


WP 5

Results from case study or feasibility study in each region

D.5.3.2 Nbr 1

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7. Name and contact details of the company/client you executed the case study/feasibility study:

| | |
|-----------------------------|---|
| Company/Institution: | Taxi companies, not specified (For example: Taxi company 878) |
| | Small private companies (please specify - public or private) |
| Target group: | Taxi (For example: fleet owners, municipalities...) |
| Field of business: | Taxi (For example: delivery service, taxies, companies, bakery...) |
| Activity: | (Short description what the company/institution does) |
| Address: | |
| Contact Person: | |
| Contact details: | (Tel., fax, email, homepage) |

8. Short description of the client (amount of cars in operation, why to change to CNG)

| | |
|--|--|
| Amount of actual cars per fleet: | 2 |
| List type of cars per fleet: e.g. Opel Zafira, Diesel | |
| ■ Mercedes B170 | Fuel: Gasoline |
| ■ Mercedes B180 CDI | Fuel: Diesel |
| ■ | Fuel: Diesel |
| ■ | Fuel: Diesel |
| ■ | Fuel: Diesel |
| ■ | Fuel: Diesel |
| Time frame of changing cars per fleet: | 3 years or a maximum of 270.000 km e.g. each 2 years or 260.000 km) |
| Evaluate possibility to change to CNG per fleet: | 100 (e.g. 50 %) |
| Motivation/Barriers to change per fleet: (e.g. save fuel costs) | |
| Lower costs for fuel, Goodwill for making an environmental friendly choice of fuel | |

9. Describe shortly the case study/feasibility study you executed:

How many new CNG cars were needed and which type of cars?
The feasibility study was made for a1

Total investment costs for new cars: 31.000 Euro

Was there a public tender for the acquisition of cars or was it a direct contact?
a direct contact

Describe the problems and barriers YOU had to deal with?

The fact that CNG still is a relatively unknown fuel.

To few filling stations.

Some drivers thought that the engine in the Mercedes gas car didn't have enough power.

Which solutions had been taken to overcome these barriers?

No direct action taken but to argue for that the infrastructure is enough and that there are plans to make it better.

Were there any incentives you gave (e.g. fuel voucher, free service, after sales activities?)

We are not in the position to give any fuel voucher etc.

Did you inform about financial support possibilities? Are there any financial support possibilities in your country to boost CNG cars?

Yes, we gave the target group information about the financial support possibilities (lower vehicle tax, lower tax on fuel and possibilities to get support from the municipality for purchasing NGV's)

What was your major action – how could you motivate the company/client to switch to CNG?

Which helpful tools did you use to execute the feasibility study?

General information materials about NGV's and CNG as a fuel and where the filling stations are located.

Did you make use of a third party or other actors? (e.g. car dealers, vehicle manufacturer)

Yes If YES please specify if public or private and give contact details: Mercedes dealer i Helsingborg

Are there any activities after the purchase of CNG cars? (e.g. after sales activities)

Not that I know of.

How long did it take to execute the case study/feasibility study?8 hours

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

When did the case study/feasibility study start? 2008-11-10

When will it be finished?-

Estimate the number of hours you spent on this case study/feasibility study
hours

How much did it cost to execute this case study/feasibility study?

10. Give a short ECONOMIC OVERVIEW with the basic facts:

Fuel cost savings: Per year: -1400 Euro compared to B170 (Gasoline) and -160 Euro compared to B100 CDI (Diesel)

Total cost savings (investment costs, fuel costs, taxes etc.): Per year: -1100 Euro compared to B170 Gasoline and -510 Euro compared to B180 Diesel

Cost of converting cars to CNG if appropriate: -

Milage/km per year: 9.000

Expected useful life: 3 years

Does the customer get financial support from the government/country? yes, lower tax on fuel and vehicle

Reductions of CO₂ emissions: There are three filling stations in the city of Helsingborg, where these cars would probably be filled up. Two of them have a mix of 50/50 biogas/natural gas and the third filling station has pure biogas. The reduction of CO₂-emissions for one B170 NGT compared to a gasoline car is about 8.200 kg/year if it is filled with 50/50 mix and about 13.400 if it is filled up with pure biogas.

11. Your conclusions and recommendations?

Mention shortly:

Reduced costs, reduced CO₂-emissions and hopefully more costumers (many companies are asking for clean vehicles when traveling with taxi) should be enough to make the change to CNG. Some of the taxi drivers that attended the meeting did purchase NGV's.

12. Any other general remarks/comments/information from your side?

Feel free to add what you think is important and might not fit into the above questions:


WP 5

Results from case study or feasibility study in each region

D.5.3.2 Nbr 2

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7. Name and contact details of the company/client you executed the case study/feasibility study:

| | |
|-----------------------------|--|
| Company/Institution: | Taxi companies, not specified <i>(For example: Taxi company 878)</i> |
| | Small private companies, and also <i>(please specify - public or private)</i> |
| Target group: | Taxi <i>(For example: fleet owners, municipalities...)</i> |
| Field of business: | Taxi <i>(For example: delivery service, taxies, companies, bakery...)</i> |
| Activity: | <i>(Short description what the company/institution does)</i> |
| Address: | |
| Contact Person: | |
| Contact details: | <i>(Tel., fax, email, homepage)</i> |

8. Short description of the client (amount of cars in operation, why to change to CNG)

| | |
|--|---|
| Amount of actual cars per fleet: | 2 |
| List type of cars per fleet: e.g. <i>Opel Zafira, Diesel</i> | |
| ■ Volkswagen Passat TSI 160 | Fuel: Gasoline |
| ■ Volkswagen Passat TDI 140 | Fuel: Diesel |
| ■ | Fuel: Diesel |
| ■ | Fuel: Diesel |
| ■ | Fuel: Diesel |
| ■ | Fuel: Diesel |
| Time frame of changing cars per fleet: | 3 years or a maximum of 300.000 km <i>e.g. each 2 years or 260.000 km)</i> |
| Evaluate possibility to change to CNG per fleet: | 100 <i>(e.g. 50 %)</i> |
| Motivation/Barriers to change per fleet: (e.g. <i>save fuel costs</i>) | |
| Lower costs for fuel, Goodwill for making an environmental friendly choice of fuel | |

9. Describe shortly the case study/feasibility study you executed:

How many new CNG cars were needed and which type of cars?

The feasibility study was made for a single car as beskribed at "5. How was the Case..."

Total investment costs for new cars: 33.700 Euro

Was there a public tender for the acquisition of cars or was it a direct contact?
a direct contact

Describe the problems and barriers YOU had to deal with?

The fact that CNG still is a relatively unknown fuel.

Today only a few filling stations compared to the number of gasoline filling stations.

Which solutions had been taken to overcome these barriers?

No direct action taken but to argue for that the infrastructure is enough and that there are plans to make it better. We also argued for the fact that the CNG car has very good environmental performance.

Were there any incentives you gave (e.g. fuel voucher, free service, after sales activities?)

We are not in the position to give any fuel voucher etc.

Did you inform about financial support possibilities? Are there any financial support possibilities in your country to boost CNG cars?

Yes, we gave the target group information about the financial support possibilities (lower vehicle tax, lower tax on fuel and possibilities to get support from the municipality for purchasing NGV's)

What was your major action – how could you motivate the company/client to switch to CNG?

Which helpful tools did you use to execute the feasibility study?

General information materials about NGV's and CNG as a fuel and where the filling stations are located in the close region and also in a bigger context.

Did you make use of a third party or other actors? (e.g. car dealers, vehicle manufacturer)

Yes If YES please specify if public or private and give contact details: The Volkswagen dealer in Helsingborg and the local gas supplier, Öresundskraft.

Are there any activities after the purchase of CNG cars? (e.g. after sales activities)

We have not arranged any activeties, but I know that the Volkswagen dealer have invited every costumer for a eco- and safe driving course.

How long did it take to execute the case study/feasibility study?10 hours

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

When did the case study/feasibility study start? 2009-02-24

When will it be finished?-

Estimate the number of hours you spent on this case study/feasibility study

10 hours

How much did it cost to execute this case study/feasibility study?

10. Give a short ECONOMIC OVERVIEW with the basic facts:

| |
|--|
| <p>Fuel cost savings: Per year: about -2700 Euro compared to TSI 160 (gasoline) and -850 Euro compared to TDI 140 (Diesel)</p> <p>Total cost savings (investment costs, fuel costs, taxes etc.): Per year: -1760 Euro compared to TSI 160 (gasoline) and -620 Euro compared to TDI 140 (diesel)</p> <p>Cost of converting cars to CNG if appropriate: -</p> <p>Milage/km per year: 10.000</p> <p>Expected useful life: 3 years</p> <p>Does the customer get financial support from the government/country? yes, lower tax on fuel and vehicle</p> <p>Reductions of CO₂ emissions: There are three filling stations in the city of Helsingborg, where these cars would probably be filled up. Two of them have a mix of 50/50 biogas/natural gas and the third filling station has pure biogas. The reduction of CO₂-emissions for a Passat EcoFuel compared to a gasoline Passat is about 9.865 kg/year if it is filled with 50/50 mix and about 16.150 kg/year if it is filled up with pure biogas.</p> |
|--|

11. Your conclusions and recommendations?

| |
|--|
| <p>Mention shortly:</p> <p>Reduced costs, reduced CO₂-emissions and hopefully more costumers (many companies are asking for clean vehicles when traveling with taxi) should be enough to make the change to CNG. A number of the taxi drivers that attended the meeting did purchase NGV's later on.</p> |
|--|

12. Any other general remarks/comments/information from your side?

| |
|--|
| <p>Feel free to add what you think is important and might not fit into the above questions:</p> |
|--|


WP 5

Results from case study or feasibility study in each region

D.5.3.3 Nbr 1

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Del. 5.3.1-5.3.13

Partner Nr. GEA (2) and StGW (3)

Country Austria

Region Styria

Are there existing filling stations and CNG cars already in the country YES

Results from the case study or feasibility study in each region (D.5.3.1 – 5.3.13)

Remark: For every case study/feasibility study you describe please use ONE FORM! **Case study** means more that you have a "pilot case" who changed already to CNG while **feasibility study** focuses on the investigation of the possibility to switch to CNG right now.

Remember: Executing the feasibility study you will inform customers about the advantages of CNG and gas driven vehicles. Furthermore you will give advice to change their fleet to CNG. Doing so you will find out the barriers and solutions to overcome these barriers.

1. In total how many case studies/feasibility study had been executed in the region (from 01.09.07 - 20.08.2009)?

| | |
|----------|---------------------|
| List Nr: | case studies |
| List Nr: | feasibility studies |

2. This is case study study Nr. please fill in the reporting date:

3. This is feasibility study Nr. please fill in the reporting date:

4. Name (Title) of this case study/feasibility study: Österreichische Post AG

5. How was the case study/feasibility study selected? According to which criteria? (Why this fleet and not another?)

important decision maker, large fleet, high driving performance, regional usage

6. Would this case study/feasibility study also take place without the input from MADEGASCAR?

Yes YES or No

(please specify; e.g. was already planned before; existed or started before etc.)

7. Name and contact details of the company/client you executed the case study/feasibility study:

| | |
|-----------------------------|--|
| Company/Institution: | Österreichische Post AG (For example: Taxi company 878) |
| | public (please specify - public or private) |
| Target group: | fleet (For example: fleet owners, municipalities...) |
| Field of business: | delivery service (post) (For example: delivery service, taxies, companies, bakery...) |
| Activity: | (Short description what the company/institution does) |
| Address: | Postgasse 8 1010 Wien |
| Contact Person: | Dipl.-Ing. Dr. Michael Rauch |
| Contact details: | Tel: 0043 577 67 20258 E-Mail: michael.rauch@post.at www.post.ar (Tel., fax, email, homepage) |

8. Short description of the client (amount of cars in operation, why to change to CNG)

Amount of actual cars per fleet: *400 to 600 cars in operation*

List type of cars per fleet: e.g. *Opel Zafira, Diesel*

| | |
|--------------------------|--------------|
| ■ VW Caddy (55 kW) | Fuel: Diesel |
| ■ Renault Kangoo (64 kW) | Fuel: Diesel |
| ■ | Fuel: Diesel |
| ■ | Fuel: Diesel |
| ■ | Fuel: Diesel |
| ■ | Fuel: Diesel |

Time frame of changing cars per fleet: 8 years
e.g. *each 2 years or 260.000 km*)

Evaluate possibility to change to CNG per fleet: 80 %
(e.g. 50 %)

Motivation/Barriers to change per fleet: (e.g. *save fuel costs*)

Motivation:
save fuel costs, high ecological awareness

Barriers:
higher purchase price for Caddy EcoFuel (80 kW) - the Austrian Post just needs 50 kW;
availability of CNG filling stations

9. Describe shortly the case study/feasibility study you executed:

How many new CNG cars were needed and which type of cars?
Austrian Post AG distributing a tender for 300 cars (approx. 100 NGVs)

Total investment costs for new cars: 3,5 to 5 Mio. Euro

Was there a public tender for the acquisition of cars or was it a direct contact?
direct contact as well as tender

Describe the problems and barriers YOU had to deal with?
higher purchase price for more powerful car (50 kW - 80 kW)
dependent on Bundesbeschaffung GmbH ((Federal Procurement Agency)

Which solutions had been taken to overcome these barriers?
Establish co-operation with car dealer respectively car importer.

Were there any incentives you gave (e.g. fuel voucher, free service, after sales activities?)
For the first order (50 NGVs) the Austrian Post got a fuel voucher in the range of 1.100 kg CNG per car.
For future orders we are discussion a form of performance contracting with is based on saved fuel costs.

Did you inform about financial support possibilities? Are there any financial support possibilities in your country to boost CNG cars?
Yes we informed them and the Austrian Post got a subvention from the Federal Ministry of Agriculture, Forestry, Environment and Water Management in the course of the "klimatektiv" program.

What was your major action – how could you motivate the company/client to switch to CNG?
consulting, calculation of profitability, establishing the co-operation between Post AG, VW Nutzfahrzeuge and Steirische Gas-Wärme, organising press conference,

Which helpful tools did you use to execute the feasibility study?
calculation of profitability

Did you make use of a third party or other actors? (e.g. car dealers, vehicle manufacturer)
Yes, If YES please specify if public or private and give contact details:
Porsche Austria GmbH & Co
VW Nutzfahrzeuge
Mr. Gerald Kisslinger
A-5020 Salzburg, Vogelweiderstraße 75

Are there any activities after the purchase of CNG cars? (e.g. after sales activities)
Yes, we setup regular meetings with the responsible persons within Austrian Post AG and we made a post calculation about savings.

How long did it take to execute the case study/feasibility study? hours

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

When did the case study/feasibility study start? September / October 2007

When will it be finished? work in progress

Estimate the number of hours you spent on this case study/feasibility study
hours

How much did it cost to execute this case study/feasibility study?

10. Give a short ECONOMIC OVERVIEW with the basic facts:

| |
|---|
| Fuel cost savings: 140 to 260 Euro / Year |
| Total cost savings (investment costs, fuel costs, taxes etc.): additional costs in the range of 230 - 250 Euro / Year - without any subventions |
| Cost of converting cars to CNG if appropriate: - |
| Milage/km per year: 13.000 to 14.200 km / year |
| Expected useful life: 8 years |
| Does the customer get financial support from the government/country? yes |
| Reductions of CO ₂ emissions: approx. 200 kg / year |

11. Your conclusions and recommendations?

| |
|---|
| Mention shortly: |
| It is hard to be economically reasonable if customer compares cars with different performance (eg. 55 kW / 80 kW). At current market price the break even can be reached with a yearly mileage of up to 20.000 km. |

12. Any other general remarks/comments/information from your side?

| |
|---|
| Feel free to add what you think is important and might not fit into the above questions: |
|---|


WP 5

Results from case study or feasibility study in each region

D.5.3.3 Nbr 2

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Del. 5.3.1-5.3.13

Partner Nr. GEA (2) and StGW (3)

Country Austria

Region Styria

Are there existing filling stations and CNG cars already in the country YES

Results from the case study or feasibility study in each region (D.5.3.1 – 5.3.13)

Remark: For every case study/feasibility study you describe please use ONE FORM! **Case study** means more that you have a "pilot case" who changed already to CNG while **feasibility study** focuses on the investigation of the possibility to switch to CNG right now.

Remember: Executing the feasibility study you will inform customers about the advantages of CNG and gas driven vehicles. Furthermore you will give advice to change their fleet to CNG. Doing so you will find out the barriers and solutions to overcome these barriers.

1. In total how many case studies/feasibility study had been executed in the region (from 01.09.07 - 20.08.2009)?

| |
|--------------------------------|
| List Nr: case studies |
| List Nr: 6 feasibility studies |

2. This is case study study Nr. please fill in the reporting date:
3. This is feasibility study Nr. 1 please fill in the reporting date: 15.08.2009
4. **Name (Title) of this case study/feasibility study:** Taxi company 878 as an example (REMARK: other feasibility studies have been executed accoring to the same scheme e.g. Ecoservice Graz, Styrian Administration, Newspaper Weiz, municipal services Graz, real estate company Graz).
5. **How was the case study/feasibility study selected? According to which criteria? (Why this fleet and not another?)**

High interest in CNG, active company, large fleet, high driving performance, open minded organisation, intense previous contact to manager

6. **Would this case study/feasibility study also take place without the input from MADEGASCAR?**

No YES or No
started parallel (please specify; e.g. was already planned before; existed or started before etc.)

7. Name and contact details of the company/client you executed the case study/feasibility study:

| | |
|-----------------------------|---|
| Company/Institution: | Taxi company 878 (For example: Taxi company 878) |
| | private (please specify - public or private) |
| Target group: | fleet owner (For example: fleet owners, municipalities...) |
| Field of business: | taxi, transportation (For example: delivery service, taxies, companies, bakery...) |
| Activity: | By means of the radio central station drivers are routed to customers (Short description what the company/institution does) |
| Address: | Ziehrerstrasse 68 8041 Graz |
| Contact Person: | Mag. Sylvia Loibner |
| Contact details: | Tel: 0043 316/462146 E-Mail: s.loibner@taxi878.at http://www.878.at/ (Tel., fax, email, homepage) |

8. Short description of the client (amount of cars in operation, why to change to CNG)

Amount of actual cars per fleet: *240 cars in operation*

List type of cars per fleet: e.g. *Opel Zafira, Diesel*

| | |
|---------------------------|--------------|
| ■ Mercedes E 200 (125 kW) | Fuel: Diesel |
| ■ Mercedes B 180 | Fuel: Diesel |
| ■ Skoda Superb | Fuel: Diesel |
| ■ Ford Galaxy | Fuel: Diesel |
| ■ Mercedes bus | Fuel: Diesel |
| ■ | Fuel: Diesel |

Time frame of changing cars per fleet: 2 years
e.g. *each 2 years or 260.000 km*)

Evaluate possibility to change to CNG per fleet: 100 %
(e.g. 50 %)

Motivation/Barriers to change per fleet: (e.g. *save fuel costs*)

Motivation:

save fuel costs, high ecological awareness, shining example. Wish to have a creative design when driving on CNG. Some vehicles are nicely designed on the vehicle tail to show that it is driving on gas.

Barriers:

higher purchase price for vehicles. Limitation of suited CNG vehicles for the taxi business. Up to now the Mercedes was the favourite fleet vehicle and important for the image. Increasing necessity and trend to transport more people on one ride (around 6 persons).

