Study on reporting, auditing and sustainability criteria for the fulfilment of biomandate in liquid fuels

Final report
Neste Eesti AS

AS PricewaterhouseCoopers Advisors
August 2024

Context and use of this report

Context

This Study has been prepared by PricewaterhouseCoopers Advisors AS (PwC) based on the instructions provided by the client (Neste Eesti AS). The services were conducted in accordance with the Engagement Letter and its annexes, including the Terms of Business, signed on 7th of August 2024. The scope of work was agreed upon for the sole purpose of consideration by Neste Eesti AS.

PwC's role

PwC provided a comprehensive overview of the current practices and regulatory frameworks for biomandate compliance auditing and reporting in Estonia, Latvia, Lithuania, and Finland (target countries). This included identifying legal obligations, control mechanisms, auditing requirements, as well as classifications of raw materials and their applicable multipliers based on the relevant national legislation and associated EU legislation.

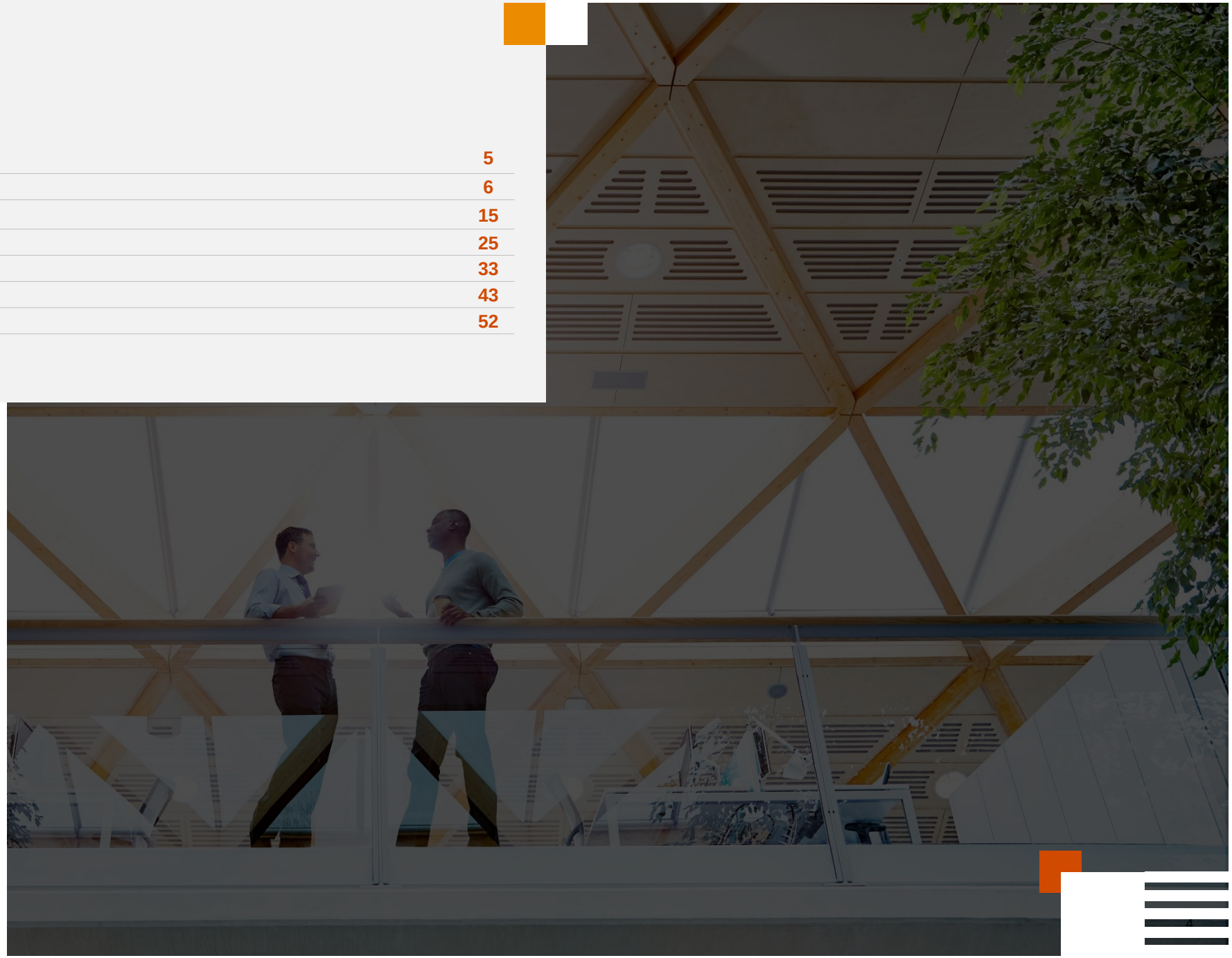
Use of this report

This document and the findings within has been prepared for Neste Eesti AS and solely for the purpose and on terms agreed with Neste Eesti AS in our Engagement Letter dated 7th of August 2024 and our agreed scope.

The Study contains information obtained or derived from a variety of public sources. We have not sought to establish the reliability of those sources or verified the information so provided. Accordingly, no representation or warranty of any kind (whether express or implied) is given by PwC to any person as to the accuracy or completeness of the Study.

We do not accept or assume any liability (including for negligence) or duty of care in connection with this document or our work to any person to whom this document is shown or into whose hands it may come save where expressly agreed by us giving our prior consent in writing. Our duty of care remains solely to our client, Neste Eesti AS.

Contents



Scope of Work

1

Scope of Work

Objectives and scope of work

- The main goal of this research is to provide a comprehensive analysis of the current practices and regulatory frameworks for biomandate compliance auditing and reporting in Estonia, Latvia, Lithuania, and Finland (**target countries**). This includes identifying legal obligations, control mechanisms, auditing requirements, as well as classifications of raw materials and their applicable multipliers based on the relevant national legislation and associated EU legislation.
- The report focuses on three main topics:
  - **Examination of the legal obligations for biomandate compliance reporting and auditing** in target countries. This includes identifying statutory duties and responsibilities.
  - **Understanding the control mechanisms and auditing requirements** in the target countries. Investigation of the regulatory control mechanisms applicable in the target countries for ensuring compliance with biomandate regulation. Assessment of how compliance is monitored and enforced.
  - **Classification of raw materials for biofuels** and the applicable multipliers for calculations. Review and categorization of raw materials based on a list provided by the client. Determining the multipliers for each material including how these multipliers are used in compliance calculations.
- Publicly available sources were mostly used to conduct the analysis, the sources are described within the report in more detail.
- The overview of the EU legislation and the Estonian market regulations where reviewed in a cooperation with TGS Baltics. The Latvian, Lithuanian and Finnish regulations where validated by PwC subject matter consultants from the respective target countries.
- The study was conducted between June to August 2024.

Overview of EU legislation

2

2. Overview of EU legislation

2.1. Biomandate: From RED II to RED III (1/2)

The obligation of fuel suppliers to ensure that the share of renewable energy within the final consumption of energy in the transport sector is at a certain level (referred to as the 'biomandate' throughout this report) is based on the the revised Renewable Energy Directive (2018/2001/EU) (RED II).

- RED II was enacted in December 2018 as a component of the 'Clean Energy for All Europeans' package. RED II set a new binding target for renewable energy in the **EU of at least 32% by 2030**, with a provision for **potential upward revision by 2023**. This goal is an extension of the 20% target set for 2020. To facilitate the achievement of this target by EU member states (MS), RED II introduced new measures across various economic sectors, particularly focused on the heating, cooling, and **transport sectors**, where progress had been comparatively slower.
- According to RED II (Article 25), each MS shall set an **obligation on fuel suppliers** to ensure that **the share of renewable energy within the final consumption of energy in the transport sector is at least 14 % by 2030.**
- RED II sets out specific rules for biofuels, biloliquids and biomass fuels produced from food and feed crops (Article 26). It also lays down **calculation rules with regard to the minimum shares** of renewable energy in the transport sector (Article 27). Additionally, RED II envisages a **Union database** that should be put in place to enable the **tracing of liquid and gaseous transport fuels** (Article 28).
- Furthermore, RED II establishes enhanced **criteria for sustainability** and the greenhouse gas (GHG) emissions saving criteria **for energy from biofuels, bioliquids and biomass fuels that can be taken into account** for the purposes of contributing towards the EU renewable energy target and measuring compliance with renewable energy obligations (Article 29).
- RED II sets out that MS shall require **economic operators to show that the sustainability and GHG emissions saving criteria** laid down in Article 29 **have been fulfilled** (Article 30). For those purposes, MS shall require economic operators to use a mass balance system. RED II (Article 30(3)) further requires that MS shall take **measures to ensure that economic operators submit reliable information regarding the compliance** with the GHG emissions savings thresholds, and **with the sustainability and GHG emissions saving criteria** laid down in Article 29(2) to (7) and (10), and that economic operators make available to the relevant MS, upon request, the data that were used to develop the information. **MS shall require economic operators to arrange for an adequate standard of independent auditing of the information submitted, and to provide evidence that this has been done**. **The auditing shall verify that the systems used by economic operators are accurate, reliable and protected against fraud**, including verification ensuring that materials are not intentionally modified or discarded so that the consignment or part thereof could become a waste or residue. It shall evaluate the frequency and methodology of sampling and the robustness of the data. The obligations laid down in Article 30(3) shall apply regardless of whether the biofuels, bioliquids, biomass fuels, renewable liquid and gaseous transport fuels of non-biological origin, or recycled carbon fuels are produced within the Union or are imported. Information about the geographic origin and feedstock type of biofuels, bioliquids and biomass fuels per fuel supplier shall be made available to consumers on the websites of operators, suppliers or the relevant competent authorities and shall be updated on an annual basis.
- **Annex IX** to RED II lists feedstocks for the production of biogas for transport and advanced biofuels, the contribution of which towards the biomandate may be considered to be twice their energy content.

2.1. Biomandate: From RED II to RED III (2/2)

In July 2021, the Commission put forth a proposal to revise the directive**, elevating the 2030 target from 32% to 40%.** This proposal was part of the 'Fit for 55' package, which included measures to augment the use of renewables throughout the economy.

Subsequently, in the wake of Russia's incursion into Ukraine and the ensuing urgency to expedite the EU's transition away from fossil fuels, the **Commission proposed a further increase in the target to 45% by 2030.** This proposal was accompanied by measures designed to expedite the approval process for renewable energy projects.

A provisional **agreement was reached on 30 March 2023**, setting a binding target of at least **42.5% by 2030, with an aspirational goal of 45%.**

The updated legislation, Directive (EU) 2023/2413 (RED III), was **adopted on 18 October 2023**, officially published on 31 October 2023 and came into effect 20 days later. MS shall bring into force the laws, regulations and administrative provisions necessary **to comply with RED III by 21 May 2025**.

Among others, RED III **amended existing Articles 25 to 30 and inserted new Articles 29a and 31a,** which are all important in the context of the **biomandate**:

1. **Article 25** „Increase of renewable energy and reduction of greenhouse gas intensity in the transport sector"
2. **Article 26** "Specific rules for biofuels, bioliquids and biomass fuels produced from food and feed crops"
3. **Article 27** „Calculation rules in the transport sector and with regard to renewable fuels of non-biological origin regardless of their end use"
4. **Article 28** "Other provisions on renewable energy in the transport sector"
5. **Article 29** "Sustainability and greenhouse gas emissions saving criteria for biofuels, bioliquids and biomass fuels"
6. **Article 29a** " Greenhouse gas emissions saving criteria for renewable fuels of non-biological origin and recycled carbon fuels"
7. **Article 30** "Verification of compliance with the sustainability and greenhouse gas emissions saving criteria"
8. **Article 31a** "Union database"
9. **Annex IX** „Feedstocks for the production of biogas for transport and advanced biofuels" which was further amended by Commission Delegated Directive EU 2024/1405 of 14 March 2024.

For the purposes of this report and the scope, the amendments in Article 25, 27, 30, and Annex IX as well as new Article 31a are described in more detail in the following pages.

2.2. Overview and amendments in Article 25

Article 25 outlines the indicators for the share in renewable energy and greenhouse gas intensity in the transport sector.

According to Article 25(1) as amended by RED III, each MS is required to set an **obligation on fuel suppliers to ensure that:**

(a) **the amount of renewable fuels and renewable electricity supplied to the transport sector leads to**:

(i) **a share of renewable energy** within the final consumption of energy in the transport sector of at least **29% by 2030** (in RED II, the target share was 14%)

or,

(ii) **a GHG intensity reduction of at least 14.5% by 2030**, compared to the baseline set out in Article 27(1), point (b), in accordance with an indicative trajectory set by the MS.

(b) the combined share of advanced biofuels, biogas produced from the feedstock listed in Part A of Annex IX and renewable fuels of non-biological origin in the energy supplied to the transport sector is at least **1% in 2025** and **5.5% in 2030** (in RED II, the target was 3.5%), of which a share of at least 1 percentage point is from renewable fuels of non-biological origin in 2030.

MS are encouraged to set differentiated targets for advanced biofuels, biogas, and renewable fuels of non-biological origin at national level.

MS with maritime ports should ensure that by 2030, the share of renewable fuels of non-biological origin in the total amount of energy supplied to the maritime transport sector is at least **1.2%**.

MS should report on the share of renewable energy within the final consumption of energy in the transport sector, including in the maritime transport sector, as well as on their GHG intensity reduction. They may increase their minimum share of advanced biofuels and biogas produced from certain feedstock in the energy supplied to the transport sector if the list of feedstock set out in Part A of Annex IX is amended.

For the calculation of the targets, MS shall take into account renewable fuels of non-biological origin also when they are used as intermediate products for the production of conventional transport fuels or biofuels. MS may exempt fuel suppliers supplying electricity or renewable fuels of non-biological origin from the requirement to comply with the minimum share of advanced biofuels and biogas produced from certain feedstock.

MS shall establish a mechanism allowing fuel suppliers in their territory to exchange credits for supplying renewable energy to the transport sector. Economic operators that supply renewable electricity to electric vehicles through public recharging points shall receive credits and may sell those credits to fuel suppliers.

