



european renewable ethanol

Reconciling ESR-RED II objectives under the Energy Union Governance

Charles-Albert Peers
Alcogroup CEO
ePURE President

2030 EU policy framework





2030 EU policy framework

- Overall target to cut emissions vs. 1990:
 - By at least 20% in 2020
 - By at least 40% in 2030
- Translates into GHG emissions reduction vs. 2005:
 - ETS sectors:
 - By at least 21% in 2020
 - By at least 43% in 2030
 - **Non-ETS = Effort Sharing**
 - By at least 9.3% in 2020**
 - By at least 30% in 2030**
- Renewable Energy Directive:
 - At least 10% renewables in transport (RES-T) by 2020**
 - At least 7-14% by 2030 **

* *Effort Sharing covers Non-ETS sectors: Building, Waste, Agriculture, Transport and a portion of the Industry*

** *Binding targets at national level*

Policies to attain these objectives should be consistent and complementary

Different accounting methodologies

- GHG emissions
- Multipliers

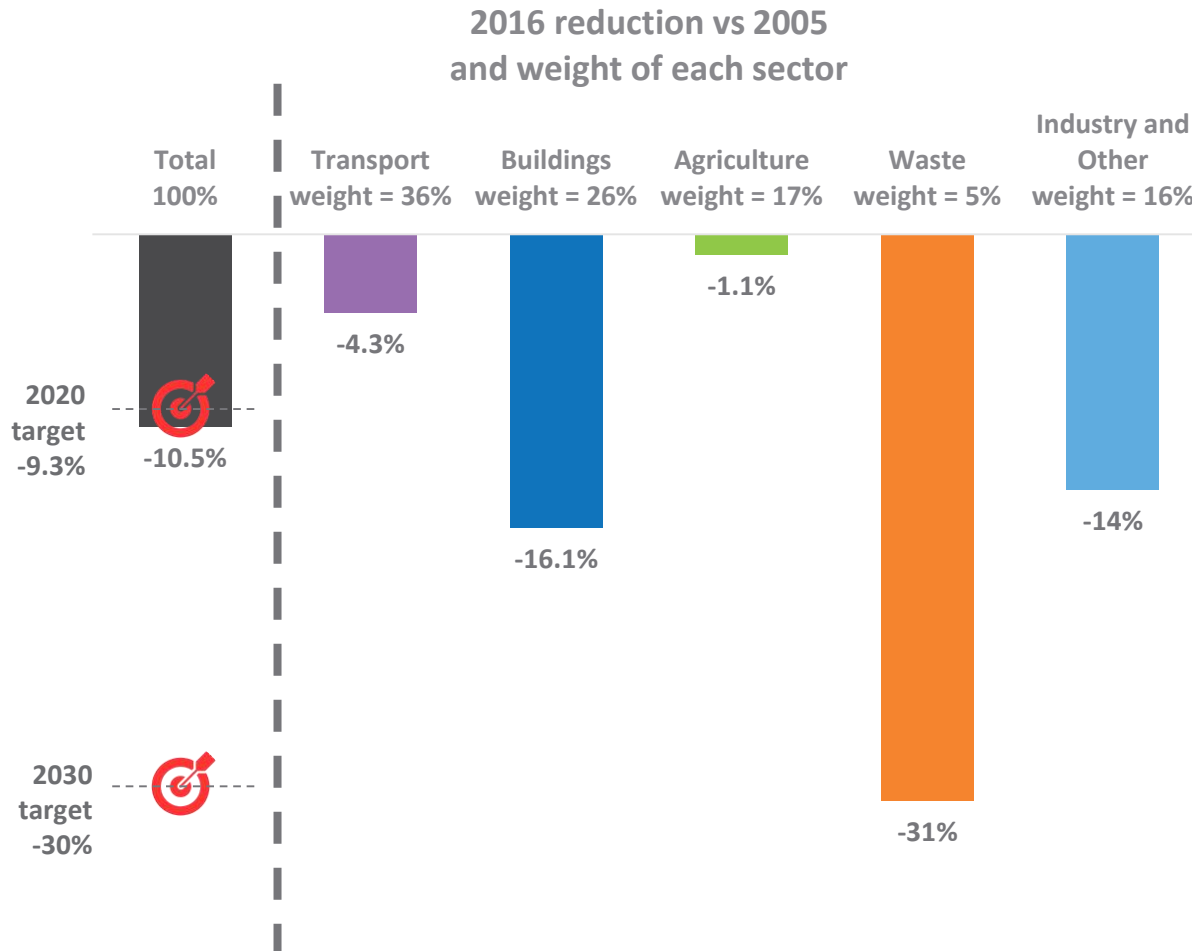
Renewables in transport should deliver the necessary emissions reduction

