of GRDF to various SDGs (Sustainable Dev project avoids the emission of other DG 7 Clean and Affordable Energy 13 Action on Climate Change). strial ecology project with a partner: Sustainable Cities and Communities ibutes to the creation of qualified in with).	arbone base of ADEME <u>F consumption data</u> velopment Goals) : er pollutants produced by the r, SDG 9 Industry, Innovation, ship approach to accelerate ecologi es and SDG 17 Partnerships for idustrial jobs in France (SDG 8 Deco	ical ent
Modality of verification of the quantification. Other environmental and social benefits of the project Project maturity level	Calculation standard used (ADE Verification of the calculation (in The project is part of a contribution In addition to GHGs, this combustion of biogas (S Infrastructure, and SDG It is a territory-wide indus transformation (SDG 11 Achieving the Goals). Finally, this project contr work and economic grow	ME base, GHG protocol, etc.) : C iternal or external) : Use of GRDF to various SDGs (Sustainable Dev project avoids the emission of other DG 7 Clean and Affordable Energy 13 Action on Climate Change). strial ecology project with a partner: Sustainable Cities and Communities ibutes to the creation of qualified in with).	arbone base of ADEME <u>F consumption data</u> velopment Goals) : er pollutants produced by the r, SDG 9 Industry, Innovation, ship approach to accelerate ecologi es and SDG 17 Partnerships for idustrial jobs in France (SDG 8 Deco	ical ent
Modality of verification of the quantification. Other environmental and social benefits of the project Project maturity level Tick the corresponding current	Calculation standard used (ADE Verification of the calculation (in The project is part of a contribution In addition to GHGs, this combustion of biogas (S Infrastructure, and SDG It is a territory-wide indus transformation (SDG 11 Achieving the Goals). Finally, this project contr work and economic grow Prototype laboratory test (TRL 7 Real life testing (TRL 7-8) Pre-commercial prototype (TRL S	ME base, GHG protocol, etc.) : C internal or external) : Use of GRDF into various SDGs (Sustainable Dev project avoids the emission of other DG 7 Clean and Affordable Energy 13 Action on Climate Change). strial ecology project with a partner: Sustainable Cities and Communities ibutes to the creation of qualified in with).	arbone base of ADEME <u>F consumption data</u> velopment Goals) : er pollutants produced by the r, SDG 9 Industry, Innovation, ship approach to accelerate ecologi es and SDG 17 Partnerships for idustrial jobs in France (SDG 8 Deco	ical ent
Modality of verification of the quantification. Other environmental and social benefits of the project Project maturity level Tick the corresponding current maturity level	Calculation standard used (ADE Verification of the calculation (in The project is part of a contribution In addition to GHGs, this combustion of biogas (S Infrastructure, and SDG It is a territory-wide indus transformation (SDG 11 Achieving the Goals). Finally, this project contr work and economic grow □ Prototype laboratory test (TRL 7 □ Real life testing (TRL 7-8) □ Pre-commercial prototype (TRL 8 □ Small-scale implementation	ME base, GHG protocol, etc.) : C internal or external) : Use of GRDF into various SDGs (Sustainable Dev project avoids the emission of other DG 7 Clean and Affordable Energy 13 Action on Climate Change). strial ecology project with a partner: Sustainable Cities and Communities ibutes to the creation of qualified in with). () 9) Intation	arbone base of ADEME <u>F consumption data</u> velopment Goals) : er pollutants produced by the r, SDG 9 Industry, Innovation, ship approach to accelerate ecologi es and SDG 17 Partnerships for idustrial jobs in France (SDG 8 Deco	ical ent
