

Fit -for-55: Role of eFuels in Europe's sustainable future

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15 June 2022



Who we are

eFuel Alliance – Our Members

MORE THAN 170 COMPANIES, ASSOCIATIONS AND CONSUMER ORGANIZATIONS, INCLUDING:



eFuel Alliance – a platform with a clear vision

- We are a **lean and fast-lobbying “trailblazer” created** to foster a strong renewable fuel market within the next 2-3 years. We are a "coalition of the willing", representing the whole value chain of eFuels - we are not a new fuel association.
- We stand for **fair competition** and a **level-playing field** for all relevant emission reduction solutions. We are clearly committed to more climate protection and are not fighting against any single technology.
- We aim to **initiate attractive business models** to develop innovative fuel technologies in Europe.
- Now or never – the **Green Deal is the unique opportunity** to change the regulation and achieve more holistic political decisions.
- We have a clear **political agenda for all renewable fuels:**

1

Account for renewable fuels in the **revision of the CO2 standards of new cars, vans and trucks**

2

Reflect the climate benefit of renewable fuels in the **revision of the European energy taxation**

3

Press for a more ambitious **revision of the renewable energy directive / Fuel Quality Directive**

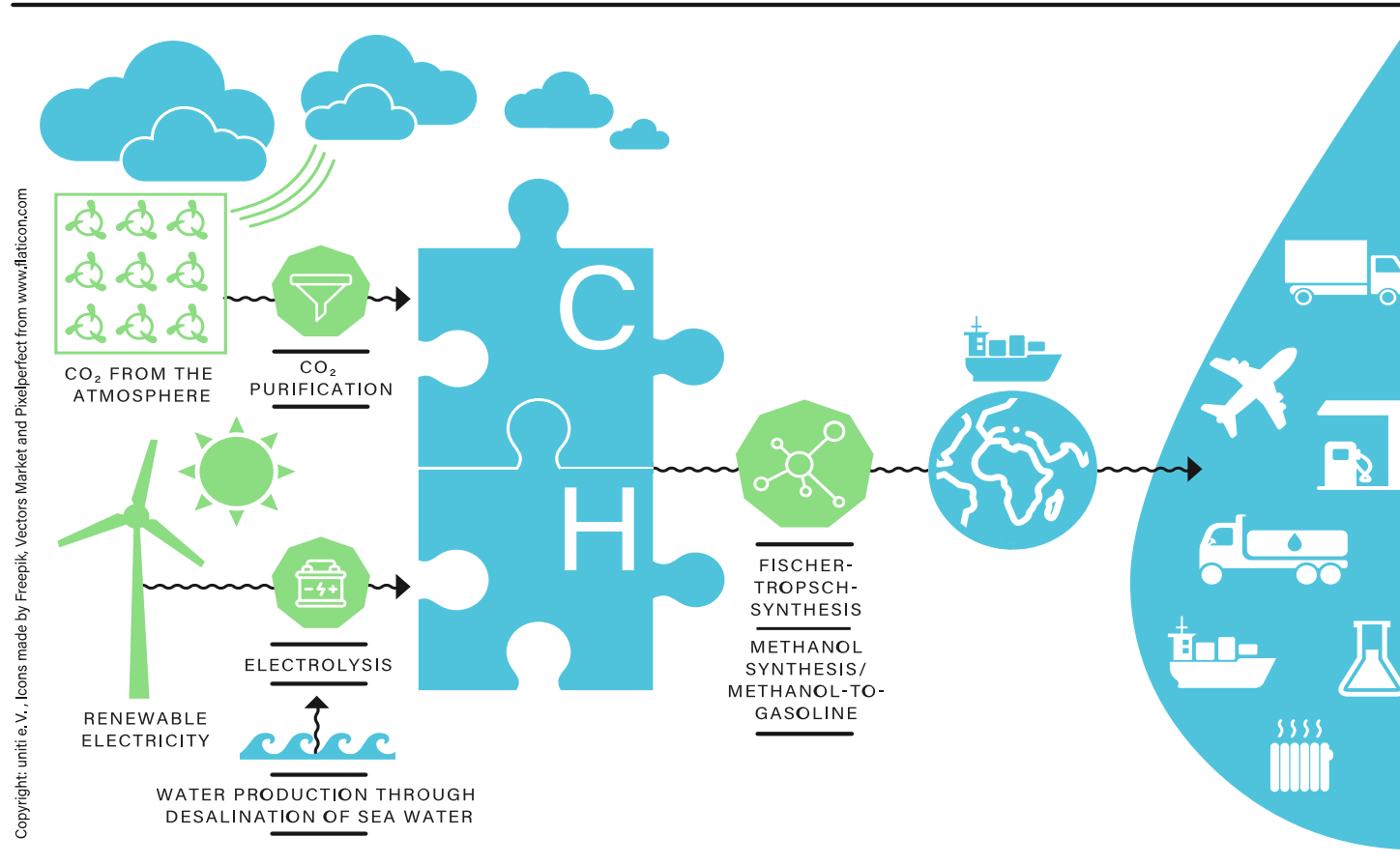
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More ambitious goals and eFuel sub-targets in the ReFuelEU Aviation and FuelEU Maritime



