

# Road Map for changing behaviour

## *Austrian regions*

Deliverable 3.1 of the BIOSIRE project

Status: V6, peer reviewed version  
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Peer reviewed by: Regione Veneto  
Date: 29.3.2010  
Filename: 3.2.8\_Road Map\_BIOSIRE\_FGM\_v6.doc

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## Table of contents

Summary in local language	3
1. Introduction	4
2. Tools for road map deployment	5
2.1. Swot analysis results	5
2.2. Economic business model	6
2.3. Marketing plan	8
2.4. Financing and Legal issues	11
3. Objectives for the next project phases (behaviour change)	12
4. Actions to reach the objectives	14
5. Policies to be implemented to reach the change	21
6. Annex: SWOT analysis	23
6.1. Introduction	23
6.2. SWOT Analysis for biodiesel	24
6.3. SWOT Analysis for electric vehicles	28
6.4. Evaluation of SWOT analysis	31

## Summary in local language

Dieses Dokument wurde im Rahmen des Arbeitspaket 3 ("Umsetzung"), für die Unteraufgabe 3.2.8. „Roadmap zur Änderung des Verhaltens“ für Österreich erstellt. Die Schlussfolgerungen und Inhalte dieses Dokuments basieren auf Diskussionen mit unterschiedlichsten Zielgruppen die unter anderem in lokalen Workshops und Arbeitsgruppen geführt wurden.

Ziel dieses Dokumentes ist es, die nächsten Schritte von FGM-AMOR, die als Demonstrator für Österreich im Rahmen des Projektes die Verwendung von alternativ betriebenen Fahrzeugen in Tourismusregionen bewirbt, zu beschreiben und zu definieren. Die in diesem Dokument definierten Schritte dienen zur Erreichung der BIOSIRE Ziele für Österreich. Da FGM-AMOR im Rahmen des BIOSIRE Projektes Gemeinden, Regionen und Flottenbetreiber in unterschiedlichen Stadien der Umsetzung betreut, sind die in der Road Map beschriebenen Aufgaben auch in unterschiedlichen Projektphasen wieder zu finden.

Im ersten Kapitel bietet dieses Dokument eine Übersicht über die aktuelle Situation im Land und die Verwendung von Biodiesel bzw. elektrisch betriebenen Fahrzeuge in Tourismusregionen. Zusätzlich wurde eine SWOT Analyse für beide Antriebstechnologien erstellt.

In den darauf folgenden Kapiteln werden aufgrund der Projektziele lokale Ziele definiert. Um diese Ziele zu erreichen werden konkrete Schritte und Maßnahmen identifiziert und beschrieben.

## 1. Introduction

This deliverable has been prepared as part of BIOSIRE Workpackage 3 ("Implementation") for Austria. More specifically, the document has been written to fulfil Task 3.2.8 "Roadmap-for-changing-behaviour". The conclusions within this document are based on the discussion in local workshops and local working groups with various stakeholders in previous months.

The aim of this document is to describe the next steps for FGM-AMOR who is promoting the usage of alternatively propelled vehicles in tourism regions in Austria. These next steps will form the basis for an action plan to further reach the BIOSIRE targets.

As the Austrian BIOSIRE-partner FGM-AMOR is serving and consulting various regions being in different implementation phases, the road map will focus on the tasks FGM-AMOR will perform to reach the BIOSIRE targets.

In a first step, the document provides an **overview about the actual situation in the country and the implementation status / framework conditions regarding biodiesel and electric vehicles in tourism regions**. This overview is additionally supported by a SWOT analysis for both propulsion technologies.

In the following chapters the **objectives to reach within the project are identified** and appropriate **actions on how to reach these objectives** are described.

## 2. Tools for road map deployment

The work of FGM-AMOR within WP3 of the BIOSIRE project will be twofold: on the one hand FGM-AMOR will act as contact point for support and consultation regarding alternatively propelled vehicles for tourism regions all over Austria, and on the other hand FGM-AMOR will support a concrete demonstration, i.e. the implementation of electric trishaws in the city of Graz. Therefore FGM-AMOR has to apply two tailor-made plans for these two working-fields.

### 2.1. Swot analysis results

This chapter provides a summary of the two SWOT analyses done for Austria. The reason why two analyses have been done is due to better readability of the tables. One SWOT focuses on biodiesel the other one on electric vehicles.

As the SWOT analyses are done for the whole country (and not for a special demonstration case), the analyses cover market conditions and implementation possibilities on an overall macro level but with the focus on potential implementations in Austria.

The following two chapters provide a summary of each of the SWOTs.

