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# Kann virtuell importiertes Biogas an die Schweizerischen Klimaziele angerechnet werden und Steuervergünstigungen erhalten?

Kurzstudie auf Englisch, erstellt durch Prof. T. Cottier der Universität Bern

**Auftraggeber:**
Bundesamt für Energie BFE, 3003 Bern

**Auftragnehmende:**
Prof. Thomas Cottier, World Trade Institute, Universität Bern

**Autoren/Autorinnen:**
Thomas Cottier
Tetyana Payosova
Iryna Polovets.

**Begleitung:**
Lukas Gutzwiller, Bundesamt für Energie BFE



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**Bundesamt für Energie BFE**
Mühlestrasse 4, CH-3063 Ittigen; Postadresse: CH-3003 Bern
Telefon +41 58 462 56 11, Fax +41 58 463 25 00
contact@bfe.admin.ch, www.bfe.admin.ch

# Can virtually imported biogas count towards climate targets of Switzerland and receive preferential tax treatment?

## Assessment of compatibility with the international legal climate change regime, WTO law, EU law and the Free Trade Agreement EEA–Switzerland

**December 23, 2014**

Prof. Dr Thomas Cottier, World Trade Institute,
University of Bern

Tetyana Payosova, MLaw
World Trade Institute, University of Bern

Iryna Polovets, MILE, LLM,
World Trade Institute, University of Bern

**Your contact person for the project:**

Tetyana Payosova

tetyana.payosova@iew.unibe.ch

**Scientific coordination:**

Prof. Dr Thomas Cottier

## Executive Summary

In current Swiss law, biogas as a product distinct from natural gas is recognised only if physically imported together with the molecular detection certificate for the imported quantities. Virtually imported biomethane (i.e. biogas fed into the existing natural gas pipeline network abroad) is treated as natural gas for the purposes of customs, taxation and climate change legislation. It does not benefit from the tax exemptions accruing to physically imported biogas.

This study analyses whether and to what extent it is possible, under the current legal framework of international and European law, including Swiss–European Union (EU) relations, to grant virtually imported sustainably produced biogas a tax treatment more favourable than that accorded to natural gas in light of its contribution to the reduction of carbon dioxide ($CO_2$) emissions.

The study concludes that differential taxation of imported natural gas and virtually imported biogas requires proof that the biogas was produced in a sustainable manner in line with Swiss law (for mineral oil tax) and that it contributed to $CO_2$ emission reductions in Switzerland (for $CO_2$ levy). This can be done based on guarantees of origin (GOs) that would follow the physical flow of the gas sold cross-border and would prevent any double-counting. GOs could include information on compliance with sustainability (environmental and social) requirements that are important to the Swiss legislator for the purposes of preferential tax treatment. Under the suggested model, GOs for biogas will not be traded separately. In terms of implementation of such a scheme, a coherent and mutually recognised system of GOs throughout Europe would be desirable. Coherent environmental and social sustainability requirements may be further negotiated between Switzerland and the EU. Finally, the recognition of the EU mass balance system in Switzerland would potentially be a very useful tool, as the suggested GOs scheme reflects the quantity credit mass balance system.

The recognition of virtually imported biogas would require a number of changes in the Swiss legislation (Mineral Oil Tax Act (MOTA) and the $CO_2$ Act), including recognition of biogas based on GOs at the point of importation, either for both customs purposes and for taxation purposes (the amounts of imported gas accompanied by the GOs would be accounted for as biogas), or only for taxation (similarly to sustainable biogas, the mixture of gases in the gas grid confirmed with biogas GOs would have a special statistical code). The implementation of the measures described seems to be possible through bilateral negotiations with the EU if the political and economic interest is in place. Alternatively, the measure may be enacted unilaterally defining appropriate criteria allowing for unilateral recognition and enforcement. Certain measures are also possible on a global scale (e.g. preparing an international standard for biogas, including relevant sustainability requirements). In order to ensure that emission reduction certificates (ERCs) following the virtual imports of biogas are transferred to Switzerland in accordance with the current international climate change framework, the most secure solution would be to conclude a respective agreement with the EU and other countries interested in exporting their biogas to Switzerland.

In this light, Option A (mineral oil tax and possibly $CO_2$ levy exemptions for *virtually* imported biogas based solely on GOs (with embedded sustainability criteria)) would potentially be possible to implement in the mid-term through changes in the respective Swiss legislation. To the extent that an international agreement on energy or other instruments, such as the revision of existing Mutual Recognition

Agreements, cannot be achieved in the foreseeable future with the EU, a policy based upon unilateral recognition of foreign GOs could be contemplated. Applying own standards of sustainability, a procedure for unilaterally recognising foreign GOs on a non-discriminatory basis could be introduced. This approach is in line with the unilateral introduction of the principle of Cassis-de-Dijon in Article 9a of the Swiss Federal Law on Elimination of Technical Barriers to Trade (THG).

Option B ($CO_2$ levy and mineral oil tax exemptions for *virtually* imported biogas based on certificates of origin linked with emission reduction units) seems to be preferable from the point of view of the Swiss climate change policy. Currently it is not possible to link ERCs to virtually imported biogas, since such certificates are not linked to the products produced in the respective emission-reducing projects. Unless virtually imported biogas is recognized as biogas for the emissions calculation purposes, based on GOs (and consequently considered to have a zero emissions factor for Swiss enterprises using it), transfer of emission reduction units can potentially be implemented through an agreement between the EU and Switzerland.

International law in general does not prevent the introduction of differential taxation for virtually imported biogas in comparison to physically imported natural gas. Compliance of such tax differentiation with the non-discrimination disciplines of WTO law will depend on its justification under Article XX(b) or (g). The existing differentiation in taxation of physical imports of natural gas and biogas implies that there is sufficient evidence to support justification. Differential taxation under Article 18 of the Switzerland–EEC FTA will depend on the overall coherence of the taxation scheme. Such a scheme should be operated in an objective, transparent and non-discriminatory manner. In addition, there is a possibility that the $CO_2$ levy exemption for biogas physically fed into the Swiss natural gas grid may qualify as a subsidy, although it is difficult to draw precise conclusions due to the absence of WTO practice on environmental subsidies. It should be noted that the Agreement on Subsidies and Countervailing Measures (ASCM) does not have any exception clauses similar to the General Agreement on Tariffs and Trade (GATT) Art. XX.

Swiss sustainability requirements could potentially be challenged at the WTO as a technical regulation under the Agreement on Technical Barriers to Trade (TBT Agreement) and Art. III:4 GATT, similarly to the sustainability requirements of the EU Renewable Energy Directive, which has been subject to a WTO complaint by Argentina. In a potential dispute, the Swiss sustainability requirements can be found to be in line with the TBT Agreement, if Switzerland can prove that they are necessary to fulfil its legitimate regulatory objectives and do not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade. In addition, Swiss sustainability requirements, as technical regulations, would fall under Art. 13(1) of the Switzerland–EEC FTA. To ensure compatibility of the Swiss sustainability requirements for biogas, they have to pass the proportionality test and to have a link to the objective pursued. These requirements must not cause arbitrary or unjustifiable discrimination between goods traded between the EU and Switzerland. Finally, Art. 6.2 of the TBT Agreement, which provides the basis for concluding an agreement mutually recognising existing standards, in our view, offers a legal basis for one of the implementation recommendations – namely, establishment of a transnational registration system for biogas entailing common and/or mutually recognised regulations and standards (GOs with sustainability requirements).

To sum up, we do not find any significant obstacles to implementing the GOs scheme for biogas by adjusting Swiss legislation accordingly. Recognition of virtually imported biogas based on GOs for the purposes of differential taxation would potentially be reflected in the MOTA and the $CO_2$ Act or in respective Ordinances. At the same time, transfer of emission reduction units to follow the virtually imported biogas potentially can be implemented through a future agreement between the EU and Switzerland.

The potential political risks from pursuing a legislative reform to extend differential taxation to virtual imports of biogas are unlikely to arise, as the promotion of biogas to contribute to the process of decarbonisation is a common goal of both the EU and Switzerland. Problems may occur if a future regime persistently discriminated against imports from third countries. Thus, the future potential system should be shaped in a manner to allow access to preferential treatment for all countries complying with the standards defined.

## Contents

## List of Abbreviations

| | |
|---|---|
| AAU | Assigned Amount Units |
| AB | Appellate Body |
| Art. | Article |
| ASCM | Agreement on Subsidies and Countervailing Measures |
| CER | Certified Emission Reduction |
| CHP | Combined Heat and Power |
| ECJ | Court of Justice of the European Union, European Court of Justice |
| ECR | European Court Reports |
| EEA | European Economic Area |
| ERU | Emission Reduction Unit |
| ETS | Emission trading scheme |
| EU | European Union |
| EZV | Eidgenossische Zollverwaltung (Swiss Federal Customs Administration) |
| FiT | Feed-in tariff |
| FOEN | Federal Office of Energy |
| FTA | Free Trade Agreement |
| GATS | General Agreement on Trade in Services |
| GATT | General Agreement on Tariffs and Trade |
| GHG | Greenhouse Gas |
| GO | Guarantee of origin |
| ILO | International Labour Organization |
| JI | Joint Implementation |
| MFN | Most-favoured nation |
| MOT Ordinance | Mineral Oil Tax Ordinance |
| MOTA | Mineral Oil Tax Act |
| npr-PPM | Non-product related process and production method |
| NT | National treatment |
| PTA | Preferential Trade Agreement |
| RES | Renewable energy sources |
| ROC | Renewable Energy Obligation |
| SECO | State Secretariat for Economic Affairs |
| SR | Directory of Swiss Law (Systematische Rechtssammlung) |
| TFEU | Treaty on the Functioning of the European Union |
| THG | Swiss Federal Law on Elimination of Technical Barriers to Trade |
| WTO | World Trade Organization |

# 1 Introduction

## 1.1 Background and Goals

Several recent political initiatives in Switzerland[1] call for differentiated treatment of imported biogas in comparison to imported natural gas. Switzerland's energy supply is to a large extent dependent on energy from abroad – about 80% of the primary energy sources are imported. Natural gas plays an important role in energy security: its share in the Swiss total primary energy supply reached 12% in 2010.[2] As natural gas is not extracted domestically, Switzerland imports it from Germany, the Netherlands, France and Italy, also taking into consideration its environmental impact profile (natural gas has a smaller $CO_2$ emissions coefficient than other fossil fuels[3]).

In the Swiss electricity sector, about 60% of electricity in 2012 was produced from renewable energy sources, mainly from hydropower. Electricity from solar, biomass, biogas, wind and waste accounted for only 3%. Generation of electricity from Swiss nuclear power plants still plays a key role in the Swiss energy mix ,with an average share of 39% over the last ten years. On 25 May 2011, the Swiss Federal Council decided in favour of a gradual halt to the use of nuclear power. Given this background, there is likely to be a trend towards an increased demand for natural gas and biogas, which almost exclusively come from abroad. Electricity and heat production from biogas will be also important for meeting Swiss $CO_2$ reduction targets.[4]

The European Biomass Association confirms that upgraded biogas (biomethane) can be successfully used not only for electricity or combined electricity–heat generation, but also for heating and cooling, as well as a transport fuel. For instance, modern biogas cogeneration plants have reached a parity of heat and electricity output (one kW electric for every kW thermal power). Biomethane used as transport fuel also offers a number of advantages in comparison with natural gas, petrol and diesel. For

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1 Postulat 11.3441 vom Dominique de Buman, *Import von Biogas. Weg mit den administrativen und steuerlichen Hürden*, 14.04.2011; Motion 11.4198 vom Dominique de Buman, *Hürden beim Biogasimport abbauen*, 23.12.2011.

2 IEA, *Oil and Gas Security. Emergency Response of IEA Countries. Switzerland*, 2012, available at: http://www.iea.org/publications/freepublications/publication/Oil&GasSecuritySwitzerland2012.pdf (accessed on 25. 07.2014).

3 US Energy Information Administration, *Carbon Dioxide Emissions Coefficients by Fuel*, available at: http://www.eia.gov/environment/emissions/co2_vol_mass.cfm (accessed on 25.07.2014).

4 BFE, *Internationaler Biogasmarkt im Brennstoffbereich. Bericht in Erfüllung des Postulats 13.3004 (UREK-N)*, August 2014, at 4-5.

instance, it has very favourable combustion properties that help to reduce emissions of nitrogen oxides and reactive hydrocarbon by up to 80% compared to petrol and diesel.[5]

While Switzerland also produces biogas, biogas imports, primarily from the neighbouring countries, will play an important role in the future due to higher production potential in these countries. However, Swiss customs' authorities recognize biogas as a product distinct from natural gas only if it is *physically imported* together with the molecular detection certificate for the imported quantities.[6] Notably, for such distinct import, biomethane has either to be liquefied (in order to be transported by road or rail), or new pipelines have to be constructed, and neither option is either economically or environmentally sound. When biomethane is fed into the existing natural gas pipeline network abroad and *virtually* imported into Switzerland,[7] it is counted as natural gas for the purposes of customs, taxation and climate change legislation. Consequently, it also falls under the scope of MOTA and of the $CO_2$ Act as a fossil fuel.

## 1.2 Assignment

We have been asked to examine whether and to what extent it is possible to ensure that *virtually* imported biogas would be treated differently from natural gas (i.e. the same way as physically imported biogas), both when it is used for electricity/heat generation and as a transport fuel for facilitating imports of biogas into Switzerland.

The key overarching question to be addressed is what legal framework conditions are necessary to ensure the same treatment for virtually imported biogas (biomethane) and physically imported biogas and thus to distinguish its treatment from that accorded to natural gas. These framework conditions have to be considered from the perspectives of both Swiss domestic legislation and of international law.

The commissioner outlined several questions to be analysed:

- The regulatory framework for virtual imports of biogas to Switzerland to ensure tax exemptions (under the MOTA and the $CO_2$ Act), including:

[5] European Biomass Association, *A Biogas Road Map for Europe*, available at: http://www.aebiom.org/IMG/pdf/Brochure_BiogasRoadmap_WEB.pdf (accessed on 25.06.2014).

[6] Antwort auf das Postulat von de Buman Dominique, 11.3441, *Import von Biogas. Weg mit den administrativen und steuerlichen Hürden*, available at: http://www.parlament.ch/d/suche/seiten/geschaefte.aspx?gesch_id=20113441 (accessed 10.09.2014).

[7] We refer to the virtual imports, as biogas after being fed into the gas pipeline is mixed with natural gas and cannot be physically distinguished from the latter at the moment of importation.

- Minimal environmental requirements according to Article 19*b* MOTA and social requirements according to Article 19*d* MOTA should also apply to virtually imported biogas and monitoring compliance should be possible for Switzerland;
- The possibility of incorporating mass balance system requirements in the Swiss legislation;
- Use of certificates of origin (also to avoid double-counting) and options for their implementation;

➢ Recourse to emission rights as a confirmation for counting towards the $CO_2$ emission reduction targets in Switzerland.

➢ Implementation options for the counting of foreign emission rights towards domestic $CO_2$ emission reduction targets in Switzerland (possibility of linking certificates of origin with the emission allowances/emission reduction units; option of the bilateral Switzerland–EU ETS Agreement).

The differentiation of the tax regime for virtually imported biogas and for natural gas will be analysed in light of Switzerland's existing international trade law obligations under the WTO agreements and its bilateral agreements with the EU. Tax exemptions for *virtually* imported biogas, based on certificates of origin and compliance with environmental and social sustainability criteria, entail a number of issues similar to those affecting the imports of 'green' electricity which, due to its physical characteristics, can only be imported virtually. First, we will address the question of classification of biogas (biomethane), for the purposes of international trade, as an industrial or an agricultural good. Second, we will turn to the question of differentiated taxation of physically and virtually imported biogas and natural gas. We see two possible options for such differential taxation:

- Option A: $CO_2$ levy and mineral oil tax exemptions for *virtually* imported biogas based solely on certificates of origin (with embedded sustainability criteria);
- Option B: $CO_2$ levy and mineral oil tax exemptions for *virtually* imported biogas based on certificates of origin linked with emission reduction certificates.

Here, to the extent possible, we will refer to and build upon the legal analysis in our two previous studies for the Swiss Federal Office for Energy on differentiated taxation of electricity.[8] We will analyse the possibilities of introducing certificates of origin for biogas either as private standards (e.g. based on the existing European biogas registry) or as governmental requirements. A possible certification scheme has to be compatible with the WTO Agreement on Technical Barriers to Trade (TBT Agree-

[8] Thomas Cottier at al., *Differential Taxation of Electricity: Assessing the Compatibility with WTO Law, EU Law and the Swiss-EEC Free Trade Agreement*, WTI / Heuking Kühn Lüer Wojtek, available at: http://www.efv.admin.ch/e/downloads/finanzpolitik_grundlagen/els/Differentiatial%20_Taxation_e.pdf?lang=de&msg-id=50122 (accessed 10.09.2014); Thomas Cottier at al., *CO2 Tax or Tariff on Imported Electricity*, WTI / Heuking Kühn Lüer Wojtek, available at: http://www.bfe.admin.ch/themen/00526/00527/index.html?lang=de.(accessed 10.09.2014).

ment). Also the sustainability criteria for biofuels envisaged in the EU and Switzerland will be given due consideration.

The commissioner provided us with the following documents:

- Schweizerischer Verein des Gas- und Wasserfaches, G13. Richtlinien für die Einspeisung von Biogas, vom Januar 2008.

## 1.3 Approach of the analysis

The current study will examine whether and to what extent it is possible to ensure that *virtually* imported biogas is treated differently from natural gas, both when it is used for electricity/heat generation and as a transport fuel. This will be analysed both in terms of Swiss domestic climate change legislation ($CO_2$ Act and $CO_2$ Ordinance) and the Mineral Oil Tax Act (MOTA) with respective Ordinances, as well as relevant EU legislation, especially in the context of recent developments of the EU legislation for biofuels and renewable energy taxation. For this purpose, the best practices of the EU Member States will be considered, to ensure coherent certification of origin for biogas.

