

Biocombustíveis avançados: o futuro é agora

S&P Global Platts

2 de Dezembro de 2021

Reunião Subcomitê ProBioQAV



Palestrantes



Beatriz Pupo

Analista Sênior de Biocombustíveis
Agriculture Analytics, S&P Global Platts



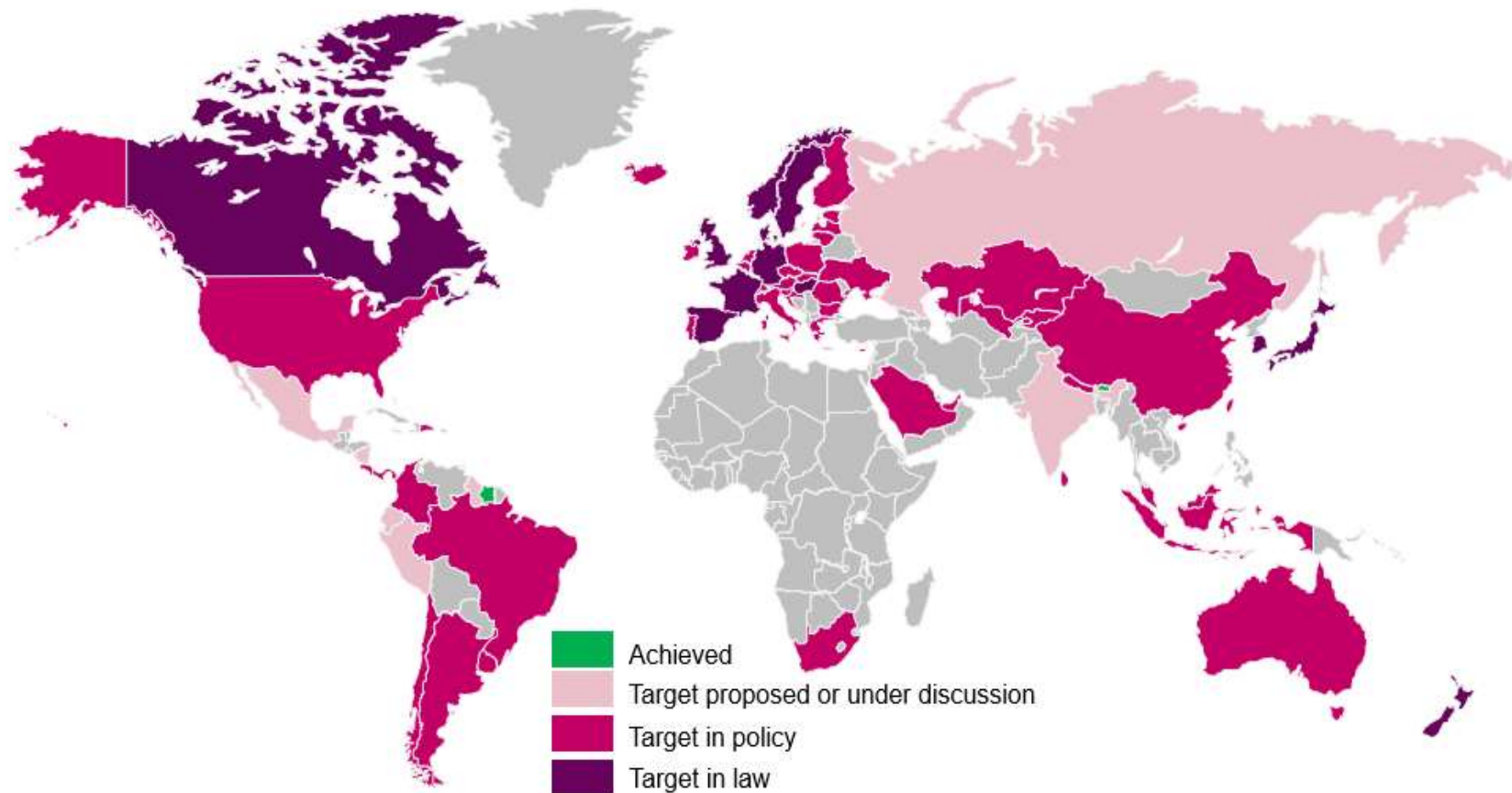
Nicolle Castro

Especialista em Preços Sênior
Agricultura Americas, S&P Global Platts

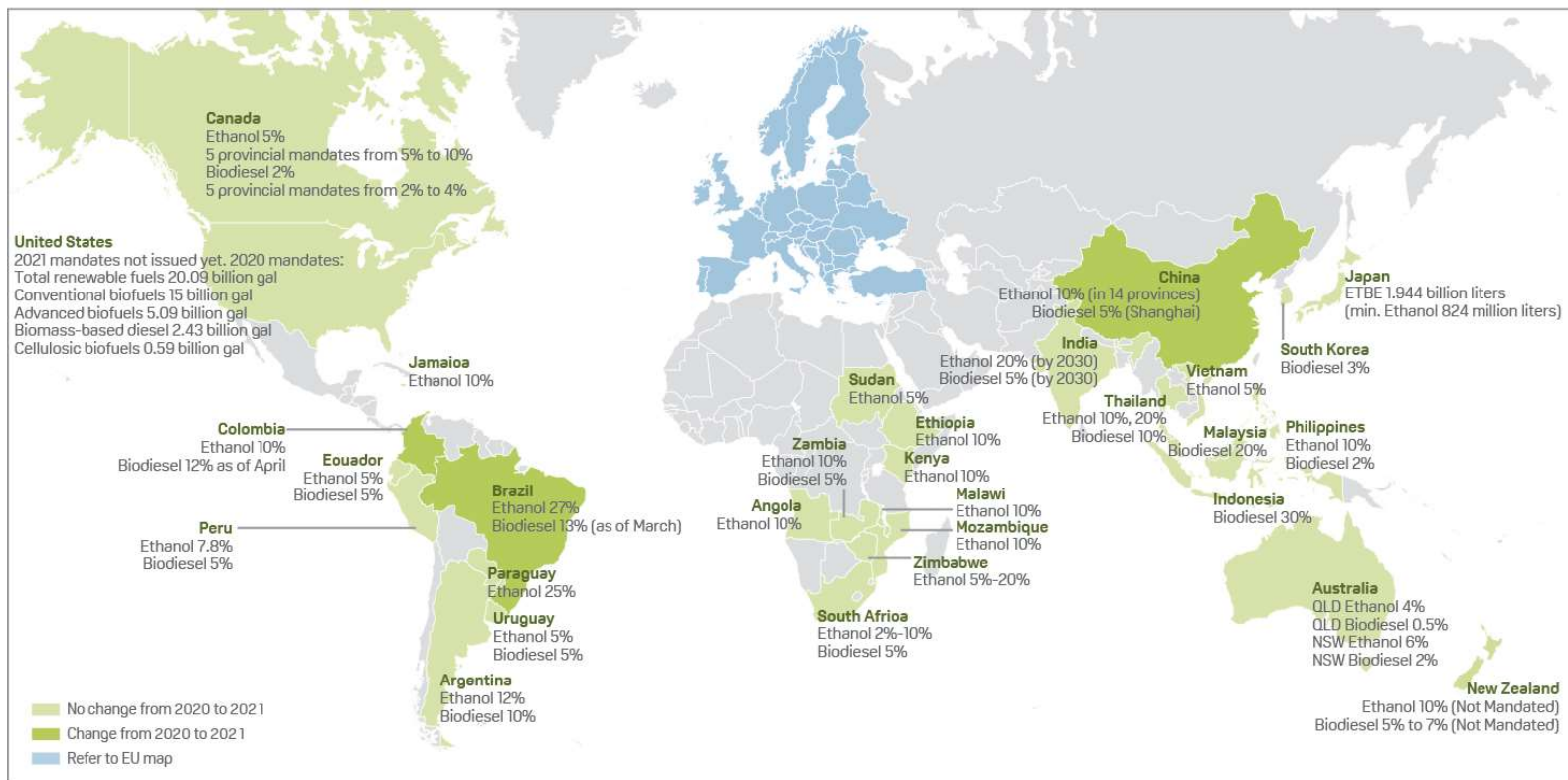


As políticas de descarbonização apoiarão os biocombustíveis?

O número de países com metas net-zero de longo prazo continua a crescer, mas será que eles vão cumprir?



