



New Regulative Framework in the EU (RED II) and Member States – Opportunities for North America

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Regional Stakeholder Committee North America, Las Vegas, November 19, 2019

The RED II was approved by the European Parliament in November and came into effect on 24 December 2018

RED II (Directive 2018/2001)	
Energy from Renewable Sources	32% (at EU level)
Renewables in the Transport Sector	14% obligation for fuel suppliers until 2030
Blending Obligation for Low-Emission and Renewable Fuel	The 14% obligation can be translated to energy, volume or by GHG reduction
Cap on Food/ Feed Crop Based Biofuels	2020 consumption level for each MS within a 7% limit, with 1% flexibility
Target for Annex IX Part A (advanced)	0.2% (2022), 1% (2025), 3.5% (2030)
Limit for Annex IX Part B (UCO, animal fat)	Limit of 1.7%, which can be modified by MS if approved by Commission
New GHG emission saving thresholds	50% for old installations 60% for new installations after 5 October 2015 65% for installations starting operation after 1 January 2021 70% for renewable fuels from non-biolog. origin after 1 January 2021
New fossil fuel comparator	94 instead of 83.8 gCO ₂ eq/MJ

Sustainability certification under RED II



Biofuels in the European Union: RED II

Transport



- RE overall target: **32% in 2030**
- RE in transport at least **14%**
- **Cap on Food/ Feed Crop:** 2020 consumption level, within a 7% limit
- Double counting for **Annex IX**
- **Target for Annex IX, A (advanced):** 0.2% (2022), 1% (2025), 3.5% (2030)
- **Limit for Annex IX, B:** limit of 1.7%

Aviation / Maritime



- **Multiplier of 1.2** for aviation and maritime (not for food/feed crops)

Gaseous / solid biomass



- **Mandatory sustainability criteria** for gaseous and solid biomass, such as wood pellets, under specific requirements
- Specific criteria for forest biomass regarding **monitoring and enforcement systems in place**
- **Operational guidance** to be provided

Additional fuel categories will be introduced by **RED II**

Advanced biofuels

High iLUC risk biofuels

Low iLUC risk biofuels

Renewable fuels of non-biological origin

Recycled carbon fuels

New categories in RED II will also require sustainability certification

Advanced biofuels

- Annex IX of RED II (Part A), mainly based on waste and residues

High iLUC risk biofuels

- Produced from feedstocks with significant production expansion into areas with high carbon stock

Low iLUC risk biofuels

- Produced with schemes avoiding displacement effects of food/feed crops (e.g. double cropping, use of degraded land, yield increase)

Renewable fuels of non-biological origin

- E.g. hydrogen

Recycled carbon fuels

- Fuels produced from e.g. plastics, waste processing gases, exhaust gases

Annex IX (A) defines advanced feedstocks and fuels. Can be updated by the European Commission

Annex IX

Part A (“Advanced”) targets: at least 0.2% in 2022, 1% in 2025 and 3.5% in 2030

- | | |
|--|--|
| <ul style="list-style-type: none">• Algae if cultivated on land in ponds or photobioreactors• Biomass fraction of mixed municipal waste but not separated household waste subject to recycling targets• Bio-waste as defined in Article 3(4) of Directive 2008/98/EC from private households subject to separate collection• Biomass fraction of industrial waste not fit for use in the food/feed chain, including material from retail/ wholesale and the agro-food and fish and aquaculture industry, excluding feedstocks listed in part B• Straw• Animal manure and sewage sludge• Palm oil mill effluent and empty palm fruit bunches• Tall oil pitch | <ul style="list-style-type: none">• Crude glycerine• Bagasse• Grape marcs and wine lees• Nut shells• Husks• Cobs cleaned of kernels of corn• Biomass fraction of wastes and residues from forestry and forest-based industries, i.e. bark, branches, pre-commercial thinnings, leaves, needles, tree tops, saw dust, cutter shavings, black liquor, brown liquor, fibre sludge, lignin and tall oil• Other non-food cellulosic material• Other ligno-cellulosic material (...) except saw logs and veneer logs |
|--|--|

