

Strategies and Programmes for the development and market introduction of electric vehicles in Austria

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Austrian Federal Ministry
for Transport, Innovation and Technology

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European / Austrian Policy Goals

- Reduction of greenhouse gases (as of 1990) by at least 20% by 2020
- Increasing energy efficiency by 20% until 2020
- 20% renewable energy by 2020 (**34% in Austria**)

Transport sector

- Reduction of fleet emissions to 130 - 120 - 95 g CO₂/km
- Further tightening emission standards for emissions of pollutants (EURO 4, 5, 6,...)
- 5.75 % biofuels by 2010 and 10% by 2020 (**5.75% since 2008 in Austria**)



Supporting instruments of the Austrian Federal Ministry for Transport, Innovation and Technology

Total funding increased from 40M€ in 2008 to 60M€ in 2009 and 2010!

- A3 and A3plus Technology programme: funding cooperative R&D projects developing alternative propulsion systems and fuels
- Programme Energy 2020: ICE-optimisation, light weight structures, electronics
- Lighthouse Projects: demonstration for market introduction
- FFG basic programme: bottom-up product optimisation
- Headquarter programme
- Research Infrastructure (e.g. Hydrogen Center Austria)
- Competence Centers (e.g. K2-Mobility)
- International Cooperation (FP7, ETPs, ERA-NETs, IEA)
- Austrian Agency for Alternative Propulsion Systems (A3PS)

A3 and A3plus programme 1/2

(Austrian Advanced Automotive Technology programme)

- Concentrates on highly innovative research projects and covers the entire innovation cycle from basic research to demonstration projects
- Research topics are:
 - Alternative drive systems and their components
 - Alternative fuels
 - Innovative storage concepts
 - Development and promotion of necessary supplying infrastructures for refueling and the use of alternative drive systems
 - Concepts for embedding alternative drives in the total vehicle design

A3 and A3plus programme 2/2

- 4 calls for proposals (2002-2006)
 - 152 Proposals
 - 78 projects approved (international evaluation)
 - Total project volume 39.6 Mio. €
 - Promotion of 20.4 Mio. €
 - 2 calls for Lighthouse Projects (2005 and 2006)
 - 25 Proposals
 - 8 projects approved (international evaluation)
 - Total project volume 7.4 Mio. €
 - Promotion of 3.4 Mio. €
- A3**
-
- 3 calls in 2007 and 2008
 - 57 proposals received
 - 49 funded projects (including 3 lighthouse projects)
 - Funding volume: 14 M€
 - Call 2009
 - 32 proposals received
 - 15 funded projects
 - Funding volume: 5 M€
- A3plus**