Modality of verification of the quantification. Other environmental and social benefits of the project Project maturity level Tick the corresponding current maturity level	 Calculation standard used (ADE Verification of the calculation (in The project is part of a contribution In addition to GHGs, this combustion of biogas (S Infrastructure, and SDG It is a territory-wide indus transformation (SDG 11 Achieving the Goals). Finally, this project contr work and economic grow Prototype laboratory test (TRL 7 Real life testing (TRL 7-8) Pre-commercial prototype (TRL 9 Small-scale implementation 	ME base, GHG protocol, etc.) : C internal or external) : Use of GRDF into various SDGs (Sustainable Dev project avoids the emission of other DG 7 Clean and Affordable Energy 13 Action on Climate Change). strial ecology project with a partner: Sustainable Cities and Communities ibutes to the creation of qualified in with). () 9) Intation	arbone base of ADEME <u>F consumption data</u> velopment Goals) : er pollutants produced by the r, SDG 9 Industry, Innovation, ship approach to accelerate ecologi es and SDG 17 Partnerships for idustrial jobs in France (SDG 8 Deco	ical ent
Modality of verification of the quantification. Other environmental and social benefits of the project Project maturity level Tick the corresponding current maturity level	 Calculation standard used (ADE Verification of the calculation (in The project is part of a contribution In addition to GHGs, this combustion of biogas (S Infrastructure, and SDG It is a territory-wide industransformation (SDG 11 Achieving the Goals). Finally, this project contrwork and economic grow Prototype laboratory test (TRL 7 Real life testing (TRL 7-8) Pre-commercial prototype (TRL 9 Small-scale implementation Medium to large scale implementation 	ME base, GHG protocol, etc.) : C internal or external) : Use of GRDF to various SDGs (Sustainable Dev project avoids the emission of othe DG 7 Clean and Affordable Energy 13 Action on Climate Change). strial ecology project with a partner Sustainable Cities and Communitie ibutes to the creation of qualified in wth). 9) ntation	arbone base of ADEME <u>F consumption data</u> velopment Goals) : er pollutants produced by the ty, SDG 9 Industry, Innovation, ship approach to accelerate ecologi es and SDG 17 Partnerships for industrial jobs in France (SDG 8 Deco	ical ent
Modality of verification of the quantification. Other environmental and social benefits of the project Project maturity level Tick the corresponding current maturity level	 Calculation standard used (ADE Verification of the calculation (in The project is part of a contribution In addition to GHGs, this combustion of biogas (S Infrastructure, and SDG It is a territory-wide industransformation (SDG 11 Achieving the Goals). Finally, this project contrwork and economic grow Prototype laboratory test (TRL 7 Real life testing (TRL 7-8) Pre-commercial prototype (TRL 9 Small-scale implementation Medium to large scale implementation 	ME base, GHG protocol, etc.) : C internal or external) : Use of GRDF to various SDGs (Sustainable Dev project avoids the emission of othe DG 7 Clean and Affordable Energy 13 Action on Climate Change). strial ecology project with a partners Sustainable Cities and Communitie ibutes to the creation of qualified in wth). () 9) ntation level of maturity of the project	arbone base of ADEME - consumption data velopment Goals) : er pollutants produced by the ty, SDG 9 Industry, Innovation, ship approach to accelerate ecologi es and SDG 17 Partnerships for industrial jobs in France (SDG 8 Deco	ical ent
Modality of verification of the quantification. Other environmental and social benefits of the project Project maturity level Tick the corresponding current maturity level Capacity and conditions of the	Calculation standard used (ADE Verification of the calculation (in The project is part of a contribution In addition to GHGs, this combustion of biogas (S Infrastructure, and SDG It is a territory-wide indus transformation (SDG 11 Achieving the Goals). Finally, this project contrework and economic grow Prototype laboratory test (TRL 7 Real life testing (TRL 7-8) Pre-commercial prototype (TRL 8 Small-scale implementation Medium to large scale implement Remarks: click here to enter the	ME base, GHG protocol, etc.) : C internal or external) : Use of GRDF into various SDGs (Sustainable Dev project avoids the emission of other DG 7 Clean and Affordable Energy 13 Action on Climate Change). strial ecology project with a partner: Sustainable Cities and Communities ibutes to the creation of qualified in with). () 9) Intation level of maturity of the project if the support mechanisms for bion	arbone base of ADEME <u>F consumption data</u> velopment Goals) : er pollutants produced by the ty, SDG 9 Industry, Innovation, ship approach to accelerate ecologi es and SDG 17 Partnerships for industrial jobs in France (SDG 8 Deco industrial jobs in France (SDG 8 Deco	ent