2.3. Overview of amendments in Article 27

Article 27 sets out the calculation rules in the transport sector. The main differences between RED II and RED III in Article 27 are as follows:

Focus of Calculation: RED II focused on the calculation of the minimum shares of renewable energy in the transport sector, while RED III focuses on the calculation of the GHG intensity reduction and the minimum shares of renewable energy in the transport sector, with a specific emphasis on renewable fuels of non-biological origin.

GHG Emissions Savings: RED III provides detailed rules for calculating GHG emissions savings for biofuel, biogas, renewable fuels of non-biological origin, recycled carbon fuels, and renewable electricity supplied to all transport modes.

Baseline Calculation: RED III provides rules for calculating the baseline for GHG intensity reduction until 31 December 2030 and from 1 January 2031.

Renewable Fuels of Non-Biological Origin: RED III provides **specific rules for the production** of renewable fuels of non-biological origin, including the conditions under which electricity used for their production can be fully counted as renewable.

Commission's Role: RED III outlines the **Commission's role** in adopting delegated acts to amend RED, **establishing a Union methodology**, and assessing the impact of the Union methodology on the availability and affordability of renewable fuels of non-biological origin for industry and transport sectors. It also emphasises the Commission's role in reviewing the Union methodology if it falls short of ensuring sufficient availability and affordability of renewable fuels of non-biological origin and does not substantially contribute to greenhouse gas emissions savings.

Maritime Transport Sector: RED III includes specific rules for the maritime transport sector, including limits on the amount of energy supplied to the maritime transport sector as a proportion of a MS's gross final consumption of energy.

Hydrogen Industry: RED III mentions **the need to facilitate** the ramp-up of the hydrogen industry, which is not mentioned in RED II.

2.4. Overview and amendments in Article 30

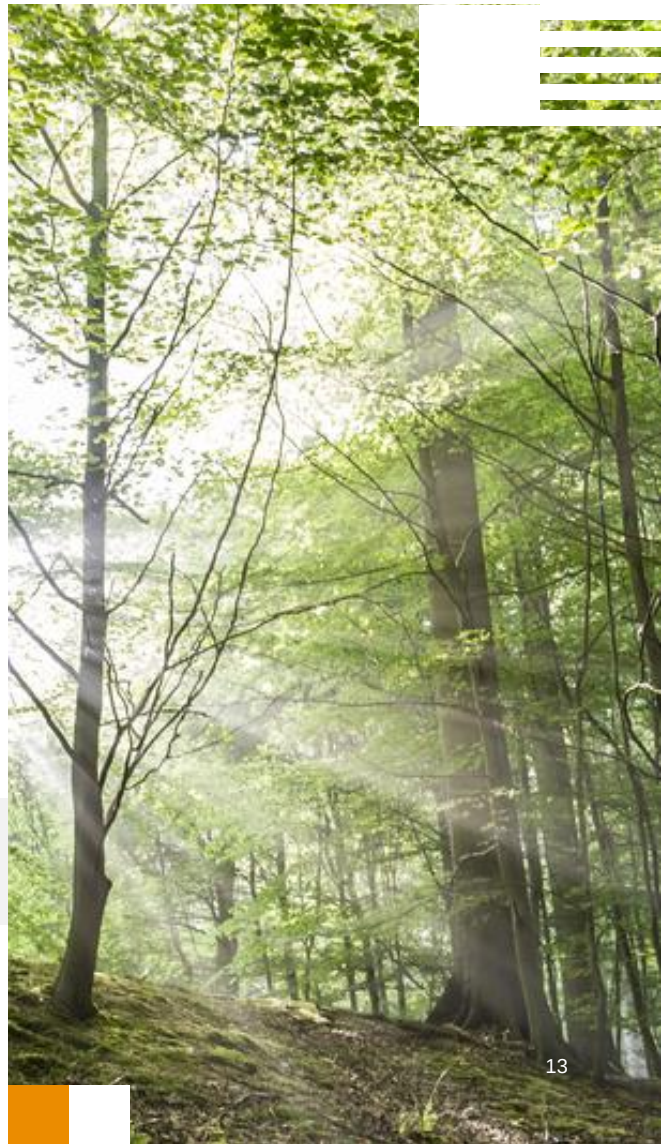
Article 30 as amended by RED III outlines updated rules for verification of compliance with the sustainability and GHG emissions saving criteria.

Mandatory auditing to economic operators: Where renewable fuels and recycled carbon fuels are to be counted towards the targets referred to in RED III (including the renewable energy share and GHG intensity reduction targets in the transport sector referred to in Article 25(1)), **MS shall require economic operators to show, by means of mandatory independent and transparent audits**, in accordance with the implementing act adopted by the Commission, **that the sustainability and GHG emissions saving criteria** laid down in Article 29(2) to (7) and (10) and Article 29a(1) and (2) **for renewable fuels and recycled-carbon fuels have been fulfilled**. To that end, MS shall require economic operators to use a mass balance system which must meet the requirements set out in Article 30(1).

Commission will specify standards for auditing: In order **to ensure that compliance with the sustainability and GHG emissions saving criteria** as well as with the provisions on low or high direct and indirect land-use change-risk biofuels, bioliquids and biomass fuels **is verified** in an efficient and harmonised manner and in particular **to prevent fraud**, **the Commission shall adopt implementing acts specifying** detailed implementing rules, including **adequate standards of reliability, transparency and independent auditing** and require all voluntary schemes to apply those standards.

Reliability of information: MS shall take measures to ensure that economic operators submit reliable information regarding the compliance with the sustainability and GHG emissions saving criteria, and that economic operators make available to the relevant MS, upon request, the data used to develop that information. MS shall **require economic operators to arrange for an adequate standard of independent auditing** of the information submitted, and to provide evidence that this has been done. The auditing shall verify that the systems used by economic operators are accurate, reliable and protected against fraud, including verification ensuring that materials are not intentionally modified or discarded so that the consignment or part thereof could become a waste or residue. The auditing shall also evaluate the frequency and methodology of sampling and the robustness of the data.

Information to consumers: Information about the geographic origin and feedstock type of biofuels, bioliquids and biomass fuels **per fuel supplier** shall be made **available to consumers** in an up-to-date, easily accessible, and user-friendly manner **on the websites of operators, suppliers or the relevant competent authorities** and shall be updated on an annual basis.



2.5. Overview of Article 31a

RED III inserted an entire new Article 31a regarding Union Database, which amended significantly the database-related regulation previously included in Article 28 of RED II.

Setting up the database: By 21 November 2024, the Commission shall ensure that a **Union database is set up** to enable the tracing of liquid and gaseous renewable fuels and recycled carbon fuels. MS shall have access to the Union database for the purposes of monitoring and data verification.

Obligations to economic operators: MS shall require the relevant **economic operators to enter in a timely manner accurate data into the Union database** on the transactions made and the sustainability characteristics of the fuels subject to those transactions, including their life-cycle GHG emissions, starting from their point of production to the moment they are placed on the market in the Union.

Obligations to fuel suppliers: MS shall require **fuel suppliers to enter the data necessary to verify compliance** with the biomandate or GHG intensity reduction obligation, into the Union database.

Accurate and complete data : MS shall ensure in their national legal framework that the **accuracy and completeness of the data entered by economic operators into the database is verified**, for instance by using certification bodies in the framework of voluntary or national schemes.

National databases: Each MS may use an already **existing national database aligned to and linked with the Union database** via an interface, or establish a national database, which can be used by economic operators as a tool for collecting and declaring data and for entering and transferring those data into the Union database, provided that certain requirements are met, incl that the data entered in the national database are instantly transferred to the Union database.

Verification through the Union database: The verification of the quality of the data entered into the Union database by means of national databases, the sustainability characteristics of the fuels related to those data, and the final approval of transactions shall be **carried out through the Union database alone**. The accuracy and completeness of those data shall be verified in accordance with Commission Implementing Regulation (EU) 2022/996. They may be checked by certification bodies.

Publication of aggregated data: Aggregated data from the Union database shall be made publicly available and kept up-to-date, with due regard to the protection of commercially sensitive information. The Commission shall publish and make **publicly available annual reports** about the data contained in the database, incl the quantities, the geographical origin and feedstock type of fuels.

2.6. Overview and amendments in Annex IX

The only amendments that were made by RED III to Annex IX, was the Part A and B introductory phrases. The content of Annex IX did not change by RED III directly. However, on 14 March 2024 the European Commission adopted Commission Delegated Directive (EU) 2024/1405, amending Annex IX to RED II as regards adding feedstock for the production of biofuels and biogas (Delegated Directive 2024/1405). MS shall bring into force the laws, regulations and administrative provisions necessary to comply with Delegated Directive 2024/1405 by 14 September 2025 at the latest.

Annex IX of RED III (content is the same as RED II)

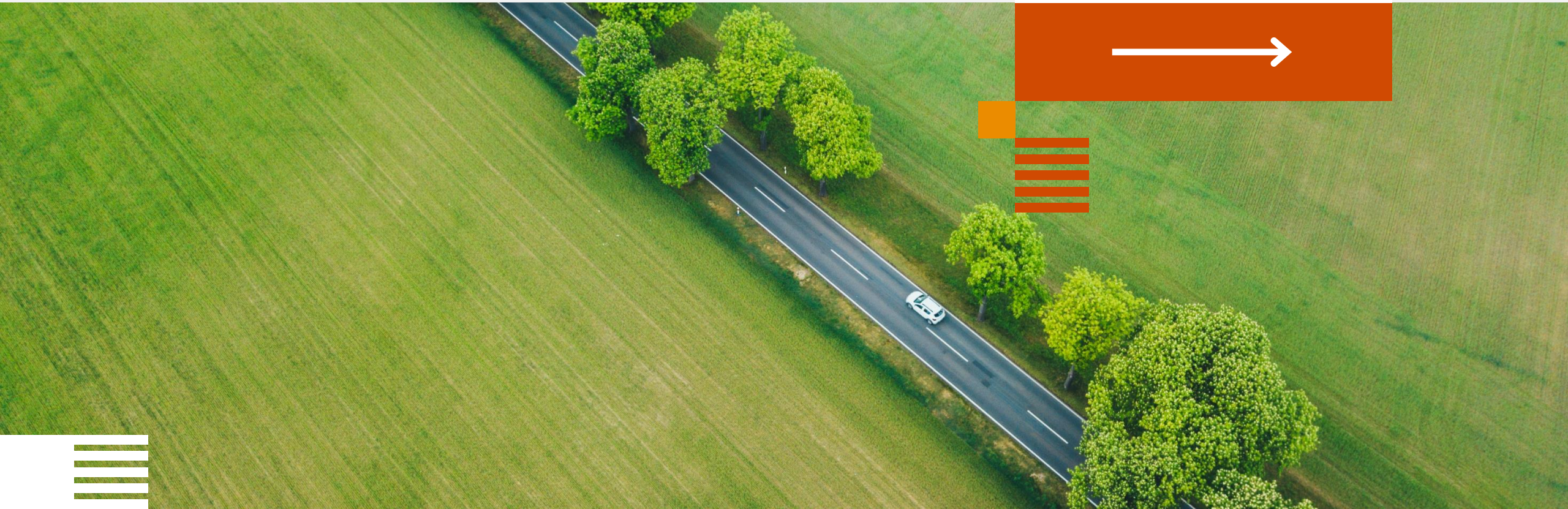
Part A – Feedstocks for the production of biogas for transport and advanced biofuels:	
Algae if cultivated on land in ponds or photobioreactors;	
Biomass fraction of mixed municipal waste, but not separated household waste subject to recycling targets under point (a) of Article 11(2) of Directive 2008/98/EC;	
Biowaste as defined in point (4) of Article 3 of Directive 2008/98/EC from private households subject to separate collection as defined in point (11) of Article 3 of that Directive;	
Biomass fraction of industrial waste not fit for use in the food or feed chain, including material from retail and wholesale and the agro-food and fish and aquaculture industry, and excluding feedstocks listed in part B of this Annex;	
Straw;	Bagasse;
Animal manure and sewage sludge;	Grape marcs and wine lees;
Palm oil mill effluent and empty palm fruit bunches;	Nut shells;
Tall oil pitch;	Husks;
Crude glycerine;	Cobs cleaned of kernels of corn;
Biomass fraction of wastes and residues from forestry and forest-based industries, namely, bark, branches, precommercial 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 – Feedstocks for the production of biofuels and biogas for transport, the contribution of which towards the targets referred to in Article 25(1), first subparagraph, point (a), shall be limited to:	
Used cooking oil;	
Animal fats classified as categories 1 and 2 in accordance with Regulation (EC) No 1069/2009.	

Added feedstock – amendments to Annex IX by Delegated Directive (EU) 2024/1405

Part A – Feedstocks for the production of biogas for transport and advanced biofuels:
Fusel oils from alcoholic distillation;
Raw methanol from kraft pulping stemming from the production of wood pulp;
Intermediate crops, such as catch crops and cover crops that are grown in areas where due to a short vegetation period the production of food and feed crops is limited to one harvest and provided their use does not trigger demand for additional land, and provided the soil organic matter content is maintained, where used for the production of biofuel for the aviation sector;
Crops grown on severely degraded land, except food and feed crops, where used for the production of biofuel for the aviation sector
Cyanobacteria
Part B – Feedstocks for the production of biofuels and biogas for transport, the contribution of which towards the targets referred to in Article 25(1), first subparagraph, point (a), shall be limited to:
Damaged crops that are not fit for use in the food or feed chain, excluding substances that have been intentionally modified or contaminated in order to meet this definition;
Municipal wastewater and derivatives other than sewage sludge;
Crops grown on severely degraded land excluding food and feed crops and feedstocks listed in Part A of this Annex, where not used for the production of biofuel for the aviation sector;
Intermediate crops, such as catch crops and cover crops, and excluding feedstocks listed in Part A of this Annex, that are grown in areas where due to a short vegetation period the production of food and feed crops is limited to one harvest and provided their use does not trigger demand for additional land and provided the soil organic matter content is maintained, where not used for the production of biofuel for the aviation sector.

Estonia

3



3. Estonian Market Regulation

3.1. Biomandate

In Estonia, the biomandate and related legal framework are mainly governed by the Liquid Fuel Act (LFA) and regulations enacted on the basis of the LFA. To put it simple, the biomandate in Estonia means that each **fuel supplier** has the obligation to ensure that the total energy content of fuel supplied by this supplier includes a minimum share of renewables. LFA defines 'supplier' as a seller of fuel in respect of whom the Register of Economic Activities records the notation of release of fuel for consumption or the notation of terminating the tax warehousing of fuel, or any person holding an authorization for the import of fuel.