Part B (Not considered as “advanced”) capped to 1.7% but exemption possible

- | | |
|--|--|
| <ul style="list-style-type: none">• Used Cooking Oil (UCO) | <ul style="list-style-type: none">• Animal fats classified as categories 1 and 2 in accordance with Regulation (EC) No 1069/2009 |
|--|--|

Source: RED II (Directive 2018/2001)

ISCC certifies already several companies using Annex IX A feedstock for the production of low carbon fuels



raizen

Raizen produces bioethanol from **bagasse**



UPM

UPM is producing renewable diesel and bionaphta from **tall oil pitch and crude tall oil**



Enerkem

Enerkem is producing methanol and ethanol from **municipal solid waste**



BioMCN

BioMCN is converting **waste-based biogas** into biomethanol



Argent Energy **AGRIGODE™**
ASB biodiesel **Oberösterreichische Biodiesel BULGARIA**
ecoMotion SARIA Group **MUSIM MAS**
NESTE **REG**
Universal Biofuels wilmar

Companies producing biofuels out of **Palm Oil Mill Effluent (POME)**

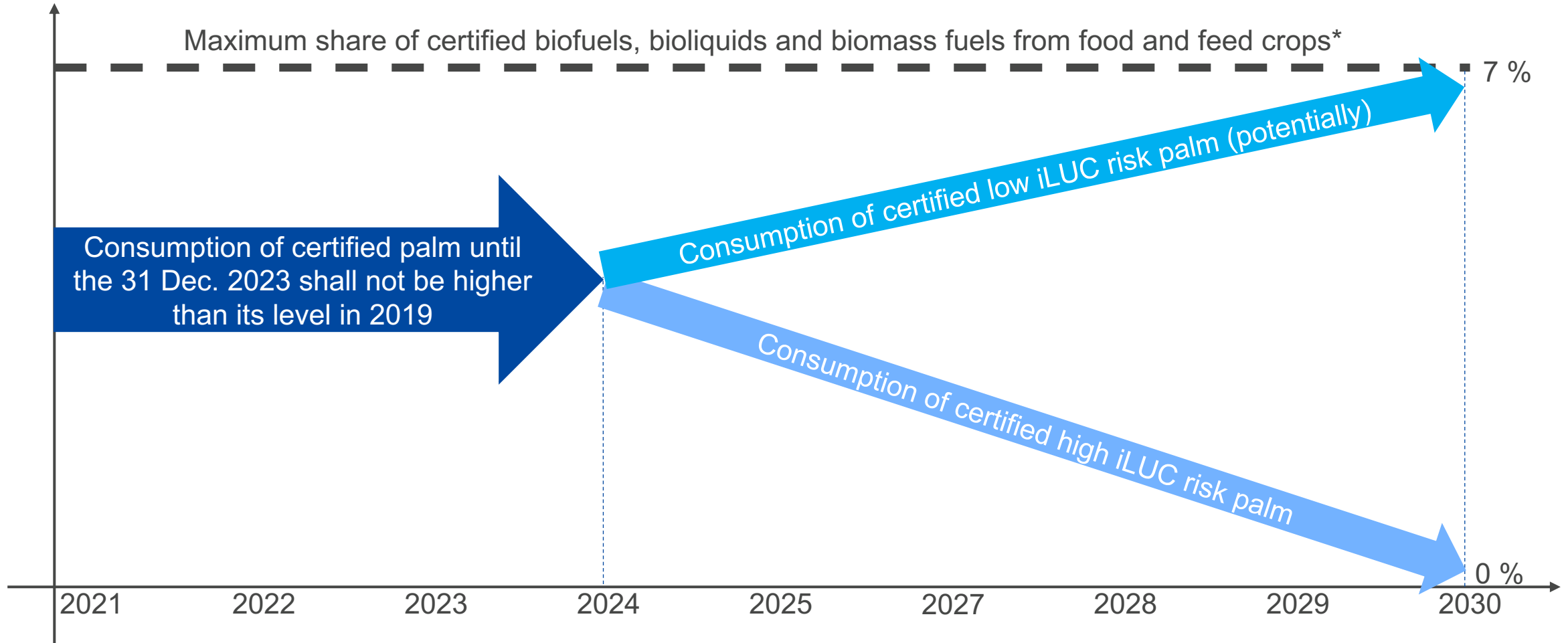
Watch out for Member State action – the UK already developed own regulations for RFNBOs and “development fuels”