Effort Sharing progress and outlook





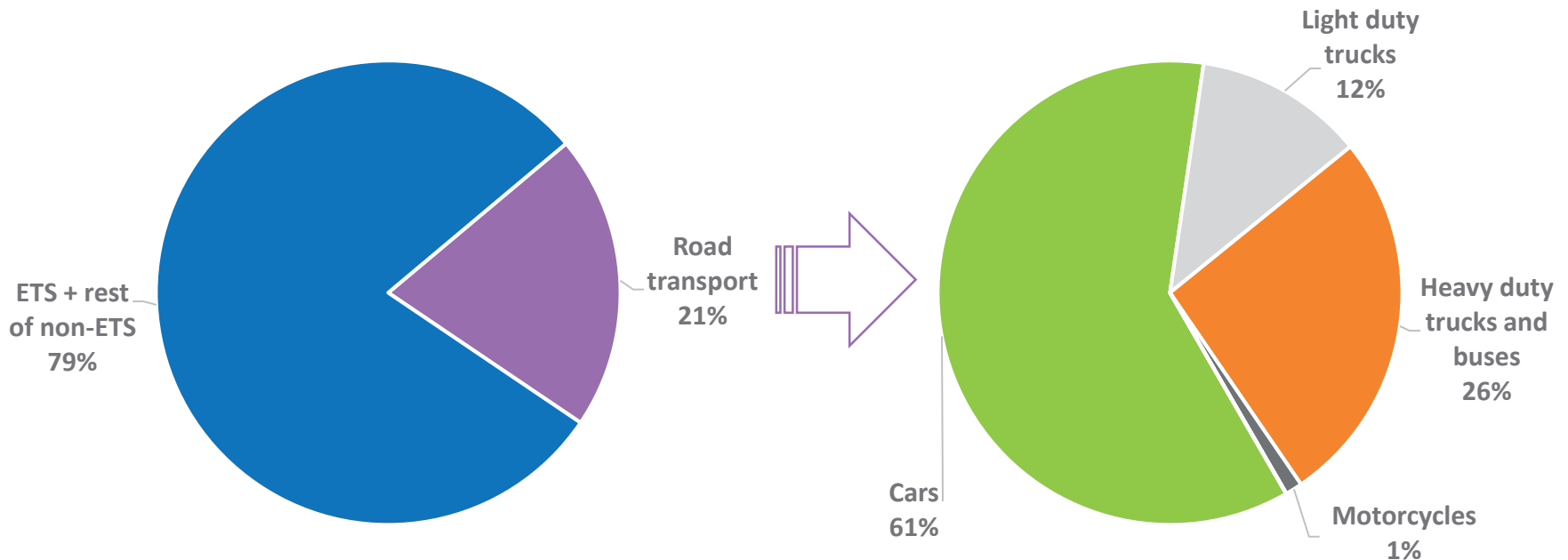
EU 28 – Effort Sharing progress to date



- EU target for non-ETS sectors translates into MS binding targets set according to their GDP → **Effort Sharing**
- 2020 EU objective already achieved **but little reduction in Transport so far**
- 2030 objective: Transport **will have to contribute significantly**



