Region specific market strategy for Berlin-Brandenburg, Germany

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MADEGASCAR

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Are there existing filling stations and natural gas and biogas driven cars already in the region?	Yes

Summary

The market in Berlin-Brandenburg has been developed by local initiatives for more than a decade. Main actors have been the local gas supply companies GASAG (Berlin) and EMB (Brandenburg). The infrastructure for CNG filling stations within the city of Berlin is one of the densest in Germany. It is aimed for by GASAG to extend this infrastructure – among others through home refuelling appliances. What's more, the companies are developing a biogas project in Rathenow, Brandenburg, where biogas will be upgraded to biomethane as of May 2009 and injected into the natural gas grid. The gas will be used partly for the burning in CHP plants. The majority however is designated to be blended in CNG at the fuelling stations in Berlin for usage in transport. Within Madegascar, we are trying to address companies and institutions in Berlin and Brandenburg. The following is a list of the main audiences:

Biogas producers / vehicle fleet operators
• Sewage gas: Berliner Wasserbetriebe (BWB)
• Landfill gas: Berliner Stadtreiniung (BSR)

Distribution / Infrastructure: Gas station companies
• Sprint Tank GmbH
• Shell Deutschland Oil GmbH
• TOTAL Deutschland GmbH
• HPV Hanseatic Petrol Vertriebs GmbH
• Aral Aktiengesellschaft

Vehicle fleets
• Waste collection: Berliner Stadtreiniung (BSR)
• Public transport: Berliner Verkehrsbetriebe (BVG)
• Berliner Wasserbetriebe (BWB)
• Taxi: Innung des Berliner Taxigewerbes e.V.
• Taxi: Berliner Taxivereinigung e.V.
• Taxi: Taxi Verband Berlin Brandenburg e.V.

NGV Leasing
• GE Auto Service Leasing GmbH
• LHS Leasing - und Handelsgesellschaft Deutschland mbH

Municipalities and trade chambers
• Berlin: Senatsverwaltung für Gesundheit, Umwelt und Verbraucherschutz
• Chamber for Craftsmenship: Handwerkskammer Berlin
• Chamber for industry and commerce: Industrie- und Handelskammer Berlin

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Introduction/Background

The market for NGV in Berlin-Brandenburg is currently clearly dominated by the activities of the regional gas supplier GASAG. GASAG promotes the usage of natural gas as vehicle fuel itself e.g. through information on its webpage; takes part in networks for information dissemination such as www.erdgasfahrzeuge.de or www.gibgas.de and is also engaging with other gas suppliers around Germany (www.iek-deutschland.de) and in Berlin-Brandenburg (www.bb-faehrt-erdgas.de) to further develop the market for NGV and CNG.

Building upon actions by individuals in the 1990's, the market in Berlin was seriously pushed after 2000 by the initiative 'Tausend-Umwelt-Taxis für Berlin' [1,000 eco-cabs for Berlin]. The initiative aimed at supporting the purchase of gas-driven vehicles for taxi fleets and driving schools. The incentives were provided until the end of 2006 and consisted of purchasing co-finance through a demonstration fund from the Federal Ministry for the Environment, Nature and Nuclear Safety and a fuel promotion by GASAG. Apart from stimulating the market, the initiative was also designed to contribute to the reduction of particulate matter and nitrogen oxides in the city of Berlin. In this regard, it raised awareness for the environmental benefits of NGVs compared to alternative fuels.

The most important outcomes of the project although were the demonstration of the market maturity of NGV and the effects on the value chain: the increased demand for CNG stimulated the set-up of gas fuelling stations in the region, thus extending the infrastructure; and it also promoted the production of NGVs, thus extending the range of cars being offered by suppliers.

