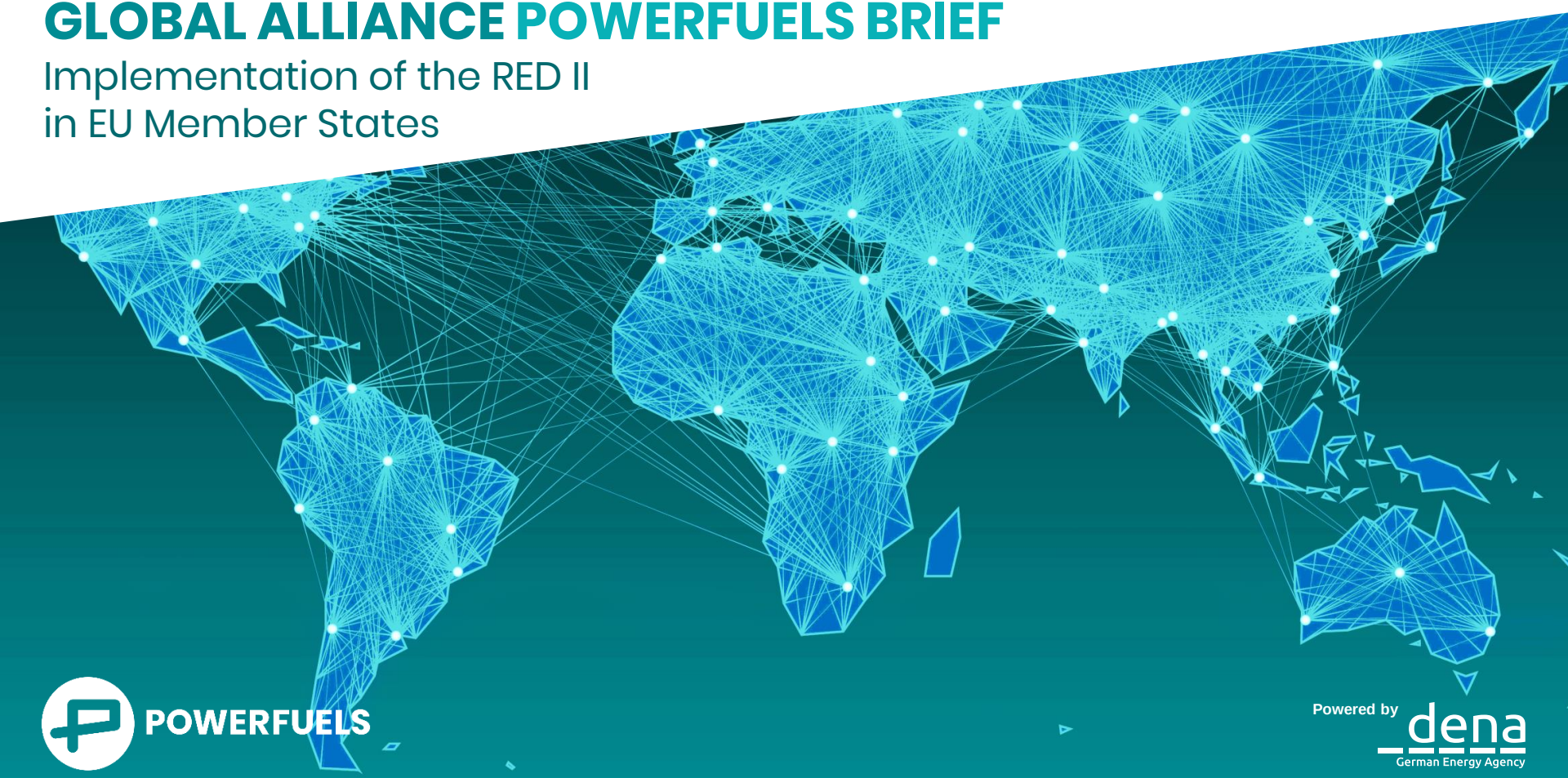
GLOBAL ALLIANCE POWERFUELS BRIEF

Implementation of the RED II in EU Member States



POWERFUELS

Powered by dena German Energy Agency

Agenda

1 **Our work as the Global Alliance Powerfuels**

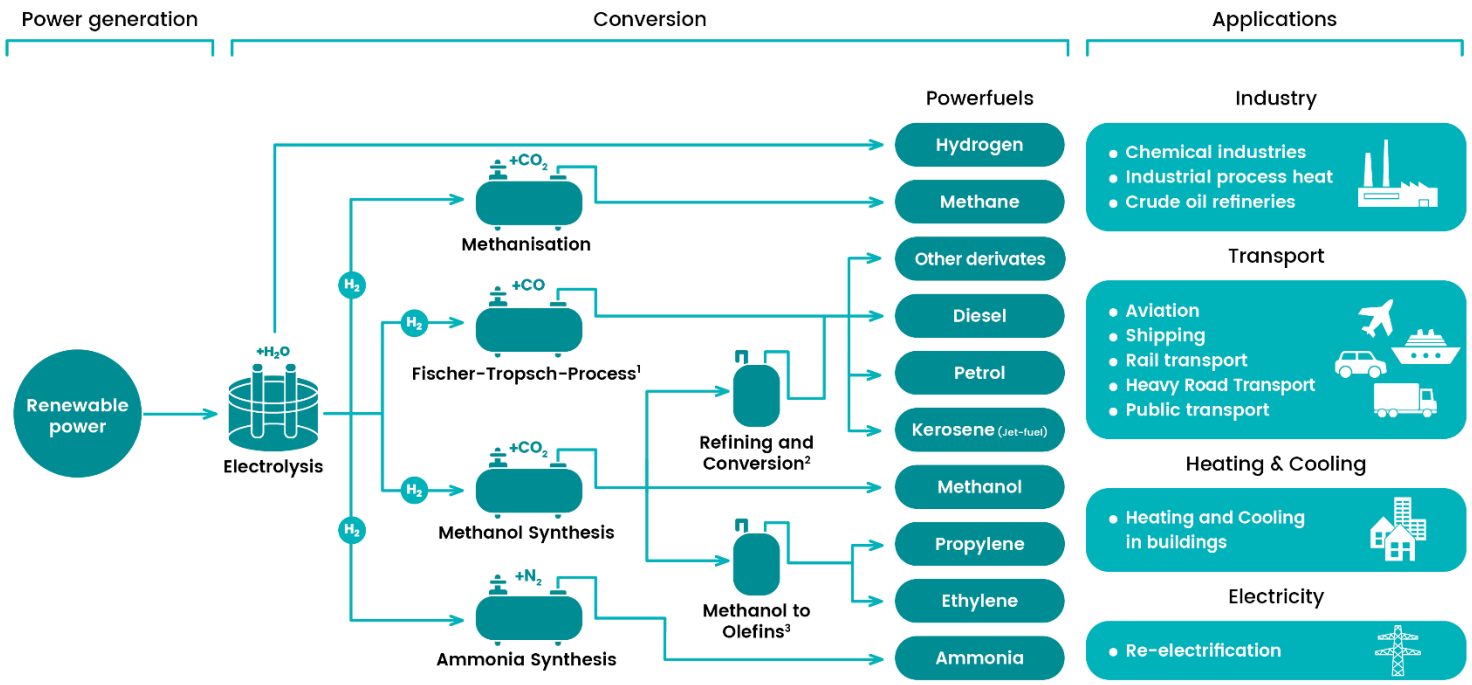
2 **Status Quo: REDII in Member States**

3 **Regulatory Options**

Kilian Crone
Team Lead,
Global Alliance Powerfuels

Matteo Micheli
Expert,
Global Alliance Powerfuels

What are powerfuels?



❶ Includes: Fischer-Tropsch synthesis, hydrocracking, isomerization and distillation.

❷ Includes: DME/OME synthesis, olefin synthesis, oligomerisation and hydrotrating.

❸ Methanol-to-olefins process.

Global Alliance Powerfuels – What we do

Advocacy & Communication

Policy & Regulation

Global Project Development

Our Members

bp

ENERTRAG
Eine Energie voraus

BOSCH
Technik fürs Leben

BDL
Bundesverband der Deutschen Luftverkehrswirtschaft

iwo
Institut für Wärme und Oeltechnik

SCHAEFFLER

DAIMLER

MEW
Mittelständische Energiewirtschaft Deutschland e.V.

MWV
MINERALÖL WIRTSCHAFTS VERBAND e.V.

Deutsche Post DHL Group

DVFG
Deutscher Verband Flüssiggas e.V.

Lufthansa

uniper

UNITI
UNITI Bundesverband mittelständischer Mineralölunternehmen e.V.