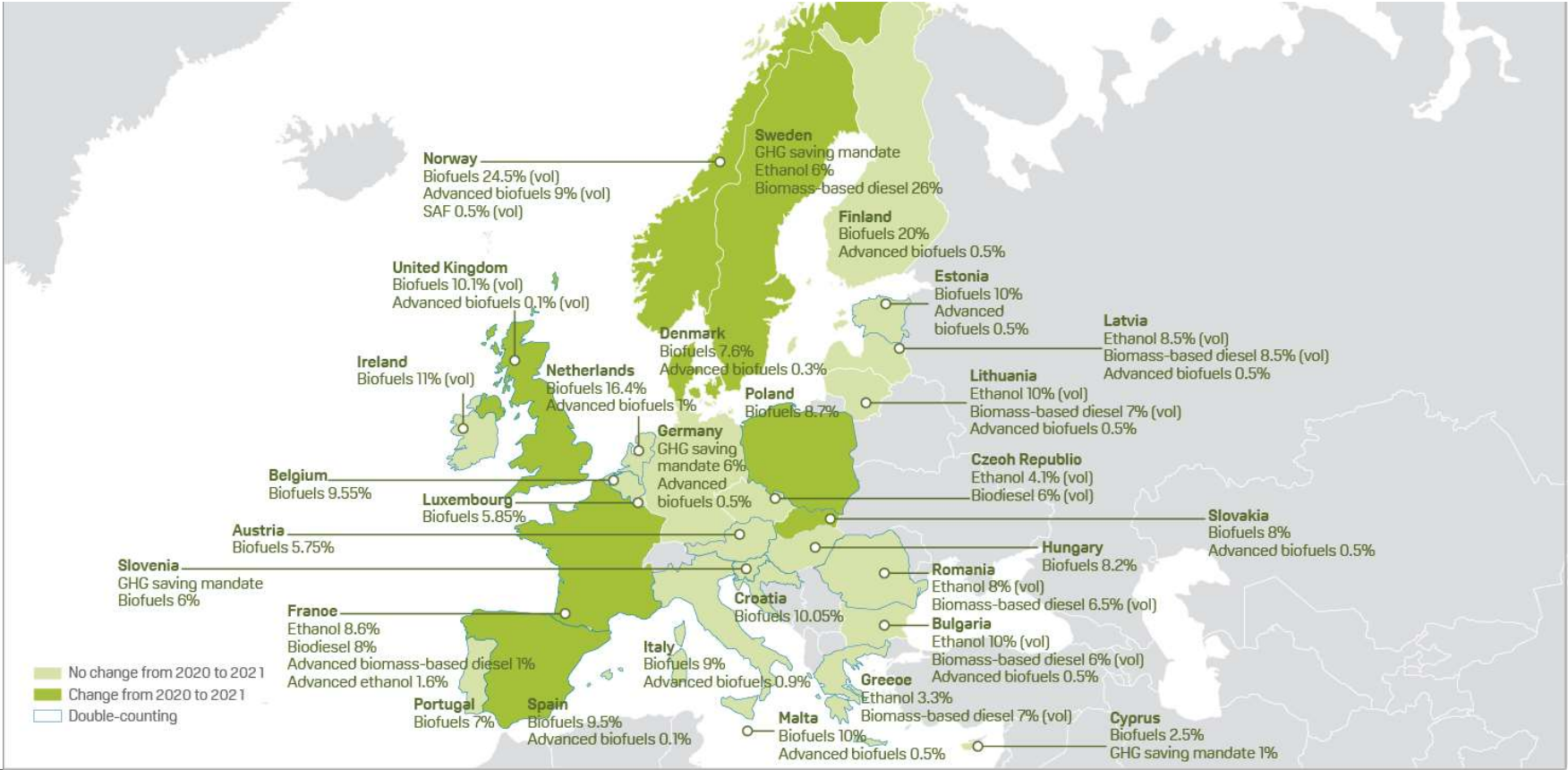
87% da demanda de biocombustíveis deriva de mandatos; reduzindo as emissões, a dependência dos fósseis e apoiando agricultores



Note: All in energy content, unless otherwise specified

Source: S&P Global Platts Analytics

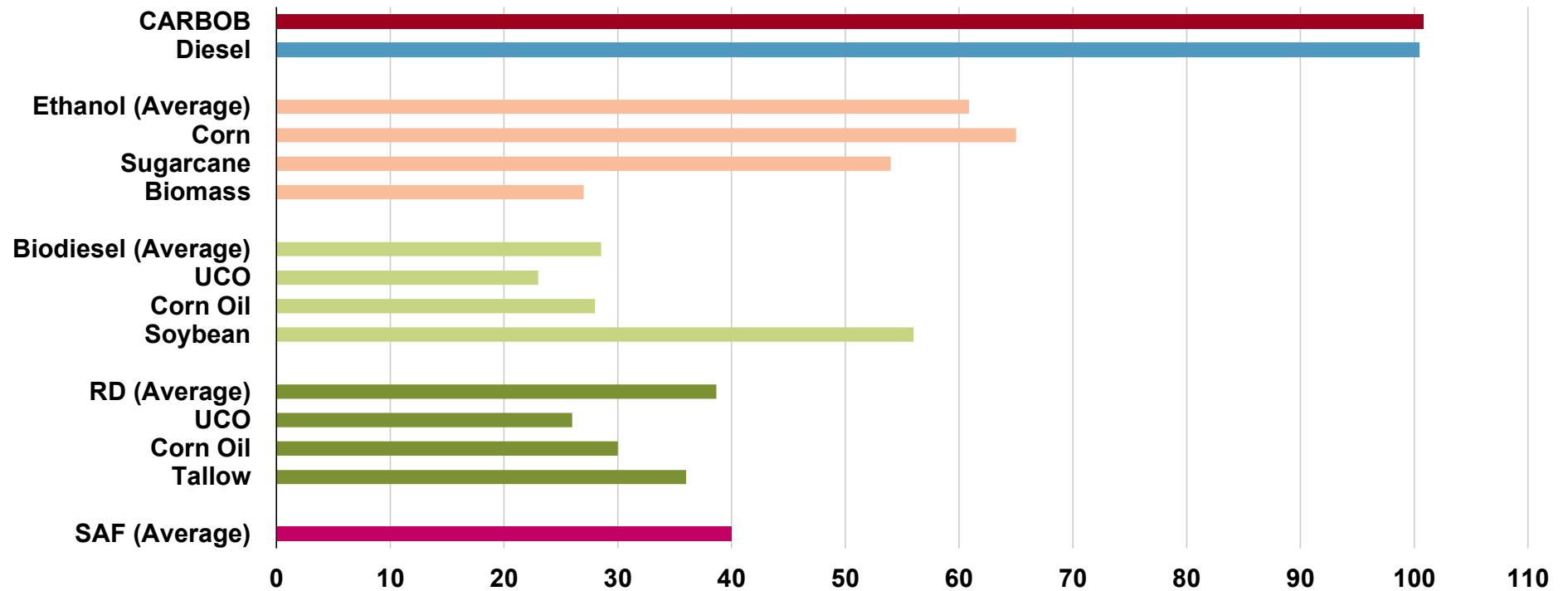
UE: bloco europeu coberto pela Diretiva de Energia Renovável (RED), embora os países tenham seus próprios mandatos



S&P Global Platts Note: All in energy content, unless otherwise specified
 Source: S&P Global Platts Analytics

A relevância das matérias-primas de baixo carbono continuará a crescer

Lifecycle Carbon Intensity g/MJ

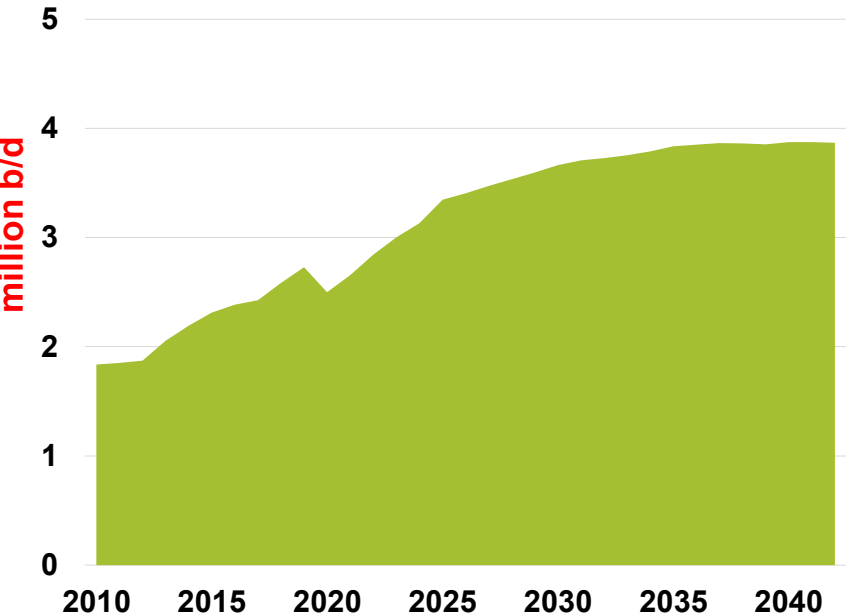


Note: Alternative Fuel CIs shown here are representative; within each category they vary across many registered pathways

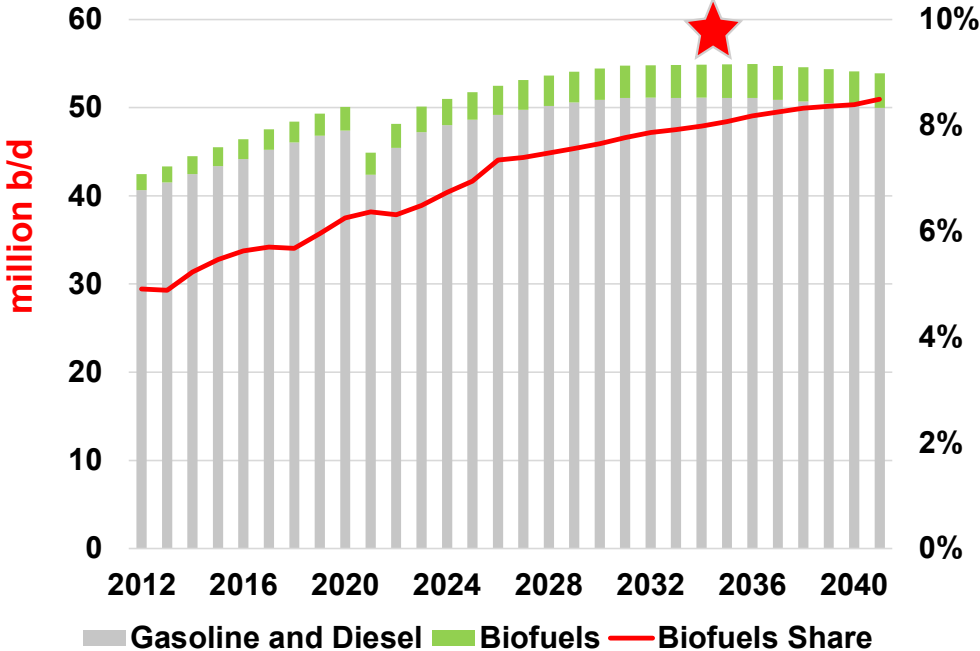
Source: CARB - 2Q 2021 Data (released on Oct. 29, 2021)

