BIOFUELS MATRIX
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COUNTRY	TAX ADVANTAGE		MANDATORY BLENDING	MANDATORY BLENDING PLAN	ADVANCED BIOFUELS		COMMENTS	LEGISLATION (LATEST DEVELOPMENTS)
	Biodiesel	Bioethanol			Limitations of bio components	Bio components multiplication factor		
BELGIUM	No more tax incentives	No more tax incentives	Mandatory blending is: In diesel: "max FAME specification (EN590) -1%" (so actually 6% vol), or by other biofuels if they reach the same energetic value. In gasoline (E10): 8.5% vol of bio ethanol in the gasoline pool, or by other biofuels if they reach the same energetic value. Sustainability must be proven.	No changes in 2018 and 2019. In 2020 there will be a mandatory blending of 8.5% renewable energy separately in diesel and gasoline. Sustainability must be proven.	Legislation permits the use of advanced biofuels if they are standardised or, if not, after government approval. Bio components that are eligible for double counting can only be used for up to 0.75% (physically).		Second generation or other biofuels with multiplication factors also have to be approved by the government on a case by case basis. Again, limited quantities will be approved and the blending is also limited to 1.5% (nominal!) This means for example with double counting, that only 0.75% will be allowed physically. As the blend obligation in the gasoline is 8.5v%, this automatically forces E10 on the Belgian market.	Belgian legislation is very complex and involves (worst-case scenario) 3 administrations: economic affairs, environment and finance. Further-more, the legislation is very focussed on physical blending and allows very few administrative transfers. This leads to a significant limitation of business with other EU countries. This is why the Belgian operators' advocacy is a "mandatory CO2 emission reduction on transport fuels, not regulated by the Member States but by the EU". Due to legislative uncertainty, legislation has changed in Q4 2015, permitting automat-ically all biofuels mentioned in Annex III of the RED (on case by case basis). This will lead to more flexibility in physical blending as well as in administrative transfers. Legislation on advanced biofuels: There is no specific legislation for advanced biofuels but current legislation allows it under certain conditions.
CROATIA	No tax incentives. Pure biodiesel, B100, has 100% tax incentive (excise duty = 0).	No tax incentives	Max. 7% vol FAME in diesel; Max 10% vol ethanol in gasoline, according to the Biofuels quality by law.	The National action plan stipulates the national targets for biofuels (for distributors) until 2020. Percentage of biofuels (energy share): 2013: 1.45% 2015: 3.31% 2017: 5.99% 2018: 7.12% 2019: 8.23% 2020: 9.18%	Advanced biofuels are not currently regulated by the Croatian legislation. A new Law on renewable energy and highly effective cogeneration was adopted in 2015 (entered into force from 2016), it was originaly meant to include amendments on advanced biofuels. Due to the complexity of the issue and some Ministry's priorities, it was decided that advanced biofuels and transposition of ILUC will be done through the revision of the Act on Biofuels for Transport.		By 31 January of each year, the supplier must report to the Ministry of Environment, Protection and Energy the fulfillment of its obligation for the previous year. If the supplier has not fulfilled the obligation, he is obliged to put on the market the obligatory amount for the current year plus the amount which had not been put in the previous year. If the obligation is not fulfilled for two consecutive years, distributors will pay an environmental fee of 0.088 HRK (0,012€/MJ), and an administration fine of 10,000 - 150,000 HRK (1,300-20,000€).	The law on Biofuels for Transportation was adopted in June 2009, and has since been amended several times. The National Action Plan (2011-2020) adopted in 2011 stipulates the national targets of Biofuels on the Croatian market for the next 10 years. Distributors are obliged to put on the market quantities according to the National Action Plan. As of 1 July 2013 biofuels placed on the Croatian market have to comply with Sustainability requirements according to the Renewable Energy Directive 2009/28/EC. Biofuels production was subsidised according to the Decision of State Aid Agency Program until 1 January 2015, after that biofuels prices are left to the market conditions. The revision of the Act on Biofuels for Transport is in preparation. It is expected to go live second half of 2018. The new Act will include and summarize the requirements of several Directives such as: RED I 2009/28/EC; FQD 98/70/EC and 2009/30/EC ; the implementa-tion of recent obligations from amendment of both directives through EU 2015/1513 ILUC Directive as well as (EU) 2015/652 on calculation methods and reporting requirements pursuant to FQD. In order to impose the obligation, more severe penalties for suppliers are foreseen in the new Act, for non-fulfilment of: biofuels blending obliga-tions and for GHG emission reduction as well.