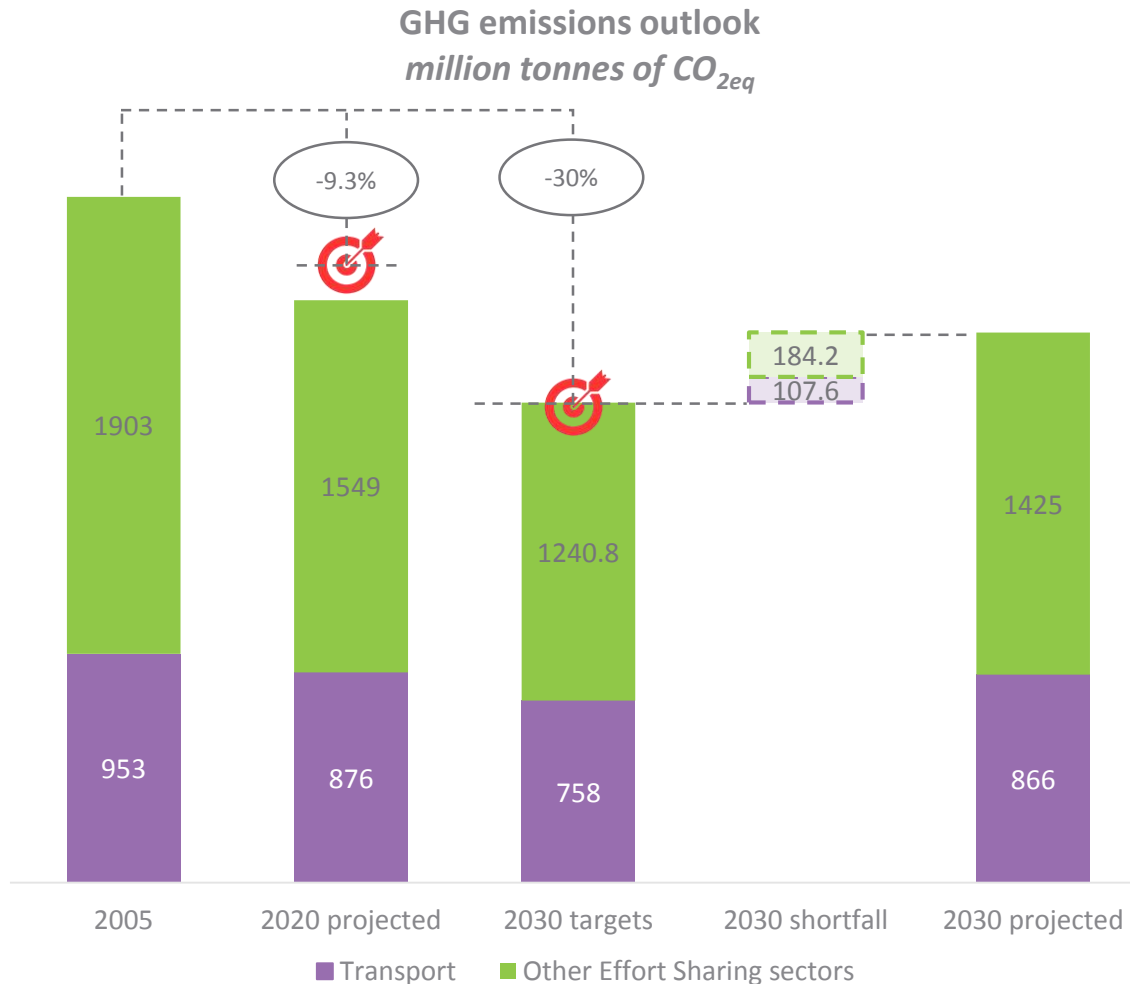
Focus on road transport emissions in 2016



- **Road transport:** 21% of the total GHG emissions
- **Cars:** 61% of the road transport emissions
- Transport is the only sector where emissions increased **+18% vs. 1990 levels**



Effort Sharing outlook



- EEA projections, the EU will not reach:
 - its 2030 ESR objective with existing measures
 - its 2030 commitments in the transport sector -20% vs. 2008 levels (White Paper on Transport)
- 2030 expected shortfall:
 - 107.6 MtCO_{2eq} in transport
 - 184.2 MtCO_{2eq} in other Effort Sharing sectors