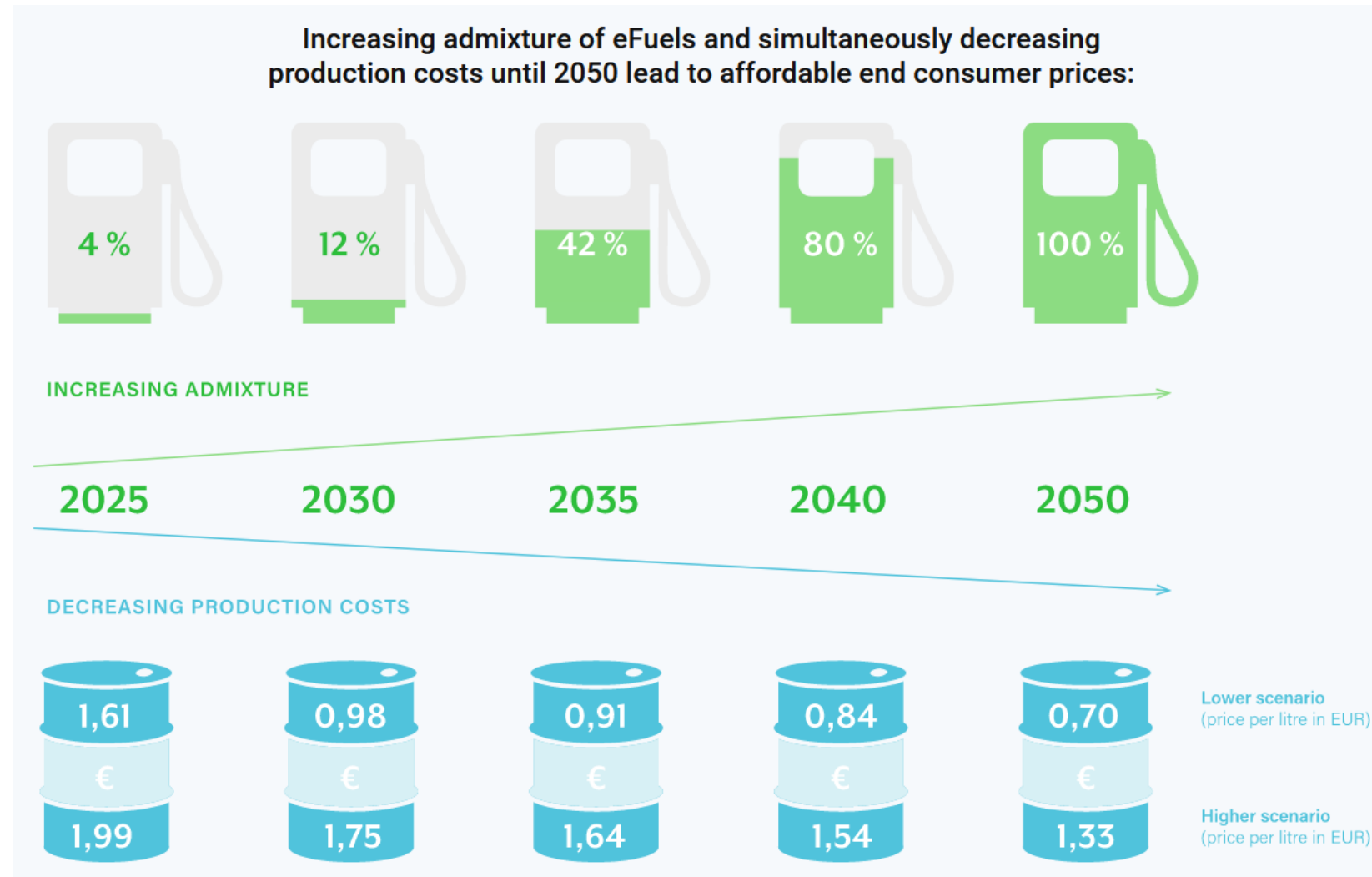
What are eFuels?

How are eFuels produced?



- Extraction of hydrogen from water by electrolysis using renewable electricity
- Hydrogen and CO₂, directly captured from the atmosphere, are converted into a liquid energy carrier, by using e.g. Fischer-Tropsch synthesis.
- Power-to-Liquid (PtL): Renewable electricity is converted into a synthetic, multi-purpose fuel with drop-in ability
- Climate-neutral process, no additional greenhouse gases are produced