It should be noted that the currently valid Estonian legislation related to biomandate is based on RED II. The significant **changes that were made by RED III have not yet been implemented** in Estonian legislation. As stipulated in Article 5 of RED III, the MS have been granted a grace period until 21 May 2025, to fully incorporate RED III into their respective national legislations. As per the status quo at the time of authoring this report, Estonia has yet to enact any alterations in response to RED III.

On 12 June 2024, significant amendments to the LFA were adopted, amending the current regulation related to biomandate. These amendments entered into force partially as of 14 July 2024 and will partially enter into force as of 1 January and partially as of 1 June 2025. However, the amendmends made by 12 June 2024 law are not sufficient to implement RED III and respective further amendments can be expected to the Estonian legislation in 2025.

Biomandate in currently valid LFA and amendmets effective as of 1 January 2025

In accordance with § 2^1 (1) of the current version of LFA, it is mandated that the **cumulative energy content of fuel** (petrol, diesel and biofuel) released for consumption, as well as of electricity supplied for road transport usage, **by any supplier**, must include a total energy content of biofuels, biomethane, hydrogen, or electricity supplied for final consumption, at a certain value, **as a weighted average for the calendar year**, by the end of that year. Currently, the content should be at least **7.5%.** From 1 January 2028, the minimum share increases to 8.5%.

As of 1 January 2025, the minimum share of renewables must be achieved as a weighted average for **half-year**, i.e. by 30 June and 31 December. According to § 2^1 (1_1) of the LFA (in force as of 1 January 2025), if the supplier has fulfilled the biomandate to a greater extent than required by law in the 1st half of the calendar year, they may account for the excess part of the 1st half-year's obligation in meeting the 2nd half-year's obligation of the same calendar year or sell it to another supplier, who may account for it in meeting the biomandate in the 2nd half of the corresponding calendar year.

According to § 2^1 (9) of the LFA, the total energy content of petrol, diesel fuel, and biofuel **must include a minimum of 0.5% of advanced biofuels**. The LFA defines 'advanced biofuel' as biofuel produced from the feedstock listed in Part A of Annex IX to RED II. The total energy share of the first-generation biofuel, **which exceeds 0.5%** of the total fuel energy, is not taken into account in fulfilling the biomandate. 'First-generation biofuel' is defined in the LFA as biofuel produced from cereals and other field crops rich in starch, from sugar and oil crops and from crops grown on agricultural land as the principal crop chiefly for the production of energy.

Further, § 2^1 (11) of the LFA stipulates that the share of biofuels produced from feedstock listed in Part B of Annex IX of RED II (incl used cooking oil and certain animal fats) must be **less than 1.7%** in the total energy content of fuel and biofuel supplied for consumption.

3.2. Regulatory enforcement of LFA and liability

Overall control mechanisms

Pursuant to § 20 of the LFA, **the regulatory enforcement** of compliance with the requirements provided in the LFA **is fractioned between 4 different authorities**, within the limits of their competence, as follows:

a. **Competition Authority** - the competence extends to (1) verification of register information; (2) verification of compliance with the requirements concerning fuel and the handling of fuel; (3) the granting of approval for operations involving non-conforming fuel;

b. **Tax and Customs Board –** the competence extends to (1) verification of the presence of authorisation for the handling of fuel; (2) verification, in relation to the handling of fuel, of compliance with the requirements concerning fuel and of the documents certifying the conformity of the fuel; (3) verification of compliance with the requirements applicable to the handling of fuel; (4) the processing of reports concerning the handling fuel and of the data of the database of fuel handling operations; (5) the granting of approval for operations involving non-conforming fuel; (6) assessment of the conformity of fuel to the requirements mentioned in § 2^1 of the LFA; (7) verification of compliance with the obligation to register fuel tanks and regulatory enforcement of the accuracy of data entered in the respective database.

c. **Consumer Protection and Technical Regulatory Authority –** the competence extends to (1) verification of the presence of relevant registrations; (2) verification of compliance with the requirements concerning fuel and the handling of fuel; (3) the granting of approval for operations involving non-conforming fuel;

d. **Environmental Board -** the competence extends to (1) verification of compliance with the obligation to register fuel tanks and (2) and **supervision of compliance with the obligation set out in § 2^1 of the LFA**, and of compliance with the obligation to file the reports mentioned in § 2^4 of the LFA and of the conformity of those reports to the requirements of the LFA.

From the viewpoint of biomandate compliance, the **Environmental Board exercises most important role in the regulatory enforcement**.

It should be noted that in June 2024 the LFA was amended by a new provision (§ 2^4 (1^1)) prescribing that the Environmental Board ensures the **exchange of information** on the release of biofuels for consumption **between the national database and the Union database** mentioned in RED II and that the Environmental Board uses the Union database **to enhance supervision**.

Failure to comply with the obligation concerning the share of biofuel released for consumption constitutes a misdemeanour. Pursuant to § 33^1 of the **currently valid LFA**, the release for consumption of liquid fuel while in violation of the obligation provided in § 2^1 of the LFA concerning the share of the total energy content of biofuels (i.e., the biomandate) is **punishable by a fine of up to 10,000,000 euros** when committed by a legal person.

It is noteworthy that on 12 June 2024, the parliament adopted **significant amendments** to the LFA, adjusting the principles of punishment and the limitation period of this particular misdemeanour. As of 1 January 2025, the **violation of biomandate is punishable by a fine equal to 125 euros per each gigajoule short of fulfilling the obligation**. Further, **the limitation period for this misdemeanor was extended to four years** (in force as of 14 July 2024). As a general rule, a misdemeanour expires after two years have passed between the completion thereof and the entry into force of a judgment on it, but it is possible to prescribe a longer limitation period (up to five years) by a specific law.

Out-of-court proceedings with respect to the failure to comply with the biomandate are conducted by the **Environmental Board**.

3.3. Biomandate compliance reporting (1/2)

Reporting and proving conformity of biofuel

Section 2^4 of the LFA requires **fuel suppliers** to submit a **monthly report** by the 15th day of every month. The report should detail the quantities of petrol, diesel fuel, and biofuel released for consumption in the previous month, along with the total energy content data.

Supplier who holds a statistics agreement with a person supplying biomethane, hydrogen or electricity for final consumption must **separately state in the report the statistical transfer quantity** released for consumption to fulfill another supplier's obligation or received from another supplier to fulfill their own obligations. The other supplier's business name and registration number must be included.

According to § 2^4 (1) of the LFA, a supplier submits the monthly report to the **Environmental Board** (*Keskkonnaamet* in Estonian). However, pursuant to § 2^4 (4) of the LFA, the Environment Agency (*Keskkonnaagentuur* in Estonian) is competent to collect and process the reports. The LFA does not give any guidance on how the processing of the reports should be divided between the Environment Agency and the Environmental Board.

The particulars to be stated in the suppliers's report and the rules for submitting the report are established on the basis of the LFA by Regulation No 20. **The supplier's report shall include** the following data concerning the petrol, diesel fuel and biofuel released for consumption during the previous month:

1. the name of the fuel and of the biofuel;
2. the name of the feedstock of the biofuel and its quantity in megajoules;
3. the lower calorific value of the fuel and of the biofuel in megajoules per litre;
4. the time (month-based) of release for consumption of the fuel and of the biofuel;
5. the quantity, at the temperature of 15 degrees Celsius, in litres and in megajoules, of the fuel and of the biofuel;
6. an indication on **whether the biofuel released for consumption qualifies for double counting** for the purposes of fulfilling the biomandate;
7. the document certifying sustainability criteria and the name of the method.

Where, under the Liquid Fuel Stocks Act, the Government of the Republic has released stocks of liquid fuel, the supplier indicates in the report the quantity of the fuel released for consumption on the basis of the order of the Government of the Republic.

Subsections 3 and 4 of § 3 of Regulation No 20 set out that when the supplier has concluded an agreement on **trading in statistics**, the quantity of renewable energy statistics which was transferred to or from another supplier during the reporting period should be indicated in the report and that the supplier shall attach to the report **a proof that the statistics results from fuel produced in accordance with sustainability criteria**.

3.3. Biomandate compliance reporting (2/2)

Reporting on biofuel sustainability criteria

Section 2[3] of the LFA sets out that in order to fulfil the biomandate, suppliers must retain, with respect to the biofuel released for consumption, information that makes it possible to verify the conformity of the biofuel to the sustainability criteria throughout the entire supply chain. The information must be preserved for at least 5 years. The retained information should include:

1) the quantity of the biofuel in thousands of litres at 15 degrees Celsius and in gigajoules;
2) the type of the biofuel;
3) the raw material of the biofuel;
4) the manner of production of the biofuel;
5) the country of origin of the raw material;
6) the place that the biofuel was purchased, indicating at least the country of purchase;
7) the method which was used to prove conformity of the biofuel to sustainability criteria;
8) carbon intensity expressed in grammes of carbon equivalent per megajoule.

Suppliers must operate a mass balance system when handling biofuel, in accordance with § 2[3] (4) and (5) the LFA. This system allows for blending different consignments and keeping records of such blending. For each blend, information on each consignment's sustainability and quantity must be available. Consignments can be issued from the blend up to the quantities added to the blend, maintaining the sustainability characteristics of the added consignments. The mass balance system must ensure the **transmission of information on biofuel sustainability to supervisory authorities and independent auditors throughout the supply chain**.

According to §2[3] (3) of the LFA, biofuel sustainability can be proved using one or more of the following methods:

1. A voluntary scheme recognized on the basis of Directive 2009/28/EC, (i.e. reference is made in the LFA to the initial RED that has been repealed by RED II);
2. A scheme from another EU MS;
3. A scheme based on a bilateral or multilateral treaty with a third country, recognized by the European Commission.

3.4. Auditing of fuel suppliers' reports

Auditing of reports

While auditing of biomandate **compliance reports submitted by fuel suppliers is not mandatory**, the **Environmental Board has the right to demand an independent auditing** of the supplier's report referenced in § 2^4 (1) of the LFA **if there is a reason to doubt** whether the biofuel reflected in the report meets **sustainability criteria**.

Requirements for auditors and audits

Under § 2^5 of the LFA, the auditor performing audit of the report must be:

- independent from the supply chain entities
- independent from the audited operations
- accredited as per the requirements set in the LFA as an auditor of environmental management systems or as a verifier of GHG emission reports.

The audit should adhere to the best auditing practices, assessing the frequency and methods used to collect report data, and assessing the statistical reliability of the data. The auditor checks if the data collection system used for the report meets the following criteria:

1. Consignment details can be followed throughout the entire supply chain
2. Presence of consignment details is ensured throughout the supply chain
3. The data collection system guarantees accuracy and reliability of the data

The auditor's opinion should include at least:

- audited document's title
- principles and criteria followed by conducting the audit
- method used to confirm the biofuel's sustainability criteria and its accurate representation in the report
- results of a subsequent supply chain verification, if necessary
- summary
- the conclusion

3.5. Sustainability criteria (1/2)

The LFA prescribes that **in order for the biofuel to count towards the biomandate**, **it must meet the sustainability criteria** established on the basis of § 120(1) of the Atmospheric Air Protection Act (AAPA).

The minister of environment has established the environmental requirements for liquid fuels, **sustainability criteria for biofuels, liquid biofuels and biomass fuels**, the procedure for monitoring and reporting compliance with environmental requirements of liquid fuels and the methodology for determining the reduction of GHG emissions resulting from the use of biofuels, liquid biofuels and biomassfuel by regulation adopted on 20 December 2016 (Regulation No 73).

Regulation No 73
Sustainability criteria for biofuels, liquid biofuels and biomass fuels

The reduction in GHG emissions per unit of energy during the life cycle of biofuels, liquid biofuels, and biomass fuels must be, compared to fossil fuels:

- At least 50% for biofuels and liquid biofuels produced in facilities that were operational on or before 5 October 2015;
- At least 60% for biofuels and liquid biofuels produced in facilities that started operations between 6 October 2015 and 31 December 2020;
- At least 65% for biofuels and liquid biofuels produced in facilities that started operations from 1 January 2021;
- At least 70% for the production of electricity, heat, and cooling energy from biomass fuels in facilities that started operations between 1 January 2021 and 31 December 2025;
- At least 80% for the production of electricity, heat, and cooling energy from biomass fuels in facilities that started operations after January 1, 2026.

A facility is considered to have started operations when the actual production of (1) biofuels, (2) biomethane consumable in the transport sector and (3) liquid biofuels, as well as (4) heat, cooling, and electrical energy from biomass fuels, has begun.

Regulation No 73 sustainability criteria are in line with RED II Article 29 paragraph 10.

3.5. Sustainability criteria (2/2)

Regulation No 73
Determining the reduction of GHG emissions resulting from the use of biofuels, liquid biofuels and biomass fuels

The sustainability criteria for biofuels, liquid biofuels, and biomass fuels are primarily defined by **the reduction of GHG emissions per unit of energy during their lifecycle compared to fossil fuels**.

The reduction in GHG emissions achieved by using biofuels, liquid biofuels, and biomass fuels **is calculated according to** the principles set out in **§ 10 (1) of Regulation No 73. These principles follow the principles set out in Article 31 of RED II. The reduction in GHG emissions resulting from use of biofuels, liquid biofuels and biomass fuels can be determined by using one of the following 4 alternatives. The reduction in GHG emissions is equivalent to:**

1. The default value set in Annex V (parts A or B) or for biomass fuels i Annex VI (part A) of RED II, if the annual emission value resulting from changes in carbon stock due to land use changes is zero or less than zero.
2. The actual value calculated using the methodology set out in Annex V (part C) of RED II for biofuels and liquid biofuels, and Annex VI (part B) for biomass fuels.
3. The value calculated as the sum of the factors in the formula presented in point 1 of part C of Annex V of RED II, where some factors can use the disaggregated default values in parts D or E of Annex V, and all other factors use the actual values calculated according to the methodology in part C of Annex V.
4. The value calculated as the sum of the factors in the formulas presented in point 1 of part B of Annex V of RED II, where some factors can use the disaggregated default values in part C of Annex VI, and all other factors use the actual values calculated according to the methodology in part B of Annex VI.

