Feasibility or Case Study for gas supply expansion for Berlin-Brandenburg, Germany

Del. 4.3.11

MADEGASCAR

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Partner name	Berlin Energy Agency
Work Package	WP 4: Supply and distribution infrastructure for gas fuels
Country	Germany
Region	Berlin-Brandenburg
Are there existing filling stations and natural gas and biogas driven cars already in the region?	yes
Status (F:Final, D:Draft)	F – 8th June 2009

This case study will look at the successful installation of at least one new gas filling station and one new biogas plant (where appropriate) in your area, and analyse the reasons why this has been successfully installed. Please copy this whole form for each Feasibility Study you undertake

A. Gas filling station

A1. Case Study or Feasibility Study

A1.1. How many feasibility studies or case studies have you undertaken for new gas filling stations from 1 Sep 2007 to 20 Aug 2009

Number of case studies: Number of feasibility studies: 1

A1.2 This is Case Study number Reporting date

A1.3 This is Feasibility Study number 1 Reporting date 27.03.2008

A1.4 Title of this Case Study/Feasibility Study: Marketing strategies for home refuelling appliances in Berlin-Brandenburg

A1.5 How was the Case study/Feasibility study selected. According to what criteria?
Product innovation for a better infrastructure

A1.6 Would this Case Study/Feasibility Study have taken place without the input from Madegascar
Yes or No No
Please give details: (Was it planned before, was it started before, was it initiated by Madegascar, etc)

It was planned after first discussions between GASAG and BEA during the Madegascar-project.

A1.7 Did you carry out the Study for a particular company or as a marketing tool?
For particular company and as a marketing tool

A2. The Study

A2.2 List partners in your study

Gas supplier	
Company name:	GASAG
Address:	Reichpietschufer 60
Contact person:	Otto Berthold
Tel:	0049 30 78 72 - 10 76
Fax :	0049 30 78 72 - 11 55
E-mail:	OBerthold@gasag.de
Website:	www.gasag.de

Filling station construction company

Company name:	Fuelmaker Cooperation (Manufacturer of Natural Gas Vehicle Refuelling Appliances)
Address:	70 Worcester Road, Toronto; Ontario; Canada M9W 5X
Contact person:	Mario Pirraglia
Tel:	001 416-674-3034
Fax:	001 416-674-3042
E-mail:	sales@fuelmaker.com
Website:	http://www.myphill.com

The company was going to bankruptcy in 2009. The company will probably take over in 2010 by an Italien company.

Owner of new filling station

Company name:	GASAG
Address:	Reichpietschufer 60
Contact person:	Otto Berthold
Tel:	0049 30 78 72 - 10 76
Fax :	0049 30 78 72 - 11 55
E-mail:	OBerthold@gasag.de
Website:	www.gasag.de

GASAG bought 50 units. The company Begatech is service partner.

A2.3 Describe new/proposed filling station:

NEW GAS FILLING STATIONS – home refuelling appliances

Name of filling station and address	GASAG is owner of 50 units Until they get a new company for take off, GASAG is not able to provide the home refuelling appliances (manufacturer warranty)
Type of location, eg. urban, motorway, industrial estate,	Garage, carport, parking place
Type of filling station eg stand-alone, within petrol/diesel filling station	Standalone
Number of fast filling points	0
Number of slow filling points	1
Number and make of compressors	
Filling pressure (bar)	200 bar/a
Storage capacity (water litres)	0
Ownership of station	Still GASAG
Method of financing station	GASAG will offer a sale contract in combination with service contract
Main user of station	Only test period
Number of vehicle fills per week	5
Total weekly supply of gas to vehicles	About 75 - 100 kg

Types of vehicles already using the filling station eg HGV, bus, van, taxi, car	car
What proportion of the gas is biomethane	0 %
Name of gas supplier	GASAG
Price of gas to vehicle owner	
Price of gas to station owner	
Opening hours	Every time
Method of payment, eg. credit card, special card, number plate recognition and account	Monthly bill
Profitable or not, with figures if possible	

A2.4 What was MADEGASCAR's major contribution to the Study

Berlin Energy Agency finalised a study on successful implementation of home refuelling appliances. For this study 277 households were interviewed on the conditions to contribute effectively of home refuelling appliances.

A2.5 Were there any incentives to help establish the new filling station?

Strategy workshops with GASAG: presentation of study results, exchange of information

A2.6 Barriers to establishing new gas filling station:

High costs for home refuelling appliances,
The company Fuelmaker (home refuelling appliances) was going in bankruptcy in 2009. The company will probably be take over in 2010 by an Italian company.

