VÝROBA BIOPALÍV V RAFINÉRII SLOVNAFT

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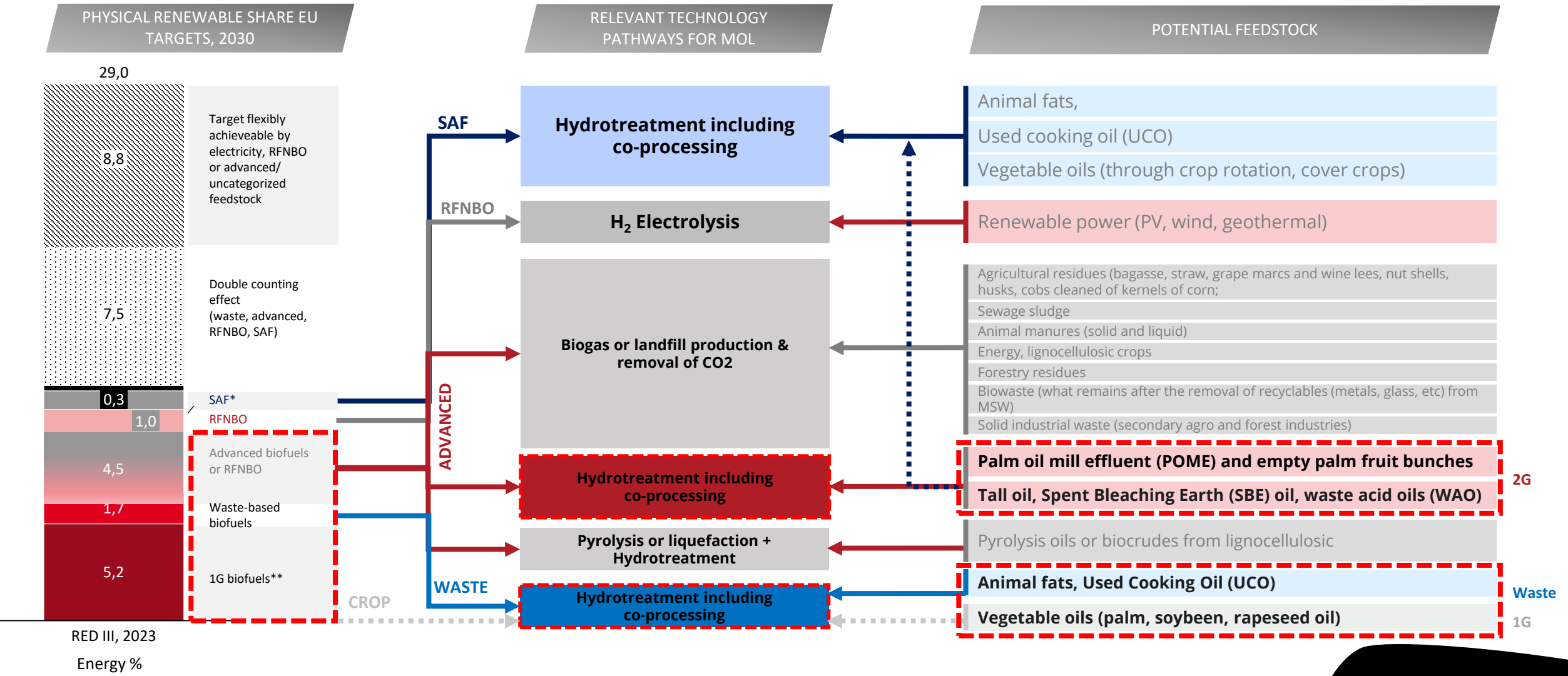
RENEWABLE FUEL PRODUCTION



