



NL Agency
Ministry of Economic Affairs,
Agriculture and Innovation

Overview of the biogas Sector in the Netherlands

Workshop of the Project RenErGo
Wageningen 23 May 2011

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NL Agency

» Focus on sustainability,
innovation and international



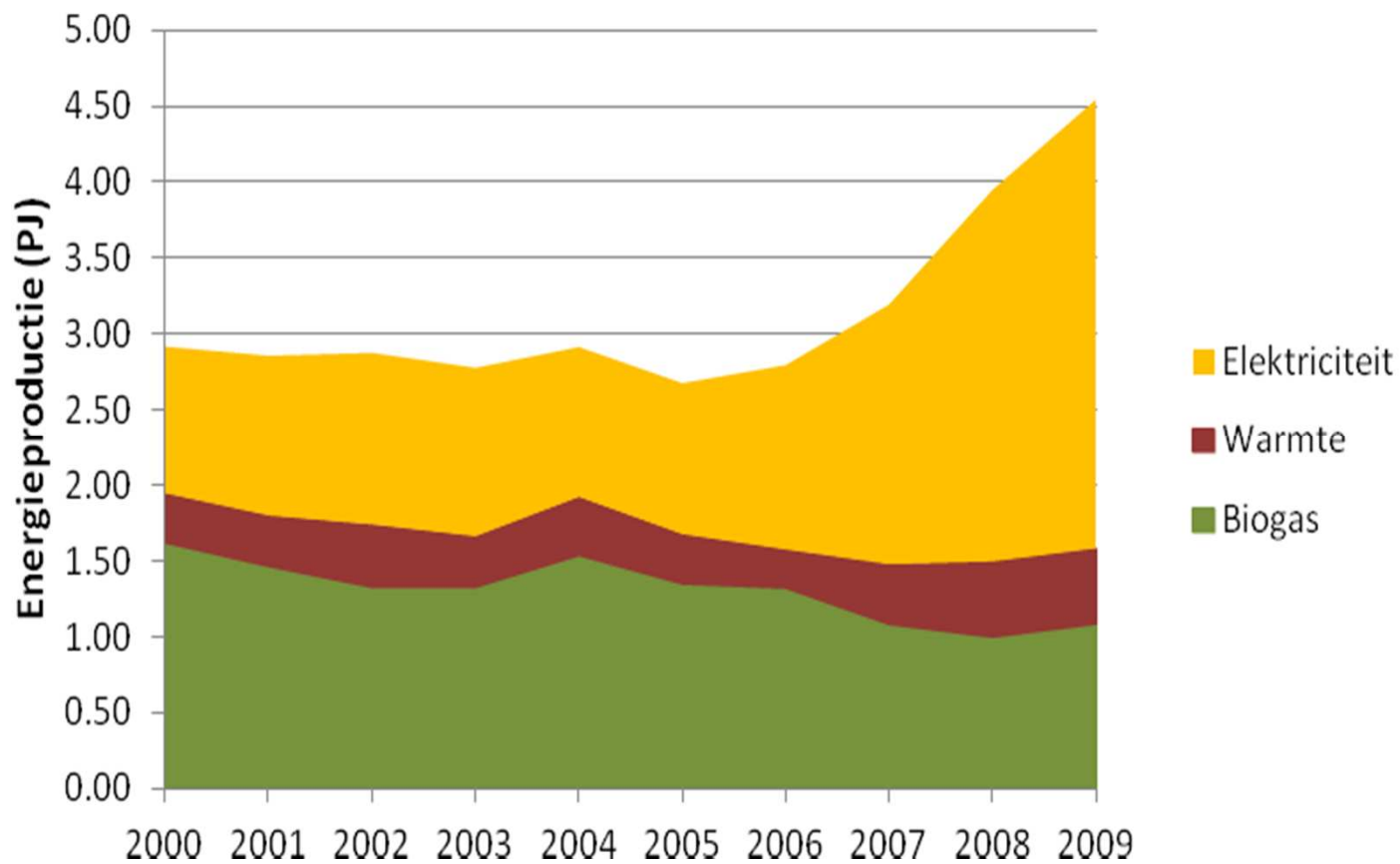


Content

- State of the art in biogasdevelopment; statistics
- Approach Green Gas production with Gas Grid injection
- Futher information