CZECH REPUBLIC	No tax incentives for mandatory blended products. B30 and B100 decreasing tax advantage since 1.1.2016. The result is that B30 and B100 have disappeared from the market (too expensive).	No tax incentives for obligatory blending. E85 decreasing light tax advantage since 1.1.2016. The result is that E85 has disap-peared from the mar-ket (too expensive)	Yes (in % of total volume placed on the market). However, "high" blends (B30, B100, E85) do not count towards bio obligation. Therefore, in practice, there is in infor-mal blending obligation per litre.	Diesel: 6.0% Gasoline: 4.1%	Not regulated	Not regulated	All obligations are set by "Air Protection Act" no. 201/2012. Changes in Air pollution law and excise duty law dated 1.1.2016 caused big changes on the market. There are no more high bio blends (B30, B100, E85) on sale because of their price. There was a quite developed market for first generation based biofuels on locally based rapeseed oil and sugar beet. The main reason is the tax advantage was calculated (and approved by EU) on oil prices 2014, which were much higher than prices 2016+.	n.s.
ESTONIA	No tax incentives	No tax incentives	Yes	Proposed bio obligation based on energy content: 1.5.2017: 3.3% (in each litre) 2018: 6.5% (in each litre) 2019: 8% (6.5% in each litre, rest of the volume 1.5% can be traded) 2020: 10% (6.5% in each litre, rest of the volume 3.5% can be traded)	No limitations.	Yes, in case of biofuels made from waste, resi-dues, non-food cellulosic material, ligno-cellulosic material, the multiplication factor is 2.	First obligation will apply to RON 95 and diesel since 1.5.2017. RON 98 will be biofree.	The changed Liquid Fuels Act has been approved.
FINLAND	No tax incentives, but taxation is based on energy content and CO2-emissions. That will help the use of biofuels.	No tax incentives, but taxation is based on energy content and CO2-emissions. That will help the use of biofuels.	Yes	The required amount of biofuels is based on total up energy content of petrol and diesel. 2017: 12% 2018: 15% 2019: 18% 2020: 20%	No limitations.	Yes, in case of biofuels made from waste, resi-dues, non-food cellulosic material, ligno-cellulosic material, the multiplication factor is 2.	All biofuels must meet the requirements of the sustainability law based on the Renewable Energy Directive. The company must have an approved sustainability system.	Law on the sustainability of biofuels Law on the use of biofuels in transport Law on mineral oil taxitation
FRANCE	No tax incentives since 2016	No tax incentives since 2016	Yes	2017: Diesel: 7.70% (7% of biodiesel simple counting produced from vegetable oils and 0.35 % of double counting products as TME cat. 1 and 2 and UCOME). Non Road fuel: Since 1st January, volumes are eligible for 75% of the diesel requirement. Gasoline: 7.5% energy content between 6.90/7.00% simple counting and between 0.30/0.25% waste bioethanol double counting. 2018: Diesel: 7.70% (7% of biodiesel simple counting produced from vegetable oils and 0.35 % of double counting products as TME cat. 1 and 2 and UCOME). Non Road fuel: Since 1st January, volumes are eligible for 100% of the diesel requirement. Gasoline: 7.5% energy content between 6.90/7.00% simple counting and between 0.30/0.25% waste bioethanol double counting.	