



An Roinn Iompair
Department of Transport

Renewable Fuels for Transport Policy Statement

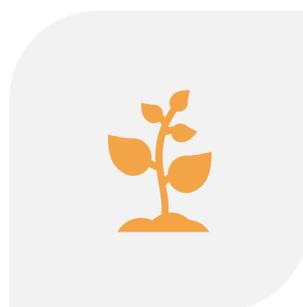
Renewable Fuels for Transport Policy Consultation

Workshop 3

22/03/2022



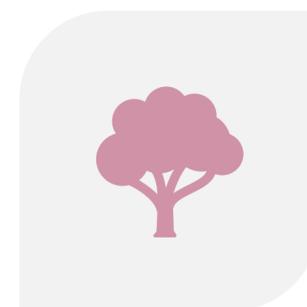
Renewable Fuels Policy



INCREASE THE BIOFUEL OBLIGATION



PROMOTE RENEWABLE FUELS IN DEVELOPMENT



ENSURE SUSTAINABILITY



Feedstocks and Sustainability



Policy Statement Action 1

- **Increase the level of evaluation, analysis and enforcement of robust sustainability limits to underpin renewable fuels in Ireland.**
- **Policy drivers:**
 - Sustainability
 - Biodiversity impact and ILUC risk
 - Biodiversity pollution
 - Cascading use of bio-energy resources
 - Impacts of existing and development renewable fuels
 - Potential for preventing fraud



- **Strengthened supervision**
 - Origin of feedstocks
 - Enhanced tracking and tracing
 - REDII supervision (Art. 30)
- **European database**
 - REDII (Art. 28 (2)) – Union database to enable the tracing of liquid and gaseous transport fuels. . . Member States shall require the relevant economic operators to enter into that database information on the transactions made and the sustainability characteristics of those fuels, including their life-cycle greenhouse gas emissions, starting from their point of production to the fuel supplier that places the fuel on the market. A Member State may set up a national database that is linked to the Union database ensuring that information entered is instantly transferred between the databases.

What we need

- **Research** - Carry out a review of the supply of renewable transport fuels in Ireland, such as biofuels, advanced biofuels, e-fuels, synthetic fuels, green hydrogen and biogas (CAP21)
- **Engagement** – industry, academia, Europe/other countries/competent authorities
 - Ensuring that renewable fuels undergo a rigorous assessment on full life-cycle GHG emissions reduction



What are your views on the most effective measures to increase evaluation, analysis and enforcement to better ensure the sustainability of renewable fuels?



Do you have a view on the potential of additional national measures that go beyond REDII to support sustainability in renewable transport fuels?

Feedstocks and Sustainability



- **Policy Statement Action 3**
- **Examine the availability and sustainability of UCO and certain animal fats with a view to seeking a higher limit for biofuels made from these feedstocks**
- **Policy drivers:**
 - **Obligation rate increase – availability of feedstocks**
 - **RED II**
 - *Annex IX, Part B – UCO and Category 1 and 2 animal fats (Reg. (EC) No.1069/2009)*
 - *Art. 27(1)(b) – ...the share of biofuels and biogas produced from the feedstock listed in Part B of Annex IX shall... be limited to 1,7 % of the energy content of transport fuels supplied for consumption or use on the market. Member States may, where justified, modify that limit, taking into account the availability of feedstock. Any such modification shall be subject to approval by the Commission*
 - **REDIII proposals**

Feedstocks and Sustainability



- **Policy Statement Action 4 - Limits on certain biofuels**
- **Policy drivers:**
 - ILUC and biodiversity risk
 - Current low level of crop-based biofuels (REDII, Art. 26)
- **From 01/01/2023**
- **Subject to enabling legislation**
- **Limits credits awarded for crop-based biofuels (incl. those designated as high ILUC risk) to meet max. 2% of overall obligation**
- **High ILUC risk biofuels – credit limited to those who placed these on market in 2019 at 2019 levels**