The second step will be to consider whether and how it is possible to count emission reductions from biogas imported into Switzerland towards domestic climate targets in Switzerland. In this respect we will address recent developments of the international legal climate change regime. We shall analyse whether an option to link certificates of origin with ERCs is compatible with the Kyoto Protocol mechanisms and whether it is in line with the climate change related obligations of Switzerland and the EU.

As a third step, we will address the possibility of differential taxation for *virtually* imported biogas and for natural gas. Such differential treatment may raise a number of questions in light of Switzerland's international trade obligations. The same is true for the introduction of certificates of origin for biogas. In particular, we discuss the compatibility of the policy under analysis with the 1972 Free Trade Agreement between Switzerland and EEC, EU law, as well as Switzerland's WTO obligations. Finally, we provide concise legal conclusions, as well as a political risk assessment in order to facilitate the political debate on the policy options envisaged.

# 2 Status of biogas in Switzerland

## 2.1 Production of and trade in biogas in Switzerland

Switzerland is pursuing ambitious targets for greenhouse gas emissions reduction. In the first commitment period under the Kyoto protocol (2008–2012), Switzerland agreed to an emission reduction target of 8% compared to 1990 emission levels (similarly to the EU). In 2012, Switzerland set the goal of achieving a 20% reduction of greenhouse gas emissions by 2020. The achievement of this target depends to a large extent on the use of various renewable energy sources. Thus, Switzerland is trying to support production and use of renewable energy to the utmost extent possible. The share of renewable energy in final consumption in 2013 amounted to 21.1%, of which biogas merely contributed 0.25%. While the share of renewable energy in the final consumption through the use of electricity is considerable (56.8%), it remains rather low for generation of heat (17.6%). Biogas will increasingly play an important role as a substitute for natural gas in electricity and heat generation as well as for fuelling gas-fired automobiles. According to the Swiss biogas plant inventory, as of 2013 there were 96 biogas plants in the agricultural sector, 29 plants in industry, 22 in the industrial water treatment sector and 288 wastewater treatment plants.[9]

Due to a limited capacity for biogas production in Switzerland, import of biogas remains an attractive option.

## 2.2 Tariffs and taxation of biogas

For customs purposes, biogas is classified under the tariff lines “other”:

- 2711.19 when liquefied, and
- 2711.29 when in gaseous form.

For the purposes of this study, the tariff line 2711.29 is of key importance, as we will discuss virtual imports of biogas (i.e. mixed with natural gas through natural gas pipelines). Currently Switzerland does not apply any tariffs to physically imported biogas. While there are no tariff barriers for import of biogas, foreign biogas, similarly to domestically produced biogas, has to comply with the minimum environmental and social sustainability criteria (addressed below) in order to qualify for a preferential tax regime (namely, the mineral oil tax). In this light we will discuss the modalities of taxation of biogas in the next section.

Internal taxation of biogas in Switzerland depends on its final use:

[9] Bundesamt für Energie, *Schweizerische Statistik der erneuerbaren Energien*, Ausgabe 2013, Vorabzug, Juni 2014. The statistics also include sewage water treatment plants.

- If biogas is used as a motor fuel, it falls under the MOTA.[10] Under the MOTA system, a fuel qualifies as a motor fuel when it is used to drive a combustion engine (e.g. in cars or combined heat and power (CHP) power plants). Fuels that are used for heat generation are not considered to be motor fuels.

- As will be explained below, biogas as a motor fuel qualifies for mineral oil tax exemption only when it complies with environmental and social sustainability requirements;

- Biogas as a heating fuel does not fall within the scope of MOTA (which deals only with motor fuels). Also, it does not fall within the scope of the $CO_2$ Act, which applies only to fossil fuels.[11]

### 2.2.1 Mineral Oil Tax Act (MOTA) and its framework conditions for biogas

MOTA[12] (also referred to as the Petroleum Act) introduced a mineral oil tax on crude oil, other mineral fuels, natural gas and products obtained through their refinement, and motor fuels, as well as a surcharge on motor fuels.[13] According to Art. 3 of the MOTA, manufacturing, production and imports of the products mentioned are subject to the mineral oil tax. Depending on their use fuels are, or can be, exempted from the mineral oil tax, e.g. fuels that are used for research purposes.[14]

Due to changes in the fuel market, the MOTA was amended in 2008. Accordingly, biofuels, including biogas, are exempted from the mineral oil tax if they comply with a number of sustainability criteria.[15] The Swiss Federal Council defines the quantities of biogas (both domestic and imported) that can benefit from tax exemption depending on the volumes of domestic production.[16] Both domestic and foreign biofuels have to comply with the listed environmental and social requirements in order to qualify

[10] Art. 2(1)(d) of the Mineral Oil Tax Act (SR 641. 61 Mineralölsteuergesetz vom 21.06.1996) (in this legal opinion referred to as MOTA).

[11] SR 09.067, Botschaft über die Schweizer Klimapolitik nach 2012 (Revision des CO2-Gesetzes und eidgenössische Volksinitiative „Für ein gesundes Klima“ vom 26. August, 2009), at 7489.

[12] SR 641. 61 Mineralölsteuergesetz vom 21.06.1996.

[13] Art. 1 of the MOTA.

[14] Art. 17(1)(b) of the MOTA. See also Weber, at 206-207: fuels that are used by aircraft for their regular services are exempted from the mineral oil tax by the Swiss Federal Council based on Art. 17(2)(a) of the MOTA. See also: EZV, Treibstoff für die Versorgung von Luftfahrzeugen, available at: http://www.ezv.admin.ch/zollinfo_firmen/04020/04256/04263/04518/index.html?lang=de (accessed 8.09.2014).

[15] Art. 12*b* of the MOTA.

[16] Art. 4 (1) and Annex 4 of the Verordnung des EFD über die Steuerbegünstigungen bei der Mineralölsteuer (SR 641.612, vom 22. November 2013). In practice the quantities of biogas subject to mineral oil tax free regime are sufficiently high not to cause any restrictions on imports.

for a tax exemption.[17] The mineral oil tax rates under MOTA vary considerably and for some types of fuels they reach almost 500 CHF per 1000 litres. By way of comparison, a tax rate for liquefied natural gas is currently set at 220.50 CHF per 1000 litres (at 15 °C), while the rate for natural gas in gaseous form amounts to 222.20 CHF per 1000 kg. For biogas that does not comply with the sustainability requirements, the tax rate respectively is set at 215.00 CHF per 1000 litres of liquefied biogas (at 15 °C) and 222.20 CHF per 1000 kg of biogas in gaseous form. Biogas that complies with sustainability requirements is exempted from the mineral oil tax.

The difference between the tax rates for sustainable and non-sustainable biogas does make compliance with sustainability requirements quite attractive. Notably, currently only physically imported and not *virtually* imported (i.e. through a natural gas pipeline) biogas qualifies for mineral oil tax exemption. Virtually imported biogas is counted as natural gas at the point of importation and thus is taxed according to the rates set for natural gas.

For (physically) imported biogas, a tax declaration has to be submitted along with a customs declaration at the point of importation in Switzerland.[18] Every domestic producer of biogas in Switzerland is obliged to obtain a permit from the Swiss Directorate General of Customs (Oberzolldirektion) for the generation of biogas. Procedures for issuing a permit vary, depending on whether biogas is produced for sale, for own consumption or for electricity generation. If the producer wishes to qualify for a tax reduction, an additional proof of compliance with sustainability requirements must be submitted to the Swiss Directorate General of Customs. This can be done by filling out the form 45.85 both for domestic producers and importers. Table 1 provides an overview of the authorization procedure for biogas production in Switzerland.

**Table 1. Authorization of a biogas producer in Switzerland[19]**

| | **Production of biogenic fuels in Switzerland for …** | | |
|---|---|---|---|
| | **Sale** | **Own consumption** | **Electricity generation** |
| Authorization procedures: | Regular procedure | Short procedure | Short procedure |
| Application: | Application with a letter<br><br>Recommendations for the application as a producer (if it qualifies for compliance | Application with a form<br><br>Form 45.92 (currently not available) | Application with a form<br><br>Form 45.91 (in- |

[17] Art. 12*b*(3)(b) of the MOTA.

[18] Art. 19(1) of the MOTA.

[19] This table is based on the table provided by the Swiss Federal Customs Administration at: http://www.ezv.admin.ch/zollinfo_firmen/04020/04256/04263/04530/05014/index.html?lang=de (accessed 8.09.2014).

| | | | |
|---|---|---|---|
| | with sustainability criteria an additional form 45.85 has to be submitted) | | cludes data on producer, type of biofuel, production facilities and general information on compliance with sustainability criteria) |
| Proof | Proof of compliance with environmental and social requirements | Proof of compliance with environmental and social requirements | Proof of compliance with environmental and social requirements |
| Periodical reporting and tax declarations: | Form 45.25 (information on inventory, receipt and outcome has to be submitted on the 12th day of each month) | Form 45.26 (annual declaration for liquid biofuels) | Form 45.27 (currently not available) |

### 2.2.2 Environmental and social sustainability requirements as a precondition for tax reduction

A tax reduction or exemption under the MOTA can be granted only if biofuels comply with sustainability requirements. This rule is further elaborated in the MOT Ordinance. First, the Ordinance clarifies which fuels qualify as fuels from renewable sources and explicitly includes biogas in the list.[20] Second, it explains in detail which sustainability requirements have to be met for tax exemption.[21] Sustainability requirements can be subdivided into two categories: environmental minimum requirements and social minimum requirements.

Environmental requirements aim at achieving a positive environmental balance from the use of biofuels. These requirements are met if:

- biofuels cause at least 40% less greenhouse gas emissions than gasoline from fossil fuels throughout their full life cycle, from cultivation to consumption;
- biofuels do not create a greater burden to the environment than fossil fuels throughout their full life cycle from cultivation to consumption (with 25% tolerance[22]);
- the cultivation of renewable raw materials for the production of biofuels does not endanger rainforests and biological diversity.[23]

[20] Art. 19*a*(2)(c) of the MOT Ordinance.

[21] Art. 19*b*-19*h* of the MOT Ordinance.

[22] EZV, *Treibstoffe aus erneuerbaren Rohstoffen (biogene Treibstoffe). Nachweis ökologische uns soziale Mindestanforderungen*, 1. Juni 2014.

Where biofuels are produced in accordance with state of the art technology and use waste or residues from agricultural or forestry sectors as an input raw material, it is presumed that environmental requirements are met.[24] In this case there is no need to submit the environmental balance information, and a simple proof that biogas was produced exclusively from waste or residues is sufficient.[25] For instance, input raw materials used for biogas production will be considered as waste or residues if (i) they fall under one of the three categories (A–C) of the Positive List of the Swiss Directorate General of Customs, or (ii) constitute materials without any economic value or (iii) are materials of low value which are usually not used as a foodstuff. The three categories mentioned under the positive list are:

A waste or residues without any further requirements;

B waste or residues without economic value (some additional criteria are possible according to the table included in the positive list);

C waste or residues with economic value, when they comply with a number of set requirements.[26]

At the same time, there is a negative presumption, i.e. a presumption of non-compliance, when biofuels are produced from palm oil, soya or grain. In this case the applicant (producer or importer) can still prove that, notwithstanding the use of these input raw materials, the biofuel complies with the requirements of positive environmental balance according to the MOTA. Data that confirms compliance has to be submitted along with the first tax declaration to the Swiss Customs Directorate General. The modalities of such compliance are determined by the Swiss Federal Department for Environment, Transport, Energy and Communication.[27] Both in cases of a negative presumption and of an ordinary application (where raw materials other than waste and residues, as well as palm oil, soya and grain are used), a simplified procedure can be used, as long as the applicant can show that biogas was produced according to national legislation or meets a recognized standard, which is fully or partly equivalent to the positive environmental balance requirements.

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[23] Art. 19*b* (1) of the MOT Ordinance. As FOEN is responsible for evaluating compliance with the positive environmental balance requirements, it issued an additional Regulation explaining the exact environmental requirements: SR 641.611.21, Verordnung des UVEK über den Nachweis der positive ökologischen Gesamtbilanz von Treibstoffen aus erneuerbaren Rohstoffen vom 3. April 2009 (Stand am 1. Januar 2014) (Regulation on confirmation of positive environmental balance of fuels from renewable raw materials (RPEB)).

[24] Art. 19*b* (2) of the MOT Ordinance.

[25] *Ibid.*

[26] See Section 3.1.2.1, EZV, *Biogene Treibstoffe*, fn 22 above. A positive list of the Swiss Directorate General of Customs a detailed list of waste and residues subdivided into categories A through C: see the latest version of the *Liste der Stoffe, die im Sinne der MinöStV als biogene Abfälle oder Rückstände gelten* (Positivliste OZD), available at: http://www.ezv.admin.ch/zollinfo_firmen/04020/04256/04263/05757/index.html?lang=de (accessed 10.09.2014).

[27] Art. 19*c* (5) of the MOT Ordinance.

According to the Federal Office of Energy (FOEN), there are three categories of standards and foreign legislation with respect to requirements under Art. 19*b* (1) of the MOT Ordinance:

- fully recognized (equivalent requirements);
- partly recognized (partly equivalent requirements);
- not recognized.[28]

Most of the standards and legislation so far assessed by FOEN include an equivalent of only one of the three requirements mentioned above, namely the requirement on preservation of rainforests and biological diversity. The other two criteria usually do not constitute a part of other existing standards and therefore are assessed by FOEN in each case based on the data submitted by the producer/importer of biogas. So far FOEN has assessed six foreign standards and came to the following conclusions with respect to their equivalence to Swiss environmental sustainability requirements (Table 2):

| **Standard** | **Fully recognized** | **Partly recognized** | **Not recognized** |
|---|---|---|---|
| Bonsucro (EU Certificate) | | +[1] | |
| Cross Compliance | | + | |
| GLOBALG.A.P. | | +[1] | |
| Nordic Ecolabel | | +[1] | |
| EU Directive 2009/28/EC (RED) | | +[1] | |
| Roundtable on Sustainable Biofuels (RSB) (EU) | | +[2] | |

[1] The applicant should prove that no mass balancing method has been used (as mass balance system is not recognized in Switzerland).

[2] If Chain of Custody System "identity preserved" has been used.

Where foreign standards are partly recognized, some of the documents that accompany an application do not have to be filled out, thus simplifying the whole procedure.

While FOEN is responsible for evaluating compliance with the environmental sustainability requirements, the State Secretariat for Economic Affairs (SECO) is responsible for assessment of compliance with minimum social requirements. Social requirements mean that biofuels have to be produced in socially acceptable production conditions. Compliance with the applicable social legislation, or at least

[28] BAFU, Anerkennung von Normen und Standards für den vereinfachten Nachweis gemäss Art. 10 TrÖbiV, März 2012.

with the key International Labour Organization (ILO) Conventions, is also required throughout the life cycle of biofuels – from the cultivation of raw materials to the production of biogas.[29] The key ILO Conventions deal with the right to gatherings and to collective bargaining, prohibition of forced labour, child labour and discrimination in employment and occupation.[30]

Based on the application submitted for a confirmation number supported by the documentary evidence of positive environmental balance and compliance with social minimum standards, the Swiss Directorate General of Customs decides together with FOEN[31] and SECO[32] whether the tax reduction is to be granted. In the case of an affirmative decision, the applicant (producer /importer) receives a confirmation number. Where evidence of environmental sustainability is not required (in the case of presumption of compliance), the Swiss authorities check only compliance with social requirements. Thus, if the social conditions of biofuel production or the raw materials used change, the applicant is obliged to inform the Swiss Directorate General of Customs anew. For each foreign producer/importer a separate confirmation number is issued for each raw material used in the production process. The confirmation number is valid for four years from the date of issue.

Somewhat special procedures apply when biogas is fed into a natural gas network domestically in Switzerland. According to Article 45d of the MOT Ordinance, biogas has to be notified through an online platform to the Swiss Clearing Office[33] if it complies with the requirements of the Guidelines G13 as of January 2014 of the Swiss Association of Gas and Water Industry and is fed into the gas grid through a fixed connection and measured accordingly, or when it can be used as a motor fuel directly sold at the biogas station. In this case, the tax declarations are also submitted to the Clearing Office. According to the definition of the Swiss Gas and Water Industry Association, which provides industry guidelines on feeding-in biogas into the gas grid, biogas is a gas that has been produced from biomass, is in compliance with the Guidelines G-13[34] and is fed into the gas grid through a fixed connection. At the same time, it clarifies that only physical feeding into the natural gas grid is covered by the Guidelines, not the virtual action (e.g. through trade with certificates). Annex 5 to the G13 Guidelines provides a more detailed explanation on feeding in of biogas into the gas grid for the purposes of implementation of the legislation on mineral oil tax (the Act and the Ordinance). It specifies that to ensure transparent trade in biogas, the MOT Ordinance requires the establishment of a respective Clearing Office. It also sets quality requirements for biogas and for entry points for gas.[35] All commercial book-

[29] Art. 19*d* of the MOT Ordinance.

[30] See Sec. 3.2, EZV, Biogene Treibstoffe, fn. 22 above.

[31] Decides on compliance with positive environmental balance requirements.

[32] Decides on compliance with minimum social requirements.

[33] Clearing Stelle: Erdgas Biogas: https://www.biogasclearing.ch/ (accessed 10.09.2014).

[34] Schweizerischer Verein des Gas- und Wasserfaches, G13. Richtlinien für die Einspeisung von Biogas, Januar 2008, p. 9.

[35] Art. 45 (d) of the MOT Ordinance.

keeping and billing can be performed only through the Clearing Office. The G13 Guidelines foresee the following conditions for biogas producers in Switzerland to feed their biogas into the grid and to make use of the preferential tax regime:

- producers must comply with Guidelines G13 and be connected to the gas grid;
- biogas is fed into the gas grid through a permanent connection and respectively measured;
- biogas complies with minimum sustainability requirements (both environmental and social) according to Art. 19*b* and Art. 19*d* of the MOT Ordinance;[36]
- producers hold a permit for a generation facility issued by the Swiss Directorate General of Customs;
- the producer has to submit a quantity declaration for the biogas that has been fed in.