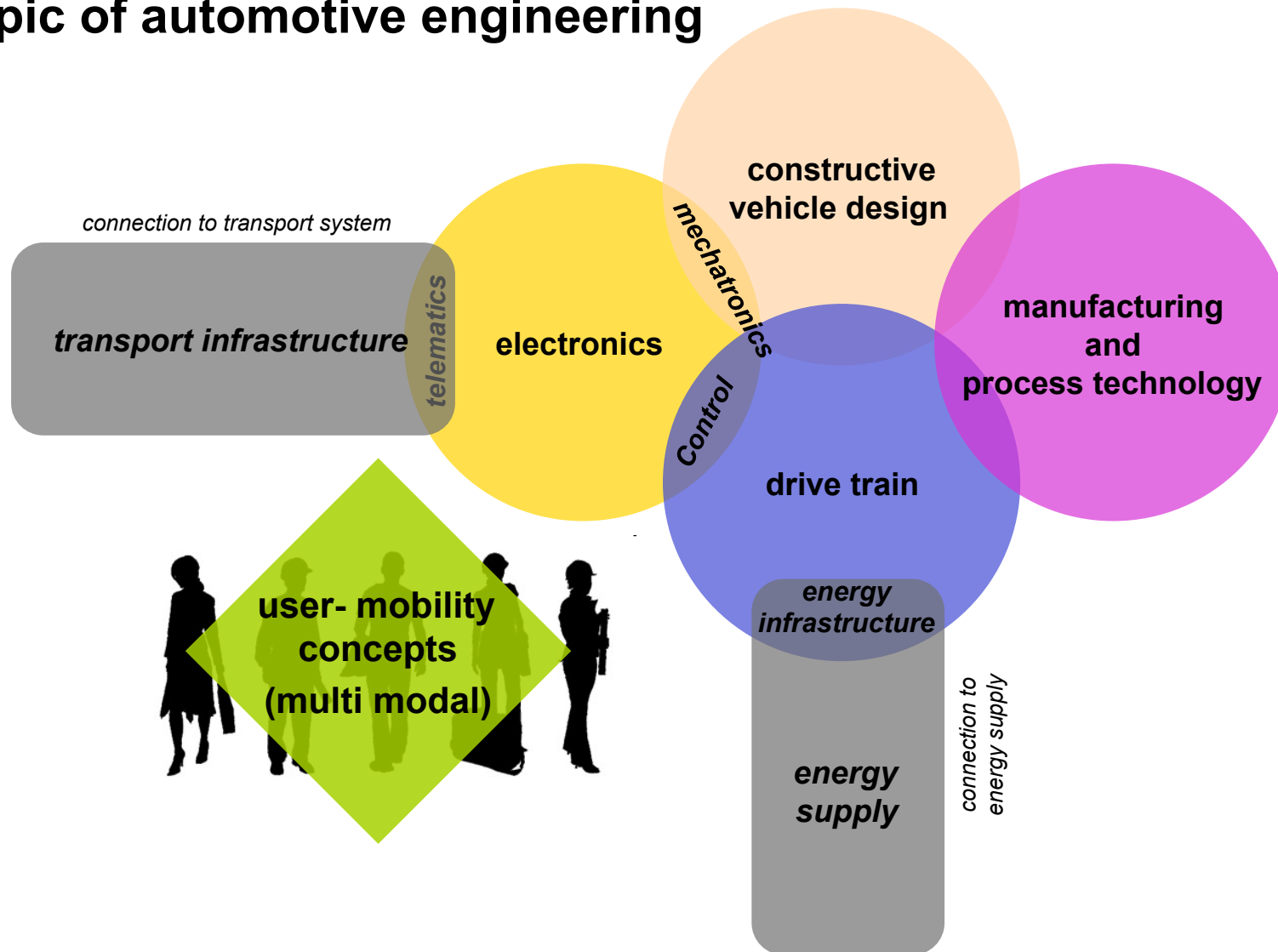
Lighthouse Projects - Demonstration and Pilot Projects

- Funding instrument of the BMVIT to support the **market introduction** of new technologies through demonstration.
- Goals:
 - **Optimisation of alternative propulsion systems** and fuels under real life conditions through a close cooperation of developers and users
 - **Preparation of the public for technological change**
- Call 2009 with funding of **11 M€** in evaluation

