

Feasibility or Case Study for gas supply expansion for LOWER AUSTRIA, AUSTRIA

Del. 4.3.4



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Partner name	Austrian Energy Agency
Work Package	WP 4: Supply and distribution infrastructure for gas fuels
Country	Austria
Region	Lower Austria
Are there existing filling stations and natural gas and biogas driven cars already in the region?	yes
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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

1. Gas filling station

1.1. How many feasibility studies or case studies have you undertaken for new gas filling stations:

Number: 10

A1.2 This is Case Study number 1 Reporting date March 2010

~~A1.3 This is Feasibility Study number Reporting date~~

A1.4 Title of this Case Study/Feasibility Study:

A1.5 How was the Case study/Feasibility study selected. According to what criteria?

17 new filling stations have been established in the region within the Madegascar project. This is an example, the other stations are more or less similar.

A1.6 Would this Case Study/Feasibility Study have taken place without the input from Madegascar

Yes or No Yes

Please give details: (Was it planned before, was it started before, was it initiated by Madegascar, etc)

Several installers of CNG filling stations including OMV, Austrias biggest gas and oil supply company and the regional gas suppliers of Lower Austria and the nearby province Salzburg already had decided to put substantial effort in the establishment of new CNG filling stations. There was no need for feasibility studies or the like to be carried out by AEA.

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

No

1.2 List partners in your feasibility study

Gas supplier

Company name: EVN Netz GmbH
 Address: EVN Platz
 2344 Maria Enzersdorf
 Contact person:
 Tel: +43/2236/200-0
 Fax : +43/2236/200-84716
 E-mail: info@evn-netz.at
 Website: http://www.evn-netz.at

Filling station construction company

Company name: GIA Austria GmbH
Address: Seybelgasse 12a, 1230 Wien
Contact person: Ing. Franz Käßmann
Tel: +43/1/3682271
Fax: +43/1/3683274
E-mail: kaessmannf@gia.co.at
Website: <http://www.gia.co.at>

Owner of new filling station

Company name: EAA Erdgas Mobil GmbH
Address: Wienerbergstarsse 11, 1100 Wien
Contact person: Gerhard Wyborny
Tel: +43/1/90404 13451
Fax:
E-mail: gerhard.wyborny@erdgasmobil.co.at
Website:

Principal users of new filling station

Public filling station

Other relevant partners

Company name:	OMV Gas & Power GmbH
Address:	Floridsdorfer Hauptstraße 1 1210 Wien
Contact person:	Mag.(FH) Andreas Lederbauer
Tel:	+43/1/27 500-28763
Fax:	+43/1/27 500-628763
E-mail:	andreas.lederbauer@omv.com
Website:	http://www.omv.com, http://www.erdgastanken.at

1.3 Describe new filling station:

NEW GAS FILLING STATIONS

Name of filling station and address	OMV Melk
Type of location, eg. urban, motorway, industrial estate,	Near motorway
Type of filling station eg stand-alone, within petrol/diesel filling station	Within petrol/diesel filling station
Number of fast filling points	2
Number of slow filling points	0
Number and make of compressors	1 / 4-stage piston compressor
Storage pressure (bar)	300 bar
Storage capacity (water litres)	2200 water litres
Ownership of station	EGM
Method of financing station	not specified
Main user of station	Private drivers
Number of vehicle fills per week	10
Total weekly supply of gas to vehicles	150 Kg
Types of vehicles already using the filling station eg HGV, bus, van, taxi, car	All types
What proportion of the gas is biomethane	0%
Name of gas supplier	EVN AG
Price of gas to vehicle owner	€ 0,898 per kg
Price of gas to station owner	Not specified
Opening hours	0-24
Method of payment, eg. credit card, special card, number plate recognition and account	Credit card, special card, cash
Profitable or not, with figures if possible	Profitable (predicted)

1.4 What was MADEGASCAR's major contribution to establishing the new filling station?

AEA has participated in the compilation of a business-handbook for petrol station owners respectively operators.