One of the key tasks of the Clearing Office is to ensure quantity balance, so that consumers can be sure that the quantity of biogas they bought was indeed fed into the gas grid.

Apart from preferential tax treatment, biogas that was fed into the natural gas grid and is used for electricity generation, according to Energy Regulation,[37] currently qualifies for a feed-in tariff.

Like domestic producers of biogas, importers of biogas also have to inform the Clearing Office about all amounts of imported biogas (again only physical import counts).[38]

### 2.2.3 Application of the $CO_2$ Act to biogas

The $CO_2$ Act is a key instrument of climate change legislation in Switzerland. Apart from setting emission reduction targets, the $CO_2$ Act of 2013 established an enhanced system of measures aiming at reduction of greenhouse gas emissions. The Act differentiates between industries based on their energy intensity and imposes on them a number of obligations. The Act foresees different measures for different actors: a $CO_2$ levy, or binding emission reduction targets, or participation in the Emission trading scheme (ETS) or a system of compensation for $CO_2$ emissions. Furthermore, the $CO_2$ Act lays the

[36] Annex 5 to the G13. Richtlinien für die Einspeisung von Biogas, see fn. 34 above, p. 28.

[37] Art. 3 of the Energy Ordinance (SR 730.01, Energieverordnung vom 7. Dezember 1998) with a reference to Art. 7*a* of the Energy Act (SR 730.0, Energiegesetz vom 26. Juni 1998).

[38] Art. 45d of the MOT Ordinance.

foundation for the Swiss ETS.[39] Provisions of the $CO_2$ Act are detailed in the Ordinance on the Reduction of $CO_2$ Emissions ($CO_2$ Ordinance).[40]

A basic rule is that the $CO_2$ levy applies to fossil fuels, i.e. coal, as well as other combustibles that are subject to mineral oil tax according to the MOTA[41] (namely crude oil, natural gas etc.). Biogas as renewable energy clearly falls outside the scope of the $CO_2$ Act. However, when biogas is imported *virtually* through a natural gas grid, it is counted as natural gas for customs and taxation purposes. Thus, virtually imported biogas would be subject to the same $CO_2$ levy as natural gas at the rate of 153.60 CHF/1000 kg for natural gas in gaseous form[42] and to a mineral oil tax at the rate of 2.10 CHF/1000 kg for natural gas in gaseous form.[43]

Different economic actors importing or using imported natural gas (or virtually imported biogas) would have to comply with different measures according to the $CO_2$ Act depending on their area of activity and their size. Where additional measures are foreseen, the $CO_2$ Act provides for reimbursement of the $CO_2$ levy. Thus, the $CO_2$ levy is reimbursed in the following cases:

- for enterprises participating in the ETS (Article 17 $CO_2$ Act and Annex 6 to the $CO_2$ Ordinance);
- for fossil thermal power plants $CO_2$ (only with respect to a levy on combustibles) (Article 25 $CO_2$ Act);
- upon a request of the actors that can show that combustibles or motor fuels have not been used for energy purposes (Article 31(1)(a) $CO_2$ Act);
- enterprises in certain economic sectors, if they undertake a binding obligation towards the Swiss Confederation to reduce their emissions to a certain level by 2020 and to report annually (Article 31(1)(b) $CO_2$ Act and Annex 7 to the $CO_2$ Ordinance).

The big fossil thermal power plants are reimbursed the $CO_2$ levy on combustibles, as they have to compensate for their $CO_2$ emissions through the following measures (specific modalities are detailed in the $CO_2$ Act and the $CO_2$ Ordinance):

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[39] For a detailed analysis of the $CO_2$ Act see the *Legal Opinion on $CO_2$ Levy and Tariffs on Imported Electricity*, available at: http://www.bfe.admin.ch/themen/00526/00527/index.html?lang=de (accessed 10.09.2014).

[40] SR 641.711, Verordnung über die Reduktion der CO2-Emissionen (CO2-Verordnung) vom 30 November 2012.

[41] See Art. 2(1) MOTA.

[42] Annex 11 of the $CO_2$ Ordinance.

[43] Annex 1 to the Verordnung des EFD über die Steuerbegünstigungen bei der Mineralölsteuer (SR 641.612, vom 22. November 2013).

- emission reduction projects in Switzerland, which fulfil all the criteria according to Art. 5 of the $CO_2$ Ordinance, namely the criteria of additionality;[44]
- investment in production of electricity or heat from renewable energy sources;
- replacing existing fossil heat sources with heat produced by the power plant and directly extracted;
- confirmation of the emission reductions in Switzerland, and
- provision of ERCs, whereas ERCs from abroad can be accepted only for compensation of up to 50% of the $CO_2$ emissions according to Art. 22 (2) $CO_2$ Act.[45]

[44] Art. 83 of the $CO_2$ Ordinance. See also BAFU, *Projekte zur Emissionsverminderung im Inland. Ein Modul der Mitteilung des BAFU als Vollzugsbehörde zur $CO_2$-Verordnung*, 2013, available at: http://www.bafu.admin.ch/publikationen/publikation/01724/index.html?lang=de (accessed 25.05.2014).

[45] BAFU, *Verordnung über die Reduktion der $CO_2$-Emissionen ($CO_2$-Verordnung). Erläuternder Bericht*, Art. 83.

# 3 Overview of EU law, national laws of selected EU countries

## 3.1 Biofuels Regulation in the EU and Selected Jurisdictions: General Overview

The EU biofuel regulation comprises several main directives. First, the Directive 2003/30/EC on the promotion of the use of biofuels or other renewable fuels for transport and for promotion of a biofuels market in the EU set a voluntary reference target of 2% biofuel consumption on the basis of the energy content by 2005 and 5.75% by 31 December 2010. It obliged Member States to set national indicative targets for the share of biofuels in energy consumption in line with the reference percentages of the Directive. Second, the Directive 2003/96/EC restructuring the Community framework for the taxation of energy products and electricity provides for the application of tax incentives for biofuels. It grants Member States the freedom to establish the level of taxation for fossil fuels and biofuels.

In 2007, the European Commission, in its Communication "Renewable Energy Road Map: Renewable energies in the 21st century: building a more sustainable future", reaffirmed the EU's commitment to the development of energy from renewable sources and endorsed a mandatory target of a 20% share of energy from renewable sources in overall Community energy consumption by 2020 and a mandatory minimum percentage of 10% to be achieved by all Members for the share of biofuel in transport petrol and diesel consumption by 2020.[46] According to the 2014 Report of the European Commission on "State of play on the sustainability of solid and gaseous biomass used for electricity, heating and cooling in the EU", solid and gaseous biomass is the biggest source of renewable energy in the EU and is expected to make a key contribution to the 20% EU renewable energy target by 2020.[47]

The EU Directive 2009/28/EC on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC as of 23 April 2009 (hereinafter – *the EU Renewable Energy Directive*) has stressed the role of biogas production from manure, slurry and other animal and organic waste in heat and power production.

## 3.2 Sustainability Criteria for Biofuels

In general, issues related to sustainability in biogas production comprise its contribution to greenhouse gas (GHG) emission reduction, competition with food production, impact on soil fertility, land use and

[46] Commission Communication of 10 January 2007, *Renewable Energy Road Map. Renewable energies in the 21st century: building a more sustainable future*, [COM(2006) 848 final - Not published in the Official Journal].

[47] Commission Staff Working Document, *State of play on the sustainability of solid and gaseous biomass used for electricity, heating and cooling in the EU*, Brussels, 28 July 2014, p. 2.

biodiversity, and on the local economy.[48] There are no international standards on biofuels sustainability, although regulations on sustainability of biofuels have been adopted in several countries, notably, the EU, the US and Brazil. However, the International Organization for Standardization (ISO) is currently developing a standard on sustainability criteria for biofuels.[49]

### 3.2.1 Sustainability criteria for biofuels for transport and bioliquids used in other sectors

The EU Renewable Energy Directive sets out sustainability criteria for biofuels for transport and bioliquids used in other sectors in Articles 17, 18 and 19. These criteria are related to GHG savings, land with high biodiversity value, land with high carbon stock and agro-environmental practices. In particular, according to Article 17 of the Renewable Energy Directive, energy from biofuels and bioliquids has to meet the following sustainability criteria:

- The GHG emission saving from the use of biofuels and bioliquids should be at least 35%. As of 1 January 2017, the GHG emission saving should be at least 50%, and as of 1 January 2018, this indicator should be at least 60% for biofuels and bioliquids produced in installations in which production started on or after 1 January 2017.
- Biofuels and bioliquids shall not be made from raw material obtained from land with high biodiversity value, namely from land that had one of the following statuses in or after January 2008: *(i)* status of primary forest and other wooded land; *(ii)* areas designated for nature protection purposes or the protection of rare, threatened or endangered ecosystems or species recognized by international agreements or included in the lists of intergovernmental organizations or the Union for the Conservation of Nature; or *(iii)* highly biodiverse grassland.
- Biofuels and bioliquids shall not be made from raw material obtained from land with high carbon stock, namely land that had one of the following statuses in or after January 2008: *(i)* wetlands; *(ii)* continuously forested areas; and *(iii)* land spanning more than one hectare with trees higher than five metres and a canopy cover of more than 30% of trees able to reach those thresholds *in situ*.
- Biofuels and bioliquids shall not be made from raw material obtained from land that was peatland in January 2008.
- Agricultural raw materials cultivated in the Community and used for the production of biofuels and bioliquids shall be obtained in accordance with the requirements and standards under the provisions referred to under the heading "Environment" in part A in point

[48] Hans Langeveld, Johan Sanders, Marieke Meeusen (eds), "The Biobased Economy: Biofuels, Materials and Chemicals in the Post-Oil Era".

[49] See ISO's website (access to the full text of the document is restricted), available at: http://www.iso.org/iso/home/store/catalogue_tc/catalogue_tc_browse.htm?commid=598379 (accessed 15.09.2014).

> 9 of Annex II to Council Regulation (EC) No 73/2009 19 January 2009 establishing common rules for direct support schemes for farmers and in accordance with the minimum requirements for good agricultural and environmental condition defined pursuant to Article 6.1 of that regulation.

If energy produced from biofuels and bioliquids meets the above sustainability criteria, it shall be taken into account for the purposes of: (i) measuring compliance with the requirements of the Directive 2009/28/EC concerning national targets; (ii) measuring compliance with renewable energy obligations; (iii) eligibility for financial support for the consumption of biofuels and bioliquids.[50]

According to Article 17.7 of the EU Renewable Energy Directive, the Commission shall report every two years to the European Parliament and the Council on national measures taken to comply with the abovementioned sustainability criteria both in Member States and in third countries that are a significant source of biofuels consumed within the Community or of raw materials for their production.

Article 18 of the Renewable Energy Directive sets out a verification procedure for compliance with the sustainability criteria for biofuels and bioliquids. If the volumes of biomethane are to be booked against the biofuel quota commitment, the Directive prescribes that Member States require economic operators to use *a mass balance system* to demonstrate that the sustainability criteria have been fulfilled. Such a mass balance system should allow consignments of raw material or biofuel with differing sustainability characteristics to be mixed. Under the mass balance system, economic operators have to provide information about the sustainability characteristics and sizes of the consignments to remain assigned to the mixture. It also has to provide for the sum of all consignments withdrawn from the mixture to be described as having the same sustainability characteristics, in the same quantities, as the sum of all consignments added to the mixture.[51] Auditing is an integral part of the mass-balancing procedure.

According to the recent study for the European Commission on the operation of the mass balance system, the mass balance system exists in two main forms: percentage-based claims and quantity credit mass balance.[52] According to the *percentage-based claims* system actors in the supply chain keep track of the proportion (%) of certified products in the mixture. For the quantity of biofuels delivered it can be claimed that this quantity contains XY per cent certified biofuels. According to the *quantity credit mass balance*, every participant in the supply chain keeps track of the product with certain sustainability characteristics, which it produces and sells. At the end of the supply chain the delivered amount of

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[50] Article 17.1 of the Directive 2009/28/EC.

[51] Article 18.1 of the Directive 2009/28/EC.

[52] J. van de Staaij, A. van den Bos, G. Toop, S. Alberici, I. Yildiz, Analysis of the operation of the mass balance system and alternatives. Final Report (Task 1), 30 November 2012, available at: http://ec.europa.eu/energy/renewables/studies/doc/2013_task_1_mass_balance_and_alternatives.pdf (accessed 20.11.2014).

product equal to the amount of certified material introduced into the supply chain will be claimed as from "completely" certified material, taking into account the relevant conversion factors.[53]

The mass balance system should be differentiated from other chain custody approaches: identity preservation, physical segregation and book and claim. According to the identity preservation approach (also referred to as the track-and-trace system) a biogas consignment containing 100% certified product from an identifiable source is delivered physically. According to the physical segregation (bulk commodity) approach the biogas that is physically delivered and sold also constitutes a 100% certified product, but its exact origin cannot be traced. Under the book and claim system, physical trade in biogas would be completely decoupled from certificate trading.[54] An illustrated description of all four chain custody approaches is presented in Annex I.

Mass balance systems have been implemented in different ways by the EU Member States, as the Renewable Energy Directive does not include a harmonised definition of mass balance. Thus, there are a number of voluntary certification schemes that include the mass balance requirements in accordance with the Renewable Energy Directive. Through participation in of such voluntary scheme, producers of biofuels also comply with the mass balance requirement.[55]

Article 18 of the Renewable Energy Directive also encourages the Commission to conclude bilateral and multilateral agreements with third countries, containing provisions on sustainability criteria that correspond to those of the EU Renewable Energy Directive.

Finally, Article 19 of the EU Renewable Energy Directive establishes the methodology for calculation of the GHG emission saving from the use of biofuels and bioliquids.

### 3.2.2 Sustainability criteria for the use of solid and gaseous biomass sources in electricity, heating and cooling

In February 2010, as required by Article 17(9) of the EU Renewable Energy Directive, the Commission published a Report on sustainability requirements for the use of solid and gaseous biomass sources in electricity, heating and cooling.[56] These requirements were implemented in the form of a

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[53] J. van de Staaij, A. van den Bos, G. Toop, S. Alberici, I. Yildiz, Analysis of the operation of the mass balance system and alternatives. Final Report (Task 1), 30 November 2012, available at: http://ec.europa.eu/energy/renewables/studies/doc/2013_task_1_mass_balance_and_alternatives.pdf (accessed 20.11.2014), at 29-30.

[54] Ibid., at 27-31.

[55] J. van de Staaij, A. van den Bos, G. Toop, S. Alberici, I. Yildiz, Analysis of the operation of the mass balance system and alternatives. Final Report (Task 1), 30 November 2012, available at: http://ec.europa.eu/energy/renewables/studies/doc/2013_task_1_mass_balance_and_alternatives.pdf (accessed 20.11.2014).

[56] Report from the Commission to the Council and the European Parliament, *On Sustainability Requirements for the Use of Solid and Gaseous Biomass Sources in Electricity, Heating and Cooling*, Brussels, 25 February 2010.

recommendation to Member States. According to the Report, Member States that either already have or are introducing, national sustainability schemes for solid and gaseous biomass used in electricity, heating and cooling, ensure that in almost all respects these are the same as those laid down in the EU Renewable Energy Directive.[57] Due to the characteristics of the production and use of solid and gaseous biomass used in electricity, heating and cooling, the Report provides for the following differences:

- According to Article 17(1) of the Renewable Energy Directive, wastes and certain residues should only be required to fulfil the requirements of Article 17(2), i.e. the GHG performance criteria.
- The methodology for the calculation of GHG emissions should be extended as described in section 2.2, resulting in the methodological rules described in Annex I.
- To stimulate higher energy conversion efficiency, Member States should – in their support schemes for electricity, heating and cooling installations – differentiate in favour of installations that achieve high energy conversion efficiencies.[58]

The Report also recommended that national authorities design national support schemes with the objective of stimulating higher efficiency of bioenergy plants. Moreover, Member States were invited to keep records of the origin of primary biomass used in electricity and heating/cooling installations of 1 MW or above, in order to improve the biomass statistics and allow for better monitoring of market trends.

### 3.2.3 Implementation of Sustainability Criteria by Member States

In 2014, the Commission published a Report on the sustainability of solid and gaseous biomass for heat and electricity generation, in the context of the 2020 renewable energy targets.[59]

The 2014 Report examined, inter alia, the implementation of the sustainability criteria proposed in the 2010 Report. According to the 2014 Report, while about half of the Member States had adopted regulations promoting higher efficiency of bioenergy production (i.e. efficient CHP), only a few Member States (Belgium, Italy, the UK) had adopted GHG-saving criteria for biomass used in electricity/heating, which appear broadly in line the Commission recommendations

The 2014 Report also noted that other Member States (Belgium, Hungary, UK) had introduced specific sustainable forest management (SFM) criteria for forest biomass and land criteria for agricultural biomass (UK). The Netherlands announced plans to adopt, by the end of 2014, a comprehensive set of

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[57] *Id*, p. 8.

[58] *Id*, pp. 8–9.

[59] EU Commission Report, "State of play on the sustainability of solid and gaseous biomass used for electricity, heating and cooling in the EU", available at: http://ec.europa.eu/energy/renewables/bioenergy/sustainability_criteria_en.htm (accessed 01.11.2014).

sustainability criteria addressing, amongst others, impacts on forest carbon stocks and on indirect land use change. Furthermore, certain Member States had introduced regulations aimed at addressing potential competition with existing biomass uses. In Belgium, for instance, woody feedstock suitable for the wood-processing industry is not eligible for the Flemish Green Power Certificates. Moreover, Poland had adopted a policy increasingly excluding the use of stem wood (with a diameter above a certain size) from being eligible for national financial incentives for renewables.[60]

### 3.3 Taxation of Biofuels

The Directive 2003/96/EC restructuring the Community framework for the taxation of energy products and electricity (hereinafter the Energy Taxation Directive), allows tax exemptions and tax reductions under certain conditions, to permit Member States to grant favourable treatment to biofuels. According to the recital 26 of the Preamble of the Energy Taxation Directive:

"It is desirable to establish a Community framework to allow Member States to exempt or reduce excise duties so as to promote biofuels, thereby contributing to the better functioning of the internal market and affording Member States and economic operators a sufficient degree of legal certainty. Distortions of competition should be limited and the incentive of a reduction in the basic costs for producers and distributors of biofuels should be maintained through, inter alia, the adjustments by Member States taking into account changes in raw material prices."