Biocombustíveis continuarão como solução chave para a descarbonização do transporte; demanda de ICE cai mas participação dos biocombustíveis aumenta em 2040

Global biofuels demand



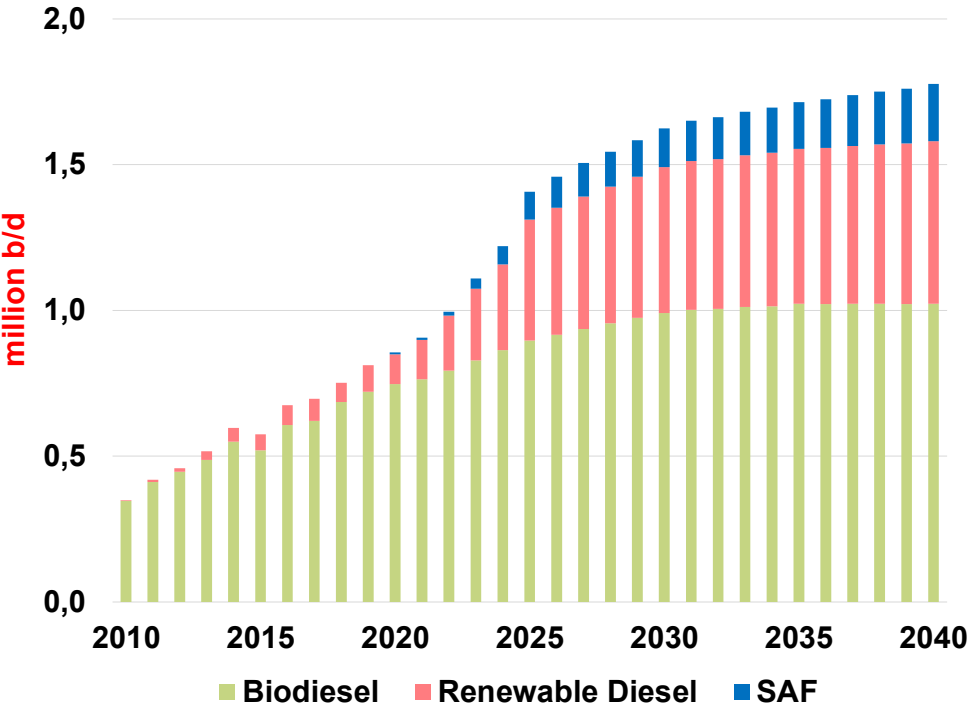
Global fuel demand for road transportation



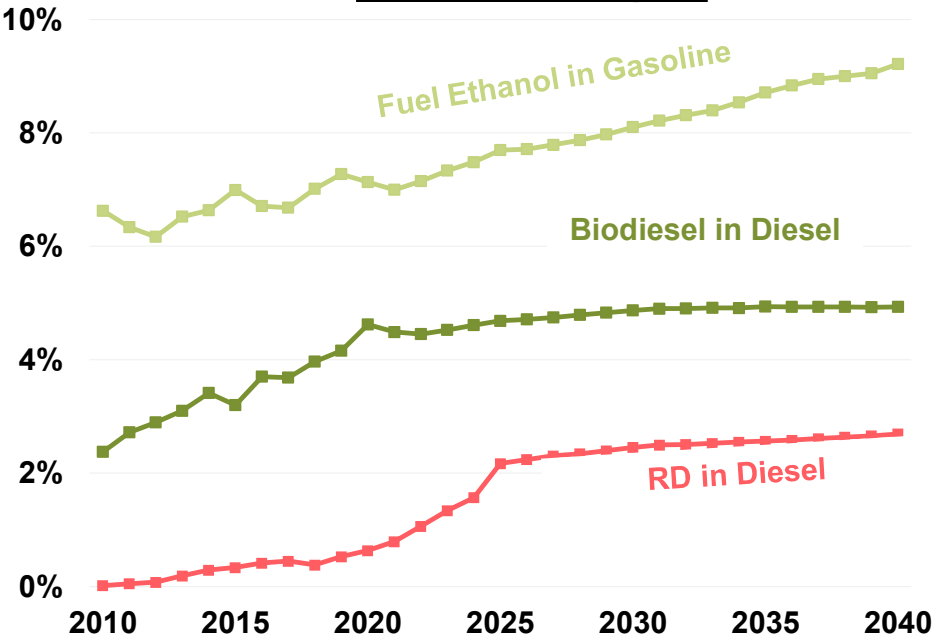
Onda global de investimentos em diesel renovável e SAF