BIO Program

PROGRAM WAS INITIATED TO GAIN PROFIT AND CLOSE REDIII COMPLIANCE GAP

BIO-oil processing in DS ASSETS program

Main goals

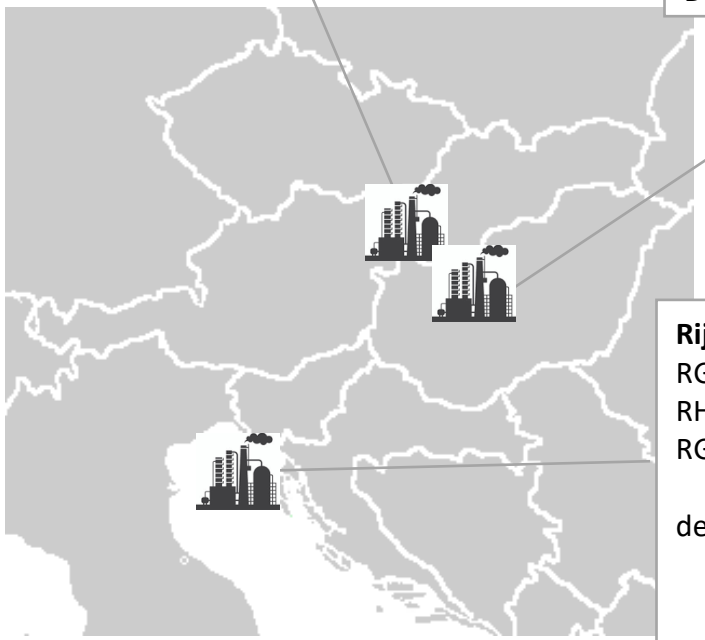
- **Utilize own assets to minimize CAPEX** and gain competitive edge for SAF/HVO production (120-180 kt own manufactured product)
- Provide **additional gains over 3rd party** purchases
- **Capture as much as possible from the 700-900 USD/t spread** between feed and product price
- **Provide at least partial compliance** on flexible manner site and HVO/SAF (no regret scopes)
- **Avoid/minimize potential penalties** (not included in valuation)
- **9 project** runs parallelly in 3 sites

Bratislava

BGHT 7	- HVO 3-5 %
BHCK	- HVO 3-5%
dedicated bio	
BGHT 6	- HVO/SAF

Danube

DGHT 3	- HVO 5 %
DGHT 1	- SAF 5%



Rijeka

RGHT 2	- HVO 5 %
RHCK	- HVO 5+5 %
RGHT 1 either	
	- SAF 5% or
dedicated bio	
	- SAF/HVO 100%

HYDROGENATED VEGETABLE OIL (HVO) – ALTERNATIVE TO FOSSIL DIESELS

HVO IS A FOSSIL-FREE REPLACEMENT OF MINERAL DIESEL OFFERING REDUCED CO2 EMISSION TOGETHER WITH FULL COMPATIBILITY AND FAVORABLE PRODUCT PROPERTIES

MAIN PRODUCT FEATURES

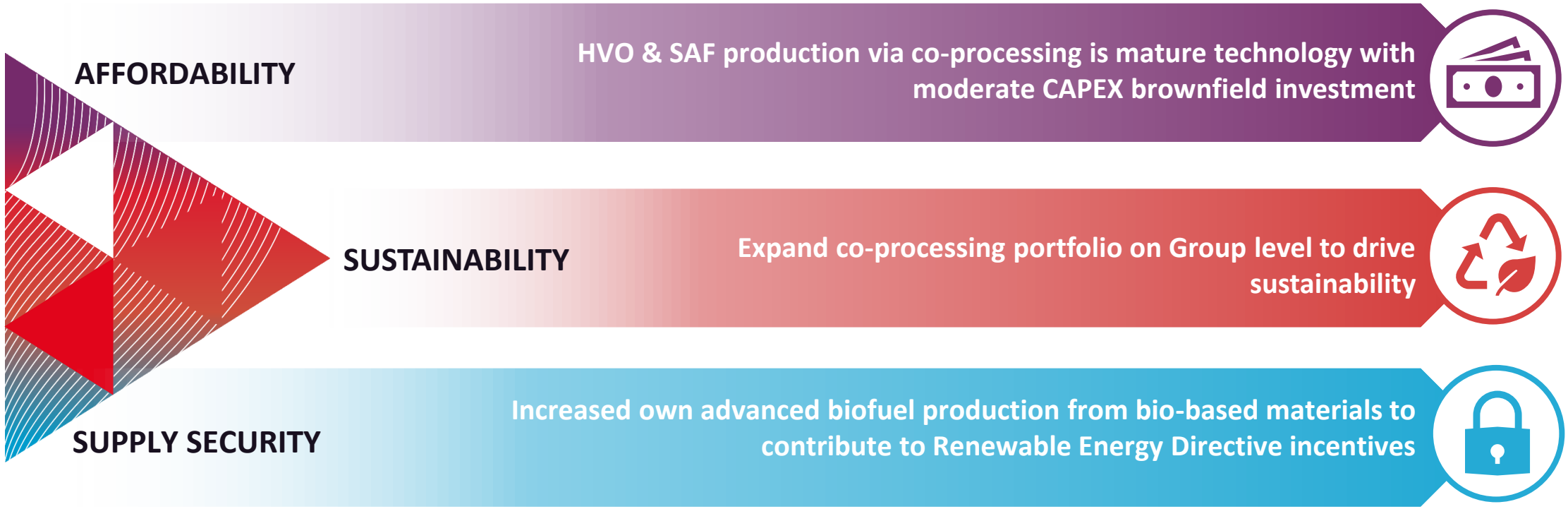
- Fossil-free direct replacement of fossil diesel
- Full compatibility with existing distribution infrastructure and diesel engines
- Up to 90% lower CO2 emission compared to fossil diesel
- Product properties (e.g. CFPP, cetane number, storability) comparable or better than that of B7 Diesel