- The UK is the first “Member State” including RFNBOs in existing national legislation in April 2018 already (and also jet fuels)
- **“Development fuels”** are categorised as follows:
 - At fuel level: A development fuel must be either...
 - renewable hydrogen,
 - renewable aviation fuel,
 - bio substitute natural gas or
 - a petrol or diesel that can be blended at 25% or more.
 - At feedstock level: A development fuel must be made from...
 - waste and residues eligible for double counting (not including segregated oils & fats like UCO or tallow) or
 - a RFNBO (wind, solar, hydro, etc.).
- ISCC is a member of the Expert Advisory Group providing technical advice to the UK authorities



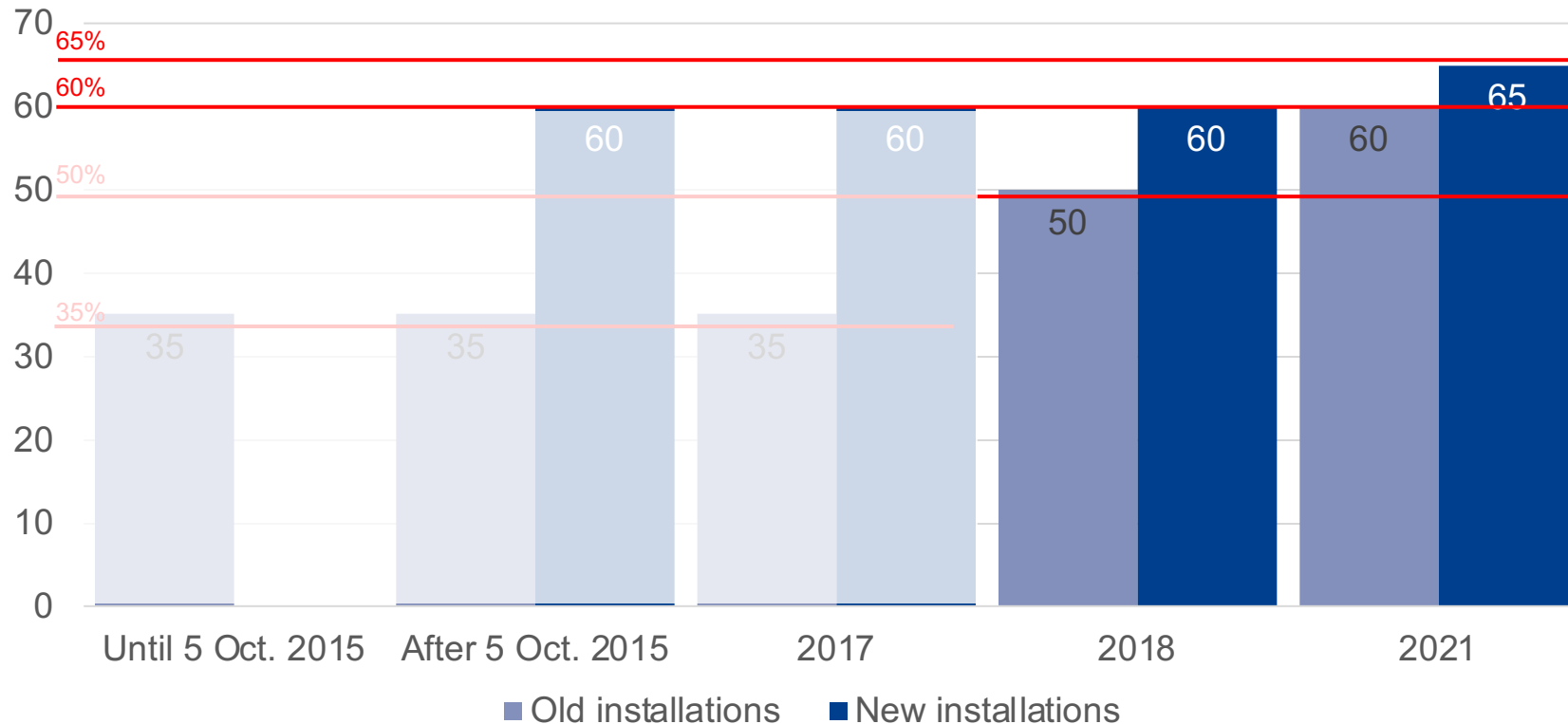
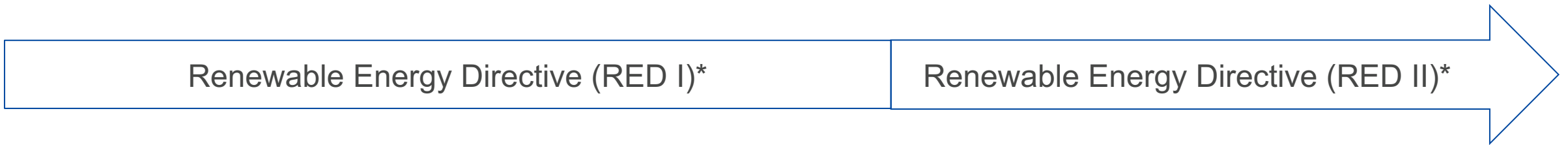
Source: <https://www.gov.uk/government/publications/renewable-transport-fuel-obligation-rtfo-guidance-2019>