REDII and sustainability



- *“Biofuels, bioliquids and biomass fuels should always be produced in a sustainable manner. Biofuels, bioliquids and biomass fuels used for compliance with the Union target laid down in this Directive, and those which benefit from support schemes, should therefore be required to fulfil sustainability and greenhouse gas emissions saving criteria.”* (para. 94, preamble)
- Articles 25 – 31
- Promotion of low-ILUC risk renewable fuels (including advanced biofuels and biogas)
- Production of biofuels/bioliquid/biomass should not encourage the destruction of biodiverse lands
- Enable/improve traceability
- Supervision



Credits

- **RED II, Annex IX feedstocks = x2**
- **Green Hydrogen = x4**
- **HVO/HEFA/other approved SAFs (ASTM D1655) = x1.5**
- **RFNBOs and certain other renewable fuels used in aviation or maritime sectors = x1.2**
- **REDIII proposals – no multiplier on Annex IX feedstocks (re calculation or RES-T)**



What are your views on the application of multipliers for renewable fuels as part of the policy after 2023, including potential impacts on the transition to alternative fuels and the avoidance of fossil lock-in?



What are your views on the best way to secure a sustainable supply of renewable transport fuels in the context of the policy and the Directives? Securing Ireland's needs from international supplies? Increasing the indigenous supply?





Feedstocks and Sustainability – Globally and within Ireland

Introduction

College Group is a member of the Irish Bioenergy Association (IrBEA).

- IrBEA recently published its UCC MaREI authored “Transport in Ireland: A pathway to halving Emissions” Report*.
- This report clearly states that all fuel, technology and efficient measures and more will be required to achieve the Government 51% emissions reduction target.
- IrBEA’s main role is to lobby and advocate on behalf of member and coordinate their efforts to promote the increased use of Bioliquids and Biogases in Transport.
- Through its Bioenergy in Transport sub group, IrBEA is coordinating the efforts of members in the Transport Bioenergy area.
- This sub group includes IrBEA’s ethanol, biodiesel and biogas members including College Group, Ethanol Europe, Green Biofuels Ireland, Green Generation, Bórd na Mona to name but a few.
- IrBEA members individually, and collectively through this group, look forward to working with the Department of Transport regarding the further development of Bioenergy in Transport.



[*https://www.irbea.org/wp-content/uploads/2021/12/Irish-Bioenergy-Association-UCC-MaREI-Renewables-In-Transport-Report-Final.pdf](https://www.irbea.org/wp-content/uploads/2021/12/Irish-Bioenergy-Association-UCC-MaREI-Renewables-In-Transport-Report-Final.pdf)



irbea

irish
bioenergy
association

Ireland Renewable Fuels – 2020 Snapshot

In 2020, 239 million litres of biofuels replaced c.209 million litres of fossil fuels:

- 520,000 tonnes of CO_{2eq} transport emissions that were avoided.
- compared with an estimated 20,000 tonnes of savings from EVs.

5% of Ireland's transport energy is renewable compared to EU average of 7.5% renewables.

The 5% renewable transport energy comes from:

- 99% biofuel
- 1% renewable electricity in the DART and LUAS
- EVs accounted for 0.03%

- “Double counting” 5% up to 10% allows compliance with RED obligation

Ireland accounts for 1% of EU biofuel demand

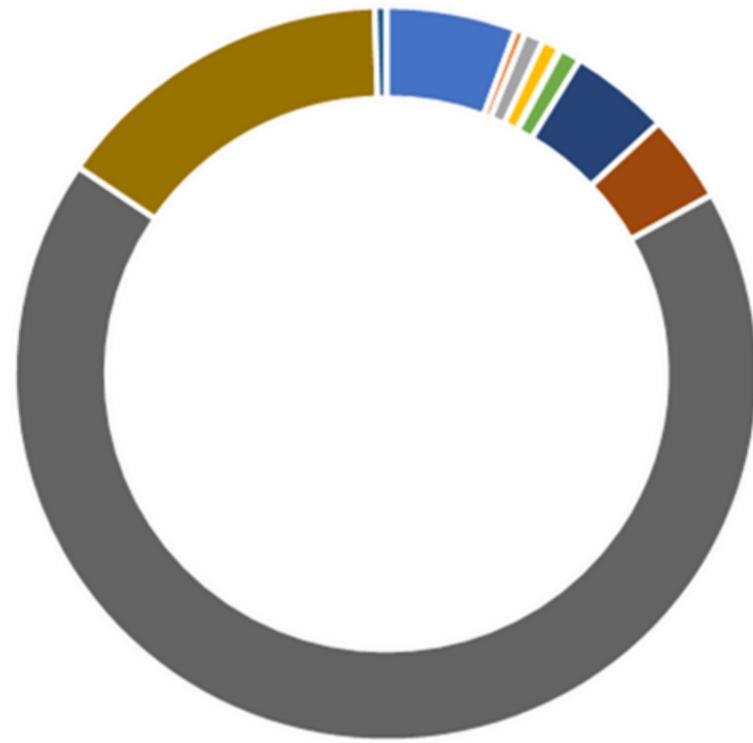
- Low impact on overall demand & availability, at any level