Modality of verification of the quantification. Other environmental and social benefits of the project Project maturity level Tick the corresponding current maturity level Capacity and conditions of the project reproducibility, with	 Calculation standard used (ADE Verification of the calculation (in The project is part of a contribution In addition to GHGs, this combustion of biogas (S Infrastructure, and SDG It is a territory-wide industransformation (SDG 11 Achieving the Goals). Finally, this project contrwork and economic grow Prototype laboratory test (TRL 7 Real life testing (TRL 7-8) Pre-commercial prototype (TRL 9 Small-scale implementation Medium to large scale implement This type of project is reproducible hazardous waste storage facilities 	ME base, GHG protocol, etc.) : C internal or external) : Use of GRDF to various SDGs (Sustainable Dev project avoids the emission of othe DG 7 Clean and Affordable Energy 13 Action on Climate Change). strial ecology project with a partners Sustainable Cities and Communitie ibutes to the creation of qualified in wth). P) ntation level of maturity of the project if the support mechanisms for bion are maintained.	arbone base of ADEME <u>F consumption data</u> velopment Goals) : er pollutants produced by the ty, SDG 9 Industry, Innovation, ship approach to accelerate ecologi es and SDG 17 Partnerships for industrial jobs in France (SDG 8 Deco industrial jobs in France (SDG 8 Deco	ical ent
Modality of verification of the quantification. Other environmental and social benefits of the project benefits of the project Project maturity level Tick the corresponding current maturity level Capacity and conditions of the project reproducibility, with associated climate impact maturity	 Calculation standard used (ADE Verification of the calculation (in The project is part of a contribution In addition to GHGs, this combustion of biogas (S Infrastructure, and SDG It is a territory-wide industransformation (SDG 11 Achieving the Goals). Finally, this project contrwork and economic grow Prototype laboratory test (TRL 7 Real life testing (TRL 7-8) Pre-commercial prototype (TRL 9 Small-scale implementation Medium to large scale implement 	ME base, GHG protocol, etc.) : C internal or external) : Use of GRDF to various SDGs (Sustainable Dev project avoids the emission of othe DG 7 Clean and Affordable Energy 13 Action on Climate Change). strial ecology project with a partners Sustainable Cities and Communitie ibutes to the creation of qualified in wth). () 9) ntation level of maturity of the project if the support mechanisms for bion are maintained.	arbone base of ADEME <u>F consumption data</u> velopment Goals) : er pollutants produced by the ty, SDG 9 Industry, Innovation, ship approach to accelerate ecologi es and SDG 17 Partnerships for industrial jobs in France (SDG 8 Deco industrial jobs in France (SDG 8 Deco	ical ent
Modality of verification of the quantification. Other environmental and social benefits of the project Project maturity level Tick the corresponding current maturity level Capacity and conditions of the project reproducibility, with associated climate impact mitigation potential	 Calculation standard used (ADE Verification of the calculation (in The project is part of a contribution In addition to GHGs, this combustion of biogas (S Infrastructure, and SDG It is a territory-wide industransformation (SDG 11 Achieving the Goals). Finally, this project contrwork and economic grow Prototype laboratory test (TRL 7 Real life testing (TRL 7-8) Pre-commercial prototype (TRL 9 Small-scale implementation Medium to large scale implementation This type of project is reproducible hazardous waste storage facilities 	ME base, GHG protocol, etc.) : C Internal or external) : Use of GRDF to various SDGs (Sustainable Dev s project avoids the emission of othe DG 7 Clean and Affordable Energy 13 Action on Climate Change). strial ecology project with a partner: Sustainable Cities and Communitie ibutes to the creation of qualified in with). () 9) Intation level of maturity of the project if the support mechanisms for biom are maintained.	arbone base of ADEME <u>F consumption data</u> velopment Goals) : er pollutants produced by the ty, SDG 9 Industry, Innovation, ship approach to accelerate ecologi es and SDG 17 Partnerships for industrial jobs in France (SDG 8 Deco industrial jobs in France (SDG 8 Deco	ical ent