Mitsubishi International GmbH

ExxonMobil

PAUL WURTH
SMS group

sunfire

EU obligations for the transport sector

Context: EU climate goals and differentiation between ETS and non-ETS sectors

ETS

power generation, energy intensive industries and civil aviation (~ 45% of emissions)

- 43%
(vs. 2005)

Non-ETS

transport (~25% of emissions), buildings, waste, other industries and agriculture (~60%)

- 30%
(vs. 2005)

2030

- 40%
(vs. 1990)
total

Effort Sharing Regulation:

- sets binding annual GHG targets for each Member State for 2021-2030
- 2030 targets range from 0% to -40%
- annual report process
- allows for flexibilities

Context: Relevant EU policies

ESR
Effort Sharing Regulation

- Sets binding annual GHG reduction targets for each Member State for 2021-2030
- 2030 targets range from 0% to -40%

FQD
Fuel Quality Directive

- Set 6% GHG intensity reduction of transport fuels by 2020 (baseline: 94,1 gCO_2eq/MJ)
- Currently under review until 2021

ETD
Energy Taxation Directive

- Establishes min. excise duty rates for fuel and transport
- Under review until June 2021
- contains incentives for fossil fuels

CVD
Clean Vehicles Directive

- Sets national targets for the public procurement of clean vehicles
- Needs to be transposed into national law by 2 August 2021

Fleet Regulation
(EU) 2019/631
(EU) 2019/1242

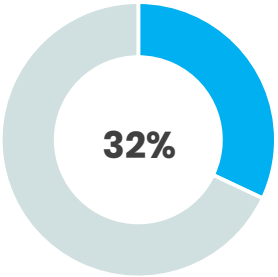
- Sets fleet-wide average CO_2 intensity reduction targets for passenger cars, vans, and HDV[1]
- Reductions first measured 2025

[1]Heavy-duty vehicles

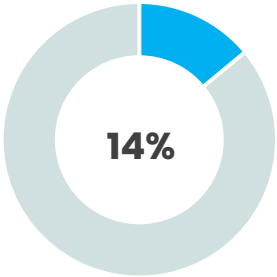
The role of the RED II for the non-ETS transport sector

RED II
Renewable Energy Directive

EU RES target 2030
[% EU gross final energy consumption]



Transport RES target 2030
[% final energy consumption]



Deadline for tailoring sustainibility requirements and targets on the national level

July 2021

RED II crediting mechanisms and criteria for different fuels

Type of fuel	Min. GHG reduction	Cap or quota	Multiplier	Addtional
Conventional biofuels	50 – 65%, depending on plant operation starting date	Cap: 7%, and 0% in 2030 for high ILUC risk biofuels	-	If member state decides to lower the limit, the respective percentage points will be deducted from the 14% target.
Advanced biofuels	50 – 65%, depending on plant operation starting date	Min. quota: 0.2% (2022), 1% (2025), 3.5% (2030) (w/o multiplier)	2x	
Waste-based biofuels	50 – 65%, depending on plant operation starting date	Cap: 1.7% (w/o multiplier)	2x	Possibility of elevating cap if justified by member state in accordance to RED II and approved by the Commission.
Renewable Fuels of Non-biological origin / RFNBOs	70%, from January 2021	-	-	Sustainability criteria for electricity sources: renewability, temporal and geographical correlation, and additionality
Recycled carbon fuels / RCFs	Not yet defined	-	-	Optional; can be credited toward the 14% target but not the overall 32% goal

What are important policy signals in the RED II?

Ends explicit support for conventional biofuels

- Cap (7%), no binding tartget and no multiplier for conventional biofuels

Greater flexibility in achieving target

- More diversity of fuels to choose from

Acknowledges potential of powerfuels in mitigating GHG emissions

- Additional fuel category of **RFNBOs are eligible**
- But not put on equal footing with alternative fuels (no multiplier, nor quota, stricter GHG reduction standards)

Climate impact is unclear

- fuels are only creditable in compliance with GHG reduction standards
- But due to use of multipliers credited renewable energy shares **do not reflect actual energetic share**

RED II delegated acts and legislative timeline

Delegated act art. 25 RCFs	1 Jan 2021
RED II national implementation	30 Jun 2021
Delegated acts art. 27, 28, Annex IX	31 Dec 2021

Relevant for powerfuels:

Art. 28: specifying the methodology for assessing GHG emissions savings from RFNBOs and RCFs

Art. 27: sustainability criteria for electricity sources of RFNBOs

Status Quo of the REDII Implementation in EU Member States

Current RE Shares in Transport in EU Member States

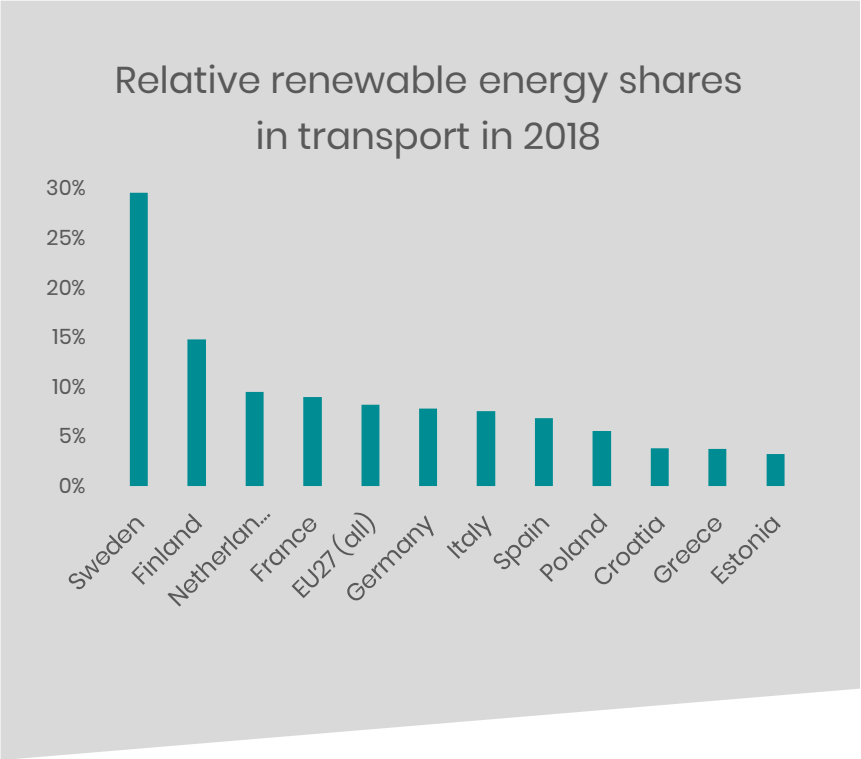


Figure: Relative shares of renewable fuels using crediting multipliers in selected EU member states in 2018 based on Eurostat data

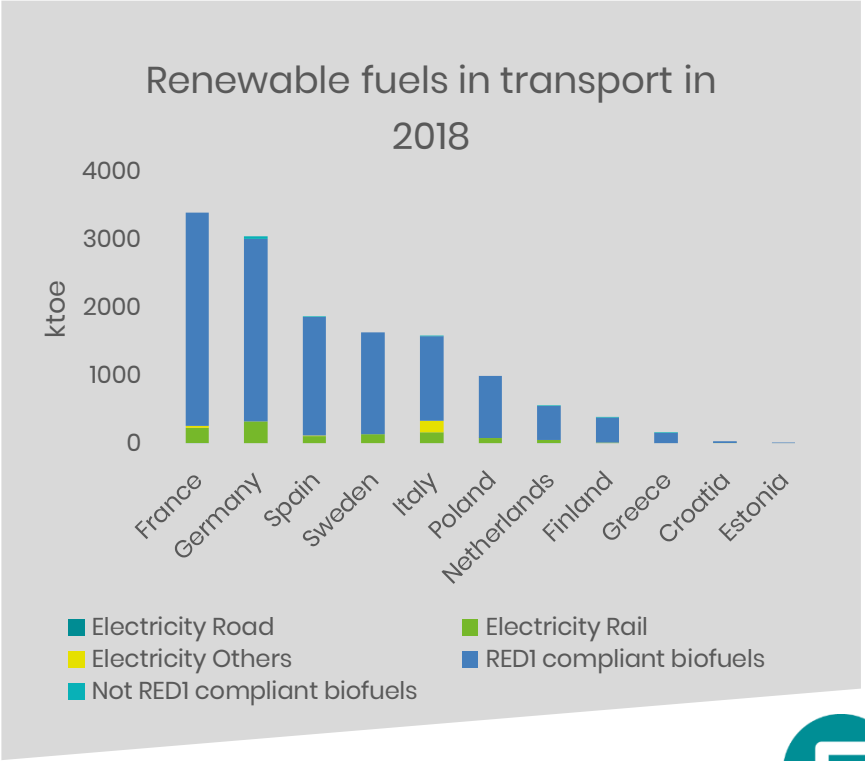


Figure: Absolute renewable fuel consumption of selected EU member states in 2018 based on Eurostat data (w/o multipliers)