1.5 Were there any incentives to help establish the new filling station?

Strategic decision of the company to establish a certain number of filling stations in order to reach an area-wide CNG supply in Austria

1.6 Barriers to establishing new gas filling station:

Costs

1.7 How did MADEGASCAR help to overcome these barriers

Activities in order to raise the number of potential customers

1.8 How did others help to overcome these barriers

Marketing activities, subsidies

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

No

A2.10 Total capital cost of new filling station

Confidential information

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

1 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

Case study = only reporting for this deliverable

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

Case study = only reporting for this deliverable

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

1 hours

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

1 hours

1.9 General conclusions and recommendations

An area-wide supply of CNG is crucial for reaching a noteworthy share of NGVs in the total fleet

1.10 Comments

2. New biogas plants

2.1. How many feasibility studies or case studies have you undertaken for new biogas plants:

Number: 1

~~B1.2 This is Case Study number _____ Reporting date _____~~

B1.3 This is Feasibility Study number 1 Reporting date March 2010

B1.4 Title of this Case Study/Feasibility Study: Biogas plant Margarethen am Moos

B1.5 How was the Case study/Feasibility study selected. According to what criteria?

This is one interesting biogas upgrading plant combined with a biomethane filling station.

B1.6 Would this Case Study/Feasibility Study have taken place without the input from Madegascar

Yes or No Yes

Please give details: (Was it planned before, was it started before, was it initiated by Madegascar, etc)

A feasibility study for biogas upgrading plants in the region had already been carried out by AEA prior to the start of the Madegascar project. Due to the promising results of these study, the provincial government of Lower Austria initiated this project in Margarethen/Moos in Lower Austria. The plant was put into operation within the project period.

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

No

2.2 List partners in your feasibility study

Owner of biogas plant

Company name: Energieversorgung Margarethen am Moos Gen.m.b.H.
(agricultural cooperative with 15 members)

Address: Leithastraße 12
2433 Margarethen am Moos



Contact person: Friedrich Schwarz
Tel: +43/2230/2593
Fax: +43/2230/29293
E-mail: evm@evm-schwarz.at
Website:

Supplier of energy crops

Company name: see above (Energieversorgung Margarethen am Moos Gen.m.b.H.)
Address:
Contact person:
Tel:
Fax:
E-mail:
Website:

Plant construction company (biogas plant)

Company name: AKR Modulgas Anlagenbau GmbH
Address: An der Mur 10
 8461 Ehrenhausen
Contact person:
Tel:
Fax:
E-mail:
Website:

Plant construction company (upgrading plant)

Company name: AXIOM Prozesstechnik
Address: Unterwaltersdorfer Str 100/2
 2443 Deutsch-Brodersdorf
Contact person: Ing. Mag. Johannes Szivacz
Tel: +43/2254/76282
Fax:
E-mail: office@axiom.at
Website:

Purchaser of biogas

10-15% is upgraded to bio-methane, 85-90% is used to produce electricity and heat

Other relevant partners

Company name: AGRAR PLUS BeteiligungsgmbH.
 (planner of biogas plant)
Address: Bräuhausgasse 3
 3100 St. Pölten
Contact person:
Tel: +43/0/2742-352234-0
Fax: +43/0/2742-352234-4
E-mail: office@agrارplus.at
Website: <http://www.agrarplus.at>

Other relevant partners

Company name:	TBB Consulting (overall consultant)
Address:	Flösserweg 21 4481 Asten
Contact person:	DI Harald Bala MSc
Tel:	+43/732/66007
Fax:	+43/732/66007
E-mail:	tbb.hbala@utanet.at
Website:	www.methapur.com

2.3 Describe new biogas plant:

NEW Biogas PLANTS

Name of biogas plant and address	Energieversorgung Margarethen am Moos Gen.m.b.H. (Margarethen/Moos) Farm
Type of location, eg. farm, municipal, industrial estate,	Farm
Make of biogas plant e.g.	2005
Principal feedstocks e.g. municipal waste, cattle slurry	Maize, Sunflower, grass
Tonnes per annum of waste treated	15,000 tpa
Cubic metres of biogas produced	2,500,000 m ³ per annum
Proportion of biogas upgraded to biomethane	10-15%
Method of upgrading the biogas to biomethane	1-step gaspermeation
Whether biomethane is fed into the gas grid	No
Name of gas filling station where biomethane is used	methaPUR-Margarethen/Moos
Method by which biomethane reaches a gas filling station e.g. gas grid, pipeline, trailer, etc	on-site/pipe
Price paid for gas to biogas plant owner	€ 0,898 per kg (CBG price 2009-11-10)