Potential of low iLUC risk palm oil certification still unclear



* The maximum share should be calculated by each Member State dependent on their 2020 share plus 1% with a maximum of 7%

Biofuel producers selling their products for the EU transportation fuel market need to achieve GHG emission savings thresholds



RED I: Currently valid GHG emission saving thresholds:

- 50% for installations in operation on or before 5 October 2015
- 60% for installations starting operation from 5 October 2015

RED II (post 2020):

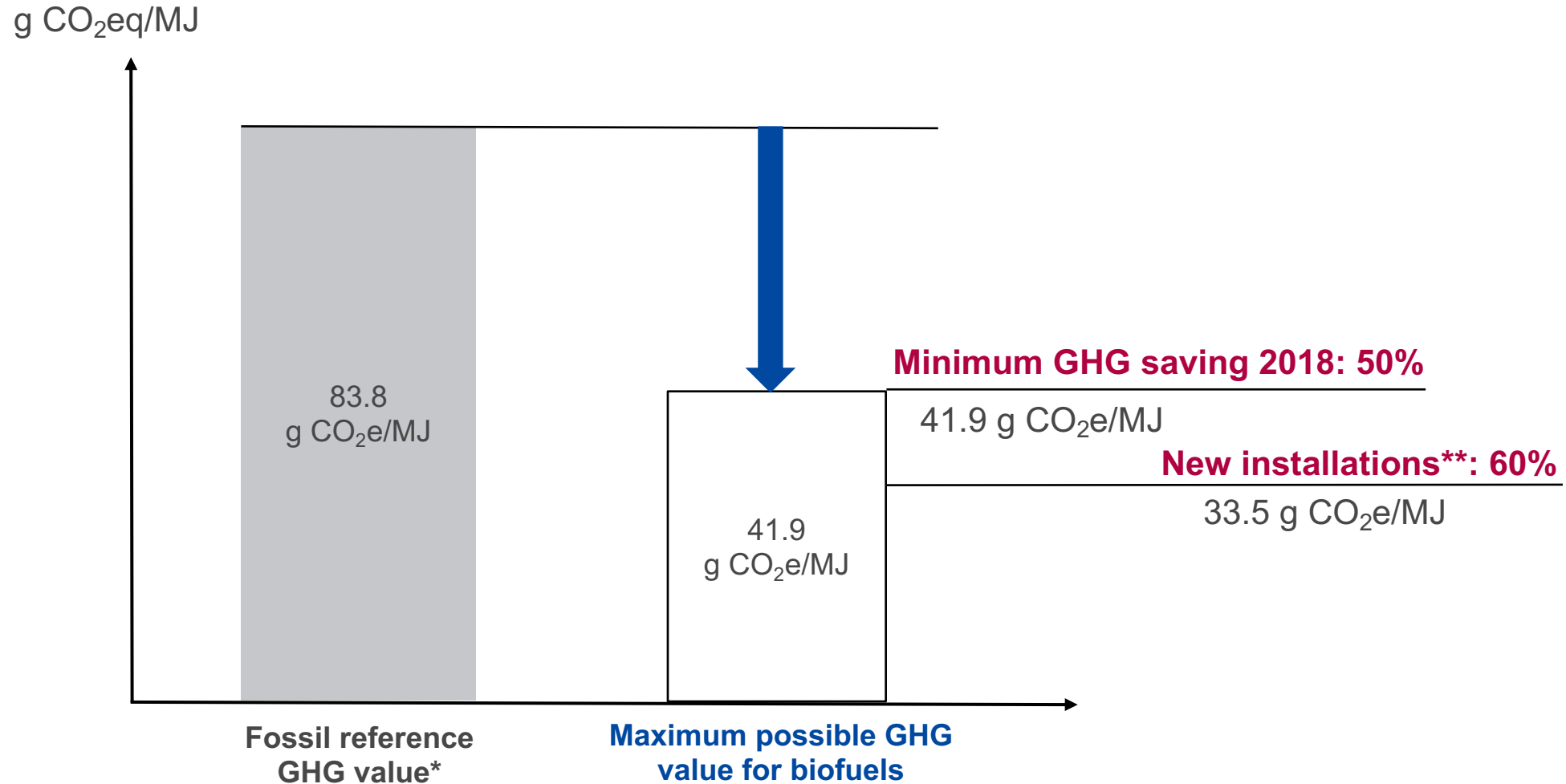
- 65% for installations starting operation after 1 January 2021
- **Comparator** set at 94 gCO₂eq/MJ instead of current 83,8 gCO₂eq/MJ

* RED I – 2009/28/EC lately amended by 2015/1513/EC from October 2015

** RED II – Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018

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RED I: A maximum GHG emission of 41.9 g CO₂e/MJ of biofuel is possible to reach the 50% GHG saving threshold