RED progress and RED II outlook

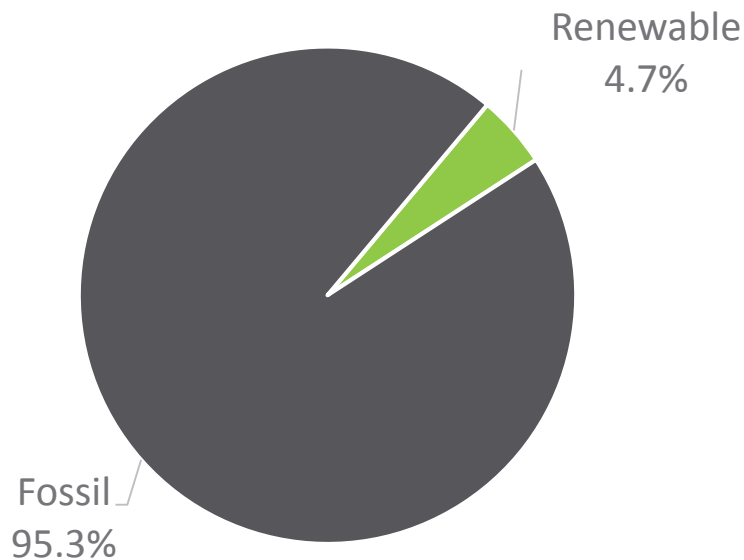




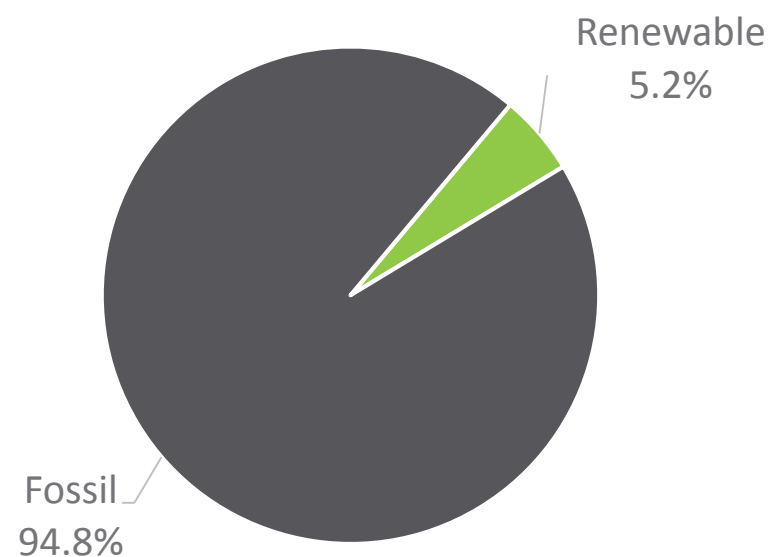
Fossil fuels vs. renewables in transport

- Without multipliers, the share of renewables in the transport sector (road and rail) has not increased significantly $\approx +0.5\%$ between 2010 and 2016
- 2016 RES-T main contributor (without multipliers): **Crop-based biofuels 63%**