The default values set out in parts D and E of Annex V of RED II for biofuels and liquid biofuels, and in part C of Annex VI for biomass fuels, apply only if the raw material is grown on land for which a MS has submitted a report under Article 31(2) of RED II. This report must state that the typical GHG emissions resulting from the cultivation of agricultural raw materials on these lands are expected to be smaller or equal to the emissions presented under the title “Unsummed default values related to cultivation” in part D of Annex V for biofuels and liquid biofuels, and in part C of Annex VI for biomass fuels.

It is stated in § 2^1 (3) of the LFA that for the purposes of fulfilling the obligation to ensure minimum share of renewables in transportation fuels as set out in § 2^1(1) of the LFA (i.e., the biomandate), the energy content of biofuels produced from the feedstocks listed in **Annex IX** to RED II **is accounted at twice its actual value.**

3.6. Classification of feedstocks and the applicable multipliers for calculations

Feedstock listed in Annex IX in the Directive (EU) 2018/2001 the contribution of which towards the biomandate may be considered to be twice their energy content, in accordance with § 2[1](3) of the LFA (without amendments introduced by Commission Delegated Directive (EU) 2024/1405 of 14 March 2024).

Part A – Feedstocks for the production of biogas for transport and advanced biofuels:	
Algae if cultivated on land in ponds or photobioreactors;	
Biomass fraction of mixed municipal waste, but not separated household waste subject to recycling targets under point (a) of Article 11(2) of Directive 2008/98/EC;	
Biowaste as defined in point (4) of Article 3 of Directive 2008/98/EC from private households subject to separate collection as defined in point (11) of Article 3 of that Directive;	
Biomass fraction of industrial waste not fit for use in the food or feed chain, including material from retail and wholesale and the agro-food and fish and aquaculture industry, and excluding feedstocks listed in part B of this Annex;	
Straw;	Bagasse;
Animal manure and sewage sludge;	Grape marcs and wine lees;
Palm oil mill effluent and empty palm fruit bunches;	Nut shells;
Tall oil pitch;	Husks;
Crude glycerine;	Cobs cleaned of kernels of corn;
Biomass fraction of wastes and residues from forestry and forest-based industries, namely, bark, branches, precommercial 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 – Feedstocks for the production of biofuels and biogas for transport	
Used cooking oil;	
Animal fats classified as categories 1 and 2 in accordance with Regulation (EC) No 1069/2009.	

List of raw materials in VDS (compliance document management system of Environmental Board)

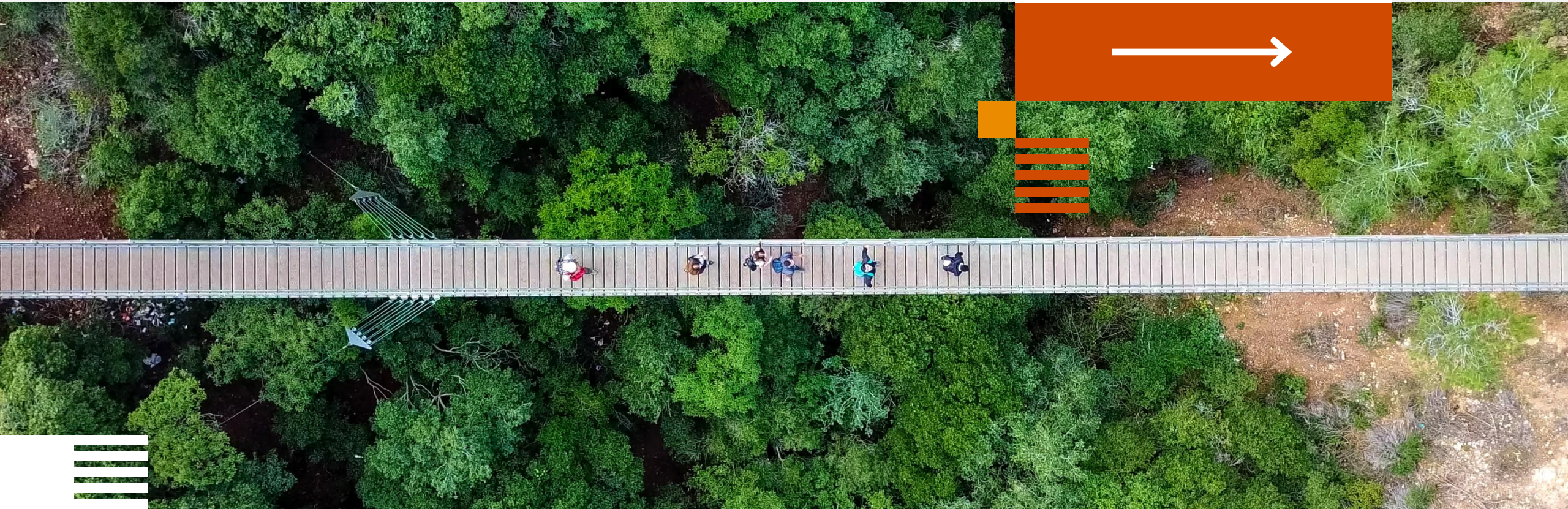
Raw Material	
Acid oil from used cooking oil	**Other oil crops**
Algae	**Other sugar crops**
Animal fats classified as categories 1 and 2	**Palm oil**
Animal manure and sewage sludge	Palm oil mill effluent
Bagasse	Palm oil mill effluent and empty palm fruit bunches
Barley	**Rapeseed**
Biomass fraction of industrial waste	**Soapstock acid oil contaminated with sulphut**
Biomass fraction of mixed municipal waste	**Soybeans**
Biomass fraction of wastes and residues from forestry and forest-based industries	**Spent bleached earth**
Bio waste	**Starch slurry**
Brown grease	Straw
Cobs cleaned of kernels of corn	**Sugar beet**
Corn (maize)	**Sugar cane**
Crude glycerine	**Sunflower seed**
Farmed wood	Tall oil pitch
Grape marcs and wine lees	**Tallow-category 3 or unknown**
Husks	Used cooking oil
Nut shells	**Waste pressings from production of vegetable oils**
Other cereals	**Waste vegetable or animal oils**
Other ligno-cellulosic material except saw logs and veneer logs	**Waste wood**
Other non-food cellulosic material	**Wheat**

Based on the Estonian LFA which refers to Annex IX to the Directive (EU) 2018/2001, about half of the raw material on the list would have a multiplier of 2 when calculating their energy content.

*Raw Material not found in Annex IX to RED II in **BOLD**

Latvia

4



4. Latvian Market Regulations

4.1. Biomandate

In Latvia, the legal obligations for biomandate compliance is governed by the **Requirements for Conformity Assessment of Petrol and Diesel Fuel Regulation** (RCA) **.**This regulation outlines the rules that determine the essential requirements and compliance specifications of the object of conformity assessment – gasoline and diesel fuel, the monitoring mechanism for compliance with them, the institutions that carry out supervision, and the procedure for carrying out said supervision.

Just like in Estonia, Latvia **has not adopted the latest RED III** obligations to its legislation (however, currently a Transport Energy Act has been submitted to the Latvian Parliament, which would transpose RED III requirements at the national level). Under the RCA regulation, the latest references to the EU directives regarding the biomandate fullfilment, from which the legal norms are arising, are Directive (EU) 2015/1513 of the European Parliament and of the Council of 9 September 2015 amending Directive 98/70/EC relating to the quality of petrol and diesel fuel and Directive 2009/28/EC on the promotion of the use of renewable energy sources.

Current Biomandate

In accordance with the RCA, from 2020 a mandatory biofuel blending requirement was set for:

Gasoline

Under section 2 „Requirements for Gasoline“ of this regulation, it is stated that the octane number of which is 95 or higher, but lower than 98 (95 brand gasoline), is allowed to be sold only if bioethanol is added to it, which meets the regulatory enactments on the sustainability criteria of biofuels and biological liquid fuels, the mechanism of their implementation and monitoring and control procedures, not less than 9.5 % by volume of the total volume of the mixture.

Gasoline with octane number of 98 or more, but less than 100 (98 grade gasoline) is allowed to be sold only if bioethanol is added to it, which meets the regulatory enactments on the sustainability criteria of biofuels and biological liquid fuels, their implementation mechanism and monitoring and control procedure, no more than 5 % by volume of the total volume of the mixture.

Diesel

Under section 3 „Requirements for diesel fuel and gas oil“, diesel fuel is allowed to be sold only if biofuel has been added to it, which meets the regulatory enactments on the sustainability criteria of biofuels and biological liquid fuels, their implementation mechanism and monitoring and control procedures, in the amount of not less than 6.5 % by volume of the total volume of the mixture.

In June 14th of 2022, the Latvian Government decided to temporarily waive the requirement for the mandatory attribution of biofuels to gasoline and diesel from July 1st to the end of 2023 in order to slow price rises.

4.2. Control mechanisms and fuel quality audits

Overall control mechanisms

The regulatory enforcement of compliance with the requirements provided in the **RCA** is mainly controlled, within the limits of their competence, **by three different authorities** as outlined in subsection 5 of the regulation:

a. **The State Construction Control Bureau**, **utilizing the Energy Resources Information System, is responsible for ensuring fuel quality monitoring and control.** In conducting annual fuel quality monitoring, it adheres to the standards outlined in LVS EN 14274:2013, titled “Automotive fuel. Gasoline and diesel fuel quality assessment. Fuel quality monitoring system (FQMS)”. Fuel sample testing is carried out by an accredited conformity assessment institution, following the testing methods specified in standards LVS EN 228+A1:2017 “Automotive fuels. Unleaded gasoline. Requirements and test methods”, and LVS EN 590:2022 “Automotive fuels & Diesel fuel“.

b. Annually, **the Ministry of Environmental Protection and Regional Development** submits a comprehensive environmental report to the European Commission. This includes information about the relevant agglomeration or zone, the expected impact of proposed measures on the environment, and data from merchants who have been issued a fuel wholesale license (by May 1, 2005) and those who have been issued a license for retail sale of fuel (by June 1, 2005).

c. **The State Revenue Service** provides data on the quantity of gasoline and diesel sold in Latvia to the State Construction Control Bureau by June 1 each year. This information is obtained in accordance with the regulations in the field of circulation of excise goods.

In addition to those mentioned authorities, the Consumer Rights Protection Centre plays also a role in ensuring that the market operates fairly for all consumers and handles any issues that consumers might face within the fuel market.

Auditing & fuel quality monitoring

Based on article 15 with index one of The RCA, the State Constructions Control Bureau is the controlling authority of the quality of the fuel and a yearly quality control is performed by them in accordance with the applicable standards. In this monitoring, actual samples are tested in the accredited institutions. The yearly tested stations are chosen based on different criteria for example - regionality, merchants, etc.

Paragraph 18 states that expenses related to fuel quality compliance monitoring shall be covered from the funds of the State Construction Control Bureau, but if it is found that the fuel does not meet the requirements specified in these regulations, the said expenses shall be covered by the relevant owner or holder of the fuel within 20 working days after receipt of the invoice from the State Construction Control Bureau. By request the States Constructions Control Bureau can request the quality control confirmation, this corresponds to RCA article 11, that states that suppliers must obtain a conformity certificate issued by the accredited institution.

The annual report of The State Construction Control Bureau of Latvia shows summarized information regarding **the quality control performed for fuel.** Please note, that the annual reports are only available in Latvian: https://www.bvkb.gov.lv/lv/publikacijas-un-parskati.

Requirements for auditors (general)

A fuel suppliers audited report must be prepared by an independent auditor who meets the requirements of the Law on Audit Services and the regulations on the quality assurance system for statutory audits. The auditor must verify the accuracy and completeness of the information provided by the fuel supplier, as well as the compliance of the fuel with the quality and sustainability criteria. Auditors do not do physical fuel controls but rather it is controlled by the State constructions Control Bureau through sample testing described in the previous subchapter (Auditing & fuel quality monitoring).

4.3. Legal obligations for biomandate compliance reporting (1/2)

Reporting (1/2)

Conformity assessment is the process of certifying that the fuel meets the quality and sustainability requirements specified in the regulations, based on testing reports from accredited laboratories and certificates from accredited institutions. Reporting is the obligation of the fuel supplier to provide information on the quantity and type of fuel sold, the **biofuel content, the origin and sustainability of the raw materials**, and the GHG emission savings achieved, to the Ministry of Economy and the Ministry of Environmental Protection and Regional Development.

Once a year, the Ministry of Environmental Protection and Regional Development submits an appropriate environmental report to the European Commission information about the relevant agglomeration or zone, as well as the expected impact of the proposed measures on the environment.

The State Revenue Service submits information on the amount of gasoline and diesel sold in Latvia to the Construction State Control Bureau by June 1 every year (the information is obtained in accordance with the regulatory enactments in the field of circulation of excise goods). The State Construction Control Bureau prepares a fuel quality report for the previous year by July 15 every year according to the form published on the website maintained by the European Environment Agency. The monitoring body submits a fuel quality report to the European Environmental Information and Observation Network (EIONET) every year by August 31 and informs the European Commission about it.

Under the „Regulations on sustainability and greenhouse gas emissions savings criteria, criteria for electricity produced from biomass fuel and procedures for justifying, certifying and monitoring compliance with said criteria“ (Regulations On Sustainability) **subsection 8 paragraph 33,** biofuel, biological liquid fuel, biomass fuel, or biogas can be deemed sustainable and capable of reducing greenhouse gas emissions.

However, fuels of non-biological origin that are produced from renewable energy resources or recycled carbon, as well as biological liquid fuels and biomass fuels derived from waste and residues (excluding agricultural, aquaculture, fishing, and forestry residues), can also be considered sustainable and capable of reducing GHG emissions.
This is applicable if these fuels are produced from waste and residues that are first processed into a product, which is then converted into bio-liquid fuels and biomass fuels.

It is necessary to receive a certificate of sustainability in one of the ways mentioned in the regulation paragraphs 33.1 - 33.3.

The sustainability and GHG emissions savings of these fuels can be proven in one of the following ways:

1. Through a voluntary scheme.
2. Within the framework of a national scheme established by another European Union MS.
3. Within the merchant’s own scheme.