Comparison of different vehicle power (125 kW Mercedes Diesel, 69 kW Opel Zafira CNG, 93 kW Ford C-Max, 120 kW Mercedes CNG)

9. Describe shortly the case study/feasibility study you executed:

How many new CNG cars were needed and which type of cars?

First the Taxi 878 started with Mercedes E200 CNG vehicles and later on with the Mercedes B 180. Due to the fact that the drivers are self employed decisions for changing to CNG are always taken on the individual basis.

Total investment costs for new cars: around 37.000 Euro per vehicle Euro

Was there a public tender for the acquisition of cars or was it a direct contact?

Direct contact. Now there are 3 Mercedes E200 and 2 Mercedes B180 in the CNG versions in operation.

Describe the problems and barriers YOU had to deal with?

Higher purchase price, limited suited range of vehicles for taxi business

Which solutions had been taken to overcome these barriers?

Wait till suitable vehicles are on the market. The B-class was at the time we had the personal advice not available. Discussion with various self employed taxi drivers within the 878 fleet.

Were there any incentives you gave (e.g. fuel voucher, free service, after sales activities?)

Fuel voucher

Did you inform about financial support possibilities? Are there any financial support possibilities in your country to boost CNG cars?

Yes we informed them. The company got financial support.

What was your major action – how could you motivate the company/client to switch to CNG?

Consulting, calculation of profitability, personal advice and constant contact

Which helpful tools did you use to execute the feasibility study?

Calculation of profitability

Did you make use of a third party or other actors? (e.g. car dealers, vehicle manufacturer)

Yes If YES please specify if public or private and give contact details: Following the first advice, we stayed in close contact and organized a test training event for taxi drivers to test drive CNG vehicles.

Are there any activities after the purchase of CNG cars? (e.g. after sales activities)

Experience exchange about actual vehicle suitability and practicability

How long did it take to execute the case study/feasibility study? 8 - 20 hours

What is the current status? (e.g. finished, work in progress) first vehicles were bought, constant work in progress for further new vehicles

When did the case study/feasibility study start? Feb./April 2007 contact is ongoing

When will it be finished? work in progress

Estimate the number of hours you spent on this case study/feasibility study

8-20 hours

How much did it cost to execute this case study/feasibility study?

1.500 Euro

10. Give a short ECONOMIC OVERVIEW with the basic facts:

Fuel cost savings: For the Mercedes E 200 CNG - 900 Euro / Year in comparison to Mercedes E 200 diesel. Opel Zafira CNG 600 Euro savings / year in comparison to Mercedes E200 CNG and 1.500 in comparison to Mercedes diesel. Highest fuel cost savings has the Opel Zafira.

Total cost savings (investment costs, fuel costs, taxes etc.): No savings but additional costs in the range of 880 Euro / Year if choosing the CNG version of Mercedes E200 in comparison to diesel version - including fuel bonus from energy supplier! If choosing Opel Zafira or Ford investment costs can considerably reduced in comparison to Mercedes Diesel vehicle (minus 7.500 - 8.500 Euro). Highest total cost savings has again the Opel Zafira.

Ford C-Max and Opel Zafira are both in the CNG version cheaper than their diesel versions. The Opel Zafira is the winner if comparing all CNG versions together (Mercedes, Ford, Opel) when it comes to fuel cost savings, total cost savings as well as max. reduction of CO₂.

Cost of converting cars to CNG if appropriate: -

Milage/km per year: 80.000 km / year

Expected useful life: 2 years

Does the customer get financial support from the government/country? yes

Reductions of CO₂ emissions: Approx. 3.700 kg / year for CNG Mercedes over diesel engine. About minus 4,5 - 5,5 t if choosing Opel Zafira/Ford over Mercedes diesel. High CO₂ reductions can be reached because of huge mileage! The highest CO₂ emissions has of course the Mercedes diesel the lowest the Opel Zafira.

11. Your conclusions and recommendations?

Mention shortly:

Mercedes E200 CNG was in this case the most expensive CNG vehicle therefore if limited to a favourite car brand, a switch is financially difficult to realise. The B-class is cheaper and makes a switch to CNG easier. Together with financial support and CNG voucher a fleet conversion is achievable as this is the case for taxi 878. They have now 3 Mercedes E200 and 2 Mercedes B180 in the CNG versions in operation.

12. Any other general remarks/comments/information from your side?

Feel free to add what you think is important and might not fit into the above questions:


WP 5

Results from case study or feasibility study in each region

D.5.3.3 nbr 3

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Del. 5.3.1-5.3.13

Partner Nr. GEA (2) and StGW (3)

Country Austria

Region Styria

Are there existing filling stations and CNG cars already in the country YES

Results from the case study or feasibility study in each region (D.5.3.1 – 5.3.13)

Remark: For every case study/feasibility study you describe please use ONE FORM! **Case study** means more that you have a "pilot case" who changed already to CNG while **feasibility study** focuses on the investigation of the possibility to switch to CNG right now.

Remember: Executing the feasibility study you will inform customers about the advantages of CNG and gas driven vehicles. Furthermore you will give advice to change their fleet to CNG. Doing so you will find out the barriers and solutions to overcome these barriers.

1. In total how many case studies/feasibility study had been executed in the region (from 01.09.07 - 20.08.2009)?

| |
|--------------------------------|
| List Nr: case studies |
| List Nr: 6 feasibility studies |

2. This is case study study Nr. please fill in the reporting date:
3. This is feasibility study Nr. 2 please fill in the reporting date: 15.08.2009
4. **Name (Title) of this case study/feasibility study:** Styrian Administration
(REMARK: other feasibility studies have been executed accoring to the same scheme e.g. Ecoservice Graz, Taxi 878, Newspaper Weiz, municipal services Graz, real estate company Graz).

5. **How was the case study/feasibility study selected? According to which criteria? (Why this fleet and not another?)**

Close contact to decision maker; large and prominent fleet, high driving performance, searching for savings potential

6. **Would this case study/feasibility study also take place without the input from MADEGASCAR?**

No YES or No
started parallel (please specify; e.g. was already planned before; existed or started before etc.)

7. Name and contact details of the company/client you executed the case study/feasibility study:

| | |
|-----------------------------|---|
| Company/Institution: | Styrian Administration in Graz (For example: Taxi company 878) |
| | public (please specify - public or private) |
| Target group: | fleet owner, administration (For example: fleet owners, municipalities...) |
| Field of business: | travelling of Styrian employees (For example: delivery service, taxies, companies, bakery...) |
| Activity: | administrative duties; regional government (Short description what the company/institution does) |
| Address: | Amt der Steiermärkischen Landesregierung Hofgasse 13, 8010 Graz, Austria |
| Contact Person: | Mag. Christine Klug, Helfried Grandl |
| Contact details: | Tel: 0043 316/877 2444; 877 2594 E-Mail: christine.klug@stmk.gv.at; helfried.grandl@stmk.gv.at (Tel., fax, email, homepage) |

8. Short description of the client (amount of cars in operation, why to change to CNG)

Amount of actual cars per fleet: *360 including offices in the rural areas; thereof 150 in Graz*

List type of cars per fleet: e.g. *Opel Zafira, Diesel*

| | |
|-------------------------|--------------|
| ■ Opel Vectra | Fuel: Diesel |
| ■ Ford Mondeo | Fuel: Diesel |
| ■ VW Passat, Golf, Polo | Fuel: Diesel |
| ■ | Fuel: Diesel |
| ■ | Fuel: Diesel |
| ■ | Fuel: Diesel |

Time frame of changing cars per fleet: approx. 2 years
e.g. *each 2 years or 260.000 km*)

Evaluate possibility to change to CNG per fleet: 100 %
(e.g. 50 %)

Motivation/Barriers to change per fleet: (e.g. *save fuel costs*)

Motivation:

save fuel costs, shining example, environmental consciousness, Styrian Administration as leader. Interest for Opel Zafira

Barriers:

power of vehicles (especially if they are fully loaded)

9. Describe shortly the case study/feasibility study you executed:

How many new CNG cars were needed and which type of cars?
Seven Opel Zafira were bought.

Total investment costs for new cars: around 20.000 Euro per vehicle Euro

Was there a public tender for the acquisition of cars or was it a direct contact?
Vehicles were bought via the public procurement (BBG) for the Styrian Administration.

Describe the problems and barriers YOU had to deal with?
No great problems because decision for investment was already taken. Mileage with gas, available vehicles

Which solutions had been taken to overcome these barriers?
Drive training event, information and advice, big press conference after acquisition of vehicles

Were there any incentives you gave (e.g. fuel voucher, free service, after sales activities?)
Fuel voucher

Did you inform about financial support possibilities? Are there any financial support possibilities in your country to boost CNG cars?
Yes we informed them.

What was your major action – how could you motivate the company/client to switch to CNG?
Consulting, calculation of profitability, personal advice and constant contact; high motivation of Styrian Administration to change

Which helpful tools did you use to execute the feasibility study?
Calculation of profitability

Did you make use of a third party or other actors? (e.g. car dealers, vehicle manufacturer)
Yes If YES please specify if public or private and give contact details: Following the first advice, we stayed in close contact and organized a test training event for employees of the Styrian Administration to test drive CNG vehicles and get more information.

Are there any activities after the purchase of CNG cars? (e.g. after sales activities)
Experience exchange about actual vehicle suitability and practicability as well as fuel consumption and feedback of drivers. Constant meetings will be undertaken.

How long did it take to execute the case study/feasibility study? 8 - 20 hours

What is the current status? (e.g. finished, work in progress) first vehicles were bought, constant work in progress for further new vehicles

When did the case study/feasibility study start? Feb./April 2008 contact is ongoing

When will it be finished? Mai 2008

Estimate the number of hours you spent on this case study/feasibility study
8-20 hours

How much did it cost to execute this case study/feasibility study?
1.500 Euro

10. Give a short ECONOMIC OVERVIEW with the basic facts:

Fuel cost savings: Especially with the Opel Zafira there are high fuel cost savings possible (between 35 % and 50 % reduction in comparison with diesel or petrol cars). The amortization is close to 2 years if just looking at fuel costs.

Total cost savings (investment costs, fuel costs, taxes etc.):

Considering total cost savings they lie between 16 % to 18 % compared to conventional propelled vehicles. Only the petrol version is cheaper when it comes to investment costs. Diesel and CNG are closely at the same price.

Cost of converting cars to CNG if appropriate: -

Milage/km per year: around 20.000 km / year for the Opel Zafira

Expected useful life: 2 years

Does the customer get financial support from the government/country?

Reductions of CO₂ emissions: Approx. 280 to 620 kg of CO₃ reduction per year compared to diesel and petrol vehicles.

11. Your conclusions and recommendations?

Mention shortly:

The Styrian Administration was a very motivated client. They started with 7 CNG Opel Zafira and are looking now for new CNG vehicles suited to their fleet. Regarding the power of vehicles it seemed that the first generation of Opel Zafira (without Turbo charging) is too weak if fully loaded. This problem is solved with the new engine generation. Furthermore after this decision new CNG vehicles (like the Passat) are now available. Close contact to this fleet manager is still kept for experience exchange and common activities also in the future.

12. Any other general remarks/comments/information from your side?

Feel free to add what you think is important and might not fit into the above questions:


WP 5

Results from case study or feasibility study in each region

D.5.3.4

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Del. 5.3.1-5.3.13

Partner Nr. AEA (15)

Country Austria

Region Vienna, Salzburg, Upper and Lower Austria

Are there existing filling stations and CNG cars already in the country YES

Results from the case study or feasibility study in each region (D.5.3.1 – 5.3.13)

Remark: For every case study/feasibility study you describe please use ONE FORM! **Case study** means more that you have a "pilot case" who changed already to CNG while **feasibility study** focuses on the investigation of the possibility to switch to CNG right now.

Remember: Executing the feasibility study you will inform customers about the advantages of CNG and gas driven vehicles. Furthermore you will give advice to change their fleet to CNG. Doing so you will find out the barriers and solutions to overcome these barriers.

1. In total how many case studies/feasibility study had been executed in the region (from 01.09.07 - 20.08.2009)?

| |
|--------------------------------|
| List Nr: case studies |
| List Nr: 1 feasibility studies |

2. This is case study study Nr. please fill in the reporting date:
3. This is feasibility study Nr. 1 please fill in the reporting date: 29.01.2009
4. **Name (Title) of this case study/feasibility study:** Advice to change the fleet to CNG for 'Dorf- und Stadterneuerung' Lower Austria
5. **How was the case study/feasibility study selected? According to which criteria? (Why this fleet and not another?)**

AEA has offered free advice including calculation of cost-effectiveness for several fleet managers. The association 'Dorf- und Stadterneuerung' has expressed its interest in changing its fleet to CNG-vehicles.

6. **Would this case study/feasibility study also take place without the input from MADEGASCAR?**

No YES or No

It is unlikely that 'Dorf- und Stadterneuerung' would have considered to change its fleet to CNG vehicles without MADEGASCAR (please specify; e.g. was already planned before; existed or started before etc.)

7. Name and contact details of the company/client you executed the case study/feasibility study:

| | |
|-----------------------------|---|
| Company/Institution: | Dorf- und Stadterneuerung (For example: Taxi company 878) |
| | public (please specify - public or private) |
| Target group: | municipalities (For example: fleet owners, municipalities...) |
| Field of business: | Advice for modernisation for villages and cities in Lower Austria (For example: delivery service, taxies, companies, bakery...) |
| Activity: | advice regarding the conservation of the cultural identity of rural areas and the modernisation of regional structures with focus sustainability (Short description what the company/institution does) |
| Address: | Amtsgasse 9 A-2020 Hollabrunn |
| Contact Person: | Josef Strummer |
| Contact details: | Tel. ++43/(0)676/88 591 230 e-mail: josef.strummer@dorf-stadterneuerung.at www.dorf-stadterneuerung.at (Tel., fax, email, homepage) |

8. Short description of the client (amount of cars in operation, why to change to CNG)

Amount of actual cars per fleet: 33.000

List type of cars per fleet: e.g. *Opel Zafira, Diesel*

| | |
|-----------------|--------------|
| ■ Skoda Fabia | Fuel: Diesel |
| ■ Skoda Octavia | Fuel: Diesel |
| ■ | Fuel: Diesel |
| ■ | Fuel: Diesel |
| ■ | Fuel: Diesel |
| ■ | Fuel: Diesel |

Time frame of changing cars per fleet: 5 years
e.g. *each 2 years or 260.000 km*)

Evaluate possibility to change to CNG per fleet: 25%
(e.g. 50 %)

Motivation/Barriers to change per fleet: (e.g. *save fuel costs*)

ecological image
save fuel costs

9. Describe shortly the case study/feasibility study you executed:

How many new CNG cars were needed and which type of cars?

29

Total investment costs for new cars: 0 Euro

Was there a public tender for the acquisition of cars or was it a direct contact?

direct contact

Describe the problems and barriers YOU had to deal with?

petrol station network not yet comprehensive, attitude of drivers who use the vehicles also private

Which solutions had been taken to overcome these barriers?

Arguments regarding the benefits of CNG in terms of cost-effectiveness and environmental-friendliness

Were there any incentives you gave (e.g. fuel voucher, free service, after sales activities?)

free calculation of cost effectiveness

Did you inform about financial support possibilities? Are there any financial support possibilities in your country to boost CNG cars?

yes, but there are no subsidies for associations yet in the region

What was your major action – how could you motivate the company/client to switch to CNG?

Illustration of cost-effectiveness

Which helpful tools did you use to execute the feasibility study?

Excel calculation tool

Did you make use of a third party or other actors? (e.g. car dealers, vehicle manufacturer)

No If YES please specify if public or private and give contact details:

Are there any activities after the purchase of CNG cars? (e.g. after sales activities)

No sales yet

How long did it take to execute the case study/feasibility study? approx. 20 hours

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

When did the case study/feasibility study start? December 2008

When will it be finished? unknown

Estimate the number of hours you spent on this case study/feasibility study

approx. 25 hours

How much did it cost to execute this case study/feasibility study?

approx. 500 Euro costs for Excel-tool, which can be used for other actions (advice for fleet managers) as well

10. Give a short ECONOMIC OVERVIEW with the basic facts:

Fuel cost savings: 415 - 762 Euro per vehicle per year (depending on the vehicle type)

Total cost savings (investment costs, fuel costs, taxes etc.): 18.000 Euro within 5 years for total fleet

Cost of converting cars to CNG if appropriate:

Milage/km per year: 20.000 per vehicle

Expected useful life: 5 years

Does the customer get financial support from the government/country? No

Reductions of CO₂ emissions: minus 200 - plus 300 kg within 5 years (depending on the vehicle type)

11. Your conclusions and recommendations?

Mention shortly:

It will be not easy to convince the association 'Dorf- und Stadterneuerung' to finally change their fleet to CNG vehicles due to the barriers given

12. Any other general remarks/comments/information from your side?

Feel free to add what you think is important and might not fit into the above questions:

It seems remarkable that until now no more fleets expressed their interest in the free economical and environmental calculation tool.

WP 5

Results from case study or feasibility study in each region

D.5.3.10

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7. Name and contact details of the company/client you executed the case study/feasibility study:

| | |
|-----------------------------|--|
| Company/Institution: | South Somerset District Council <i>(For example: Taxi company 878)</i> |
| | Public <i>(please specify - public or private)</i> |
| Target group: | Municipality <i>(For example: fleet owners, municipalities...)</i> |
| Field of business: | Local Authority operating a fleet of vans and small trucks <i>(For example: delivery service, taxies, companies, bakery...)</i> |
| Activity: | General municipality activities. Vehicles being considered in their fleet includes vans for maintenance of property, gardens and parks, collection of fly-tipped rubbish, transport of mowers, etc <i>(Short description what the company/institution does)</i> |
| Address: | The Council Offices, Brympton Way, Yeovil, Somerset BA20 2HT |
| Contact Person: | Keith Wheaton-Green |
| Contact details: | 01935 462 651 Keith.Wheaton-Green@southsomerset.gov.uk <i>(Tel., fax, email, homepage)</i> |

8. Short description of the client (amount of cars in operation, why to change to CNG)

Amount of actual cars per fleet: 62

List type of cars per fleet: e.g. *Opel Zafira, Diesel*

| | |
|------------------------|--------------|
| ■ LDV Convoy tipper | Fuel: Diesel |
| ■ Ford Escort van | Fuel: Diesel |
| ■ Mitsubishi van | Fuel: Diesel |
| ■ Citroen Berlingo van | Fuel: Diesel |
| ■ Ford Transit van | Fuel: Diesel |
| ■ Iveco Daily | Fuel: Diesel |

Time frame of changing cars per fleet: Part of fleet to be completely changed from diesel to biomethane over a period of 3 years
e.g. *each 2 years or 260.000 km)*

Evaluate possibility to change to CNG per fleet: *100% of identified part of existing fleet (e.g. 50 %)*

Motivation/Barriers to change per fleet: (e.g. *save fuel costs*)

During Madagascar we have now convinced the SSDC to change the majority of their fleet to a more environmentally friendly fuel. After much investigation, and following meetings with OPL, they have decided to operate 35 of their fleet of 62 vehicles on biomethane. The barrier will be if sufficient biomethane from food waste is not available. The SSDC are reluctant to use fossil fuel CNG except in the case of an emergency.