Modality of verification of the quantification. Other environmental and social benefits of the project benefits of the project Project maturity level Tick the corresponding current maturity level Capacity and conditions of the project reproducibility, with associated climate impact mitigation potential Amount of investment made (in €)	Calculation standard used (ADE Verification of the calculation (in The project is part of a contribution In addition to GHGs, this combustion of biogas (S Infrastructure, and SDG It is a territory-wide indus transformation (SDG 11 Achieving the Goals). Finally, this project contr work and economic grow Prototype laboratory test (TRL 7 Real life testing (TRL 7-8) Pre-commercial prototype (TRL 9 Small-scale implementation Medium to large scale implement This type of project is reproducible hazardous waste storage facilities The following investments have be	ME base, GHG protocol, etc.) : C internal or external) : Use of GRDF to various SDGs (Sustainable Dev project avoids the emission of othe DG 7 Clean and Affordable Energy 13 Action on Climate Change). strial ecology project with a partner: Sustainable Cities and Communitie ibutes to the creation of qualified in with). () 9) ntation level of maturity of the project if the support mechanisms for biom are maintained.	arbone base of ADEME <u>F consumption data</u> velopment Goals) : er pollutants produced by the ty, SDG 9 Industry, Innovation, ship approach to accelerate ecologi es and SDG 17 Partnerships for industrial jobs in France (SDG 8 Deco industrial jobs in France (SDG 8 Deco	ical ent
Modality of verification of the quantification. Other environmental and social benefits of the project benefits of the project Project maturity level Tick the corresponding current maturity level Capacity and conditions of the project reproducibility, with associated climate impact mitigation potential Amount of investment made (in €)	 Calculation standard used (ADE Verification of the calculation (in The project is part of a contribution In addition to GHGs, this combustion of biogas (S Infrastructure, and SDG It is a territory-wide industransformation (SDG 11 Achieving the Goals). Finally, this project contrwork and economic grow Prototype laboratory test (TRL 7 Real life testing (TRL 7-8) Pre-commercial prototype (TRL 9 Small-scale implementation Medium to large scale implement This type of project is reproducible hazardous waste storage facilities The following investments have be Claye-Souilly: 11 million Spint Palai: 2 million 	ME base, GHG protocol, etc.) : C ternal or external) : Use of GRDF to various SDGs (Sustainable Dev project avoids the emission of othe DG 7 Clean and Affordable Energy 13 Action on Climate Change). strial ecology project with a partner: Sustainable Cities and Communitie ibutes to the creation of qualified in with). () 9) ntation level of maturity of the project if the support mechanisms for bion are maintained. en made in the various landfills : euros	arbone base of ADEME <u>F consumption data</u> velopment Goals) : er pollutants produced by the ty, SDG 9 Industry, Innovation, ship approach to accelerate ecologi es and SDG 17 Partnerships for industrial jobs in France (SDG 8 Deco industrial jobs in France (SDG 8 Deco	ical ent
Modality of verification of the quantification. Other environmental and social benefits of the project benefits of the project Project maturity level Tick the corresponding current maturity level Capacity and conditions of the project reproducibility, with associated climate impact mitigation potential Amount of investment made (in €)	Calculation standard used (ADE Verification of the calculation (in The project is part of a contribution In addition to GHGs, this combustion of biogas (S Infrastructure, and SDG It is a territory-wide indus transformation (SDG 11 Achieving the Goals). Finally, this project contr work and economic grow Prototype laboratory test (TRL 7 Real life testing (TRL 7-8) Pre-commercial prototype (TRL 9 Small-scale implementation Medium to large scale implement This type of project is reproducible hazardous waste storage facilities The following investments have be Claye-Souilly: 11 million Saint-Palais: 3 million eu	ME base, GHG protocol, etc.) : C ternal or external) : Use of GRDF to various