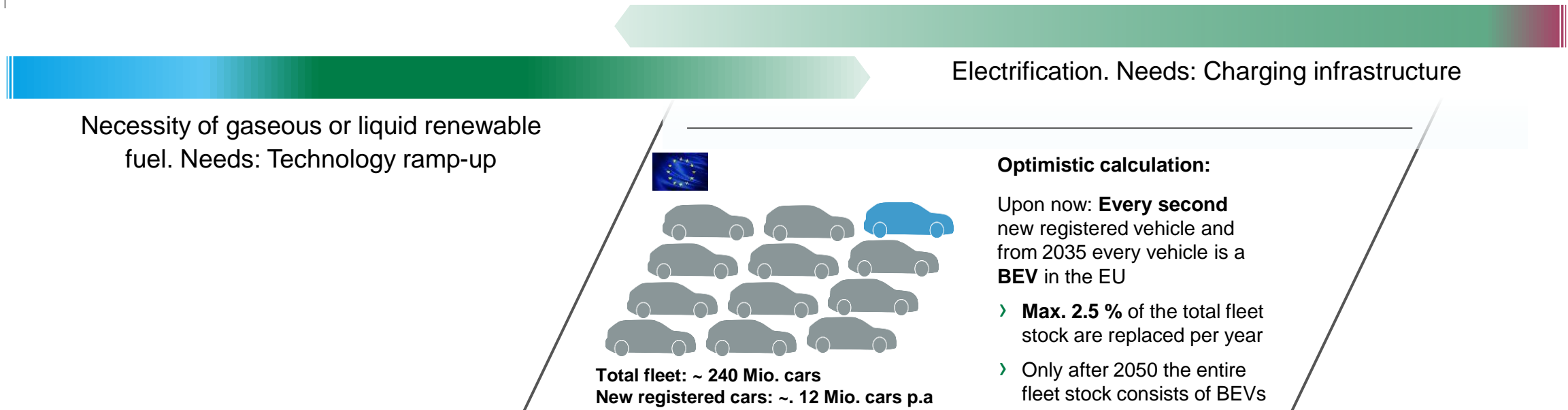
Affordable mobility must be maintained



- Economies of scale will reduce the production cost of eFuels ...
- ... while in the meantime the share of blending is steadily increased.
- According to a study by Prognos AG, the Fraunhofer Institute UMSICHT and DBFZ, the production costs are assumed to be less than EUR 1 per litre in 2050.
- Climate neutrality thus remains affordable for everyone

eFuels as an optimal complement to electric mobility

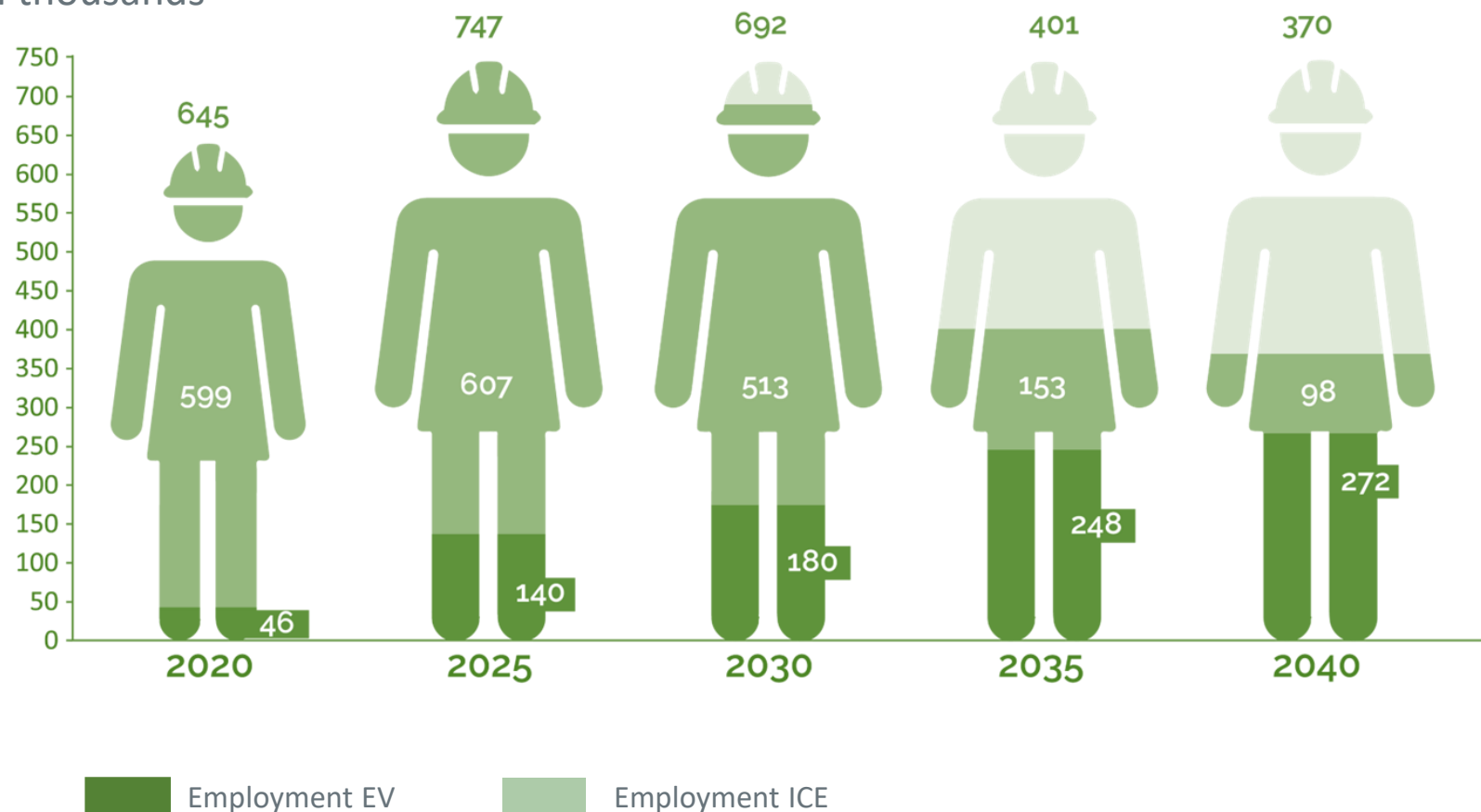
FORECASTED DIVISION ALONG THE ENERGY DEMAND IN EU-27 IN 2030:



>> A complete and timely transition of the transport sector requires the use of renewable fuels in addition to electrification

Technology mic for a socially acceptable transition

Employment
in thousands



- **501K jobs will become obsolete** from now until 2040
- This is about **one-third of current workforce**
- EV powertrain creates 226k **new opportunities**, but still net loss of **275k jobs**
- **Not 1:1 compensation** from ICE to EV powertrain employment