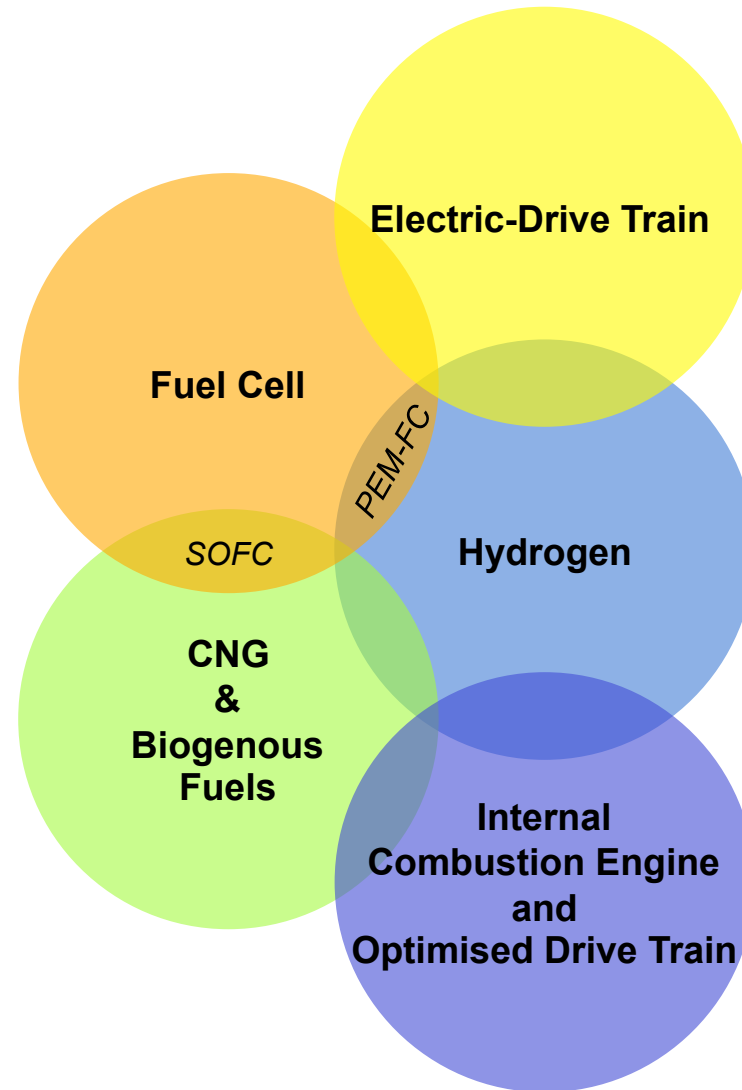
Electromobility Model Regions

- Funding programme of the Climate and Energy Fund launched in 2008 with an annual budget of **3.5 M€** (Call 2010) for the demonstration of technologies in the area of electric drive systems.
- The programme covers the **demonstration and implementation** of large-scale proposals including the required infrastructure facilities and involving developers, producers, downstream operators and users.
- Overview of running projects:
 - **VLOTTE** (Voralberg) – first call 2008, start-up in 2009
 - **Electrodrive** (Salzburg) – second call 2009

