

# Narratives in the future discourse on synthetic fuels – a stakeholder-focused content analysis

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**Forward-Looking Activities and STI Policies**

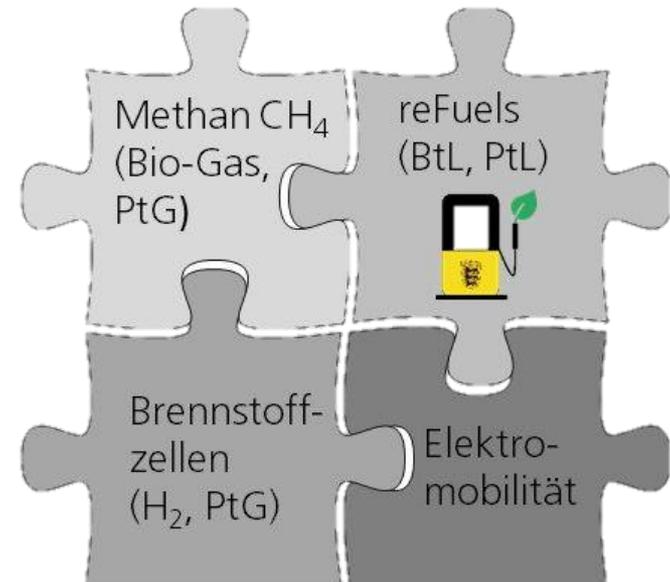
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# Mobility transition as a societal task

- The transport of passengers and goods driven by fossil fuels contributes significantly to climate change through CO<sub>2</sub> emissions
- predominantly used gasoline and diesel fuels may also be produced as renewable fuels - so-called “reFuels”
- transformation of the energy and transport system towards climate protection is a societal task in which all relevant groups and stakeholders need to contribute
- positions of selected key stakeholders in the fields of economy, science, and politics are analyzed in order to identify possible acceptance problems at an early stage and take appropriate measures

# What are reFuels?

- Individual and freight transport powered by fossil fuels is one of the largest sources of CO<sub>2</sub> emissions
- reFuels are renewable fuels that have the same energy density as fossil fuels
- reFuels can be produced from carbon-containing residues from agriculture and forestry, from waste, as well as through the direct conversion of CO<sub>2</sub> and sustainably produced hydrogen



# Research question

- Are reFuels promising? → different assessments by several stakeholders
- Stakeholder basically agree on the energy transition - but with own accents in positioning in this context

## Main goal:

- Desk research-based document analysis to determine stakeholder positions,
- and to analyze similarities and differences of the refuels assessments

# Selection of the stakeholder sample

- 21 organizations identified in three areas:
  - (1) economy,
  - (2) environment,
  - (3) society;
- Statements on reFuels in 42 documents (e.g. position papers, general statements, press releases etc.) from 17 organizations



# Methodology

- Desk Research
- 3 steps:
  - Selection of stakeholders & position documents
  - Fact sheet regarding stakeholder positions
  - Evaluation of the data based on the fact sheets



# Methodology: Analytical framework

## *Positioning on the following aspects*

- Understanding of the “mobility transition”
- Relevance of reFuels
- Technology openness vs. technology selection
- Place of energy generation and relevance of import
- Assessment of profitability
- Importance of reFuels for storage and flexibility
- Assessment of acceptability
- Assessment of sustainability
- Role for Germany as a business location
- Political framework

# Overarching results

- The topic of reFuels is inherent part in the German stakeholder discourse
- Electricity-based and biogenic fuels are perceived as possible building blocks for a mobility transition
- Only 4 associations have implicitly positioned themselves in the context of reFuels (BDEW, VDV, VCD, KDA)

	Wirtschaft							Umwelt			Zivilgesellschaft						
	VDA	VDB	BEM	BDEW	VDV	bif / MEW	DBV	BDI	BUND	Greenpeace	WWF	Agora	vzbv	ADAC	VCD	IG Metall	KDA
• Overarching position (e = explicit, i = implicit)	e	e	e	i	i	e	e	e	e	e	e	e	e	e	i	e	i
• Understanding of the „Verkehrswende“	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
• Assessment of biogenic fuels	✓	✓			✓		✓	✓	✓		✓	✓	✓	✓	✓		
• Assessment of synthetic fuels	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓		✓	✓
• Areas of application reFuels	✓	✓		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓		✓	✓
• Technology openness vs. -selection	✓	✓	✓	✓	✓	✓		✓				✓				✓	✓
• Location of energy generation + relevance of import	✓	✓	✓	✓		✓	✓	✓	✓			✓					
• Assessment of profitability	✓			✓		✓		✓		✓		✓	✓	✓			
• Importance of reFuels for storage + flexibility	✓	✓		✓		✓		✓	✓	✓	✓	✓	✓			✓	
• Assessment of acceptance	✓	✓				✓		✓	✓			✓	✓	✓			
• Assessment of sustainability	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓			
• Role for securing the location	✓					✓		✓								✓	
• Political framework	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓			✓	✓