For the detailed SWOT analyses and content see chapter 6 “Annex: SWOT analysis”.

### 2.1.1. Summary of Biodiesel SWOT

Generally the market situation for the implementation of biodiesel in tourist fleet projects in Austria is seen as not very well. This is because of many reasons, but mainly because of the lack of available budget and the bad reputation of fuel technology.

### 2.1.2. Summary of Electric vehicles SWOT

The implementation and attitude towards electric vehicles in tourist fleets is quite positive. Of course also the financing of the implementation is an issue. This is combined with the weak availability of vehicles, especially regarding larger vehicles. Nevertheless, smaller vehicles e.g. bicycles or mopeds are already available. These transport means are seen as an entrance point for electric vehicles in tourism regions – mainly because they are likely to be used as rental vehicles also.

## 2.2. Economic business model

This chapter describes the economic business model foreseen for the next project phases in the BIOSIRE project in Austria and defines actors and responsibilities.

### 2.2.1. Implementation of electric trishaws in Graz

The **concept** of the trishaw implementation in Graz is based on the approach to offer a new, flexible and sustainable means of transport for tourists and inhabitants to move around in the city. The system has been tested already (from April-October 2009 two trishaws are already have been in operation) and passenger figures promise to increase. No statistics from this operation can be published in this document due to confidential reasons.

The **financing of the implementation** is done through the operator of the trishaws ("Spirit in motion"). Additionally funding has been requested from the Klima: Aktiv Programme (tourism companies) and will hopefully be received. If funding is granted 15% of

investment costs and 50% of personal costs and operation costs are expected to be received.

To ensure **efficient operation**, the operator employs staff to drive the trishaws and maintain them but and also staff for administration. For the enlargement of the implementation this year an outsourcing of the maintenance is planned. The company will finance their business by the transportation fares and by selling advertisement space (5 m<sup>2</sup>) on the trishaws.

The recharging of the trishaws is done at a cooperation partner (the ÖAMTC Austria). The trishaws are recharged during the night and are in operation during the whole day. For this year's system expansion an alternative recharging point is investigated to recharge the vehicles with sustainable energy sources.

The **whole business model** is set up to include various stakeholders. This is done to ensure wider dissemination and guarantee (an increase) in passengers numbers. Among the stakeholders are mainly tourism related companies like hotels and restaurants from the city. Also the tourism association of the city is involved in the project as they are interested to offer guided tours around the city with a platoon of trishaws. FGM-AMOR has already and will further support and evaluate the roll out and the implementation itself. Furthermore FGM-AMOR will support various press actions at the roll out of the enlargement phase.

### **2.2.2. Contact point for support and consultation regarding alternatively propelled vehicles**

It is the aim of FGM-AMOR within the BIOSIRE project to consult and support as many sustainable mobility implementations in tourism regions as possible (alternative propelled vehicles: biodiesel/electrical).

Therefore the following model has been set up:

- Use of existing and newly gathered information within the BIOSIRE project or within other previous projects, conferences or technical meetings.

- Active step up to target groups / potential demonstrators (e.g. municipalities, fleet operators, tourism associations, natural parks etc.)
- Constant cooperation with stakeholders on higher levels (e.g. interest groups)
- Attendance of events and conferences regarding the topic of sustainable mobility in tourism to market the possibility for target groups
- Company internal networking regarding the offer / the possibility for target groups to receive consultation
- Support of target groups regarding their local implementations
- Information flow back into the consortium; communication of experiences made in Austria to help international demonstration partners to improve their concepts, road maps and implementations.

The **financing** of this model is primarily done by the BIOSIRE project.

### 2.3. Marketing plan

This chapter outlines the strategic approach for attracting and keeping the target group involved during and beyond the project lifetime. As FGM-AMOR is following two major strategies in the project the marketing plan contains both directions.

#### 2.3.1. Implementation of electric trishaws in Graz

The main target groups for electric trishaw demonstration in Graz are:

- Tourists visiting the city (e.g. combined with a city tour ).
- Inhabitants wanting to get around in the city – alternative to traditional taxi (car).

e.g. older people, who have difficulties with walking, or people, who carry heavy shopping-bags, may use the service for short (inner-city) trips.  
e.g. parents wanting their (smaller) children to be brought somewhere in the city – eventually as pickup services for children who are too small to use public transport on their own.

- Companies wanting to advertise their services or disseminate their sustainability of contracting the transporting small goods (show, that they send urgent goods by trishaw and not by car taxi).
- People seeking for a special attraction in the city (e.g. grandparents making a ride with their grandchildren, couples driving to their wedding-party, ...).

