

Fuels and “Fit for 55:” Identifying sustainability risks and opportunities to increase GHG savings

Chelsea Baldino

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Webinar content

- Description of Fit for 55 fuel policies
- Aim and description of modelling study
 - Scenarios assessing policies and possible changes
- Key results
 - GHG savings and average cost of carbon abatement
 - Renewable fuel and electricity consumption in each scenario
- Trilogue implications

Fit for 55: Renewable Energy Directive (RED II) revision

- Current policy
 - 14% renewable energy target for road and rail in 2030 – aviation and marine opt-in
- European Commission ‘Fit for 55’ proposal
 - RED II amended with 13% greenhouse gas (GHG) intensity reduction target, covering all transport sectors

GHG intensity reduction target vs. renewable energy target

- GHG reduction threshold for fuels to be eligible (e.g. 50-65% for biofuels)
- 13% GHG target nominally lower than 14% renewable energy target but ambition is higher:
 - Greater amount of fuels needed to achieve 1% GHG reduction than 1% of energy
 - No multipliers except 1.2x for aviation and marine fuels

Fit for 55: ReFuelEU (Aviation) and FuelEU Maritime

- ReFuelEU Aviation regulation
 - 5% sustainable aviation fuel (SAF) mandate in 2030: advanced biofuels + e-fuels(0.7%) only
 - Excludes food and feed-based fuels- helps support more sustainable, advanced fuels
- FuelEU Maritime regulation
 - 6% GHG target in 2030
 - Lower-carbon fossil fuels eligible
 - Excludes food and feed-based fuels

Modelling GHG savings and costs of policy changes

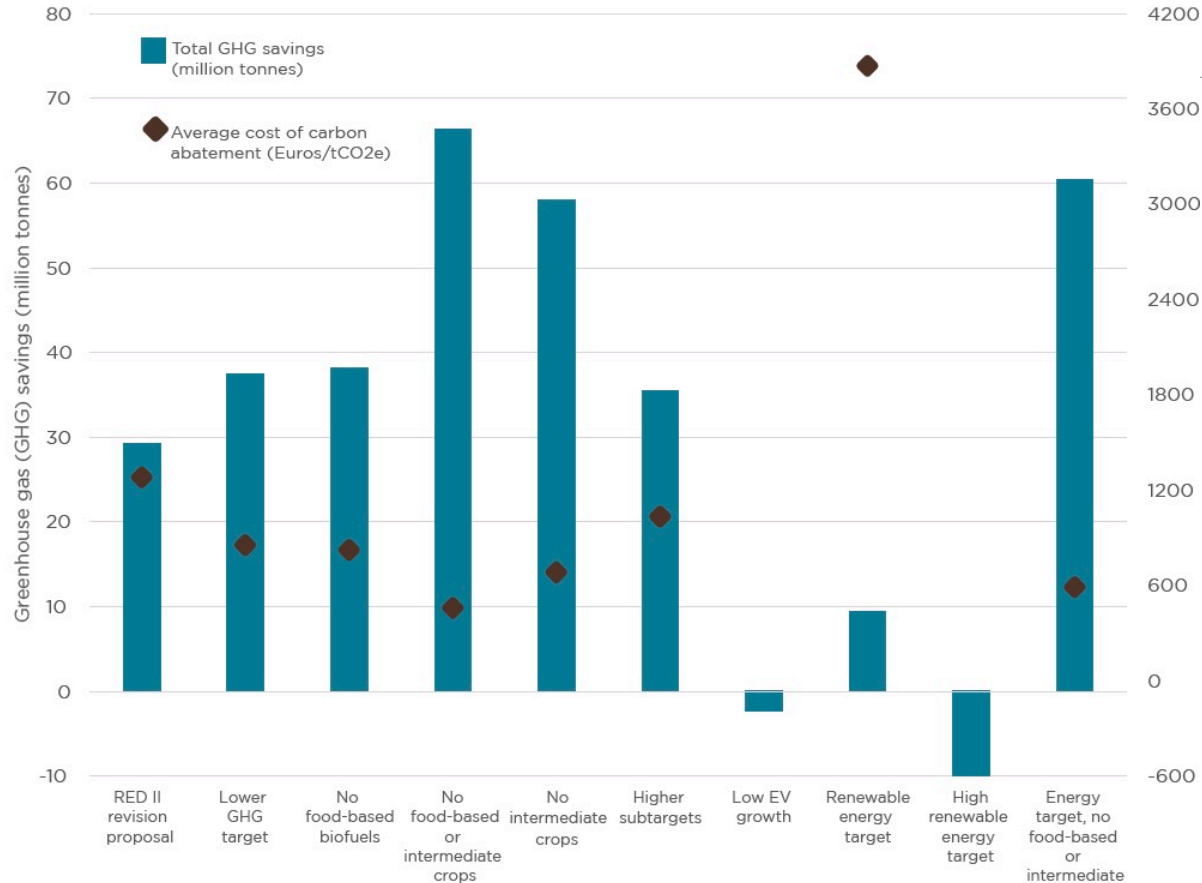
- Road and aviation sectors only, not marine
- Consultant report (Christensen, 2021)- summarized in briefing paper (Baldino & Searle, 2021)
 - Mix of renewable fuels, GHG savings and cost
- Partial equilibrium model to simulate compliance with either a GHG intensity reduction or renewable energy target