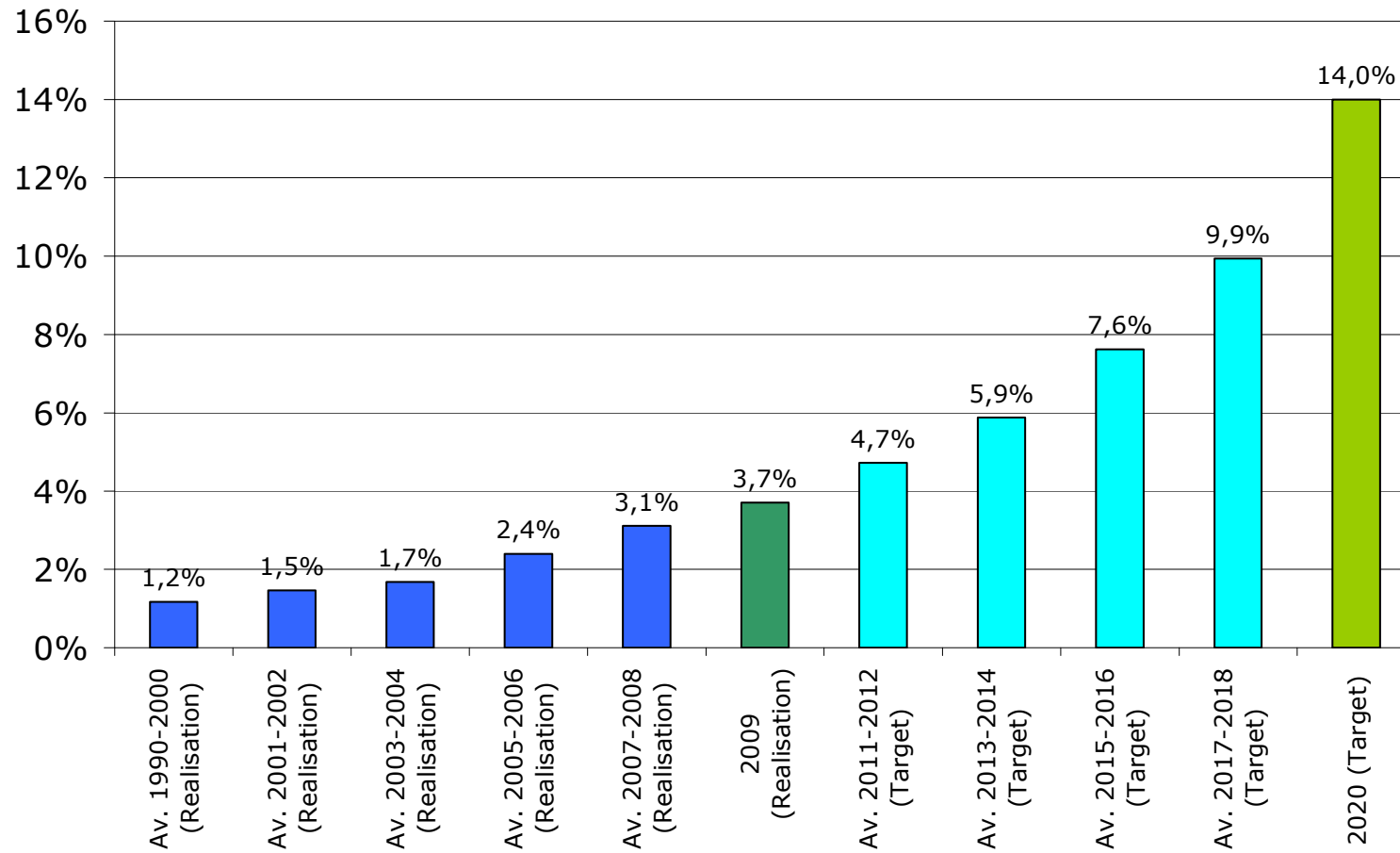


Energy production from Biogas (source: CBS statline)