SDGs (Sustainable Dev project avoids the emission of othe DG 7 Clean and Affordable Energy 13 Action on Climate Change). strial ecology project with a partner: Sustainable Cities and Communitie ibutes to the creation of qualified in with). () 9) Intation level of maturity of the project if the support mechanisms for bion are maintained. en made in the various landfills : euros uros	arbone base of ADEME <u>F consumption data</u> velopment Goals) : er pollutants produced by the r, SDG 9 Industry, Innovation, ship approach to accelerate ecologi es and SDG 17 Partnerships for idustrial jobs in France (SDG 8 Deco idustrial jobs in France (SDG 8 Deco	ent
Modality of verification of the quantification. Other environmental and social benefits of the project benefits of the project Project maturity level Tick the corresponding current maturity level Capacity and conditions of the project reproducibility, with associated climate impact mitigation potential Amount of investment made (in €)	Calculation standard used (ADE Verification of the calculation (in The project is part of a contribution In addition to GHGs, this combustion of biogas (S Infrastructure, and SDG It is a territory-wide indus transformation (SDG 11 Achieving the Goals). Finally, this project contr work and economic grow Prototype laboratory test (TRL 7 Real life testing (TRL 7-8) Pre-commercial prototype (TRL 9 Small-scale implementation Medium to large scale implement This type of project is reproducible hazardous waste storage facilities The following investments have be Claye-Souilly: 11 million Saint-Palais: 3 million euros	ME base, GHG protocol, etc.) : C ternal or external) : Use of GRDF to various SDGs (Sustainable Dev project avoids the emission of othe DG 7 Clean and Affordable Energy 13 Action on Climate Change). strial ecology project with a partner: Sustainable Cities and Communitie ibutes to the creation of qualified in with). () 9) Intation level of maturity of the project if the support mechanisms for bion are maintained. ten made in the various landfills : euros uros	arbone base of ADEME <u>F consumption data</u> velopment Goals) : er pollutants produced by the r, SDG 9 Industry, Innovation, ship approach to accelerate ecologi es and SDG 17 Partnerships for idustrial jobs in France (SDG 8 Deco idustrial jobs in France (SDG 8 Deco idustrial jobs in France from non-	ent
Modality of verification of the quantification. Other environmental and social benefits of the project benefits of the project Project maturity level Tick the corresponding current maturity level Capacity and conditions of the project reproducibility, with associated climate impact mitigation potential Amount of investment made (in €) Economic profitability of the project (BOI)	Calculation standard used (ADE Verification of the calculation (in The project is part of a contribution In addition to GHGs, this combustion of biogas (S Infrastructure, and SDG It is a territory-wide indus transformation (SDG 11 Achieving the Goals). Finally, this project contr work and economic grow Prototype laboratory test (TRL 7 Real life testing (TRL 7-8) Pre-commercial prototype (TRL 9 Small-scale implementation Medium to large scale implement This type of project is reproducible hazardous waste storage facilities The following investments have be Claye-Souilly: 11 million Saint-Palais: 3 million euros ST (0-3 years)	ME base, GHG protocol, etc.) : C thernal or external) : Use of GRDF to various SDGs (Sustainable Dev project avoids the emission of other DG 7 Clean and Affordable Energy 13 Action on Climate Change). strial ecology project with a partner: Sustainable Cities and Communities ibutes to the creation of qualified in with). () 9) Intation level of maturity of the project if the support mechanisms for bion are maintained. ten made in the various landfills : euros uros	arbone base of ADEME F consumption data relopment Goals) : er pollutants produced by the r, SDG 9 Industry, Innovation, ship approach to accelerate ecologi es and SDG 17 Partnerships for idustrial jobs in France (SDG 8 Deco idustrial jobs in France (SDG 8 Deco idustrial jobs in France from non-	ical ent
