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

2016 reduction vs 2005 and weight of each sector

- Total: 100%
- Transport: weight = 36%, reduction = -10.5%
- Buildings: weight = 26%, reduction = -4.3%
- Agriculture: weight = 17%, reduction = -1.1%
- Waste: weight = 5%, reduction = -16.1%
- Industry and Other: weight = 16%, reduction = -14%
- Total: -31%

Sources: EC ESD/ESR, EEA 2018, ePURE

- 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

Sources: EEA 2018, UNFCCC
Effort Sharing outlook

GHG emissions outlook
*million tonnes of CO$_{2eq}$*

- 2005: 1903
  - Transport: 953
  - Other Effort Sharing sectors: 950
- 2020 projected: 1549
  - Transport: 876
  - Other Effort Sharing sectors: 673
- 2030 targets: 1240.8
  - Transport: 758
  - Other Effort Sharing sectors: 482.8
- 2030 shortfall: 184.2
  - Transport: 136
  - Other Effort Sharing sectors: 48.2
- 2030 projected: 1425
  - Transport: 910
  - Other Effort Sharing sectors: 515

- 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

Sources: EC ESD/ESR, EEA 2018, UNFCCC
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%.

Source: SHARES
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

Sources: EC SHARES 2016, ePURE
Reconciling RED II and ESR
Biofuels in transport critical to meeting Effort Sharing objectives

- 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 $\approx$13.3% crop-based biofuels and to achieve the Annex IX-A sub-target.

Sources: EEA, EC SHARES, ePURE
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$_2$eq
- 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

Sources: ACEA, EAFO, ePURE. Note: the abbreviation “EVs” includes all electrically chargeable vehicles (e.g. BEVs/PHEVs/FCEVs). It is also assumed that all these vehicles run only on electricity. Vehicles considered includes all light duty vehicles.
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