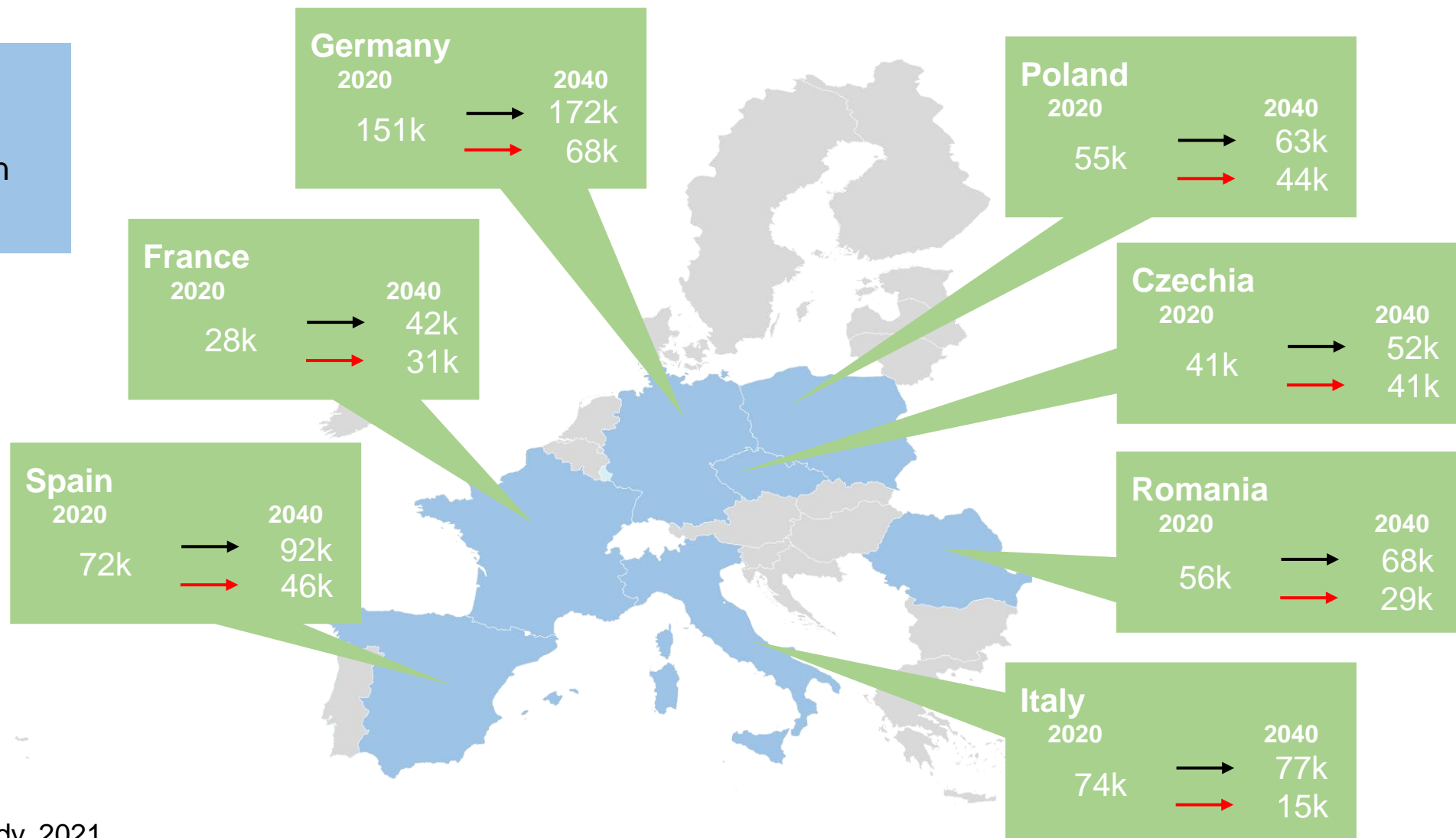
Technology mix for socially acceptable transition

The marked countries represent 74 % of European car production (OEMS + suppliers)

Number of employees in 2020 compared to 2040

→ Mixed technology

→ EV-only



Industrial policy potential

19 %

German share of worldwide
Electrolysis exports

36,4 Bn.
Euro

Value-added effects
Annual (in Europe: 80 billion euros)

15,4 Bn.
Euro

Due to demand for PtX
Technologies

470.800

New jobs in the German
economy (in Europe: 1.2 million)

175.000

Direct employment effects

Germany is leading in
PtX key technologies




Is there enough renewable energy to produce eFuels?


Theoretically, in countries with ideal conditions for solar and wind power, enough renewable energy could be generated to meet the entire energy demand of Europe and the world. Let's solve global warming together with global solutions.