These methods determine the eligibility of the raw materials that are counted towards the fulfilment of bio-obligations in liquid fuels and are based on the regulations on sustainability and GHG emission savings criteria, which specify the essential requirements for different types of fuel and combustible, as well as the criteria for electricity produced from forest biomass.
Furthermore, the subsection 8 of the Regulations On Sustainability, **establishes** the institutions responsible for certifying compliance in the regulated area, voluntary schemes set-up, and their supervision procedures, as well as institutions overseeing the certification of compliance with the criteria.

4.3. Legal obligations for biomandate compliance reporting (2/2)

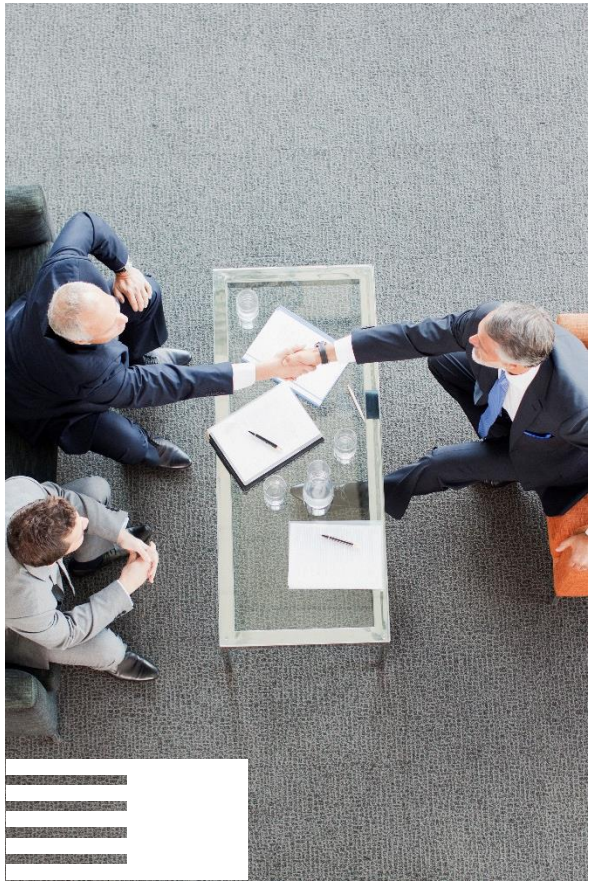
Reporting (2/2)

Every year by July 1, the fuel supplier submits an energy resource to the State Construction Control Bureau as part of the certification of compliance the following information for the previous calendar year in the information system:

1. **the realized amount of biofuel or biogas** for each type of biofuel and method of biofuel production, indicating the category mentioned in **Annex 3** of the Regulations On Sustainability, in the following breakdown:
   - the amount of biofuel obtained from food and animal feed crops;
   - the amount of biofuel and biogas obtained from the raw materials mentioned in **Annex 4** of these Regulations;
2. **the intensity of GHG emissions** of each type of biofuel or biogas (GHG emissions of the biofuel cycle per unit of energy), including and excluding approximate average values for indirect land use change emissions from biofuel;
3. **justification for compliance of each shipment of biofuel** and biogas with sustainability and GHG emission saving criteria (proof of compliance or certificate of compliance in Latvian or English), which has been issued within the framework of the voluntary scheme or national scheme referred in the previous page.
4. **the geographical origin** of the realized biofuel or biogas.

The State Construction Control Bureau collects the certificates of compliance mentioned above and ensures the publication of the following data and information in the form of open data on the Latvian Open Data portal or on its website every year by October 1.

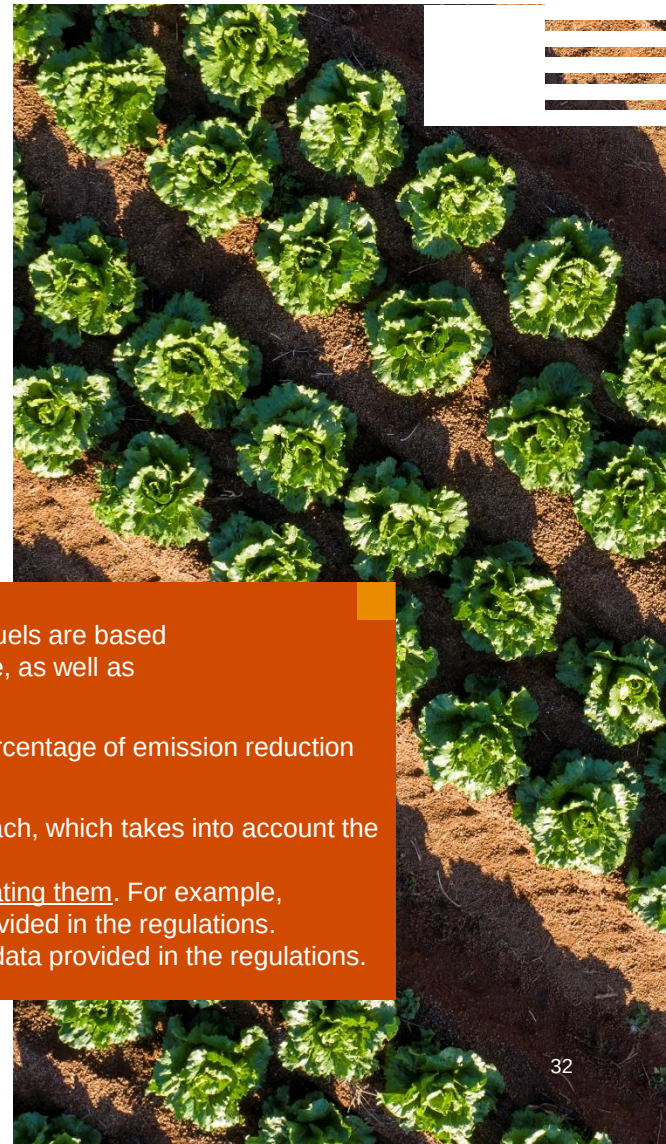
The Central Bureau of Statistics provides information on compliance of each shipment of biomass fuel and biogas used in the previous calendar year with the sustainability and greenhouse gas emission savings criteria set out in these regulations in relation to electricity, thermal energy, cooling or freezing energy production facilities or fuel production facilities in which, in accordance with the regulatory acts on pollution, the polluting activities included in the European Union emission allowance trading system, which require a greenhouse gas emission permit, are obtained from the compilation prepared by the Ministry of Climate and Energy on the previous year's emission reports of the Latvian operators of the European Union emission allowance trading system, submitted by the Ministry of Climate and Energy In the Central Statistical Office, in accordance with the regulatory enactments on GHG inventory, forecasting and climate change adaptation reporting systems.



4.4. Classification of raw materials and the applicable multipliers for calculations (1/2)

The raw materials in liquid fuels are defined and classified according to their origin, composition, and processing. The terms used in the Regulations On Sustainability distinguish between biofuels, biological liquid fuels, biomass fuels, biomass combustibles, non-biological liquid or gaseous fuels produced from renewable energy resources, and recycled carbon fuels and combustibles.

- Biofuels are liquid or gaseous fuels produced from biomass, which is the biodegradable fraction of products, waste, and residues from biological origin.
- Biological liquid fuels are liquid fuels derived from biomass used for the production of electricity, thermal energy, cooling, or freezing.
- Biomass fuels are gaseous fuels (including biogas) produced from biomass.
- Biomass combustibles are gaseous and solid combustibles produced from biomass.
- Non-biological liquid or gaseous fuels produced from renewable energy resources are liquid or gaseous fuels used in the transport sector, which are not biofuels or biogas and whose energy content is made up of renewable energy resources, excluding biomass.
- Recycled carbon fuels and combustibles are liquid or gaseous fuels or combustibles produced from fossil-derived waste streams or gas and off-gas from waste treatment that are unsuitable for material regeneration.



The methods and sustainability criteria in determining the eligibility of the raw materials that are counted towards the fulfilment of bio-obligations in liquid fuels are based on the regulations on sustainability and GHG emission savings criteria, which specify the essential requirements for different types of fuel and combustible, as well as the criteria for electricity produced from forest biomass.

The GHG emission savings criteria require that the biofuels, biological liquid fuels, biomass fuels, biogas, and biomass combustibles achieve a certain percentage of emission reduction compared to the fossil fuel comparator, depending on the type and date of production.

The reduction of GHG emissions resulting from the use of biofuels, liquid biofuels and biomass fuels is determined by applying a life cycle analysis approach, which takes into account the emissions from all stages of production, processing, transport, and use of the fuel, as well as the emissions saved by the use of by-products and residues.
The regulations provide default values and actual values for the emission savings of different types of fuel and combustible, as well as methods for calculating them. For example, the default value for the emission savings of bioethanol from wheat is 50%, while the actual value can be calculated by using the formula and the data provided in the regulations. Similarly, the default value for the emission savings of biogas from manure is 80%, while the actual value can be calculated by using the formula and the data provided in the regulations.

4.4. Classification of raw materials and the applicable multipliers for calculations (2/2)

The Regulations On Sustainability
Annex 4 – Raw materials of biofuel or biogas whose energy content can be considered to be twice the energy content

1. Algae grown on land in ponds or photobioreactors
2. Biomass fraction of mixed household waste, excluding sorted household waste, which is covered by regulatory acts on waste the goals of household waste collection and processing set by management.
3. The biological waste defined in the regulatory acts on waste management, originating from private households, subject to the separate collection specified in Article 1, Clause 9 of **the Law on Waste Management.**
4. Biomass fraction of production waste that cannot be used in the food or feed chain, including materials from retail and wholesale, agricultural food production, fishing and aquaculture industries, except for the raw materials mentioned in point 2 of this appendix.
5. Strait
6. Manure and sewage sludge.
7. Palm oil production liquid residues and empty palm fruit bunches.
8. Tall oil tar.
9. Crude glycerin.
10. Sugarcane sprouts.
11. Grape pomace and wine lees.
12. Nut shells.
13. Husks.
14. Cobs cleaned of corn kernels.
15. Biomass fraction of wastes and residues from forestry and forestry-based industries, ie bark, branches, pre-market by-products, leaves, needles, tree tops, sawdust, shavings, black liquor, brown liquor, fiber sludge, lignin and tall oil tar .
16. Other non-edible cellulosic material, i.e. raw materials consisting mainly of cellulose and hemicellulose and having a lower lignin content than lignocellulosic material (including from food and animal feed crop residues), such as straw, husks and husks of various cereals, energy grasses low-starch crops (e.g. ryegrass, millet, miscante, Spanish cane), cover crops before and after main crops, soil conservation crops, industrial residues (including from food and feed crops after extraction of vegetable oils, sugars, starches and proteins) and bio-waste materials, when conservation crops and cover crops are understood as short-term, temporarily planted pastures containing a mixture of grasses and low-starch legumes used for forage, which improve soil fertility to allow for higher yields of major crops.
17. Other lignocellulosic material, excluding saw logs and veneer blocks.
18. Used cooking oil.
19. Animal fat, according to Regulation (EC) No. 21 of October 2009 of the European Parliament and the Council, 1069/2009 laying down health protection rules for animal by-products and derived products not intended for human consumption and repealing Regulation (EC) no. 1774/2002, classified in categories 1 and 2.

Lithuania

5

5. Lithuanian Market Regulations

5.1. Biomandate

The Alternative Fuels Act is main general legal act transposing RED II directive provisions to the Lithuanian transport sector regulatory framework. While more detailed technical requirements for biofuels are governed by the orders of the respective ministers. The objectives of Directive (EU) 2023/2413 (RED III) will be transferred in the near future to the Alternative Fuels Act in order to review the currently set objectives for fuel suppliers and select the most appropriate measures to implement new and more ambitious objectives.

Lithuania introduced the Alternative Fuels Act in 2021, which sets the current biomandate.

This law is designed to promote the use of alternative fuels in the transport sector in the Republic of Lithuania, with the aim of achieving strategic policy objectives in transport, energy, and climate change. The law's primary goal is to reduce the impact of the transport sector on climate change and air pollution. It sets a target to increase the share of renewable energy in the **transport sector to 15% of total final energy consumption by 2030.**

Currently, **2024, at least 7.8%** of the fuel supply must be from renewable energy sources, of which at **least 0.7%** must consist of advanced biofuels and/or non-biological liquids and gases fuel from renewable energy sources (set to rise in 2025 to 8.6% and 1% respectively)

To achieve this, the law outlines several measures:

1. **Increasing the use of advanced biofuels**: The law imposes obligations on suppliers to increase the supply of energy from renewable sources, including advanced biofuels.
2. **Promoting the use of electricity in transport**: The law encourages the development of alternative fuels infrastructure to increase the use of electricity in transport.
3. **Increasing the number of clean vehicles**: The law aims to increase the number of clean vehicles registered in Lithuania.
4. **Setting requirements for public procurement in the transport sector**: The law establishes requirements for public procurement in the transport sector to promote the use of alternative fuels.

The law defines alternative fuels as those that can at least partially replace oil fuels in the transport sector. This includes fuels from renewable energy sources, electricity, hydrogen gas, synthetic and paraffinic fuels, and compressed and liquefied natural gas.

The law also establishes the responsibilities of various ministries and authorized institutions in the field of alternative fuels. Suppliers of natural gas to the transport sector and operators of public electric cars are required to provide guarantees of origin of energy from renewable sources.

Fuel suppliers, in order to meet the obligations, must ensure that every liter of **gasoline** supplied to the domestic market contains **at least 6.6 percent** of biofuels, and each liter of **diesel** supplied to the domestic market would contain **at least 6.2 percent** of biofuels, calculated on the basis of the total energy value of the fuel and biofuel mixture, as stated in the Alternative Fuels Act Section 4 Article 16.