9. Describe shortly the case study/feasibility study you executed:

How many new CNG cars were needed and which type of cars?

Total 35 new vehicles over 3 years, being 17 Mercedes Sprinter van variants, 11 Volkswagen Caddy vans, 6 Iveco Daily Variants, and 1 Ford Transit. 2.466795, MADEGASCAR; Del. 5.3

Total investment costs for new cars: Not yet agreed, but about Euro

Was there a public tender for the acquisition of cars or was it a direct contact?

Vehicles will probably be acquired from Noyle Fleet Solutions, who have been part of the Madegascar network, and supply fleets of environmentally friendly vehicles

Describe the problems and barriers YOU had to deal with?

At the start of Madegascar, there were no CNG vehicles being imported into the UK and so there was a reluctance by SSDC to even consider changing their fleet until NGVs were available from the manufacturers in the UK. Belief that bioethanol might be a better fuel, particularly as the Council were a lead member of BEST (Intelligent Energy EU programme). Determination to run vehicles on biomethane from food waste, thus diverting food from landfill, and not prepared to operate on fossil fuel Natural Gas, only biomethane.

Which solutions had been taken to overcome these barriers?

At first we had planned meetings with the CNG vehicle manufacturers (VW, Mercedes and Iveco) to persuade them to import right hand drive vehicles in the UK, then with a waste management company, and throughout with the SSDC in order to integrate this project completely, including the integration of plans for a new biogas plant which will run on food waste and cattle slurry, and a CNG refuelling station which can dispense biomethane. The biogas will be upgraded and supplied as biomethane to SSDC for their vehicles.

Were there any incentives you gave (e.g. fuel voucher, free service, after sales activities?)

Environmental incentives were sufficient once the source of biomethane had been identified

Did you inform about financial support possibilities? Are there any financial support possibilities in your country to boost CNG cars?

Duty on CNG and biomethane is lower than for petrol or diesel and this was an important consideration, however not as important as meeting the council's carbon reduction targets

What was your major action – how could you motivate the company/client to switch to CNG?

Meetings and presentations to vehicle manufacturers, meetings and presentations to SSDC, meetings and presentations to waste management and waste collection companies, arranging for proposed new biogas plant, meetings and presentations with Somerset Council and to their waste collection company to propose food waste being supplied to new biogas plant to create the necessary biomethane for SSDC

Which helpful tools did you use to execute the feasibility study?

Organic Power's feasibility study tool and photographs and statistics of NGVs collected from around the world

Did you make use of a third party or other actors? (e.g. car dealers, vehicle manufacturer)

Mercedes, VW and Iveco main UK agents to arrange availability of vehicles in UK If YES please specify if public or private and give contact details: Mercedes Benz Centre, Delaware Drive, Tongwell, Milton Keynes, Buckinghamshire, MK15 8BA; Iveco Ford House, Station Road, Watford, Hertfordshire WD17 1SR; Volkswagen UK Yeomans Drive, Blakelands, Milton Keynes MK14 5AN

Are there any activities after the purchase of CNG cars? (e.g. after sales activities)

Purchase has not yet taken place, but we have identified the company who lease the vehicles to the SSDC and also the company who will carry out the servicing of these vehicles

How long did it take to execute the case study/feasibility study? about 50 hours

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

When did the case study/feasibility study start? Sep 2009

When will it be finished? Dec 2009

Estimate the number of hours you spent on this case study/feasibility study

50 hours

How much did it cost to execute this case study/feasibility study?

10. Give a short ECONOMIC OVERVIEW with the basic facts:

Fuel cost savings: 86,331 litres less 5% fuel at 20p per litre less = £21,151

Total cost savings (investment costs, fuel costs, taxes etc.): Project ongoing, vehicle costs not yet agreed

Cost of converting cars to CNG if appropriate: N/A as new vehicles only

Milage/km per year: Not known as all based on fuel used per year

Expected useful life: 6 years, then sold and new lease

Does the customer get financial support from the government/country? Yes, fuel duty reduced

Reductions of CO₂ emissions: 1,700 tonnes of CO₂ over 6 years of vehicle life

11. Your conclusions and recommendations?

Mention shortly:

This has become an important and high profile project and will act as a flagship for other local authorities in the UK. It will also encourage local businesses to change their fleets for CNG vehicles in Somerset. The SSDC have now said they will act upon the Madagascar feasibility study and change their fleet as recommended in the study. The work that has gone into the study can also form the basis of a feasibility study for other local authorities or businesses.

12. Any other general remarks/comments/information from your side?

Feel free to add what you think is important and might not fit into the above questions:

WP 5

Results from case study or feasibility study in each region

D.5.3.11 Nbr 1

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Del. 5.3.1-5.3.13

Partner Nr. BE (5)

Country Germany

Region Berlin/Brandenburg

Are there existing filling stations and CNG cars already in the country YES

Results from the case study or feasibility study in each region (D.5.3.1 – 5.3.13)

Remark: For every case study you describe please use one form!

Remember: Executing the case study you will inform customers about the advantages of CNG and gas driven vehicles. Furthermore you will give advice to change their fleet to CNG. Doing so you will find out the barriers and solutions to overcome these barriers.

1. In total how many case studies had been executed in the region (from 01.09.07 - 30.08.2009)?

List Nr: 2 (further
has done in
february 2010)

2. This is case study Nr. 1

3. Name and contact details of the company/client you executed the case study:

| | |
|-----------------------------|--|
| Company/Institution: | Mercedeoel-Feuerungsbau GmbH <i>(For example: Taxi company 878)</i> |
| Target group: | private fleet owners <i>(For example: public/private fleet owners, municipalities...)</i> |
| Field of business: | heating & sanitary <i>(For example: delivery service, taxies, companies, bakery...)</i> |
| Activity: | Installation & repair services <i>(Short description what the company/institution does)</i> |
| Address: | Hauptstraße 56-60 |
| Contact Person: | Jörg Dickhoff |
| Contact details: | info@mercedesoel-berlin.de 030/9160000 <i>(Tel., fax, email, homepage)</i> |

4. Short description of the client (amount of cars in operation, why to change to CNG)

Amount of actual cars per fleet: *50 transporter, 15 cars*

List type of cars per fleet: e.g. *Opel Zafira, Diesel*

| | |
|------------------------------------|--------------|
| ■ Mercedes Sprinter (30) | Fuel: Diesel |
| ■ VW T5 Transporter (20) | Fuel: Diesel |
| ■ VW Passat (3) | Fuel: Diesel |
| ■ Mercedes Sprinter (3 units); CNG | Fuel: LPG |
| ■ Vw Polo (12) | Fuel: Diesel |
| ■ | Fuel: Diesel |

Time frame of changing cars per fleet: *every 3-5 years
(e.g. each 2 years or 260.000 km)*

Evaluate possibility to change to CNG per fleet: *40 %
(e.g. 50 %)*

Motivation/Barriers to change per fleet: *(e.g. save fuel costs)*

economical & ecological advantage, Save fuelling costs
barriers is the availability of CNG at all filling stations

5. Describe shortly the case study/feasibility study you executed:

How many new CNG cars were needed and which type of cars?

15 Mercedes Sprinter; 6 VW Transporter T5 during the next year

Describe the problems and barriers YOU had to deal with?

availability of gas filling stations is not given everywhere (especially in rural regions)

Which solutions had been taken to overcome these barriers?

advice to download gas filling stations on navigation system

Were there any incentives you gave *(e.g. fuel voucher, free service, after sales activities?)*

biomethane brochure

Did you inform about financial support possibilities? Are there any financial support possibilities in your country to boost CNG cars?

financial support by GASAG is well known

What was your major action – how could you motivate the company/client to switch to CNG cars?

description of Biomethane (Sustainability; CO₂-savings)

Which helpful tools did you use to execute the feasibility study?

Datenerhebungsblatt, Biomethane brochure

Are there any activities after the purchase of CNG cars? (e.g. after sales activities)

invitation to CNG-Biomethane information day

6. Give a short ECONOMIC OVERVIEW with the basic facts:

Fuel cost savings: advise on computation tool on <http://www.erdgasfahrzeuge.de>

Total cost savings (investment costs, fuel costs taxes):

Cost of converting cars to CNG if appropriate:

Milage/km per year:

Expected useful life:

Does the customer get financial support from the government/country?

Reductions of CO₂ emissions:

7. Your conclusions and recommendations?

Mention shortly:

This fleet owner knows the advantages of CNG cars. We have detailed inform him about Biomethane what he didn't know before. In the Future he will buy more CNG-cars.

8. Any other general remarks/comments/information from your side?

Feel free to add what you think is important and might not fit into the above questions:

Further feasibility studies were done end of February 2010. The time lag is the result of the shift of the opening of biomethane facility in Rathenow.


WP 5

Results from case study or feasibility study in each region

D.5.3.11 Nbr 2

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Del. 5.3.1-5.3.13

Partner Nr. BE (5)

Country Germany

Region Berlin/Brandenburg

Are there existing filling stations and CNG cars already in the country YES

Results from the case study or feasibility study in each region (D.5.3.1 – 5.3.13)

Remark: For every case study/feasibility study you describe please use ONE FORM! **Case study** means more that you have a "pilot case" who changed already to CNG while **feasibility study** focuses on the investigation of the possibility to switch to CNG right now.

Remember: Executing the feasibility study you will inform customers about the advantages of CNG and gas driven vehicles. Furthermore you will give advice to change their fleet to CNG. Doing so you will find out the barriers and solutions to overcome these barriers.

1. In total how many case studies/feasibility study had been executed in the region (from 01.09.07 - 20.08.2009)?

| |
|------------------------------|
| List Nr: 2 case studies |
| List Nr: feasibility studies |

2. This is case study study Nr. 2 please fill in the reporting date: 25.11.2009

3. This is feasibility study Nr. please fill in the reporting date:

4. Name (Title) of this case study/feasibility study: Consultancy ITDZ

5. How was the case study/feasibility study selected? According to which criteria? (Why this fleet and not another?)

Consultancy according climate protection agreement

6. Would this case study/feasibility study also take place without the input from MADEGASCAR?

no YES or No

(please specify; e.g. was already planned before; existed or started before etc.)

7. Name and contact details of the company/client you executed the case study/feasibility study:

| | |
|-----------------------------|--|
| Company/Institution: | IT-Dienstleistungszentrum Berlin (For example: Taxi company 878) |
| | private (please specify - public or private) |
| Target group: | fleet owners (For example: fleet owners, municipalities...) |
| Field of business: | IT-services (For example: delivery service, taxies, companies, bakery...) |
| Activity: | IT-services for public administration (Short description what the company/institution does) |
| Address: | Berliner Straße 112 - 115 10713 Berlin |
| Contact Person: | Herr Stumpf |
| Contact details: | Tel.: +49 30 90222-0 info@itdz-berlin.de (Tel., fax, email, homepage) |

8. Short description of the client (amount of cars in operation, why to change to CNG)

| | |
|---|--|
| Amount of actual cars per fleet: | |
| List type of cars per fleet: e.g. Opel Zafira, Diesel | |
| ■ Opel Astra (10x) | Fuel: Gasoline |
| ■ | Fuel: Diesel |
| ■ | Fuel: Diesel |
| ■ | Fuel: Diesel |
| ■ | Fuel: Diesel |
| ■ | Fuel: Diesel |
| Time frame of changing cars per fleet: | each 3 years e.g. each 2 years or 260.000 km) |
| Evaluate possibility to change to CNG per fleet: | 100 % in the next 3 years (e.g. 50 %) |
| Motivation/Barriers to change per fleet: (e.g. save fuel costs) | |
| save fule costs, ecological advantages | |

9. Describe shortly the case study/feasibility study you executed:

How many new CNG cars were needed and which type of cars?
two during the next year, decision between VW-Caddy and Ford Focus is still open

Total investment costs for new cars: leasing Euro

Was there a public tender for the acquisition of cars or was it a direct contact?
direct contact

Describe the problems and barriers YOU had to deal with?
There was a kind of uncertainty regarding the availability of CNG-cars as leasing cars.

Which solutions had been taken to overcome these barriers?
We gave some information about leasing companies which deal with CNG-cars, i.e. LHS Leasing- und Handelsgesellschaft mbH in Potsdam

Were there any incentives you gave (e.g. fuel voucher, free service, after sales activities?)
biomethane brochure

Did you inform about financial support possibilities? Are there any financial support possibilities in your country to boost CNG cars?
yes of course (GASAG support)

What was your major action – how could you motivate the company/client to switch to CNG?
ecological advantages CO2-savings

Which helpful tools did you use to execute the feasibility study?
CO2-calculation

Did you make use of a third party or other actors? (e.g. car dealers, vehicle manufacturer)
no If YES please specify if public or private and give contact details:

Are there any activities after the purchase of CNG cars? (e.g. after sales activities)
Invitation to the CNG-biomethane information day on 26.02.2010

How long did it take to execute the case study/feasibility study? 1 hour

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

When did the case study/feasibility study start? 25.11.2009

When will it be finished? 27.11.2009

Estimate the number of hours you spent on this case study/feasibility study
10 hours

How much did it cost to execute this case study/feasibility study?

10. Give a short ECONOMIC OVERVIEW with the basic facts:

| |
|--|
| Fuel cost savings: 8.000 €/a |
| Total cost savings (investment costs, fuel costs, taxes etc.): between 8 and 10.000 €/a (depending on car) |
| Cost of converting cars to CNG if appropriate: |
| Milage/km per year: about 15.000 km/a and car |
| Expected useful life: |
| Does the customer get financial support from the government/country? no |
| Reductions of CO ₂ emissions: about 6 t/a |

11. Your conclusions and recommendations?

| |
|--|
| Mention shortly: |
| The management board was very open to CNG-cars and especially to biomethane. They want to lease two cars for testing. When they make positive experience they can imagine to switch the whole fleet to CNG-cars. |

12. Any other general remarks/comments/information from your side?

| |
|---|
| <i>Feel free to add what you think is important and might not fit into the above questions:</i> |
|---|


WP 5

Results from case study or feasibility study in each region

D.5.3.11 Nbr 3

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Del. 5.3.1-5.3.13

Partner Nr. BE (5)

Country Germany

Region Berlin/Brandenburg

Are there existing filling stations and CNG cars already in the country YES

Results from the case study or feasibility study in each region (D.5.3.1 – 5.3.13)

Remark: For every case study you describe please use one form!

Remember: Executing the case study you will inform customers about the advantages of CNG and gas driven vehicles. Furthermore you will give advice to change their fleet to CNG. Doing so you will find out the barriers and solutions to overcome these barriers.

1. In total how many case studies had been executed in the region (from 01.09.07 - 30.08.2009)?

List Nr: 3

2. This is case study Nr. 3

3. Name and contact details of the company/client you executed the case study:

| | |
|-----------------------------|--|
| Company/Institution: | V.V. Vertriebsvereinigung (For example: Taxi company 878) |
| Target group: | private fleet owners (For example: public/private fleet owners, municipalities...) |
| Field of business: | delivery services (For example: delivery service, taxies, companies, bakery...) |
| Activity: | delivery of newspapers and journals in Berlin (Short description what the company/institution does) |
| Address: | Egelingzeile 6 12103 Berlin |
| Contact Person: | Herr Meiselbach |
| Contact details: | imeiselbach@vvberlin.de 030/75484896 (Tel., fax, email, homepage) |

4. Short description of the client (amount of cars in operation, why to change to CNG)

Amount of actual cars per fleet: *30 transporter*

List type of cars per fleet: e.g. *Opel Zafira, Diesel*

| | |
|-------------------------|----------------|
| ■ Mercedes Sprinter (12 | Fuel: Diesel |
| ■ Skoda Roomster | Fuel: Gasoline |
| ■ | Fuel: Diesel |
| ■ | Fuel: Diesel |
| ■ | Fuel: Diesel |
| ■ | Fuel: Diesel |

Time frame of changing cars per fleet: *every 4-7 years*
(e.g. each 2 years or 260.000 km)

Evaluate possibility to change to CNG per fleet: *30 %*
(e.g. 50 %)

Motivation/Barriers to change per fleet: *(e.g. save fuel costs)*

economical & ecological advantage
barriers is the availability of CNG at all filling stations, range, development of CNG prices

5. Describe shortly the case study/feasibility study you executed:

How many new CNG cars were needed and which type of cars?

12 Mercedes Sprinter; 3 Skoda Roomster during the next year

Describe the problems and barriers YOU had to deal with?

availability of gas filling stations is not given everywhere, not the same driving performance, higher costs for repair services

Which solutions had been taken to overcome these barriers?

map of gas filling stations, explanation of saving costs

Were there any incentives you gave *(e.g. fuel voucher, free service, after sales activities?)*

biomethane brochure

Did you inform about financial support possibilities? Are there any financial support possibilities in your country to boost CNG cars?

financial support by GASAG

What was your major action – how could you motivate the company/client to switch to CNG cars?

description of Biomethane (Sustainability; CO2-savings)

Which helpful tools did you use to execute the feasibility study?

Datenerhebungsblatt, Biomethane brochure

Are there any activities after the purchase of CNG cars? (e.g. after sales activities)

invitation to CNG-Biomethane information day

6. Give a short ECONOMIC OVERVIEW with the basic facts:

Fuel cost savings: 30 ct compared with use of 1 l diesel

Total cost savings (investment costs, fuel costs taxes):

Cost of converting cars to CNG if appropriate:

Milage/km per year:

Expected useful life:

Does the customer get financial support from the government/country?

Reductions of CO² emissions: CNG: 46,6 t CO₂/a and BioCNG20: 55,5 t CO₂/a

7. Your conclusions and recommendations?

Mention shortly:

This fleet owner is not convinced about the technic. We have detailed inform him about CNG and Biomethane what he didn't know before. The next car he will buy a CNG-car to test.

8. Any other general remarks/comments/information from your side?

Feel free to add what you think is important and might not fit into the above questions:


WP 5

Results from case study or feasibility study in each region

D.5.3.11 Nbr 4

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Del. 5.3.1-5.3.13

Partner Nr. BE (5)

Country Germany

Region Berlin/Brandenburg

Are there existing filling stations and CNG cars already in the country YES

Results from the case study or feasibility study in each region (D.5.3.1 – 5.3.13)

Remark: For every case study you describe please use one form!

Remember: Executing the case study you will inform customers about the advantages of CNG and gas driven vehicles. Furthermore you will give advice to change their fleet to CNG. Doing so you will find out the barriers and solutions to overcome these barriers.