Main marketing actions planned for these target groups:

- **Roll out of the project**  
Besides press releases about the enlargement of the system a major roll out event is planned at the 15.4.2010 at the main square in Graz. This event will include a photo shooting and also featured reporting on a local radio station (Radio Antenne Steiermark).
- **Customer evaluation phase**  
In the evaluation phase customers will be asked about their opinion about the concept and how they like the trishaws. The customers will be used as marketing mediums. After they participated at the survey a nice sticker will be provided to them which will be adhered to their clothes.
- **Improvement of the service**  
After the evaluation phase, an improvement phase will follow. Within this phase, based on the outcomes of the evaluation phase, improvement strategy or actions will be identified and implemented.

### 2.3.2. Contact point for support and consultation regarding alternatively propelled vehicles

The target groups to attract / address for as the objective of establishing FGM-AMOR as a contact point are:

- National ministries: Mobility, Environment; Tourism;
- Decision-makers in tourism municipalities / Local authorities;
- Fleet-operators in tourism regions (public transport);
- Vehicle-rental operators;
- Stakeholders in tourism / private companies (tourist information centres, hotels, ...);
- Associations (e.g. biofuel, public transport operators);

The main marketing actions to involve and address the target groups are:

- **Networking**  
Bilateral networking with the stakeholders mentioned above at conferences, personal meetings etc.  
Networking via other projects within the company (e.g. CESLA project).
- **Press work**  
Publication of articles in dedicated newspapers, newsletters and publications. These articles are dedicated to disseminate the BIOSIRE project and the lessons learned as well as to search for demonstrator regions.
- **Offer expert support for marketing of implementations**  
Support in marketing of the implemented measures will be offered to the various regions, in order to promote the offer implemented to the final users and attract new users. This will involve dissemination actions but also strategic questions e.g. recommendation of suitable financial incentives to be defined from the region.
- **Offer of expert support for the organisation of workshops for the target groups**

## 2.4. Financing and Legal issues

This chapter provides an overview about the financial and legal situation for the implementation of electric and biodiesel vehicles in tourism regions in Austria.

The current legal situation in Austria can be described as following:

- Pure biodiesel is exempted from the **mineral oil tax**
- Fuels with a biofuel blending of a minimum of 4.4% and less than 10 mg sulphur/kg fuel are granted **tax concessions** of 41,2 €cent/litre for petrol and 29,7 €cent/litre for diesel<sup>1</sup>.
- The **process of the collection of used oil** for biodiesel production is well established and has no legal constraints
- There are rules for **used cooking oil collection** in place: The Waste Control Law 2002 (Abfallwirtschaftsgesetz, BGBl. I Nr. 102/2002) defines that used cooking oil has to be collected and to be handled over to a waste disposal contractor. Also penalties are fixed with 2,910 € for companies and 70 € for private households.
- The legal issues for **biodiesel production** are defined (in the fuel order "Kraftstoffverordnung, BGBl. II Nr. 418/1999". It defines biofuels and fuel specifications, standards the biofuels need to comply to, the percentage of blending of fossil fuel. Furthermore it specifies that the seller of fuels need to provide evidence of the amount of blending to fossil fuels to the ministry of agriculture

The current financing situation in Austria can be described as following:

- In some regions are already available **local exemptions of fees for electric vehicles** (e.g. no parking fees according to the parking policy)

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<sup>1</sup> Federal government in Austria for environmental protection and environmental control <http://www.umweltbundesamt.at/biokraftstoff>

- **Investments into new vehicles and refuelling equipment** may be funded, if a calculation shows CO<sub>2</sub> savings.
- For electric vehicles **no procurement tax** (procurement tax NoVA, or horsepower-based insurance tax) on the vehicles is levied.

Within the previous tasks in the project some legal and financial framework issues have been identified as requiring changes or even set up.

- More financial incentives for users but also manufacturers of alternatively propelled vehicles are required.
- Financing of alternative propelled vehicles should be alleviated. Currently long-term pre-financing required by stakeholders applying for funds and long administrative processing times of funding money exist. Also the funding programmes are very unclear or not known by potential beneficiaries.
- More legal restrictions should be put in place to favour the usage of electric vehicles.
- Standardisation for plugs at electric vehicle recharging stations is not available on European or national level. It is considered as necessary to ensure recharging possibility at any place.
- To ensure sustainability, the energy required to recharge electric vehicles should come from sustainable sources – no legal regulations in place.

All these required changes are known and will be communicated to responsible organisations and stakeholders in personal meetings and discussions.