Modality of verification of the quantification. Other environmental and social benefits of the project benefits of the project Project maturity level Tick the corresponding current maturity level Capacity and conditions of the project reproducibility, with associated climate impact mitigation potential Amount of investment made (in €) Economic profitability of the project (ROI)	Calculation standard used (ADE Verification of the calculation (in The project is part of a contribution In addition to GHGs, this combustion of biogas (S Infrastructure, and SDG It is a territory-wide indus transformation (SDG 11 Achieving the Goals). Finally, this project contr work and economic grow Prototype laboratory test (TRL 7 Real life testing (TRL 7-8) Pre-commercial prototype (TRL 9 Small-scale implementation Medium to large scale implement This type of project is reproducible hazardous waste storage facilities The following investments have be Claye-Souilly: 11 million Saint-Palais: 3 million euros ST (0-3 years) MT (4-10 years)	ME base, GHG protocol, etc.) : C thernal or external) : Use of GRDF to various SDGs (Sustainable Dev project avoids the emission of other DG 7 Clean and Affordable Energy 13 Action on Climate Change). strial ecology project with a partner: Sustainable Cities and Communities ibutes to the creation of qualified in with). () 9) Intation level of maturity of the project if the support mechanisms for bion are maintained. ten made in the various landfills : euros uros	arbone base of ADEME F consumption data relopment Goals) : er pollutants produced by the r, SDG 9 Industry, Innovation, ship approach to accelerate ecologi es and SDG 17 Partnerships for idustrial jobs in France (SDG 8 Deco idustrial jobs in France (SDG 8 Deco idustrial jobs in France from non-	ical ent
Modality of verification of the quantification. Other environmental and social benefits of the project benefits of the project Project maturity level Tick the corresponding current maturity level Capacity and conditions of the project reproducibility, with associated climate impact mitigation potential Amount of investment made (in €) Economic profitability of the project (ROI)	Calculation standard used (ADE Verification of the calculation (in The project is part of a contribution In addition to GHGs, this combustion of biogas (S Infrastructure, and SDG It is a territory-wide industransformation (SDG 11 Achieving the Goals). Finally, this project contrwork and economic grow Prototype laboratory test (TRL 7 Real life testing (TRL 7-8) Pre-commercial prototype (TRL 8 Small-scale implementation Medium to large scale implement This type of project is reproducible hazardous waste storage facilities The following investments have be Claye-Souilly: 11 million e. Saint-Palais: 3 million euros ST (0-3 years) MT (4-10 years)	ME base, GHG protocol, etc.) : C ternal or external) : Use of GRDF to various SDGs (Sustainable Dev project avoids the emission of othe DG 7 Clean and Affordable Energy 13 Action on Climate Change). strial ecology project with a partner: Sustainable Cities and Communitie ibutes to the creation of qualified in with). () 9) Intation level of maturity of the project if the support mechanisms for bion are maintained. ten made in the various landfills : euros uros	arbone base of ADEME F consumption data relopment Goals) : er pollutants produced by the r, SDG 9 Industry, Innovation, ship approach to accelerate ecologi es and SDG 17 Partnerships for industrial jobs in France (SDG 8 Deco industrial jobs in France (SDG 8 Deco industrial jobs in France (SDG 8 Deco	ent

	Remarks : Revenue through the sale of biomethane to energy providers under long-term contracts (15 years).
Engaged partnerships	A partnership between Veolia and Waga Energy, a young innovative company, has been initiated.
Open comments from the project owner	Biomethane injection projects from non-hazardous waste storage facilities would produce 2.4 TWh/year by 2025 and avoid the emission of 7 million tons of CO2 during the 15 years of the contract as a substitute for natural gas, which will not be able to be substituted in its entirety by other biomethane production channels (methanization, wastewater treatment plants) in the years to come
To learn more about the project	
Contact the company carrying the project	VEOLIA Technical and Performance Department RVD Contact on this subject : Antoine LAIR <u>antoine.lair@veolia.com</u>
Project URL links	https://www.veolia.com/fr/actualites/gaz-vert-production-biomethane-claye-souilly-france
Illustrations of the project	