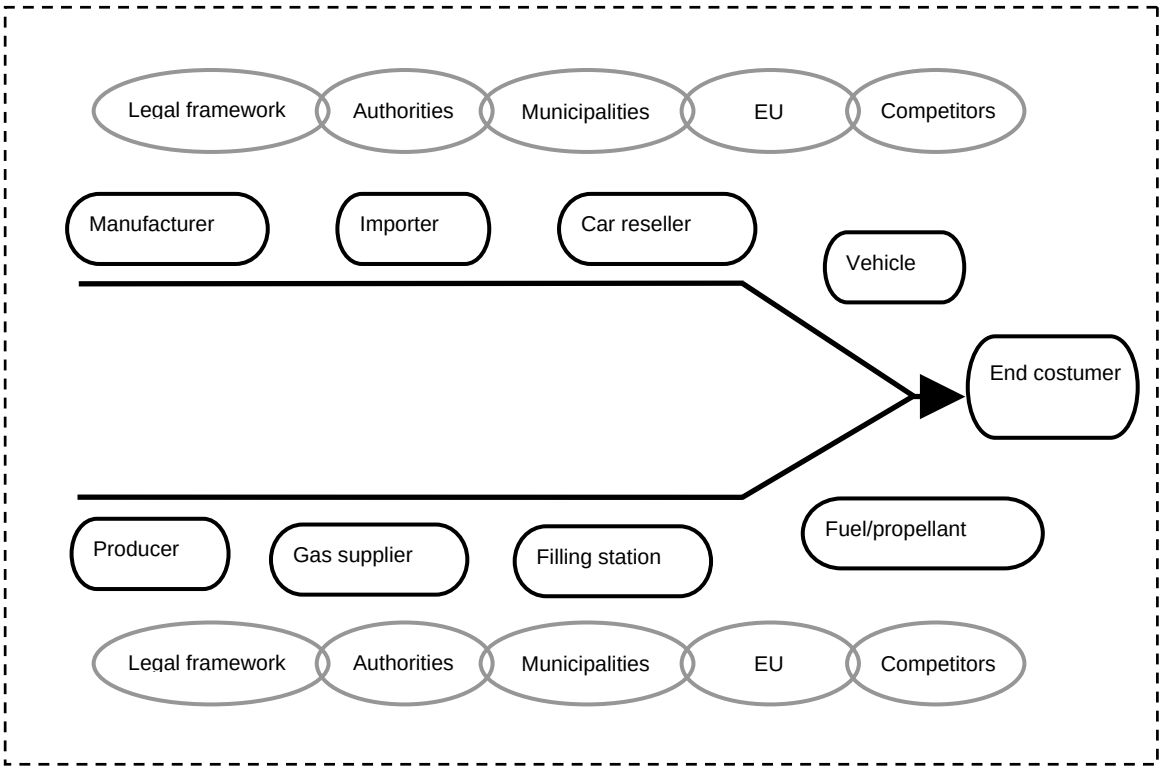

Figure 1. An overview of the gas market and its actors. From producers of gas and vehicles to the end costumer.

Analysis of the different aspects of the gas market

Political framework

The market development for NGV was strengthened by the German government through giving tax benefits to natural gas as a vehicle fuel until 2018 (EnergieStG). This reduced tax applies to LPG as well as CNG. With this, the prices for LPG and CNG at the pump are very competitive with alternative fuels on a basis of km / €. As a market study undertaken by BEA in 2007 showed, the economics of changing from petrol / diesel to CNG are the most important sales argument for private households and small enterprises.

The usage of biomethane as a vehicle fuel has gained more momentum in Germany due to several reasons. Rising prices for fossil energy carriers and a heavy import dependency by Germany regarding natural gas (and others) have enforced the goal of the German government for the promotion of renewable energy sources. Within the Integrated Climate and Energy Package – sealed in December 2007, it is stated that 6 % of the natural gas demand in Germany shall be replaced by biomethane in 2020, rising to 10 % in 2030.

In order to achieve this, the government already changed the gas grid connection ordinance in March 2008. Furthermore, a technology bonus within the Renewable Energy Feed-In Tariff Law will be given for upgrading biogas to biomethane as of 2009.

Another driver for the market is the change of the German biofuels quota act. It was foreseen to have a 6.25 % share (in energy content) of biofuels in the transport sector in 2009. Mainly because of the incomparability of older and imported petrol cars with high ethanol blends (such as E10), the overall share is going to be reduced to about 5 % energy content. In order to fulfil the German commitments for the reduction of greenhouse gases, it is being discussed to account biomethane within the biofuels quota.[1] If this is evaluated positively, the market will get a further push.

Market inquiry: biomethane in NGV

The market for biomethane usage in NGV is still in its infancy in Germany. Only 8 gas stations in two regions offer biomethane as of April 2008: 1 in Jameln (100 % biomethane), 7 CNG filling stations with 20 % biomethane share in Munich. Reasons for this include a very young market for biomethane injection in Germany (availability) and high prices for biomethane (compared to natural gas purchase prices).