Fossil vs. renewable – 2010

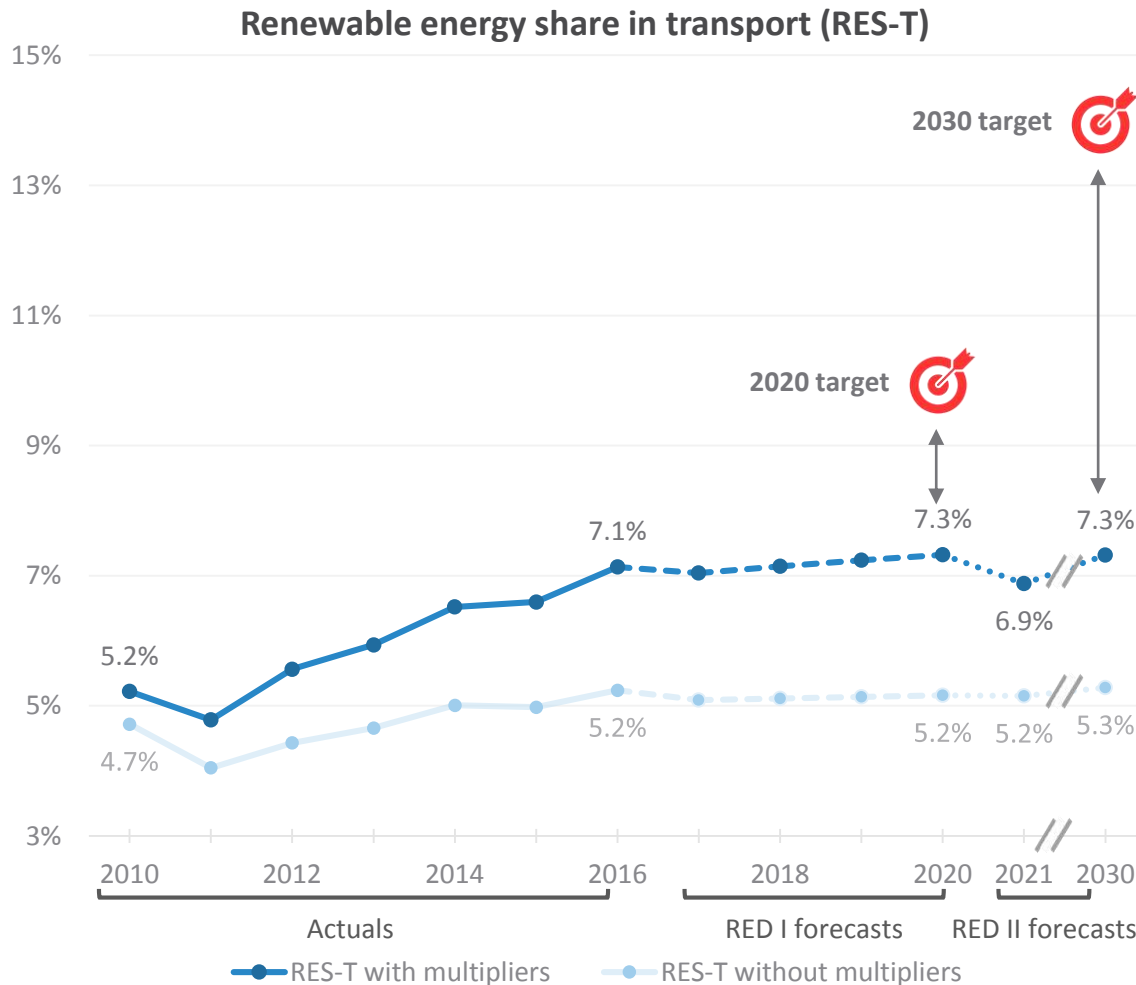


Fossil vs. renewable – 2016





RES-T: 2020 and 2030 targets unattainable



- 2020 RES-T expectations:
 - Below 2020 target (7.3%)
 - **5.2% in reality: this counts towards 2020 Effort Sharing targets**
- 2030 RES-T target **will not be achieved without significant efforts**

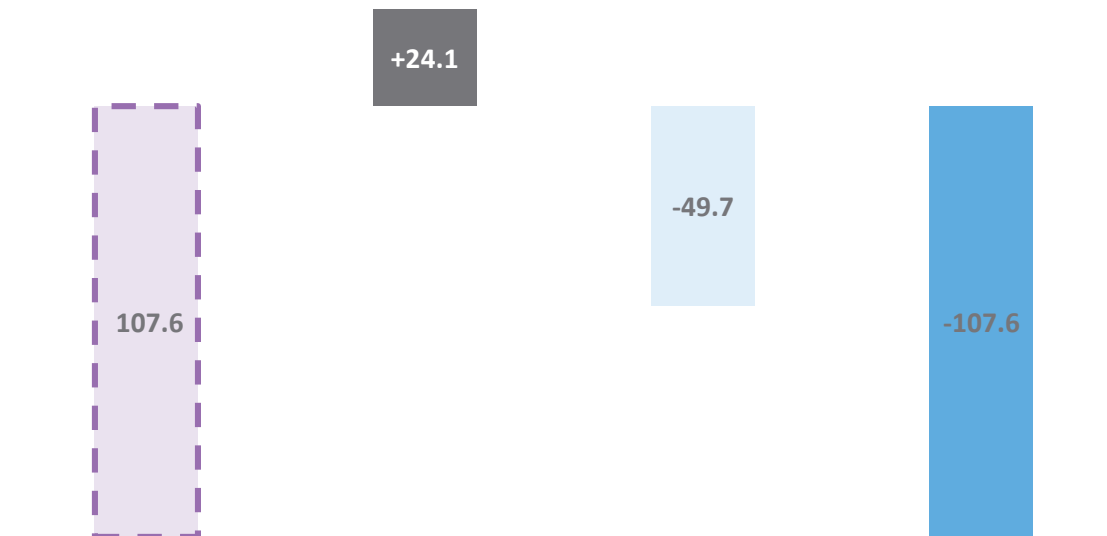
Reconciling RED II and ESR



Biofuels in transport critical to meeting Effort Sharing objectives



2030 Transport GHG emissions shortfall and biofuels impact
million tonnes of CO_{2eq}



Transport GHG emissions shortfall 2030

GHG emissions increase without crop-based biofuels

Additional savings with 7% crop-based & 1.75% Annex IX-A biofuels single counted

Bridging the 2030 transport emissions gap (13.32% crop & 1.75% Annex IX-A biofuels single counted)