Diesel renovável (RD) é o segmento de biocombustíveis que mais cresce

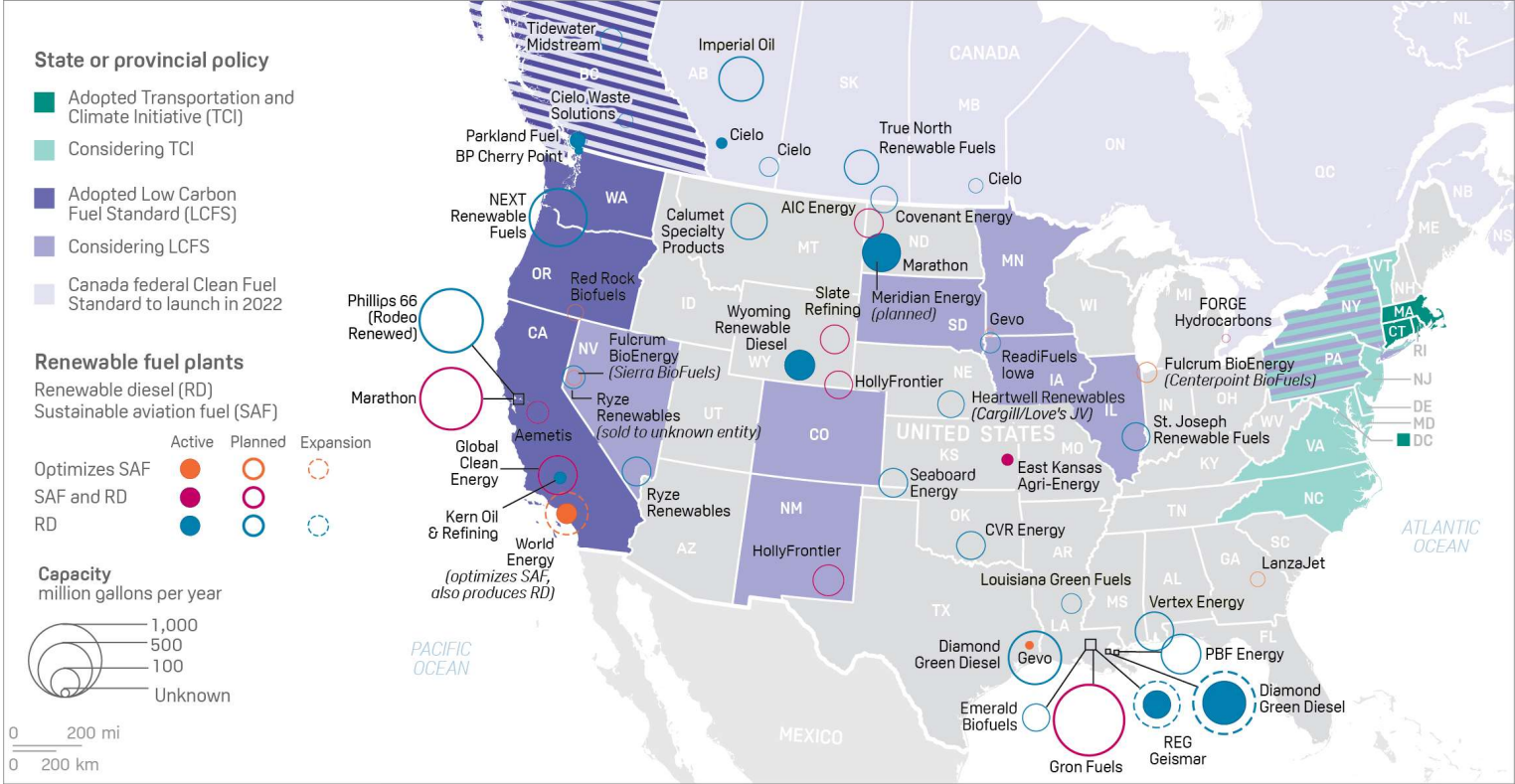
Biodiesel, Renewable Diesel and SAF



Biofuels Implied Blending Rate on Road Transport



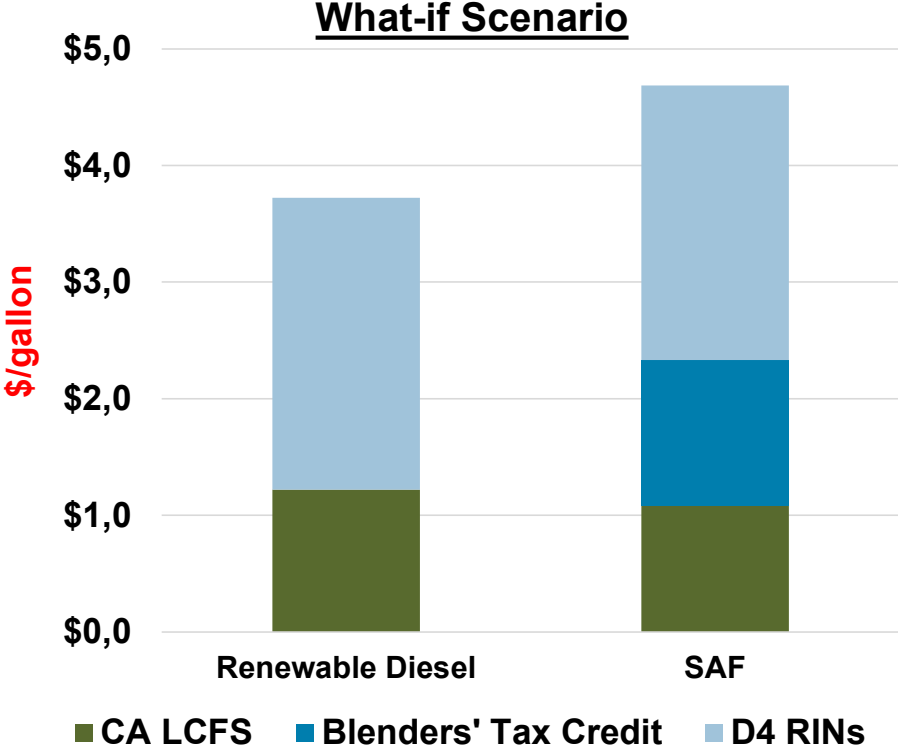
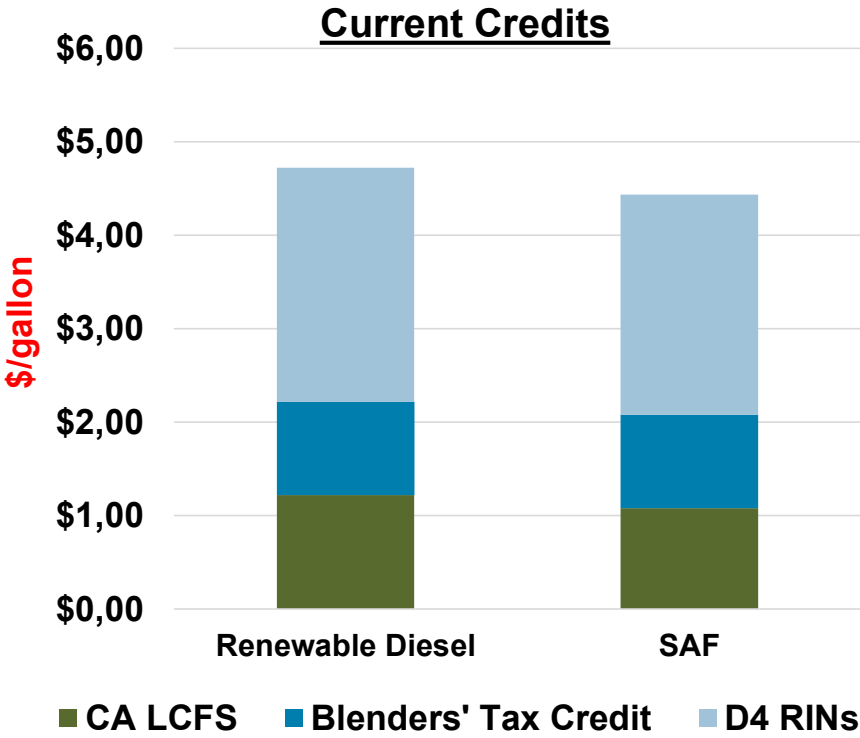
Refinadores dos EUA respondendo rapidamente aos fortes incentivos para diesel renovável e combustível de aviação sustentável



Source: S&P Global Platts; EIA

Sobreposição dos créditos de LCFS mais créditos federais melhora a economia de combustíveis de baixo carbono

Federal and State Credits



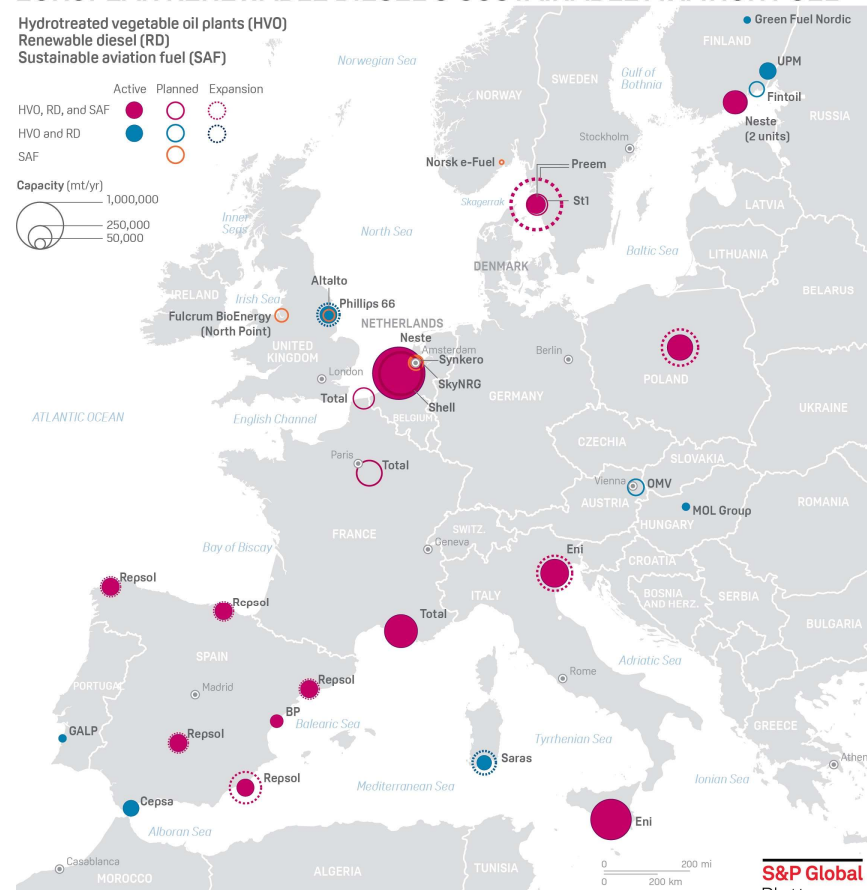
Source: Platts Analytics

Refinadores da UE têm metas de crescimento ambiciosas impulsionados por mandatos. Escandinávia lidera corrida para reduzir as emissões da aviação

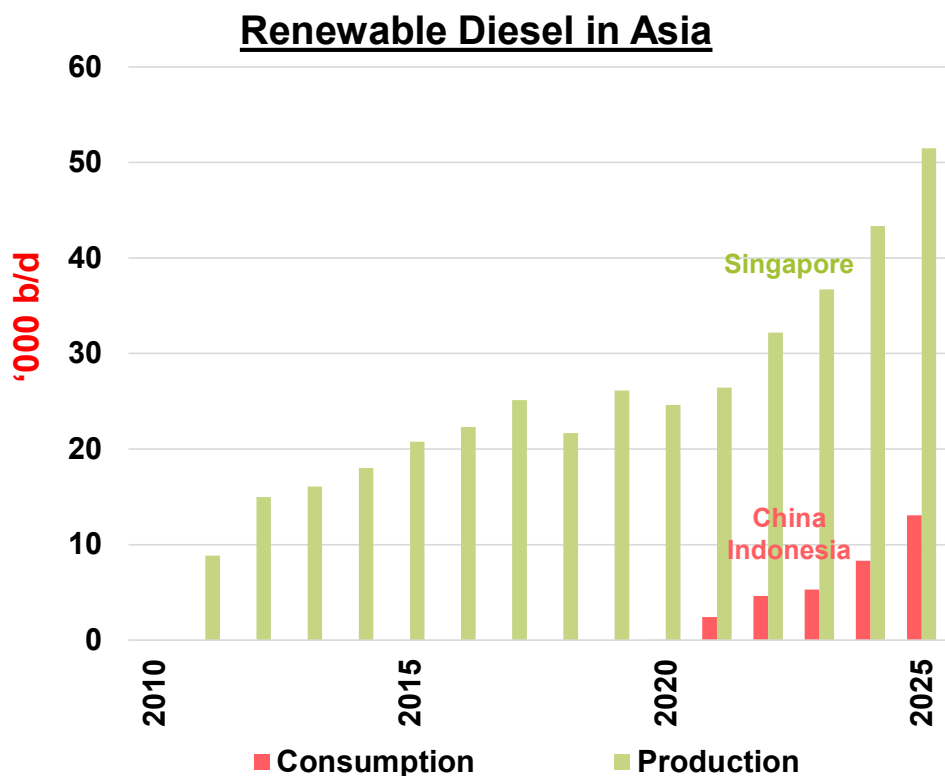
European HVO / SAF Capacity			
million mt	Current	2025 target	2030 target
Neste	1,750	3,050	3,050
Eni	1,110	2,000	5,000 *
Repsol	700	1,300	2,000
Total	500	2,800	5,000 *
PKN	300		2,000
PREEM	250	1,755	3,900
P66 UK	136	227	227
UPM	130		500
Saras	100	150	250
Galp	30	270	270
MOL	30		100
Shell (only SAF)	-	2,000	2,000