Commentators observed that partial or total tax exemptions for biofuels have been vital in promoting biofuels in the EU Member States. All Member States that have succeeded in achieving high biofuel penetration rates have, or have had in place differential tax schemes.[61]

### 3.4 Biogas Registries

A functional biomethane market can only exist if there is a transparent, reliable and effective system of comprehensive information transfer among the national biomethane registries. Biomethane registries are independent and neutral organisations, established through voluntary cooperation of market players. However, according to the European Biogas Association, several of the registries – in Austria, Denmark and Switzerland – have a political mandate from the government.[62] Their main task is to

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[60] See Commission Staff Working Document, "State of play on the sustainability of solid and gaseous biomass used for electricity, heating and cooling in the EU", Brussels, 28 July 2014, p. 2.

[61] Pelkmans, L. (2008) Biofuel policy support in Europe. Ecobio Policy Paper 2, cited in Amezaga, J.M., Boyes, S.L. and Harrison, J.A. "Biofuels Policy in European Union", available at: http://bit.ly/1sKWmv7(accessed 15.09.2014).

[62] European Biogas Association, "Green Gas Grids Project Working Group on Biomethane Trade Discussion Paper No 2", p. 3, available at: http://bit.ly/1uW2ZqM (accessed 15.09.2014).

track, document and confirm the volumes of biomethane from the production to the final consumption stage. The existing biomethane registries consider the national natural gas grid as a single closed accounting balance. Therefore, the problem is that those volumes of biomethane that bypass the mass-balancing system would most likely not qualify for support (such as tax exemptions or feed-in tariffs (FiT)) in the country of end-use.[63] Since biomethane that is being physically fed into the grid cannot be physically tracked, measuring, registering and confirming the volumes of biomethane that have been transported from one country to another over the natural gas pipeline network is not possible.[64]

According to the European Biogas Association, the following steps are necessary to address this problem and to integrate the European biogas market: *(i)* establishment of national biomethane registries; *(ii)* cooperation on national biomethane registries; *(iii)* establishment of a single and unified mass-balancing system, *(iv)* equal access to support schemes for both imported and domestically produced biomethane, and *(v)* creation of a joint European biomethane registry.[65] This would help to ensure that imported biomethane is recognized in the importing country and can be accepted for counting towards national quotas and targets. The first two steps have been completed. Biomethane registries have been created in the following European jurisdictions:

- Austria: Biomethane Registry Austria (www.agcs.at);
- Denmark: Energinet.dk (www.energinet.dk);
- France: Gaz Réseau Distribution France (www.grdf.fr);
- Germany: Biogasregister (www.biogasregister.de);
- Switzerland: VSG (Federation of Swiss Gas Industry) (www.erdgas.ch/biogas/);
- United Kingdom: Green Gas Certification Scheme (www.greengas.org.uk)

Furthermore, in November 2013, these six national registries signed a Letter of Intent aiming at creating compatibility among the national registries with regard to cross-border trade in biogas. The key areas of collaboration are: transfer of information about biomethane transactions among the registries; creation of a harmonised methodology for the transfer of information on "Guarantees of Origin"; increasing compatibility between the national registration systems; establishing conditions for mutual acceptance of GOs for biomethane.[66]

It is expected that the next step would be the recognition of the European natural gas network as a single closed European mass-balancing circle where the task of the national registries would be to

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63 European Biogas Association, "Report on the work carried out regarding the proposal for an EU green gas certificate scheme", December 2013, available at: http://bit.ly/1qOlERj (accessed 15.09.2014).

64 *Id.*

65 *Id.*

66 European Biogas Association, Press-Release "Six national biomethane registries are developing the foundation for cross-border biomethane trade in Europe", 25 November 2013, available at: http://bit.ly/1CAVeeK (accessed 15.09.2014).

confirm that: *(i)* a certain volume of biomethane was produced and injected into the natural gas pipeline network; and *(ii)* this volume has not been taken out from the natural gas pipeline network on the territory of their country.[67] Finally, as a last step, it is expected that national registries will jointly create an electronic platform for registering and transferring all relevant information between themselves.[68]

### 3.5 Trade in Biogas

It is expected that the volume of biogas production in Europe will reach 18–20 billion $m^3$ by 2030, which will correspond to about 3% of the current natural gas consumption in Europe. Notwithstanding this growing importance of biogas in the energy mix, trade in it is largely unregulated. According to the European Biogas Association, the main obstacles for cross-border trade in biogas are:

- the absence of an international registration system with regard to the mass-balancing requirements (the key problem with the mass-balancing requirements appears to be the impossibility of receiving support (tax benefits, FiTs) for biomethane traded under tradable certificates in the country of final use);[69]
- the availability of support only to domestic biogas producers and the absence of support schemes for imported biogas;
- difficulties in registering the cross-border physical flow of biomethane;
- granting preferences to "green" electricity production and use as opposed to "green" gas production and use under the available support schemes.

Switzerland is not the only country that does not currently recognize virtually imported biogas for tax reduction (exemption) purposes. A similar regulation was enacted in Sweden according to the Sustainability Act 2010/589. Biomethane produced abroad and supplied to Sweden through the European gas grid cannot benefit from a tax exemption.[70]

It should be also borne in mind that international trade in biomethane is very limited at the moment and has a local character. Currently, according to the European Biogas Association, biomethane is mostly

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67 European Biogas Association, "Report on the work carried out regarding the proposal for an EU green gas certificate scheme", December 2013, available at: http://bit.ly/1qOlERj (accessed 15.09.2014).

68 *Id*.

69 European Biogas Association, "Green Gas Grids Project Working Group on Biomethane Trade Discussion Paper No 2", p. 4, available at: http://bit.ly/1uW2ZqM (accessed 15.09.2014).

70 European Biogas Association, Biomethane: Switzerland facilitates imports, Sweden favours locally produced, available at: http://european-biogas.eu (accessed 15.09.2014).

transported physically by road rather than through the natural gas pipeline network.[71] Furthermore, the bulk of cross-border trade occurs under bilateral agreements between companies and does not involve government-authorized certification organizations. In this light, development and regulation of the biomethane trade for the harmonisation of its production and consumption in Europe is an important task.

## 3.6 Biogas Regulation in Selected Jurisdictions

### 3.6.1 Germany

Germany is the largest producer of biofuels in the EU. The German Renewable Energy Act established a favourable regulatory framework for the biogas industry. There are two support schemes for biogas: FiT and a quota system. Under the FiT scheme, priority is given to electricity that is produced from renewable sources and fed into the public grid, and guarantees payment according to a 20-year fixed FiT. In accordance with the 2012 amendments to the Renewable Energy Act, the remuneration is based on various categories of energy resources: for instance, the use of corn is capped at 60%, and heat recovery (also 60%) was established as a fundamental requirement for the operation of biogas plants. Furthermore, more support was provided to smaller agricultural biogas plants with output capacities of 75 kW, and a minimum of 80% liquid manure usage. In turn, the quota regulation mandates that the power suppliers prove that biofuels make up a defined percentage of the company's total annual sale of fuel as set out in the Biofuel Quota Act. Such proof is provided by the green certificates that power suppliers must purchase at a guaranteed minimum price. A similar quota model is also used in Great Britain, Sweden, Italy, Belgium and Poland.[72]

As of 2012, the mass-balancing requirements cover both biomethane used as a vehicle fuel and biomethane used for generating electricity or for heating purposes.[73]

The tax exemption is only granted if the biofuel produced is pure and is not used to fulfil the biofuels quota. The tax benefits for biofuels vary depending on the type of biofuel and are different for the following two categories of biofuels:

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[71] European Biogas Association "Proposal for a European Biomethane Roadmap", Work Package 3, December 2013, p. 8, available at: http://european-biogas.eu/wp-content/uploads/2014/02/GGG_European-Biomethane-Roadmap-final.pdf (accessed 01.11.2014).

[72] See German Energy Agency DENA, Regulatory Framework, available at: http://www.renewables-made-in-germany.com/en/renewables-made-in-germany-start/biogas/biogas/regulatory-framework.html (accessed 15.09.2014).

[73] European Biogas Association, "Green Gas Grids Project Working Group on Biomethane Trade Discussion Paper No 2", p. 4, available at: http://www.greengasgrids.eu/fileadmin/greengas/media/Downloads/Documentation_from_the_GreenGasGrids_project/GGG_discussion_paper_Trade_2013.pdf (accessed 15.09.2014).

- conventional biofuels (biodiesel, vegetable oil fuel) were eligible for proportional tax redemption until end of 2012;
- second-generation biofuels, biogas, bioethanol fuel (E85) are tax deductible until 2015.[74]

### 3.6.2 Italy

According to the Cross Border Bioenergy Working Group on Biogas technologies, the potential of biogas in Italy has been estimated at 20 TWh/year corresponding to the installed capacity of about 2.700 MWel. In May 2011, 521 biogas plants, of which 130 are under construction, were inventoried with a total power installation of around 350 MWel. These plants are mainly located in the northern part of Italy.[75]

In Italy, the subsidies for the operation of biogas plants are based on a FiT for biogas plants with CHP units up to 0.999 MWel. The FiT for electricity production from biogas is set at the level of 0.28 €/kWh lasting for 15 years. It has been observed that this tariff has induced many farmers to invest in CHP plants with biogas.

On 3 March 2011, the Italian government adopted legislative Decree No 28/201 implementing the EU's Renewable Energy Directive 2009/28/EC. The Ministerial Decree, as of 6 July 2012, governs the incentives for the production of electricity from renewable sources other than solar, including biomass and biogas.[76] Further, the Ministerial Decree of 8 March 2013 approved the National Energy Strategy and established a national renewable energy target of 17% by 2020.

The incentives covered by the Ministerial Decree of 6 July 2012 apply to new, totally rebuilt, reactivated, repowered/upgraded or renovated plants commissioned on or after 1 January 2013. The Decree provides that the indicative cumulative cost of all types of incentives awarded to renewable energy plants (other than photovoltaic ones) shall not exceed an overall value of € 5.8 billion per year. The new support scheme also introduces yearly supportable-capacity quotas, in each year from 2013 to 2015, divided by type of source and plant and in accordance with the applicable procedures for access

[74] See: http://observer.cartajour-online.com/barosig/Fichiers/BAROSIG/Valeurs_indicateurs/Biof-Germany-ang.htm(accessed 15.09.2014). For more details see: Deutsche Bundestag, 18. Wahlperiode, Bericht zur Steuerbegünstigung für Biokraftstoffe 2013, Unterrichtung durch die Bundesregierung, Drucksache 18/2437, 27.08.2014, available at: http://dipbt.bundestag.de/dip21/btd/18/024/1802437.pdf (accessed 03.11.2014).

[75] Cross Border Bioenergy Working Group on Biogas technologies, *EU Handbook – Biogas Markets*, October 2012, p. 25, available at: http://www.crossborderbioenergy.eu/fileadmin/crossborder/Biogas_MarketHandbook.pdf(accessed 15.09.2014).

[76] Lucia Felice, "Incentives for energy efficiency in wastewater treatment plants", 29 October 2013, available at http://www.dailyenmoveme.com/en/market/incentives-energy-efficiency-wastewater-treatment-plants (accessed 15.09.2014).

to the incentives (auctions; registries of new, totally rebuilt, reactivated, repowered/upgraded and hybrid plants; registries of renovated plants).

Art. 4 of the Decree defines four different types of incentives, depending on plant capacity and type of project:

- Direct access for new, totally rebuilt, reactivated or repowered/upgraded plants with a capacity not exceeding a given limit and using specific types of sources or for special projects (Art. 4.3);
- Enrolment into the Registries of new, totally rebuilt, reactivated or repowered/upgraded plants: *(i)* the ranking position of these plants in the relevant Registry shall not exceed the yearly supportable-capacity quotas (Art.9.4); *(ii)* after the project, their capacity shall exceed the maximum one admissible for direct access to the incentives and not exceed the threshold value beyond which participation in competitive Dutch auctions is required. The responsible party shall file an application with the Gestore Servizi Energetici (GSE) for enrolment into the electronic Registry for the source and type of plant to be supported;
- Enrolment into the Registries of renovated plants: (i) the ranking position of these plants in the relevant Registry shall not exceed the yearly supportable-capacity quotas (Art. 17.1); (ii) after the renovation project, the capacity of these plants shall exceed the maximum one admissible for direct access. The responsible party shall file an application with GSE for enrolment into the electronic Registry of renovated plants for the source and type of plant to be supported;
- Awarding the incentives after participation in competitive Dutch auctions (electronic auctions held by GSE) for new, totally rebuilt, reactivated or repowered/upgraded plants: the capacity of these plants shall exceed a given threshold (10 MW for hydro plants, 20 MW for geothermal plants and 5 MW for other RES-E plants).[77]

The Decree provides for two separate support schemes, based on plant capacity, renewable source used and type of plant:

(1) all-inclusive FiT for plants with a capacity of up to 1 MW: this capacity is given by the sum of a base FiT (the value of which is defined for each source, type of plant and capacity class in Annex 1 to the Decree) and of premiums, if any (e.g. high-efficiency CHP or emission reductions).

[77] See Incentives as per MD of 6 Jul. 2012, available at http://www.gse.it/en/qualificationandcertificates/Incentives%20Ministerial%20Decree/Pages/default.aspx (accessed 15.09.2014); Concerted Action, Renewable Energy Sources Directive, Summary Report: Italy, available at http://www.ca-res.eu/fileadmin/cares/public/Reports/National_Summaries/Italy_CA-RES_2nd_National_Summary_2013.pdf (accessed 15.09.2014).

(2) incentive for plants with a capacity of above 1 MW and for those with a capacity of up to 1 MW not opting for the all-inclusive FiT: this incentive is given by the difference between the base FiT – increased by the premiums, if any, for which the plant is eligible – and the hourly zonal electricity price (in the zone where the electricity generated by the plant is injected into the grid). The electricity generated by plants benefiting from this incentive remains the property of the producer.[78]

The GOs were first introduced in Italy by Legislative Decree 387/03, implementing Directive 2001/77/EC on promotion of electricity produced from renewable energy sources in the internal electricity market. Legislative Decree 28/11, transposing Directive 2009/28/EC, repealed Directive 2001/77/EC and introduced new provisions concerning the GO. A further implementing decree will update the procedures regarding the issuance and utilisation of the new GO.

Pursuant to Art. 34 of Legislative Decree 28/11, the GO has the purpose of enabling electricity suppliers to disclose the share of renewable energy in their fuel mix to final customers. The new GO will be issued, transferred and cancelled electronically.[79]

[78] See Incentives as per MD of 6 Jul. 2012, available at http://www.gse.it/en/qualificationandcertificates/Incentives%20Ministerial%20Decree/Pages/default.aspx (accessed 15.09.2014).

[79] *Ibid*.

Concerted Action, Renewable Energy Sources Directive, Summary Report: Italy, available at http://www.ca-res.eu/fileadmin/cares/public/Reports/National_Summaries/Italy_CA-RES_2nd_National_Summary_2013.pdf (accessed 15.09.2014).

# 4 The role of biogas in instruments relating to international climate mitigation

## 4.1 National greenhouse gas emission reduction targets in Switzerland

In pursuit of the emissions reduction target of 8% undertaken under the Kyoto Protocol, at the end of the 1990s, Switzerland adopted climate change related legislation. The key element of this legislative package was the aforementioned $CO_2$ Act, which came into force in 2000 and set emission reduction targets for 2008–2012. On 10 April 2014, the Swiss Federal Office for Environment announced that Switzerland had fulfilled its emission reduction target for the first commitment period.[80] At the Doha summit on climate change in 2012 Switzerland, and several other countries, decided to undertake binding reduction targets for the second commitment period (2013–2020). This is reflected in the revised $CO_2$ Act, which entered into force in 2013[81] and set reduction targets until 2020 at the national level.[82] According to Art. 3 of the $CO_2$ Act the target is to reduce GHG emissions in Switzerland by 20% by 2020 in comparison to the base year 1990. As outlined above, these targets are to be achieved through reduced utilization of fossil fuels, which is encouraged by fiscal means ($CO_2$ levy), market based schemes (ETS) or in-kind compensation (projects leading to effective emission reduction in Switzerland with certain flexibilities which allow emission reductions achieved abroad to be taken into consideration – see below for more details).

## 4.2 Emission reduction certificates from biogas projects abroad - $CO_2$ Act

The $CO_2$ Act prescribes certain ways in which different economic actors should comply with their $CO_2$-related obligations. As mentioned above, certain categories of fossil thermal power plants (CPH) have to comply with compensation requirements – namely through domestic projects for emissions reduction. Emission reductions achieved abroad can count towards up to 50% of compensation requirements.[83] Apart from the fossil thermal power plants, companies participating in the Swiss ETS can also use ERCs from emissions achieved abroad in accordance with established requirements.[84] For the second commitment period (2013–2020), Swiss ETS companies may count foreign certificates towards their emission reduction targets within specific limits. In principle, the maximum quantity of

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80 FOEN, Kyoto Protocol: Switzerland fulfils its commitments for 2008-2012, Press Release, available at: http://www.bafu.admin.ch/dokumentation/medieninformation/00962/index.html?lang=en&msg-id=52619 (accessed 10.09. 2014).