RE Share Targets in Transport in 2030

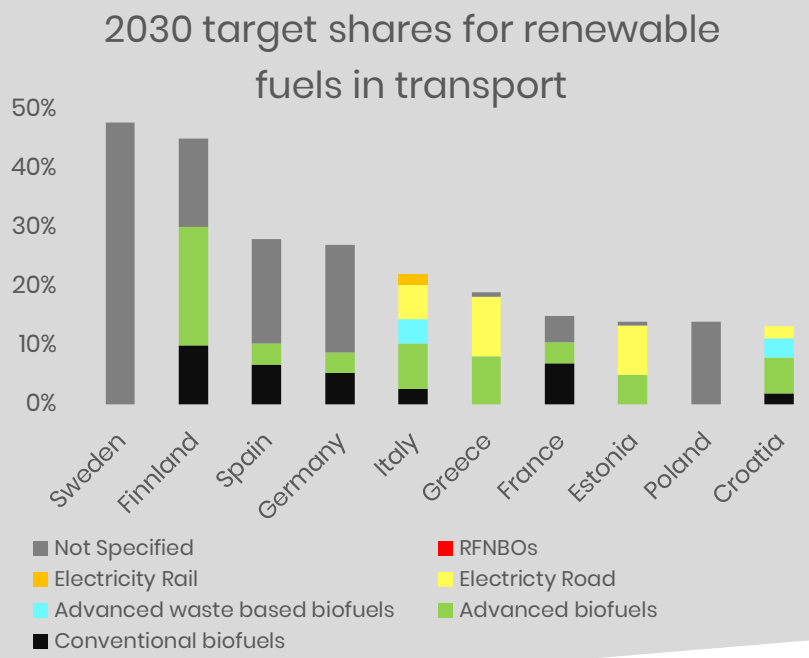


Figure: 2030 targets of selected EU member states for relative shares of renewable fuels using crediting multipliers based on the NECPs published in June 2020

In 2030:

- Different overall ambition levels
- More diverse RE fuel mix
- Biofuels are less dominant in the fuel mix
- Direct use of ren. electricity in road transport will contribute large shares
- Large shares of the RE targets are not specified yet
- No targets for RFNBOs in place

National Policy Overview

Biofuels

- Well established policy frameworks for biofuels in place in all of the selected member states
- Existing policies have not yet been adapted to the REDII
- All of the selected member states promote the use of biofuels

Electricity

- Key role for increasing the share of RE in the transport sector
- Most member states have ambitions to increase the share of electricity from RE sources in road transport
- Strategic goals, policies and measures are in place

RFNBOs

- Specific targets for RFNBOs in the NECPs of some member states (Italy, France)
- Some member states recognize RFNBOs in their NECPs as an option for increasing RE share in sector
- Unspecified target shares of RE in transport offer opportunities for RFNBOs as fulfillment option

Conclusion

- The **transposition of REDII** into national policies and measures is still **pending**
- Most **EU member states focus** on the direct use of **electricity and biofuels** in road transport
- In **some** member states, low **ambitions for** the use of **RFNBOs** are mentioned in the NECPs and hydrogen strategies exist
- Large **unspecified RE shares within** the **2030 targets** are an **opportunity for RFNBOs**

Options for the market development of powerfuels

Measures for the market development of powerfuels

National transposition

	Effective	Efficient	Coherent	Implemen-table	Overall
National energy target for powerfuels					
Higher total national energy target					
National GHG reduction target					
Full crediting Powerfuels in co-processing & substitution of fossil H_2					
Amendments to the RED II					
Energy quota for powerfuels					
Multiplier for powerfuels					

Context: On august 3rd 2020, the European Commission opened a public review process to discuss a possible revision of the RED II. Amendments to the text creating EU-wide conditions favourable to the development of powerfuels are possible.