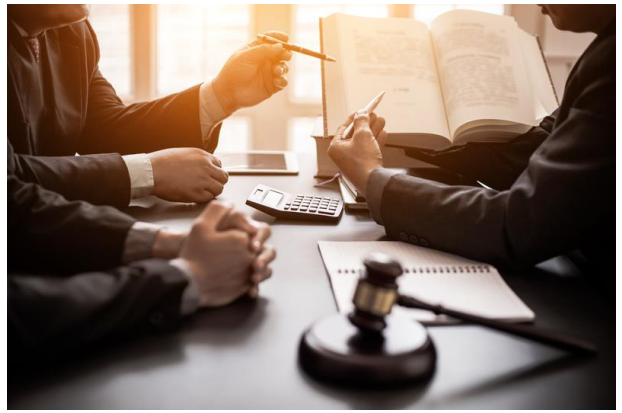
In Lithuania, the legal obligations for biomandate compliance is governed by the **Regulation on the approval of the mandatory quality indicators for petroleum products, biofuels and liquid fuels used in the Republic of Lithuania.** It is a comprehensive regulation that governs the quality of petroleum products, biofuels, and liquid fuels used within the country. It is designed to implement several EU directives related to fuel quality and environmental protection. It mandates specific quality indicators for these fuels, and establishes a system for monitoring and enforcing these standards. This includes inspections of ship logbooks, fuel delivery notes, and other documents that confirm the quality of marine fuels. If non-compliance is detected, measures are taken to prevent the use of substandard fuels.

In relation to biofuels, the law was part of Lithuania's efforts to implement Directive (EU) 2015/1513, which amended Directive 98/70/EC relating to the quality of petrol and diesel fuels and Directive 2009/28/EC on the promotion of the use of energy from renewable sources. Furthermore, the regulation requires the Lithuanian Maritime Safety Administration to submit and publish specific information related to fuel quality and availability. This includes a list of entities authorized to engage in wholesale trade of bulk petroleum products supplied to ships, and information on the quantity and type of fuel used on board ships.

In summary, this law is a key part of Lithuania's regulatory framework for ensuring the quality of fuels, reducing environmental impact, and promoting the use of renewable energy sources such as biofuels. It aligns with EU directives and contributes to broader efforts to protect the environment and human health.

5.2. Control mechanisms and auditing (1/2)

Overall control mechanisms



In the Alternative Fuels Act, a set of institutions is delineated that oversee the utilization of alternative fuels within the transportation sector. These institutions include:

a. The Government of the Republic of Lithuania and its authorized institutions
b. Ministry of Energy
c. Ministry of Transport and Communications of the Republic of Lithuania
d. Ministry of Environment of the Republic of Lithuania
e. Ministry of Agriculture of the Republic of Lithuania
f. Ministry of Internal Affairs of the Republic of Lithuania
g. Ministry of Education, Science, and Sports of the Republic of Lithuania
h. State Energy Regulatory Council
i. Municipal institutions
j. State Consumer Rights Protection Service
k. Public procurement service
l. Lithuanian Energy Agency

In the context of fulfilling the bio-mandate, the most pertinent institutions and their respective competencies are as follows:

- **The Government's authorized institution** is tasked with the approval of the rules for the utilization of confiscated alcohol products intended for biofuel production.
- **The Ministry of Energy** is responsible for shaping the policy for the development of fuel derived from Renewable Energy Resources. In collaboration with the Ministry of Environment and Ministry of Transport and Communications, it also determines the mandatory quality indicators for biofuels.
- **The Ministry of Environment** establishes the production and usage rules for biofuels and liquid bioproducts. It also sets comparative rules for calculating the impact of greenhouse gas emissions from production and usage of fossil fuels, biofuels and liquid bioproducts.
- **The Ministry of Agriculture** ensures support for the utilization of agricultural biomass for biofuel production. It supervises the implementation of measures and approves the production of biogas from farm animal manure and other biodegradable waste, along with cleaning and compaction support rules.
- **The State Energy Regulatory Council** oversees and controls whether fuel suppliers and suppliers of natural gas in the transport sector adequately fulfil the obligations set out by the aforementioned institutions and imposes fines as necessary.
- **Lithuanian Energy Agency** evaluates proposals for inclusion or removal of raw materials in the list of raw materials. The Energy Agency is also responsible for calculating and publishing fuel prices on its website.
- **The State Consumer Rights Protection Service conducts inspections of fuel retail outlets, ensuring they comply with regulations. It also performs sampling and testing for the composition and type of fuel and biofuel.**

5.2. Control mechanisms and auditing (2/2)

Auditing

Auditing the bio fulfilment in liquid fuels is mandatory for the fuel suppliers, who must submit annual reports on the amount and type of biofuels they provide, as well as the DAEI accounting units they generate or use as stipulated in **Article 18 of the Alternative Fuels Act**.

Reports can be verified by auditors, who can check **the data** in accordance with the **description of the monitoring and reporting procedure** and **the goals for reducing the amount of GHG** emitted during the fuel and energy life cycle, which was approved by the order of the Minister of the Environment of the Republic of Lithuania No. D1-262 of 30 March 2011 (includes calculations and what information the reports need to disclose).

Requirements for auditors

Article 18, part 1 of the Alternative Fuels Act stipulates that information on the participants of the DAEI accounting units system, the allocation, transfer and cancellation of DAEI accounting units, as well as **the annual audit reports of a certified auditor or an audit firm on the amount of fuel from renewable energy sources supplied** to the internal market in a calendar year, which can to be included in the fulfilment of the obligations set out in paragraphs 1 and 3 of Article 16 of this law, provided, accumulated and processed in the DAEI accounting units system, in accordance with the description of the administration procedure of the DAEI accounting units system.

The description mentioned in the above paragraph is the description of the administration procedure of the fuel from renewable energy resource accounting units system which was approved by the Order dated 2021-12-29 No 1-379 of the Minister of Energy of the Republic of Lithuania.

This description establishes general principles regarding the DAEI accounting units system, including the procedure for submitting the annual audit report of a certified auditor or an audit company.

However, **there are no specific requirements** for the auditors established there. **The only requirement is - it has to be a certified auditor or an audit firm.**

5.3. Legal obligations for biomandate compliance reporting

Reporting

The bio-obligation fulfilment reporting is done through the DAEI accounting system, which is a web-based platform that records the transactions of alternative fuel units between the fuel suppliers and users (Paragraph 4 of Article 16). The fuel suppliers must register in the system and **report the amount and type of biofuels they provide, as well as the DAEI accounting units they generate or use.** The law does not set a deadline for fuel suppliers to submit data to the DAEI system. The law only determines when the annual audit reports of the certified auditor or audit company are submitted, which is on April the 30th (**Article 18 of of the Alternative Fuels Act**). In addition, there are system operational rules, which elaborate the rights, duties and responsibilities of participants of DAEI system as well as operational issues for DAEI system.

The reporting of biofuel fulfillment in the DAEI accounting units system is outlined as follows:

1. **Allocation of Units**: DAEI accounting units are allocated for each megajoule (MJ) of fuel from renewable energy sources supplied to the domestic market each calendar year (DAEI accounting units are not transferred to the next calendar year).
2. **Transfer of Units**: DAEI accounting units can be transferred to: fuel suppliers and natural gas suppliers of the transport sector, who have the duty to implement the obligations set out in paragraphs 1 and 3 of Article 16 of this law; no later than March 1 of the next calendar year; in accordance with bilateral agreements, when concluding a transaction for the transfer of DAEI accounting units, registered in the DAEI accounting units system. DAEI accounting unit can be transferred no more than twice.
3. **Audit Reports**: The Council makes decisions based on the **annual audit reports** of the DAEI accounting units system participants. These decisions can include crediting the DAEI accounting units (or part of them) to the fulfillment of the annual obligations set out in Article 16 of the Alternative Fuels Act, or canceling the DAEI accounting units to the extent that deficiencies were identified in these units in the annual audit report.
4. **Communication of Decisions**: Upon making one of the decisions, the Council informs the participant of the DAEI accounting units system and the manager of the DAEI accounting units system within 5 working days from the date of the decision.
5. **Cancellation of Units**: DAEI accounting units in the DAEI accounting units system are canceled in accordance with the description of the DAEI accounting units system administration procedure.
6. **Responsibility for Deficiencies**: Participants of the DAEI accounting units system who have transferred DAEI accounting units or supplied fuels from renewable energy sources, for which DAEI accounting units were generated for the first time, are responsible for the deficiencies identified during the audit and the consequences of the cancellation of these units due to these deficiencies.

5.4. Classification of raw materials and the applicable multipliers for calculations (1/4)

The raw materials in liquid fuels are defined and classified according to their origin, composition, and sustainability. The raw materials are divided into two categories: biodegradable fuels and non-biodegradable fuels. Biodegradable fuels are derived from biomass, which is defined as the biodegradable fraction of products, waste, and residues from biological origin from agriculture, forestry, and related industries, as well as the biodegradable fraction of industrial and municipal waste. Non-biodegradable fuels are derived from fossil or mineral sources, such as coal, oil, or natural gas (As defined in the Alternative Fuels Act).

The methods and sustainability criteria in determining the eligibility of the raw materials that are counted towards the fulfilment of bio-obligations in liquid fuels are based on the EU directives and regulations, as well as the national legislation and standards. The methods include the calculation of the GHG emission savings, the verification of the origin and traceability of the raw materials, and the assessment of the environmental and social impacts of the production and use of biofuels. The sustainability criteria include the protection of biodiversity, soil, water, and air quality, the respect for human rights and labor standards, and the promotion of rural development and food security.

According to Paragraph 12 of the **Alternative Fuels Act**, biofuels and advanced biofuels, as well as non-biological liquid and/or gaseous energy value of fuel from renewable energy resources, in the implementation of **paragraphs 1 and 3 of the Article 16**, the obligations, **can be considered twice as large as compared to their original energy value**, if they are made from raw materials specified in the approved by the Minister of Energy in the list of raw materials, as stipulated in **Article 21** of this act.

5.4. Classification of raw materials and the applicable multipliers for calculations (2/4)

Overview of Article 21 of the Alternative Fuels Act:
Evaluation of Raw Materials for the Production of Biofuels, Advanced Biofuels, and Non-Biological Liquid and/or Gaseous Fuels from Renewable Energy Sources

The Minister of Energy, in conjunction with the Minister of Environment and the Minister of Agriculture of the Republic of Lithuania, approves a methodology for evaluating raw materials suitable for the production of advanced biofuels and non-biological liquid and/or gaseous fuels from renewable energy sources.

- The methodology specifies the evaluation criteria for raw materials, which can be included in the list of raw materials approved by the **Ministry of Energy**.
- The evaluation criteria must consider factors such as production technology maturity and costs, reduction of GHG emissions compared to fossil fuels, sustainability of raw materials, and compliance with waste prevention and management priorities and circular economy principles.
- The list of raw materials is compiled in accordance with **Directive (EU) 2018/2001** Annex IX and can be amended based on proposals from individuals or institutions, technological progress, or the emergence of new raw materials in the market.
- Proposals for changes to the list of raw materials and the need for such changes are evaluated by the public institution **Lithuanian Energy Agency**.
- The Lithuanian Energy Agency has the right to request additional information about the raw material proposed for inclusion in or removal from the list of raw materials.
- The Lithuanian Energy Agency evaluates proposals received during the previous calendar **year by June 1** of the current calendar year and submits its evaluation conclusions to the Ministry of Energy.
- If the Lithuanian Energy Agency's evaluation conclusion supports the amendment of the list of raw materials, the Ministry of Energy prepares and submits a draft amendment to the list of raw materials for public consultation.
- If the Lithuanian Energy Agency's evaluation conclusion does not support the amendment of the list of raw materials, the Ministry of Energy informs the proposal submitter, the Ministry of Environment, and the Ministry of Agriculture.
- A raw material that was not approved for removal or inclusion in the list of raw materials can be re-evaluated **no earlier than 2 calendar** years after the last evaluation conclusion about that raw material was submitted.
- The evaluation procedure established in this article applies when re-evaluating a raw material.
- An amended list of raw materials comes into effect no earlier **than 90 calendar** days after its approval.

Biofuels must comply with **CEN and ISO standards.** Mandatory quality indicators of petroleum products, biofuels and liquid fuels used in the Republic of Lithuania are described in the Resolution MEPC.184(59), and governed by the Energy Law, the Alternative Fuels Act and the Renewable Energy Law of the Republic of Lithuania.

The **approved list of raw materials** is outlined in The Ministry of Energy order No. 1-170 "Regarding the share of renewable energy resources compared to common final energy consumption, calculation methodology approval" (version valid as of 23 September 2023) **Chapter 2, Paragraph 17 and 18**.

5.4. Classification of raw materials and the applicable multipliers for calculations (3/4)

The Ministry of Energy order No. 1-170:
The approved list of raw materials considered twice higher than their initial energy value (1/2)

The list of raw materials suitable for the production of **advanced biofuels and non-biological liquid and/ or gaseous fuels from renewable energy resources**, which includes raw materials from which a part of advanced biofuels or non-biological liquid and/or gaseous fuels from renewable energy resources will be produced, in order to achieve Alternative of the obligations set out in paragraphs 1 and 3 of Article 16 of the Alternative Fuels Act, is considered twice higher than their initial energy value:

- algae, if they are grown in bodies of water located on land or in photobioreactors
- biomass fraction of unsorted municipal waste (except municipal waste);
- biological waste from private households subject to separate collection as defined in the Waste Management Act of the Republic of Lithuania;
- parts of biomass in the industrial waste which is not suitable to use in the food or feed supply chain, including retail and wholesale trade and processing of agricultural products and fish and aquaculture industry materials, except for the raw materials specified on the next slide;
- straw
- animal manure and sewage sludge (sludge);
- wastewater from olive oil factories and empty bunches of olive fruit;
- tall oil resin
- crude glycerin
- sugar cane pomace
- grape pomace and wine lees
- nut shells
- ulcers
- cobs from which corn seeds have been removed
- the biomass fraction of forestry and forestry industry wastes and residues, namely bark, branches, non-commercial thinning wood, leaves, needles, tree tops, sawdust, wood chips, black liquor, brown liquor, fiber waste, lignin and tall oil;
- other non-food cellulose as defined in sub-section 2.6 of the Methodology
- other lignocellulosic as defined in sub-section 2.4 of the Methodology, excluding wood pulplogs and plywood
- water (if used for the production of non-biological liquid and gaseous fuels from renewable energy sources)

5.4. Classification of raw materials and the applicable multipliers for calculations (4/4)

The Ministry of Energy order No. 1-170:
The approved list of raw materials considered twice higher than their initial energy value (2/2)

Raw materials suitable for use in the production of **biofuels, some of which meet the obligations set out in paragraphs 1 and 3 of Article 16 of the Alternative Fuels Act, but not including the obligation of advanced biofuels and/or non-biological liquid and gaseous fuels from renewable energy sources** set out in paragraph 1 of Article 16 of the Alternative Fuels Act, considered to be twice their initial energy value:

- used cooking oil
- Animal fats of categories 1 and 2 according to 2009 October 21 European Parliament and Council Regulation (EC) No. 1069/2009 establishing health rules for animal by-products and their products not intended for human consumption and repealing Regulation (EC) No. 1774/2002 (Regulation of animal by-products), as amended.

