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BEST Bioenergy and Sustainable Technologies

Lessons Learned from the Austrian Case Studies

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Niederösterreich
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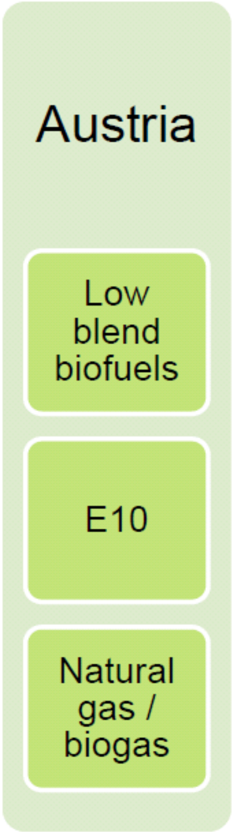
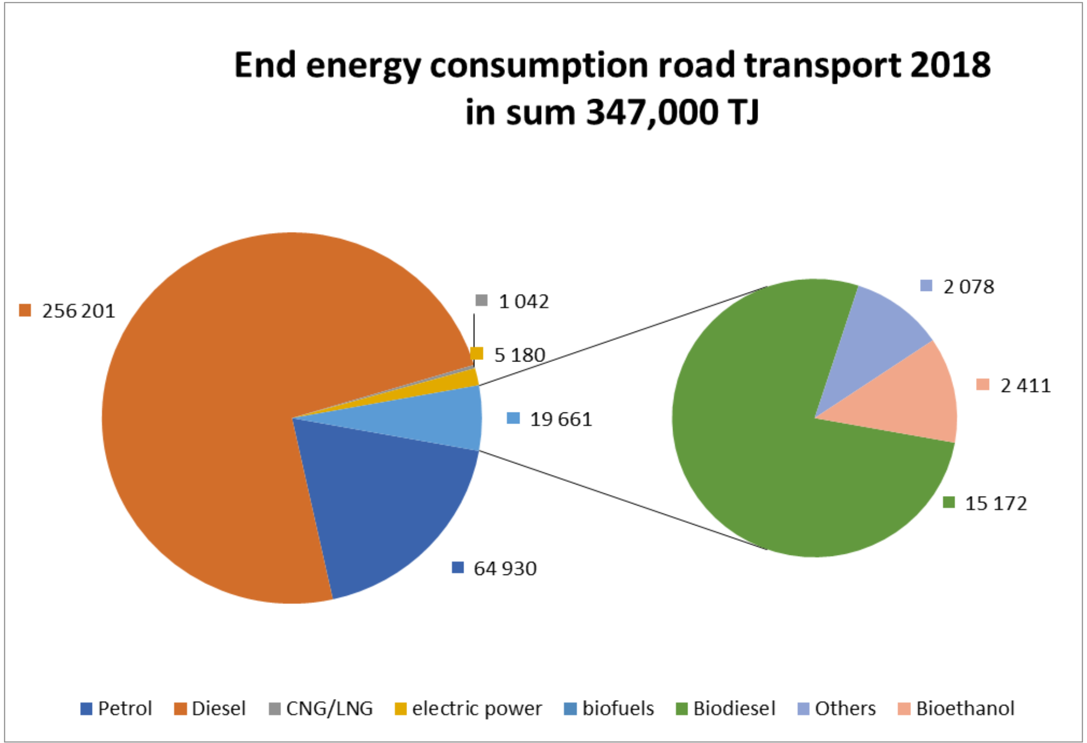
Selection Case Studies

- Low Blend Biofuels – example for successful market introduction
- E10 – example for stopped market introduction
- CNG – example for low market acceptance