81 SR 641.71, Bundesgesetz über die Reduktion der CO2-Emissionen (CO2-Gesetz) vom 23. Dezember 2011, Stand am 1. Januar 2013.

82 Thomas Cottier et al., *Die Rechtsbeziehungen der Schweiz und der Europäischen Union*, Stämpfli Verlag, 2014, at 379.

83 See Art. 31(1) (b) of the CO2 Act, Art. 66 of the $CO_2$ Ordinance.

84 Article 48 of the $CO_2$ Ordinance.

certificates that may be allocated is 11% of the emission allowances issued during the first commitment period (2008–2012) minus the certificates used during the first commitment period. ETS companies with installations and GHG emissions that were not included in the first commitment period can use certificates to offset up to 4.5% of their effective emissions in the second commitment period (2013–2020).[85] In addition, companies that undertake a binding obligation to reduce GHG emissions under Article 75 of the $CO_2$ Ordinance can also use the ERCs to meet their obligations under specified conditions set therein.

Table 3 summarizes types of ERCs and their eligibility under the Swiss $CO_2$ Act[86]

**Table 3. Types of emission reduction certificates and their eligibility under the Swiss $CO_2$ Act**

| Credits: types, eligibility for fulfilment of obligations, tradability and eligibility for carry over | | | | | | | |
|---|---|---|---|---|---|---|---|
| Credit | Abbreviation | Credit type (Kyoto) | Eligibility for companies to meet their obligations within the framework of the $CO_2$ Act | Tradability | | | Carry over in Switzerland from the 1st to the 2nd commitment period |
| | | | | CH | EU | Intl. | |
| Assigned amount unit | AAU | 1 | X | √ | √ | √ | X |
| Removal unit | RMU | 2 | X | √ | √ | √ | X |
| Swiss units | CHU | - | √ (only by ETS companies) | √ | X | X | √ |
| European Union allowance | EEA, aEUA | - | X | X | √ | X | X |
| Emission reduction unit (converted from AAUs) | ERU | 3 | √* | √ | √ | √ | √* |
| Emission reduction unit (converted from RMU) | ERU | 4 | X | √ | √ | √ | X |
| Certified emission reduction | CER | 5 | √* | √ | √ | √ | √* |
| Temporary CER | tCERs | 6 | X | √ | √ | √ | X |
| Long-term CE | lCERs | 7 | X | √ | √ | √ | X |

* Under certain conditions regarding quality, quantity and carry over.

The $CO_2$ Ordinance sets key requirements under which emission reductions abroad can be credited by companies in Switzerland that are entitled to do so. Such emission reductions abroad can only be credited if they are confirmed with an emission reduction certificate within the meaning of the United Na-

[85] *Ibid.* See also: FOEN, *Foreign Emission Reduction Certificates*, available at: http://www.bafu.admin.ch/emissionshandel/05545/12456/index.html?lang=en (accessed 31.10.2014).

[86] See BAFU, Division Climate, *Fact Sheet. Emission Reductions Achieved Abroad. Quality, Quantity and Carry-Over*, 28 May 2013.

tions Framework Convention on Climate Change (UNFCCC) and are not included in Annex 2.[87] It should be noted that various voluntary/verified emission reductions from the voluntary $CO_2$ market do not fall within the UN system and are thus outside the scope of this study.

The $CO_2$ Act differentiates between emission allowances which are tradable rights to emit GHGs, and ERCs which are tradable internationally recognized certificates on emission reductions achieved abroad. The emission allowances include, for instance, Swiss emission allowances, Assigned Amount Units (AAUs),[88] Removal Units (RMUs)[89] and European Union Allowances.[90] ERCs include Emission Reduction Units (ERU), Certified Emission Reductions (CER), as well as temporary CERs and long-term CERs. For the purpose of this legal opinion we only deal with ERUs and CERs, as only they can be counted towards meeting obligations under the $CO_2$ Act of 2013. Neither temporary nor long-term CERs, nor AAUs and RMUs can be taken into account as emission reductions achieved abroad.[91]

The ERUs can be produced through Joint Implementation (JI) projects, which can be carried out between two industrialized countries (e.g. Switzerland and Germany) according to Art. 6 of the Kyoto Protocol.[92] The CERs are certificates resulting exclusively from the Clean Development Mechanism (CDM) projects under Art. 12 of the Kyoto Protocol.[93]

Under the JI projects, emission reductions can be achieved by converting AAUs of the host countries into ERUs, which are then transferred to the investing country. The total emissions of the countries involved do not change (zero-sum operation). This is also the main difference compared to the CDM projects where additional certificates are generated, since they are conducted in the countries that still do not have any emission reduction targets.[94] Joint implementation projects should also result in the transfer of modern technologies to host countries.

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87 Art. 4 of the $CO_2$ Ordinance.

88 Emission allowances assigned to Parties of the Kyoto Protocol.

89 Allowances generated by an improved national carbon sink performance.

90 Emission allowances assigned in the EU to the companies participating in the EU Emission Trading Scheme (ETS).

91 BAFU, Division Climate, *Fact Sheet. Emission Reductions Achieved Abroad. Quality, Quantity and Carry-Over*, 28 May 2013.

92 For more information on JIs, see: UNFCCC, Joint Implementation, available at: http://unfccc.int/kyoto_protocol/mechanisms/joint_implementation/items/1674.php (accessed 10.09.2014).

93 For more information on CDM see: UNFCCC, Clean Development Mechanism, available at: http://unfccc.int/kyoto_protocol/mechanisms/clean_development_mechanism/items/2718.php (accessed 10.09.2014).

94 FOEN, *Joint Implementation*, available at: http://www.bafu.admin.ch/emissionshandel/05556/05560/index.html?lang=en (accessed 10.09.2014).

At the moment Switzerland does not host any JI projects. The current JI projects with Swiss investments are primarily located in Russia and Ukraine.[95]

For the purposes of the Swiss ETS, only Swiss emission allowances can currently be used, whereas AAUs and RMUs cannot. Also EU emission allowances are not recognized in Switzerland. However, this possibility may no longer be excluded in the future, as Switzerland and the EU are negotiating a bilateral agreement on linking the two ETS.[96]

Apart from formal requirements, Art. 6 of the $CO_2$ Act entrusts the Federal Council to specify quality requirements for emission reductions achieved abroad. These include at least the following requirements:

- Emission reductions can be accepted only when they would not have taken place without participation (direct or indirect) of Switzerland in the project. This relates to the additionality criterion.
- Emission reductions striven for in the least-developed countries (LDCs), should contribute to the sustainable development in that country and they do not have any negative environmental or social impact.[97]

The $CO_2$ Ordinance further specifies that emission reductions achieved under the UNFCCC framework can be taken into account for the 2013–2020 commitment period only if they are not mentioned in Appendix 2 of the $CO_2$ Ordinance that excludes certain types of projects. Currently the following projects are excluded:

- ERCs achieved through biological or geological sequestration of the $CO_2$ (also referred to as carbon capture and storage);
- Hydropower plants with total installed capacity of more than 20 MW;
- Other certificates that have not been achieved through projects on renewable energy or energy efficiency of the end-user;
- ERCs that have already been used (recycled/surrendered);[98]

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[95] See FOEN, *List of Letters of Approval issued by the Swiss DFP*, available at: http://www.bafu.admin.ch/emissionshandel/05556/05560/index.html?lang=en (accessed 10.09.2014).

[96] BAFU, Linking the Swiss and EU emissions trading schemes, available at: http://www.bafu.admin.ch/emissionshandel/10923/index.html?lang=en (accessed 10.09.2014). The sixth round of negotiations on linking the ETS of Switzerland and the EU took place on 19 September 2014.

[97] See Art. 6(2)(a)-(b) of the $CO_2$ Act.

[98] The list of recycled certificates is compiled by the EU Commission and is available at: http://ec.europa.eu/clima/policies/ets/registry/documentation_en.htm (accessed 10.09.2014).

- ERCs that were achieved in projects that violated human rights or that led to considerable environmental or social consequences;
- Where a project contravenes the external or development policies of Switzerland, e.g. in the case of sanctions against the host country of a project.

Importantly, as of 2013, only certificates from the LDCs[99] can be accepted. To this general rule, the Swiss Federal Council allowed two exceptions: (i) for CDM projects, such certified emission reductions can be still accepted if they stem from the projects registered before 1 January 2013; (ii) for JI projects only emission reduction units achieved before 1 January 2013 can be accepted. In simple terms, this means that currently Switzerland does not accept CERs from new CDM projects which are not operated in LDCs, and it does not accept new ERUs from JI projects that were achieved before 2013. Practically, Switzerland cannot currently use any emission reduction units from the projects in the EU achieved after 2012. The Gold Standard label for JI and CDM projects certifies their compliance with environmental requirements, but differentiates on the basis of the type of country. Thus, it does not guarantee an automatic acceptance of the ERCs.[100] The final evaluation of whether the ERC will be accepted for the purposes of the $CO_2$ Act can be performed by the SwissFlex of the Federal Office for Environment.

All of the above quality requirements have to be met for any emission reduction certificate to be recognized and accepted under the Swiss ETS, reduction obligations or compensation obligations envisaged by the $CO_2$ Act. ERCs that do not comply with the abovementioned requirements can still count towards meeting the reduction targets in the commitment period 2008–2012. It can also be expected that a transitional period will be provided for use of the ERCs that were acquired before 2013 in meeting the targets for 2020.[101]

[99] www.un.org/en/development/desa/policy/cdp/ldc_info.shtml (accessed 10.09.2014).

[100] www.cdmgoldstandard.org/ (accessed 10.09.2014).

[101] BAFU, *Fact Sheet*, see above fn. 91, Section 2.14.

# 5 Review of possible implementation options based on current state of regulation in Switzerland, in the EU and in selected EU Member States

In order to elaborate policy recommendations with respect to differentiated taxation of natural gas and of virtually imported biogas (through the natural gas grid), it is necessary to have a clear picture of the current situation with regard to the application of the mineral oil tax and the $CO_2$ levy to biogas. Table 4 summarizes the current situation with respect to taxation of physically imported biogas.

**Table 4: Application of the mineral oil tax and the $CO_2$ levy**

| **Biofuel used for/ subject to** | **Electricity (CHP)** | **Motor fuel** | **Heating** |
|---|---|---|---|
| **CO2 Act** | Excluded (as it is not a fossil fuel) | Excluded (as it is not a fossil fuel) | Excluded (as it is not a fossil fuel) |
| **MOTA** | Yes (tax exemption if it complies with sustainability requirements) | Yes (tax exemption if it complies with sustainability requirements) | Excluded |

In light of the current legislative framework it is important to differentiate between physical and virtual import of biogas. The differentiating features are summarized in Table 5.

**Table 5. Differentiating features between physical and virtual imports of biogas**

| | **Physical imports of biogas** | | **Virtual imports of biogas** | |
|---|---|---|---|---|
| **Exemption from mineral oil tax (if it falls within the scope of MOTA)** | Today: Yes, if sustainability requirements are met | Future: Yes, if sustainability requirements are met | Today: No, for customs purposes it is counted as natural gas | Possibility in future: Yes, based on certificate of origin + compliance with sustainability requirements (can be embedded in the certificate of origin, if a general agreement is reached concerning the minimum requirements) |
| **Exemption from $CO_2$ levy** | Today: Yes, as it is not a fossil fuel | Future: Yes, as it is not a fossil fuel (should it also depend on sustainability requirement?) | Today: No, for customs purposes it is counted as natural gas | Possibility in future: Yes, based on certificate of origin + compliance with sustainability requirements (can be embedded in the certificate of origin, if a general agreement is reached concerning the minimum requirements) |

At the same time, solutions to meet future demand for biogas, also through the importation of biogas (not only physical, but also virtual) from abroad have to be considered. In this respect, the example of electricity trade might be of interest. There are proposals on virtual electricity trade based on certificates of origin, namely to guarantee that such electricity stems from renewable energy power plants.[102] This solution is dictated by the physical characteristics of electricity, namely its flow in the electricity grid. Notably, in the electricity sector even in the EU there are various certificates for "green" electricity. Some of the EU countries, e.g. the UK have introduced a special green electricity certificate specifically for differentiated taxation purposes.[103]

This example of green electricity certificates is very interesting when exploring policy options with respect to biogas, as the same considerations apply to transportation of biogas through natural gas grids for the purposes of importation. It is clear that biogas, unlike electricity, can be also transported physically. However, it seems that the challenges and hurdles of such transportation, including financial burdens make imports of biogas not a particularly attractive business model, contrary to the goals of enhanced substitution of fossil fuels through renewable energy, including biofuels. Certificates of origin (guarantees of origin) could provide all the information that is currently also required for customs purposes in Switzerland, including the data on the raw materials used for the production of biogas. At the same time, GOs could include information on certification of the production facility in order to ensure that the biogas was produced according to sustainability (environmental and social) requirements that seem to be crucial to the Swiss legislator for the purposes of preferential tax treatment. Thus, a biogas producer would receive a certificate of origin *e.g.* for each kg or each litre of biogas produced; when biogas is fed into the grid and consequently traded, the certificates would follow the quantities sold to Switzerland via an electronic system and ultimately reach the end-user. Under this model, certificates of origin for biogas would not be traded separately. This would, on the one hand, justify possible price differences and, on the other, allow for exemption from the mineral oil tax and from obligations under the $CO_2$ Act, as certificates will serve as a proof that virtually imported gas is indeed biogas. This model of GOs would reflect the quantity credit mass balance system as described in Section 3.1.2 and illustrated in Annex I.

This factual recognition of biogas when imported through gas grids would require the following changes in the legislation in Switzerland:

- Recognition of biogas based on GOs at the point of importation:
    - either for both customs purposes and for taxation purposes (the amounts of imported gas accompanied by the GOs would be counted as biogas), or

[102] See also Art. 10 of the Energy Act (Energiegesetz vom 26. Juni 1998, SR 370.0).

[103] Legal Opinion on Differentiated Electricity Taxation, see fn. 8 above, at 19–22.

  - only for taxation (similarly to sustainable biogas, natural gas confirmed with biogas GOs would have a special statistical code);

- the MOTA has to recognize that physically imported quantities of gas that are identified through certificates of origin as biogas can benefit from a preferential taxation regime under the MOTA (and are treated as biogas);

- the $CO_2$ Act should also include a corresponding reduction of the $CO_2$ levy rate or exclusion from a $CO_2$ levy (and other obligations) for virtually imported biogas based on the GO;

- there should be a coherent and mutually recognized system of GOs not only in Switzerland, but throughout Europe. Possibly, use can be made of the mandate for the EU according to Art. 18 of the RES Directive to conclude bilateral and multilateral agreements with third countries containing provisions on sustainability criteria that correspond to those of Directive 2009/28/EC;

- coherent environmental and social sustainability requirements might have to be further negotiated, especially because Switzerland currently does not recognize the mass balancing system and Swiss sustainability requirements even go beyond the EU requirements (here due regard should be given to the current status of energy/electricity negotiations and possible taking over of the RES Directive);[104]

- the recognition of the EU mass balance system in Switzerland might be a very useful tool. As described above in Section 3.1.2, the mass balance system differs from other chain custody approaches, including identity preservation and book and claim systems, since the sustainable biogas will be mixed with natural gas and non-sustainable biogas in the gas grid, but it would be identifiable through a GO for each $m^3$ fed into the grid (quantity credit mass balance).

The implementation of the measures described above seems to be possible in the mid-term, if the political and economic interest is in place. Certain measures are also possible on a global scale (e.g. preparing an international standard for biogas, including relevant sustainability requirements).

In terms of the idea to link certificates of origin for biogas with ERCs in light of the current legal framework as described in Section 4, the following should be taken into consideration:

  - Biogas produced in the EU plays an important role for climate change mitigation at the point of consumption by power plants and other industries participating in the ETS by reducing their emissions (substitution of natural gas with biogas);

[104] Notably EU sustainability requirements have recently been subject to the dispute settlement proceedings in the WTO. This question is further addressed in the discussion of the TBT.

- The Kyoto Protocol mechanisms for GHG emission reduction currently do not envisage a system whereby an emission reduction unit would follow the product (e.g. biogas). This is also true for the Swiss federal legislation. The certificates are issued as a result of a project and are then surrendered separately from the goods that have been produced as part of that project (e.g. "green" electricity). Moreover, the Swiss climate legislation sets a number of stringent conditions defining which emission reduction units achieved abroad can count towards its emission reduction targets. At the moment linkage of CERs to the *virtually* sold biogas mentioned in the assignment[105] does not seem to be realistic, as it would need major changes in the applicable legal regimes.

- The most recent Guidance Document of the European Commission on Biomass issues in the EU ETS clarifies certain points of Commission Regulation (EU) No. 601/2012 of 21 June 2012 on the monitoring and reporting of GHG emissions pursuant to Directive 2003/87/EC of the European Parliament and of the Council. According to this document, sustainability criteria must be applied for biofuels and bio-liquids that are consumed and zero-rated for GHG emissions within an installation or an aircraft operator's activities covered by the EU ETS (does not apply for biogas, other than that used for transport purposes; there are still no sustainability criteria). Under the EU ETS there exists an assumption that source streams of biogases (if not mixed with fossil materials) can always be assumed to have an emission factor of zero. At the same time the European Commission recognizes that in some Member States biogas is fed into the grid of natural gas suppliers. Those EU ETS operators who wish to claim a certain amount of that biogas as part of their purchase of natural gas can make use of one of the two following options:

  - The operator uses an approach for determining the biomass fraction of the gas physically consumed (sampling for C14 analysis from the gas grid or a recognised estimation method), or

  - If there is an appropriate accounting system for biomass fractions in place, it can be used subject to certain conditions. For instance, the GOs under Articles 2(j) and 15 of the Renewable Energy Directive could be used. At the same time the Monitoring and Reporting Regulation[106] requires that double counting is excluded, and for this purpose laboratory analyses for the determination of the biomass fraction are not allowed for all installations con-

[105] See Section 1.2 above.