Scenarios

Scenario	Scenario name	Fuel greenhouse gas (GHG) intensity reduction target	Renewable energy mandate	Food and feed-based cap	Cover crops allowed outside cap?	Advanced biofuel mandate	Aviation e-fuels mandate	High (Climate Target Plan) or low electric vehicle uptake	Renewable share
1	Red II revision proposal	13%	-	7%	Y	2.2%	0.7%	H	15.6%
2	Lower GHG intensity target	11%	-	7%	Y	2.2%	0.7%	H	12.6%
3	No food-based biofuels	9%	-	0%	Y	2.2%	0.7%	H	10.5%
4	No food-based or intermediate crops	8%	-	0%	N	2.2%	0.7%	H	8%
5	No intermediate crops	13%	-	7%	N	2.2%	0.7%	H	14.2%
6	Higher subtargets	13%	-	7%	Y	2.75%	2.5%	H	15.3%
7	Low EV growth	13%	-	7%	Y	2.2%	0.7%	L	17%
8	Renewable energy target*	-	26%	7%	Y	2.2%	0.7%	H	15.6%
9	High renewable energy target*	-	29.5%	7%	Y	2.2%	0.7%	H	18.9%
10	Energy target, no food-based or intermediate*	-	19%	0%	N	2.2%	0.7%	H	8.8%

*All renewable energy target scenarios include current RED II multipliers (2x for Annex 9 fuels, 4x for electricity used in EV's, and 1.2x for aviation fuels in the mandate level, fourth column, but not in the renewable energy share reported in the final column).