Focus on enhancing the things we already do well

Sustainable biofuels are the “hidden giant of transport decarbonisation in Ireland and Europe”*



Feedstock mix – 2020 Snapshot



- Corn
- Cane
- Beet
- Wheat
- Barley
- Palm oil
- Whey permeate
- Starch slurry
- UCO
- Cat 1 Tallow
- POME

Biodiesel	
UCO	67.6%
Cat.1 Tallow	15.0%
POME	0.5%
Bioethanol	
Whey Permeate	4.4%
Starch slurry	3.9%
Corn	5.7%
Cane	0.4%
Beet	0.8%
Wheat	0.8%
Barley	0.1%
Bio LPG	
Palm Oil	0.9%



Data from NORA Biofuels Annual Report

Feedstocks – Country of Origin

Over 50% of feedstocks used to produce renewable fuels for transport in Ireland came from outside EU, mostly South-East Asia

Feedstock	%	Country of Origin
UCO	33	China
Cat.1 Tallow, UCO, Whey Permeate	14 (7.6%, 3.8%, 2.6%)	Ireland
UCO	7.5	Malaysia
UCO, Cat.1 Tallow	7	UK
Wheat, Barley, Whey Permeate, Tallow	4.4	Germany
Corn, UCO	3.5	Spain
Beet, Wheat, Starch, UCO, Tallow	3	France
Starch, UCO, Tallow	3	Belgium
Corn, UCO, Tallow	2.8 each	USA, Australia, Romania

Remainder from 45 other countries around the world.....

Sustainability Considerations

- Impact on Biodiversity
- Indirect Land Use Change
- Pollution
- Cascading use of bioenergy resources
- Potential for preventing fraud in UCO

All biofuels used in Ireland have been stringently vetted

- By voluntary certification schemes: control systems that certify sustainability
- Irish biofuels derived from highly sustainable, high availability feedstocks, both crop and waste-based
- These criteria are hard wired into the system, giving high peace of mind

Only caveat arises from scenarios involving abuses of certification schemes

- Anti-fraud measures will be needed to help protect against these abuses

Crop Biofuels

EU average is 5% of transport energy derived from crops (mostly grain, some beet)

- 60% of renewable energy in transport is from crops, accounting for 1-2% of grain and beet harvest
- From highly sustainable, high availability certified crop feedstocks, mostly EU grown

Ireland employs just 0.5% crop biofuels

- Ireland restricts itself to an unnecessarily low “crop cap”
- Crop biofuels here require the equivalent of about 5% of what goes into our brewing & distilling sector

Europe, and Ireland, could double or treble crop biofuels output and still be well within peace-of-mind volumes

Crop biofuels and plant proteins are two sides of same coin:

- Starch/sugar/oil go to fuel and other industrial/nutrition uses. Protein goes to feed and food.
- Without crop biofuels today Europe would import 25% more soy meal from the Americas than it does currently
- Current stress on grain supplies is due to increased cost due to energy/uncertainty, not due to volumes
- Irish biofuels firm ClonBio is investing massively in plant protein (with biofuels) capacity, but outside Ireland

Crop biofuels represent the only sure pathway of increasing renewables in the fuel mix by 2030

Renewable Fuels in Transport Energy in Ireland

73%: Biodiesel

- Blended at up to 7% in regular diesel B7
- Higher in certain heavy goods vehicles fleets (B20)

16%: Bioethanol

- Blended into petrol at 5%
- Rising to up to 10% with the introduction of E10

1% is in the form of bioLPG (palm oil and UCO)

BioCNG yet to make an impact but beginning now

HVO not present to-date

Biodiesel	
UCO	67.6%
Cat.1 Tallow	15.0%
POME	0.5%

Only 11.6% of the feedstocks for biodiesel used in Ireland are sourced in Ireland. Opportunities exist.