[106] Commission Regulation (EU) No 601/2012 of 21 June 2012 on the Monitoring and Reporting of Greenhouse Gas Emissions pursuant to Directive 2003/87/EC of the European Parliament and of the Council, OJ L 181/30, 12.07.2012.

> nected to that grid where a GO system is applied. The European Commission emphasizes that in order to make use of this system EU Member States need to establish an appropriate accounting and verification system (e.g. through a biogas registry), which would allow for identification of biogas amounts fed into the grid and consumed by installations. The key condition is to avoid double counting of biomass. This should be ensured in all cases including where the grid is connected to other grids, as well as in other EU Member States.[107]

In light of the position of the European Commission mentioned above, it seems feasible to introduce a coherent system of GOs for biogas in the EU/EEA and in Switzerland (or separate equivalent systems that will be mutually recognized). Such GOs will be issued as electronic certificates at the moment of biogas production and follow the physical flow of the gas as soon as biogas is fed into the gas grid, meaning that GOs will not be sold separately from the physical quantities of gas. GOs would be surrendered to the final consumer and deleted from the electronic registry. No double counting, as mentioned above, should be possible. The final consumer, who has a GO corresponding to the amount of gas used, is considered to be using the biogas.

An interesting option would be to study possibilities within the link of the Swiss ETS with the EU ETS that is currently being negotiated. This would allow for more flexibility to be negotiated on the bilateral level between Switzerland and the EEC. However, such a scheme would require an in-depth feasibility study from both Switzerland and the EU, based on the current status of negotiations.

The most secure way to ensure that ERCs are transferred to Switzerland in accordance with the current international climate change framework is to conclude a respective agreement with the EU and other countries interested in exporting their biogas to Switzerland.

Thus, Option A ($CO_2$ levy and mineral oil tax exemptions for *virtually* imported biogas based solely on certificates of origin (with embedded sustainability criteria)) would potentially be possible to implement in the mid-term through changes in the respective Swiss legislation. Option B ($CO_2$ levy and mineral oil tax exemptions for *virtually* imported biogas based on certificates of origin linked with ERCs), which seems to be the preferable option from the viewpoint of Swiss climate change policy, can potentially be implemented through an agreement between the EU and Switzerland in order to enable the transfer of the emission reduction units.

To the extent that an international agreement on energy or other instruments, such as the revision of existing Mutual Recognition Agreements, cannot be achieved in the foreseeable future with the EU, a policy based upon unilateral recognition of foreign GOs could be contemplated. Applying own stand-

[107] European Commission, *Guidance Document on Biomass issues in the EU ETS*, MRR Guidance Document No. 3, Final Version of 17 October 2012.

ards of sustainability, a procedure of unilaterally recognising foreign GOs on a non-discriminatory basis could be introduced. This approach is in line with the unilateral introduction of the principle of Cassis-de-Dijon in Article 9a THG (Bundesgesetz über technische Handelhemmisse).[108] Products placed on the market in accordance with appropriate legislation of the EU or of Member States of the EU and the EEA in principle can be introduced on the basis of such legislation, even if they depart from Swiss standards. Moreover, Swiss producers are allowed to produce and market products domestically even if they are produced in line with foreign standards in accordance with Article 16b THG. Article 2.7 the WTO Agreement on Technical Barriers to Trade supports such polices of unilateral recognition, stating: "Members shall give positive consideration to accepting as equivalent technical regulations of other Members, even if these regulations differ from their own, provided that they satisfied that these regulations adequately fulfil the objectives of their own regulation".

In the next section we shall analyse whether such differentiated taxation of natural gas and virtually imported biogas would be compatible with the obligations of Switzerland under international trade law. We also examine to what extent unilateral recognition of foreign GOs would benefit from administrative and legal assistance under existing Swiss–EU agreements.

[108] SR 946.51

# 6 Exemption from a $CO_2$ levy of virtually imported biogas under WTO law, EU law and Switzerland–EEC 1972 FTA

## 6.1 The scope of application of WTO law, EU law and Switzerland–EEC 1972 FTA to biogas taxation and biogas sustainability

Issues related to biogas taxation and biogas sustainability need to be considered under the relevant provisions of the WTO law, the EU law and the Switzerland–EEC 1972 FTA.[109] WTO law is of particular importance for tax treatment of biogas in the EU and Switzerland in relation to third countries of origin and exportation. EU law and the FTA are of importance in addressing the issue in Swiss–EU relations, while the internal market rules of the EU are important as they inform and influence the interpretation of the FTA, in particular on the part of the EU.

Although the nature of certain types of energy is debatable under WTO law (e.g. whether electricity is a good or a service), it is clear that biogas legally is a physical good. Hence, it is covered by the legal disciplines on trade in goods (GATT and other Annex 1A Agreements). In the absence of any specific preferential agreements, the WTO law applies. It also plays an important role inasmuch as all PTAs are based on the WTO law and it informs the interpretation of the PTAs.[110]

Inside the EU, internal market rules apply including the respective non-discrimination disciplines, whereas in relation to third countries WTO law applies instead. In addition, external trade relations between the EU and third countries may be governed by PTAs (e.g. the Free Trade Agreement between Switzerland and the EEC of 1972). Taxes are still a matter of national competence of the EU Member States. However, the EU has an exclusive external trade competence, meaning that only it can impose import and export tariffs.[111]

Primary and secondary EU law addressed in this legal opinion does not apply in relations between Switzerland and the EU, as Switzerland is not a member of the European Union. However, it is sometimes used as guidance for interpretation of similar provisions in the free trade agreement concluded between Switzerland and the EEC in 1972. It may also serve as useful guidance for evaluation of certain political risks.

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[109] SR 0.632.401.

[110] See Ecoplan et al. (2013) Border Tax Adjustments: Can energy and carbon taxes be adjusted at the border? pp. 23–24; Appellate Body Report, United States – Tax Treatment for "Foreign Sales Corporations" adopted on 20 August 2001, WT/DS108/AB/R, paras. 90 and 98.

[111] B Olsen "Gaining intergovernmental acceptance: legal rules protecting trade", in J.E. Milne and M.S. Andersen (eds.) *Handbook of Research on Environmental Taxation* (Edward Elgar 2012).

The Free Trade Agreement between Switzerland and the European Economic Community creates a free trade zone in accordance with Art. XXIV GATT. It aims to remove all obstacles to trade in industrial goods between the Contracting Parties.

## 6.2 WTO Law

### 6.2.1 The rules on differentiated taxation

The main concern of WTO rules on internal taxation is the prohibition of discriminatory treatment of imported products and their like or directly competitive or substitutable domestic counterparts. Art. III of the GATT prohibits WTO Members from treating imported products less favourably than like domestic products. Furthermore, under the most-favoured nation (MFN) clause enshrined in Art. I of the GATT, like products imported from different WTO Members should not be discriminated against. As a Member of the WTO, Switzerland has to respect the relevant GATT rules on non-discrimination. In our view, discrimination may occur under two possible scenarios: *(i)* if Switzerland exempts virtually imported biogas (which is currently being imported into Switzerland as 'natural gas') from the $CO_2$ levy while not extending the same treatment to the natural gas; and *(ii)* if Switzerland exempts from the $CO_2$ levy imports of biogas coming from one WTO Member, while not extending the same advantage to biogas or natural gas coming from other sources.

#### a) Consistency with the National Treatment Obligations

As the WTO Appellate Body explained, "the purpose of Art. III GATT 'is to ensure that internal measures "not be applied to imported or domestic products so as to afford protection to domestic production"'. To this effect, Art. III obliges Members of the WTO to provide equality of competitive conditions for imported products in relation to domestic products."[112] GATT Art. III aims at "avoiding protectionism, requiring equality of competitive conditions and protecting expectations of equal competitive relationships".[113] The general purpose of GATT Art. III, which informs the rest of Art. III,[114] is enshrined in Art. III:1: "…internal taxes and other internal charges and laws, regulations and requirements … should not be applied to imported or domestic products so as to afford protection to domestic production".

[112] Appellate Body Report, *Japan – Alcoholic Beverages II*, at109.

[113] Appellate Body Report, *Korea – Alcoholic Beverages*, para. 120. See generally Thomas Cottier & Matthias Oesch, *International Trade Regulation: Law and Policy in the WTO, the European Union and Switzerland*, Bern/London: Cameron May & Staempfli 2005, at 382 ff.

[114] Appellate Body Report, *Japan – Alcoholic Beverages II*, at 111.

Under Art. III:2 of the GATT, two non-discrimination obligations can be distinguished: (i) an obligation relating to internal taxation of "like products" set out in the first sentence; and (ii) an obligation relating to internal taxation of directly competitive or substitutable products set out in the second sentence.[115] If an internal tax is found to be consistent with the first sentence of Art. III:2, it may still violate the second sentence. Thus, once the consistency of a measure with the first sentence is established, it is necessary to examine further whether the measure is consistent with Art. III:2, second sentence.[116] As such, the second sentence of Art. III:2 covers a broader category of products than the first one.[117] Accordingly, there are two different tests of consistency of internal taxation with each sentence.

*(i) Art. III:2, first sentence*

The three-tier test of consistency with Art. III:2, first sentence, requires the examination of the following criteria:

- whether the measure at issue is an *internal tax or other internal charge* on products;
- whether the imported products and the domestic products are *like products*;
- whether the imported products are *taxed in excess* of the domestic products.[118]

As such, the central question in an examination of whether biogas could be exempted from the internal $CO_2$ tax based on certificates of origin and/or certificates of origin linked with ERCs is whether domestically produced biogas and imported natural gas are like products. As we previously observed in the Legal Opinion on Differential Taxation of Electricity, if the products at issue are determined to be like, even a slight difference in the tax rate for domestic products and imports would lead to a finding of discrimination against imported products.[119] According to the practice of the WTO Appellate Body, the determination of likeness involves the assessment of physical characteristics, end uses, consumer preferences and tariff classification of the products at issue. WTO panels and the Appellate Body have traditionally employed these criteria in assessing the likeness of products.[120] Consequently, the question that has direct bearing on our analysis is whether, based on these traditional likeness criteria, bio-

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[115] Art. III:2 of the GATT reads:

> The products of the territory of any contracting party imported into the territory of any other contracting party shall not be subject, directly or indirectly, to internal taxes or other internal charges of any kind in excess of those applied, directly or indirectly, to like domestic products. Moreover, no contracting party shall otherwise apply internal taxes or other internal charges to imported or domestic products in a manner contrary to the principles set forth in paragraph 1.

[116] Appellate Body Report, *Canada – Periodicals*, para. 468.

[117] Appellate Body Report, *Japan – Alcoholic Beverages II*, at112.

[118] Appellate Body Report, Canada – Periodicals, 468; Peter Van den Bossche, Werner Zdouc, *The Law and Policy of the World Trade Organization*, 3rd edition, Cambridge University Press (2013), at 356.

[119] Legal Opinion on Differential Taxation of Electricity, p. 31. Appellate Body Report, *Japan – Alcoholic Beverages II*, at 22.

[120] Appellate Body Report, *Japan – Alcoholic Beverages II*, supra, p. 114; Appellate Body Report, *European Communities – Measures Affecting Asbestos and Asbestos Containing Products (EC – Asbestos)* adopted 5 April 2001, WT/DS135/AB/R, para. 101.

gas could qualify as a different (or 'unlike') products from the natural gas and hence, whether differential taxation of these products is permissible. Similarly to the differentiation between 'green' and 'grey' electricity, domestically produced biogas and imported natural gas are likely to be 'like products'. First, according to the European Biogas Association, biomethane molecules cannot be differentiated from the methane molecules contained in natural gas.[121] Hence, biogas (or more specifically, biomethane) and natural gas have similar physical properties and could not be easily distinguished based on physical characteristics, when transported through the gas grid.

According to the Appellate Body in *EC – Asbestos*, if products are physically like, a higher burden is placed on the complaining Member to overcome the indication of likeness on the basis of one of the other criteria.[122] Second, biogas and natural gas have similar end uses: they can be utilized either as a vehicle fuel or for production of electricity, heating and cooling. Third, similarly to the case with 'green' v. 'grey' electricity, one may argue that Swiss consumers prefer sustainably produced biogas to natural gas and therefore these products are not 'like'.[123]

In analysing likeness of biofuels and fossil fuels, the relevant question is whether products that are produced using different process and production methods (PPMs), can be found to be 'unlike' even if these different methods do not leave a physical trace in the final product (NPR-PPMs). GHG emission is an NPR-PPM because it relates to the biofuel production process of an individual producer and does not have an impact on the physical characteristics of the end-product. The issue whether NPR-PPMs are relevant in examining 'likeness' of products under Art. III:4 GATT arose in *US – Tuna (Mexico)*. In that case, the panel observed that the NPR-PPMs differences are not relevant in examining whether products are 'like'. It ruled that the Mexican tuna had to be treated no less favourably than American tuna notwithstanding the fact that dolphins were incidentally killed by Mexican vessels.[124] Similarly, in *US – Malt Beverages*, the panel concluded that the difference in size between the firms manufacturing products (small, artisanal v. large, industrial firms) was irrelevant in the determination of likeness of the final product under Art. III:2.[125] However, commentators have observed that the concept of likeness has evolved since those decisions were adopted. The Appellate Body's approach in the *EC – Asbestos* case seems to indicate that, if PPMs affect the competitive relationship between two products, a specific PPM will become relevant in the likeness determination. PPMs could be considered under consumer preferences or could be reflected in relevant market studies. Nowadays, NPR-PPMs may have a greater impact on consumers' perceptions and decisions, and thus on the nature and extent of

[121] European Biogas Association, "Report on the work carried out regarding a proposal for an EU Green Gas Certificate Scheme", December 2013, available at: http://bit.ly/1xFlZyH (accessed 15.09.2014).

[122] Appellate Body Report, *EC – Asbestos*, para. 118.

[123] See Legal Opinion on Differential Taxation of Electricity, at 32.

[124] GATT Panel Report, *US – Tuna (Mexico)*, para. 5.15.

[125] Panel Report, *US – Malt Beverages*, para. 5.19.

the competitive relationship between and among products.[126] Hence, NPR-PPMs may be considered when examining the 'consumer preferences' criterion under the traditional likeness test.

However, even though certain consumers may give preference to sustainably produced biogas over natural gas, one may argue that once biogas is injected into the grid and introduced into the energy mix, the consumers will no longer be able to distinguish between the two types of gas. Therefore, the consumer preferences criterion, which may play a decisive role in other circumstances, may not be used to lead to the conclusion that virtually imported biogas and domestic natural gas are not 'like' products.

Finally, the fact that virtually imported biogas will be classified under the same tariff code as the natural gas based on the physical properties and nature of the imported product adds weight to the conclusion that, currently, virtually imported biogas and natural gas are likely to be deemed 'like products'. The analysis may be different to the extent that the blending of natural gas is accompanied by GOs, which allow the consumer to identify the origin of the product and thus align patterns of consumption to the origin and mode of production of the gas bought. Today, no precedent exists in WTO law on this point ,which will equally arise in the field of electricity. At any rate, the virtually imported biogas and natural gas remain in a competitive relationship.

*(ii) Art. III:2, second sentence*

If natural gas and biogas are not considered like products (inter alia due to the use of certificates of origin for the later), they can be deemed 'directly competitive or substitutable products' and will be covered by the discipline of GATT Art. III:2, second sentence. If biogas and natural gas are found to be 'directly competitive or substitutable' products, compliance of a $CO_2$ tax exemption with the national treatment obligation will be assessed under the second sentence of Art. III:2 GATT.

The legal test of compliance with Art. III:2, second sentence, requires the examination of the following prongs:

(1) whether the imported products and the domestic products are 'directly competitive or substitutable' and in competition with each other;
(2) whether the directly competitive or substitutable imported and domestic products are 'not similarly taxed'; and
(3) whether the dissimilar taxation of the directly competitive and substitutable imported and domestic products is applied 'so as to afford protection to domestic production'.[127]

[126] Peter Van den Bossche, Werner Zdouc, *The Law and Policy of the World Trade Organization, 3rd edition*, Cambridge University Press (2013), at 393.

Accordingly, in this case the NT obligation would not require the imposition of the same tax rate as in the case of 'like' products, but the imposition of a tax which is comparable, so that it does not 'afford protection to domestic production'.[128] Under Art. III:2, second sentence, the tax differential has to be more than *de minimis* to support a conclusion that the internal tax imposed on imported products is GATT-inconsistent. According to the WTO practice, the *de minimis* threshold is determined on a case-by-case basis.[129] As such, for the $CO_2$ tax exemption to pass the non-discrimination requirement, a comparable tax burden should be placed on domestic biogas and imported natural gas, although it may be levied by different procedures and also show some variance on substance. This, however, is not the case since one product will be completely exempted from the $CO_2$ tax while the tax will still be levied on natural gas as a competing product.

In conclusion, there are three possible outcomes of a WTO panel's analysis of compliance of a $CO_2$ tax exemption for biogas with the non-discrimination rule of Art. III:2 GATT:

(1) biogas and natural gas are found to be not 'like' products and therefore open to different taxation;
(2) biogas and natural gas are considered 'like' products and the difference in tax rates for these products automatically amounts to the violation of the national treatment obligation; or
(3) biogas and natural gas are found to be 'directly competitive or substitutable' products and a violation of the national treatment obligation might be caused by a disproportionate tax burden on the imported electricity.

Based on our analysis of the available facts and under current circumstances, biogas and natural gas are in a competitive relationship and likely to qualify as 'like products' in the absence of certificates of origin, and as 'directly competitive products' upon the introduction of such certificates. In this case, the measure may still be justified under the exceptions of Art. XX GATT.

### b) Consistency with the Most-Favoured Nation Obligation

Art. I:1 GATT prohibits discrimination between 'like products' coming from the territory of different members of the WTO. Similarly to Art. III:2 GATT, Art. I:1 covers, *inter alia*, internal measures. To examine consistency of a measure with Art. I:1 GATT, four criteria must be examined:

(1) Whether the measure at issue is a measure covered by Art. I:1;

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[127] Appellate Body Report, *Japan –Alcoholic Beverages II*, supra, p. 116; Peter Van den Bossche, Werner Zdouc, *The Law and Policy of the World Trade Organization, 3rd edition*, Cambridge University Press (2013), at 356.