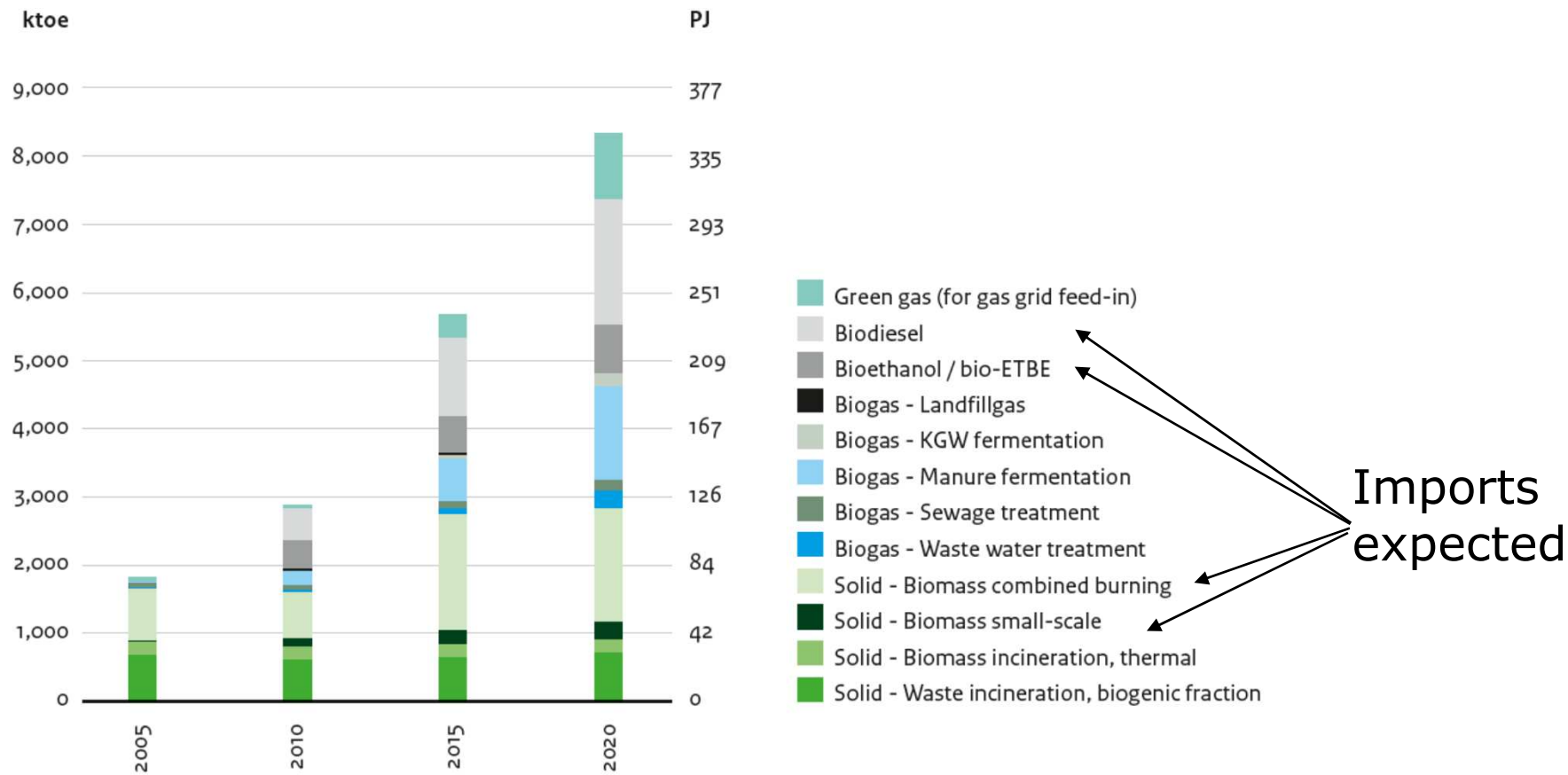


Share Renewable Energy The Netherlands



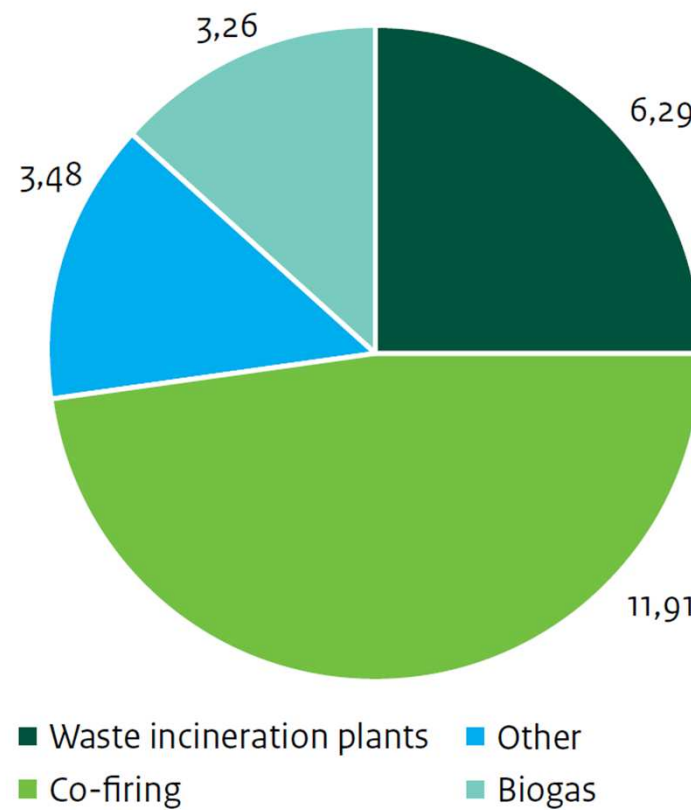


Assessments of dutch biomass demands (nReap)