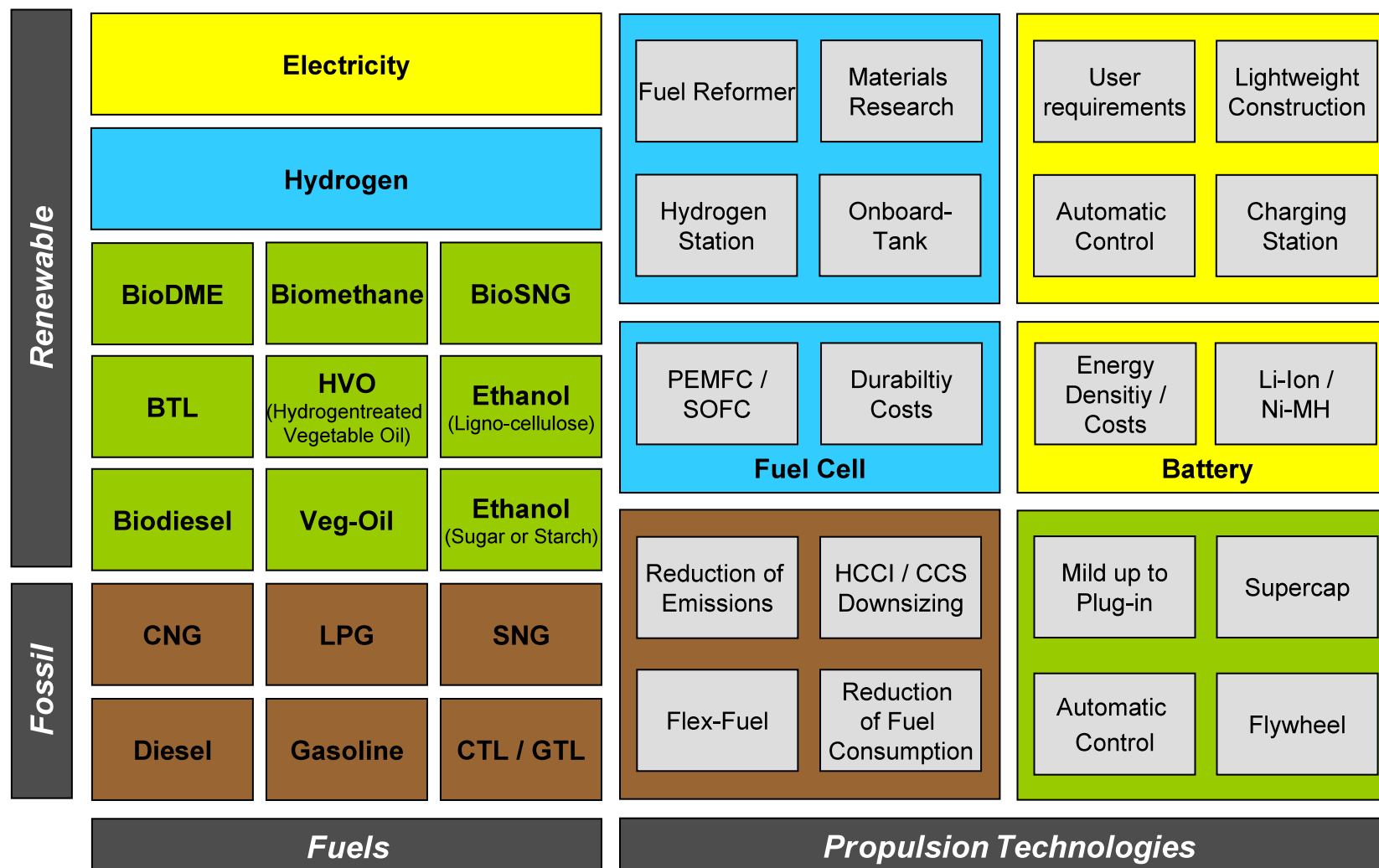
Topic of automotive engineering



For electromobility relevant topics of the drivetrain



Roadmap for alternative propulsion systems and fuels

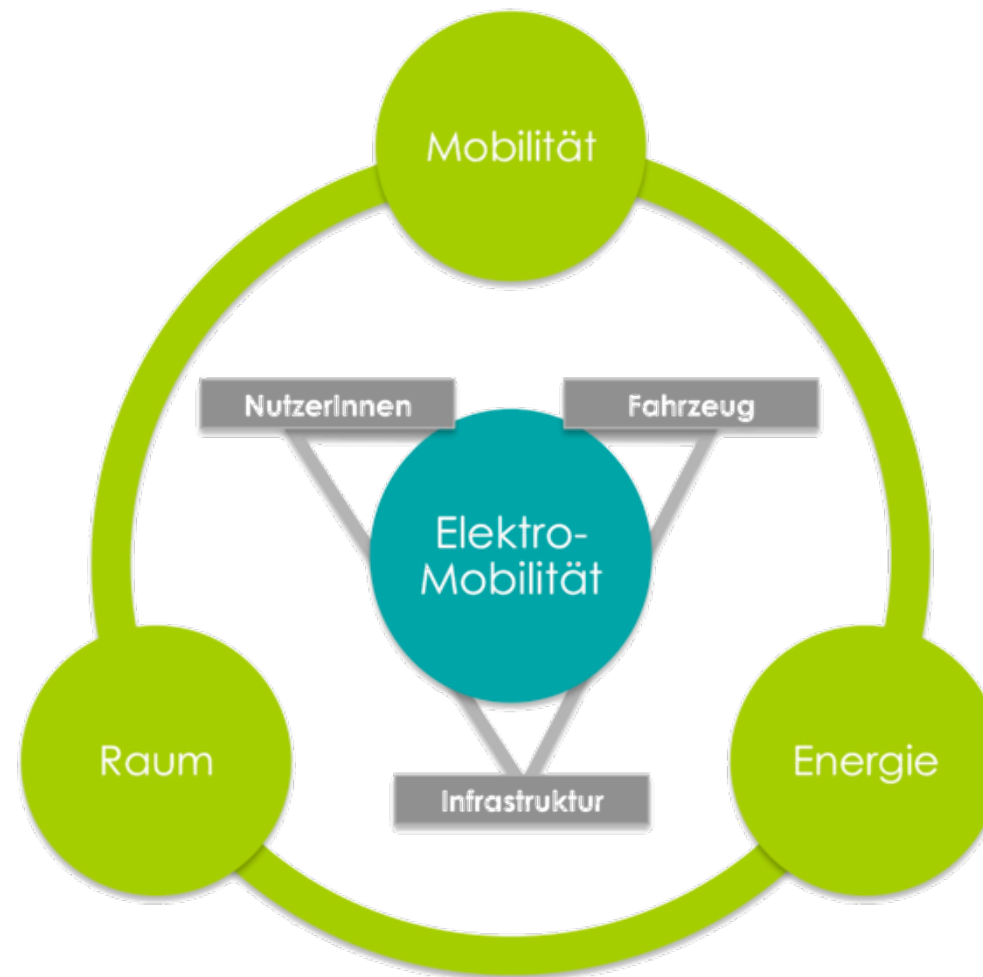


National Implementation Plan for Electric Mobility

The Implementation of electric mobility supported by the BMVIT gives opportunities for:

- Clean road traffic
- Supplied by renewable energies
- Imbedded into an optimised, intermodal traffic system linked to the public transport
- Demonstration of Austrian expertise, job preservation and competitiveness of Austrian industry

Model of electric mobility in Austria



Multiple responsibility for electric mobility in BMVIT

The National Implementation Plan for Electric Mobility is managed by the BMVIT because of its responsibility and instruments for:

- Technology policy and research funding
- Infrastructure development, -financing and -construction,
- Transport policy and traffic planning
- Owner- and financing responsibilities for the big traffic service providers and infrastructure operators

Integrative Approach

Individuality

customised solutions for different fields of application and model regions shall be developed individually, solutions should not be sold as a cure-all

National, sustainable overall planning

to avoid isolated applications and uncoordinated activities

Field of Consideration and Targets

All technologies (BEV, FCV und HEV) and vehicle classes (single- and multi-lane, car and truck applications)

- to make a contribution for sustainable mobility in the context of the targets of transport policy and an overall strategy
- to make a first step out of combustion of fossil fuels
- to strengthen the Austrian industry by technological upgrading and innovation
- the focus is on electric mobility as potential for short-distance traffic and as a feeder to public transport

Electric mobility's dimensions: identified spheres of action

- transport policies and mobility management
- regulatory and legislative measures
- fundings and preferences for users
- technology and research in politics and funding
- regions of implementation and model systems
- public procurement
- provision of infrastructure
- energy supply
- education and training
- international cooperation
- communication, marketing and awareness
- ministry internal measures

Dimensions of electric mobility

application	<i>commuters</i>	<i>taxis</i>	<i>Urban public transport user</i>	<i>recreational traffic</i>	<i>public fleets</i>	<i>company fleets</i>	<i>city logistics</i>	<i>long distance freight</i>
Vehicle class	<i>pedelecs</i>	<i>e-scooters</i>	<i>e-motorbikes</i>	<i>cars</i>	<i>light trucks</i>	<i>buses</i>	<i>heavy duty vehicles</i>	
technology	<i>full hybrid</i>	<i>plug in hybrid</i>		<i>battery electric vehicle</i>			<i>fuel cell vehicle</i>	
region	<i>urban</i>	<i>Urban agglomeration</i>		<i>transport corridor</i>			<i>rural area traffic</i>	
intermodal links	<i>pedestrians, bicycles</i>	<i>rail short distance</i>	<i>rail long distance</i>		<i>Buses</i>		<i>aviation, shipping</i>	
instruments & fields of action	<i>implementing regions</i>	<i>legislative measures</i>	<i>R&D-fundng</i>	<i>infrastructure</i>	<i>ministry internal</i>	<i>synergies with public transport</i>		
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	<i>education and training</i>	<i>financial assistance and compensation measures</i>	<i>business models</i>		<i>energy supply</i>	<i>mobility management</i>		
stakeholders	<i>ministries, provinces, communities</i>	<i>Companies</i>	<i>R&D-institutions</i>	<i>automotive industry</i>	<i>energy suppliers</i>	<i>transport service providers</i>	<i>Infrastructure Companies</i>	
timing	<i>short term</i>		<i>medium term</i>			<i>long term</i>		