- In a scenario with existing measures, the 2030 transport emissions shortfall would be **107.6 MtCO_{2eq}**. Without crop-based biofuels, this would increase by **24.1 MtCO_{2eq}**
- RED II: **Fulfilling the Annex IX-A target and filling the crop cap at 7% would deliver 49.7 MtCO_{2eq} additional savings**
- Going beyond RED II cap and targets, in order to bridge the emissions shortfall would only require to use **≈13.3% crop-based biofuels** and to achieve the Annex IX-A sub-target



Assessment and recommendations

Assessment

- Effort Sharing obligations require further actions:
 - Little to no reduction in the Transport and Agriculture sectors so far
 - EU-28 set to miss its 2030 Effort Sharing and Transport emissions objectives
- RES-T: 2020 and 2030 targets unachievable



Recommendations to align Effort Sharing and RED II objectives EU-28 should:

- Urgently blend more crop-based biofuels to secure a 7% crop-based biofuels cap for the next decade, for example by rolling-out E10 in every MS
- Kickstart the decarbonisation of its transport sector by introducing more low carbon renewable fuels that deliver real savings (no multipliers): RED II represent a minimum that needs to be exceeded



E20 and EVs





EU-28 – E20 and EVs

Benefits of having E20 in 2030

- GHG emissions savings for transport: 30.6 MtCO_{2eq}
- Barrels of oil equivalent: 76.3 M
- Energy import bill savings: € 4.5 B



Number of EVs to reach E20 GHG emissions reduction benefits

- ≈43 M EVs in 2030 (vs. 2016 EVs fleet ≈0.6 M) or more than 3 M new EVs each year until 2030
- ≈47.4 M charging points to be installed (vs. ≈142,000 in 2018) for a total investment of € 1,417 B
- An increase of annual electricity consumption of 116 TeraWh, the equivalent of
 - >19 nuclear reactors (900MW)
 - ≈32 M households consumption