EUROPEAN HVO MARKET

- 9300 ktpa European production capacity planned by 2026 (+140% vs 2024)
- Sold both in wholesale and retail segment (~2300 stations in Europe (HVO100))
- Multiple product classes available depending on the feedstock and GHG emission values

HVO & SAF PRODUCTION AIMING AT THE STRATEGIC OBJECTIVES

Hydrogenated vegetable oil (HVO) production should support road, while sustainable aviation fuel (SAF) boost aviation decarbonatization



CURRENT BIO-OIL PROCESSING PROJECT PORTFOLIO HAS ATTRACTIVE CHARACTERISTICS FROM ALL 3 ASPECTS

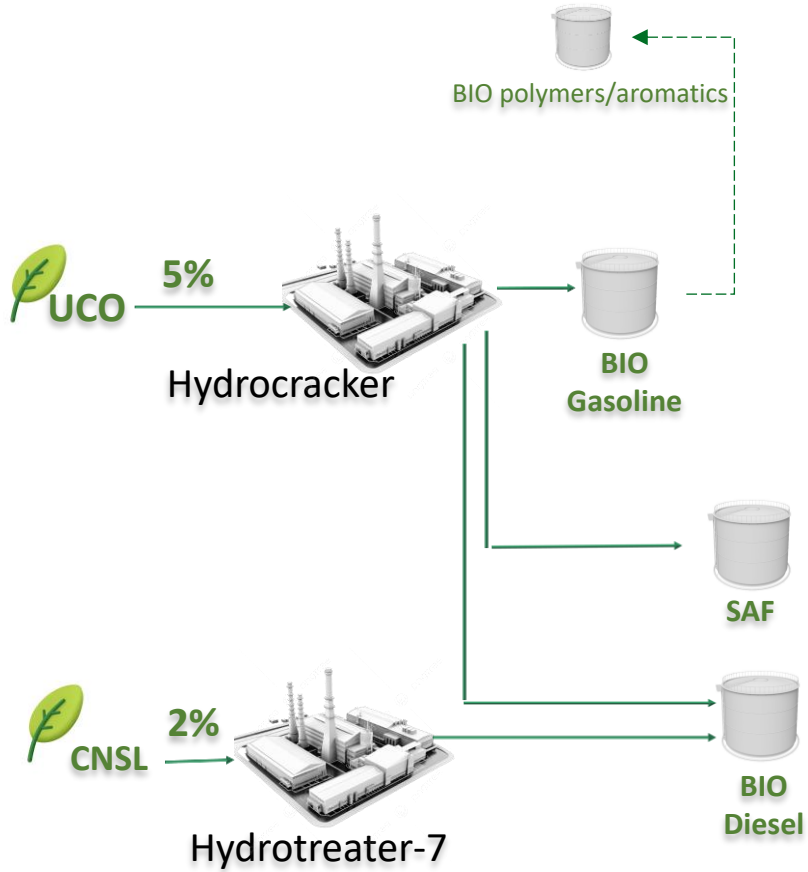
BIO CO-PROCESSING TEST RUNS 2024/2025

BACKGROUND

1 100 m^3 Used cooking oil (UCO) and 75 m^3 Cashew nutshell liquid (CNSL)