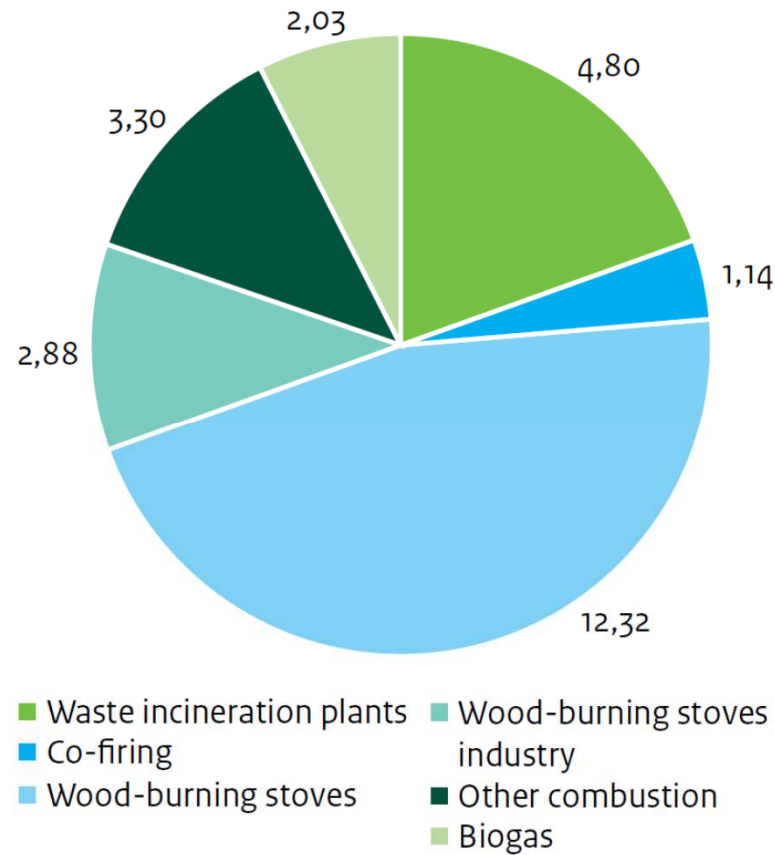


Gross final electricity production with bioenergy in 2010 (PJ)





Gross final heat production with bioenergy in 2010 (PJ)





Overview bio-energy projects: www.b-i-o.nl



Klik op de rondjes (projecten) om meer informatie op te vragen.

- Filter Bio-energieinstallaties:
- Grootschalige verbranding (>50 MWe)
 - Kleinschalige verbranding (<50 MWe)
 - Stortgasinstallatie
 - AVI
 - RWZI/AWZI
 - Co-vergistingsinstallatie
 - GFT vergistingsinstallatie
 - VGI-vergisting
 - Alle Bio-energieinstallaties

- Legenda:
- Grootschalige verbranding (>50 MWe)
 - Kleinschalige verbranding (<50 MWe)
 - Stortgasinstallatie
 - AVI
 - RWZI/AWZI
 - Co-vergistingsinstallatie
 - GFT vergistingsinstallatie
 - VGI-vergisting



Example of small scale digesters (Microferm)





Good practice example (Biogasproject Polderwijk Zeewolde with 5 km biogaspipeline to the village)