### 3. Objectives for the next project phases (behaviour change)

Based on the work done in the previous tasks in the project, the existing market framework conditions, and the overall BIOSIRE project aims, the

following generic objectives for FGM-AMOR as supporter and technical consultant for Austrian tourism regions are defined:

1. Objective 1

Increase the usage of alternatively propelled vehicles (electric vehicles, biodiesel) within tourism regions in

- municipal fleets;
- public transport companies;
- vehicle-rental companies;
- ferry operators / ships;
- other (e.g. off road vehicles in natural parks).

Actions to reach the objectives:

Findings from the previous tasks of the project (i.e. results of the discussions in the local working groups and local workshops) show that one of the main barriers for increased use of alternatively propelled vehicles within tourism regions is lack of knowledge among decision-makers and fleet operators, regarding these alternative propulsion technologies and their benefits. Thus to be able to reach the objective of increased usage of alternatively propelled vehicles in tourism regions, it is necessary to:

- Action 1a: Improve know how of the stakeholders in tourism-regions and decision-makers in tourism municipalities, fleet operators, etc. about electric vehicles (availability on the market, benefits, practical-implementation potential in tourism regions, good practice examples, ...).
- Action 1b: Foster a dialogue with vehicle manufacturers to help them understand the needs of municipalities and fleet operators.

2. Objective 2

Improve the Image of biodiesel – various prejudices about biodiesel exist. Improving the image of the fuel combined with financial incentives might raise the interest of fleet operators regarding the shift to biodiesel.

Actions to reach these objectives:

- Improve the know-how at fleet operators about trends in biodiesel, good experiences, trends etc.
- Provide solutions to prejudices or to overcome bad experiences operators made.
- Network with biodiesel manufacturers and professional associations (e.g. ARGE Biokraft).
- Market a good experience (in Austria) as show case. For example the “Biosphere Park Lungau” wants to implement a 9-seater biodiesel bus. Also the experiences of Helsinki (VTT Research) presented at the second IWS on hydrogenated biofuels can be used.

3. Objective 3

Attract / involve the following target groups more directly as they have not reached very well the first project phase:

- car rental companies;
- ferry operators / ships;

Actions to reach these objectives:

- Use associations and representations e.g. contacts with the chamber of commerce (WKO) who represent the entrepreneurs (section transport).
- Preparation of relevant project experiences dedicated to these target groups.
- Linkage of car rental companies with manufacturers and suitable other organisations (e.g. common procurement initiatives) in LWS, personal meetings etc.
- Attract them at conferences symposia and stimulate discussions there (e.g. by holding presentations).

#### 4. **Actions to reach the objectives**

For each objective identified in chapter 3 concrete actions (including a description of actors, constraints, timing) are proposed to reach the objectives. Furthermore obstacles to be removed are identified and a step by step path to the desired results is proposed.

Objective 1: Increase the usage of alternatively propelled vehicles (electric vehicles, biodiesel) within tourism regions:

- Action 1a: Improve know how of the stakeholders in tourism-regions and decision-makers in tourism municipalities, fleet operators, etc. about electric vehicles (availability on the market, benefits, practical-implementation potential in tourism regions, good practice examples ...)
  - Obstacles to be removed
    - Overcome the barrier of rejection by raising interest
    - Raise willingness to invest in alternative propulsion.
  - Step by step path to the desired results
    - Regular update of the product database on the website. This database contains vehicles and services dealing with the topics biodiesel and electric propulsion.  
Actors to be involved: vehicle manufacturers or service companies and BIOSIRE consortium partners.  
Starting date: ongoing
    - Organise meetings and conferences related to this topic in order to bring together regions and manufacturers.  
Actors to be involved: all target groups identified in 2.3  
Starting date: ongoing
    - Consult operators regarding financing of implementations (funding sources and programmes).  
Actors to be involved: all target groups identified in 2.3  
Starting date: ongoing
    - Further networking with tourism regions and manufacturers to be up-to-date regarding trends, be able to act as a networker, and attract demonstrators.  
Actors to be involved: tourism regions,

manufacturers, fleet operators

Starting date: ongoing

- Contact all the municipalities, fleet operators to which the project has been presented in a personal meeting or LWG and do a follow-up round.

Actors to be involved: all contacts established during the project duration (mainly fleet operators and tourism regions / municipalities).

Starting date: April 2010

- Provide and suggest a concept on how electric vehicles could be implemented in regions.

Actors to be involved: internal action for preparation, to be used in bilateral meetings, in LWG with municipalities and among tourism associations.

Starting date: June 2010

- Position FGM-AMOR as contact point for support and consultation regarding alternatively propelled vehicles by producing additional press releases and news (e.g. in combination with the trishaw implementation in Graz).