1. In total how many case studies had been executed in the region (from 01.09.07 - 30.08.2009)?

List Nr: 4

2. This is case study Nr. 4

3. Name and contact details of the company/client you executed the case study:

| | |
|-----------------------------|--|
| Company/Institution: | Bezirksamt Mitte Berlin <i>(For example: Taxi company 878)</i> |
| Target group: | municipality <i>(For example: public/private fleet owners, municipalities...)</i> |
| Field of business: | <i>(For example: delivery service, taxies, companies, bakery...)</i> |
| Activity: | <i>(Short description what the company/institution does)</i> |
| Address: | Karl-Marx-Allee 31 10187 Berlin |
| Contact Person: | Herr Fitkau |
| Contact details: | t.fitkau@ba-mitte.verwaltung-berlin.de 030/901822310 <i>(Tel., fax, email, homepage)</i> |

4. Short description of the client (amount of cars in operation, why to change to CNG)

| | |
|---|-----------------------------------|
| Amount of actual cars per fleet: <i>5 cars, 1 transporter</i> | |
| List type of cars per fleet: e.g. <i>Opel Zafira, Diesel</i> | |
| ■ 4 x Opel Corsa Eco | Fuel: Gasoline |
| ■ 1 x Ford Fusion | Fuel: Gasoline |
| ■ 1 x VW T5 | Fuel: Diesel |
| ■ | Fuel: Diesel |
| ■ | Fuel: Diesel |
| ■ | Fuel: Diesel |
| Time frame of changing cars per fleet: <i>every 2-3 years</i> <i>(e.g. each 2 years or 260.000 km)</i> | |
| Evaluate possibility to change to CNG per fleet: | <i>80 %</i> <i>(e.g. 50 %)</i> |
| Motivation/Barriers to change per fleet: (e.g. <i>save fuel costs</i>) | |
| economical & ecological advantage | |
| barriers are the availability of CNG at all filling stations and range | |

5. Describe shortly the case study/feasibility study you executed:

How many new CNG cars were needed and which type of cars?

three cars were needed: Suggestion: Fiat Grande Punto Natural Power, VW Caddy Eco Fuel, Ford Focus CNG

Describe the problems and barriers YOU had to deal with?

availability of gas filling stations is not given everywhere

Which solutions had been taken to overcome these barriers?

map of gas filling stations, explanation of saving costs and CO₂-emissions; gave a contact person from Gas supplier for more detailed questions

Were there any incentives you gave (e.g. *fuel voucher, free service, after sales activities?*)

biomethane brochure

Did you inform about financial support possibilities? Are there any financial support possibilities in your country to boost CNG cars?

financial support by GASAG

What was your major action – how could you motivate the company/client to switch to CNG cars?

description of Biomethane (Sustainability; CO₂-savings)

Which helpful tools did you use to execute the feasibility study?

Datenerhebungsblatt, Biomethane brochure; Excel tool for computation of CO₂-savings

Are there any activities after the purchase of CNG cars? (e.g. after sales activities)

6. Give a short ECONOMIC OVERVIEW with the basic facts:

Fuel cost savings: 60 ct compared with use of gasoline, 30 ct compared with use of diesel

Total cost savings (investment costs, fuel costs taxes):

Cost of converting cars to CNG if appropriate:

Milage/km per year:

Expected useful life:

Does the customer get financial support from the government/country?

Reductions of CO² emissions: CNG: 11 t CO₂/a and BioCNG20: 12,7 t CO₂/a

7. Your conclusions and recommendations?

Mention shortly:

The municipality was very open to change their fleet to CNG/BioCNG20.

8. Any other general remarks/comments/information from your side?

Feel free to add what you think is important and might not fit into the above questions:


WP 5

Results from case study or feasibility study in each region

D.5.3.5 Nbr 1

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Del. 5.3.1-5.3.13

Partner Nr. San Valero (6)

Country Spain

Region Aragon/La Rioja/Castilla y Leon

Are there existing filling stations and CNG cars already in the country YES

Results from the case study or feasibility study in each region (D.5.3.1 – 5.3.13)

Remark: For every case study/feasibility study you describe please use ONE FORM! **Case study** means more that you have a "pilot case" who changed already to CNG while **feasibility study** focuses on the investigation of the possibility to switch to CNG right now.

Remember: Executing the feasibility study you will inform customers about the advantages of CNG and gas driven vehicles. Furthermore you will give advice to change their fleet to CNG. Doing so you will find out the barriers and solutions to overcome these barriers.

1. In total how many case studies/feasibility study had been executed in the region (from 01.09.07 - 20.08.2009)?

| |
|--------------------------------|
| List Nr: case studies |
| List Nr: 1 feasibility studies |

2. This is case study study Nr. please fill in the reporting date:
3. This is feasibility study Nr. 1 please fill in the reporting date: 06/08/2009
4. Name (Title) of this case study/feasibility study: CNG BUSES INCORPORATION TO NON URBAN ROUTE
5. How was the case study/feasibility study selected? According to which criteria? (Why this fleet and not another?)

It was a direct result of networking in Spain, arisen from the stakeholders integrating the Spanish network.
The criteria was to demonstrate the CNG potential for buses taking intermediate distance routes and the lack of gas filling stations in the area for the public in general.

6. Would this case study/feasibility study also take place without the input from MADEGASCAR?

No, it is a direct result from Madegascar
YES or No

(please specify; e.g. was already planned before; existed or started before etc.)

7. Name and contact details of the company/client you executed the case study/feasibility study:

| | |
|-----------------------------|--|
| Company/Institution: | Alosa bus company (For example: Taxi company 878) |
| | Private (please specify - public or private) |
| Target group: | Bus companies (For example: fleet owners, municipalities...) |
| Field of business: | Transport of passengers (For example: delivery service, taxies, companies, bakery...) |
| Activity: | Interurban transport of passengers (Short description what the company/institution does) |
| Address: | Carretera de Huesca, Ciudad del Transporte, km. 7,5 50820 ZARAGOZA |
| Contact Person: | José Ramón Lasierra |
| Contact details: | Tel + 34 976 150 283 jr.lasierra@lasierra.es. Home page: alosa.es (Tel., fax, email, homepage) |

8. Short description of the client (amount of cars in operation, why to change to CNG)

Amount of actual cars per fleet: *150 buses*

List type of cars per fleet: e.g. *Opel Zafira, Diesel*

| | |
|----------------|--------------|
| ■ 20 Scania | Fuel: Diesel |
| ■ 100 Mercedes | Fuel: Diesel |
| ■ 20 Iveco | Fuel: Diesel |
| ■ | Fuel: Diesel |
| ■ | Fuel: Diesel |
| ■ | Fuel: Diesel |

Time frame of changing cars per fleet: Each 1.000.000 km
e.g. *each 2 years or 260.000 km*)

Evaluate possibility to change to CNG per fleet: *5% in a 5 years time frame*
(e.g. 50 %)

Motivation/Barriers to change per fleet: (e.g. *save fuel costs*)

Motivation: emissions reduction, fuel costs reduction, higher life cycle of the buses. Barriers: space reduction, higher cost, lack of filling points, less power of the engines. .

9. Describe shortly the case study/feasibility study you executed:

How many new CNG cars were needed and which type of cars?

NA

Total investment costs for new cars: Estimated 3.000.000 € in the next 3 years Euro

Was there a public tender for the acquisition of cars or was it a direct contact?

Currently in direct contact phase between the bus company and the bus supplier for analysing a potential purchase .

Describe the problems and barriers YOU had to deal with?

Lack of filling stations.

Technical characteristics (technically more inefficient than gasoil, slower filling system, lower acceleration, ..).

Buses 20% more expensive than the former ones.

Which solutions had been taken to overcome these barriers?

They have not been solved, not yet. The strategy planned is noise pollution reduction, emissions reduction and reinforcement of the institutional image of the company. There is public support too to face the above mentioned barrier, such as support or incentives to purchase buses or to install filling stations.

Were there any incentives you gave (e.g. fuel voucher, free service, after sales activities?)

No

Did you inform about financial support possibilities? Are there any financial support possibilities in your country to boost CNG cars?

Yes. There are public support at regional level and national.

What was your major action – how could you motivate the company/client to switch to CNG?

Successful experiences carried out in other EU countries and the increase of CNG buses for captive fleets. 25%-40% reduction of the fuel cost and longer useful life.

Which helpful tools did you use to execute the feasibility study?

Technical meetings with the key stakeholder involved; buses manufacturer, gas suppliers, promoters of CNG filling stations, public authorities with competences in energy, gas and environment, SWOT analysis.

Did you make use of a third party or other actors? (e.g. car dealers, vehicle manufacturer)

Yes If YES please specify if public or private and give contact details: buses manufacturer, gas suppliers, promoters of CNG filling stations, public authorities with competences in energy, gas and environment

Are there any activities after the purchase of CNG cars? (e.g. after sales activities)

No

How long did it take to execute the case study/feasibility study? 310 hours

What is the current status? (e.g. finished, work in progress) In progress

When did the case study/feasibility study start? March 2008

When will it be finished? December 2009

Estimate the number of hours you spent on this case study/feasibility study

75 hours

How much did it cost to execute this case study/feasibility study?

In progress

10. Give a short ECONOMIC OVERVIEW with the basic facts:

Fuel cost savings: 25%-40% with regard to fueloil.

Total cost savings (investment costs, fuel costs, taxes etc.): It is being analysed.

Cost of converting cars to CNG if appropriate: It foessen converting buses to CNG, but the purchase. The over cost it is estimated around 25%.

Milage/km per year: 50.000 km/year/bus

Expected useful life: 9 years.

Does the customer get financial support from the government/country? Yes

Reductions of CO₂ emissions: 25% / bus substituted

11. Your conclusions and recommendations?

Mention shortly:

There is the need of installing CNG filling points as a first priority.

12. Any other general remarks/comments/information from your side?

Feel free to add what you think is important and might not fit into the above questions:

It is pending to make the decision according to the results of the feasibility study, as well as the carrying out of a pilot action by the stakeholders integrating the Spanish Madegascar network.

The main reason for choosing to work wih buses in the feasibility study is that it has been a direct result of the networking of the Spanish Madegascar network. The key actors have worked together in order to set up innovative projects around the gas market.

In Spain, the reliable data and statistics that have been published, with free access, are related to bus fleets, public transportation. There are many studies on this kind of vehicles but it's difficult to find information about car studies. There are some small test with cars but nor results neither statistics haven't been published. This lack of data makes very difficult to focus our feasibility study on cars.


WP 5

Results from case study or feasibility study in each region

D5.3.5 Nbr 2

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7. Name and contact details of the company/client you executed the case study/feasibility study:

| | |
|-----------------------------|--|
| Company/Institution: | Alosa bus company (For example: Taxi company 878) |
| | Private (please specify - public or private) |
| Target group: | Bus companies (For example: fleet owners, municipalities...) |
| Field of business: | Transport of passengers (For example: delivery service, taxies, companies, bakery...) |
| Activity: | Interurban transport of passengers (Short description what the company/institution does) |
| Address: | Carretera de Huesca, Ciudad del Transporte, km. 7,5 50820 ZARAGOZA |
| Contact Person: | José Ramón Lasierra |
| Contact details: | Tel + 34 976 150 283 jr.lasierra@lasierra.es. Home page: alosa.es (Tel., fax, email, homepage) |

8. Short description of the client (amount of cars in operation, why to change to CNG)

Amount of actual cars per fleet: *150 buses*

List type of cars per fleet: e.g. *Opel Zafira, Diesel*

| | |
|----------------|--------------|
| ■ 20 Scania | Fuel: Diesel |
| ■ 100 Mercedes | Fuel: Diesel |
| ■ 20 Iveco | Fuel: Diesel |
| ■ | Fuel: Diesel |
| ■ | Fuel: Diesel |
| ■ | Fuel: Diesel |

Time frame of changing cars per fleet: Each 1.000.000 km
e.g. *each 2 years or 260.000 km*)

Evaluate possibility to change to CNG per fleet: *5% in a 5 years time frame*
(e.g. 50 %)

Motivation/Barriers to change per fleet: (e.g. *save fuel costs*)

Motivation: emissions reduction, fuel costs reduction, higher life cycle of the buses. Barriers: space reduction, higher cost, lack of filling points, less power of the engines. .

9. Describe shortly the case study/feasibility study you executed:

How many new CNG cars were needed and which type of cars?

NA

Total investment costs for new cars: Estimated 3.000.000 € in the next 3 years Euro

Was there a public tender for the acquisition of cars or was it a direct contact?

Currently in direct contact phase between the bus company and the bus supplier for analysing a potential purchase .

Describe the problems and barriers YOU had to deal with?

Lack of filling stations.

Technical characteristics (technically more inefficient than gasoil, slower filling system, lower acceleration, ..).

Buses 20% more expensive than the former ones.

Which solutions had been taken to overcome these barriers?

They have not been solved, not yet. The strategy planned is noise pollution reduction, emissions reduction and reinforcement of the institutional image of the company. There is public support too to face the above mentioned barrier, such as support or incentives to purchase buses or to install filling stations.

Were there any incentives you gave (e.g. fuel voucher, free service, after sales activities?)

No

Did you inform about financial support possibilities? Are there any financial support possibilities in your country to boost CNG cars?

Yes. There are public support at regional level and national.

What was your major action – how could you motivate the company/client to switch to CNG?

Successful experiences carried out in other EU countries and the increase of CNG buses for captive fleets. 25%-40% reduction of the fuel cost and longer useful life.

Which helpful tools did you use to execute the feasibility study?

Technical meetings with the key stakeholder involved; buses manufacturer, gas suppliers, promoters of CNG filling stations, public authorities with competences in energy, gas and environment, SWOT analysis.

Did you make use of a third party or other actors? (e.g. car dealers, vehicle manufacturer)

Yes If YES please specify if public or private and give contact details: buses manufacturer, gas suppliers, promoters of CNG filling stations, public authorities with competences in energy, gas and environment

Are there any activities after the purchase of CNG cars? (e.g. after sales activities)

No

How long did it take to execute the case study/feasibility study? 310 hours

What is the current status? (e.g. finished, work in progress) In progress

When did the case study/feasibility study start? March 2008

When will it be finished? December 2009

Estimate the number of hours you spent on this case study/feasibility study

75 hours

How much did it cost to execute this case study/feasibility study?

In progress

10. Give a short ECONOMIC OVERVIEW with the basic facts:

Fuel cost savings: 25%-40% with regard to fueloil.

Total cost savings (investment costs, fuel costs, taxes etc.): It is being analysed.

Cost of converting cars to CNG if appropriate: It foessen converting buses to CNG, but the purchase. The over cost it is estimated around 25%.

Milage/km per year: 50.000 km/year/bus

Expected useful life: 9 years.

Does the customer get financial support from the government/country? Yes

Reductions of CO₂ emissions: 25% / bus substituted

11. Your conclusions and recommendations?

Mention shortly:

There is the need of installing CNG filling points as a first priority.

12. Any other general remarks/comments/information from your side?

Feel free to add what you think is important and might not fit into the above questions:

It is pending to make the decision according to the results of the feasibility study, as well as the carrying out of a pilot action by the stakeholders integrating the Spanish Madegascar network.

The main reason for choosing to work wih buses in the feasibility study is that it has been a direct result of the networking of the Spanish Madegascar network. The key actors have worked together in order to set up innovative projects around the gas market.

In Spain, the reliable data and statistics that have been published, with free access, are related to bus fleets, public transportation. There are many studies on this kind of vehicles but it's difficult to find information about car studies. There are some small test with cars but nor results neither statistics haven't been published. This lack of data makes very difficult to focus our feasibility study on cars.

WP 5


Results from case study or feasibility study in each region

D.5.3.6 Nbr 1

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Del. 5.3.1-5.3.123

**Partner Nr. EnergaP (7)
Country Slovenia
Region Podravje**

Are there existing filling stations and CNG cars already in the country NO

Results from the case study or feasibility study in each region (D.5.3.1 – 5.3.13)

Remark: For every case study/feasibility study you describe please use ONE FORM! **Case study** means more that you have a "pilot case" who changed already to CNG while **feasibility study** focuses on the investigation of the possibility to switch to CNG right now.

Remember: Executing the feasibility study you will inform customers about the advantages of CNG and gas driven vehicles. Furthermore you will give advice to change their fleet to CNG. Doing so you will find out the barriers and solutions to overcome these barriers.

1. In total how many case studies/feasibility study had been executed in the region (from 01.09.07 - 20.08.2009)?

| |
|--------------------------------|
| List Nr: case studies |
| List Nr: 2 feasibility studies |

2. This is case study study Nr. please fill in the reporting date:
3. This is feasibility study Nr. 1 please fill in the reporting date: 20.08.2009
4. **Name (Title) of this case study/feasibility study:** Feasibility study for using CNG for TUŠ company
5. **How was the case study/feasibility study selected? According to which criteria? (Why this fleet and not another?)**

The system of using CNG is not known at all in Slovenia. There are also the legal barriers that do not foresee the use of CNG and therefore there is no user that was really interest to do something. Only the company TUŠ was interested to listen more carefully to the idea of madegacar project. All other invited people just answered that there is no legal or financial support and therefore there will be to many problems with the start.

6. **Would this case study/feasibility study also take place without the input from MADEGASCAR?**

NO YES or No

(please specify; e.g. was already planned before; existed or started before etc.)

7. Name and contact details of the company/client you executed the case study/feasibility study:

| | |
|-----------------------------|--|
| Company/Institution: | TUŠ Oil Company (For example: Taxi company 878) |
| | Private (please specify - public or private) |
| Target group: | Filling station owner, fleet owner (For example: fleet owners, municipalities...) |
| Field of business: | filling stations, delivery service (For example: delivery service, taxies, companies, bakery...) |
| Activity: | owner of the filling stations and supermarkets, (Short description what the company/institution does) |
| Address: | ENGROTUŠ d.d., TUŠOIL, Cesta v Trnovlje 10a, 3000 Celje, Slovenia |
| Contact Person: | Mr. Uroš Grešak |
| Contact details: | Tel.: 0038659733139, uros.gresak@tus.si, www.tus.si (Tel., fax, email, homepage) |

8. Short description of the client (amount of cars in operation, why to change to CNG)

Amount of actual cars per fleet: *ca 250 - trucks and personal cars, disel or petrol, many different typs, they did not want to give the exact numbers due to the bussines reasons*

List type of cars per fleet: e.g. *Opel Zafira, Diesel*



Fuel: Diesel
Fuel: Diesel
Fuel: Diesel
Fuel: Diesel
Fuel: Diesel
Fuel: Diesel

Time frame of changing cars per fleet: *diferent
e.g. each 2 years or 260.000 km)*

Evaluate possibility to change to CNG per fleet: *5
(e.g. 50 %)*

Motivation/Barriers to change per fleet: *(e.g. save fuel costs)*

only barriers due to the lack of legislative documents and not technical or financial support from the governments - local or national

9. Describe shortly the case study/feasibility study you executed:

How many new CNG cars were needed and which type of cars?

Total investment costs for new cars: Euro

Was there a public tender for the acquisition of cars or was it a direct contact?

Describe the problems and barriers YOU had to deal with?

Which solutions had been taken to overcome these barriers?

Were there any incentives you gave (e.g. fuel voucher, free service, after sales activities?)

Did you inform about financial support possibilities? Are there any financial support possibilities in your country to boost CNG cars?

What was your major action – how could you motivate the company/client to switch to CNG?

Which helpful tools did you use to execute the feasibility study?

Did you make use of a third party or other actors? (e.g. car dealers, vehicle manufacturer)
If YES please specify if public or private and give contact details:

Are there any activities after the purchase of CNG cars? (e.g. after sales activities)

How long did it take to execute the case study/feasibility study? hours

What is the current status? (e.g. finished, work in progress) They are still interested but the national legislation should be changed in favour of using CNG or biogas

When did the case study/feasibility study start? May 2009

When will it be finished? September 2009

Estimate the number of hours you spent on this case study/feasibility study
20 hours

How much did it cost to execute this case study/feasibility study?
500 EUR

10. Give a short ECONOMIC OVERVIEW with the basic facts:

Fuel cost savings:

Total cost savings (investment costs, fuel costs, taxes etc.):

Cost of converting cars to CNG if appropriate:

Milage/km per year:

Expected useful life:

Does the customer get financial support from the government/country?