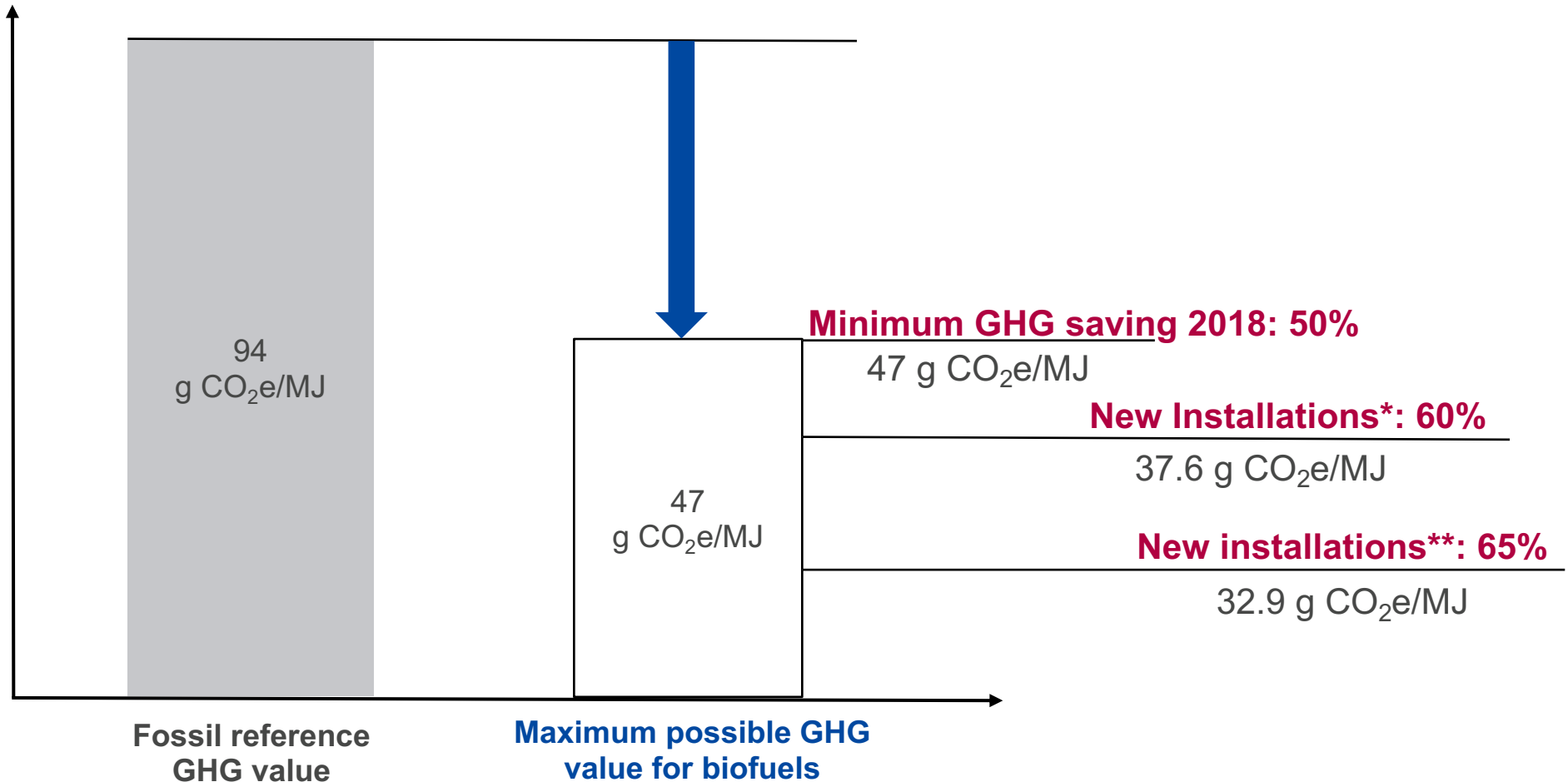


* Value comes from the Renewable Energy Directive (RED). Currently no other value can be applied.

** for installations starting operation after 5 October 2015

Under the **RED II** the new fossil reference value for GHG emissions will be 94 gCO₂eq/MJ

g CO₂eq/MJ



RED II: Implications for North America



Opportunities

- Increased targets for renewables in EU
- Advanced biofuels and Annex IX feedstocks
- RFNBO's and RCFs
- Aviation/ Maritime/ Solid biomass
- Co-Processing
- Low-iLUC
- Phase out of trade barriers
- Non-RED markets



Challenges

- 7% cap on Food/ Feed Crop Based Biofuels
- iLUC
- Higher GHG emission savings thresholds
- End of double counting?
- Multipliers reduce market
- Less harmonized regulation



What's next?

- An **update of ISCC EU** is required to become recognized under the RED II, particularly to implement:
 - **Delegated acts on:**
 - Renewable fuels of non-biological origin and recycled carbon fuels (due in January 2021)
 - Co-processing (due in December 2021)
 - Update of Annex IX
 - Development of certification framework for low iLUC risk biofuels
- Transposition of RED II into national law **due by 30 June 2021**
- **Practical challenges require guidance from the EC:**
 - How to deal with a non-harmonized transposition by different MS (i.e. with respect to time and content)?
 - Transition periods (for schemes, operators, deliveries)?



Many thanks for your attention!

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