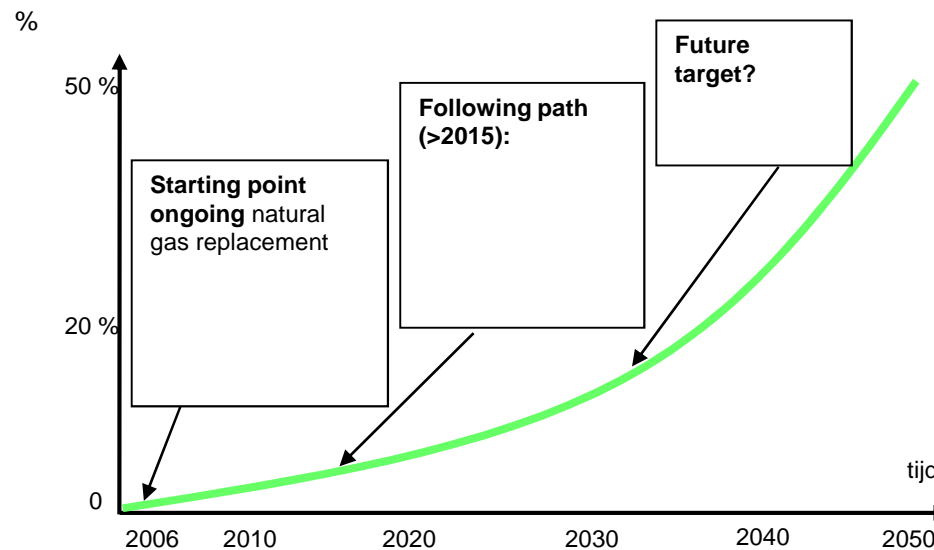


Biogasupgrading and gridinjection: Approach Green Gas development in NL

- Medio 2006 start of a working Group "Green Gas" in a public-private-cooperation model
- December 2007: Publication of a Vision Report with general conclusions on ambition and preconditions for the development of a Green Gas market
- April 2008: First Publication of a stimulation programm (SDE) with feed inn tariff for biogasupgrading and gasgrid injection
- July 2009: Operation of virtual trade system for Green Gas certificates
- December 2009: Installation of a Governamental speed up team to "solve" legislative barriers for Green Gas development
- January 2010: Publication of an Action Plan
- March 2011: first publication of the speed up team Green Gas



Ambition for Green Gas



Short term target: Replacement of natural gas by upgraded biogas 1-3%

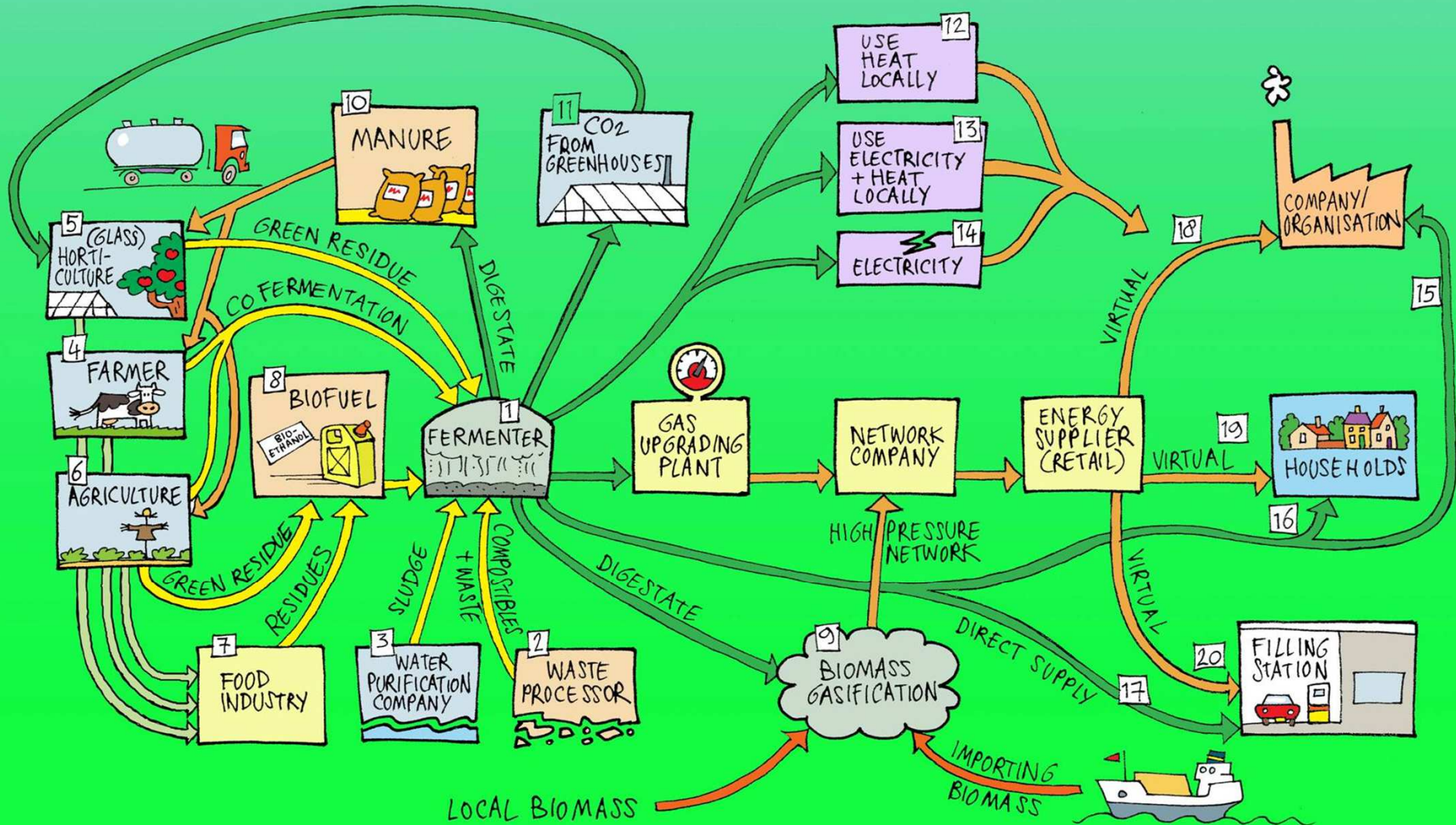
Midterm target: 8-12% replacement of natural gas in 2020 (4 billion Nm³/y), inclusive SNG production from biomass