Actors to be involved: Target groups, multipliers

Starting date: ongoing

- Advise on funding possibilities to highlight the reduction in costs and sustainability and to remove the financial barrier. This requests constant update on internal know-how on funding programmes and criteria as well as communication to target groups.

Actors to be involved: Target groups

Starting date: Ongoing

- Use the case study / implementation of the trishaws in Graz for stimulation of other implementations. This can be done by using this case as a reference case in publications and releases.

Actors to be involved: Media, Spirit in motion

Starting date: July 2010

- Evaluate the possibility to negotiate with the ministry / government of Styria to introduce additional funding for biodiesel.  
Actors to be involved: Province of Styria  
Starting date: September 2010
- Action 1b: Foster a dialogue with vehicle manufacturers to help them understand the needs of municipalities and fleet operators (e.g. warranty issues, demand for sustainable / biodiesel vehicles, range of electric vehicles).
  - Obstacles to be removed
    - Get high level contacts to vehicle manufacturers to be invited in coordination actions.
    - Manufactures need to understand the needs and react accordingly.
  - Step by step path to the desired results
    - Municipalities / fleet operators need to identify their needs and requirements.  
Actors to be involved: Municipalities, fleet operators  
Starting date: Ongoing
    - Awareness raising at manufactures regarding the requirement needs of fleet operators and municipalities.  
Actors to be involved: Fleet operators, manufacturers of vehicles  
Starting date: Ongoing
    - Attendance / organisation of conferences and exhibitions where vehicles are presented  
Actors to be involved: Vehicle manufacturers  
Starting date: Ongoing

## Objective 2

Improve the Image of biodiesel – various prejudices about biodiesel exist.  
Improving the image of the fuel combined with financial incentives might raise the interest of fleet operators regarding the shift to biodiesel.

- Action 2a: Improve the know-how at fleet operators about trends in biodiesel, good experiences, trends etc.

- Obstacles to be removed
  - Raise awareness and interest in the topic
- Step by step path to the desired results
  - Team with biodiesel producers and companies doing research in this field (e.g. ARGE Biokraft, research institutes at the Technical University of Graz).  
Actors to be involved: Biodiesel producers, associations and research institutes dealing with biodiesel.  
Starting date: Ongoing
  - Attract fleet operators at conferences and meetings (e.g. the Region Move 2010 where PT operators meet once a year) to inform about trends and financial incentives etc.  
Actors to be involved: Fleet operators  
Starting date: April 2010
  - Provide information about trends and changes to the IGV („Interessensgemeinschaft Verkehrsverbände“), a national union Austrian traffic associations.  
Actors to be involved: Traffic associations  
Starting date: June 2010
- Action 2b: Provide detailed arguments to overcome prejudices regarding biodiesel.
  - Obstacles to be removed
    - Reach fleet operators;
    - Focus the discussion on sustainability and benefits, not on costs and efforts.
  - Step by step path to the desired results
    - Constant build up of know-how and update on trends on the market. Creation of a short fact sheet in German to be handed out to operators.  
Actors to be involved: fleet operators  
Starting date: June 2010

- Start discussions with operators and help them to identify improvement possibilities in their fleet  
Actors to be involved: fleet operators.  
Starting date: Ongoing
- Action 2c: Network with biodiesel manufacturers / the professional associations (e.g. ARGE Biokraft, local manufacturers and used cooking oil collectors) to use synergies.
  - Obstacles to be removed
    - Convince target groups to join efforts.
  - Step by step path to the desired results
    - Identify common interests and benefits, create a win-win situation everybody involved.  
Actors to be involved: manufacturers, associations  
Starting date: ongoing
    - Start a cooperation (e.g. organise events together, exchange information).  
Actors to be involved: manufacturers, associations  
Starting date: ongoing
- Action 2d: Market a good experience (in Austria) as show case. For example the “Biosphere Park Lungau” wants to implement a 9-seater biodiesel bus. Also the experiences of Helsinki (VTT Research) presented at the second IWS on hydrogenated biofuels can be used.
  - Obstacles to be removed
    - Prejudices about biodiesel exist and are strengthened by the fact that the large fleet of the local public transport operator is now shifting from biodiesel to biogas
  - Step by step path to the desired results
    - Create some overview about the good practice examples in German (e.g. translation of the case study in ELTIS). Could be combined with the fact sheet mentioned in action 2b.

Actors to be involved: internal action

Starting date: June 2010

- Invite representatives of good practice examples to LWS or create linkage between interested regions and successful regions.

