

ANAEROBIC DIGESTION OF V											
		GENERATI	ON								
Date of factsheet	3-9-2018										
Author	Ayla Uslu	lo.									
Sector(s)	Industry, Agriculture and Household Refers to all residues from food and		try hiodogradah	le waste rosid	ups from history	linstallation foot	t vegetable	and garden wast	as and other ar	ganic wastes	etc
ETS / Non-ETS	Non-ETS	neverage indust	u y, biodegradab	ie waste, resid	ucs II UIII DIOTUE	i iristaliatiON, Trul	i, vegetable a	anu garuen waste	es and other or	garne wastes,	cic.
Type of Technology	Biomass										
Description	Wet biomass in this category refers to organic wastes such as residual flows from the food and beverage industry, vegetable, fruit and garden wastes, or organic wet faction of household wastes. The residual flows are mentioned in the NTA8003 and published by the Netherlands Standardization Institute. For this category, a minimum biogas production of 25 Nm3 (natural ga equivalent) for tonne feedstock is requested. Manure is not included in this category.										
	The biomass is fermented in a state-of the-art anaerobic digestion installation to produce biogas. The installation consists of storage and pre-treatment, digestion installations, combustion obiogas and post treatment and storage of digestate (i.e. dewatering, drying, in some cases hygenisation and storage). In average the residence time of the organic waste in the digestor is around 30 days and biogas is produced. Biogas consists mainly of methane (in average 60%) and carbon dioxide (33-38%) in addition to contaminants such as sulphur, water vapor and oxygen. The biogas is desulfurized and it is fe										
	Biogas consists mainly of methane (into a biogas boiler to produce heat installations with a nominal therma	. Mostly steam l	boilers are used	for the industr	ial applications.	The Activities De	cree on emis	•		~	
TRL level 2020	TRL 9	hiogas hailars a	ro widoly applica	d sammarsial t	a cha a la gia c						
TECHNICAL DIMENSIONS	Anaerobic digestion technology and	biogas boilers a	re widely applied	a commercial t	echnologies.						
	Functional Unit		Value and Range								
Capacity	MWth		5.5								
	MWth			Current	-		2030			2050	-
Potential			Min	-	- Max	Min	-	- Max	Min	-	- Max
Market share	%		Min	-	- Max	Min	-	- Max	Min	-	- Max
Capacity utlization factor						•		1.0			
Full-load running hours per year								7,0	000		
Unit of Activity Technical lifetime (years)								1	5		
Progress ratio								1			
Hourly profile											
Explanation	The capacity and the potential refer related pathways. The potential about 2035. The 2023 data is presented as biomass. Routekaart Hernieuwbaar be around 18 PJ in 2023 increasing to the wet biomass potential ratio amrespectively.	ove refers to the 2020 and 2035 Gas report consico 53 PJ in 2030.	total biogas pote data as 2030 po iders a small valu	ential from VG tential. Aquati ue (0,1 PJ bioga	I, GFT&ONF, straction of the straction o	aw, other agricult tial is not include in 2020 increasin	cural residues d in the figur g to 16.7 PJ i	s and energy cropes. Elbersen et an 2030. DNV GL	os. DNV defines l (2015) also do	s the potential o not include a	l for 2023 and aquatic
COSTS											
Year of Euro	2015										
Investment costs	Euro per Functional Unit mln. € / MWth			Current	0.73		2030	0.72		2050	0.70
Other costs per year	mln. € / MWth		0.73	- 0,21	3.03	0.72	-	3.00	0.70	-	2.93
Fixed analysis and analysis and	mln. € / MWth		-	-	0.04	Min	-	<i>Max</i> 0.02	Min	-	<i>Max</i> 0.02
Fixed operational costs per year (excl. fuel costs)	min. € / MWth		0.04	-	0.04	0.02	-	0.02	0.02	-	0.02
Variable costs per year	min # / IVIVVIII				0.04	_		0.04			0.04
Variable costs per year	mini e y massi		0.01	-	0.01 0.01	0.01	-	0.01	0.01	-	0.01
Costs explanation	MWth refers to MWth input. The converse potential cost reductions are based 0.1-0.6% per year for the following It is important to highlight that ETRI dataset presents higher figures. Next the datasets is not possible.	on the ETRI data years. We apply neither distingu	verted to 2015 a base. ETRI indica the baseline cos ishes between di	ites cost reduc t reduction rat fferent digesti	0.01 om 2018. tion for anaeroles of ETRI. on options nor e	oic digestion insta	CAPEX is det	0.01 e in the range of ermined. Therefo	2.1%-0.5% per ore, it is not pos	ssible to clarif	0.01 irst 5 years and y why this
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