Long term: Upscaling to 50% replacement of natural gas by Green Gas in het gasgrid

THE GREEN GAS CHAIN

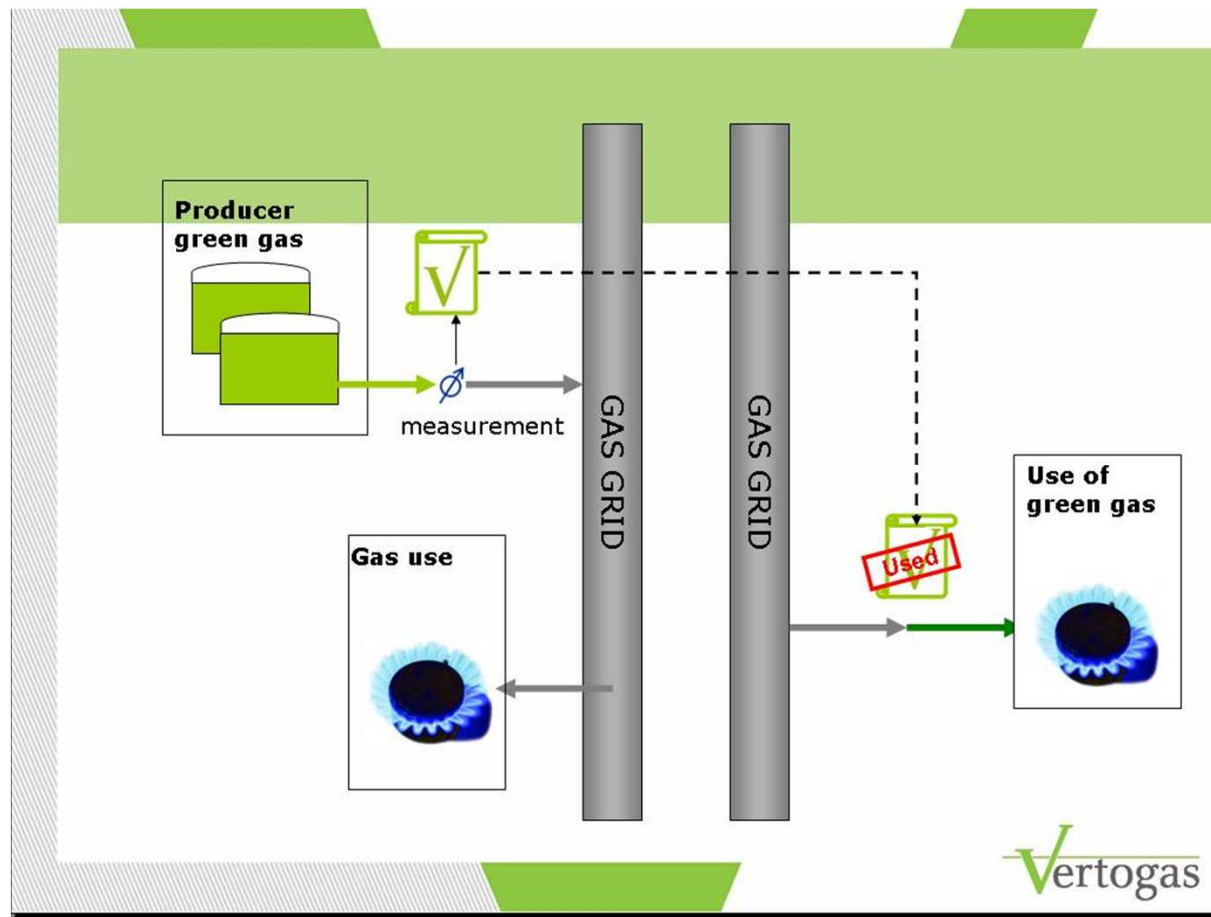
20 ROUTES TO GREEN GAS

GREEN GAS WORKING GROUP / NEW GAS PLATFORM