Actors to be involved: municipalities, fleet operators

Starting date: June 2010

### Objective 3

Attract / involve fleet operators and rental companies more directly as they have not been reached very well in the first project phase

#### ○ Obstacles to be removed

- The target companies might not be interested in biodiesel very much at the moment, but electric vehicles could be an entrance point.

#### ○ Step by step path to the desired results

- Use associations and representations to get in touch with more target companies. Identify associations for all vehicle types (e.g. ships, buses, taxis etc.).

Actors to be involved: internal action

Starting date: July 2010

- Update the identified benefits for associations and fleet operators and prepare materials or events to be of use for them.

Actors to be involved: internal action

Starting date: August 2010

- Link potential users with manufacturers or sellers / common procurement organisations.

Actors to be involved: vehicle manufacturers and retailers, fleet operators and rental companies.

Starting date: September 2010

- Attract them at / which interesting conferences symposia and stimulate discussions there.

Actors to be involved: vehicle manufacturers and

retailers, fleet operators and rental companies.

Starting date: September 2010

- Hold further presentations at symposia about trends and possibilities.

Actors to be involved: internal action

Starting date: September 2010

## 5. Policies to be implemented to reach the change

There are various policies regarding sustainable mobility and alternative propulsion existing in Austria. Those policies mostly depend on the region and the local approach that is followed.

For example in the city of Graz there are reduced parking fees for vehicles with low CO<sub>2</sub> emissions (so-called "Umweltparken). Or the tourism region of Velden pushed electric vehicles implementations. This was done by the introduction of a collective buying scheme for electric vehicles and a central organisation of a rental scheme for participating companies.

FGM-AMOR will address the point of policies during consultations with the target groups. Based on experiences other regions made combined with existing know-how, tailor-made policy suggestions will be elaborated. Furthermore FGM-AMOR will act as a propagator in the promotion of potential policies in personal meetings with regions during local workshops and working group meetings.

Therefore, dedicated suggestions will be given to municipalities or organisations being in the position to change policies. Potential examples for policies that could be introduced are:

- Establishment of local strategies to reach a certain amount of alternative propelled vehicles in the region;
- Introduction of public recharging infrastructure for electric vehicles plus according parking spaces;
- Free parking for clean vehicles;
- Funding of the procurement of pedelces;

- Organisation of a buying syndicate for electric vehicles for a region;
- Retrofit or purchase electric vehicles or vehicles propelled with biodiesel for the municipal fleet;
- Foster the settling of companies producing or retrofitting vehicles in the region;
- Request the fulfilment of sustainable criteria for vehicles already in the tendering processes (e.g. for bus lines);
- Establish local role (e.g. major to use such a vehicle) models in combination with the policies;
- Consider the use of biodiesel as an advantage in transport fleets when applying for the concession of public contracts.

## 6. Annex: SWOT analysis

### 6.1. Introduction

A SWOT analysis is a strategic planning tool used to evaluate the Strengths, Weaknesses, Opportunities, and Threats involved in a business venture or a project. In this case, the SWOT analysis is applied to the **successful implementation of alternative propulsion (electric vessels and biodiesel) in potential or already existing demonstrator regions in Austria.**

The SWOT analyses are presented in the following chapters for the two different propulsion technologies. Additionally an interpretation on the analysis and actions on how to overcome threats or use strengths is provided.

6.2. SWOT Analysis for biodiesel

	Positive	Negative
Internal	<p><b>Strengths</b></p> <p><i>Social acceptance:</i></p> <ul style="list-style-type: none"> <li>▪ The collection of used cooking oil is accepted and common use in Austria.</li> </ul> <p><i>Resources:</i></p> <ul style="list-style-type: none"> <li>▪ Many tourism areas are located in environmental-sensitive zones, and the environmental benefits of biodiesel (e.g. good biodegradable) are a unique selling-argument especially in such environmental-sensitive zones;</li> <li>▪ The network of fuel stations offering biodiesel is quite dense in Austria</li> <li>▪ The available biodiesel is of good quality.</li> <li>▪ There are several biodiesel production plants in Austria</li> </ul> <p><i>Financing:</i></p> <ul style="list-style-type: none"> <li>▪ Trucks and logistic companies already converted vehicles – i.e. there are no additional vehicle-conversion-costs, when these companies decide to use biodiesel as a fuel for their fleets.</li> </ul>	<p><b>Weaknesses</b></p> <p><i>Social acceptance:</i></p> <ul style="list-style-type: none"> <li>▪ There is a negative attitude regarding the use of biodiesel among fleet-operators (vehicle-retrofitting, no guarantees from car manufacturers, risks).</li> <li>▪ Food or fuel discussion always appears.</li> <li>▪ The public transport operator of the 2<sup>nd</sup> largest city of Austria just changed their fleet from biodiesel to biogas.</li> </ul> <p><i>Resources:</i></p> <ul style="list-style-type: none"> <li>▪ Biodiesel production plants in Austria decreased production amounts in recent years.</li> <li>▪ There are no cars available to be used with high blends of biodiesel.</li> <li>▪ Most trucks and buses currently in use in Austria need some retrofitting to be able to operate with high blends of biodiesel</li> <li>▪ The maintenance costs for vehicles operated with high blends of biodiesel are higher than for vehicles operated on fossil diesel</li> <li>▪ Biodiesel doesn't have an advantage compared to</li> </ul>