Yes, for Diesel: 0.35% of biodiesel and for Gasoline: 0.25/0.30% of biogasoline	Advanced biofuels are multiplied by 2	L'article 266 Quindecies du Code des Douanes 2017: Diesel must contain a minimum of 7.7% bio component → 7% of biodiesel/HVO simple counting produced from vegetable oils and 0.35 % of biodiesel produced from double counting (animal oil or used vegetable oil) Cat. 3 produced from animal fats are not subject to the 0.7% ceiling) and for the Non road fuel 75% requirement of diesel. Gasoline must contain 7.50% bio component → 7.50% split as flows 6.90/7.00% mandate for food crop base ethanol and 0.30/0.25% double counting ethanol (wine residues). 2018: Diesel must contain a minimum of 7.7% bio component → 7% of biodiesel/HVO simple counting produced from vegetable oils and 0.35 % of biodiesel produced from double counting (animal oil or used vegetable oil) Cat. 3 produced from animal fats are not subject to the 0.7% ceiling) and for the Non road fuel 100% requirement of diesel. Gasoline must contain 7.50% bio component → 7.50% split as flows 6.90/7.00% mandate for food crop base ethanol and 0.30/0.25% double counting ethanol (wine residues). 2017 Energy tax: Diesel: 69,19€cbm Non Fuel Road: 29€cbm Gasoline: 76,79€cbm 2018 Energy tax: Diesel: 76,17€cbm Non Fuel Road: 43,88€cbm Gasoline: 79,59€cbm	n.s.
GERMANY	No tax incentives since 2013	No tax incentives	Yes	From 2015, a greenhousegas-saving quota: 2015-2016: 3.5% 2017-2019: 4.0% From 2020: 6% From beginning of 2010 sustainabili-ty criteria have to be fullfilled. From 2018, a 6.5% cap (energy basis) on conventional biofuels. Conven-tional biofuels are defined as biofuels produced from cereal and other starch-rich crops, sugars and oil crops and from crops grown as main crops primarily for energy purposes on agricultural land. From 2020, a minimum percentage (energy basis) of advanced biofuels: 2020: 0.05% for entities released into consumption more than 20 Petajoule of fuels in the previous year 2021-2022: 0.1% for entities released into consumption more than 10 Peta-joule of fuels in the previous year 2023-2024: 0.2% for entities released into consumption more than 2 Peta-joule of fuels in the previous year From 2025: 0.5% for all obliged entities	The use of animal fats is not allowed.	There is no multiple counting since introduc-tion of the decarbonisa-tion system	Energy Tax: Diesel: 47.04 ct/l Gasoline: 65.45 ct/l. A German regulation for sustainability of biofuels came into force from 1.1.2011. Since 2012 biofuels which are made from animal fats or animal oil (total or partly) are not counted towards the bio quota. From 01.01.2018 further options to fulfill the greenhouse-gas-saving quota: - electric current used in road vehicles with electric drive - fossil CNG, LNG and LPG - PtX fuels	Obligation of yearly turnover. It is possible to assign surplus in the following year. If there is a shortage, it is allowed to buy "surplus" of another party, if not a penalty is payable.
HUNGARY	Diesel must contain minimum 4.9% energy content bio additive (FAME), no tax advan-tage on bio part.	Gasolines must contain minimum 4.9% energy content (ethanol), no tax advantage on bio part. E85 has practi-caly disapeared from Hungarian market.	Possible, but just for tax warehouses, if a special licence has been granted.	The energy content (4.9%) will remain until 1.1.2018.	Not regulated	For biofuel components made from waste the mul-tiplication factor is 2.	The bio ratio case of diesel and gasolines is calculated on a yearly average basis (sold quantity). If a distributor cannot reach the minimum energy content level, the penalty for the missing MJ would be 35 HUF/MJ (ca. 12 ct/MJ), according to the current regulation.	n.s.