Proposal and discussion

Proposal of the Global Alliance Powerfuels

An **energy quota for powerfuels** should be **included in the RED II** through the European Commission's ongoing revision process.

<u>The value of the quota should:</u>

- Be aligned with supranational GHG goals in and beyond 2030
- Translate into production volumes high enough to allow for powerfuels to reach cost-competitiveness with other alternative fuels
- Consider the project development lead times and the projected availability of RFNBOs

Proposal of the Global Alliance Powerfuels (cont.)

Member states should set **higher national energy targets** compared to the ones declared in their NECPs.

<u>Specifically:</u>

- In combination with an adequate multiplier, the additional portion of the target creates room for the adoption of powerfuels
- Such a measure would create a market-based incentive to adopt powerfuels, due to the capped or limited availibility of other fuels

Proposal of the Global Alliance Powerfuels (cont.)

A **multiplier for powerfuels** should be **included in the RED II** through the European Commission's ongoing revision process.

<u>The value of the multiplier should:</u>

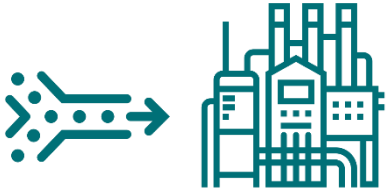
- Reflect the GHG and environmental performance of RFNBOs vis-à-vis with other alternative fuels
- allow for increased competitiveness of RFNBOs compared to other fulfillment options

Proposal of the Global Alliance Powerfuels (cont.)

The **use of powerfuels**, and the **resulting GHG reduction** should be **recognised** in **refineries**. The resulting GHG emission reduction should be creditable to transport fuels only.

<u>Specifically:</u>

- The **GHG reduction potential** of powerfuels **should be recognised** when used as co-processing feedstock
- The **GHG reduction potential** of **low-carbon hydrogen should be recognized** when used as production feedstock, for **both conventional and advanced fuels**



Thank you for your attention

powerfuels@dena.de
www.powerfuels.org

Project Team

Kilian Crone
Team Lead

+49 (0)30 66 777 - 732
crone@dena.de

Johanna Friese
Expert

+49 (0)30 66 777 - 108
friese@dena.de

Christoph Menzel
Expert

+49 (0)30 66 777 - 129
menzel@dena.de

Hannes Salomon
Expert

+49 (0)30 66 777 - 140
salomon@dena.de

Matteo Micheli
Expert

+49 (0)30 66 777 - 353
micheli@dena.de

Speaker & Strategy Team

Andreas Kuhlmann
Speaker of the Alliance

+49 (0)30 66 777 - 100
Andreas.kuhlmann@dena.de

Christoph Jugel
Strategy,
Energy System

+49 (0)30 66 777 - 757
jugel@dena.de

Stefan Siegemund
Strategy,
Regulation and Mobility

+49 (0)30 66 777 - 710
siegemund@dena.de

Backup: National transposition of the RED II in its current form

Instrument	Type of incentive	Effect for Powerfuels Market Development, and Risks
National energy target for powerfuels	Direct	Predictable market ramp-up, and investment security for stakeholders. Challenge lies in balancing the quota between being effective and achievable
Higher total national energy target	Indirect	Other fulfilment options available at lower cost, therefore effect uncertain. However, if combined with appropriate multiplier, it could result in a stronger incentive, especially considering the limited availability of other fulfilment options
National GHG reduction target	Indirect	Other fulfilment options available at lower cost, therefore effect uncertain. However, a dedicated GHG quota nested within the national target would be a stronger, direct incentive.
Fully crediting Powerfuels in co-processing, and in substitution of fossil-based H_2	Direct	Generates interest from fuel producer side, can foster development of green hydrogen capacity. Exceeding refinery output used in transport sector, emissions reductions would accrue to other sectors. Direct use of green hydrogen could, as cheapest option, hinder the development of syncrude plants if energy or GHG target too low.

Backup: Possible future amendments to the RED II

Instrument	Type of incentive	Effect for Powerfuels Market Development, and Risks
Energy quota for powerfuels	Direct	Other fulfilment options available at lower cost, therefore effect uncertain
Multiplier for powerfuels	Direct	A multiplier reduces the GHG reduction per unit of accounted energy. Therefore a proportionally higher energy target would be needed to ensure same GHG reduction. Too low of a value would not incentivize powerfuels, while too high of a value would over-incentivize them.