[128] See Art. III:2 read together with Ad Art. III:2.

[129] Appellate Body Report, *Japan – Alcoholic Beverages II*, supra, at 118.

(2) Whether the measure grants an 'advantage';
(3) Whether the products at issue are 'like' products;
(4) Whether the advantage at issue is accorded 'immediately and unconditionally' to all like products concerned, irrespective of their origin or destination.[130]

With respect to the first criterion, a tax exemption, which is an internal measure, is covered by the scope of Art. I.1. Further, the fact that $CO_2$ tax exemption grants an advantage also raises little doubt. Hence, similarly to Art. III:2 GATT, the question of whether biogas and natural gas are 'like' products is of paramount importance in examining the consistency of a measure with Art. I:1 GATT. At the moment, the case law has not given a clear answer to the question whether the concept of likeness in Art. I:1 should be construed as narrowly as in Art. III:2, first sentence or as broadly as in Art. III:2, second sentence. Nevertheless, under Art. I:1 GATT, the same traditional likeness criteria are used to determine whether the products concerned are 'like'. As such, based on our analysis *supra* under Art. III:2, a WTO panel most likely would find that virtually imported biogas and natural gas are like products under Art. I:1.

In conclusion, depending on whether biogas and natural gas are like products, there are two possible outcomes of a WTO panel's analysis of compliance of a $CO_2$ tax exemption for biogas with the MFN principle under Art. I:1 GATT:

1. biogas and natural gas are found to be not 'like' products and therefore open to different taxation;
2. biogas and natural gas are considered 'like' products and the difference in tax rates for these products coming from different sources automatically amounts to the violation of the MFN obligation.

### c) Recourse to Art. XX Exceptions to Justify Potential Violations

Similarly to the situation with the differential electricity rates as described in our previous legal opinion,[131] justification of a potential violation of GATT non-discrimination rules under Arts. I:1 and III:2 GATT by the application of a $CO_2$ tax exemption for biogas can be sought under the general exceptions clauses of Art. XX GATT.

Art. XX GATT contains ten subparagraphs incorporating public policy goals that, under certain conditions, may trump the goal of trade liberalization, and an introductory clause (chapeau). Examination of

[130] Peter Van den Bossche, Werner Zdouc, *The Law and Policy of the World Trade Organization, 3rd edition*, Cambridge: Cambridge University Press (2013); Panel Report, *Indonesia – Autos*, para. 14.138; Thomas Cottier & Matthias Oesch, *International Trade Regulation: Law and Policy in the WTO, the European Union and Switzerland*, Bern/London: Cameron May & Staempfli 2005, at 346 ff.

[131] See Legal Opinion on Differential Taxation of Electricity, at 34–37.

a measure under Art. XX envisions a two-tier assessment of a measure's compliance with the conditions set both by the subparagraphs and the chapeau of Art. XX GATT.[132]

A crucial initial point in the analysis of the possibility for justification of a $CO_2$ tax exemption under Art. XX GATT is the determination of the objective with which the tax is introduced. The measure at issue could be provisionally justifiable under sub-paragraph (g) and/or possibly (b) of Art. XX. In order to be provisionally justifiable under Art. XX, the purpose of the tax must be either the protection of the environment, including climate change mitigation, if recourse is made to paragraph (g), or the reduction of risks to human, animal and plant life or health, if recourse is made to paragraph (b). To this effect, it will be important to establish that biogas contributes to the reduction of $CO_2$ emissions and/or is preferable from the point of view of human and animal health. In other words, the objective of the tax exemption cannot be formulated as merely the promotion of renewable energy in Switzerland, because this could be perceived as a measure related to a protectionist objective (i.e. support of domestic production of biogas) rather than environmental or public health purposes. This needs to be taken into account by the government when developing the legislation and officially announcing the purpose of the tax exemption.

Further, in order to be WTO-consistent, a measure must 'relate to' the conservation of exhaustible natural resources (in the case of climate change mitigation and reduction of GHG emissions and protection of clean air). Another important caveat is that paragraph (g) also requires that a measure is taken in conjunction with restrictions on domestic production or consumption. In order to meet the requirements of Art. XX(b) defence, the measure at issue must be 'necessary' to achieve a public policy objective. The necessity requirement has been interpreted by the WTO adjudicative bodies to mean that WTO Members must use the 'less trade restrictive' measure to achieve the policy objective of protecting human, animal or plant life or health.

Once a $CO_2$ tax exemption has fallen within the scope of the above-mentioned paragraphs, it will also have to satisfy the conditions of the chapeau (introductory paragraph) of Art. XX.[133] The chapeau requires that a measure does not constitute "a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade". In other words, the chapeau of Art. XX requires differentiation in the design and the implementation of a

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[132] Panel Report, *United States – Standards for Reformulated and Conventional Gasoline* (*US – Gasoline*), 29 January 1996, WT/DS2/R, paras 6.20 and 6.35.The Appellate Body in *US – Gasoline* presented a two-tiered test under Article XX, as follows: "In order that the justifying protection of Article XX may be extended to it, the measure at issue must not only come under one or another of the particular exceptions - paragraphs (a) to (j) - listed under Article XX; it must also satisfy the requirements imposed by the opening clauses of Article XX. The analysis is, in other words, two-tiered: first, provisional justification by reason of characterization of the measure under [one of the exceptions]; second, further appraisal of the same measure under the introductory clauses of Article XX". See generally Thomas Cottier & Matthias Oesch, International Trade Regulation: Law and Policy in the WTO, the European Union and Switzerland, Bern/London: Cameron May & Staempfli 2005 p. 346 ff, Bern/London: Cameron May & Staempfli 2005, at 428–465.

[133] Appellate Body Report, *US – Gasoline*, supra, at 22.

measure between countries where conditions (with respect to the objective of the measure) are not the same.

In conclusion, differential taxation of natural gas and biogas will be legally possible if the conditions above are met in the design of the measure and the contribution of biogas to reducing $CO_2$ emissions can be sufficiently demonstrated.

### 6.2.2 Subsidies disciplines

The $CO_2$ tax exemption for biogas physically fed into the Swiss natural gas grid may fall under the WTO disciplines on subsidies. The respective provisions, which address the subsidies as a form of governmental intervention which distorts international trade by giving 'an artificial competitive advantage to exporters or to import-competing industries', are contained in Arts. VI and XVI GATT and the Agreement on Subsidies (ASCM). As we have elaborated in detail in the previous Legal Opinion on Differential Taxation of Electricity,[134] two categories of subsidies currently exist under the WTO law: prohibited and actionable. According to Art. 3.1 of the ASCM, prohibited subsidies include subsidies that are contingent *de jure* or *de facto* on export performance or on the use of domestic goods instead of imported goods. Actionable subsidies are not prohibited unless they cause an adverse effect on international trade.

A WTO Member can take two types of actions against subsidies: it can bring a claim to the WTO under a 'multilateral track' or start a countervailing investigation under the 'unilateral track'.

We recall that under the multilateral track, in order to prove that it constitutes a subsidy, a complaining party will have to show that:

- there is a financial contribution by a government or any public body (Art. 1.1(a)(1)) or an income or price support (Art. 1.1(b));
- the financial contribution confers a benefit;
- the subsidy is specific;
- it has an adverse effect on the trade interests of other WTO Members.

***a) Financial contribution***

A financial contribution by a government can take the form of: (a) direct transfers of funds (e.g. subsidies in the narrow sense); (b) fiscal incentives (government revenue that is otherwise due is forgone); (c) provision of goods or services apart from general infrastructure or purchase of goods. In addition, the ASCM covers situations where a government entrusts a private body to provide a financial contribution in any of these three forms or provides financial support indirectly (e.g. through a funding

[134] See Legal Opinion on Differential Taxation of Electricity, see fn 8 above, at 42–48.

mechanism) (Art. 1.1(a)(1)(iv) ASCM). Importantly, prohibited subsidies are presumed to be specific according to Art. 2.3 ASCM.

With respect to the first step of the analysis, there is a requirement that a financial contribution should be provided by a government or a public body. All levels of government (central or local) fall under this definition. Thus, the $CO_2$ tax exemption for biogas, in principle, meets this requirement.

Following the same logic as in our previous Legal Opinion on Differential Taxation of Electricity, the exemption of biogas physically fed into the Swiss natural gas grid may be covered by ASCM Art. 1.1(a)(1)(ii) – "government revenue that is otherwise due is foregone or not collected". However, as we have noted, based on the WTO practice, the mere fact that revenues are not 'due' from a fiscal perspective (i.e., where a government chooses not to tax certain income) does not determine that the revenues are or are not 'otherwise due' within the meaning of Art. 1.1(a)(1)(ii).[135] Therefore, the benchmark and the exact outcome of the analysis would depend on the design of a taxation system in Switzerland in general and on the taxation of biofuels and biogas in particular. Furthermore, WTO Members not only have sovereign authority to determine the exact structure and rate of the domestic tax regimes, but also to make adjustments in the taxation system, as tax systems are not static.

In examining whether the measure at issue falls under Art. 1.1(a)(1)(ii), the following considerations have to be taken into account:

- comparison between the tax treatment applicable to the alleged subsidy recipients (objective reason behind the differential treatment);
- benchmark for comparison – tax treatment of comparable income of comparably situated taxpayers, whereas the structure of domestic tax regime and its organising principles play an important role;
- reasons for the challenged tax treatment as compared to the benchmark tax treatment.

First, it is necessary to note that differential tax rates for different energy sources will be envisaged at the outset by the Swiss government following the environment-related objectives pursued. Furthermore, some academics have observed that when an environmental objective lies behind the differential tax rates (or tax exemptions), this objective can be considered as a principle defining the logic of a tax.[136] Thus, a WTO panel would have to consider the objectives of the measure and evaluate how they correlate with the $CO_2$ tax exemption for biogas physically fed into the Swiss natural gas grid. Therefore, while there is no certainty, the first element of the analysis, i.e. foregoing of government revenue

[135] See Legal Opinion on Differential Taxation of Electricity, see fn 8 above, at 44; Appellate Body Report, *US – FSC*, paras. 88–89.

[136] Luca Rubini, The Definition of Subsidy and State Aid. WTO and EC Law in Comparative Perspective, Oxford University Press, 2009, at 260–280.

which is otherwise due, may not be met, and the $CO_2$ tax exemption for biogas would not constitute a subsidy.

***b) Benefit***

The second step of the analysis is to determine whether a financial contribution confers a benefit to the recipient (i.e. to the biogas producers).[137] To examine whether a possible financial contribution confers a benefit in the present case, a panel will have to assess the situation of the biogas producers both with and without a financial contribution, i.e. whether a $CO_2$ tax exemption confers a benefit. The finding of a benefit conferred by a $CO_2$ tax exemption may depend on the capital costs of biofuel production. However, comparing a situation with and without a tax, it is likely that a benefit will be found to exist for blended biofuels.

***c) Specificity***

Third, to be covered by the ASCM, a subsidy has to be specific. According to Art. 2 of the ASCM, specificity is established where a subsidy is limited to certain enterprise(s) or industry/industries, or enterprises in certain regions. Most likely, the tax exemption for biofuels would be deemed industry-specific by a WTO panel.

***d) Adverse effects***

Finally, Art. 5 ASCM prohibits WTO Members from resorting to the use of specific subsidies that cause *adverse effects* on the interests of other Members. The adverse effect can take the form of:

(1) injury to the domestic industry of another WTO Member;

(2) nullification or impairment of benefits accruing directly/indirectly to another WTO Member;

(3) serious prejudice to the interests of another Member.

Determination of *injury*, which is defined in Art. 15 ASCM, is complex and includes assessment of the volume of subsidised imports, their effect on prices of the domestic like product and the impact of the imports on a domestic producer. Here, similarly to Art. III GATT, the question of 'likeness' also arises. Most likely, differential taxation will not cause increased imports of biogas to neighbouring countries due to the limited production capacity.

*Nullification or impairment* means that a benefit was granted to the WTO Member, and this benefit was nullified or impaired by the application of subsidies by another Member (in our case – Switzerland). For instance, in the GATT report on *EEC – Oilseeds* (adopted), the panel found that such nullifi-

[137] For a more detailed discussion on the definition of 'benefit' and relevant WTO practice see Legal Opinion on Differential Taxation of Electricity, at 46–47.

cation or impairment would occur where "the effect of a tariff concession is systematically offset or counteracted by a subsidy programme".[138]

*Serious prejudice* is defined in Art. 6 ASCM. There are four instances of presumption of serious prejudice, e.g. the forgiveness of debts (i.e. forgiveness of government-held debt, grants to cover debt payments) or subsidies to cover operating losses sustained by an industry. The ASCM further identifies four situations of serious prejudice, including the effect of the subsidy to displace or impede the imports of a like product (natural gas) into the market of the subsidising Member (i.e. Switzerland). This may be the situation in the case at hand. Here the relevant factor would be whether the $CO_2$ tax exemption is based on country of origin of the biofuel.

In sum, there is some likelihood that the $CO_2$ tax exemption for biogas physically fed into the Swiss natural gas grid may qualify as a subsidy, although it is difficult to draw precise conclusions due to the absence of WTO practice on environmental subsidies. It should be noted that, unlike GATT, the ASCM does not have exception clauses similar to GATT Art. XX. The possibility of Art. XX application to the ASCM is a subject of purely academic discussion and is not likely to be considered by a WTO panel in a real case. Yet, it is unlikely that the EU will challenge Switzerland's biogas policies at the WTO because even in the EU itself, for instance, in Sweden, the differential tax treatment of virtually imported biogas vs. physically imported biogas is not harmonized. Whether or not other countries may challenge the measure will largely depend on the impact of the measure on imports.

## 6.3 EU Law

### 6.3.1 The rules on differentiated taxation

The Treaty on the Functioning of the European Union (TFEU) in Art. 110 sets the key rule on non-discriminatory taxation for the EU internal market. Namely, the relevant provision reads that "no Member State shall impose, directly or indirectly, on the products of other Member States any internal taxation of any kind in excess of that imposed directly or indirectly on similar domestic products". Additionally, "no Member State shall impose on the products of other Member States any internal taxation of such a nature as to afford indirect protection to other products".

The wording of Art. 110 TFEU stems from Art. III:2 GATT 1947 referred to above[139] and basically prohibits any violation of national treatment with respect to the goods from another EU Member State. The prohibition of discriminatory taxation under Art. 110 TFEU is not absolute and is subject to justification on the grounds of objective reasons.

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[138] Panel Report, *European Economic Community – Payments and Subsidies Paid to Processors and Producers of Oilseeds and Related Animal-Feed Proteins*, adopted on 25 January 1990 (L/6627 – 37S/86).

[139] Art. III:2 GATT, as mentioned above, sets the national treatment standard, which requires WTO Members not to impose additional/excessive (in comparison with taxes on like domestic goods) internal charges or taxes on goods (e.g. in our case – biogas) imported from the territory of another WTO Member.

In addition, discriminatory taxation may lead to violation of the key TFEU provisions on free movement of goods under Art. 34 TFEU.[140]

In light of the questions raised in the present legal opinion, the most recent ECJ case-law on free movement of goods as applicable to renewable energy is of interest. In the recent case on differentiated taxation for promotion of green electricity[141] the ECJ tested Swedish legislation which provides that only green electricity production installations located in Sweden may be awarded electricity certificates. In turn, these certificates may be sold to end-consumers or to electricity suppliers that are subject to a quota obligation. Failure to comply with the quota may lead to an obligation to pay a fee. *Alands Vindkraft* is a Finnish company operating wind farms on Finnish territory, which, however, are connected to the Swedish electricity grid. *Alands Vinkraft's* application for green certificates was consequently denied, since it generated electricity outside Sweden. The ECJ found that the objective of promoting use of renewable energy sources for the production of electricity is in principle accepted as justification for barriers to the free movement of goods. The ECJ concluded that Art. 34 TFEU does not preclude national legislation of the EU Member States which restricts the granting of tradable certificates to green electricity produced on the territory of the EU Member State concerned. While impairing the internal market of the EU, the restrictions related to the fact that EU Members are not willing to extend support measures to industries outside their own borders.

Apart from a general rule of the primary EU law, at the level of the secondary EU law the abovementioned Energy Taxation Directive 2003/96/EC harmonises certain tax practices of the EU Member States in the energy sector. The Directive explicitly provides for tax exemptions and tax reductions that can be granted under certain conditions by Member States. This shall serve the promotion of renewable energy, as well as taking into consideration the changes in the prices of the input products. The Directive, as secondary law of the EU, does not apply *per se* to third countries, including Switzerland. So far Switzerland has not taken over energy-related secondary EU law. For the electricity sector this may be possible through the Electricity Agreement that is currently being negotiated. Full application of secondary EU law to Switzerland would be possible only if it accedes to the EU.

### 6.3.2 Subsidies disciplines

The key provision on subsidies in the primary EU law deals with subsidies in the internal EU market. Article 107 TFEU (ex Article 87) reads: "[s]ave as otherwise provided in the Treaties, any aid granted by a Member State or through State resources in any form whatsoever which distorts or threatens to distort competition by favouring certain undertakings or the production of certain goods shall, in so far as it affects trade between Member States, be incompatible with the internal market." Similarly to

[140] N. Bammens, *The principle of non-discrimination in international and European tax law*, IBFD Doctoral Series 2012, at 543.

[141] ECJ, *Ålands Vindkraft AB v Energimyndigheten*, Case C-573/12.