Reductions of CO₂ emissions:

11. Your conclusions and recommendations?

Mention shortly:

There is no possibility to have a marketing activities for changing the fleets if there is no CNG filling station or if there is to many legal or financial barriers to build it.

12. Any other general remarks/comments/information from your side?

Feel free to add what you think is important and might not fit into the above questions:

WP 5

Results from case study or feasibility study in each region

D.5.3.6 Nbr 2

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**Partner Nr. EnergaP (7)
Country Slovenia
Region Podravje**

Are there existing filling stations and CNG cars already in the country NO

Results from the case study or feasibility study in each region (D.5.3.1 – 5.3.13)

Remark: For every case study/feasibility study you describe please use ONE FORM! **Case study** means more that you have a "pilot case" who changed already to CNG while **feasibility study** focuses on the investigation of the possibility to switch to CNG right now.

Remember: Executing the feasibility study you will inform customers about the advantages of CNG and gas driven vehicles. Furthermore you will give advice to change their fleet to CNG. Doing so you will find out the barriers and solutions to overcome these barriers.

1. In total how many case studies/feasibility study had been executed in the region (from 01.09.07 - 20.08.2009)?

| |
|--------------------------------|
| List Nr: case studies |
| List Nr: 2 feasibility studies |

2. This is case study study Nr. please fill in the reporting date:
3. This is feasibility study Nr. 2 please fill in the reporting date: 20.08.2009
4. **Name (Title) of this case study/feasibility study:** Feasibility study for using CNG for Municipality of Maribor
5. **How was the case study/feasibility study selected? According to which criteria? (Why this fleet and not another?)**

The system of using CNG is not known at all in Slovenia. There are also the legal barriers that do not foresee the use of CNG and therefore there is no user that was really interest to do something. Municipality of Maribor is supporting the project and want to cooperate.

6. **Would this case study/feasibility study also take place without the input from MADEGASCAR?**

NO YES or No

(please specify; e.g. was already planned before; existed or started before etc.)

7. Name and contact details of the company/client you executed the case study/feasibility study:

| | |
|-----------------------------|---|
| Company/Institution: | Municipality of maribor (For example: Taxi company 878) |
| | Public (please specify - public or private) |
| Target group: | Municipality (For example: fleet owners, municipalities...) |
| Field of business: | City administration (For example: delivery service, taxies, companies, bakery...) |
| Activity: | (Short description what the company/institution does) |
| Address: | Municipality of Maribor, Ul. heroja Staneta 1, 2000 Maribor, Slovenia |
| Contact Person: | Mrs. Gordana Kolesarič |
| Contact details: | Tel.: 0038622201457 gordana.kolesaric@maribor.si, www.maribor.si (Tel., fax, email, homepage) |

8. Short description of the client (amount of cars in operation, why to change to CNG)

| | |
|---|---|
| Amount of actual cars per fleet: | 16 |
| List type of cars per fleet: e.g. Opel Zafira, Diesel | |
| ■ Renault Clio | Fuel: Gasoline |
| ■ Renault Megane | Fuel: Diesel |
| ■ Renault megane | Fuel: Diesel |
| ■ Audi | Fuel: Diesel |
| ■ | Fuel: Diesel |
| ■ | Fuel: Diesel |
| Time frame of changing cars per fleet: | different, app. 7 years e.g. each 2 years or 260.000 km) |
| Evaluate possibility to change to CNG per fleet: | 5 (e.g. 50 %) |
| Motivation/Barriers to change per fleet: (e.g. save fuel costs) | |
| The barriers are the lack of legislative documents and no filling stations. | |

9. Describe shortly the case study/feasibility study you executed:

How many new CNG cars were needed and which type of cars?

Total investment costs for new cars: Euro

Was there a public tender for the acquisition of cars or was it a direct contact?

Describe the problems and barriers YOU had to deal with?

Which solutions had been taken to overcome these barriers?

Were there any incentives you gave (e.g. fuel voucher, free service, after sales activities?)

Did you inform about financial support possibilities? Are there any financial support possibilities in your country to boost CNG cars?

What was your major action – how could you motivate the company/client to switch to CNG?

Which helpful tools did you use to execute the feasibility study?

Did you make use of a third party or other actors? (e.g. car dealers, vehicle manufacturer)
If YES please specify if public or private and give contact details:

Are there any activities after the purchase of CNG cars? (e.g. after sales activities)

How long did it take to execute the case study/feasibility study? hours

What is the current status? (e.g. finished, work in progress) They are still interested but the national legislation should be changed in favour of using CNG or biogas

When did the case study/feasibility study start? May 2009

When will it be finished? August 2009

Estimate the number of hours you spent on this case study/feasibility study
20 hours

How much did it cost to execute this case study/feasibility study?
500 EUR

10. Give a short ECONOMIC OVERVIEW with the basic facts:

Fuel cost savings: Potencialy 10-15% due to the high price of natural gas in Slovenia, but the new CNG cars would be also more efficient, around 2000 EUR per year

Total cost savings (investment costs, fuel costs, taxes etc.):

Cost of converting cars to CNG if appropriate:

Milage/km per year: 131.000 km

Expected useful life: at least 10 years

Does the customer get financial support from the government/country? No

Reductions of CO₂ emissions: 10 t per yer

11. Your conclusions and recommendations?

Mention shortly:

There is no possibility to have a marketing activities for changing the fleets if there is no CNG filling station or if there is to many legal or financial barriers. Also the price of natuarl gas is high. The enviroment is not a crucial factor for changing the fleet.

12. Any other general remarks/comments/information from your side?

Feel free to add what you think is important and might not fit into the above questions:


WP 5

Results from case study or feasibility study in each region

D.5.3.12 Nbr 1

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Del. 5.3.1-5.3.13

Partner Nr. SEVEn (8)

Country Czeck rep.

Region City of Prague, South Bohemia and Pardubice

Are there existing filling stations and CNG cars already in the country YES

Results from the case study or feasibility study in each region (D.5.3.1 – 5.3.13)

Remark: For every case study/feasibility study you describe please use ONE FORM! **Case study** means more that you have a "pilot case" who changed already to CNG while **feasibility study** focuses on the investigation of the possibility to switch to CNG right now.

Remember: Executing the feasibility study you will inform customers about the advantages of CNG and gas driven vehicles. Furthermore you will give advice to change their fleet to CNG. Doing so you will find out the barriers and solutions to overcome these barriers.

1. In total how many case studies/feasibility study had been executed in the region (from 01.09.07 - 20.08.2009)?

| |
|---|
| List Nr: 3 case studies List Nr: 2 feasibility studies |
|---|

2. This is case study study Nr. 1 please fill in the reporting date: 3

3. This is feasibility study Nr. please fill in the reporting date:

4. **Name (Title) of this case study/feasibility study:** Introduction of CNG vehicles into fleet of Prazske sluzby, the waste management system operator in Prague

5. **How was the case study/feasibility study selected? According to which criteria? (Why this fleet and not another?)**

To conduct the case study was done on the grounds that the company approach is exemplary and deserve media attention and support.

6. **Would this case study/feasibility study also take place without the input from MADEGASCAR?**

No YES or No

The decision to procure CNG vehicles was decided before MADEGASCAR start, when the case study was carried out, the company had in its fleet first heavy-duty NGVs and planned to procure furhet ones (please specify; e.g. was already planned before; existed or started before etc.)

7. Name and contact details of the company/client you executed the case study/feasibility study:

| | |
|-----------------------------|---|
| Company/Institution: | Prazske sluzby a.s. <i>(For example: Taxi company 878)</i> public <i>(please specify - public or private)</i> |
| Target group: | municipalities <i>(For example: fleet owners, municipalities...)</i> |
| Field of business: | technical services in the field of waste management, street cleaning, public greenery maintenance, traffic sign production <i>(For example: delivery service, taxies, companies, bakery...)</i> |
| Activity: | The company is the waste management system operator in the capital city of Prague securing waste collection and disposal, street cleaning, maintenance of public greenery, traffic sign production and installation <i>(Short description what the company/institution does)</i> |
| Address: | Pod Šancemi 444/1, 180 77 Praha 9 |
| Contact Person: | František Sedláček |
| Contact details: | Tel.: 420 284 091 181 Email::sedlacekf@psas.cz <i>(Tel., fax, email, homepage)</i> |

8. Short description of the client (amount of cars in operation, why to change to CNG)

Amount of actual cars per fleet: 180

List type of cars per fleet: e.g. *Opel Zafira, Diesel*

- | | |
|--|--------------|
| ■ Lorries for waste collection (100) | Fuel: Diesel |
| ■ Street cleaning HD vehicles (30) | Fuel: Diesel |
| ■ Light-duty vehicles with tipping body (20) | Fuel: Diesel |
| ■ Passenger cars (30) | Fuel: Diesel |
| ■ | Fuel: Diesel |
| ■ | Fuel: Diesel |

Time frame of changing cars per fleet: 6-7 years
e.g. *each 2 years or 260.000 km*)

Evaluate possibility to change to CNG per fleet: 30
(e.g. 50 %)

Motivation/Barriers to change per fleet: (e.g. *save fuel costs*)

The primary motivation is to contribute to the better city environment, lower running costs only offset higher initial investment costs.

9. Describe shortly the case study/feasibility study you executed:

How many new CNG cars were needed and which type of cars?

The company has set a goal that as much as 50 heavy-duty vehicles in its corporate fleet could be switched onto CNG. The study evaluated the 180/S12-166795 Mercedes-Benz models. Positive experience with diesel-based vehicles manufactured by MERCEDES-BENZ then led to the procurement of also CNG variants of this car manufacturer. The first five CNG lorries for waste collection and street cleaning appeared on roads at the beginning of 2008 (Mercedes-Benz Econic) in 2008 and the fleet was being further extended to reach 21 at the end of 2009 (including also smaller utility vehicles with tipping body).

Total investment costs for new cars: 4000000 Euro

Was there a public tender for the acquisition of cars or was it a direct contact?

No, because of good experience with cars of the given car manufacturer, cars were procured directly in several rounds.

Describe the problems and barriers YOU had to deal with?

Our role has been to calculate at which price difference between diesel and CNG the procurement of NGVs, which are generally more expensive (one model opposed to a conventional diesel variant costs about 40 thous. EUR more), will be for the fleet owner at least economic neutral.

Which solutions had been taken to overcome these barriers?

The calculations carried out disclosed that the CNG vehicles would have to travel as much as 200 thous. kilometres before the higher investment costs were repaid from fuel costs savings at present price difference between diesel and CNG. That represents repay-back period of about 4-5 years of operation which is moreless equivalent to the current average lifetime of the fleet. Any unfavourable change in running costs would only worsen this economic effectiveness. Although the savings of emissions could justify the transition to CNG even at these economic conditions, it has been anyway recommended to look for additional source of revenues or costs savings to really achieve the overall positive economic balance in order to avoid arguments against this proposed vehicle fleet renewal. Therefore, it was recommended to the Prague City Administration, as the major owner of the company Prazske sluzby, to provide a partial subsidy to lower the initial investment costs. And this was finally approved and subsidies provided then.

Were there any incentives you gave (e.g. fuel voucher, free service, after sales activities?)

No, we only help their negotiation with the Prague City Administration.

Did you inform about financial support possibilities? Are there any financial support possibilities in your country to boost CNG cars?

Yes, as mentioned already above, the provision of financial subsidies for procurement NGVs was proposed in one of the conceptual documents which was finally approved by the City Administration.

What was your major action – how could you motivate the company/client to switch to CNG?

The beneficiency of NGVs especially compared to diesel-based cars was mentioned in discussions with the City Administration representatives and documented by the prospective savings of emissions.

Which helpful tools did you use to execute the feasibility study?

Excel sheets with the calculations of emissions savings, difference in fuel costs and resulting economic effectiveness taking into consideration higher initial costs of procurement of NGVs.

Did you make use of a third party or other actors? (e.g. car dealers, vehicle manufacturer)

No If YES please specify if public or private and give contact details:

Are there any activities after the purchase of CNG cars? (e.g. after sales activities)

Not aware

How long did it take to execute the case study/feasibility study? 20 hours

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

When did the case study/feasibility study start? 7/2008

When will it be finished? 7/2008

Estimate the number of hours you spent on this case study/feasibility study

20 hours

10. Give a short ECONOMIC OVERVIEW with the basic facts:

Fuel cost savings: 150 000 EUR/a (for 20 NGVs)

Total cost savings (investment costs, fuel costs, taxes etc.): - 800 thous. EUR additional investment costs, 150 thous. EUR/a fuel costs savings, 2 thous. EUR/a road tax exemption

Cost of converting cars to CNG if appropriate:

Milage/km per year: 500 thous. km (for 20 vehicles)

Expected useful life: 10

Does the customer get financial support from the government/country? From the city

Reductions of CO₂ emissions: Heavy-duty vehicles running on CNG have higher fuel consumption (expressed in kWh/km) to the extent which may lead to the same or even bigger CO₂ emissions.

11. Your conclusions and recommendations?

Mention shortly:

The repay-back period of additional costs of procurement of CNG-based HD vehicles is quite long and should be, ideally, shortened for the investors by some forms of subsidies to make the investment more attractive. Here the indispensable role should play the public sector which may either via taxation reductions or via provision investment subsidies achieve that effect. The reward is then cleaner vehicles on the road.

12. Any other general remarks/comments/information from your side?

Feel free to add what you think is important and might not fit into the above questions:

WP 5

Results from case study or feasibility study in each region

D.5.3.12 Nbr 2

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7. Name and contact details of the company/client you executed the case study/feasibility study:

| | |
|-----------------------------|---|
| Company/Institution: | Dopravni podnik hl. m. Prahy a.s. <i>(For example: Taxi company 878)</i> |
| | public <i>(please specify - public or private)</i> |
| Target group: | representative of the Prague City Administration as well as of the public transport operator <i>(For example: fleet owners, municipalities...)</i> |
| Field of business: | public transportation <i>(For example: delivery service, taxies, companies, bakery...)</i> |
| Activity: | The company is the operator of the public transportation system in the capital city of Prague having more than 2.7 thousand kilometres long lines serviced by metro, trams and buses. Buses lines represent the large majority (2.2 thousand kilometres, 190 lines) and are operated by a robust fleet of more than 1.4 thousand buses. <i>(Short description what the company/institution does)</i> |
| Address: | Sokolovská 217/42, 190 22 Praha 9 |
| Contact Person: | Vaclav Beranek |
| Contact details: | Tel.: 420 296 133 230 Email: BeranekV@dpp.cz <i>(Tel., fax, email, homepage)</i> |

8. Short description of the client (amount of cars in operation, why to change to CNG)

Amount of actual cars per fleet: 1400

List type of cars per fleet: e.g. *Opel Zafira, Diesel*

| | |
|----------------------------|--------------|
| ■ Buses (EURO I - EURO IV) | Fuel: Diesel |
| ■ | Fuel: Diesel |
| ■ | Fuel: Diesel |
| ■ | Fuel: Diesel |
| ■ | Fuel: Diesel |
| ■ | Fuel: Diesel |

Time frame of changing cars per fleet: 10-12 years
e.g. *each 2 years or 260.000 km*)

Evaluate possibility to change to CNG per fleet: 15
(e.g. 50 %)

Motivation/Barriers to change per fleet: (e.g. *save fuel costs*)

The introduction of CNG-run buses into the bus fleet of Dopravni podnik hl. m. Prahy was subject of discussions from the early 2000s. The managing staff of the company was opposing this on the grounds that negative (economic, operational, safety) aspects will outweigh positive (environmental) ones. Therefore, for that reason, it was worked a comprehensive feasibility study by SEVEN assessing ecologic, economic, operational, safety and strategic aspects of giving the green light to buses on CNG instead of conventional diesel. To bring an objective view which could be utilized in further negotiations led between city administration representatives and the management of the company on this issue.

9. Describe shortly the case study/feasibility study you executed:

How many new CNG cars were needed and which type of cars?

The company technical staff conditioned the introduction of CNG buses by, ideally, the switch of one whole bus depot which comprises 150-200 buses. The study was made for the technical and economic conditions of (gradual) procurement of such a number of buses. For model calculations were considered buses Karosa Citelis 12M CNG offered by Iris Iveco Group. These buses perform well in urban operation, have low emissions of NOx, PM and other pollutants including of CO2 when the most advance motors with stoichiometric burning ratio are used.

Total investment costs for new cars: 50 mil. Euro

Was there a public tender for the acquisition of cars or was it a direct contact?

Ultimately there was (after conclusion of the study, however)

Describe the problems and barriers YOU had to deal with?

As already metioned, introduction of CNG-run buses can not be looked at only from the environmental point of view, but must take into consideration also economic efficiency which is of utmost importance for public transport operator, but also safety issues (more demanding garaging of NGVs) and strategic view influenced by the fast technology development (short avaiibility of diesel-based engines fulfilling limits of not only EURO V but even EEV, commercial introduction of hybrids, electric vehicles etc.). All these aspects could not be neglected and had to be dealt with since the opposition (the operator technical staff) were using them as the argument why CNG is not the right choice.

Which solutions had been taken to overcome these barriers?

The most important was for the bus operator the fact that a possible preference of CNG- before diesel-based buses will ultimately prove economic. The calculations carried out disclosed that at present price difference between diesel and CNG as much as 450 thous. kilometres would be needed in order higher investment costs of CNG model of bus were repaid from fuel costs savings. That represents repay-back period of about 7 years of operation which is quite long, moreless equivalent to the average lifetime of the buses in the fleet. Although the savings of emissions could justify the transition to CNG even at these economic conditions, it has been anyway recommended to look for additional source of financing, ideally in the way, that the additional procurement costs would be decreased by at least 30-40 %. Only then can be guaranteed that volatile prices of CNG and diesel will not threaten the ultimate positive economic balance which is for the bus operator critical precondition. The other observed criteria (safety, operatioal, strategic) were evaluated as not disadvantegous for the operator to the extent which would justify refusal of CNG buses and were proposed measures to minimize them.

Were there any incentives you gave (e.g. fuel voucher, free service, after sales activities?)

No, the study was the only official output and served as already mentioned for further discussion on beneficiency of CNG introduction into Prague public transportation.

Did you inform about financial support possibilities? Are there any financial support possibilities in your country to boost CNG cars?

Yes, in the report were proposed two investment subsidies programmes, one administered by the Ministry of Transport, the other by RWE Transgas, the major gas supplier in the country. The volume of possible support, however, would be for the Prague public transport operator limited to several buses. Higher specific investment costs would be also possible reduce via the purchase of more buses at once.

What was your major action – how could you motivate the company/client to switch to CNG?

Hard to say, our contribution was that we took into consideration all the related aspects and evaluated their importnace and influence. That made the study well balanced and, hopefully, objective. The ultimate decision whether to vote for CNG laid with the management of Dopravni podnik hl. m. Prahy and its founder and owner, the Prague City Administration.

Which helpful tools did you use to execute the feasibility study?

Excel sheets with the calculations of emissions savings, difference in fuel costs and resulting economic effectiveness taking into consideration higher initial costs of procurement of NGVs.