All biofuels, including biofuels produced from the raw materials specified in the Methodology (paragraph 19), must meet the sustainability and GHG emissions reduction criteria set out in Article 38 of the **Renewable Energy Law**. The reduction of GHG emissions resulting from the use of non-biological liquid and/ or gaseous fuels from renewable energy sources must reach at least 70 %.

The methodology for calculating the share of renewable energy resources in the final energy consumption may be reviewed and changed.

Finland

6

6. Finland Market Regulations

6.1. Biomandate

The Act on Biofuels and Bioliquids (393/2013), also known as the “Sustainability Act,” was enacted on July 1, 2013. This legislation establishes sustainability criteria for biofuels and bioliquids in alignment with the Renewable Energy Directive (RED), thereby integrating it into Finnish law. The Act also delineates national measures for verifying sustainability.

As per RED, biofuels and bioliquids must meet sustainability criteria to qualify for inclusion in the national distribution obligation, benefit from reduced taxes, satisfy the terms and conditions of state subsidies, and apply the zero-emission factor. Biofuels or bioliquids that fail to meet these sustainability criteria are excluded from the distribution obligation, subjected to higher taxation, and deemed non-compliant with state subsidy conditions. Moreover, if an economic operator fails to verify a bioliquid’s sustainability in an annual emissions report as per the Emissions Trading Act, the bioliquid is classified as fossil (more info: https://energiavirasto.fi/en/sustainability-criteria).

Finnish legislation mandates that **by 2030, 34% of all transport fuels released for consumption must be biofuels**. This obligation is stipulated in the Act on the Promotion of the Use of Biofuels in Transport (446/2007), also known as the “Distribution Obligation Act”. In 2021, the distribution obligation stood at 18%, and was set to incrementally increase. The sub-goal for second-generation biofuels will also progressively rise from 2% in 2021 to 10% in 2030. The energy content of biofuel that met the distribution obligations was calculated as double if it was made from the raw materials referred to in the appendix of this act.

Concurrently, **in 2024, the energy content from renewable fuels stands at 13.5% (set to rise to 29% in 2025). In transportation, biofuels made out of the raw materials listed in the forementioned appendix, must account for 3% of the liquid and gaseous transport fuels (which will rise to 6% in 2026)**

The Act on the Promotion of the Use of Biofuel Oil (418/2019) in 2021, imposed an obligation to substitute a portion of the light fuel oil used in heating, heavy-duty machinery, and permanently installed motors with biofuel oil. In 2021, the distribution obligation was 3%, and was set to increase annually by one percentage point until it reaches 10% in 2028 and onwards.

6.2. Control mechanisms and auditing (1/2)

Control mechanisms

The control mechanisms for bio-obligation fulfilment in liquid fuels include reporting, accounting, verification, and penalty systems. **Chapter 1 § 4 of the Act on the Promotion of the Use of Biofuels in Transport** states that the **Energy Authority** is the main institution responsible for overseeing compliance, enforcing the law, and imposing penalties for non-compliance, while the Ministry of Economic Affairs and Employment (*Suomen työ- ja elinkeinoministeriö*), is responsible for the general governance and development of this legislation. Under Chapter 2 paragraph 7, the notification obligation, **distributors must annually report to the Energy Authority the quantities and energy content of various fuels delivered for consumption, including renewable fuels and biofuel oil, and provide evidence of compliance with sustainability criteria.** Distributors must also keep records of the same information for at least 5 years. The Energy Authority may verify the compliance of distributors with sustainability criteria by approving their systems or using voluntary schemes approved by the European Commission. The Energy Authority may also access facilities for inspection and request information from distributors and third parties (As per Finnish Excise Duty Law, the Customs Authority also has rights to inspect). If distributors fail to meet their obligations, the Energy Authority may impose penalty fees based on the energy content of the shortfall.

a. **The Energy Authority** is the competent authority for matters related to advance rulings concerning the **Distribution Obligation Act** and **the Biofuel Oil Distribution Obligation Act**. An advance ruling under the Distribution Obligation Act determines whether the raw material used in the production or manufacturing of a biofuel or bioliquid is a raw material defined in **section 5 of the Distribution Obligation Act**. This includes its eligibility for double counting, its compliance with a grandfather clause, or its alignment with the cap of seven percentage points as defined in the Distribution Obligation Act. The classification of raw materials determines how biofuels produced from different raw materials fulfil the economic operator's distribution obligation. Economic operators with a distribution obligation or those defined in the Sustainability Act can file an application for an advance ruling concerning raw materials used or planned to be used in their own production or manufacturing of biofuels.

b. **The Tax Administration** is responsible for other matters related to the Distribution Obligation Act, such as the fulfilment and monitoring of the distribution obligation. The Energy Authority can disclose information obtained during assignments to the Tax Administration for the provision and monitoring of tax information and for carrying out the tasks defined in the Distribution Obligation Act, without being hindered by non-disclosure clauses.

c. **The Ministry of Economy Affairs and Employment** is responsible to perform tasks related to the preparation and implementation of energy and climate policy goals.

d. **The Finnish Customs Authority** is responsible for overseeing the import and the use of different fuels subject to excise duties, as well as the bookkeeping of those products.

6.2. Control mechanisms and auditing (2/2)

Auditing

Auditing the bio fulfilment in liquid fuels is mandatory for distributors who use their own system to demonstrate compliance with sustainability criteria as pointed in Chapter 5 paragraph 31 of the Sustainability Act. The system must be verified by an independent auditor approved by the Energy Authority. The requirements for auditors include competence, impartiality, reliability, and adherence to the standards and guidelines issued by the Energy Authority. The auditor must submit a verification report to the Energy Authority along with the distributor's application for approval of the system.

Requirements for auditors

Under Chapter 4 pharagraph 26, it is stated that the accepted auditor is:

1. who is independent in the duties of a verifier referred to in this law;
2. which has sufficient professional, independent personnel for the task referred to in this Act;
3. has the equipment, tools and systems required for the operation;
4. who, taking into account the quality and scope of the operation, has sufficient liability insurance or another similar arrangement considered sufficient.

The Energy Authority approves a Finnish entity or foundation or such part as an auditor, if the fulfillment of the requirements laid down in paragraph 26 has been demonstrated in accordance with the provisions of the Act on determining the competence of conformity assessment services (920/2005). The approval decision defines the auditors' area of competence and provides the necessary regulations regarding the auditors' activities to protect public and private interests. The decision can be issued for a fixed period of time.

A verifier from a European Economic Area (EEA) country is considered the same as a verifier mentioned in subsection 1, if it is a company or foundation that meets the requirements in paragraph 26 of the biofuels act, and has followed the approval process outlined in the Act on the Verification of the Qualification of Conformity Assessment Services.

6.3. Legal obligations for biomandate compliance reporting

Reporting

The operator (fuel supplier) must compile a report on the fulfilment of the sustainability criteria concerning the batches of biofuels, liquid biofuels, and biomass fuels that the operator has produced, manufactured, released for consumption, or used in Finland during a calendar year (report on the fulfilment of sustainability criteria) and submit the report to the Energy Authority by the end of March of the following year (paragraph 31 of the Act on Biofuels, Liquid biofuels and Biomass fuels) .The report must include the following information: the quantities and energy content of motor gasoline, diesel oil, natural gas, light fuel oil, biofuel oil, and renewable fuels delivered for consumption; the proportion of renewable fuels and biofuel oil that meet the sustainability criteria; the proportion of renewable fuels and biofuel oil that are produced from waste, residues, or raw materials that count double towards the obligation; the proportion of biofuel oil that is produced from food and feed crops; and the evidence of compliance with sustainability criteria, such as certificates, mass balance statements, or verification reports (paragraph 7 of the Act on the Promotion of the use of Biofuels in Transport).

Economic operators under the Sustainability Act are obligated to apply for a sustainability scheme. These include:

- Parties with a distribution obligation as per the **Act on the Promotion of the Use of Biofuels in Transport (446/2007)**
- Parties with a tax obligation under the **Act on Excise Tax on Liquid Fuels (1472/1994)**
- Operators as per the **Emissions Trading Act (1270/2023)**
- Recipients of state subsidies whose subsidy decision imposes a sustainability verification obligation
- From 2021, parties with a distribution obligation under the **Act on the Promotion of the Use of Biofuel Oil (418/2019)**

The verification of sustainability criteria must be grounded in an economic operator's sustainability scheme as per the Sustainability Act or a voluntary scheme approved by the European Commission. The Energy Authority is responsible for approving national sustainability schemes and overseeing their compliance. Upon separate application, the Energy Authority may also issue a preliminary ruling for a raw material in accordance with the Sustainability Act and the instruction documents on the distribution obligation reporting to the Energy Authority. The Ministry of Economic Affairs and Employment oversees the general direction, monitoring, and development of activities in line with the Sustainability Act.

6.4. Classification of raw materials and the applicable multipliers for calculations (1/3)

Biofuels raw materials definition and classification

Taxation on transport fuels is defined in the Act on Excise Tax on Liquid Fuels (1472/1994, hereinafter “the Fuel Tax Act”). For example, authorised warehouse-keepers are liable to pay taxes in the form of excise duty and security of supply fee. Carbon tax has been divided into 3 categories on the basis of the reductions in lifecycle carbon dioxide emissions that can be achieved using biofuels and bioliquids relative to fossil fuels. The GHG emission reduction of biofuels produced from waste and residues can be up to 90 % compared with fossil fuels. Biofuels produced from waste and residues as defined in RED are exempt from carbon tax.

An advance ruling in accordance with the sustainability act indicates whether a raw material should be regarded as waste, residue, non-food cellulosic material or lignocellulose when applying the Act on Excise Tax on Liquid Fuels. A lower excise tax category, i.e. category T, applies to biofuels produced from this type of raw material (additionally paragraph 2 a §).

The Sustainability Act encompasses provisions pertaining to the sustainability of biofuels, including the definitions of waste, residues, and processing residues. **In Finland, the Energy Authority** is the designated authority responsible for making decisions on the classification of raw materials based on applications submitted by economic operators. This classification significantly influences aspects such as taxation and applicable sustainability requirements.

As per the Sustainability Act, waste is defined as a substance or object which the holder discards, intends to discard, or is required to discard, as outlined in section 5 of the Waste Act (646/2011). This definition excludes material that has been intentionally modified to be classified as waste. **The Sustainability Act does not provide a definition for by-products.**

The act defines processing residue as material that is not the end product that a production process directly aims to produce. Processing residue is not the primary objective of the production process, and the process has not been intentionally modified to produce processing residue. According to the Sustainability Act, residues encompass processing residues and residues directly resulting from agriculture, aquaculture, fishing, and forestry.

Upon receiving an application from an economic operator, the Energy Authority, as the competent authority, can issue an advance ruling, as defined in the Sustainability Act, to **determine whether a raw material should be considered as waste or residue when applying the Fuel Tax Act.** An advance ruling can only be revoked due to changes in interpretations of provisions or for other specific reasons. The approval of a raw material as waste or residue may have significant implications for investments in the production of biofuels or bioliquids. Therefore, advance rulings are valid until further notice. The Energy Authority can revoke its advance ruling due to changes in interpretations of provisions or for other specific reasons.

The Sustainability Act does not stipulate additional requirements for individual raw materials. The objective of the Sustainability Act is to maintain as broad a range of raw materials as possible, particularly for different raw materials based on waste and residues.

Finland does not publish any lists of raw materials approved as waste, residue, or lignocellulose, but adheres to broader EU regulations and guidelines, including the International Sustainability and Carbon Certification (ISCC) system.

5.4. Classification of raw materials and the applicable multipliers for calculations (2/3)

The raw materials in liquid fuels are defined and classified according to their origin, type, and eligibility for the bio-obligation fulfilment. The law on biofuels, bio-liquids, and biomass fuels provides definitions for terms such as waste, residues, biomass, biofuels, liquid biofuels, biomass fuels, biogas, raw materials, agricultural biomass, and forest biomass. The law also lists raw materials for biofuels and biogas that count double towards the distribution obligation and additional obligations, such as algae, straw, animal manure, and others. The law on promoting the use of renewable fuels in transport also includes additional obligations for certain types of renewable fuels, such as advanced biofuels, renewable liquid and gaseous fuels of non-biological origin, and recycled carbon fuels.

The methods and sustainability criteria in determining the eligibility of the raw materials that are counted towards the fulfilment of bio-obligations in liquid fuels are based on the GHG emission savings and the environmental and social impacts of the production and use of the fuels. The law on biofuels, bio-liquids, and biomass fuels sets out the sustainability criteria for biofuels and biomass fuels, including greenhouse gas emission reductions and requirements for electricity production from biomass fuels. The law also requires operators to demonstrate compliance with sustainability criteria by using a system approved by the Energy Authority or a voluntary scheme approved by the European Commission. For example, a distributor who delivers biofuel oil for consumption must demonstrate that the biofuel oil meets the sustainability criteria set out in the law on biofuels, bio-liquids, and biomass fuels, and report the evidence to the Energy Authority.

Certain raw materials, like algae and specific types of waste**, count double** toward renewable energy targets when used to produce biofuels or biogas. All of the raw materials this applies to can be found in **the appendix of this act**.
(Act on the Promotion of the Use of Biofuels in Transport (446/2007)

5.4. Classification of raw materials and the applicable multipliers for calculations (3/3)

The raw materials referred to in **Annex** „Raw materials for biofuels and biogas“. **(Act on the Promotion of the Use of Biofuels in Transport (446/2007)** – calculated as double energy content.