Assessing the readiness of current assets for bio co-processing

Compiling primary data for certification



KEY FINDINGS

- Feasible kerosene production in line with SAF requirements (bio content)
- Feasible on – spec Bio Diesel production (summer, transition, winter grades)
- Bio content confirmed by 3rd party ^{14}C analysis

NEXT STEPS

Q4 2025	Q1 2026	2028	2030	2031
ISCC EU certification	Batch bio co-processing at Hydrocracker	Continuous bio co-processing at Hydrotreater-7	Continuous bio co-processing at Hydrocracker	Continuous bio processing at Standalone unit

Slovnaft

ĎAKUJEM!

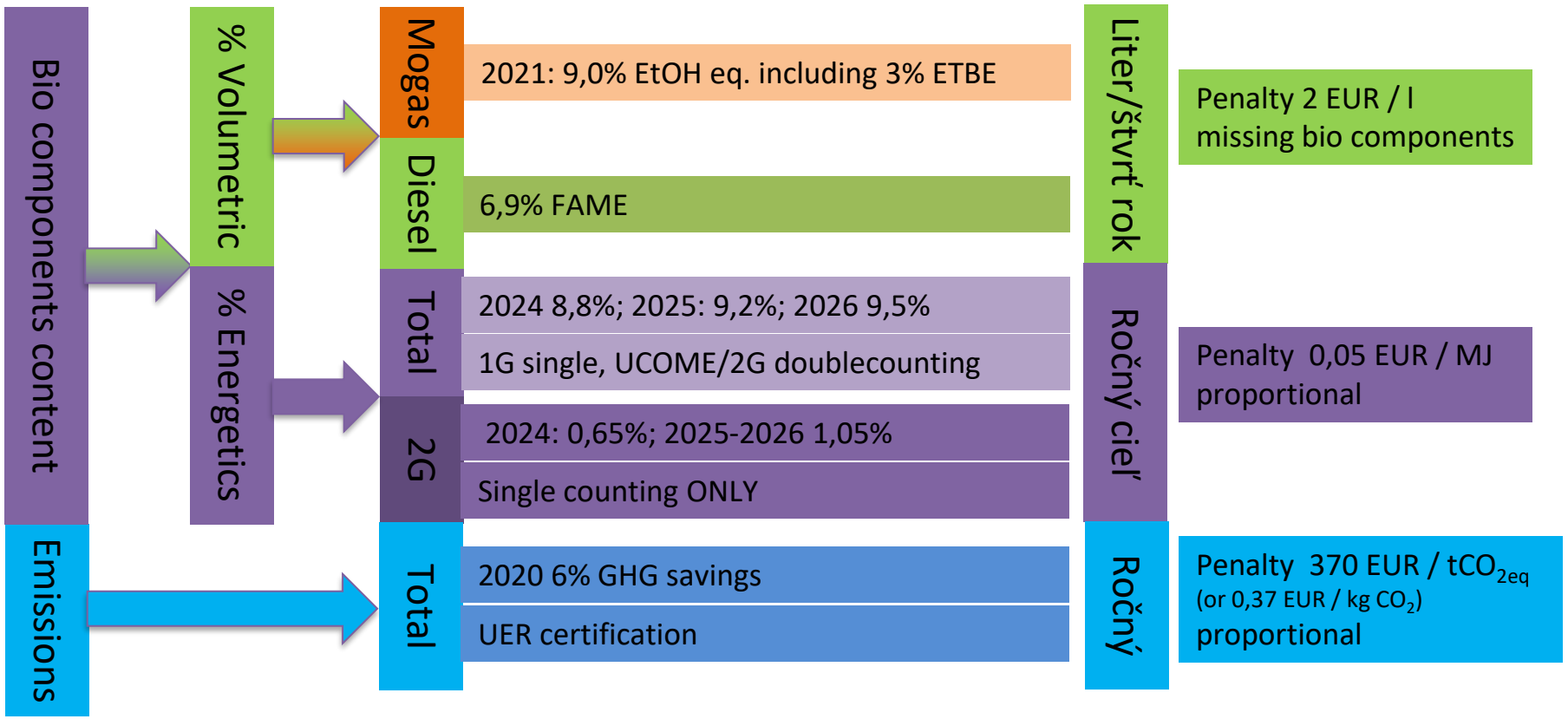
Slovnaft

BACK UP

Comparison of RED II vs. RED III requirements (min.)