**Global fuels for
global challenges**

Source: Own calculations based on DLR

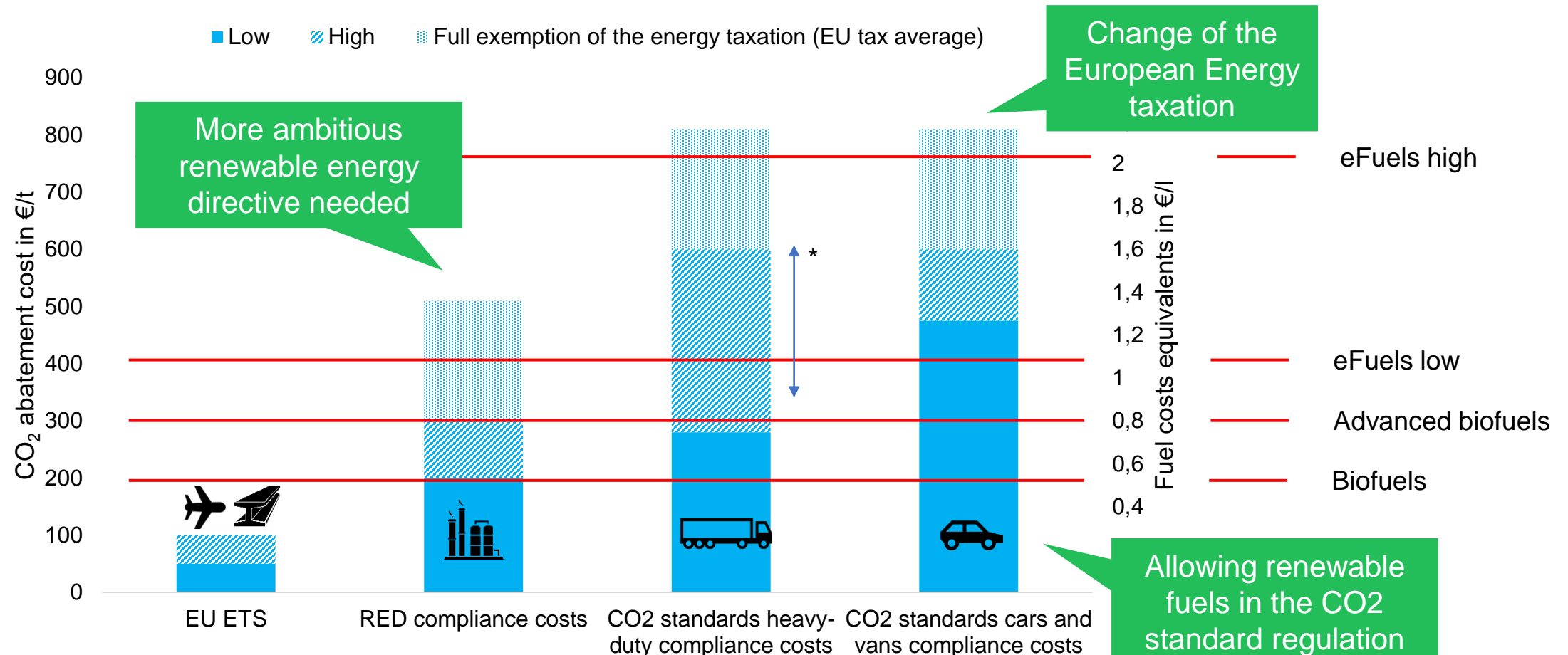


 Area required to meet primary energy demand worldwide in 2018: 800 x 800 km

 Area required to meet primary energy demand in the EU in 2018: 250 x 250 km

eFuel Alliance – we create business cases

Our political proposals will generate an immediate market demand for all renewable fuels. The following graph shows the range of ability to pay in different target markets:



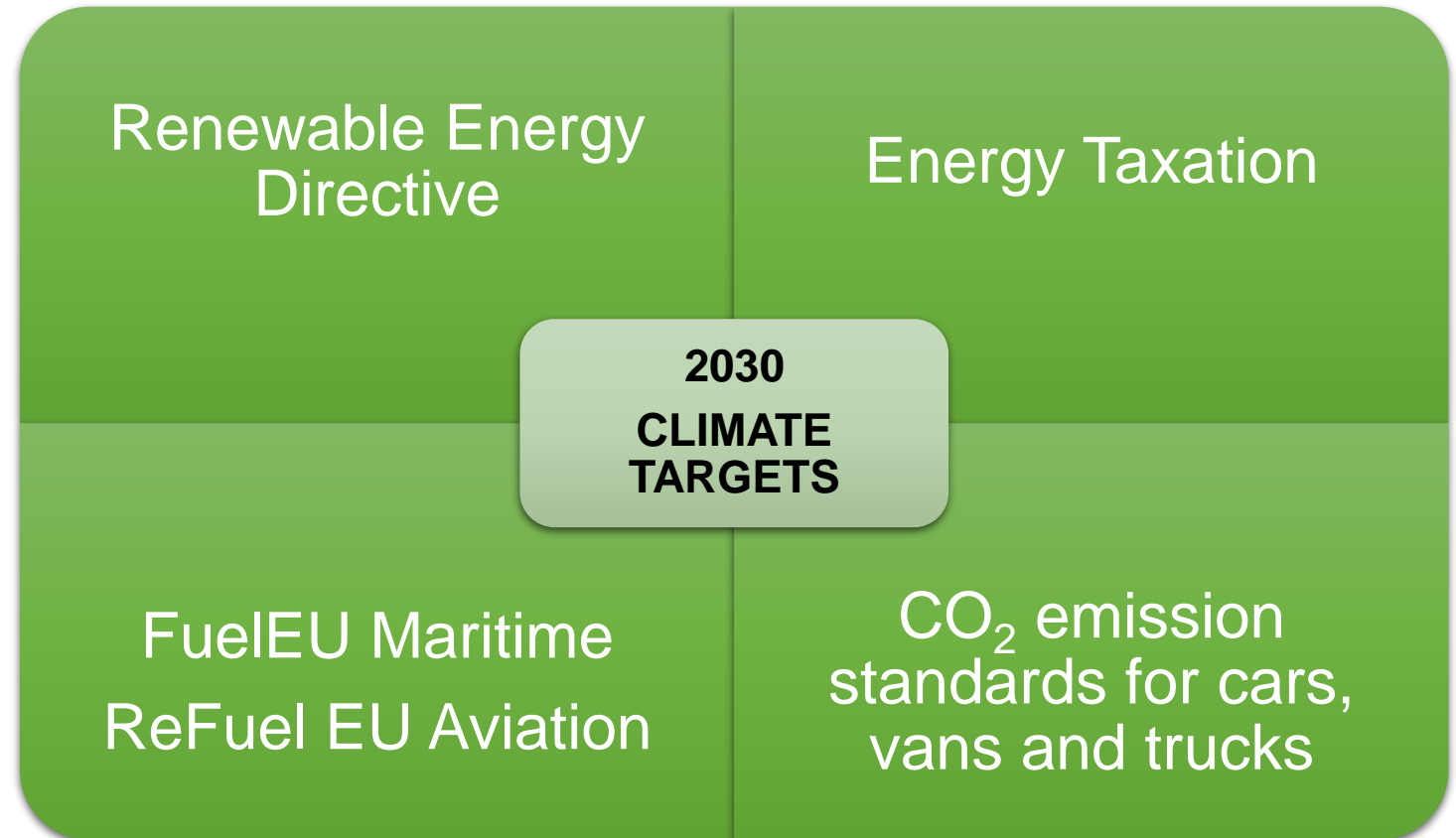


**What kind of
political
framework is
needed?**

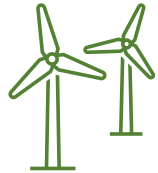
What are the most important legislations for eFuels?

EUROPEAN GREEN DEAL

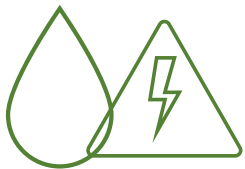
Reduction of GHG
emissions by at least
55% by 2030



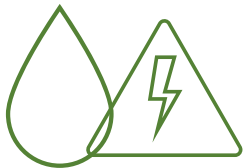
REDIII – What we want to achieve in the transport sector



More ambitious GHG reduction target of at least 20% instead of proposed 13% for renewable energy in transport sector.



Instead of 2.6%, a sub-target of 5% for hydrogen and eFuels for all sectors by 2030. **Update: In RePowerEU the COM recommends to go for 5%.**



All multipliers are deleted except of a 1.2 factor for renewable fuels, which are used in maritime and aviation. A “hidden multiplier“ of 1.95 exists for charging power for electric vehicles.