IRELAND	No tax incentives	No tax incentives	Yes	2010: 5.75% 2020: 10%	Not regulated		From 1.7.2010, required 4.1666% (by volume) of the motor fuels placed on the market in Ireland must be produced from renewable sources (Ethanol and Biodiesel). This was increased to 6.383% (by volume) as of 1.1.2013. Also from 1.7.2010 there was a Biofuel levy of 2.00 cent per litre payable on all sales of biofuel and bioliquids into same market.	The Biofuel Obligation Scheme (BOS) was given effect in law by the Energy (Biofuel Obligation and Miscellaneous Provisions) Act 2010 (2). The National Oil Reserves Agency (NORA) is the body charged with administering the BOS. Under the terms of the National Oil Reserves Agency Act 2007 (Returns and Biofuel Levy) Regulations 2010 a Biofu-el Levy is payable on the sales of all Biofuels into the market.
ITALY	No tax incentives	No tax incentives	Biodiesel: blending up to 7% in re-tail market. Blending with 25% for the wholesale market. Bioethanol: blending up to 10% in retail market. Blending with 25% for the wholesale market	2015: 5% 2016: 5.5% 2017: 6.5% 2018: 7.0% of which at least 0.1% of advanced biofuels 2019: 8.0% of which at least 0.2% of advanced biofuels 2020: 9.0% of which at least 1.0% of advanced biofuels 2021: 10.0% of which at least 1.6% of advanced biofuels from 2022: 10% of which at least 2% of advanced biofuels	Biofuels produced from UCO and animal fats are not considered as ad-vanced biofuels.			Mandatory blending legislation reference is Decree 10.10.2014 and Decree 13.12.2017
LATVIA	No tax incentive up to 100% RME content. 100% bio - 100% tax incentive.	No tax incentive up to 70% Bioethanol content. Bioethanol content 70-85% - tax incentive approximately 70% from original excise.	Yes	2010: 5.75% (energy basis) 2020: 10% renewables (not only biofuels) in transportation. Mandatory blending: gasoline with RON 95 or more but less than 98 - 4.5-5.0%, gasoline with RON 98 and more - no bio blending, diesel - 4.5-5.0% with rapeseed methyl esther (RME)(excluding Arctic diesel with 0,1,2,3,4 classes - without bio). From 15.04.2018 Mandatory blending: diesel - 4.5-7.0% with rapeseed methyl esther (RME) in period 15.04.-31.10., also including Arctic diesels, if wholesaler/retailer will sell Artic diesels in period 15.04.-31.10.	Not regulated		Currently not allowed as biofuel for mandatory blending. For 2018: it is planned to replace existing Biofuel Law with Transport Energy Law. The main purpose is that Latvian laws and regulations must implement the norms arising from directives 2014/94/ES, 2009/28/EK, 2015/1513.	It is planned that legislation on advanced biofuels will be adopted in 2016 and come into force as of 2017-2018.
NETHERLANDS	Above 10% blending on energy basis	Above 10% blending on energy basis	Until 2014 with minimum 3.5%	1.1.11: 4.25% (energy basis) 1.1.12: 4.5% 1.1.13: 5.0% 1.1.14: 5.5% 1.1.15: 6.25% 1.1.16: 7.0% 1.1.17: 7.75% 1.1.18: 8.5% (conventional: 3%, advanced: 0.6%) 1.1.19: 12.5% (conventional: 4%, advanced: 0.8%) 1.1.20: 16.4% (conventional: 5%, advanced: 1%)		Double counting applies to biofuels that are produced from feedstocks that are mentioned in the Dutch Regulation Renewable Ener-gy in Transport. Annex 2: • Table 1: process waste or process residues, e.g. ani-mal fats cat. 1 and 2, used cooking oil, raw glycerin, waste wood; • Table 2: wastes or residues from agriculture, aquacul-ture, fishery or forestry; • Table 3: non-food cellulos-ic material and ligno-cellu-losic material. Article 3.8 of the Regulation describes which biofuels can be double counted.	Double counting is regulted by the Dutch Regulation on renewable energy in transport (art. 3.8). Changes to the current eligible feedstocks are under discussion. Fame is blended at terminals. There will be 3 types of renewable Energy units (HBE): Ad-vanced, Conventional, Other. Double counting for Conventional and Other (with certificate of sustainability)	Obligation of yearly turnover (Dutch volume sold including excise duty). System of Renewable Energy Units (HBE) Trading system: parties can trade shortage or surplus to fulfil own obligation.