Increase level of Renewables

Why wait until 2025?

Bioethanol use in Ireland in 2020 reduced emissions from transport by 93.5kt CO_{2eq}

- E10 is currently widely used within Europe and is available at all forecourts in the UK since September 2021.
- Introducing E10 petrol at Irish forecourts could cut transport CO₂ emissions by 93,500 tonnes per year, which is the equivalent of taking 45,000 cars off the road
- Requires legislation.. make E10 the standard at the pumps today
- Safe to implement
- Benefits significant
- No supply chain issues

Biodiesel (B7) use in Ireland in 2020 reduced emissions from transport by 426.5kt CO_{2eq}

- Increasing biodiesel blend as quickly as possible towards the B12 blend will have an extremely substantial impact on decarbonisation of the transport sector.
- Achieving B12 will lead to a reduction of 731kt CO_{2eq} transport emissions
- The equivalent of removing about 350,000 cars from the roads
- Legislate for B20 blend usage in heavy good vehicles

Derogation on 1.7% biofuels cap

Essential for Ireland:

- Current national fleet: 64% diesel, 32% petrol, 0.48% electric, 2% hybrid
- Diesel fleet still growing; Petrol-hybrid fleet also growing (not yet reached “peak internal combustion engine”)
- Importance of these feedstocks clearly demonstrated on previous slides
- Reflected in the 73% contribution of biodiesel to the Irish renewable fuel in transport sector
- Supply chain requires better monitoring for proof against difficult-to-trace imports
- Needs immediate attention and action

Domestic Opportunities

Category 3 Tallow: Missed domestic resource

- Irish end-of-line product from agrifood waste
- GHG emission savings comparable with HVO and TME
- Increases security of supply
- Increases the capacity for biodiesel production within Ireland
- Reduces use of feedstock from outside the country
- No international transport of feedstock
- Verifiable, Traceable.

Currently:

- Sent to Neste, Finland for HVO production
- Multiplier proposed for HVO (1.5x) produced in another country and imported.
- Apply same multiplier or greater to incentivise using Irish waste for Irish transport renewable fuel.

Currently:

- c.35,000t of Category 1 tallow available in Ireland.
- c.90,000t of Category 3 tallow available in Ireland = 90,000,000 litres of biodiesel.

*Product	Typical	Default
HVO	83%	77%
Biodiesel	84%	78%
*from animal fats from rendering Typical/Default values as per RED II		

Domestic Opportunities

Biomethane:

Last 12 months saw first consignments of biomethane to transport:

- Will show in the data for 2021 and 2022
- Virtually entirely from agri-food wastes

UCC and KPMG estimate that:

- An amount of domestic biomethane equal to 15% of current CNG consumption is achievable
- Fueling 15,000 heavy goods vehicles
- Using a mix of wastes and silage involving 1-2% of Ireland's tillage land
- Fully sustainable and with no pressure on resource availability
- Reducing emissions by half a million tonnes

Domestic Opportunities

Crop biofuels:

- Plant protein, crop biofuels and other biorefinery outputs
- Protein self-sufficiency
- Energy self-sufficiency
- It is happening apace in other EU countries
- Ireland will be left behind, and evermore dependent on imported renewables as demand grows

- Indigenous producers
- Local employment

Recommendations from IrBEA members

Enhance the things we already do well for immediate impact
Nurture new domestic options such as biomethane

Increase biodiesel inclusion:

- Seek derogation on 1.7% biofuels from UCO/Tallow cap
- Authorise the use of Cat.3 tallow with a multiplier comparable to HVO applied

Increase bioethanol inclusion to E10 without delay.



THANK YOU FOR
WATCHING