Did you make use of a third party or other actors? (e.g. car dealers, vehicle manufacturer)

No If YES please specify if public or private and give contact details:

Are there any activities after the purchase of CNG cars? (e.g. after sales activities)

There were no vehicles purchased based on or after conduction of the study. When the study was completed, there was made by some Page 5 of 6 institution an in-depth asseement of the contribution of one bus depo on CNG (100-150 buses) on the local air quality. The conclusions unfortunately were not so positive as expected originally. Afterwards, a big tender for procurement of 600 new buses was announced in which finally the applicant offering diesel-

10. Give a short ECONOMIC OVERVIEW with the basic facts:

| |
|---|
| <p>Fuel cost savings: 600.000 EUR/a</p> <p>Total cost savings (investment costs, fuel costs, taxes etc.):</p> <p>Cost of converting cars to CNG if appropriate: - 5 mil. EUR additional investment costs, 600 thous. EUR/a fuel costs savings, 125 thous. EUR/a road tax exemption</p> <p>Milage/km per year: 7.500.000</p> <p>Expected useful life: 10-12 years</p> <p>Does the customer get financial support from the government/country? -</p> <p>Reductions of CO₂ emissions: Buses running on CNG have higher fuel consumption (expressed in kWh/km) to the extent which may lead to the same or even bigger CO₂ emissions compared to conventional diesel-based buses.</p> |
|---|

11. Your conclusions and recommendations?

| |
|---|
| <p>Mention shortly:</p> <p>The repay-back period of additional costs of procurement of CNG-based buses is quite long and should be, ideally, shortened for the investors by some forms of subsidies to make the investment more attractive. Here the indispensable role should play the public sector which may either via taxation reductions or via provision investment subsidies achieve that effect. If not, bus operators are very reluctant to diversify their fleets by different models on different fuels.</p> |
|---|

12. Any other general remarks/comments/information from your side?

| |
|--|
| <p><i>Feel free to add what you think is important and might not fit into the above questions:</i></p> |
|--|


WP 5

Results from case study or feasibility study in each region

D.5.3.12 Nbr 3

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7. Name and contact details of the company/client you executed the case study/feasibility study:

| | |
|--|--|
| Company/Institution: | LeasePlan ČR, s.r.o. <i>(For example: Taxi company 878)</i> |
| | private <i>(please specify - public or private)</i> |
| Target group: of the company | various public/private corporate car fleet operators which are customers <i>(For example: fleet owners, municipalities...)</i> |
| Field of business: | car leasing company <i>(For example: delivery service, taxies, companies, bakery...)</i> |
| Activity: | The company is the country's leading provider of operational leasing services, i.e. offers the external administration of corporate car fleets, currently having totally over 21 thous. vehicles mostly passenger cars and commercial light-duty vehicles. <i>(Short description what the company/institution does)</i> |
| Address: | Bucharova 1423/6, 158 00 Praha 13 |
| Contact Person: | Tomas Bursik |
| Contact details: | Tel.: 420 222 829 210 Email: Tomas.Bursik@leaseplan.cz <i>(Tel., fax, email, homepage)</i> |

8. Short description of the client (amount of cars in operation, why to change to CNG)

Amount of actual cars per fleet: 21000

List type of cars per fleet: e.g. *Opel Zafira, Diesel*

- | | |
|---|----------------|
| ■ Passenger cars, different models | Fuel: Diesel |
| ■ Passenger cars, different models | Fuel: Gasoline |
| ■ Commercial vehicles, different models | Fuel: Diesel |
| ■ | Fuel: Diesel |
| ■ | Fuel: Diesel |
| ■ | Fuel: Diesel |

Time frame of changing cars per fleet: 4-5 years
e.g. *each 2 years or 260.000 km)*

Evaluate possibility to change to CNG per fleet: *N/A*
(e.g. 50 %)

Motivation/Barriers to change per fleet: (e.g. *save fuel costs*)

The LeasePlan company is running a worldwide program named GreenPlan aimed at providing its customers with information about negative impacts their car fleets have onto the environment. In the framework of the GreenPlan, there is being monitored fuel consumption and underlying CO₂ emissions of each car in the given corporate fleet and made comparison to the reference values using the energy label with A-G classes. The customers are then advised how they can improve their current standing. To do so, the Czech branch of LeasePlan contracted SEVEN to help with proposing possible CO₂ mitigation measures. As part of this study there was among other also analyzed contribution which can be achieved by introducing CNG passenger cars into corporate fleets - both in terms of reduced fuel consumption and CO₂ arising from it but also economic efficiency of preference of CNG models opposed diesel- or petrol-based cars.

9. Describe shortly the case study/feasibility study you executed:

How many new CNG cars were needed and which type of cars?

The study did not calculate how many cars could be converted onto CNG but made the comparative assessment of different models based on CO₂ emissions per kilometer and investment costs. Due to the limited availability of CNG filling stations around the country, the study focused on commercial vehicles of which typical use is on dedicated routes which may therefore not suffer from small number of points where you can refuel the tank. Thus, there were compared were models Opel Combo, Citroen Berlingo and Fiat Multipla.

Total investment costs for new cars: Euro

Was there a public tender for the acquisition of cars or was it a direct contact?

Describe the problems and barriers YOU had to deal with?

The comparative assessment disclosed following valuable conclusions: CNG models are offering about 15-40 g/km lower emissions of CO₂ opposed to petro-based types but only 5-15 g/km lower compared to diesel-based ones. On the other hand, they are more expensive: by 3.5 to 4.8 thous. EUR than petrol-running models and 2-4 thous. EUR than diesel-based ones. The additional investment costs, however, will pay off due to lower fuel consumption in about 80-100 thous. kilometres.

Which solutions had been taken to overcome these barriers?

The above mentioned conclusions moreless prove the economic viability of CNG-based commercial vehicles compared to petrol or diesel-models as well as their environmental benefits. Thus, it was recommended to communicate this message in the framework of the GreenPlan Programme and advise to the LeasePlan customers who want to lower CO₂ emissions of their car fleets while reducing costs as well to opt for CNG models. This was met with the positive reaction e.g. by DHL which procured gradually more than 5 NGVs to use them in daily delivery service.

Were there any incentives you gave (e.g. fuel voucher, free service, after sales activities?)

No, the study was the only official output and served as already mentioned for incorporation of the message that "CNG really pays off" in the GreenPlan Programme.

Did you inform about financial support possibilities? Are there any financial support possibilities in your country to boost CNG cars?

It was not subject of the report, for passenger cars and commercial vehicles there was not any subsidy programme available at the time the study was worked out. Thus the only financial incentive laid with lower fuel costs and in the future also exemption from road tax which was, however, under negotiation at that time in the government.

What was your major action – how could you motivate the company/client to switch to CNG?

The study brought arguments why CNG should receive in the framework of the GreenPlan Programme floor to be promoted as one of the supreme CO₂ abatement measures because it has negative costs of implementation i.e. that not only reduces CO₂ but at the same time have positive economic effect. This is quite unique and should be therefore preferred before other measures which bear net costs for reducing carbon dioxide emissions.

Which helpful tools did you use to execute the feasibility study?

Excel sheets with the calculations of emissions savings, difference in fuel costs and resulting economic effectiveness taking into consideration higher initial costs of procurement of NGVs.

Did you make use of a third party or other actors? (e.g. car dealers, vehicle manufacturer)

No If YES please specify if public or private and give contact details:

Are there any activities after the purchase of CNG cars? (e.g. after sales activities)

From the side of the author of the study no, when it was completed, there was made a press conference at which the GreenPlan Programme was introduced along with all the CO₂ abatement measures available within its framework.

How long did it take to execute the case study/feasibility study? 60 hours

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

Page 5 of 6

When did the case study/feasibility study start? 9/2008

When will it be finished? 9/2008

10. Give a short ECONOMIC OVERVIEW with the basic facts:

| |
|---|
| <p>Fuel cost savings: 4 EUR/100 km</p> <p>Total cost savings (investment costs, fuel costs, taxes etc.): - 2-4 thous. EUR additional investment costs per car, 800 EUR/a fuel costs savings (mileage of 20 thous. kilometers assumed), 100 EUR/a road tax exemption</p> <p>Cost of converting cars to CNG if appropriate:</p> <p>Milage/km per year: 20 thous. km/a per car</p> <p>Expected useful life: 10 years</p> <p>Does the customer get financial support from the government/country? There are no financial incentives neither for passenger cars nor commercial vehicles.</p> <p>Reductions of CO₂ emissions: from 5 to 40 g/km according to the model</p> |
|---|

11. Your conclusions and recommendations?

| |
|--|
| <p>Mention shortly:</p> <p>Use of CNG by small cars leads to better parameters as for the length of the repay-back of additional costs and fuel economy (observed in terms of CO₂ emissions) opposed to heavy-duty vehicles. On the other hand, low number of filling stations discourages prospective owners from purchasing CNG models because of low operability compared to conventional models on diesel or petrol. However, where cars are operated on dedicated routes, this disadvantage becomes less important and preference for CNG-based cars is the best solution both from the point of economy and environment.</p> |
|--|

12. Any other general remarks/comments/information from your side?

| |
|--|
| <p>Feel free to add what you think is important and might not fit into the above questions:</p> |
|--|


WP 5

Results from case study or feasibility study in each region

D.5.3.12 nbr 4

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Del. 5.3.1-5.3.13

Partner Nr. SEVEN (8)

Country Czech rep.

Region City of Prague, South Bohemia and Pardubice

Are there existing filling stations and CNG cars already in the country YES

Results from the case study or feasibility study in each region (D.5.3.1 – 5.3.13)

Remark: For every case study/feasibility study you describe please use ONE FORM! **Case study** means more that you have a "pilot case" who changed already to CNG while **feasibility study** focuses on the investigation of the possibility to switch to CNG right now.

Remember: Executing the feasibility study you will inform customers about the advantages of CNG and gas driven vehicles. Furthermore you will give advice to change their fleet to CNG. Doing so you will find out the barriers and solutions to overcome these barriers.

1. In total how many case studies/feasibility study had been executed in the region (from 01.09.07 - 20.08.2009)?

| |
|---|
| List Nr: 3 case studies List Nr: 2 feasibility studies |
|---|

2. This is case study study Nr. 2 please fill in the reporting date: 6

3. This is feasibility study Nr. please fill in the reporting date:

4. **Name (Title) of this case study/feasibility study:** SIXT GREEN RENT - car rental service
SIXT starts to offer CNG-based vehicles

5. **How was the case study/feasibility study selected? According to which criteria? (Why this fleet and not another?)**

The case study was selected due to the fact that the car rental service SIXT became the first in the country which decided to procure and offer for rent vehicles running on CNG. The reason for this was the goal to offer to clients environmentally friendly cars.

6. **Would this case study/feasibility study also take place without the input from MADEGASCAR?**

No YES or No

The decision to extend the car fleet of SIXT by CNG-running vehicles was made based on the cooperation concluded with Prazska plynarenska (the major proponent of CNG use in Prague transportation). SEVEN was afterwards allowed to work out the case study to present such an exemplary cooperation in the framework of MADEGASCAR (please specify; e.g. was already planned before; existed or started before etc.)

7. Name and contact details of the company/client you executed the case study/feasibility study:

| | |
|-----------------------------|---|
| Company/Institution: | SIXT Česká republika (SPEED LEASE a.s.) (For example: Taxi company 878) |
| | private (please specify - public or private) |
| Target group: | fleet owner (For example: fleet owners, municipalities...) |
| Field of business: | car rental service (For example: delivery service, taxies, companies, bakery...) |
| Activity: | The company provides car rental services in Prague (Short description what the company/institution does) |
| Address: | Sixt Autopůjčovna Praha - Hotel Hilton Pobřežní 1 180 00 Praha 8 |
| Contact Person: | Mr. Pačes |
| Contact details: | Tel.: 420 222 324 995 Fax: 420 241 406 799 www.sixt.cz (Tel., fax, email, homepage) |

8. Short description of the client (amount of cars in operation, why to change to CNG)

Amount of actual cars per fleet: 100

List type of cars per fleet: e.g. *Opel Zafira, Diesel*

- | | |
|--|--------------|
| ■ Cars - small cars and compacts (45) | Fuel: Diesel |
| ■ Cars - middle class (30) | Fuel: Diesel |
| ■ Cars - upper middle class, limousines (20) | Fuel: Diesel |
| ■ Commercial vehicles (5) | Fuel: Diesel |
| ■ | Fuel: Diesel |
| ■ | Fuel: Diesel |

Time frame of changing cars per fleet: 4-5 years
e.g. *each 2 years or 260.000 km)*

Evaluate possibility to change to CNG per fleet: 10
(e.g. 50 %)

Motivation/Barriers to change per fleet: (e.g. *save fuel costs*)

The primary motivation was to offer customers of the company the possibility to rent eco - friendly vehicles. Due to the close cooperation with Prazska plynarenska and car manufacturer MERCEDES-BENZ and its local dealer it was made decision to offer CNG models - filling stations are available in each bigger city and using CNG offers lower running costs.

9. Describe shortly the case study/feasibility study you executed:

How many new CNG cars were needed and which type of cars?

The car rental service decided to procure a total of 10 CNG models. There were purchased cars of one car manufacturer, an that is Mercedes Benz, model class B 170 NGT BlueEFFICIENCY.

Total investment costs for new cars: 320000 Euro

Was there a public tender for the acquisition of cars or was it a direct contact?

Via a direct contact

Describe the problems and barriers YOU had to deal with?

The car rental service had to face higher procurement costs (about 4 thous. EUR per car) opposed conventional variants but these costs will be difficult to repay due to the fact that from lower fuel costs will benefit customers - borrowers. The repayment of higher initial costs will have to be therefore from daily fixed rental fees which, however, can not be too high in order not to discourage customers.

Which solutions had been taken to overcome these barriers?

By purchasing 10 cars at once, the unit costs of each model were partly reduced. Furthermore, there was concluded broader cooperation with Prazska plynarenska which shall have also financial backing.

Were there any incentives you gave (e.g. fuel voucher, free service, after sales activities?)

No, SEVEN did not provide any incentives

Did you inform about financial support possibilities? Are there any financial support possibilities in your country to boost CNG cars?

SEVEN only advised that cars using alternative fuels including CNG are exempted from road tax (about 100 - 200 EUR/car.a)

What was your major action – how could you motivate the company/client to switch to CNG?

The primary argument would be ultimate lower costs of operation of car fleet. However, under condition that cars will be utilized extensively.

Which helpful tools did you use to execute the feasibility study?

In that case , there were no used any except for basic calculation of the length of repayback period of additional investment costs

Did you make use of a third party or other actors? (e.g. car dealers, vehicle manufacturer)

No If YES please specify if public or private and give contact details:

Are there any activities after the purchase of CNG cars? (e.g. after sales activities)

The company actively promotes the availability of CNG models for rent in its fleet under the product "SIXT GREEN".

How long did it take to execute the case study/feasibility study?10 hours

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

When did the case study/feasibility study start? 8/2009

When will it be finished?8/2009

Estimate the number of hours you spent on this case study/feasibility study

10 hours

How much did it cost to execute this case study/feasibility study?

300

10. Give a short ECONOMIC OVERVIEW with the basic facts:

| |
|---|
| <p>Fuel cost savings: 6000 EUR (for 10 cars)</p> <p>Total cost savings (investment costs, fuel costs, taxes etc.): - 40 thous. EUR additional investment costs (for 10 cars), 6 thous EUR/a fuel costs savings (mileage of 150 thous. kilometers assumed), 1440 EUR/a road tax exemption</p> <p>Cost of converting cars to CNG if appropriate: brand new cars were procured</p> <p>Milage/km per year: 150 thous. km (for 10 models)</p> <p>Expected useful life: 4-5 years</p> <p>Does the customer get financial support from the government/country? No</p> <p>Reductions of CO₂ emissions: 750 - 6000 kg/a (for 10 models compared to diesel - petrol)</p> |
|---|

11. Your conclusions and recommendations?

| |
|---|
| <p>Mention shortly:</p> <p>The company pioneered on the Czech market the possibility to rent also eco-friendly vehicles which are also not expensive, or more correctly, even cheaper to conventional models in terms of fuel costs. Therefore, one could expect it will increase the interest of clients and improve the competitiveness of the car rental service.</p> |
|---|

12. Any other general remarks/comments/information from your side?

| |
|--|
| <p><i>Feel free to add what you think is important and might not fit into the above questions:</i></p> |
|--|

WP 5

Results from case study or feasibility study in each region

D.5.3.12 Nbr 5

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Del. 5.3.1-5.3.13

Partner Nr. SEVEn (8)

Country Czeck rep.

Region City of Prague, South Bohemia and Pardubice

Are there existing filling stations and CNG cars already in the country YES

Results from the case study or feasibility study in each region (D.5.3.1 – 5.3.13)

Remark: For every case study/feasibility study you describe please use ONE FORM! **Case study** means more that you have a "pilot case" who changed already to CNG while **feasibility study** focuses on the investigation of the possibility to switch to CNG right now.

Remember: Executing the feasibility study you will inform customers about the advantages of CNG and gas driven vehicles. Furthermore you will give advice to change their fleet to CNG. Doing so you will find out the barriers and solutions to overcome these barriers.

1. In total how many case studies/feasibility study had been executed in the region (from 01.09.07 - 20.08.2009)?

| |
|---|
| List Nr: 3 case studies List Nr: 2 feasibility studies |
|---|

2. This is case study study Nr. 3 please fill in the reporting date: 6

3. This is feasibility study Nr. please fill in the reporting date:

4. **Name (Title) of this case study/feasibility study:** The use of CNG cars in the car fleet of Prague ZOO

5. **How was the case study/feasibility study selected? According to which criteria? (Why this fleet and not another?)**

The Prague ZOO has among the Czech public a reputation as the centre which advocates for the better environment. Therefore, the ZOO's major marketing partner MERCEDES BENZ offered to the ZOO management to use eco-friendly vehicles running on CNG. The decision to "run on CNG" has therefore a strong message and was the reason why to carry out the case study on it - present that forward-looking decision and to inspire eventually others

6. **Would this case study/feasibility study also take place without the input from MADEGASCAR?**

No YES or No

The introduction of CNG-based cars into the car fleet of Prague ZOO is part of a more complex strategy the zoological garden envisioned, and that is to look for novel solutions to minimize negative impacts the activities of the ZOO have onto the environment. SEVEn was allowed to work out the case study to present that move in the framework of MADEGASCAR and give it bigger attention (please specify; e.g. was already planned before; existed or started before etc.)

7. Name and contact details of the company/client you executed the case study/feasibility study:

| | |
|-----------------------------|--|
| Company/Institution: | Zoologická zahrada hl. m. Prahy (Prague ZOO) <i>(For example: Taxi company 878)</i> |
| | public <i>(please specify - public or private)</i> |
| Target group: | general public <i>(For example: fleet owners, municipalities...)</i> |
| Field of business: | zoological garden <i>(For example: delivery service, taxies, companies, bakery...)</i> |
| Activity: | The Prague ZOO is the subordinated organization of the capital city of Prague responsible for operation and development of the zoological garden <i>(Short description what the company/institution does)</i> |
| Address: | U Trojského zámku 3/120 171 00 Praha 7 |
| Contact Person: | Mr. Hassmann |
| Contact details: | Tel.: 420 296 112 111 Fax: 420 233 556 704 www.zoopraha.cz <i>(Tel., fax, email, homepage)</i> |

8. Short description of the client (amount of cars in operation, why to change to CNG)

Amount of actual cars per fleet: 20

List type of cars per fleet: e.g. *Opel Zafira, Diesel*

- | | |
|--|--------------|
| ■ Passenger cars (5) | Fuel: Diesel |
| ■ Electric vehicles (8) | Fuel: Diesel |
| ■ Tractor and loader (1 each) | Fuel: Diesel |
| ■ Commercial vehicles inc. small buses (5) | Fuel: Diesel |
| ■ | Fuel: Diesel |
| ■ | Fuel: Diesel |

Time frame of changing cars per fleet: 8-10 years
e.g. *each 2 years or 260.000 km*)

Evaluate possibility to change to CNG per fleet: 10-20
(e.g. 50 %)

Motivation/Barriers to change per fleet: (e.g. *save fuel costs*)

The primary motivation would be to present that ZOO and its staff are using more environmentally friendly forms of transportation

9. Describe shortly the case study/feasibility study you executed:

How many new CNG cars were needed and which type of cars?