2.4 What was MADEGASCAR's major contribution to establishing the new biogas plant?

AEA has provided a fact sheet for the opening speech of the federal minister for environment. The operating companies are continuously working on improving their (cost) efficiency. AEA consulted the involved project clients, whenever required. See also point B1.6

2.5 Were there any incentives to help establish the new biogas plant?

Yes: Investment subsidies for the 500 kW_{el} biogas plant itself (<10% of 2 Mio. Euro, from provincial government) and for the district heat infrastructure: 3.5 km hot water pipes, 1.2 MW_{th} connection capacity, 23 heat consumers (< 30% of 0,7 Mio. Euro, from the federal environmental subsidy fund, "Umweltförderung im Inland"), guaranteed green-electricity tariff for 13 years (from the federal green electricity law 2002).
Through extensive optimizations the biogas plant planned for a capacity of 500 kW_{el} is operated with 625 kW_{el} (> 8.000 h/a in full capacity modus) now. The biogas for the fuel station as produced additionally, as well, without any constructive extensions at the biogas plant itself (important cost reductions have been gained through economy of scale).

2.6 Barriers to establishing new biogas plant:

High volatile grain prices affect the price for silaged maize, which still dominates biogas production at farm scale biogas plants in Austria. Green-electricity tariff for new biogas plants has not been as attractive as in 2002-2004 any more up to 2009.

2.7 How did MADEGASCAR help to overcome these barriers

Austrian Energy Agency made a general feasibility study showing economic feasibility of a 1-step gaspermeation biogas upgrading plant connected with a biogas block gas engine in parallel (for permeat gas usage) for the first time in Austria.

2.8 How did others help to overcome these barriers

The project developer of Margarethen/Moos realised the new approach described above for the first time. The upgrading and the gas fuel station plant were subsidised by investment subsidies.

2.9 What was MADEGASCAR major contribution to biomethane being used as a vehicle fuel?

See 2.7

2.10 Were there any incentives to help establish, either from MADEGASCAR or the filling station owner biomethane as a vehicle fuel?

The demand for the biomethane (in Margarethen/Moos the brand name is methapur) is crucial. Fleet operators which operate with alternative fuels or powertrains can get subsidies from the federal environmental subsidy fund, "Umweltförderung im Inland". This is one of the most important incentives, as well as the mineral oil tax exemption for biomethane.

2.11 Barriers to establishing biomethane as a vehicle fuel:

Lack of gas fuel stations. Lack of attractive car models. Higher investment costs of gas cars. No investment security (no binding period for mineral oil tax exemption like in Germany). Hype of e-mobility. High cost and risks of producing biogas from agricultural plants (lack of investment security).

2.12 How did MADEGASCAR help to overcome these barriers

Publishing of information material and holding of training courses on natural gas and bio-methane as a vehicle fuel. Directly contact to fleet managers, including the offer of a fleet management tool which helps estimate and compare energy demand, CO₂ reduction, environmental effects and cost effects of using natural gas and bio-methane compared to petrol and diesel. Media work, especially promoting the existing public subsidies for gas driven cars in Lower Austria in particular.

2.13 How did others help to overcome these barriers

General marketing activities

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

Not as a result of this study, but as a result of the feasibility study which was carried out by AEA before the Madegascar project.

B2.10 Total capital cost of new filling station

Confidential information

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

1.5 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

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

This study = only reporting for this deliverable

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

This study = only reporting for this deliverable

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

1,5 hours

2.14 General conclusions and recommendations

Margarethen/Moos is a best practice example regarding both, the demonstration of efficient biogas production (polygeneration) and the of efficient biogas usage pathways.

2.15 Comments

Links:

<http://www.methapur.at/>

<http://www.methapur.at/downloads.php> (Studies)

<http://www.agrarplus.at/projekte.energie.referenzen.margarethen.php?lang=de>

(Biogas plant)