Part A. Raw materials whose effect on achieving the distribution obligation is calculated pursuant to **section 5 subsection 2** as double their energy content and from which the produced or manufactured biofuel or biogas is calculated to fulfil the additional distribution obligation pursuant to **section 5 subsection 4** and the minimum share obligation pursuant to **subsection 5:**

a. algae, if produced on land in ponds or photoreactors;
b. the biomass portion of mixed municipal waste, however, not sorted household waste, which is subject to obligations regarding the separate collection and recycling of municipal waste;
c. biowaste originating from households and similar waste that is subject to the separate collection referred to in **section 6 subsection 1 section 10 a of the Waste Act (646/2011);**
d. the biomass portion of industrial waste that is not suitable for use in the food or feed chain, including raw materials originating from retail and wholesale trade and the food and feed industry and the fishing and aquaculture sector, with the exception of the raw materials mentioned in part B;
e. straw;
f. animal manure and sewage sludge;
g. waste sludge from palm oil presses and empty palm fruit bunches;
h. tall oil pitch;
i. crude glycerol;
j. Bagasse;
k. grape pomace and wine lees;
l. nut shells;
m. shells;
n. cobs from which maize kernels have been removed;
o. the biomass portion obtained from the waste and residues of forestry and industry based on it, such as bark, branches, pre-commercial thinning's, leaves, needles, crowns, sawdust, chippings, black liquor, brown liquor, fibrous sludge, lignin and pine oil;
p. cellulose from other than food plants, i.e. raw material consisting mainly of cellulose and hemicellulose, with a lower lignin content than lignocellulose, including residues of food and fodder plants, hay-like energy plants with a low starch content, industrial residues and raw material from bio-waste;
q. other lignocellulose, i.e. raw material consisting of lignin, cellulose and hemicellulose, such as biomass obtained from forests, woody energy plants and residues and waste from the wood processing industry, with the exception of saw logs and plywood logs.

Part B. Raw materials whose impact on achieving the distribution obligation is calculated based on section 5 subsection 2 as double their energy content:

a. used cooking oil;

b. animal fats classified in accordance with **Regulation (EC) No. 1069/2009** of the European Parliament and of the Council repealing Regulation (EC**) No. 1774/2002** on health rules for animal by-products and products derived from animals other than those intended for human consumption (by-products regulation) to category 1 referred to in **Article 8** or to category 2 referred to in **Article 9** thereof.

Comparative analysis

7

7. Comparative analysis table

Country	Current Biomandate	Control institutions (biofuel monitoring and control in BOLD)	Auditing	Reporting	Biofuel raw material taxation	Raw material classification & multipliers
Estonia	• **≥ 7.5%** (Renewable energy content) • **≥ 0.5%** (advanced biofuels) • **≤ 1.7%** (biofuel produced from Annex IX of RED II)	• The Competition Authority • The Tax and Customs Board • The Consumer Protection and Technical Regulatory Authority • **The Environmental Board**	• **Not mandatory** • The Environmental Board has the right to demand one	• Suppliers must submit a monthly report to the Environment Board by the **15th of every month**	• Biofuel specified in Clause 21 of § 19 (14) of The Alcohol, Tobacco, Fuel and Electricity Excise Duty Act, is exempt from excise duty	• LFA § 21 subsection 3 refers to Feedstocks classified in **Annex IX** • **X2** (double counting)
Latvia	• **≥ 9.5%** (biofuel in gasoline 95 mixture) • **≤ 5%** (in 98 mixture) • **≥ 6.5%** (diesel mixture)	• **The State Construction Control Bureau** • The Ministry of Environmental Protection and Regional Development • The State Revenue Service • The Consumer Rights Protection Center	• **Not mandatory** • The State Construction Control Bureau has the right to demand	• **Every year by July 1**, the fuel supplier submits an energy resource to the State Construction Control Bureau	• Fuels with any type of bio-additions are taxed exactly the same as without bio-additions. However, lower rates apply to biodiesel wholly produced from biomass. List of excise duty rates	• Feedstocks classified in Annex 4 (The Regulation on Sustainability) • **X2**
Lithuania	• **≥ 7.8%** (Renewable energy content) • **≥ 0.7%** (advanced biofuels) • **≥ 6.6%** (biofuels in gasoline) • **≥ 6.2** (diesel)	• The Ministry of Energy • The Ministry of Environment • The Ministry of Agriculture • The State Energy Regulatory Council • **The State Consumer Rights Protection Service**	• **Mandatory** for fuel suppliers, who must submit annual reports on the amount and type of biofuels they provide, as well as the DAEI accounting units they generate or use	• The annual audit reports of the certified auditor or audit company are submitted by **30th of April.**	• There are no general, universal exemptions	• Conditions and feedstock classified in **Article 21** of the Alternative Fuels Act • The Ministry of Energy order No. 1-170 Chapter 2, paragraph 17 • **X2**
Finland	• **≥ 13.5%** (Renewable energy content) • **≥ 3%** (advanced biofuels)	• **The Energy Authority (Agency)** • The Tax Administration • The Ministry of Economic Affairs and Employment	• **Mandatory** for distributors who use their own systems to demonstrate compliance	• Distributors submit an **annual report** to the Energy Authority by the **end of March** of the following year	• Biofuels produced from waste and residues as defined in RED are **exempt from carbon tax**	• Raw materials referred to in the appendix of the act on the Promotion of the Use of Biofuels in Transportation. • **X2**

7.1. Comparative table of double counted Raw Materials (1/2)

Nr.	Estonia	Latvia	Lithuania	Finland
	Part A			
1.	**Algae** if cultivated on land in ponds or photobioreactors	**Algae** grown on land in ponds or photobioreactors	**Algae**, if they are grown in bodies of water located on land or in photobioreactors	**Algae**, if produced on land in ponds or photoreactors
2.	**Biomass fraction of mixed municipal waste**, but not separated household waste subject to recycling targets under point (a) of Article 11(2) of Directive 2008/98/EC	**Biomass fraction of mixed household waste**, excluding sorted household waste, which is covered by regulatory acts on waste the goals of household waste collection and processing set by management	**Biomass fraction of unsorted municipal waste** (except municipal waste)	**The biomass portion of mixed municipal waste**, however, not sorted household waste, which is subject to obligations regarding the separate collection and recycling of municipal waste
3.	**Biowaste** as defined in point (4) of Article 3 of Directive 2008/98/EC from private households subject to separate collection as defined in point (11) of Article 3 of that Directive	**The biological waste** defined in the regulatory acts on waste management, originating from private households, subject to the separate collection specified in Article 1, Clause 9 of the Law on Waste Management	**Biological waste** from private households subject to separate collection as defined in the Waste Management Act of the Republic of Lithuania	**Biowaste** originating from households and similar waste that is subject to the separate collection referred to in section 6 subsection 1 section 10 a of the Waste Act (646/2011)
4.	**Biomass fraction of industrial waste** not fit for use in the food or feed chain, including material from retail and wholesale and the agro-food and fish and aquaculture industry, and excluding feedstocks listed in part B	**Biomass fraction of production waste** that cannot be used in the food or feed chain, including materials from retail and wholesale, agricultural food production, fishing and aquaculture industries, except for the raw materials mentioned in part B	**Parts of biomass in the industrial waste** which is not suitable to use in the food or feed supply chain, including retail and wholesale trade and processing of agricultural products and fish and aquaculture industry materials, except for the raw materials specified in part B	**The biomass portion of industrial waste** that is not suitable for use in the food or feed chain, including raw materials originating from retail and wholesale trade and the food and feed industry and the fishing and aquaculture sector, with the exception of the raw materials mentioned in part B
5.	**Straw**	**Strait**	**Straw**	**Straw**
6.	**Animal manure and sewage sludge**	**Manure and sewage sludge**	**Animal manure and sewage sludge (sludge)**	**Animal manure and sewage sludge**
7.	**Palm oil** mill effluent and empty palm fruit bunches	**Palm oil** production liquid residues and empty palm fruit bunches	Wastewater from **olive oil** factories and empty bunches of olive fruit	Waste sludge from **palm oil** presses and empty palm fruit bunches
8.	**Tall oil** pitch	**Tall oil** tar	**Tall oil** resin	**Tall oil** pitch
9.	**Crude glycerine**	**Crude glycerin**	**Crude glycerin**	**Crude glycerol**
10.	**Bagasse**	**Sugarcane pomace**	**Sugarcane pomace**	**Bagasse**
11.	**Grape marcs and wine lees**	**Grape pomace and wine lees**	**Grape pomace and wine lees**	**Grape pomace and wine lees**
12.	**Nut shells**	**Nut shells**	**Nut shells**	**Nut shells**
13.	**Husks**	**Husks**	**Ulcers**	**Shells**
14.	**Cobs** cleaned of **kernels of corn**	**Cobs** cleaned of **corn kernels**	**Cobs** from which **corn seeds** have been removed	**Cobs** from which **maize kernels** have been removed
15.	**Biomass fraction of wastes and residues from forestry and forest-based industries**, namely, bark, branches, precommercial thinnings, leaves, needles, tree tops, saw dust, cutter shavings, black liquor, brown liquor, fibre sludge, lignin and tall oil	**Biomass fraction of wastes and residues from forestry and forestry-based industries**, ie bark, branches, pre-market by-products, leaves, needles, tree tops, sawdust, shavings, black liquor, brown liquor, fiber sludge, lignin and tall oil tar	**The biomass fraction of forestry and forestry industry wastes and residues**, namely bark, branches, non-commercial thinning wood, leaves, needles, tree tops, sawdust, wood chips, black liquor, brown liquor, fiber waste, lignin and tall oil	**The biomass portion obtained from the waste and residues** of forestry and industry based on it, such as bark, branches, pre-commercial thinning's, leaves, needles, crowns, sawdust, chippings, black liquor, brown liquor, fibrous sludge, lignin and pine oil
16.	**Other non-food cellulosic material**	**Other non-edible cellulosic material**	**Other non-food cellulose** as defined in sub-section 2.6 of the Methodology (material that is composed mainly of cellulose and hemicellulose and contains less lignin than lignocellulose, including food and forage crop residues	**Cellulose from other than food plants**, i.e. raw material consisting mainly of cellulose and hemicellulose, with a lower lignin content than lignocellulose, including residues of food and fodder plants, hay-like energy plants with a low starch content, industrial residues and raw material from bio-waste
17	**Other ligno-cellulosic material** except saw logs and veneer logs	**Other lignocellulosic material**, excluding saw logs and veneer blocks	**Other lignocellulosic as defined in sub-section 2.4 of the Methodology**, excluding wood pulplogs and plywood (material composed of lignin, cellulose and hemicellulose)	**Other lignocellulose**, i.e. raw material consisting of lignin, cellulose and hemicellulose, such as biomass obtained from forests, woody energy plants and residues and waste from the wood processing industry, with the exception of saw logs and plywood logs
18.			**Water** (if used for the production of non-biological liquid and gaseous fuels from renewable energy sources)	

7.1. Comparative table of double counted Raw Materials (2/2)

Nr.	Estonia	Latvia	Lithuania	Finland
	Part B			
1.	**Used cooking oil**	**Used cooking oil**	**Used cooking oil**	**Used cooking oil**
2.	**Animal fats** classified as categories 1 and 2 in accordance with Regulation (EC) No 1069/2009	**Animal fat**, according to Regulation (EC) No. 21 of October 2009 of the European Parliament and the Council, 1069/2009 laying down health protection rules for animal by-products and derived products not intended for human consumption and repealing Regulation (EC) no. 1774/2002, classified in categories 1 and 2	**Animal fats** of categories 1 and 2 according to 2009 October 21 European Parliament and Council Regulation (EC) No. 1069/2009 establishing health rules for animal by-products and their products not intended for human consumption and repealing Regulation (EC) No. 1774/2002 (Regulation of animal by-products), as amended	**Animal fats** classified in accordance with Regulation (EC) No. 1069/2009 of the European Parliament and of the Council repealing Regulation (EC) No. 1774/2002 on health rules for animal by-products and products derived from animals other than those intended for human consumption (by-products regulation) to category 1 referred to in Article 8 or to category 2 referred to in Article 9 thereof

Similarities

1. Algae: All countries list algae if cultivated on land in ponds or photobioreactors.
2. Biomass Fraction of Mixed Municipal Waste: Each country includes the biomass fraction of mixed municipal waste, though the descriptions vary slightly.
3. Biowaste from Private Households: All countries mention biowaste from private households subject to separate collection.
4. Biomass Fraction of Industrial Waste: Each country includes the biomass fraction of industrial waste not fit for use in the food or feed chain.
5. Straw: Listed by all countries.
6. Animal Manure and Sewage Sludge: Included by all countries.
7. Palm Oil Mill Effluent and Empty Palm Fruit Bunches: Mentioned by all countries, though Latvia refers to olive oil factories instead.
8. Tall Oil: All countries list tall oil, though with slight variations in terminology (pitch, tar, resin).
9. Crude Glycerine/Glycerol: Included by all countries.
10. Bagasse: Listed by Estonia and Finland, while Latvia and Lithuania use different terms.
11.Grape Marcs and Wine Lees: Included by all countries.
12. Nut Shells: Listed by all countries.
13. Husks: Mentioned by Estonia and Latvia, with Lithuania and Finland using different terms.
14. Cobs Cleaned of Kernels of Corn: Included by all countries.
15. Biomass Fraction of Forestry and Forest-Based Industries: Listed by all countries.
16. Other Non-Food Cellulosic Material: Included by all countries, though descriptions vary.
17. Other Ligno-Cellulosic Material: Listed by all countries, with slight variations in terminology.
18. Used Cooking Oil: Included by all countries.
19. Animal Fats Classified as Categories 1 and 2: Listed by all countries according to Regulation (EC) No 1069/2009.

Differences

Terminology Variations:

1. Estonia uses “Husks,” Lithuania uses “Ulcers,” and Finland uses “Shells.”
2. Estonia and Finland refer to “Tall oil pitch,” while Latvia uses “Tall oil tar” and Lithuania uses “Tall oil resin.”

Additional Items:

1. **Lithuania includes water** used for the production of non-biological liquid and gaseous fuels from renewable energy sources.

Specific Descriptions:

1. The descriptions of lignocellulosic materials and other non-food cellulosic materials vary slightly between countries.
2. Biological waste is listed in all countries but each country defines it by referring to their own law of Waste Management Act or Waste Act sections (which may include some sort of deviations).

We create the value our clients are looking for

pwc