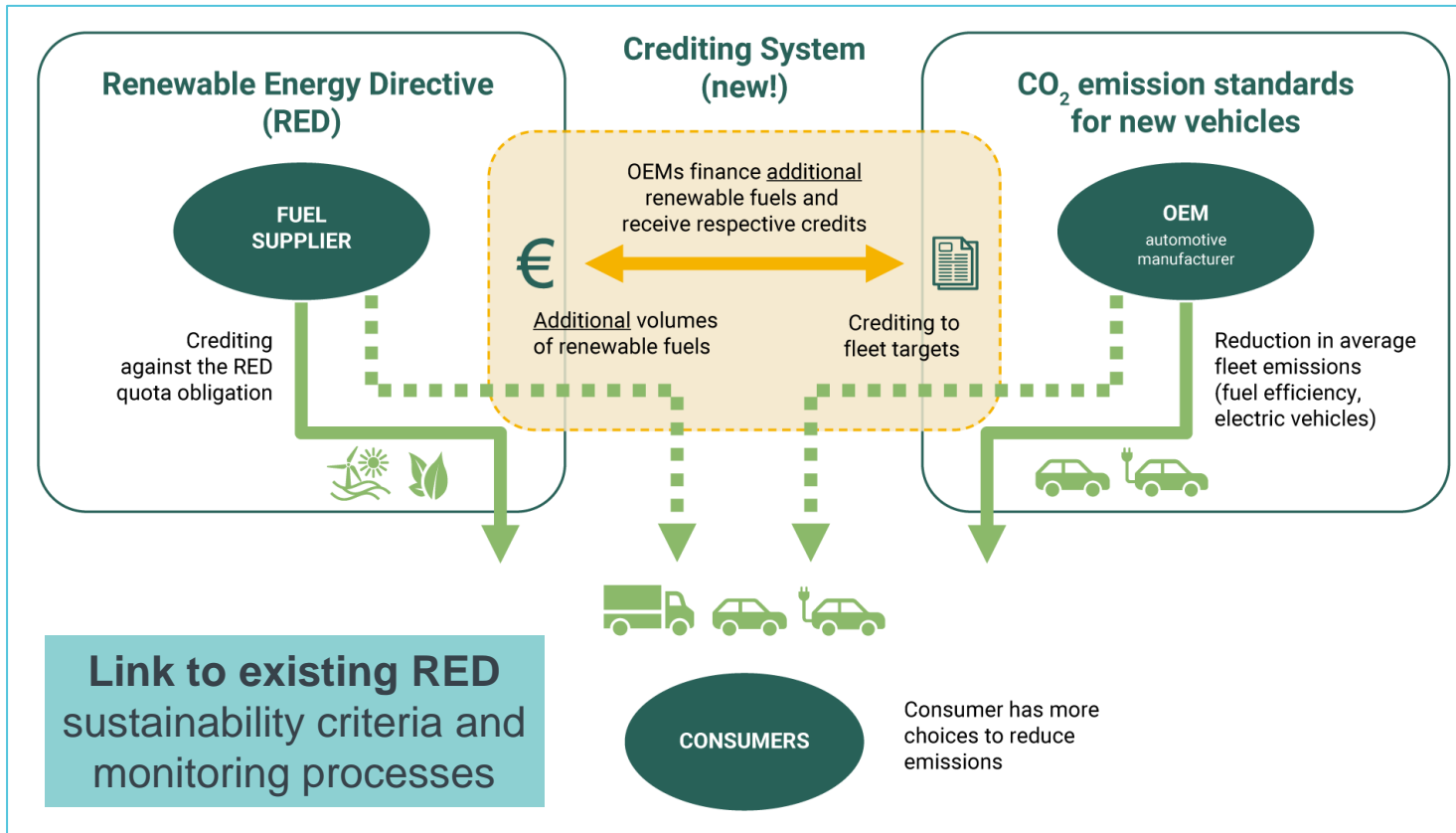


The industry must use 50% renewable hydrogen in 2030. **Update: In RePowerEU the COM recommends to go for 75%.**



The outstanding delegated acts on electricity supply for hydrogen and eFuels production are not part of any package so far – **neither Fit-for-55 nor RePowerEU**

Why do we need a Crediting System for Renewable Fuels in the CO₂ emissions standards for new vehicles?



Introduction of a voluntary **crediting system for renewable fuels, which:**

- ...offers more climate neutral choices for customers such as hybrid vehicles,
- ...leads to more CO₂ reduction in comparison to electric vehicles only,
- ...is a first step towards a holistic life cycle assessment,
- ...can't undermine effectiveness and efficiency because it is voluntary,
- ...considers only additional amounts of renewable fuels,
- ...retain responsibilities, limitations, and sustainability criteria of the fuel industry,
- ...uses established processes and official authorities to verify fuel amounts,
- ...offers more solutions and a safety net for the automotive industry.

Energy Taxation Directive (ETD)

The Energy Taxation (ETD) is the largest fuel price component. The current framework is from 2003. It doesn't differentiate between fossil and renewable fuels.

The COM is not changing to the CO2 footprint of the energy carrier to avoid a double taxation to the ETS. Instead, minimum shares for energy content are defined

In aviation and maritime renewable fuels are exempted of the energy tax for 10 years. In road sector quite low minimum tax rates exist



The ETD must be approved unanimously by member states




Member states can still increase minimum tax rates e.g. for eFuels

Energy Taxation Directive (ETD)

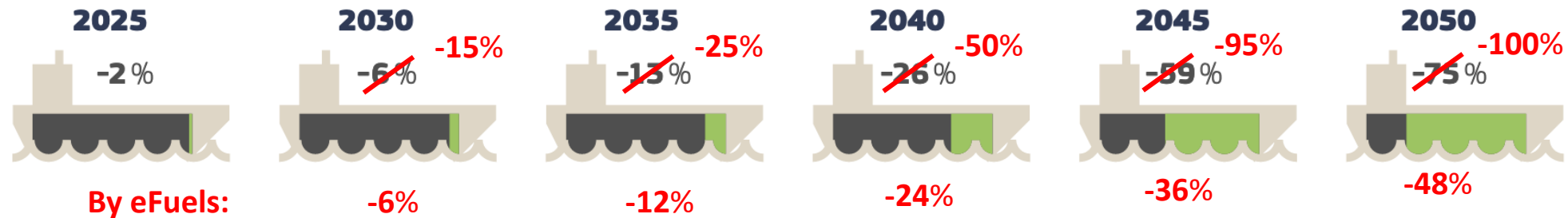
Overview about different tax rates (motor fuels)

Motor Fuel	Energy tax in 2023 in ct/l	Energy tax in 2033 in ct/l
Gasoline	37.52	37.52
Diesel	40.21	40.21
Kerosine	4	39.56
Natural gas in €/GJ	7.17	10.75
Crop-based biofuel (Diesel-equiv.)	20.12	40.21
Sustainable biofuel (Diesel-equiv.)	20.12	20.12
Advanced biofuel (Diesel-equiv.)	0.56	0.56
eFuels (Diesel-equiv.)	0.56	0.56

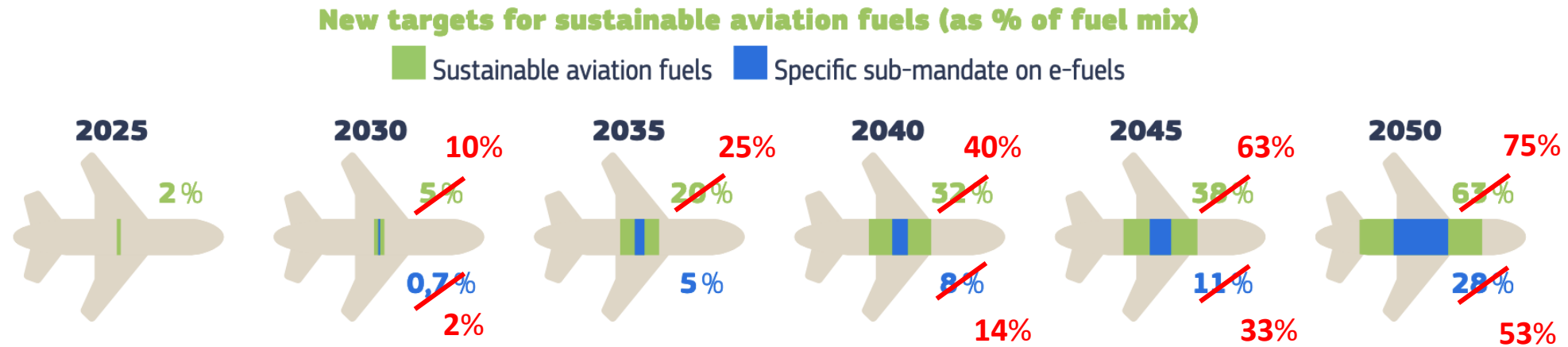


Huge price advantage of eFuels

Maritime targets on the limits on greenhouse gas intensity of the energy used on-board compared to 2020



