EUROPEAN CURRICULUM VITAE FORMAT

PERSONAL INFORMATION

Name	**VREUGDENHIL, B.J. (BEREND)**
Address	
Telephone	
E-mail	**BEREND.VREUGDENHIL@TNO.NL**

Abstract

Berend Joost (Berend) Vreugdenhil holds an M.Sc. degree in Chemical Engineering from the Technical University Delft. In 2006 he started his career at ECN within the Syngas and SNG group, where research is focussed on developing the technology to produce sustainable natural gas from biomass. The first four years at ECN he was involved in the gasifier research, looking into the effect of bed materials on gas composition, temperature effects and the influence of gasifying medium. Next to this he also looked into the behaviour of tar and more precisely the condensation behaviour of tar in a producer gas.
Since beginning of 2011 he is responsible of the tar removal technology developed by ECN, named OLGA, and is coordinating the research program into further optimizing this technology and broadening the range of applications of OLGA. In 2015 he changed in his role to Innovation Manager Gasification, which entails setting out program for gasification within ECN. The area he now is responsible for is gasification, gas cleaning and gas upgrading. Next to the production of substitute natural gas (SNG) from biomass/waste also the production of valuable chemicals (BTX, ethylene) are routes that are being developed. As of April first 2018 ECN and TNO joined forces and the work is now part of a much larger research organisation.
Since the merger with TNO the work has expanded into the direction of thermo chemical recycling of plastic waste streams. There is overlap with gasification for the bio-based economy, therefor the knowledge in this field can be applied directly to the field of plastics recycling.
Berend started chairing IEA Bioenergy Task 33 on gasification in 2019 and will remain chair till 2024
Currently responsible for the scientific development within the Sub-proposition for Sustainable Fuels and Chemicals

WORK EXPERIENCE

• Dates (from - to)	March 2018 - present
• Name of employer	TNO
• Type of business or sector	Sustainable Energy Research, focus on biomass, waste and plastics
• Occupation or position held	Senior Scientist Specialist

• Dates (from - to)	2006 – March 2018
• Name of employer	Energy research Centre of the Netherlands (ECN)
• Type of business or sector	Biomass, Coal and Environmental research
• Occupation or position held	Researcher, Innovator, Project Leader, Innovation Manager

EDUCATION AND TRAINING

• Dates (from - to)	2001 – 2005
• Name of organisation	Technical University Delft
• Title of qualification	M.Sc. Chemical Engineering
• Dates (from - to)	1997 – 2001
• Name of organisation	Technical School Breda
• Title of qualification	B.Sc. Chemical Engineering

Other achievements

France (2024)	*Invited Speaker at the EUBCE 2024 in France*
USA (2024)	*Invited Speaker at TCBiomass 2024 in USA*
EERA Bioenergy JP (2022 -)	*Member of the Board in EERA Bioenergy JP*
IEA Bioenergy (2022)	*Chairing Task 33 on Gasification of Biomass and Waste and its Applications (2022 – 2024)*
IEA Bioenergy (2019)	*Chairing Task 33 on Gasification of Biomass and Waste (2019 – 2021)*
Taiwan (2018)	*Invited speaker at the Taiwan International Conference on Green Energy Technology (Gasification)*
Sweden (2018)	*Invited speaker at the SFC Academy (Waste gasification)*
Industrielinqs (2017)	*Finalist in the Process Enlightenment with the BTX extraction technology developed at ECN*

Patents

Gasification patent	*WO2016091828 → Related to an improved operating approach for an indirect gasifier*
Gas cleaning patent	*WO2014051419 → Related to a superb sorption liquid, replacing a high OPEX liquid in the gas cleaning*
Gas cleaning patent	*WO2018208144 → Related to the design and operation of an scrubber system to remove BTX from a diluted gas*
Gas upgrading patent	*WO2018208163 → Related to the conversion of ethylene into aromatics (BTX) to increase revenue from the BTX scrubber (previous patent)*

R&D fields

Gasification	*R&D on various feedstock (biomass, waste streams and plastics) in order to evaluate the conversion, the quality and efficiency. For plastics the focus is on the production of high value chemicals and valorisation of said molecules*
Gas cleaning	*R&D on removal of impurities from a gasifier in order to utilize the gas in various applications, ranging from gas engines, turbines to catalysis applications (SNG, FT, MeOH). The impurities under considerations are tar components, chlorine, sulphur, nitrogen. Furthermore I developed a technology to remove benzene, toluene and xylene from the gas in order to create value rather than destroy this.*
Upgrading	*At TNO I am responsible for the entire field of research related to gasification. Within this role I setup an advanced biofuel laboratory, where we can investigate i.e. CO_2 removal, reforming, MeOH/DME synthesis, FT synthesis, catalysis screening and wax upgrading.*