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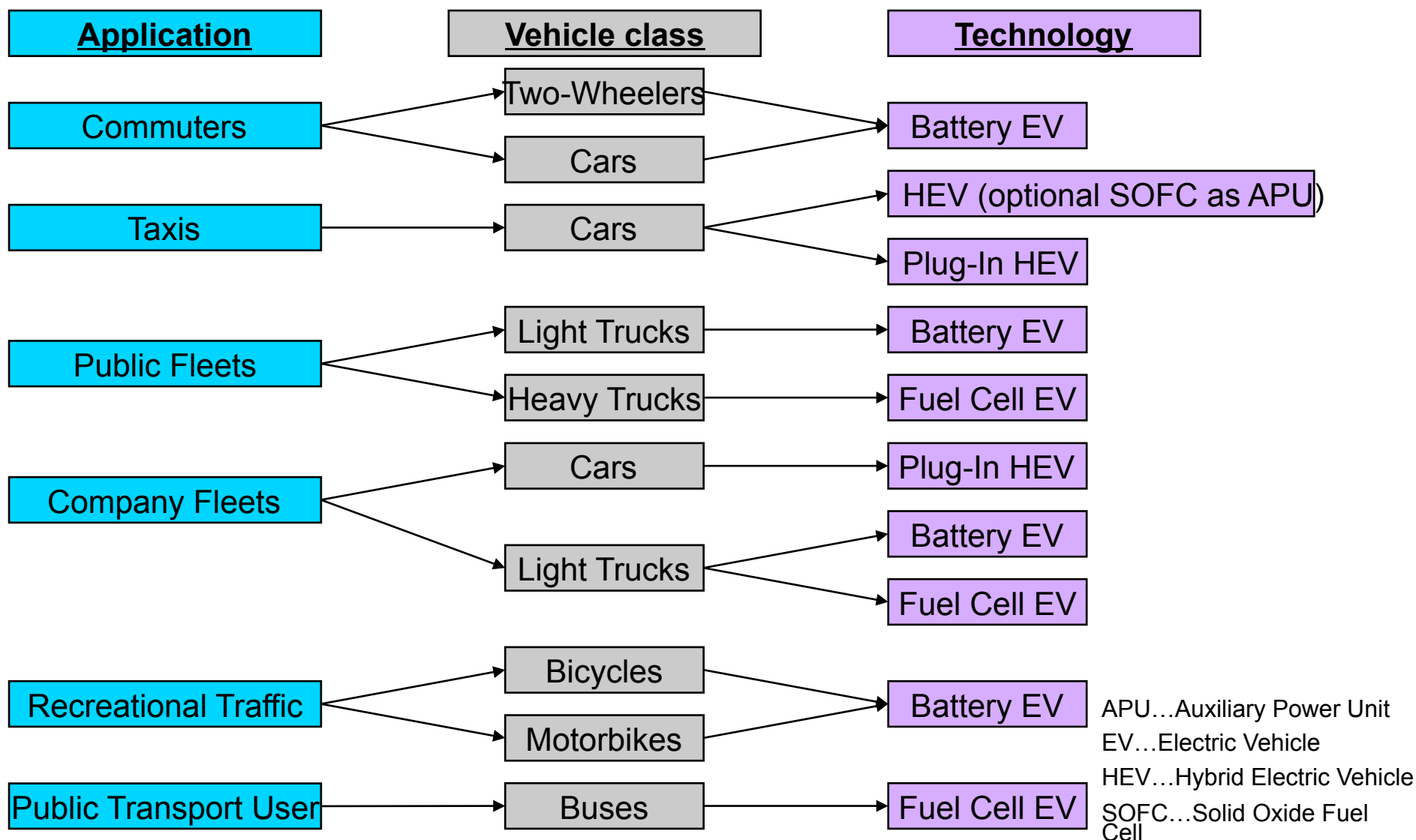
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Prioritised fields of activity



The six user's and application areas

- Commuters
- Taxis
- Public fleets
- Company fleets
- Implementing regions
- Juvenile users of electric two-wheelers

- **Comprehensive document** on the basis of all the skills and instruments of BMVIT
- Created in **cooperation with all departments** since September 2009
- **Presented by Minister Bures**, March, 15th 2010
- <http://www.bmvit.gv.at/e-mobilitaet>

A3PS - Austrian Agency for Alternative Propulsion Systems 1/2

- Stimulating the cooperation of complimentary partners, building up interdisciplinary research co-operations and trans-sectoral demonstration projects.
- Providing, compiling and analysing information (technology foresight and assessment, studies, lectures, workshops, conferences, travel reports,...).
- Supporting the creation of innovation friendly framework conditions (Regulatory- and fiscal policy, fuel taxation, endowment of research programmes, 7. FP, codes and standards, emission limits, access to sensitive areas,...).
- International networking and marketing for Austrian R&D competence and the product and engineering Know How of A3PS members.

A3PS - Austrian Agency for Alternative Propulsion Systems 2/2



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