SLOVAKIA	100% until 5% vol blend	100% until 7.05% vol blend of ETBE	Yes	Selling every litre with Vol-5% (accu-mulated) 2006: 2% (energy basis) 2007/2008: 2% 2009: 3.4% since 2010: 5.75% It is required to place on the market motor fuels with a biofuel content of at least a reference value calculated from the energy content of the total amount of motor fuels placed on the market a) 5.8% 2017 b) 5.8% 2018 c) 6.9% 2019 d) 7.6% 2020 e) 8.0% 2021 f) 8.2% 2022 to 2030	Not regulated		There is no ethanol in Slovakia but ETBE. The obligation to mix certain minimum quantities of sec-ond-generation biofuels into the fuel placed on the market. The fulfillment of this obligation was set on an annual basis for the years 2019 to 2030. a) 0.1% 2019 b) 0.5% 2020-2024 c) 0.75% 2025-2030	Up to 5 % vol for Biodiesel and 7.05 % volume for ETBE blending is without tax, above this percentage tax is payable. The excise duty reduction for biofuels is granted only to companies that operate as tax warehouses. Mandatory blending is calculated on the basis of the energy content of the total quantity of petrol and diesel fuels placed on the market. The amendment to the Act on the Promotion of Renewable Energy Sources and Highly Efficient Cogeneration (309/2009 Z. z.) has entered into force on 1.8.2017. The amendment brings several changes related to the transposition of EU directives, 2015/652 / EU and 2015/1513 / EU. In order to motivate business entities to produce second-generation biofuels, the fuel supplier has an obligation to include certain minimum quantities of second-generation biofuels into fuel for motor fuels. With the amendment, the definition of biofuels of non-biological origin is extended to bring this concept into line with Directive 2015/1513 / EU also for liquid or gaseous motor fuels from renewable energy sources of non-biological origin used in transport and whose energy content comes from other renewable energy sources like biomass. The concept of fuel has been specified for the purposes of the Act.
SLOVENIA	Biofuels for transport fuels in their pure form are exempt from excise duty. No tax incentives for blends.	Biofuels for transport fuels in their pure form are exempt from excise duty. No tax incentives for blends.	Yes	Regulated by two documents: a) National Regulation (Sustainability Criteria): Key regulation goal: 10% traffic emission cut till the end of 2020. Goals for Fuels Distributors: 2017: 4% emission cut 2018: 5% emission cut 2019: 5% emission cut 2020: 6% emission cut b) National Regulation (Renewable Fuels): 2017: min 6.2% of Alternative Fuels 2018: min 7.0% of Alternative Fuels 2019: min 8.4% of Alternative Fuels	Crops biofuels max 70% per year Min 0.5% Ad-vanced biofuels per year		The proportion of the annual quantity of biofuel may be reduced if the price of one or more of the highest daily biofuel prices on the stock exchange exceeds the amount of the daily stock exchange price of the mineral fuel with which the biofuel is mixed and the excise duty for that mineral fuel.	Since 1.9.2012 biofuels placed on the Slovenian market have to comply with Sustainability requirement according to the Renewable Directive 28/2009/EC. 2017: Price model regulated by the State still in use in Slovenia (for Mogas 95 and Diesel). New: From 2017 price model for Diesel include biocomponent price influence.