A2.7 How did MADEGASCAR help to overcome these barriers

Development of market penetration strategy based on results of interviews and cost data.
Demonstration project installed: natural gas house (including chp and home refuelling appliances) → high interest

A2.8 How did others help to overcome these barriers

In cooperation with GASAG

A2.9 Was a new gas filling station built as a result of your Study

GASAG bought 50 units as an

result of the study

A2.10 Total capital cost of new filling station

2.700 € per unit (+ 1.500 € for installation

A2.11 How long did it take to execute the Case Study/Feasibility Study

197 hours

A2.12 What is the current status (e.g. finished, work in progress)

finished

A2.13 When did the Case Study/Feasibility Study start

September 2007

A2.14 When did/will the Case Study/Feasibility Study end

March 2008

A2.15 How long did you spend working on this Case Study/Feasibility Study

197 hours

A2.16 How did this Case Study/Feasibility Study cost

197 hours

A2.17 General conclusions and recommendations

Home refuelling appliances were successful tested. The technology is working without problems. The problem is the uncertainness about the guarantee (economic situation of construction company).

A2.18 Comments

B. New biogas plants

B1. Case Study or Feasibility Study

B1.1. How many feasibility studies or case studies have you undertaken for new gas filling stations from 1 Sep 2007 to 20 Aug 2009

Number: 1

Number of case studies: 1
Number of feasibility studies:

B1.2 This is Case Study number 1 Reporting date 01.02.2010

B1.3 This is Feasibility Study number Reporting date

B1.4 Title of this Case Study/Feasibility Study: Biomethane facility & plant Rathenow

B1.5 How was the Case study/Feasibility study selected. According to what criteria?
First facility which inject biomethane in the natural gas grid

B1.6 Would this Case Study/Feasibility Study have taken place without the input from Madegascar
Yes or No no
Please give details: (Was it planned before, was it started before, was it initiated by Madegascar, etc)

initiated by Madegascar

B1.7 Did you carry out the Study for a particular company or as a marketing tool?
particular company

B2. The Study

B2.2 List partners in your study

Plant construction company	
Company name:	Alensys Engineering GmbH
Address:	Zum Wasserwerk 12; 15537 Erkner
Contact person:	Ilona Paulick
Tel:	0049 3362 8859141
Fax	0049 3362 8859151
E-mail:	i.paulick@alensys.de
Website:	www.alensys.de

B2.3 Describe new biogas plant:

NEW Biogas PLANTS

Name of biogas plant and address	Biogas plant Rathenow
Type of location, eg. farm, municipal, industrial estate, Make of biogas plant e.g.	rural
Principal feedstocks e.g. municipal waste, cattle slurry	renewable primary products and cattle and pic slurry
Renewable primary products treated Cattle and pic slurry	44.200 t per annum 4.400 t per annum

Cubic metres of biogas produced	10,074 Mio. m^3 per annum (raw gas) 4,555 Mio. m^3 per annum (biomethane)
Proportion of biogas upgraded to biomethane	100 %
Method of upgrading the biogas to biomethane	Organic-physicalic cleaning
Whether biomethane is fed into the gas grid	Yes
Name of gas filling station where biomethane is used	Alltogether 14
Method by which biomethane reaches a gas filling station e.g. gas grid, pipeline, trailer, etc	Pipeline to gas grid
Price paid for gas to biogas plant owner	No information was given

B2.4 What was MADEGASCAR's major contribution to the Study

Find out existing barriers for a broader market implementation of biomethane injection facilities

B2.5 Were there any incentives to help establish the new filling station?

no

B2.6 Barriers to establishing new gas filling station:

B2.7 How did MADEGASCAR help to overcome these barriers

Making public - dissemination in a journal (Energy & Management)

B2.8 How did others help to overcome these barriers

Network partner Alensys Engineering GmbH told about their experience to implement a biomethane facility. BEA organised a meeting.

B2.9 Was a new gas filling station built as a result of your Study

no

B2.10 Total capital cost of new filling station

B2.11 How long did it take to execute the Case Study/Feasibility Study

8 hours

B2.12 What is the current status (e.g. finished, work in progress)

finished

B2.13 When did the Case Study/Feasibility Study start

November 2009

B2.14 When did/will the Case Study/Feasibility Study end

01.03.2010 – article in Energy & Management

B2.15 How long did you spend working on this Case Study/Feasibility Study

15 hours

B2.16 How did this Case Study/Feasibility Study cost

15 hours

B2.17 General conclusions and recommendations

Specification of political framework (Gasnetzzugangsverordnung) is necessary to make it easier for biomethane upgrading companies to get an access for the natural gas grid. The Gasnetzzugangsverordnung regulates the gas grid access in Germany. It guarantees preferential access for biomethane and regularises cost sharing between biogas producer and gas network operator. The Regulatory barriers of gas grid access are:
- Diverging quality criteria for gas between gas grid operators; different technologies requirement for access (e.g. specification for compressor required)
- No experience in integration of small pressure gas pipes (from view of gas network operator) – long negotiation process
- Distribution of costs for grid access between producer and operator (saving, transport, balancing group ect
- Time lag for project development: 1-2 years

B2.18 Comments