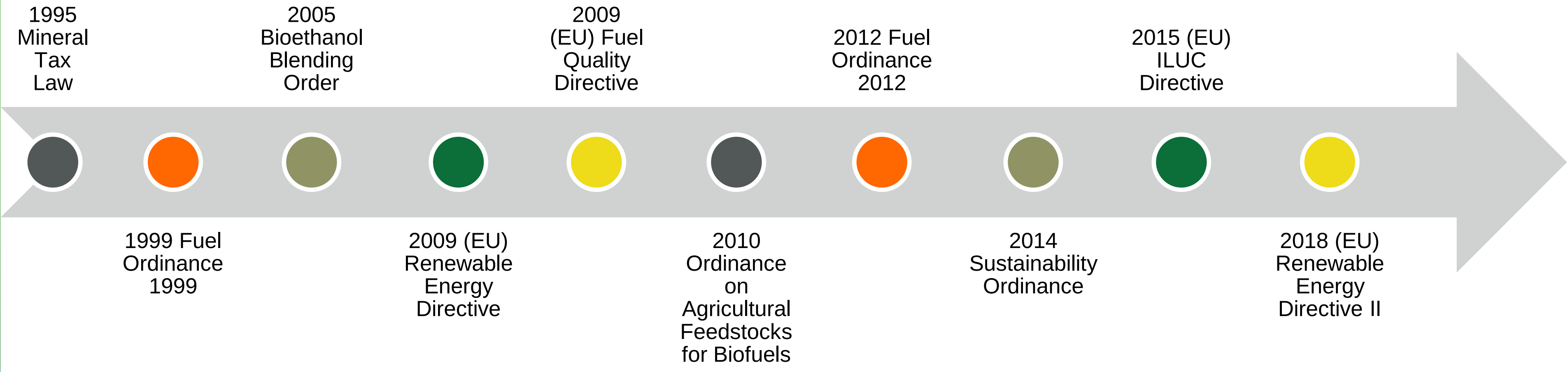


Transport Sector in Austria



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

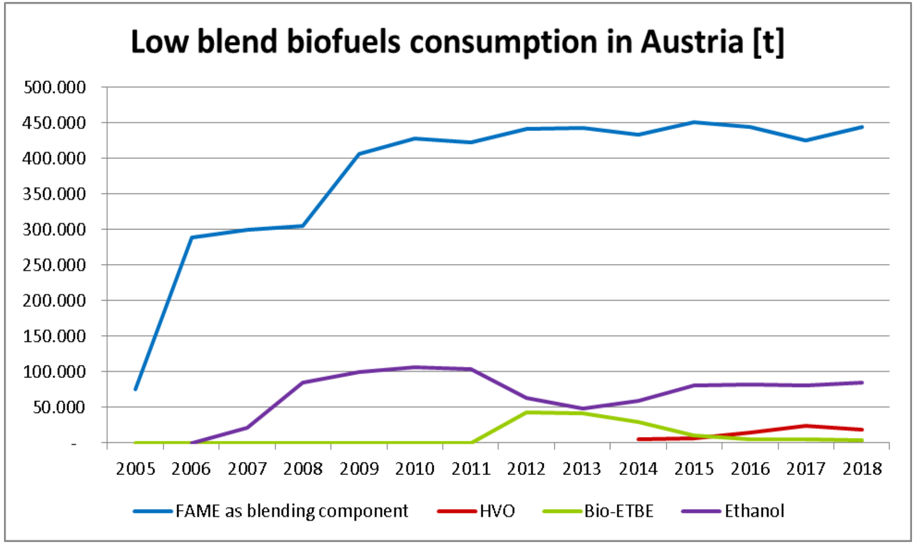
Policies regarding alternative fuels



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



CS Low Blend Biofuels

Evaluation

- Vehicles using low blends: 99.36 %
- GHG savings achieved 1.5 Mio T CO_2
- 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

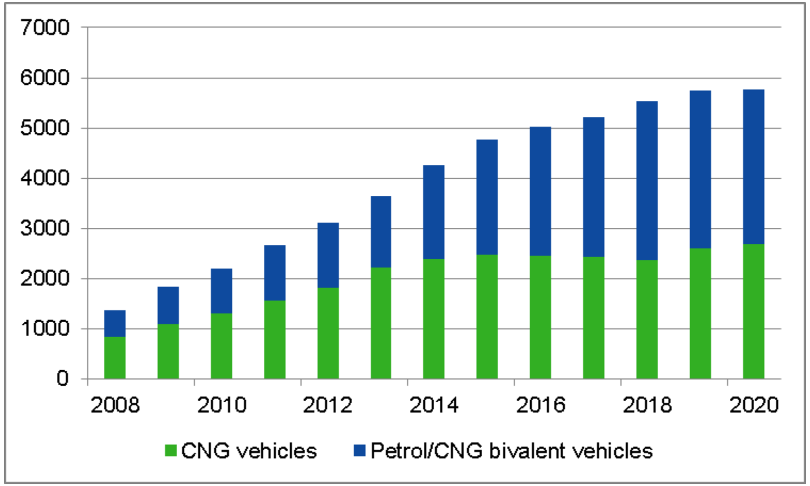
CS Introduction of E10
Evaluation

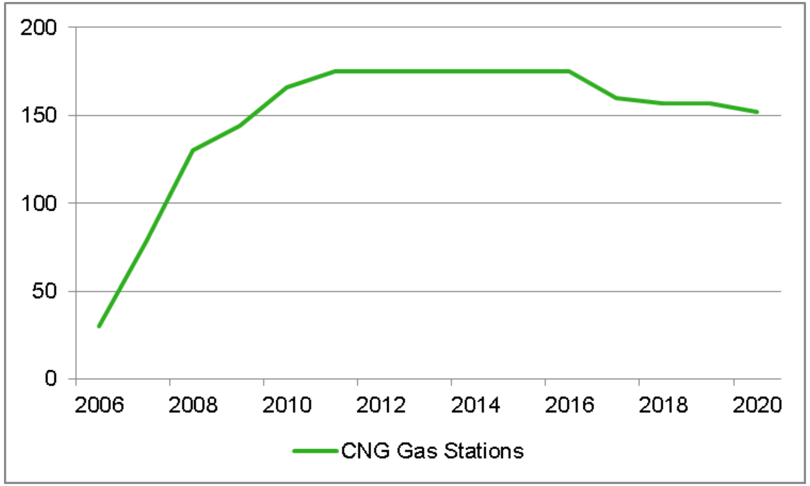
- Prevented / Stopped market introduction

- 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