* Eni and Total have global ambitions

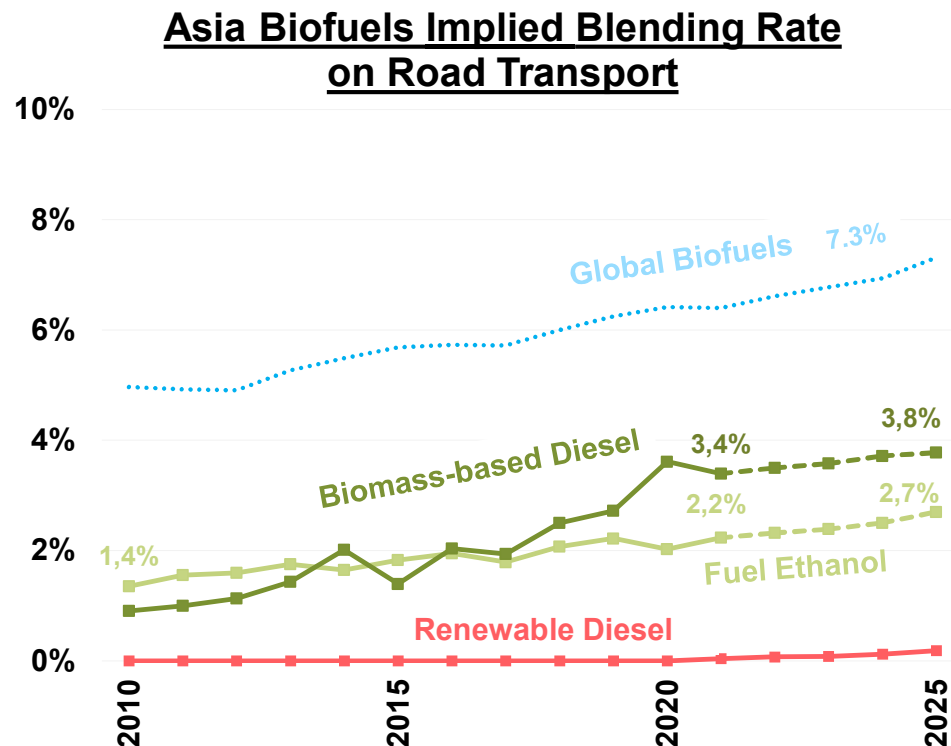
EUROPEAN RENEWABLE DIESEL & SUSTAINABLE AVIATION FUEL



Ásia focando mais na produção do que no consumo de RD. Os níveis de mistura da região permanecem abaixo da média global



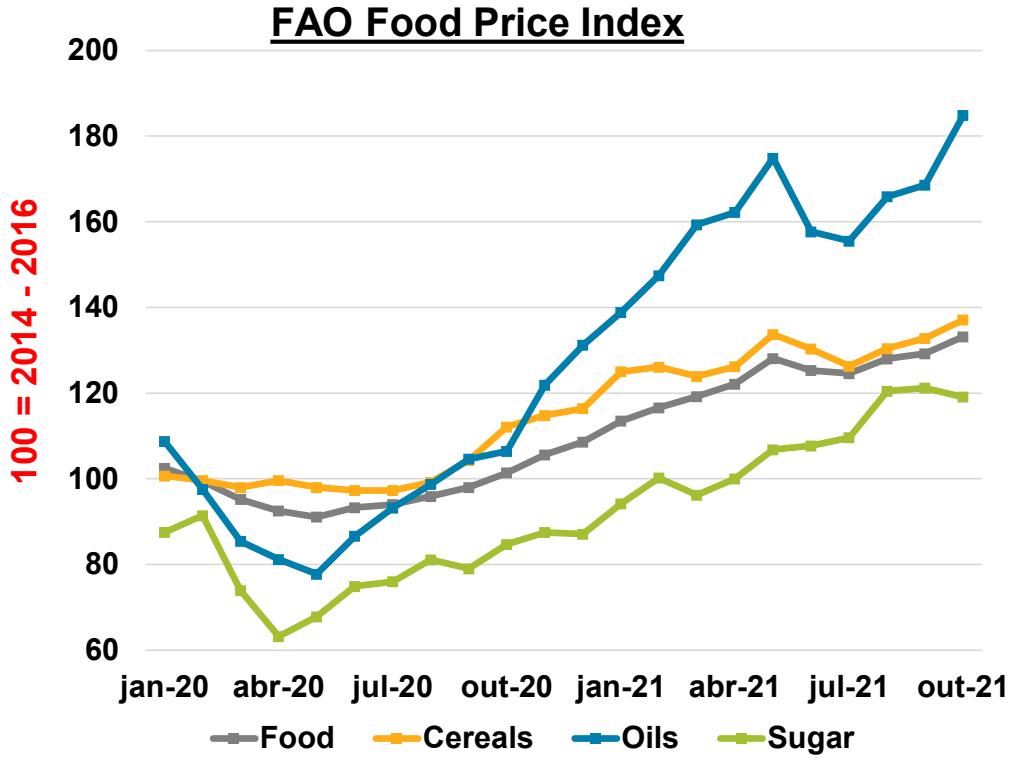
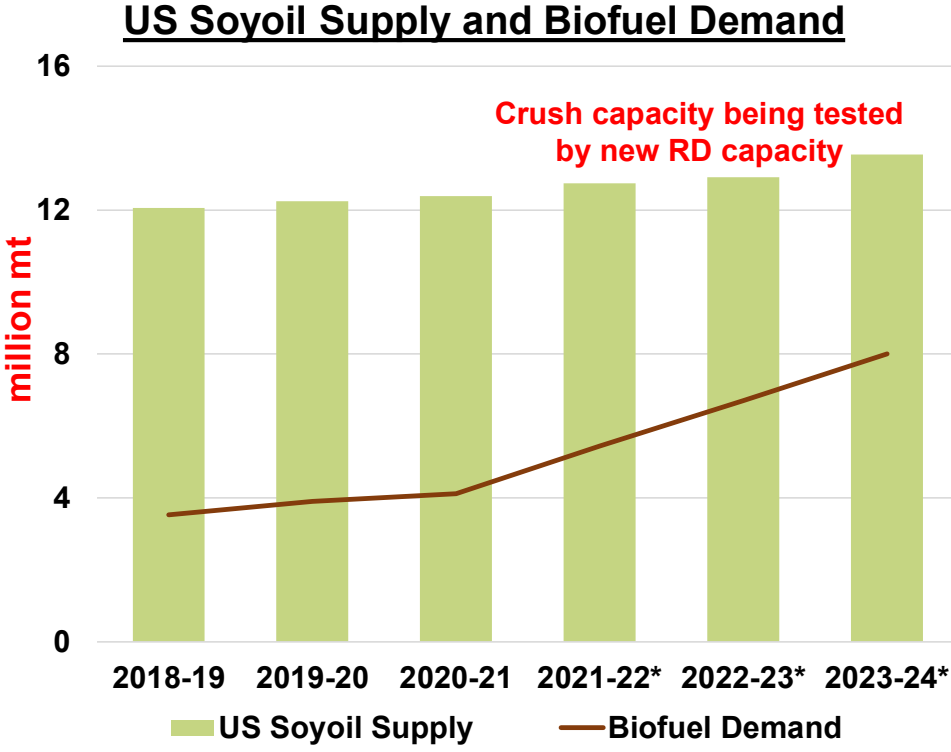
Source: Platts Analytics



Note: on volume basis

Pontos de atenção: a corrida por matéria-prima, distorções de políticas

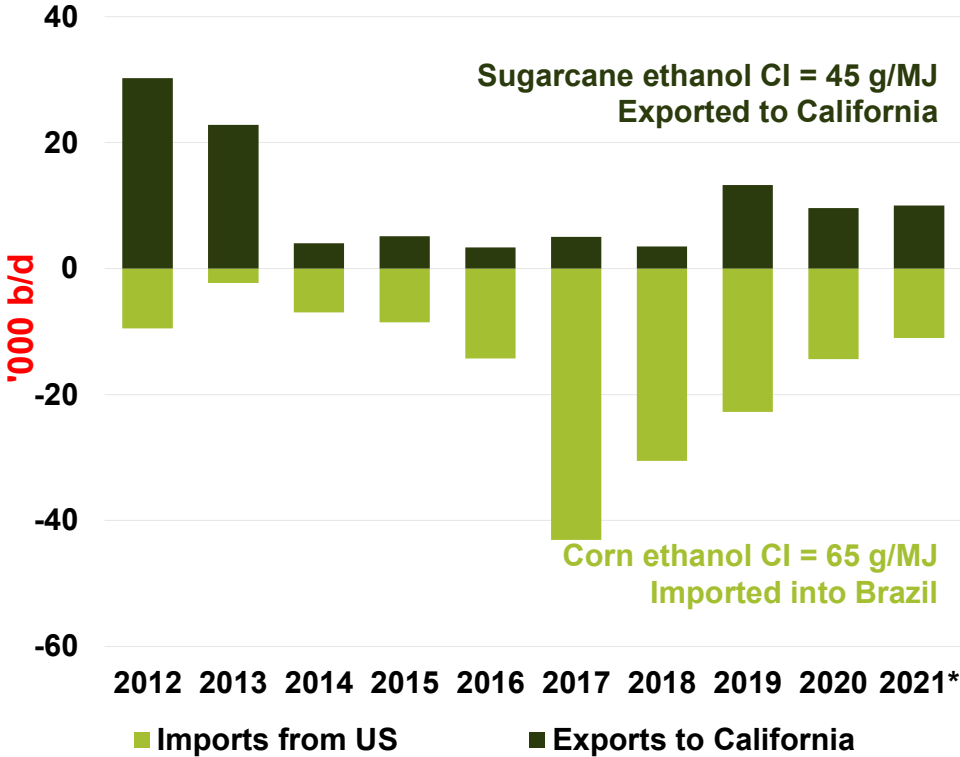
Produtores de diesel renovável adquirem direitos de matéria-prima nos EUA reconhecendo que a corrida será acirrada