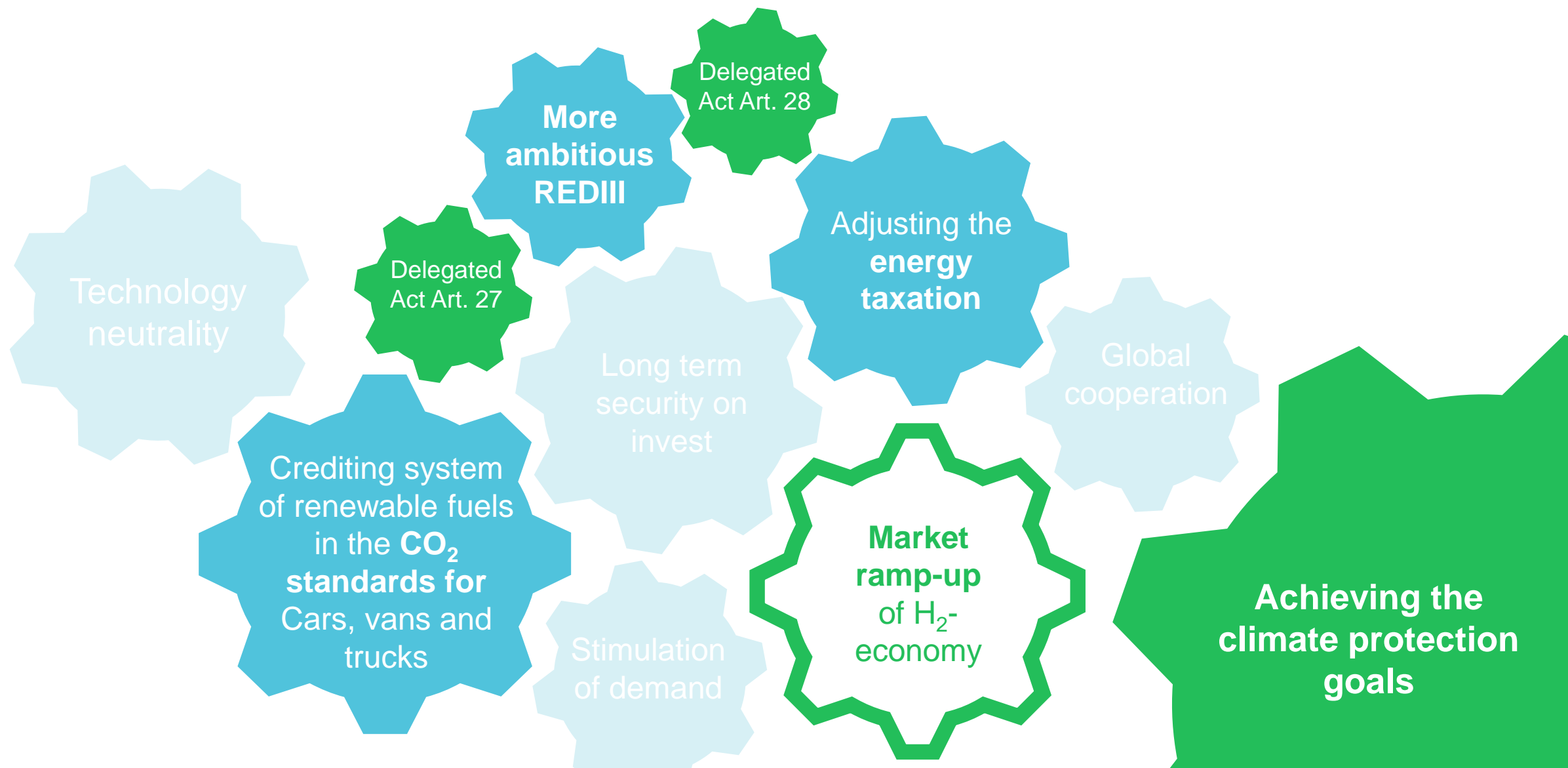
- We welcome the well-to-wake approach. But more ambitious targets are possible.
- Each ship entering an European port has to document the fuel consumption.
- No provision of additional volumes of renewable fuels. Diversion of the quantities of renewable fuels from one sector to another without helping the climate. Therefore, we recommend a sub-target for eFuels
- CO2 reduction can't be used in Effort Sharing Regulation.



*according to [World Economic Forum's "Clean Skies for Tomorrow"](#)

- Targets not ambitious enough
- No provision of additional volumes of renewable fuels. Existing fuel volumes can be steered from one sector to another without helping the climate.
- Intercontinental flights could easily departure from airports outside the EU (London, Zurich, Istanbul). Carbon leakage and competitive disadvantage for European airlines is probable. Therefore, we recommend to focus not only on aviation.

The moving parts policymakers need to turn



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