SPAIN	No tax incentives since 1.1.2013.	No tax incentives since 1.1.2013.	Compulsory annual targets since 2009.	Since 1.1.2016, there are no individu-al targets for gasolines and diesel. Compulsory annual targets are: 2016: 4.3% 2017: 5% 2018: 6% 2019: 7% 2020: 8.5% 7% cap on consumption for transport purposes in 2020 of biofuels pro-duced from certain food crops and crops on agricultural land (implemen-tation of Directive (EU)2015/1513)	An indicative target of advanced biofuels (0.1% in energy content for 2020) has been formally proposed.		Since 1.1.2016, sustainability requirements are fully applicable. A mass balance system is being applied to reported biofuels volumes, allowing traceability of sustainability characteristics. The introduction of the mass balance system has substantially complicated the reporting scheme and increased the number of cross-check errors, requiring yet more time and effort from companies. The Spanish certification system has become a questionable costly bureaucracy. The biodiesel quotas were eliminated in 2017. Double counting is still on the way to being approved. A definitive sustainability control system will be applied fore-seeably from 1.1.2019, substituting the responsible statement currently requested to the obligated parties by a sustainability verification report issues by an sustainability verification entity. Co-processed HVO is admitted towards the targets and is an element of competition distortion between refiners and the rest of obligated parties.	Real Decreto 1085/2015 & Orden Ministerial 2877/2008; Real Decreto 1597/2011 The obligation involves those that are required to maintain security stocks, that is, basically wholesale oil companies (sales between them excluded). Fulfilment of the obligation is guaranteed by means of a certification system (one certificate per toe). The possibility exists to buy and sell certificates as well as a limited possibility to transfer certificates to the following year. Biofuels must be blended within the EU in order to qualify for certificates. High penalties are imposed in case legal percentages are not reached. Involved companies are the only entities subject to penalties even if they have acted properly and are not responsible for the non-fulfilment of requirements.
SWITZERLAND	No tax incentives	No tax incentives	None. Free possibility to use bio components. If the bio product fulfills certain ecological (sus-tainability) criteria the tax exemption applies. For example the biofuel based product needs to be 40% better on ghg emission and should be max. 25% worse off on environmental damage than gasoline.	n.s.	Not regulated		In the foreseeable future there will be no marketable produc-tion sites for biodiesel and bioethanol in Switzerland. Only by special permission pilot production sites with capacities of up to 5,000 MT/a are allowed, total capacity for those sites limited to 15,000 MT/a. There already are two pilot production plants but as yet there is no production going on for lack of investors.	From 01.07.2008 Biofuels according to EC-Directive 2003/30/EC are exempt from mineral oil tax if they comply with certain sustainability criteria and non-competitiveness with (agricultural) foodstuff produc-tion. Biofuels from rape seed or sugar cane have to provide evidence of a positive ecological balance. There will be no tax exemption for Biofuels from palm oil, soy or crops.
UNITED KINGDOM	20 per litre duty deroga-tion on UCOME expired 31.3.2012	No tax incentives	Blenders are in a position to determine themselves how to meet the obli-gation % using varying quantities of biodiesel / bioethanol by choice.	2009/10: 3.25% 2010/11: 3.5% 2011/12: 4.0% 2012/13: 4.50% Since 2013/14: 4.7501% 2018: 7.25% 2019: 8.50% 2020: 9.75% This is followed by incremental in-creases, achieved by a development fuel sub target, so that by 2032 there will be 12.4%.	The development fuels target starts in 2019 at 0.1% and through incremental steps total 2.8% in 2032. Buy out of this target is £1.60 per litre. UCOME and tallow are not eligible for the development fuel sub target. Double counting will continue with a waste hierarchy being adopted to recognise feed-stocks.		30 per litre buy out price (penalty). UCOME and category 1 TME qualify for double counting. Biofuels must be independently audited as complying with acceptable sustainability standards (eg ISCC) before certifi-cates are awarded. Non-sustainable biofuels do not receive certificates AND are classed as mineral fuel for the purposes of calculating obligation. Gas Oil for use in non-road mobile machinery and inland waterway vessels is now also obligated at the same rate as petrol and diesel (4.7501%).	The renewable element of any partly renewable fuel (eg ETBE) is rewarded with certificates at the defined percentage (for instance, 37% of ETBE is classed as renewable and rewarded accordingly). The Government has decided to implement a sliding crop cap. This approach will limit the contribution from crop-based biofuels towards the renewables targets at 4% in 2018 and reduce the contribution from 2021 onwards to 3% in 2026 and 2% in 2032.

n.s. = not specified

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