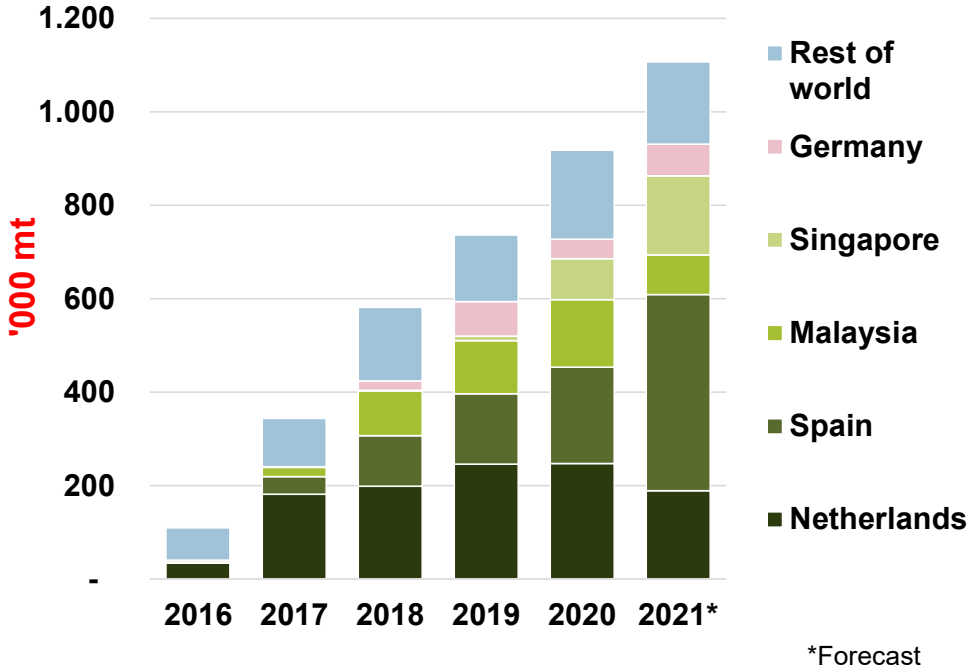
Sources: Platts Analytics, USDA NASS, FAO
 * Forecast

Incentivos regionais estão criando novas rotas comerciais, gerando emissões adicionais desnecessárias

Brazil: Circular fuel ethanol trade

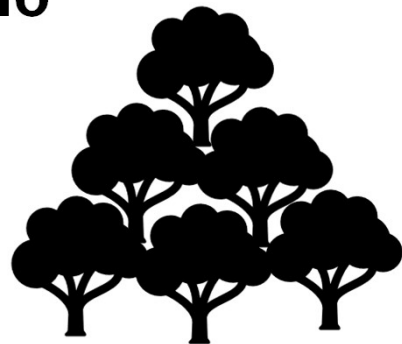
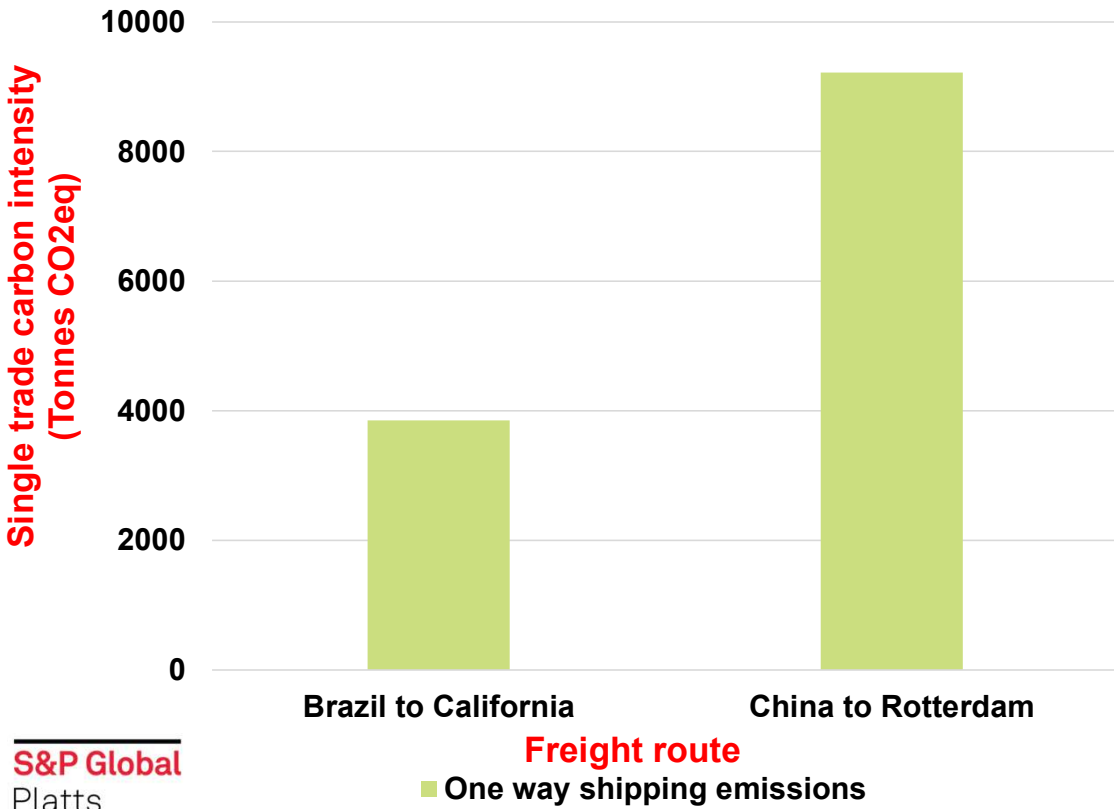


China Used Cooking Oil Exports by Destination



Reduzir as emissões é um desafio global. Para o planeta não importa onde o combustível está sendo queimado

Biofuels Shipping Emissions for Y-2020



17 million trees a year required to offset emissions for all Y-2020 biofuel cargo shipping for these routes!



25 million global trees lost in Y-2020 because of deforestation & forest fires!

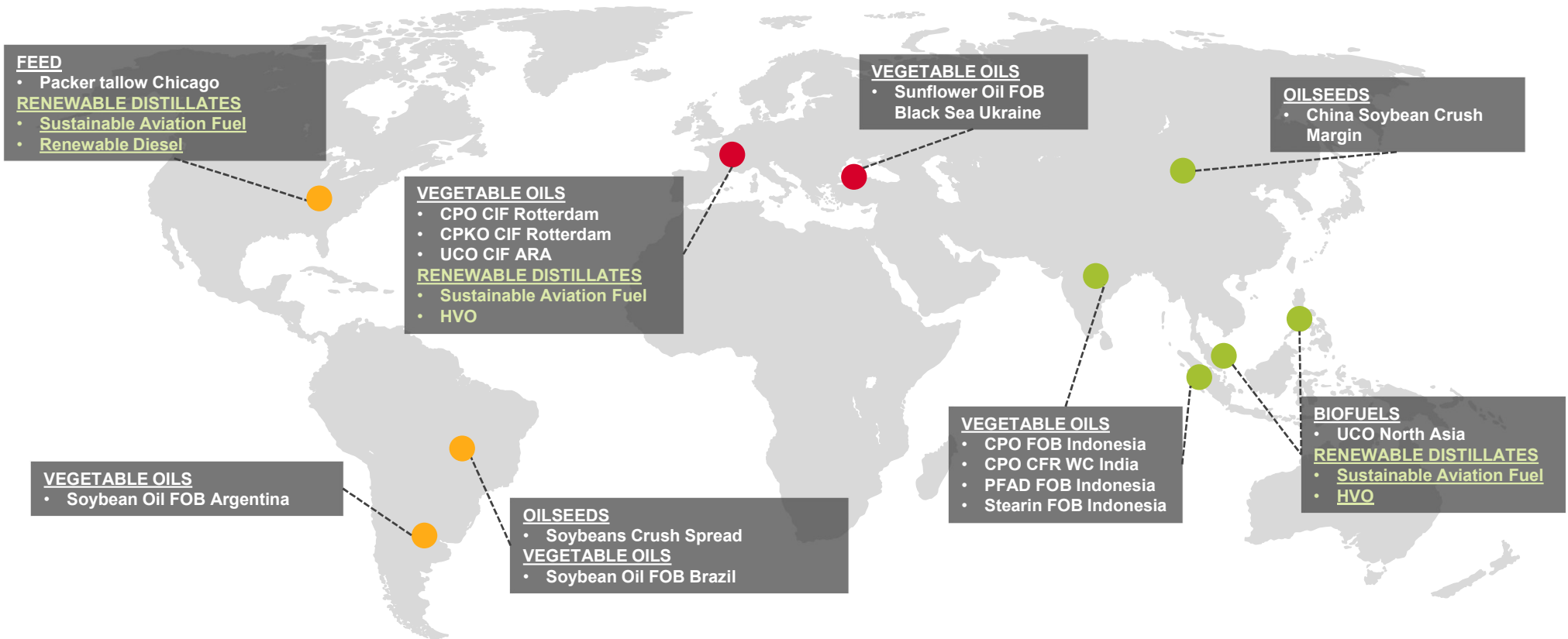
Source: S&P Global Platts Analytics, Hansen/WRI-2021