Total GHG savings and average cost of abatement

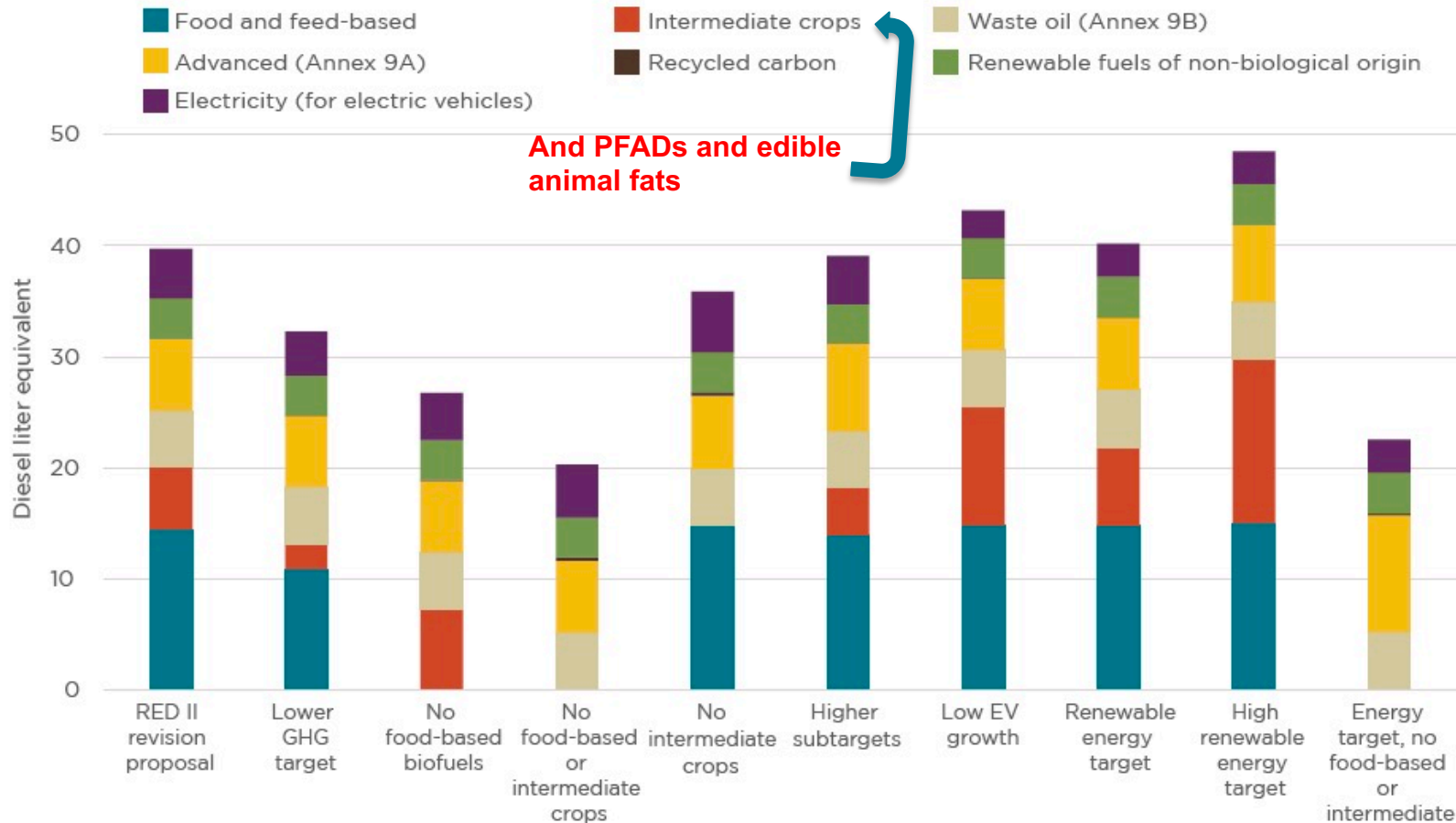


- Lower cost of carbon abatement w/ GHG vs. energy target
- Advanced fuel subtarget could be increased
- Higher ambition ≠ greater GHG savings because no ILUC accounting

Intermediate crops in the RED II

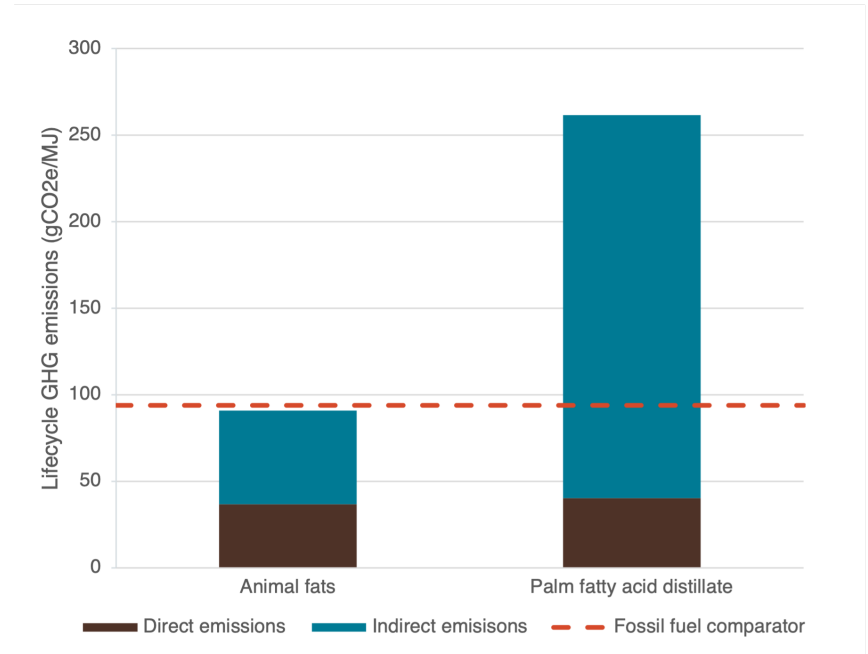
- Planted before or after the main crop, e.g. winter corn
- Not under food and feed-based biofuel cap in the RED II
 - Article 2, paragraph 40 defines “**food and feed crops**” as “starch-rich crops, sugar crops or oil crops produced on agricultural land as a main crop **excluding** residues, waste or ligno-cellulosic material and **intermediate crops**, such as catch crops and cover crops, provided that the use of such intermediate crops does not trigger demand for additional land.”
- Globally most used as cash crops for purely economic reasons e.g. food-meaning same Indirect Land Use Change (ILUC) as food-based fuels
- Currently no guidance on how to certify intermediate crops

Renewable fuel consumption and electricity use in vehicles in each policy scenario



Waste oil sustainability concerns

- Palm Fatty Acid Distillate (PFAD) and edible animal fats used to produce low-cost renewable fuels
- Both have industrial uses (e.g. soap) and animal feed- replaced with palm oil



Recommendations for the trilogue

- Exclude all food and feed-based feedstocks (incl. intermediate crops), as well as PFADs and edible animal fats, and lower the GHG reduction target accordingly
- Not possible to exclude all food-based feedstocks? Remove exemption for intermediate crops from food cap and limit or exclude PFADs and edible animal fats
- ^^ Both not possible? ↓ the GHG intensity target level
- Keep proposed GHG intensity transport target with submandates, rather than renewable energy mandate
- Member states should meet EV targets to help meet the transport targets.
- Advanced biofuel submandate could be increased

Thank you!
chelsea.baldino@theicct.org

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