With the marketing partner there was agreed to try initially two CNG-driven passenger cars. From several possibilities there were ultimately selected two models Mercedes Benz class B 170 NGT BlueEFFICIENCY.

Total investment costs for new cars: 64000 Euro

Was there a public tender for the acquisition of cars or was it a direct contact?

Cars were not actually purchased by ZOO but rented for unlimited period by the local dealer of MERCEDES-BENZ based on the long-term contract concluded between both parties.

Describe the problems and barriers YOU had to deal with?

There were not any problems which the study had to deal with.

Which solutions had been taken to overcome these barriers?

Were there any incentives you gave (e.g. fuel voucher, free service, after sales activities?)

No, SEVEN did not provide any incentives

Did you inform about financial support possibilities? Are there any financial support possibilities in your country to boost CNG cars?

SEVEN only advised that cars using alternative fuels including CNG are exempted from road tax (about 100 - 200 EUR/car.a)

What was your major action – how could you motivate the company/client to switch to CNG?

The primary argument for ZOO to opt for CNG vehicles was the better emission parameters of cars compared to conventional diesel or petrol ones. The study proved that CNG variant secured between 15 to 40 g/km lower emissions of CO₂ than an "only" petrol-based model and by about 5 g/km lower emissions compared to diesel-based one. In addition to it, also emissions of other pollutants were significantly lower - enough to prefer CNG.

Which helpful tools did you use to execute the feasibility study?

In that case, there were no used any except for documenting lower emissions of CO₂ by CNG model using technical documentation of the car dealer.

Did you make use of a third party or other actors? (e.g. car dealers, vehicle manufacturer)

No If YES please specify if public or private and give contact details:

Are there any activities after the purchase of CNG cars? (e.g. after sales activities)

No known.

How long did it take to execute the case study/feasibility study? 10 hours

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

When did the case study/feasibility study start? 8/2009

When will it be finished? 8/2009

Estimate the number of hours you spent on this case study/feasibility study

10 hours

How much did it cost to execute this case study/feasibility study?

300

10. Give a short ECONOMIC OVERVIEW with the basic facts:

| |
|---|
| Fuel cost savings: 1200 EUR/a (for 2 cars) |
| Total cost savings (investment costs, fuel costs, taxes etc.): - 8 thous. EUR additional investment costs (for 2 cars), 1.2 thous EUR/a fuel costs savings (mileage of 15 thous. kilometers assumed), 1440 EUR/a road tax exemption |
| Cost of converting cars to CNG if appropriate: brand new cars were used |
| Milage/km per year: 30 thous. km (for 2 models) |
| Expected useful life: 4-5 years |
| Does the customer get financial support from the government/country? No |
| Reductions of CO ₂ emissions: 150 - 1200 kg/a (for 2 models compared to diesel - petrol) |

11. Your conclusions and recommendations?

| |
|--|
| Mention shortly: The Prague ZOO accepted the possibility to "green" its car fleet by vehicles running on CNG. This is a welcome move contributing to a more complex strategy of giving preference to cleaner vehicles in Prague, especially using CNG which is well available. The ZOO can even in the future along with the goal to utilize biowastes for producing energy fuel its fleet from own energy resources thus making it sustainable. MADEGASCAR contributed to the design of such a model which may be hopefully implemented ultimately. |
|--|

12. Any other general remarks/comments/information from your side?

| |
|---|
| <i>Feel free to add what you think is important and might not fit into the above questions:</i> |
|---|

WP 5

Results from case study or feasibility study in each region

D.5.3.7

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Del. 5.3.1-5.3.13

Partner Nr. LEI (9)

Country Lithuania

Region Vilnius/Kaunas/Klaipeda

Are there existing filling stations and CNG cars already in the country YES

Results from the case study or feasibility study in each region (D.5.3.1 – 5.3.13)

Remark: For every case study/feasibility study you describe please use ONE FORM! **Case study** means more that you have a "pilot case" who changed already to CNG while **feasibility study** focuses on the investigation of the possibility to switch to CNG right now.

Remember: Executing the feasibility study you will inform customers about the advantages of CNG and gas driven vehicles. Furthermore you will give advice to change their fleet to CNG. Doing so you will find out the barriers and solutions to overcome these barriers.

1. In total how many case studies/feasibility study had been executed in the region (from 01.09.07 - 20.08.2009)?

| |
|---|
| List Nr: 2 case studies List Nr: 1 feasibility studies |
|---|

2. This is case study study Nr. 1 please fill in the reporting date: 08-06-2009

3. This is feasibility study Nr. please fill in the reporting date:

4. **Name (Title) of this case study/feasibility study:** "The study of CNG usage in public transport of UAB "Vilniaus autobusai"

5. **How was the case study/feasibility study selected? According to which criteria? (Why this fleet and not another?)**

1. Interest from public transport authority and private company "Autoideja" selected this fleet;
2. Existence of larger public transport fleet;
3. Regional coverage according to the project.

6. **Would this case study/feasibility study also take place without the input from MADEGASCAR?**

YES or No

YES, it was planned before, but was started after a while the Madegascar project was beginning. (please specify; e.g. was already planned before; existed or started before etc.)

7. Name and contact details of the company/client you executed the case study/feasibility study:

| | |
|-----------------------------|---|
| Company/Institution: | The public transport fleet "Vilniaus autobusai"; (For example: Taxi company 878) |
| | public (please specify - public or private) |
| Target group: | Vilnius municipality; (For example: fleet owners, municipalities...) |
| Field of business: | bus service; (For example: delivery service, taxies, companies, bakery...) |
| Activity: | urban and interurban bus srevice (Short description what the company/institution does) |
| Address: | Verkių str. 52, LT-09109 Vilnius |
| Contact Person: | Liudvikas Stuckas; |
| Contact details: | Tel. +370 5 2738613; Fax> + 370 5 2722467; mob. 370655 33526 http://www.vap.lt (Tel., fax, email, homepage) |

8. Short description of the client (amount of cars in operation, why to change to CNG)

| | |
|--|--|
| Amount of actual cars per fleet: <i>total 403 buises</i> | |
| List type of cars per fleet: e.g. <i>Opel Zafira, Diesel</i> | |
| ■ MB-0405G | Fuel: Diesel |
| ■ MAN NL 202; -232 | Fuel: Diesel |
| ■ MB 0405G | Fuel: Diesel |
| ■ NEOPLAN N213 | Fuel: Diesel |
| ■ VOLVOB10L | Fuel: Diesel |
| ■ KAROSA B-741 | Fuel: Diesel |
| Time frame of changing cars per fleet: | 4 - 23 years; middling - 11,56 years e.g. <i>each 2 years or 260.000 km</i>) |
| Evaluate possibility to change to CNG per fleet: | 17,36 % (e.g. 50 %) |
| Motivation/Barriers to change per fleet: (e.g. <i>save fuel costs</i>) | |
| Motivation is - Ecological fuel / barriers is excise tax for CNG and economical crisis in the country; | |

9. Describe shortly the case study/feasibility study you executed:

How many new CNG cars were needed and which type of cars?

There are no new buses use CNG, there are very different age of buses MAN NG 272 and MB 0405 - 13 years ;VOLVO B10BLE - 12 years; VOLVO B10LG - 9 years old.

Total investment costs for new cars: n/a Euro

Was there a public tender for the acquisition of cars or was it a direct contact?

There was a public tender and direct contacts for the acquisition of second-hand buses;

Describe the problems and barriers YOU had to deal with?

The main problem is - the economical crisis in LT industry (and in transport sector too);

Which solutions had been taken to overcome these barriers?

The main partial solution, which can help to overcome this barrier is no excise tax for CNG for public and private transport;

Were there any incentives you gave (e.g. fuel voucher, free service, after sales activities?)

There are no any incentives for CNG transport yet, but Madagascar partner of LEI was taken the official application to Lithuanian Government according excise free for CNG as fuel for transport;

Did you inform about financial support possibilities? Are there any financial support possibilities in your country to boost CNG cars?

Yes, we informed about financial support possibilities in partner's countries, but in our country it is impossible during 2 - 3 years regarding economical crisis;

What was your major action – how could you motivate the company/client to switch to CNG?

The main our motivation for switch to CNG is solve the ecological problems - reduction of CO2 to atmosphere.

Which helpful tools did you use to execute the feasibility study?

Best practice examples from other Madagascar partners from web site;

Did you make use of a third party or other actors? (e.g. car dealers, vehicle manufacturer)

YES If YES please specify if public or private and give contact details: Private actors, the partners of our projects: as car dealers UAB "Autoideja" and UAB "SGdujos"

Are there any activities after the purchase of CNG cars? (e.g. after sales activities)

Yes, there are enough much activities, but not so much result;

How long did it take to execute the case study/feasibility study?120 hours

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

When did the case study/feasibility study start? 2008.09

When will it be finished?2009.09

Estimate the number of hours you spent on this case study/feasibility study

150 hours

How much did it cost to execute this case study/feasibility study?

(1500-2000 EUR)

10. Give a short ECONOMIC OVERVIEW with the basic facts:

Fuel cost savings: There is no fuel cost saving;

Total cost savings (investment costs, fuel costs, taxes etc.): there is no total cost saving, because there is no price-cutting for CNG;

Cost of converting cars to CNG if appropriate: there are no infrastructure for converting cars to CNG

Milage/km per year: 80 - 90 thousands km/year/ (one bus)

Expected useful life: 25 - 27 years

Does the customer get financial support from the government/country? No financial support from the government;

Reductions of CO₂ emissions: theoretically yes, but not so significant yet;

11. Your conclusions and recommendations?

Mention shortly:

Was to set the main barriers and price to introduce of CNG for transport, which are as follows:

- a) there are no financial support or favourable condition for credits for CNG transport;
- b) there are no economical interest for transport companies and for private users;
- c) at this time there are very narrow circumstances in economical situation in country.

Consequently must be create more favourable Special Programme for development CNG industry in country.

12. Any other general remarks/comments/information from your side?

Feel free to add what you think is important and might not fit into the above questions:

It will be very useful to create a special international programme with financial support from EU Directorate General for demonstration advantages of CNG transport with one new car in each region of country. Because second-hand buses raise many problems on the road and CNG use for transport is not attractive as we planned or want.

WP 5

Results from case study or feasibility study in each region

D.5.3.13 Nbr 1 and 2

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Del. 5.3.1-5.3.13

**Partner Nr. IEO (10)
Country Poland
Region Mazowieckie**

Are there existing filling stations and CNG cars already in the country YES

Results from the case study or feasibility study in each region (D.5.3.1 – 5.3.13)

Remark: For every case study/feasibility study you describe please use ONE FORM! **Case study** means more that you have a "pilot case" who changed already to CNG while **feasibility study** focuses on the investigation of the possibility to switch to CNG right now.

Remember: Executing the feasibility study you will inform customers about the advantages of CNG and gas driven vehicles. Furthermore you will give advice to change their fleet to CNG. Doing so you will find out the barriers and solutions to overcome these barriers.

13. In total how many case studies/feasibility study had been executed in the region (from 01.09.07 - 20.08.2009)?

| |
|---|
| <i>List Nr: 2 case studies List Nr: 1 feasibility studies</i> |
|---|

14. This is case study study Nr. 2

please fill in the reporting date:

15. This is feasibility study Nr.

please fill in the reporting date:

16. Name (Title) of this case study/feasibility study: Case study for cars conversion to natural gas made for Wawa Taxi

17. How was the case study/feasibility study selected? According to which criteria? (Why this fleet and not another?)

Lack of knowledge concerning conversion cars to CNG among general public

18. Would this case study/feasibility study also take place without the input from MADEGASCAR?

No YES or No

(please specify; e.g. was already planned before; existed or started before etc.)

19. Name and contact details of the company/client you executed the case study/feasibility study:

| | |
|-----------------------------|--|
| Company/Institution: | Wawa Taxi (For example: Taxi company 878) |
| | private (please specify - public or private) |
| Target group: | fleet owners (For example: fleet owners, municipalities...) |
| Field of business: | taxies (For example: delivery service, taxies, companies, bakery...) |
| Activity: | Wawa Taxi is domiciled in Mińska 69 St., 03-828 Warszawa. It is so far the only taxi fleet driven by natural gas in Warsaw and in Poland. Wawa Taxi has been present on the market for 15 years in Warsaw, for around 4 years it has been using CNG vehicles – Seat Altea and Seat Altea XL. Company operates fleet of 200 cars driven by natural gas. It has been first pilot project nationwide so far and appears to be great success. Advantages are: lower emissions, savings on fuel and green image of the company. As an expert in the natural gas field company share its knowledge with the others. (Short description what the company/institution does) |
| Address: | Mińska 69 St., 03-828 Warszawa, POLAND |
| Contact Person: | Arkadiusz Wieczorek |
| Contact details: | (0048) 228704000 (Tel., fax, email, homepage) |

20. Short description of the client (amount of cars in operation, why to change to CNG)

Amount of actual cars per fleet: 200

List type of cars per fleet: e.g. *Opel Zafira, Diesel*

| | | |
|---|---------------|--------------|
| ■ | Seat Altea | Fuel: Other |
| ■ | Seat Altea XL | Fuel: Other |
| ■ | | Fuel: Diesel |
| ■ | | Fuel: Diesel |
| ■ | | Fuel: Diesel |
| ■ | | Fuel: Diesel |

Time frame of changing cars per fleet: 3 years
e.g. *each 2 years or 260.000 km*)

Evaluate possibility to change to CNG per fleet: *cars are driven by natural gas
(e.g. 50 %)*

Motivation/Barriers to change per fleet: (e.g. *save fuel costs*)

21. Describe shortly the case study/feasibility study you executed:

How many new CNG cars were needed and which type of cars?

20 Seats

Total investment costs for new cars: 1000 Euro

Was there a public tender for the acquisition of cars or was it a direct contact?

n/a

Describe the problems and barriers YOU had to deal with?

Low promotion of natural gas used as fuel for cars, no calculations of profitability. Wawa Taxi hesitates between diesel and CNG cabs.

Which solutions had been taken to overcome these barriers?

Tool for economic profitability of conversion car to CNG has been prepared, informational and dissemination activities has been introduced

Were there any incentives you gave (e.g. fuel voucher, free service, after sales activities?)

no

Did you inform about financial support possibilities? Are there any financial support possibilities in your country to boost CNG cars?

no

What was your major action – how could you motivate the company/client to switch to CNG? promotion of CNG

Which helpful tools did you use to execute the feasibility study?

Tool for economic feasibility of conversion car to CNG

Did you make use of a third party or other actors? (e.g. car dealers, vehicle manufacturer)

YES If YES please specify if public or private and give contact details: Anlero-polska, Anna Mościcka, 48 22 814 11 26

Are there any activities after the purchase of CNG cars? (e.g. after sales activities)

no

How long did it take to execute the case study/feasibility study? 300 hours

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

When did the case study/feasibility study start? Feb 2009

When will it be finished? Nov 2009

Estimate the number of hours you spent on this case study/feasibility study

300 hours

How much did it cost to execute this case study/feasibility study?

n/a

22. Give a short ECONOMIC OVERVIEW with the basic facts:

Fuel cost savings: around 40% in relation to petrol

Total cost savings (investment costs, fuel costs, taxes etc.): around 40% in relation to petrol

Cost of converting cars to CNG if appropriate: 1500 EUR

Milage/km per year: 200000

Expected useful life: 3years

Does the customer get financial support from the government/country? no

Reductions of CO₂ emissions: around 20%

23. Your conclusions and recommendations?

Mention shortly:

-

24. Any other general remarks/comments/information from your side?

Feel free to add what you think is important and might not fit into the above questions:

-

Del. 5.3.1-5.3.13

Partner Nr. IEO (10)

Country Poland

Region Mazowieckie

Are there existing filling stations and CNG cars already in the country YES

Results from the case study or feasibility study in each region (D.5.3.1 – 5.3.13)

Remark: For every case study/feasibility study you describe please use ONE FORM! **Case study** means more that you have a "pilot case" who changed already to CNG while **feasibility study** focuses on the investigation of the possibility to switch to CNG right now.

Remember: Executing the feasibility study you will inform customers about the advantages of CNG and gas driven vehicles. Furthermore you will give advice to change their fleet to CNG. Doing so you will find out the barriers and solutions to overcome these barriers.

25. In total how many case studies/feasibility study had been executed in the region (from 01.09.07 - 20.08.2009)?

| |
|---|
| List Nr: 2 case studies List Nr: 1 feasibility studies |
|---|

26. This is case study study Nr. 0

please fill in the reporting date:

27. This is feasibility study Nr. 1

please fill in the reporting date:

28. **Name (Title) of this case study/feasibility study:** Feasibility study of Conversion LTI TX4 to natural gas

29. **How was the case study/feasibility study selected? According to which criteria? (Why this fleet and not another?)**

Lack of knowledge concerning conversion cars to CNG among general public, WAWA Taxi wants to replace Seats by another make of car.

30. **Would this case study/feasibility study also take place without the input from MADEGASCAR?**

No YES or No

(please specify; e.g. was already planned before; existed or started before etc.)

31. Name and contact details of the company/client you executed the case study/feasibility study:

| | |
|-----------------------------|--|
| Company/Institution: | Wawa Taxi (For example: Taxi company 878) |
| | private (please specify - public or private) |
| Target group: | fleet owners (For example: fleet owners, municipalities...) |
| Field of business: | taxies (For example: delivery service, taxies, companies, bakery...) |
| Activity: | Wawa Taxi is domiciled in Mińska 69 St., 03-828 Warszawa. It is so far the only taxi fleet driven by natural gas in Warsaw and in Poland. Wawa Taxi has been present on the market for 15 years in Warsaw, for around 4 years it has been using CNG vehicles – Seat Altea and Seat Altea XL. Company operates fleet of 200 cars driven by natural gas. It has been first pilot project nationwide so far and appears to be great success. Advantages are: lower emissions, savings on fuel and green image of the company. As an expert in the natural gas field company share its knowledge with the others. (Short description what the company/institution does) |
| Address: | Mińska 69 St., 03-828 Warszawa, POLAND |
| Contact Person: | Arkadiusz Wieczorek |
| Contact details: | (0048) 228704000 (Tel., fax, email, homepage) |

32. Short description of the client (amount of cars in operation, why to change to CNG)

Amount of actual cars per fleet: 200

List type of cars per fleet: e.g. *Opel Zafira, Diesel*

- | | | |
|---|---------------|--------------|
| ■ | Seat Altea | Fuel: Other |
| ■ | Seat Altea XL | Fuel: Other |
| ■ | | Fuel: Diesel |
| ■ | | Fuel: Diesel |
| ■ | | Fuel: Diesel |
| ■ | | Fuel: Diesel |

Time frame of changing cars per fleet: 3 years
e.g. *each 2 years or 260.000 km*)

Evaluate possibility to change to CNG per fleet: *cars are driven by natural gas
(e.g. 50 %)*

Motivation/Barriers to change per fleet: (e.g. *save fuel costs*)

33. Describe shortly the case study/feasibility study you executed:

How many new CNG cars were needed and which type of cars?
200 cars of LTI TX4

Total investment costs for new cars: 1100 (conversion) Euro

Was there a public tender for the acquisition of cars or was it a direct contact?
n/a

Describe the problems and barriers YOU had to deal with?
Low promotion of natural gas used as fuel for cars, no calculations of profitability. Wawa Taxi hesitates between diesel and CNG cabs.