In fact it seems that under current circumstances (esp. current raw material prices), biogas production and its prices could lead a bottleneck for the further market expansion. As stated, the lower price for natural gas as a fuel is by far the main incentive for consumers. Hence, blending natural gas with biomethane would make the fuel inevitably more expensive. In the long run the questions will be: Who is going to bear the costs for the price difference? Is the consumer willing to pay a higher price?

In general, the introduction of biomethane at the 8 CNG filling stations as explained above was found to be a success. The growth rates for NGVs in the regions were above average.

[1] BMU, 2008. Weiterentwicklung der Strategie zur Bioenergie. Download: http://www.bmu.de/files/pdfs/allgemein/application/pdf/strategie_bioenergie.pdf [03.06.2008]

Analysis of the concept “methane gas as vehicle fuel”

The region has been among the early movers in the promotion of methane as a vehicle fuel in Germany. As explained in the introduction this was mainly due to the strong interest of the local gas supply company and the political support on local and federal level. The market incentive scheme ‘1,000 eco-taxis for Berlin’ has become a role model for the market introduction of NGV. This initiative was combined with further marketing campaigns and promotions over the last years.

Even though there are around 118 biogas plants in the region of Brandenburg at the moment, none of them is yet upgrading biogas to biomethane. Hence, there are no experiences with biomethane at the moment in the region. This is bound to change as of 2009. GASAG is planning to blend biomethane into their CNG at the filling stations in Berlin. The concept for the blending focuses on the CO2-neutrality of the fuel, thus improving the natural gas emission balance even further compared to diesel and petrol. Further strengths include:

- the usage of available local energy sources
- the contribution to local value added
- highest yields per ha compared to other 1st generation biofuels
- fulfilment of the German Association for Energy and Water of 20 % share of biomethane in CNG as of 2020 already in 2010

It is expected that the offer of biomethane as a vehicle fuel will spark the interest of larger companies that are already looking into reducing their CO2-emissions. Often companies have vehicle fleets, sometimes even already improved in terms of energy efficiency and low emission rates. The carbon neutrality of biomethane would offer them another improvement step. Waste water treatment or waste collection companies could even make this step by building their own biogas production and upgrading facility.

Analysis of competitive products

CNG and biomethane are competing with diesel (incl. D5), biodiesel, petrol (incl. E5), and also to some extend LPG on the vehicle market. The amount of electrically driven vehicles for road transport is only marginal. The main benefit of CNG is the low mineral oil tax in Germany until 2018. The lower fuel prices at the pump affect the economics of NGV: depending on the car and the mileage per year and NGV-lifespan, significant savings can be achieved until 2018. The perceived drawbacks of CNG / the strengths of the competitive products include:

- Limited choice of vehicles
- Acceleration / top speed
- Density of the infrastructure
- Uncertainty of new technology
- Perceived risk of a perceived dangerous technology
- Monovalent: Lower mileage per filling

From the fuelling station perspective, they include:

- Chicken-and-egg-problem: more cars or more filling stations first?
- Gas filling stations are not profitable
- Investment costs for CNG filling points are too high / refitting is no alternative

Analysis of costumers/consumers

The market incentive program for taxis (1,000 eco-friendly taxis for Berlin) between 2000 and 2006 showed the market maturity of the NGV technology and contributed to the improvement of the CNG-filling station infrastructure. This market demonstration has drawn more and more people to switch to NGV. Information and local consulting was offered by local gas suppliers. What's more, the gas supplier GASAG gives financial incentives for switching to an NGV. With the technology being pushed by automobile producers and the infrastructure being developed by the gas supplier, more and more cars appeared on the streets of Berlin-Brandenburg.

Short and long term threats and possibilities

The main threat / uncertainty is what is going to happen to the tax for natural gas after 2018. The same tax also applies to biomethane used for transport.

Another threat to the increase of biomethane production is the current discussion about "food vs. fuel". The discussion has drawn significant public attention and is based on biofuels. On the other hand, policy makers still believe in the German bioenergy market potential thus will continue to support local biomass production for energy purposes including biomethane for transport. In fact, it seems to become a major opportunity for biomethane sellers to emphasize the local and sustainable production of biomethane. The production increases local welfare, creates jobs in rural areas, and builds upon good agricultural practice.