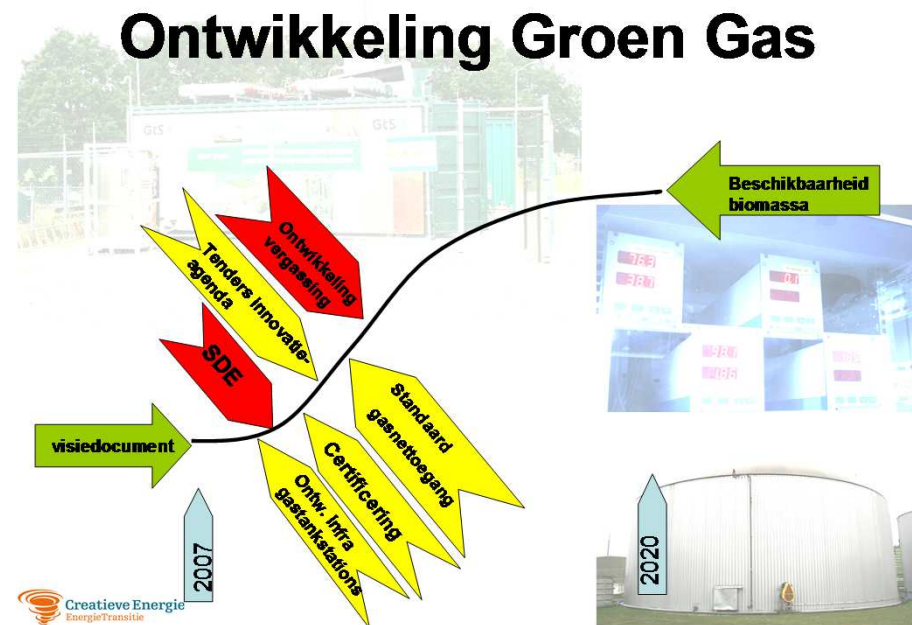
Virtual trade in Green Gas certificates (www.vertogas.nl)





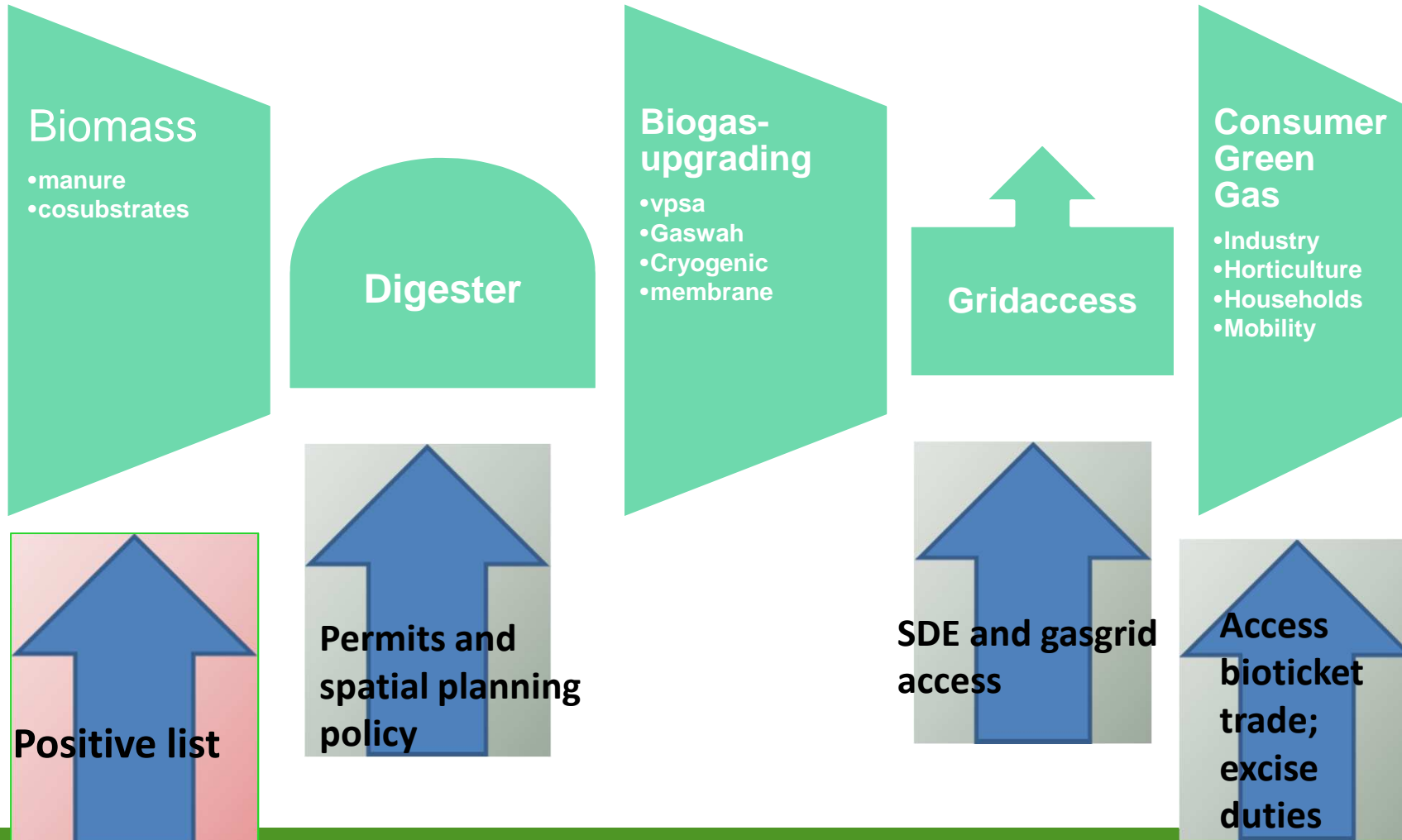
Actionplan: Towards a mature green gas market