Which solutions had been taken to overcome these barriers?
Tool for economic profitability of conversion car to CNG has been prepared, informational and dissemination activities has been introduced

Were there any incentives you gave (e.g. fuel voucher, free service, after sales activities?)
no

Did you inform about financial support possibilities? Are there any financial support possibilities in your country to boost CNG cars?
no

What was your major action – how could you motivate the company/client to switch to CNG?
promotion of CNG, calculations of profitability, feasibility study

Which helpful tools did you use to execute the feasibility study?
Tool for economic feasibility of conversion car to CNG

Did you make use of a third party or other actors? (e.g. car dealers, vehicle manufacturer)
YES If YES please specify if public or private and give contact details: Anlero-polska, Anna Mościcka, 48 22 814 11 26

Are there any activities after the purchase of CNG cars? (e.g. after sales activities)
no

How long did it take to execute the case study/feasibility study? 200 hours

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

When did the case study/feasibility study start? Sep 2009

When will it be finished? Dec 2009

Estimate the number of hours you spent on this case study/feasibility study
200 hours

How much did it cost to execute this case study/feasibility study?
n/a

34. Give a short ECONOMIC OVERVIEW with the basic facts:

Fuel cost savings: around 40% in relation to petrol

Total cost savings (investment costs, fuel costs, taxes etc.): around 40% in relation to petrol

Cost of converting cars to CNG if appropriate: 2000 EUR

Milage/km per year: 200000

Expected useful life: 5years

Does the customer get financial support from the government/country? no

Reductions of CO₂ emissions: around 20%

35. Your conclusions and recommendations?

Mention shortly:

-

36. Any other general remarks/comments/information from your side?

Feel free to add what you think is important and might not fit into the above questions:

-

WP 5


Results from case study or feasibility study in each region

D.5.3.8

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Del. 5.3.1-5.3.13

Partner Nr. PAE (11)

Country Poland

Region Podkarpacka/Malopolskie

Are there existing filling stations and CNG cars already in the country YES

Results from the case study or feasibility study in each region (D.5.3.1 – 5.3.13)

Remark: For every case study you describe please use one form!

Remember: Executing the case study you will inform customers about the advantages of CNG and gas driven vehicles. Furthermore you will give advice to change their fleet to CNG. Doing so you will find out the barriers and solutions to overcome these barriers.

1. In total how many case studies had been executed in the region (from 01.09.07 - 30.08.2009)?

List Nr: 1

2. This is case study Nr. 1

3. Name and contact details of the company/client you executed the case study:

| | |
|------------------------------|--|
| Company/Institution: | Zakład Cukierniczo Piekarniczny IZA <i>(For example: Taxi company 878)</i> |
| Target group: | Private fleet owner <i>(For example: public/private fleet owners, municipalities...)</i> |
| Field of business: | Bakery <i>(For example: delivery service, taxies, companies, bakery...)</i> |
| Activity: products | Aproducer of traditional polish regional bread and others bakery <i>(Short description what the company/institution does)</i> |
| Address: | Rzeszow |
| Contact Person: | Henryk Szczęch |
| Contact details: | <i>(Tel., fax, email, homepage)</i> |

4. Short description of the client (amount of cars in operation, why to change to CNG)

| | |
|---|--|
| Amount of actual cars per fleet: 3 | |
| List type of cars per fleet: e.g. <i>Opel Zafira, Diesel</i> | |
| ■ KIA | Fuel: Diesel |
| ■ KIA | Fuel: Diesel |
| ■ Ford Transit | Fuel: Diesel |
| ■ | Fuel: Diesel |
| ■ | Fuel: Diesel |
| ■ | Fuel: Diesel |
| Time frame of changing cars per fleet: | 5 (e.g. each 2 years or 260.000 km) |
| Evaluate possibility to change to CNG per fleet: | 40 (e.g. 50 %) |
| Motivation/Barriers to change per fleet: (e.g. <i>save fuel costs</i>) | |
| save fuel cost, availability of car refunding from support program RPO | |

5. Describe shortly the case study/feasibility study you executed:

How many new CNG cars were needed and which type of cars?

2 Cars, IVECO 35S14 G

Describe the problems and barriers YOU had to deal with?

The main problem was to convince that one filling station in city is enough for now, argumet was that diesel fuel price is growing,

Which solutions had been taken to overcome these barriers?

We convince that CNG / Biomethan is a future fuel and it's price will be quite stable

Were there any incentives you gave (*e.g. fuel voucher, free service, after sales activities?*)

We supported a fleet owner in gaining information about NGV and we supprted him in application for refunding car costs from Regional Support Program

Did you inform about financial support possibilities? Are there any financial support possibilities in your country to boost CNG cars?

Yes and we helpt to write an aplication

What was your major action – how could you motivate the company/client to switch to CNG cars?

Long time convincing work that " it's worth". All our work take about year.

Which helpful tools did you use to execute the feasibility study?

Are there any activities after the purchase of CNG cars? (*e.g. after sales activities*)

We wait for the cars from dealer, because they are not available at this moment , they eill be probably at the and

6. Give a short ECONOMIC OVERVIEW with the basic facts:

Fuel cost savings: 30% comparing to Diesel
Total cost savings (investment costs, fuel costs taxes): 0
Cost of converting cars to CNG if appropriate: no cost new cars
Milage/km per year:
Expected useful life:
Does the customer get financial support from the government/country? Yes , with our help
Reductions of CO² emissions:

7. Your conclusions and recommendations?

Mention shortly:

The new NGV's are more expensive than equal Diesel cars

8. Any other general remarks/comments/information from your side?

Feel free to add what you think is important and might not fit into the above questions:

The gas technology is rather seen as LPG. there is hard to convince anyone to NGV when in country there is only about 30 filling stations. the cars are only theoreticly available


WP 5

Results from case study or feasibility study in each region

D.5.3.9

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Partner Nr. BoRAEM (12)

Country Bulgaria

Region Bourgas

Are there existing filling stations and CNG cars already in the country YES

Results from the case study or feasibility study in each region (D.5.3.1 – 5.3.13)

Remark: For every case study/feasibility study you describe please use ONE FORM! **Case study** means more that you have a "pilot case" who changed already to CNG while **feasibility study** focuses on the investigation of the possibility to switch to CNG right now.

Remember: Executing the feasibility study you will inform customers about the advantages of CNG and gas driven vehicles. Furthermore you will give advice to change their fleet to CNG. Doing so you will find out the barriers and solutions to overcome these barriers.

1. In total how many case studies/feasibility study had been executed in the region (from 01.09.07 - 20.08.2009)?

| |
|---|
| List Nr: 1 case studies List Nr: 0 feasibility studies |
|---|

2. This is case study study Nr. 1 please fill in the reporting date: December 09

3. This is feasibility study Nr. 0 please fill in the reporting date:

4. Name (Title) of this case study/feasibility study: Burgasbus Ltd.

5. How was the case study/feasibility study selected? According to which criteria? (Why this fleet and not another?)

large potential, very good advertising to the local public, high drivinf performance, important decision maker

6. Would this case study/feasibility study also take place without the input from MADEGASCAR?

YES YES or No

(please specify; e.g. was already planned before; existed or started before etc.)

7. Name and contact details of the company/client you executed the case study/feasibility study:

| | |
|-----------------------------|--|
| Company/Institution: | Burgasbus Ltd. (For example: Taxi company 878) |
| | public, 100% municipal (please specify - public or private) |
| Target group: | fleet (For example: fleet owners, municipalities...) |
| Field of business: | public transport delivery service (For example: delivery service, taxies, companies, bakery...) |
| Activity: | Public transport service delivery company (Short description what the company/institution does) |
| Address: | 1, Industrialna str., Bourgas |
| Contact Person: | Stilyana Mihaylova |
| Contact details: | +359 56 84 05 29 (Tel., fax, email, homepage) |

8. Short description of the client (amount of cars in operation, why to change to CNG)

| | |
|---|---|
| Amount of actual cars per fleet: 200 busses | |
| List type of cars per fleet: e.g. Opel Zafira, Diesel | |
| ■ TEDOM | Fuel: Diesel |
| ■ Mercedes | Fuel: Diesel |
| ■ Chavdar | Fuel: Diesel |
| ■ | Fuel: Diesel |
| ■ | Fuel: Diesel |
| ■ | Fuel: Diesel |
| Time frame of changing cars per fleet: | 2 years e.g. each 2 years or 260.000 km) |
| Evaluate possibility to change to CNG per fleet: | 60 % (e.g. 50 %) |
| Motivation/Barriers to change per fleet: (e.g. save fuel costs) | |
| save fuel cost, environment friendly policy | |

9. Describe shortly the case study/feasibility study you executed:

How many new CNG cars were needed and which type of cars?

20 TEDOM busses

Total investment costs for new cars: 12 million Euro

Was there a public tender for the acquisition of cars or was it a direct contact?

public tender and direct negotiation

Describe the problems and barriers YOU had to deal with?

high purchase price, limited finances

Which solutions had been taken to overcome these barriers?

apply for co-finance and use a bank loan

Were there any incentives you gave (e.g. fuel voucher, free service, after sales activities?)

Did you inform about financial support possibilities? Are there any financial support possibilities in your country to boost CNG cars?

Yes, the bank loan from the Energy Efficiency National Fund

What was your major action – how could you motivate the company/client to switch to CNG?

consultations, calculation of the profitability and savings, organising a good media coverage

Which helpful tools did you use to execute the feasibility study?

profitability calculations

Did you make use of a third party or other actors? (e.g. car dealers, vehicle manufacturer)

YES If YES please specify if public or private and give contact details: The municipality of Bourgas - Transport department

Are there any activities after the purchase of CNG cars? (e.g. after sales activities)

Savings post calculations, advertising on the buses

How long did it take to execute the case study/feasibility study? 40 hours

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

When did the case study/feasibility study start? June 2008

When will it be finished? work in progress

Estimate the number of hours you spent on this case study/feasibility study

40 hours

How much did it cost to execute this case study/feasibility study?

10. Give a short ECONOMIC OVERVIEW with the basic facts:

Fuel cost savings: 20 Euro per 100 km

Total cost savings (investment costs, fuel costs, taxes etc.): 20 Euro/100 km

Cost of converting cars to CNG if appropriate: 1200 euro

Milage/km per year: 22 000 km/year

Expected useful life: 10 years

Does the customer get financial support from the government/country? Yes

Reductions of CO₂ emissions: 200 kg/year

11. Your conclusions and recommendations?

Mention shortly:

It is not really easy to be economically reasonable, but the calculations shows a good savings, so the only difficult part is to secure the start-up investment...

12. Any other general remarks/comments/information from your side?

Feel free to add what you think is important and might not fit into the above questions:

WP 5


Results from case study or feasibility study in each region

D.5.3.1

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Del. 5.3.1-5.3.13

Partner Nr. Malarnet (14)

Country Sweden

Region Mälardalen

Are there existing filling stations and CNG cars already in the country YES

Results from the case study or feasibility study in each region (D.5.3.1 – 5.3.13)

Remark: For every case study/feasibility study you describe please use ONE FORM! **Case study** means more that you have a "pilot case" who changed already to CNG while **feasibility study** focuses on the investigation of the possibility to switch to CNG right now.

Remember: Executing the feasibility study you will inform customers about the advantages of CNG and gas driven vehicles. Furthermore you will give advice to change their fleet to CNG. Doing so you will find out the barriers and solutions to overcome these barriers.

1. In total how many case studies/feasibility study had been executed in the region (from 01.09.07 - 20.08.2009)?

| |
|------------------------------|
| List Nr: 1 case studies |
| List Nr: feasibility studies |

2. This is case study study Nr. 1 please fill in the reporting date: 2009-08-20

3. This is feasibility study Nr. please fill in the reporting date:

4. Name (Title) of this case study/feasibility study: Taxi Stockholm

5. How was the case study/feasibility study selected? According to which criteria? (Why this fleet and not another?)

So far in our region there are very few taxi companies with CNG vehicles, therefore we found it beneficial to execute a case study of Taxi Stockholm which is one of the largest taxi companies in our country and they were also very early with focusing on environmental issues and CNG vehicles. They aquired their first CNG vehicle in 2002. Therefore we wanted to use them as an inspiring example for others.

6. Would this case study/feasibility study also take place without the input from MADEGASCAR?

NO YES or No

They have got some media attention, but thanks to our case study the information about their work with CNG vehicles will be widely spread to lots of transportation companies in our region and also nationally. (please specify; e.g. was already planned before; existed or started before etc.)

7. Name and contact details of the company/client you executed the case study/feasibility study:

| | |
|-----------------------------|---|
| Company/Institution: | Taxi Stockholm (For example: Taxi company 878) |
| | Private (please specify - public or private) |
| Target group: | Mostly private customers (persons and companies). Target group for the case study is other taxi companies, transportation companies and vehicle fleet owners e.g. municipalities. (For example: fleet owners, municipalities...) |
| Field of business: | Taxies (For example: delivery service, taxies, companies, bakery...) |
| Activity: | Offers taxi services, mostly for the private market. (Short description what the company/institution does) |
| Address: | Luntnakargatan 86 113 83 Stockholm |
| Contact Person: | Mats Ekelund |
| Contact details: | +46 76 897 8000 (Tel., fax, email, homepage) |

8. Short description of the client (amount of cars in operation, why to change to CNG)

Amount of actual cars per fleet: 1478

List type of cars per fleet: e.g. *Opel Zafira, Diesel*

| | |
|-------|--------------|
| ■ N/A | Fuel: Diesel |
| ■ | Fuel: Diesel |
| ■ | Fuel: Diesel |
| ■ | Fuel: Diesel |
| ■ | Fuel: Diesel |
| ■ | Fuel: Diesel |

Time frame of changing cars per fleet: max 6 years
e.g. *each 2 years or 260.000 km*)

Evaluate possibility to change to CNG per fleet: *30% within the near future*
(e.g. 50 %)

Motivation/Barriers to change per fleet: (e.g. *save fuel costs*)

The prime reason to change to CNG cars is to fulfill the environmental goals of the company.

9. Describe shortly the case study/feasibility study you executed:

How many new CNG cars were needed and which type of cars?

EIE/07/180/S12.466795, MADEGASCAR; Del. 5.3

The company has a goal to cut its emissions of carbon dioxide 70% compared to 2005. At the moment there are 181 CNG cars in the fleet and soon 350 more CNG cars will be added. The gas consumed mainly consists of biogas and therefore, switching to CNG cars is an effective way to reduce emissions of CO₂.

Total investment costs for new cars: 28000 Euro per car Euro

Was there a public tender for the acquisition of cars or was it a direct contact?

Describe the problems and barriers YOU had to deal with?

Firstly, the company had problems finding CNG cars with large enough gas tanks. Secondly, supply of gas has earlier been a problem. Fuel stations have been out of biogas frequently. Since 2008, supply is backed up with natural gas and shortages are rare. In the taxi vehicles it can also be a problem with reduced space for luggage, there is also a demand for cars with automatic shifting, which has not been readily available.

Which solutions had been taken to overcome these barriers?

The company has had a continuous dialogue with car companies about the size of gas tanks in CNG cars and with the suppliers of gas about how to avoid shortages.

Were there any incentives you gave (e.g. fuel voucher, free service, after sales activities?)

Did you inform about financial support possibilities? Are there any financial support possibilities in your country to boost CNG cars?

Support can be received for the purchase of a car fueled with biofuels or a car with low consumption of petrol/diesel per kilometre. The support amounts to 1000 Euro per car, and was available until June 2009. Tax credits that favor environmentally friendly vehicles are now under discussion as a replacement for this incentive.

What was your major action – how could you motivate the company/client to switch to CNG?

I did not need to motivate or inform the company. The company is already motivated to switch to CNG cars because it helps a lot in reaching the environmental goals of the company. (The environmental goals are set up by the company itself and have nothing to do with national legislation. The company wants to take responsibility for our common future). In our work we have found it very beneficial to prioritize talking to good role models and companies who have already invested in gasproduction, gas filling stations and gas vehicles. By producing brochures, news articles and posting these on our webpage, publish in newsletters and inform others about their work, we try to inspire others by using them as a good example. This way we will reach a very large target group very quickly, and using their "colleagues" as an inspiring example is more efficient than talking to them and trying to convince them to change to gas vehicles. Therefore we have made this case study on a company already owning gas vehicles.

Which helpful tools did you use to execute the feasibility study?

Web page, news articles, newsletter will be used to spread the information now after the feasibility study has been carried out

Did you make use of a third party or other actors? (e.g. car dealers, vehicle manufacturer)

YES If YES please specify if public or private and give contact details: The taxi company has been in contact with private car manufacturers

Are there any activities after the purchase of CNG cars? (e.g. after sales activities)

The taxi company receives service of the CNG cars from the supplier. Taxi Stockholm has also received a price from a national business association for their work with CNG vehicles and this has given them attention in media.

How long did it take to execute the case study/feasibility study? 15 hours

What is the current status? (e.g. finished, work in progress) Will be turned into a media friendly news article that will be distributed through our network in the whole region.

Page 5 of 6

When did the case study/feasibility study start? spring of 2009

When will it be finished? august 2009

10. Give a short ECONOMIC OVERVIEW with the basic facts:

Fuel cost savings: 0,2 to 0,3 Euro per 10 kilometres

Total cost savings (investment costs, fuel costs, taxes etc.): Since spare parts are more expensive, the CNG cars of the fleet are slightly more expensive per kilometre than the diesel cars.

Cost of converting cars to CNG if appropriate: 3000-4000 Euro

Milage/km per year:

Expected useful life:

Does the customer get financial support from the government/country? Yes. By the purchase of a CNG car, the customer receives 1000 Euro from the government until June 2009.

Reductions of CO₂ emissions: The number of CNG cars in the fleet will soon be 531. They will stand for half of the reductions of CO₂ that the company achieves. The goal of reducing CO₂ emissions by 40% by 2012 has already been achieved, so now they are changing it to 70% instead.

11. Your conclusions and recommendations?

Mention shortly:

The company recommends other companies that want to switch to CNG cars to keep a steady dialogue with suppliers of CNG cars in order that they develop suitable car models.

12. Any other general remarks/comments/information from your side?

Feel free to add what you think is important and might not fit into the above questions:

There are 1 478 cars in the fleet of Taxi Stockholm. Out of these, 181 are CNGs. The CNG cars are of the following models:
Volvo V70 2,5 FT
Mercedes E200 NGT & Mercedes B170 NGT
and Volkswagen, Passat kombi EcoFuel Gas