# Results:

## Perception of the mobility transition

- An efficient internal combustion engine will continue to play an important role in traffic in the future - improving is therefore an important pillar
- In motorized traffic, there should above all be a change to alternative drives (electromobility and fuel cells)
- reFuels are a necessary – although controversial - building block for a successful “mobility transition”
- The focus of a “mobility transition” is on a clear hierarchy of measures in favor of avoiding traffic, then changing the modal split and finally improvement of technologies
- An ambitious turnaround in traffic with zero-emissions is conceivable by 2035

# Results:

## Relevance of biogenic and electricity-based fuels

### *Biogenic fuels*

- Advanced biofuels (2nd gen.) from waste wood, straw, waste and residues are of great importance for the future defossilization of the transport sector
- Concerns of numerous associations from the environment / civil society with regard to biogenic fuels due to environmental problems (e.g. rainforest deforestation, pesticide use, etc.)
- largely doubted that biofuels alone have the potential to cover future energy needs in traffic

### *Electricity-based fuels*

- In the long term, electricity-based fuels could play a limited but meaningful role in the overall system to meet the remaining energy needs of the transportation sector
- The majority of applications for electricity-based fuels are seen in trucks, long-distance buses, ships and in air traffic.
- The use of electricity-based fuels in private cars is only discussed by very few actors (especially for already existing vehicles)

# Results:

## Three dominant reFuels narratives

### Narrative 1: reFuels are crucial for the success of the “Verkehrswende”

- reFuels as an immediately available building block for the defossilization of the transport sector
- Stabilizer and memory for the energy transition
- Securing locations in the national transformation process
- High relevance of a technology openness
- Acceptance of end users as a crucial element
- Above all, relevant for MIV in rural areas

### Narrative 2: reFuels do have potential - for modes of transport without an alternative and in compliance with sustainability criteria

- The potential of synthetic fuels is basically there
- Areas of application only in those areas where electrification is difficult to implement
- CO<sub>2</sub> source from air for the production of synthetic fuels
- Renewable energies as the only basis for energy generation
- Establish and focus on sustainability rules
- Only use synthetic fuels after 2030

### Narrative 3: Transport change as sustainable, affordable, safe and comfortable mobility - if reFuels contribute, then yes!

- Sustainable, affordable, safe and comfortable mobility as the basis for welfare, quality of life and sociable. Participation
- Use of synthetic fuels to reduce CO<sub>2</sub> emissions, especially where battery-electric mobility is not suitable
- Intensify research and development on reFuels and focus on profitability
- Ensure acceptance with a view to users of fuels
- Set price incentives and at the same time mitigate unwanted side

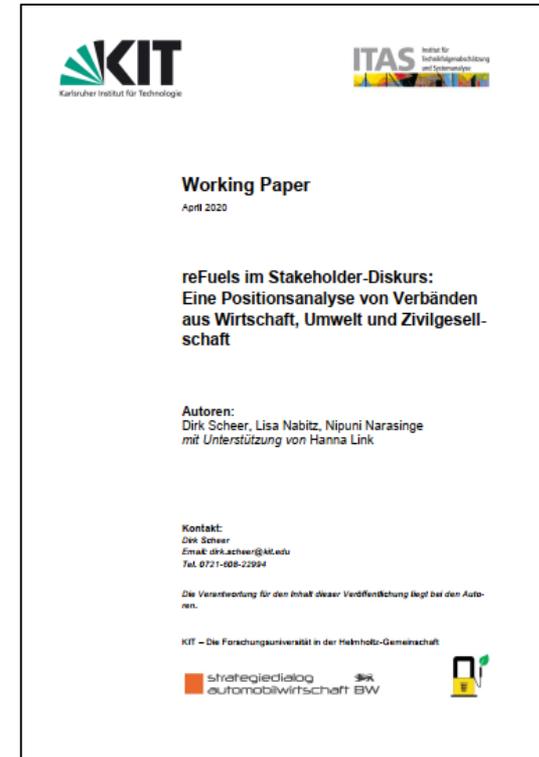
# Thank you for your attention!

## Questions? Comments?

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Working Paper:

**„reFuels im Stakeholder-Diskurs:  
Eine Positionsanalyse von Verbänden  
aus Wirtschaft, Umwelt und  
Zivilgesellschaft“**