Conclusões

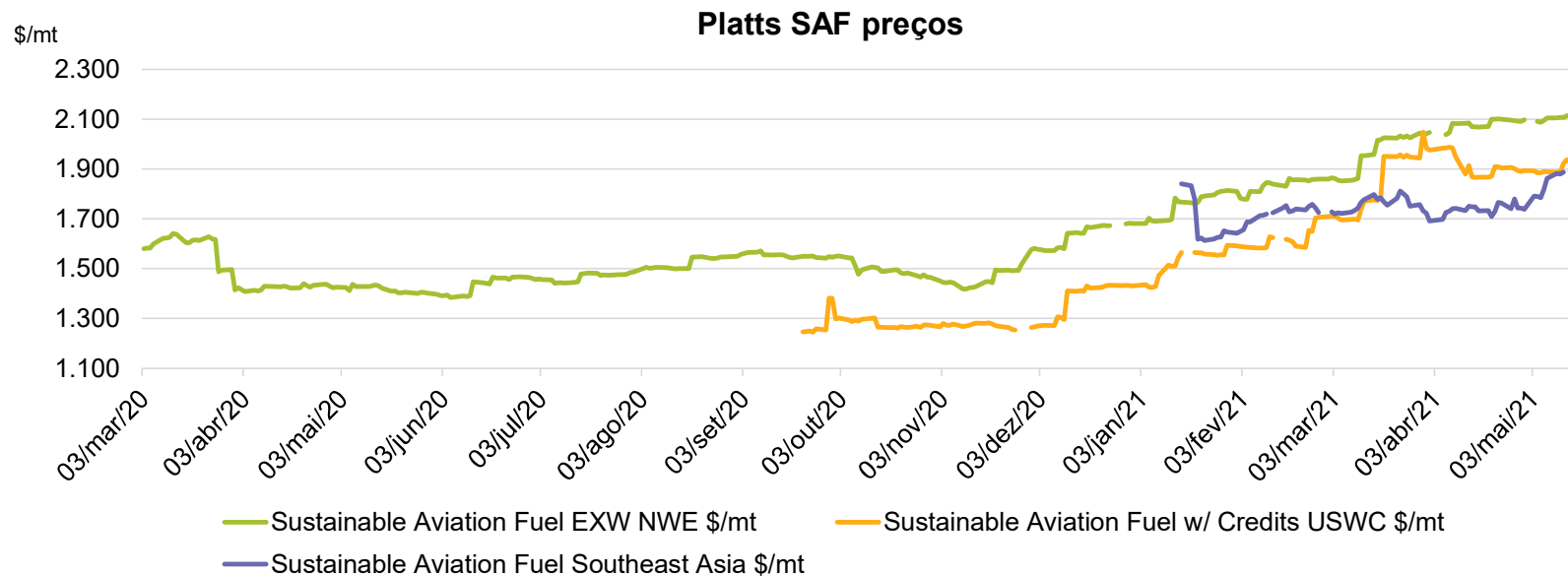
- Mandatos, investimentos em novas tecnologias e incentivos financeiros são fundamentais para o desenvolvimento da indústria de RD/SAF.
- A competição por matéria-prima pode criar desequilíbrios no curto prazo. Diversificação e inovação são necessárias.
- As parcerias são vitais: acordos de offtake, união de forças com distribuidores e outros setores.
- A nova política deve tentar evitar a criação de novas rotas comerciais criando emissões adicionais desnecessárias.
- Engajamento da sociedade e dos consumidores; RP da imagem do país e do setor são bem-vindos.

Preços S&P Global Platts para Combustível Sustentável de Aviação - SAF

Platts cobertura de preços de SAF, DR/HVO e matéria prima

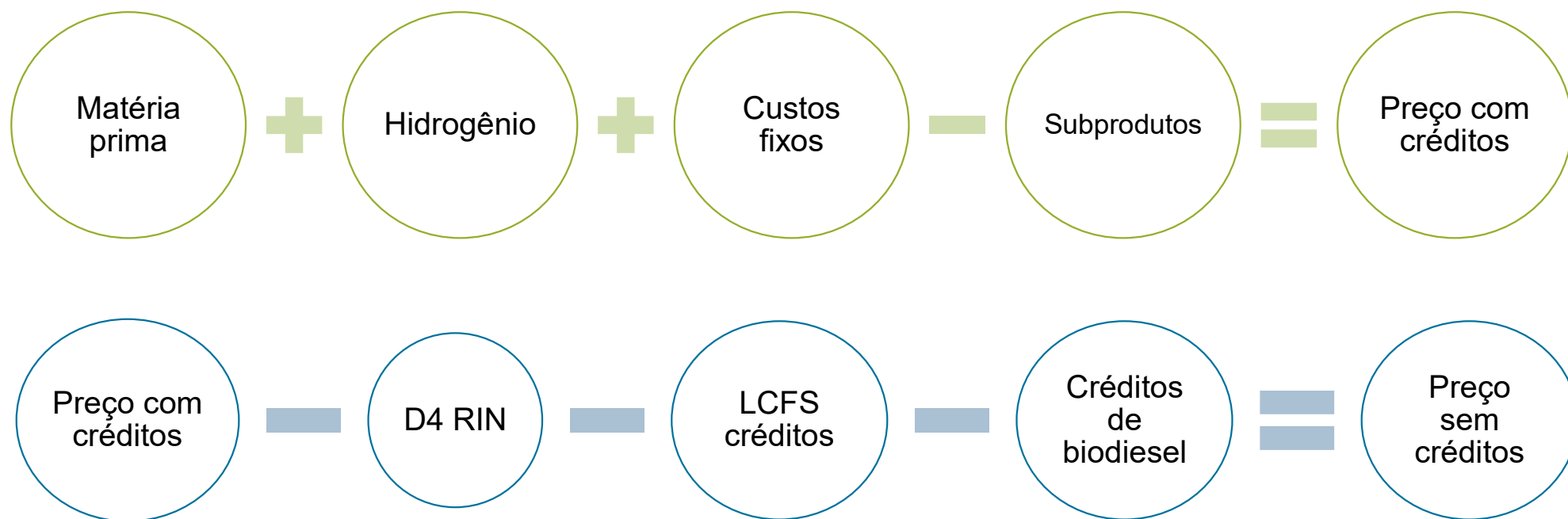


Avaliações Platts baseadas em custo de produção



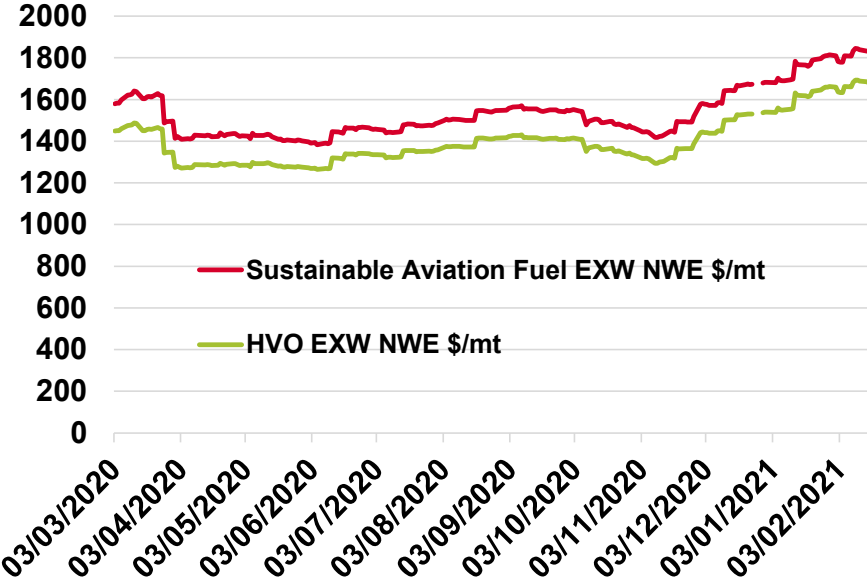
- SAF Noroeste Europeu, ex works - 17 de agosto de 2020
- SAF Califórnia, ex refinery – 21 de setembro de 2020
- SAF Cingapura, FOB – 18 de janeiro de 2021

Cálculo de preço: Baseado no valor do custo de produção através de hidrocessamento

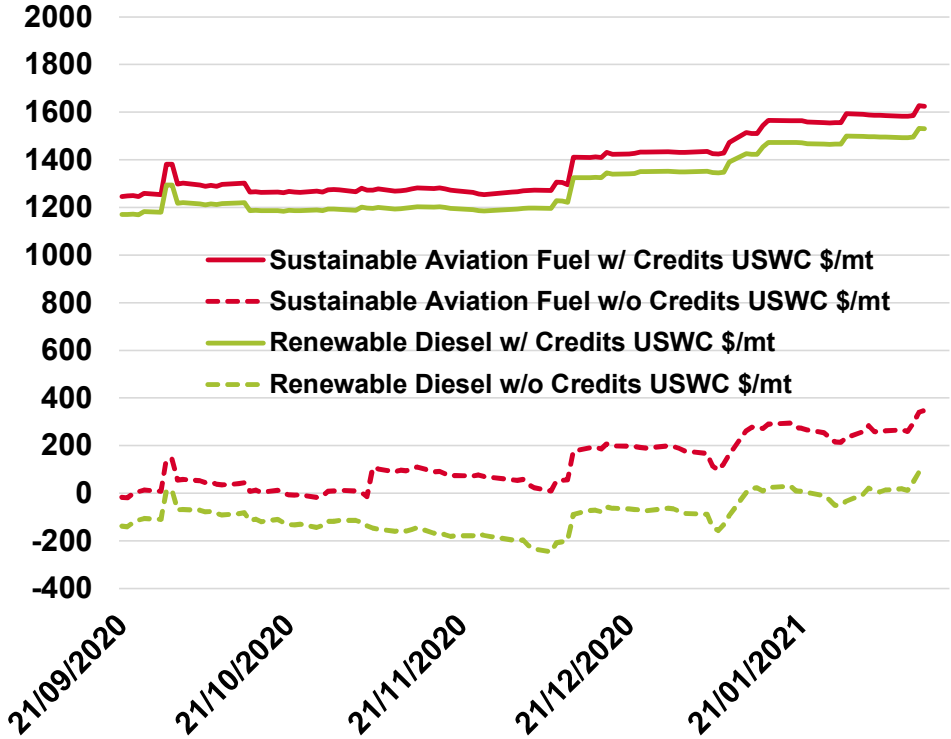


Globalmente a adição do SAF depende de políticas públicas de incentivo para se tornar economicamente viável