Bottlenecks on the gas market

The biogas production for biomethane upgrading (for NGV usage) is one of the bottlenecks at the moment. The political framework for the period beyond 2009 was finalized in June 2008. There will be little investment until the beginning of 2009. Even with the support through the renewable feed-in tariff system (EEG) for the upgrading of biogas and the investment costs for the upgrading plant (through the market incentive program for plants up to 500 m^3/h) investment costs are high and production costs depend on the prices for biomass. On the other hand, the demand for vehicle fuel remains high – and should current fuel oil prices lead to an increase in NGV, biomethane could become a precious good.

A second bottleneck seems to be the limited choice of NGV. Compared to alternative cars, the current range / choice is not wide enough yet to suit every customer yet – esp. in a car-country like Germany.

Theoretically, the infrastructure in Berlin and Germany are no real bottleneck. However, it remains to be a perceived bottleneck by end-consumers. Also, consumers state concerns about the infrastructure in other European countries – affecting them when they travel in the car on holidays.

Market Strategy

The five main target groups for the market strategy include:

1. Individual households
2. Public customers e.g. municipality vehicles
3. Service providers with own possibility to produce biomethane i.e. waste management company, waste water treatment company
4. Large fleet operators i.e. public transport, parcel service, etc.
5. Commuters

Messages

The main marketing messages for the selling of biomethane to end-consumers in Berlin-Brandenburg will include:

- CNG – a low cost alternative to traditional transport fuels such as diesel and petrol
- CNG – an alternative fuel with positive features/characters (although it is a fossil fuel) when it comes to emissions and health aspects (compared to other fossil transport fuels)
- NGV – efficient, low emissions, safe, and smooth (quiet) vehicles
- Biomethane - an alternative and renewable vehicle fuel with market leading features when it comes to climate, environment and health aspects.
- Biomethane – contributes to local welfare in rural regions and creates jobs (reduction of urbanisation)
- Biomethane – sustainable alternative: best alternative transport fuel based on the ha-yield, no competition with food production (waste products can be used), no land-use change involved (in Germany)
- Biomethane – contribution to security of energy supply
- Biomethane – our and your contribution to reduce global warming

Choice of target group and distribution strategy

Vehicle expansion

- Geographically – the information/message will be spread evenly over the region.
- Target groups
    - Individual households
    - Public customers e.g. municipality vehicles
    - Large fleet operators i.e. public transport, parcel service, etc.
    - Commuters
- Distribution channels:

  - Umbrella organisations already offering discussion rounds and knowledge exchange platforms online as well as in seminars. They also have newsletters and mailing. The most relevant for Madegascar seems to be:
    - Initiativkreis Erdgas als Kraftstoff (IEK)
    - Berlin-Brandenburg fährt Erdgas (BB-faehrt-Erdgas)
    - Sauberer Fuhrpark (Initiative for clean fleets from the Senate of Berlin)
    - Biomethane exchange platform: Biomethan Kuratorium.
  - NGV sales stations
  - Press / Marketing office of GASAG
  - Information stand at local conferences and events

Biogas supply

- Geographically – the information/message will be spread evenly over the region.
- Target groups
  - Individual households
  - Public customers e.g. municipality vehicles
  - Large fleet operators i.e. public transport, parcel service, etc.
  - Commuters
  - Service providers with own possibility to produce biomethane i.e. waste management company, waste water treatment company
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    - Biomethane exchange platform: Biomethan Kuratorium.
  - NGV sales stations
  - Information at CNG filling stations
  - Direct mailing
  - Press releases by GASAG and BEA
  - Maybe information stand at local conferences and events

Gas grid expansion

- No need for action in this area in Germany or the region.

Filling station expansion

- Geographically – the information/message will be spread evenly over the region. A special focus will be put for home refuelling appliances: they will be targeted in areas with a typically percentage of commuters.
- Target groups
    - Individual households
    - Public customers e.g. municipality vehicles
    - Large fleet operators i.e. public transport, parcel service, etc.
    - Commuters
    - Service providers with own possibility to produce biomethane i.e. waste management company, waste water treatment company
- Distribution channels:
    - NGV sales stations regarding home refuelling appliance as give away
    - Direct mailing
    - Press releases by GASAG and BEA
    - Maybe information stand at local conferences and events