A new market thrives with transparency and knowledge sharing.





Approach speed up team Green Gas (in the production chain)





Actual Green Gas production

municipality	company	used biomass	Installed E-power (MW)	Greengas production [Nm ³ /h]
Tilburg	Attero locatie Tilburg	landfill		300
Wijster	Attero locatie Wijster	landfill		500
	Stortplaats Slagenweg	landfill		25
Groningen	Attero locatie Groningen	organic waste		700
Witteveen	Bouwhuis Biovergisting B.V.	co-digestion	1,59	200
Zwolle	Natuurgas Overijssel (ROVA)	organic waste	0	420
Mijdrecht	BioGast Sustainable Energy BV-RWZI Mijdrecht	sewage sludge	0	40
Beverwijk	BioGast Sustainable Energy BV-RWZI Beverwijk	sewage sludge	0	80
Nuenen	Carbiogas BV-Gulberg Nuenen	landfill	0,31	750
Bunschoten-Spakenburg	A v/d Groep en Zonen BV	fish residues	0,63	690
				3705

Yearproduction capacity 30 miljon Nm³; in direct preparation 70 miljon Nm³/y based on subsidyschemes Capacity from 40 Nm³/h up to 2000 Nm³/h)



Biofuel: Filling stations (www.fuelswich.nl)

TANKSTATIONS NEDERLAND

- Alle brandstoftypen
- Alle brandstoftypen
- Aardgas / Groen gas
- Biodiesel
- Bio-ethanol
- Nog te realiseren

gas tankstations online.

- pdf file: Download de pdf file met groen gas tankstations.

TOMTOM

Voeg de locatie van alle tankstations direct toe aan je tomtom door de knop hieronder te gebruiken.



- ov2 file: het is ook mogelijk een losse ov2 file te downloaden en later op uw tomtom te plaatsen. Deze bevat alle type tankstations.



De tankstations op deze kaart bieden **naast de reguliere brandstoffen** ook de aangegeven **schone brandstoffen** aan



Ongoing projects

- Scenarios gridinjection
- Developing an overflow for gridinjection
- Evaluation of digesters in NL. First report expected in Sept. 2011.
- Projectmonitoring Green Gas projects
- 14 demo/pilotprojects from tender 2010



IEA-Bioenergy Task 37 on Biogas and landfill Gas

iea-bioenergy-task37 energy from biogas and landfill gas - Windows Internet Explorer

http://www.iea-biogas.net/

IEA Bioenergy Task 37

- About Task 37
- News + Events
- Publications
- Case Studies
- Plant List
- FAQ
- Member Countries
- Links

Publications:

- [Presentations and Country Reports of Task 37 Workshop «Digestate and biogas utilisation», Copenhagen](#)
- [Publication Utilisation of digestate from biogas plants and biogas fertiliser \(PDF 1040 KB\)](#)
- [Publication Biogas from Energy Crops Digestion \(PDF 700 KB\)](#)

IEA Bioenergy

IEA Bioenergy is one of the implementing agreement set up in 1978 by the International Energy Agency (IEA) with the aim of improving cooperation and information exchange between countries that have national programs in bioenergy research, development and deployment.

Activities are set up under Implementing Agreements. These are independent bodies operating in a framework provided by the IEA. There are 40 currently active Implementing Agreements, one of which is IEA Bioenergy. From January 2003 there are 20 member countries to the IEA Bioenergy participating in 11 Tasks covering all aspects of Bioenergy.

Task 37: Energy from Biogas and Landfill Gas

Task 37 is a working group which covers the biological treatment of the organic fraction of municipal solid waste (OFMSW) as well as the anaerobic treatment of organic rich industrial waste water. OFMSW is digested in specifically designed digestors or in co-digestion with other wastes (mainly manure). The main interests are the production of biogas and a digestate of a high quality. Collection, sorting, gas upgrading and gas utilization are accompanying technologies.



Questions?

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