	Positive	Negative
		<p>conventional diesel in terms of particulate matter and nitrogen oxides in the exhaust-fumes of the vehicle. In areas struggling with bad air-quality (e.g. city of Graz) biodiesel is therefore not a desired alternative fuel-option.</p> <p><i>Financing:</i></p> <ul style="list-style-type: none"> <li>▪ Biodiesel is available on the market but to similar end user prices as diesel. – Since biodiesel is about the same price as conventional diesel currently. – Fleet operators do not see any economic benefit and therefore are reluctant to invest in biodiesel.</li> </ul>
External	<p><b>Opportunities</b></p> <p><i>Legislation:</i></p> <ul style="list-style-type: none"> <li>▪ There are mandatory targets for introducing higher blends of biodiesel in Austria. (Fossil diesel is blended with 7% of biodiesel already.)</li> </ul> <p><i>Financing:</i></p> <ul style="list-style-type: none"> <li>▪ Pure biodiesel is exempted from the mineral oil tax in Austria.</li> <li>▪ In Austria there are funds available for companies to change their fleets to save CO<sub>2</sub>, thus animating companies to invest in more environmental friendly fleets.</li> </ul>	<p><b>Threats</b></p> <p><i>Legislation:</i></p> <ul style="list-style-type: none"> <li>▪ There are no vehicles for EURO V to be propelled with high blends of Biodiesel currently on the market...</li> <li>▪ Trend to blend the biodiesel at the refinery and use other technologies for production (hydr.).</li> </ul> <p><i>Financing:</i></p> <ul style="list-style-type: none"> <li>▪ The financial incentives are too low compared to the feared risks and expected outcomes.</li> </ul> <p><i>Social acceptance:</i></p> <ul style="list-style-type: none"> <li>▪ Public opinion shows prejudices against biodiesel</li> </ul>

	Positive	Negative
	<p><i>Social acceptance:</i></p> <ul style="list-style-type: none"> <li>▪ Public opinion shows supportive attitude towards biodiesel production (from non-eatable raw materials).</li> <li>▪ The awareness of the environmental benefits of biodiesel is medium among the general public in Austria.</li> <li>▪ The fact that biodiesel is produced from national raw-material and thus reduces the dependency from oil-exporting-countries, is highly appreciated among the general public in Austria.</li> </ul>	<p>production on arable land and use of eatable raw materials for the production of biodiesel.</p>

**Interpretation:**

Within the implementation the strengths are known and will be a very important point. They will be of course used as arguments in the consultation process.

Mandatory targets for introducing higher blends of biodiesel in Austria exist and will be expanded so this argument can be used during discussions with target groups.

Funds available for companies to change their fleets to save CO<sub>2</sub>, thus animating companies to invest in more environmental friendly fleets. This can also be used as a helping point to start implementations.

The production of biodiesel of national raw materials will be an argument to companies wanting to be sustainable and can be used as an argument during discussions and consultations.

Some weaknesses and threats can not be overcome as they are from outside of the sphere of our influence (e.g. vehicle-retrofitting, no guarantees from car manufacturers, risks). Nevertheless these weaknesses and threats will be mentioned and for each implementation it will be tried to minimize the threats and weaknesses with alternative measures to limit the occurrence potential.