EMEA daily SAF and HVO prices

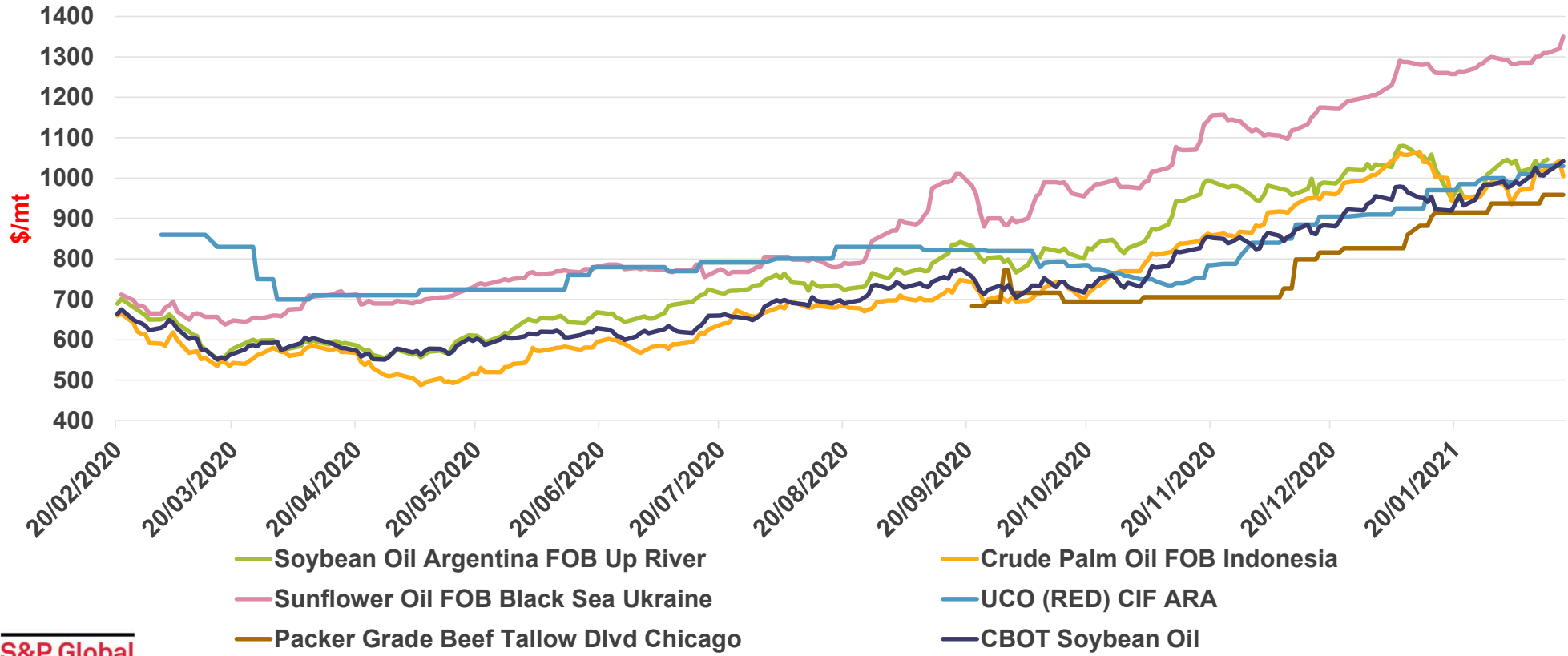


US California SAF and RD prices, with and without environmental credits



Preço das matérias primas são os principais componentes para o custo do SAF

S&P Global Platts preços de matéria prima



Obrigada!

S&P Global
Platts

BIOFUELS CAN

Volume 9 / Issue 70 / April 12, 2021

PLATTS KEY DAILY ETHANOL ASSESSMENTS


	Low-High	Midpoint
United States (¢/gal) (PDF page 210)		
Ethanol Chicago (terminal)	194.20-194.30	194.25
Ethanol swap Chicago (May)	193.70-193.80	193.75
Brazil cargo assessments (\$/cu m) (PDF page 220)		
Ethanol FOB Santos cargo	506.95-507.05	507.00
Northwest Europe (¢/cu m) (PDF page 2210)		
Ethanol T2 FOB Rotterdam	553.25-554.25	553.75
Asia Pacific (\$/cu m) (PDF page 2210)		
Bioethanol CIF Philippines	597.00-599.00	598.00

PLATTS KEY DAILY RENEWABLE DISTILLATES

	Low-High	Midpoint
Northwest Europe (\$/mt) (PDF page 1013)		
HVO	1908.49	1908.49
SAF	2083.02	2083.02
Americas (¢/gal) (PDF page 12)		
SAF w/ credits	552.79	552.79
SAF w/o credits	124.65	124.65
RD w/ credits	522.74	522.74
RD w/o credits	46.20	46.20
Southeast Asia (\$/mt) (PDF page 2013)		
HVO	1591.96	1591.96
SAF	1733.13	1733.13

CONTENTS

Ethanol	3
RINS	4
RVD	4
ETBE	6
Biodiesel	7
Renewable distillates	7
Weekly US corn export inspections down 27% on week; USDA	9
SPAIN DATA: February ethanol, biodiesel demand plummets on year	9



ETHANOL PRODUCTION FORECAST DATA

www.platts.com

Platts Sustainable Aviation Fuel and Renewable Diesel prices

S&P Global Platts Renewable Distillate published values follow extensive consultation of producers, consumers, traders and others in the oil, biofuel and renewable fuel markets as the demand for sustainable aviation fuel and renewable diesel grows in consumption and supply.

On August 17, 2020 Platts launched daily values of sustainable aviation fuel (SAF) and hydrotreated vegetable oil (HVO) in Northwest Europe.

- HVO Ex Works Northwest Europe
- SAF Ex Works Northwest Europe

This was followed on September 21, 2020, by the launch of two US West Coast SAF values.

- SAF with credits, US West Coast
- SAF without credits, US West Coast

On December 3, 2020 US coverage added Renewable Diesel (RD) prices.

- RD with credits, US West Coast
- RD without credits, US West Coast

Asian SAF and HVO was launched on January 18, 2021 for Southeast Asia.

- HVO Southeast Asia
- SAF Southeast Asia

What are these prices?

Cost-based values reflecting the production of sustainable aviation fuel (SAF) and hydrotreated vegetable oil (HVO) through hydroprocessing.

These are ex-refinery prices based on calculations from S&P Global Platts Analytics based on existing Platts assessments and other fixed costs

Why has Platts launched these assessments?

Even in an environment where airlines are under exceptional pressure from demand destruction, the green agenda is still progressing and commitment to decarbonize is being reaffirmed. Looking at aviation, for example, the Carbon Offsetting and Reduction Scheme

for International Aviation program (CORSIA) aims to halve the industry's 2005 carbon emissions by 2050 by way of carbon neutral growth. SAF is one key component in airlines' sustainability toolboxes that can be used to meet these lower carbon goals.

By launching a cost-based calculation where there is no spot market, we are adding critical transparency that allows market participants to compare the cost of traditional jet fuel with new SAF.

What is the specification for these products?

EMEA
HVO and SAF is published on an ex-refinery Northwest European basis in US dollar per metric ton on a daily basis.

USA
SAF and RD are published on an ex-refinery, California basis in US cents/gallon.

SAF prices with and without environmental credit values are also published in \$/mt using a 3.4 conversion factor and in \$/barrel using a 0.42 conversion factor. This implies a \$/mt to \$/b conversion factor of 8.105.

SAF values reflect ASTM D7566 standard specification for Aviation Turbine Fuel Containing Synthesized Hydrocarbons, with a relative density of 776 kg/cu m (at 15 degrees Celsius).

The RD values with and without credits are also published in \$/mt using a 3.39 conversion factor and in \$/barrel using a 0.42 conversion factor. This implies a \$/mt to \$/b conversion factor of 8.071.

The USWC RD prices reflect ASTM D975 standard specification, with a relative density of 779 kg/cu m (at 15 degrees Celsius).

Asia
HVO and SAF are published on FOB Singapore basis in US dollar per metric ton and US dollar per barrel on a daily basis. SAF uses a \$/mt to \$/b conversion factor of 8.105. HVO uses a \$/mt to \$/b conversion factor of 8.071.

Restrictions on Use: You may use the analyses, prices, indexes, assessments and other related information (collectively, "Data") in this presentation only for your personal use. You may not publish, photocopy, reproduce, distribute, retransmit, resell, create any derivative work from, put into a computer system and/or otherwise provide access to Data or any portion thereof to any person (either within or outside your company including, but not limited to, via or as part of any internal electronic system or Internet site), firm or entity.

Disclaimer: S&P GLOBAL PLATTS, ITS AFFILIATES AND ALL OF THEIR THIRD-PARTY LICENSORS DISCLAIM ANY AND ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO, ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE AS TO THE DATA, OR THE RESULTS TO BE OBTAINED BY ITS USE OR AS TO THE PERFORMANCE THEREOF. A reference to a particular investment, security, rating or any observation concerning a security or investment provided in the Platts Information is not a recommendation to buy, sell or hold such investment or security or make any other investment decisions AND DOES NOT ADDRESS THE SUITABILITY OF ANY INVESTMENT OR SECURITY. NO user of the PLATTS information should rely on any INDEX, BENCHMARK, price assessment, observation, OPINION or other information contained IN THE PLATTS INFORMATION in making any investment or other decision. Platts does not sponsor, endorse, sell or promote any securities, other financial or investment products or services. THE PLATTS INFORMATION IS NOT A SUBSTITUTE FOR THE SKILL, JUDGMENT AND EXPERIENCE OF SUBSCRIBER, ITS MANAGEMENT, EMPLOYEES, ADVISORS AND/OR CLIENTS IN MAKING INVESTMENT AND OTHER BUSINESS DECISIONS.

Limitation of Liability: In no event whatsoever shall S&P Global Platts, its affiliates or their third-party licensors be liable for any indirect, special, incidental, punitive or consequential damages, including but not limited to loss of profits, trading losses, or lost time or goodwill, even if they have been advised of the possibility of such damages, whether in contract, tort, strict liability or otherwise. The Data is provided on an "as is" basis and your use of the Data is at your own risk.

The names "S&P Global Platts" and "Platts" and the Platts logo are trademarks of S&P Global Inc. Any commercial use of the S&P Global Platts logo must be granted in writing by S&P Global Platts.

Copyright © 2021 by S&P Global Platts, a division of S&P Global Inc. All rights reserved.

Innovative market **insights**

Q & A

Driven by analytics,
powered by fundamentals