Targets/Limits	Bio targets according former Renewable energy directive (RED II) in transportation sector in 2030	Bio targets according current Renewable energy directive (RED III) in transportation sector in 2030
Bio targets	14%e, as energetic share from renewable sources in transportation (e.g. biofuels, renewable electricity)	share of renewable energy in the transport sector of at least 29 % by 2030 OR greenhouse gas intensity reduction of at least 14,5 % by 2030
Target for advanced biofuels	3,5%e whereby energy content of 2G biofuels with double counting 2X (DC) – in SK is energy content from advanced biofuels is 1x (SC), but for 14%e total energy target is 2x (DC)	5,5%e double counting, including mandatory target for RFNBOs
Target for RFNBOs (e.g. green H2; e-Fuels)	n.a.	1,0%e double counting
Cap for waste	1,7%e, for target 14%e of share we can utilize double counting 2x of energy	1,7%e, for energy share target we can utilize double counting 2x of energy
Cap for ILUC (1G) biofuels	7%e	7%e (but MS)
Cap for biofuels from palm oil so called high ILUC (it is majority from raw material except waste from palm oil production)	0%e	0%e
GHG savings	6%	14,5% GHG saving or 29%e

SK legislation requests



WASTE BASED / ADVANCED HVO FEEDSTOCKS

THE CURRENT AND PLANNED PRODUCTION CAPACITIES WILL COVER THE EUROPEAN NEEDS, HOWEVER, IN THE LONGER TERM, THE AVAILABILITY OF SOME FEEDSTOCKS MAY CAUSE DIFFICULTIES IN THE SUPPLY.

FEEDSTOCK	AVAILABILITY	WAY TO GO-TO-MARKET	PRICE RANGE (EUR/T)	FUEL	COMMENTS / RISKS
USED COOKING OIL (UCO)	Available in EU	Domestic collection, international trade	1000-1200	Waste based biodiesel/HVO	• Low domestic collection rate remains • Volatile import quality
ANIMAL FATS (CAT 1 AND 2)	HU: 46,5 kt/y (pigs and poultry), SK:9,6 kt/ypotential Global availability	Domestic collection, international trade	1200-1300	Waste based biodiesel/HVO	• Market concentration (10 companies share the esterification market) • Random quality
TALL OIL	Available only in Northern-EU, highest production in US, Brasil and China	Domestic collection (in SK), commercial agreement	1000-1200	Advanced biodiesel/HVO	• Limited amount in the EU. Only accessible to actors who have both the technology and large access to the feedstock
POME OIL (PALM OIL MILL EFFLUENT)	Indonesia, Malaysia	International trade	1200-1300	Advanced biodiesel/HVO	• High exposure to the two main producer countries • Dependence on weather conditions • Fraud – quality issues
SBE (SPENT BLEACHING EARTH)	Limited in EU, high supply in Asia	commercial agreement	1000-1200	Advanced biodiesel/HVO	
WAO (WASTE ACID OILS)	Limited in EU, high supply in Asia	commercial agreement	1000-1200	Advanced biodiesel/HVO	• A by-product can be considered as a waste only if it come from non-edible vegetable oil production

Source: Greenea analysis, 2020

HVO SUPPLY IN EUROPE - ~4 000 KTPA EXISTING CAPACITY

OIL MAJORS, SUCH AS ENI, TOTAL, SHELL OR DEDICATED RENEWABLE FUEL PRODUCERS, E.G. UPM OR PREEM, STARTED INVESTING IN HVO PRODUCTION UNITS

STANDALONE HVO CAPACITIES IN EUROPE, KTPA

	Existing 2024/02	Planned by 2026
Neste	1 700 (+3 900 out of EU)	0
ENI	950	570
Total	400	120
Repsol	170	240
Shell	-	440
PKN Orlen	-	300
Preem	390	1790
UPM	130	500
Cepsa	200	300
ST1	-	430
Galp	-	270
Others	-	~400
Total	**3 940**	**~5 360**