### 6.3. SWOT Analysis for electric vehicles

	Positive	Negative
Internal	<p><b>Strengths</b></p> <p><i>Social acceptance:</i></p> <ul style="list-style-type: none"> <li>Driving electric vehicles is becoming more and more popular in Austria.</li> <li>Electric vehicles have the image of being modern, innovative, and environmentally friendly – thus these vehicles are attractive for tourism applications.</li> </ul> <p><i>Resources:</i></p> <ul style="list-style-type: none"> <li>Pedelecs are already available on the market– they are seen as a starting point for electric mobility concepts.</li> <li>Pedelecs are easy to handle, no special skills are necessary from user's side.</li> </ul> <p><i>Financing:</i></p> <ul style="list-style-type: none"> <li>There are funds available for companies to change their fleets to save CO2; thus animating companies to invest in more environmental friendly fleets.</li> </ul>	<p><b>Weaknesses</b></p> <p><i>Social acceptance:</i></p> <ul style="list-style-type: none"> <li>The current range of electric vehicles is not accepted</li> <li>Electric vehicles are too expensive in the public opinion as they are compared to the procurement of fossil fuelled vehicles.</li> </ul> <p><i>Resources:</i></p> <ul style="list-style-type: none"> <li>Only a little amount of electric vehicles is available on the market. These are no mass production vehicles yet.</li> <li>No larger electric vehicles, that could replace conventional car, are available on the market.</li> <li>Energy storage systems (batteries) for electric vehicles are heavy, expensive, and have only a very limited lifetime</li> <li>The charging of the vehicles is a big issue that needs to be solved.</li> </ul>

		<p><i>Financing:</i></p> <ul style="list-style-type: none"> <li>▪ Electric vehicles are much more expensive than common vehicles.</li> </ul>
<p>External</p>	<p><b>Opportunities</b></p> <p><i>Legislation:</i></p> <ul style="list-style-type: none"> <li>▪ There are targets and plans from municipalities and regions to introduce electric vehicles in the future.</li> </ul> <p><i>Financing:</i></p> <ul style="list-style-type: none"> <li>▪ Funding for the implementation of electric mobility is available (not a lot but small exist).</li> <li>▪ Resources are invested to increase F&amp;E in this sector in Austria.</li> </ul> <p><i>Social acceptance:</i></p> <ul style="list-style-type: none"> <li>▪ Public opinion sustain that driving electric vehicles is sustainable.</li> <li>▪ There are many fleet tests ongoing and they attract public attraction</li> </ul>	<p><b>Threats</b></p> <p><i>Legislation:</i></p> <ul style="list-style-type: none"> <li>▪ No regulations regarding charging infrastructure in place.</li> </ul> <p><i>Financing:</i></p> <ul style="list-style-type: none"> <li>▪ There are no concepts set up yet to help individuals financing the expensive vehicles.</li> </ul> <p><i>Social acceptance:</i></p> <ul style="list-style-type: none"> <li>▪ There needs to be a change in the user behaviour using the vehicles or a change in technology (range) at least for current state of the art.</li> <li>▪ Electric vehicle technology is seen as embryonic and not technically mature. Therefore people are reluctant to invest in such vehicles.</li> <li>▪ Electric vehicles are currently seen as trendy gadget rather than as a real alternative to conventional</li> </ul>

		vehicles.
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**Interpretation:**

The boom of the electric vehicles is very beneficial for implementations in Austria. The framework conditions for this propulsion system are good to stimulate further implementations also in the long term. The large fleet tests currently ongoing might stimulate small implementations and also offer a potential to involve private users to try this alternative propulsion.

The weakness of availability of vehicles on the market can be addressed by introduction of procurement associations (some already existing in Austria). The issue of range and price is a very sensitive one and might be cleared in further developments by technical improvements or alternative mobility concepts – here also awareness actions and work might help to create another picture of mobility requirements in the public opinion.

The recharging facilities are currently in building progress and therefore not available everywhere. Within the work in the project we will take this opportunity to influence the set up and suggest using renewable energy resources for recharging systems. Also the missing legal and standardisation issues will be addressed and highlighted to be implemented.

#### 6.4. Evaluation of SWOT analysis

1. Which actions have you taken for identifying the Strengths, Weaknesses, Opportunities, and Threats presented below (e. g. news research, consultation of key actors)?

Besides internal know-how exchange between experts working in the field of alternative propulsion, research and consultation with stakeholders and target groups has been performed. Also an exchange with project partners involved in this task has happened to identify common strengths, weaknesses, opportunities or threats.

2. What have been the lessons learned from these actions (i. e. which have been successful and which not, why)?

The approach used can be rated as quite successful. Due to the lack of time the research and the communications part were not possible to be done as intensively as if enough resources would have been available. The exchange with other project partners involved in the task has been very fruitful.

3. Did you exchange information and / or results with other demonstrators? What have been the lessons learned from this exchange?

Yes, common approaches could be used to overcome threats and weaknesses.

4. How has been the communication with the WP-Leader CINESI?

Good

5. What are the lessons learned from this SWOT analysis for future projects?

More money / hours for demonstrator support would be very helpful to ensure an appropriate support of more demonstrations.

6. Do you have any other remarks related to the SWOT analysis?

No