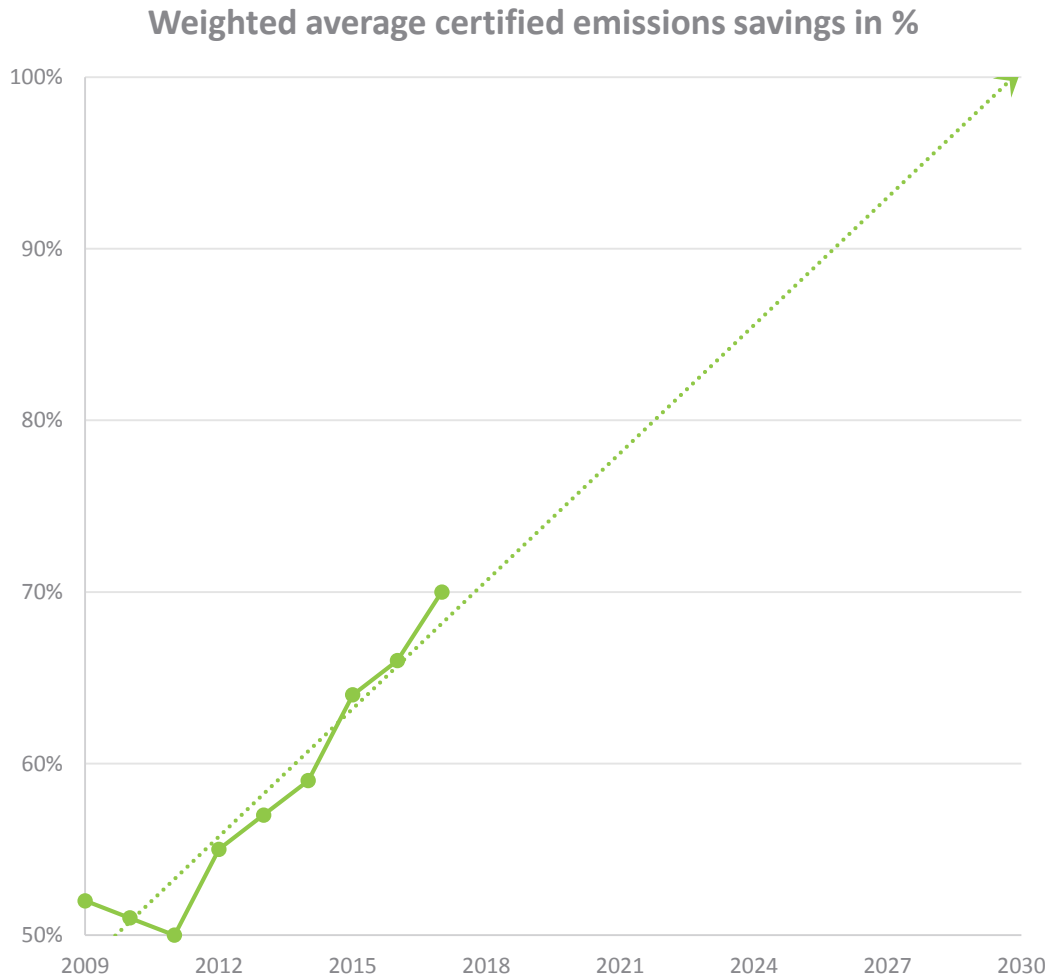


The future of the industry: Let's have a dream!





GHG emissions savings: EU renewable ethanol

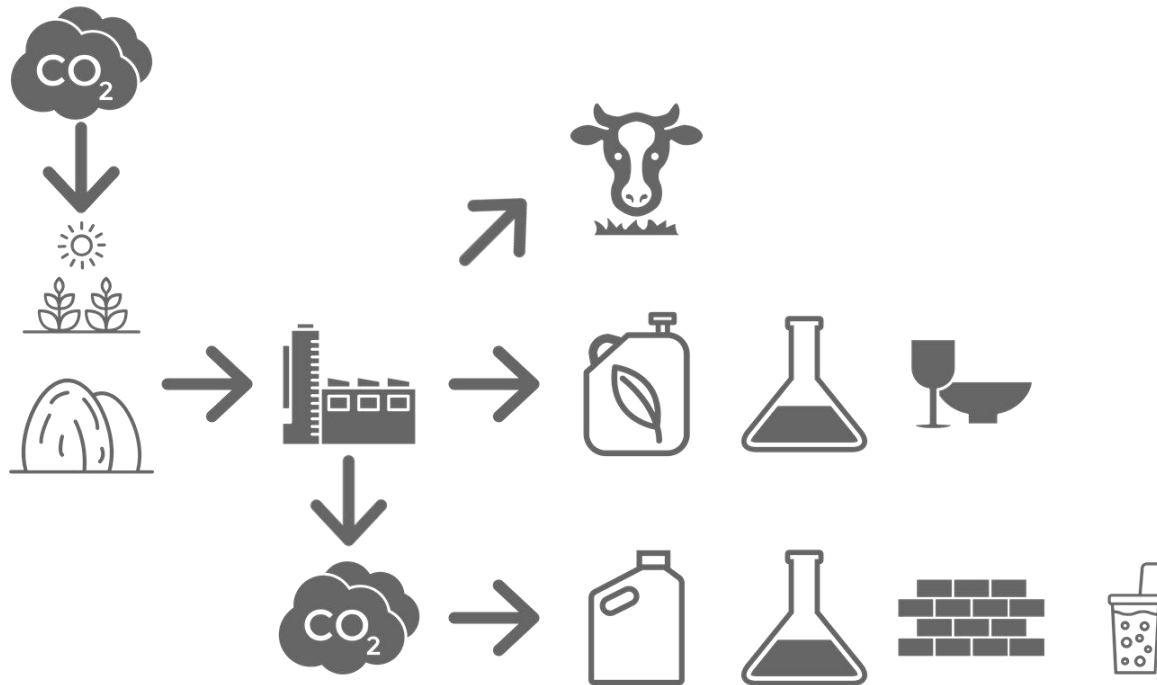


- Savings from renewable ethanol reached **70% in 2017**
- Ethanol blends (incl. E10/E20/E85) = **very low carbon abatement cost** for passenger cars, better than biodiesel blends, electric vehicles, natural gas

Source: ePURE members data aggregated & audited (2017); Roland Berger Integrated Fuels and Vehicles Roadmap to 2030+ (2016)



Ethanol Biorefinery: a carbon sink!



- COP21 targets will not be achieved without carbon capture
- Ethanol refineries: one of the best options to capture CO₂

Thank you!

Any questions?

 Rue de la Loi 223 B-1040 Brussels

 +32 2 657 66 79

 info@epure.org

 epure.org

 [@ePURE_ethanol](https://twitter.com/ePURE_ethanol)