Lessons Learned from the Austrian Case Studies

AMF Annex 59 Expert Workshop, 30.10.2020

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Selection Case Studies

- Low Blend Biofuels – example for successful market introduction
- E10 – example for stopped market introduction
- CNG – example for low market acceptance
Transport Sector in Austria

- 347 PJ
- Increasing consumption in the last years
- 74 % Diesel
- 19 % Petrol
- 5.7 % Biofuels
- 1.5 % Electric Energy
- 0.3 % CNG/LNG
Policies regarding alternative fuels

1995 Mineral Tax Law
2005 Bioethanol Blending Order
2009 (EU) Fuel Quality Directive
2012 Fuel Ordinance 2012
2015 (EU) ILUC Directive
1999 Fuel Ordinance 1999
2009 (EU) Renewable Energy Directive
2010 Ordinance on Agricultural Feedstocks for Biofuels
2014 Sustainability Ordinance
2018 (EU) Renewable Energy Directive II
CS Low Blend Biofuels

Background

- Austrian biofuel obligations (2005): 2.5 % overall biofuel target (% by energy content)
- Since 2009: Ethanol 3.4 % and Biodiesel 6.3 %
- Nationwide E5 and B7

![Low blend biofuels consumption in Austria [t]](chart.png)
CS Low Blend Biofuels

Evaluation

- Vehicles using low blends: 99.36 %
- GHG savings achieved 1.5 Mio T CO2
- Energetic substitution 19.6 PJ = 5.8 %

- Key drivers of successes:
  - No public discussion on food vs. Feed vs. Fuel
  - Compatibility of fuel with conventional engines
  - Tax incentives for biofuels
  - Substitution requirement
  - Clear political will
  - Coordination with Stakeholders from industry
CS Introduction of E10

Background

- 2007 Introduction of E5
- Planned increase to E10 in 2012 was stopped

- Market share of E10 suitable vehicles: about 40%
- Ethanol production capacity in Austria could provide the entire ethanol demand for E10
- CO2 savings of 300,000 t/a would be possible
CS Introduction of E10

Evaluation

- Prevented / Stopped market introduction

- Key barriers of failures:
  - Possibility of new assessment of E10 at EU level
  - Negative attitude of general public
  - Discussion on food vs. feed vs. fuel
  - Engine compatibility (10-25 % not compatible at that time)
  - No tax exemption and no cost benefit
  - Reserved attitude of automotive associations
  - Poor acceptance of E10 in the German market
CS CNG driven vehicles

Background
CS CNG driven vehicles

Evaluation

- Market share of suitable vehicles 0.11 %

- Key barriers of failures/stagnation:
  - Infrastructure problem: decrease of gas filling stations and missing investments in infrastructure
  - And thus careful planning of long-distance travel is needed
  - No tax benefit/exemption for CNG fuel or cars
  - Cost benefit is not obvious for customers
  - No nationwide incentives and low subsidies
  - Reservation of car sellers and customers towards the new technology
  - Negative perception, prejudices and fears of gas used as fuel
Summary for Austria - Lessons Learned and Recommendations

Politics

- Positive attitude of policy makers
- Political consensus
- Long-term policies
- Initiatives from ministries
- Consultation with science and economy
- Decarbonisation strategy should include drop-in fuels
Summary for Austria - Lessons Learned and Recommendations

Stakeholder involvement

- Clear commitment and consensus amongst stakeholders
- Involvement of all stakeholders along the value chain: politics, customers, advocates, media, vehicle marketers, automotive industry, alternative fuel producers and mineral oil industry
- Automobile associations are important advocates

Measures

- Funding programmes for infrastructure
- Tax incentives to guarantee cost benefit
- Subsidies and grants for customers
- Set of measures with benefits for all stakeholders
Summary for Austria - Lessons Learned and Recommendations

General public

- Knowledge creation and awareness raising
- Information campaigns
- Better communication of (not well-known) advantages of advanced fuels and vehicles

Technology

- Guarantee of engine compatibility
Summary for Austria

Key messages

- Long-term political commitment for alternative fuels and vehicles
- Involvement of all stakeholders along the value chain
- Set of measures providing (financial) benefits for all stakeholders
- Information campaigns for general public
- Broad mix of alternative drive systems and fuels necessary
Thank you very much for your attention