WTO law, simultaneous application of subsidies disciplines (Art. 107 (1) TFEU) and of non-discrimination disciplines (Art. 110 TFEU) is not excluded.[142]

The key idea behind Art. 107(1) TFEU is to prevent state aid which distorts competition in the internal market and affects trade between EU Member States which is contrary to the common interest. Based on Art. 107(3)(c) TFEU the European Commission may consider certain state aid practices compatible with the internal market, where they are aimed at facilitation of development of certain economic activities within the EU, if there is no adverse effect on trading conditions contrary to the common interest. According to the Guidelines on State aid for environmental protection and energy 2014–2020[143], it is important to take into consideration the environmental and energy policy of the EU, and specifically its climate change mitigation targets. Thus, the Guidelines explicitly mention aid for energy from renewable sources that under specific conditions may be compatible with the internal market.[144]The primary objective of aid in the energy sector is to ensure a competitive, sustainable and secure energy system in a well-functioning energy market in the EU. The state aid in the energy sector should not only be appropriate, but also have an incentive effect and be proportionate. According to the Commission the incentive effect means that the aid has an effective impact on the investment decision in such a way that it changes the behaviour of the beneficiary leading the beneficiary to increase the level of environmental protection or leading to a better functioning of the Union energy market.[145] At the same time, state aid to energy has to be proportionate, i.e. aid amount per beneficiary is limited to the minimum needed to achieve the environmental protection or energy objective aimed for.[146] The Guidelines set more stringent conditions for food-based biofuels. Thus, in general, subsidies for renewable energy are permitted under certain conditions and subject to their notification to the EU Commission. On the level of secondary law, subsidies are subject to the disciplines of the Council Regulation (EC) 597/2009 of 11/06/2009 on protection against subsidised imports from countries not members of the European Community. If the differentiated taxation of biogas causes injury to the EU biogas industry by undercutting or depressing the EU market price this might raise concerns under subsidies disciplines of the secondary EU law.[147]

Currently there is no bilateral agreement between Switzerland and the EU addressing the issues of subsidization of renewable energy. Therefore, the assessment as to whether Switzerland subsidizes biofuels will be essentially based on the general WTO subsidies disciplines discussed above, which are

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[142] See ECJ, C-73/79, *Commission/Italy*, ECR 1980, 1533, para. 9; C-206/06, *Essent*, ECR 2008, I-5497, para. 59.

[143] Communication from the Commission, *Guidelines on State aid for environmental protection and energy 2014-2020*, 2014/C 200/01, as of 28.06.2014.

[144] *Ibid.*, point 1.2.

[145] *Ibid.*, point 3.2.4.

[146] *Ibid.*, point 3.2.5.

[147] Council Regulation (EC) 597/2009 of 11/06/2009 on protection against subsidised imports from countries not members of the European Community, L 188 of 18/07/2009, at 93.

implemented in Regulation 597/2009. The probability that the EU might initiate an anti-subsidies investigation is quite low. Even in the current situation, where foreign biogas fed into the natural gas grid and biogas virtually imported to Switzerland does not qualify for tax exemption, while the biogas physically fed into the Swiss natural gas grid qualifies for tax exemption subject to sustainability requirements, it seems improbable that any anti-subsidies investigations would be initiated against Switzerland. As we have mentioned above, even in the EU itself, the differential tax treatment of virtually imported biogas vs. physically imported biogas is not harmonized (e.g. Sweden). Moreover, from a purely subsidies disciplines perspective it is not probable that Switzerland would increase its exports of biogas to the EU due to its limited capacity to produce biofuels.

## 6.4 Switzerland–EEC 1972 FTA

### 6.4.1 The rules on differentiated taxation

#### a) General Overview

Similarly to Art. 110 TFEU, the FTA Switzerland–EEC contains a provision based on the general national treatment rules envisaged in Art. III:2 GATT. Art. 18 FTA Switzerland–EEC provides that the "contracting parties shall refrain from any measure or practice of an internal fiscal nature establishing, whether directly or indirectly, discrimination between the products of one contracting party and like products originating in the territory of the other contracting party". In practice, the Swiss Federal Tribunal for interpretation purposes mainly refers to the link between Art. 18 FTA Switzerland–EEC and Art.110 TFEU, rather than to Art. III GATT.[148]

Art. 20 FTA Switzerland–EEC provides similar exceptions to Art. XX GATT. Due to the structure of the FTA, and according to the wording of the respective provisions, the application of Art. 20 FTA Switzerland–EEC is limited to restrictions on imports, exports and transit of goods and does not apply (as in EU law) to taxation issues. There is also no proportionality test to be applied under the FTA, and it can be resorted to only in very special circumstances, as the provisions of the FTA have to be interpreted in light of its object and purpose according to the customary rules of interpretation.[149]

#### b) Compatibility of differentiated taxation for biogas with the FTA Switzerland–EEC

Art. 18 FTA applies to the situation of discriminatory fiscal treatment of *like* products. If Switzerland allows virtual imports of biogas from abroad (mainly from the EU), it would accord similar treatment

[148] Botschaft über die Genehmigung der Abkommen zwischen der Schweiz und den Europäischen Gemeinschaften vom 16.08.1972, BBl 124 II 653, 697.

[149] Art. 31 (1) Vienna Convention on the Law of Treaties of 23 May 1969, SR 0.111. See: ECJ, Judgment of 7 March 2013, C-547/10 P, Swiss Confederation vs. Commission, para. 83.

to domestic and imported biogas that was fed into the gas grid. There may be questions raised by importers of natural gas through the same gas grid, mainly due to differentiation of virtual imports vs. physical imports and the likeness of natural gas and biogas that were fed into the gas grid for similar reasons to those discussed above in the context of WTO law. Differential taxation within Article 18 FTA depends, from the point of view of the EU, on the overall coherence of the tax system at stake in line with jurisprudence relating to the tax provisions in EU law.[150] Differentiated taxation schemes should be operated in an objective, transparent and non-discriminatory manner. From the Swiss point of view, a violation would only be found if differential taxation has protectionist effects and limits imports.[151] As a practical matter, the issue is not likely come up in light of the fact that the EU itself promotes differential taxation of biofuels. Moreover, the Energy Taxation Directive gives enough freedom to the EU Member States to introduce differentiated taxation to pursue environmental goals.[152] However, concerns are more likely to arise in the context of defining appropriate requirements in assessing the quality and the origin of the product.

### 6.4.2 State aid disciplines

According to Art. 23(iii) of the Switzerland–EEC FTA, "any public aid which distorts or threatens to distort competition by favouring certain undertakings or the production of certain goods" is prohibited. In case of the FTA, it is not established whether Switzerland and the EEC intended fiscal state aid measures to be covered by Art. 23 FTA Switzerland–EEC.[153] Yet, a comparison with EU law and WTO law suggests that it is not unreasonable to assume that fiscal measures may also have state aid implications. It is unclear under what conditions this would be the case. In the following, we shall assume that the criteria developed under EU law, which we shall describe in more detail below, can be used as a reference. The prohibition of state aid according to the FTA Switzerland–EEC is subject to implicit exceptions that are not set out in the Agreement, primarily because the EU itself allows for a number of exceptions and justifications in its secondary legislation. For a more detailed legal analysis of this issue we refer to the Legal Opinion on Differentiated Electricity Taxation.[154] In terms of possible claims by the EU against Switzerland based on Art. 23 FTA – the same considerations apply as mentioned above in the section on the EU law (see Section 6.3.2).

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[150] See Thomas Cottier et al., Die Rechtsbeziehungen der Schweiz und der Europäischen Union, Bern: Staempfli Verlag 2014, at 213–222.

[151] *Id*., p. 220, Entscheid der Eidgenössischen Zollrekurskommission vom 29. August 2001 i.S.S. (ZRK 2000-020). VPB 66.44.

[152] The EU jurisprudence confirmed that such differentiation is compatible with Art. 110 TFEU – see the ECJ, Case C-213/96, *Outokumpu* Oy, ECR 1998 I-1777, para. 31; Notably the wording of Art. 18 FTA Switzerland–EEC differs from the wording of Art. 110 TFEU.

[153] See Thomas Cottier & Rene Matteotti, Der Steuerstreit Schweiz-EG: Rechtslage und Perspektiven, in: Schweizerisches Jahrbuch für Europarecht 2006/2007. Bern/Zürich 2007, at 221–256.

[154] See fn. 8 above.

### 6.4.3 Legal and Administrative Assistance in Matters of Indirect Taxation

Finally, it is important to note that the bilateral Agreement on combating tax fraud concluded in 2004 between the EU and Switzerland (provisional application) is of particular importance in the present context.[155] The agreement fully applies to indirect taxation and thus includes tax fraud on the basis of wrongful indications of GOs and technical standards. Members are entitled to deny legal and judicial assistance in cases of minor importance (taxes less than € 25,000 or less than € 10,000 worth of goods traded (Article 9). Importantly the agreement only applies to penalised conduct. To the extent that domestic legislation subpoenas misconduct relating to compliance with technical regulations or standards relating to the taxation, tax reductions or tax exemption of imported biogas, the agreement applies in relation to all EU Members which henceforth have ratified the Agreement.

[155] Abkommen vom 26. Oktober 2004 über die Zusammenarbeit zwischen der Schweizerischen Eidgenossenschaft einerseits und der Europäischen Gemeinschaft und ihren Mitgliedstaaten andererseits zur Bekämpfung von Betrug und sonstigen rechtswidrigen Handlungen, die ihre finanziellen Interessen beeinträchtigen (SR 0.351.926.81).

# 7 Sustainability criteria (linked to emission reduction rights) as a technical regulation or a standard

## 7.1 WTO law

Swiss sustainability requirements could potentially be challenged at the WTO as a technical regulation under the TBT Agreement and Art. III:4 GATT, similarly to the sustainability requirements of the EU Renewable Energy Directive, which has been subject to a WTO complaint by Argentina.[156]

### 7.1.1 TBT Agreement

The TBT Agreement thus provides the relevant legal framework, including the pertinent case law rendered by WTO panels and the Appellate Body on the interpretation and application of the TBT Agreement. With respect to technical regulations and standards, which directly or indirectly concern the protection of the environment, various controversial issues might arise. On the one hand, it is doubtful whether, and if so to what extent, the TBT Agreement covers non-product related process and production methods (NPR-PPMs).[157] On the other hand, it seems clear that labelling requirements (including labelling requirements relating to NPR-PPMs) are TBT measures within the meaning of Annex 1 to the TBT Agreement, and thus fall within the scope of application of the TBT Agreement.[158] At the same time, however, the case law is still not clear in respect to the concrete obligations which WTO Members have to observe in the operation of labelling requirements.

The TBT Agreement applies to the tree types of measures: *(i)* technical regulations; *(ii)* standards; and *(iii)* conformity assessment procedures. In general, the boundary between technical regulations and standards is defined based on their mandatory force: compliance with a document which is a technical regulation is mandatory, while standards are voluntary in nature.[159] Conformity assessment procedures are used to determine whether relevant requirements of technical regulations and standards are fulfilled.[160] The scope of substantive obligations under the TBT Agreement for technical regulations and standards differs. As such, in order to determine the WTO-consistency of a measure with the TBT Agreement, its legal character has to be established. In other words, to determine whether the sustainability requirements for biofuels meet the standards of the TBT Agreement, we have first to examine whether they constitute a 'technical regulation' or a 'standard'.

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[156] DS 459, available at http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds459_e.htm (accessed 15.09.2014)

[157] Peter Van den Bossche, Werner Zdouc, *The Law and Policy of the World Trade Organization*, 3rd edition, Cambridge University Press (2013), at 854.

[158] Notably, in the recent WTO cases (*US – Tuna II* and *US – COOL*) the measures at issue were labelling requirements related to NPR-PPMs.

[159] See definitions of a 'technical regulation' and a 'standard' in Annexes 1.1 and 1.2 to the TBT Agreement.

[160] See definition in Annex 1.3 to the TBT Agreement.

Annex 1.1 to the TBT Agreement defines technical regulation as follows: [d]ocument which lays down product characteristics or their related processes and production methods, including the applicable administrative provisions, with which compliance is mandatory. It may also include or deal exclusively with terminology, symbols, packaging, marking or labelling requirements as they apply to a product, process or production method.

Based on this definition, the Appellate Body in *EC – Sardines* developed a three-pronged test to determine whether a measure is a 'technical regulation':

- The measure must apply to an identifiable product or group of products;
- The measure must lay down product characteristics;
- Compliance with the product characteristics laid down in the measure must be mandatory.[161]

It is important to note that the difference between technical regulations and standards is not always crystal clear and it may be difficult to identify which category a measure belongs to. For instance, in the recent *US – Tuna II* case, the issue of correct characterization of a measure at issue arose. The question was whether the measure establishing the conditions for use of a 'dolphin-safe' label was a technical regulation or a standard. Specifically, the US, a respondent, argued that the measure was not mandatory because it was possible to place products in the market without using the 'dolphin-safe' label. The Appellate Body observed that the mere fact that a labelling requirement does not require the use of a particular label for placing a product for sale on the market does not preclude that this labelling requirement is a technical regulation.[162] Rather, a determination of whether a measure constitutes a technical regulation or a standard must be made in light of the features of the measure and circumstances of the case.[163] According to the Appellate Body, in making such a determination, the following criteria should be considered: *(i)* whether the measure is implemented through a law or regulation of a WTO Member; *(ii)* whether it prescribes or prohibits certain conduct; *(iii)* whether it introduces specific requirements that constitute the sole means of addressing a particular matter; and *(iv)* the nature of the measure.[164] In that case, the Appellate Body decided that the US's measure was a technical regulation, which set out a single and legally mandated definition of a 'dolphin-safe' tuna product and disallowed the use of other labels of tuna products that did not meet this definition. Even though there was no obligation to use the label, its conditions were legally mandatory when used by producers.

Measures that are 'technical regulations' have to comply with the substantive provisions of the TBT Agreement, including the MFN and NT (Art. 2.1 of the TBT Agreement) and should not be more

[161] Appellate Body Report, *EC – Sardines*, para. 176.

[162] Appellate Body Report, *US – Tuna II*, para. 196.

[163] *Ibid*, para. 190.

[164] *Ibid*, para. 188.

trade-restrictive than necessary to fulfil a legitimate regulatory objective (Art. 2.2 of the TBT Agreement).

Annex 1.2 to the TBT Agreement defines an international standard as follows: "[d]ocument approved by a recognized body that provides, for common and repeated use, rules, guidelines or characteristics for products or related processes and production methods, with which compliance is not mandatory. It may also include or deal exclusively with terminology, symbols, packaging, marking or labelling requirements as they apply to a product, process or production method." The Explanatory Note to Annex 1.2 states that "[s]tandards prepared by the international standardization community are based on consensus." Moreover, Annex 1.4 to the TBT Agreement defines an "international body or system" as a "[b]ody or system whose membership is open to the relevant bodies of at least all Members." As such, the TBT Agreement thus establishes the characteristics of a standard and of an international body.

The definition of 'international standard' was further elaborated by the Appellate Body in *US – Tuna II*. According to the Appellate Body, in determining whether a document is an international standard, the following criteria have to be taken into account:

(1) The subject matter of a document is not material, instead, it is crucial that the document is approved by an international standardizing body (not organization);
(2) An international standardizing body should have recognized activities in standardization and its membership should be open to the relevant bodies of at least all Members on a non-discriminatory basis at every stage of a standard's development. An invitation to join such a body should occur automatically once a Member has expressed an interest in joining;
(3) It is not mandatory that an international standardizing body be involved in the development of more than one standard. Furthermore, an international standardizing body does not need to have standardization as its principal function, or even as one of its principal functions;
(4) In examining whether an international body has 'recognized activities in standardization, evidence of recognition by WTO Members as well as evidence of recognition by national standardizing bodies would be relevant. WTO Members shall be aware, or have reason to expect, that the international body in question is engaged in standardization activities'.[165]

The use of international standards provides a benchmark for TBT measures to ensure that they do not become unnecessarily trade-restrictive.[166] Art. 2.4 of the TBT Agreement requires that where relevant international standards exist or their completion is imminent, they should be used as a basis for technical regulations by WTO Members except when such international standards or relevant parts would

[165] Appellate Body Report, *US – Tuna II*, paras. 352–380.

[166] Erik Wijkström, Devin McDaniels, "International standards and the WTO TBT Agreement: Improving governance for regulatory alignment", p.3, available at http://www.wto.org/english/res_e/reser_e/ersd201306_e.pdf (accessed 15.09.2014).

be an ineffective or inappropriate means for the fulfilment of the legitimate objectives pursued, for instance because of fundamental climatic or geographical factors or fundamental technological problems. If a technical regulation is based on an international standard, it is rebuttably presumed not to create obstacles to international trade. As we mentioned above, a standard on sustainability criteria for biofuels is currently being developed by the ISO. If this standard is adopted, or its adoption becomes imminent, Switzerland would have to ensure that its sustainability criteria are based on such an international standard.[167]

Based on the information available to us, the Swiss environmental and social sustainability requirements are likely to constitute a technical regulation. Following the Appellate Body's logic in *US – Tuna II*, even though importation of biofuels, and, more specifically, biogas is allowed even without meeting the sustainability criteria, imports would only qualify for tax exemptions if they did meet the sustainability requirements. As such, it is likely that similar to the measure in *US – Tuna II*, the measure at issue constitutes a single and legally mandated definition of what 'sustainably produced biofuels' means.

It is noteworthy that the EU has already been subject to dispute settlement proceedings in the WTO concerning discrimination against non-European biofuels. First, concerns about the EU Renewable Energy Directive were raised at the WTO TBT Committee. Specifically, in several meetings (on 13 March 2013 and 17–20 June 2013) Indonesia, Malaysia and Argentina argued that the GHG emission thresholds and other calculations for biofuels are arbitrary, are not based on international standards or best available science, and discriminate against biofuels derived from certain crops such as palm or soybean oil, reducing access to the European market.[168] This concern further evolved into a WTO dispute filed by Argentina against the EU on 15 May 2013.[169] In its request for consultations, Argentina argued, *inter alia*, that the measures of the EU and its Member States relating to the sustainability criteria for biofuels were technical regulations that accorded to products imported from Argentina less favourable treatment than that accorded to like products of national origin and like products originating in other countries in violation of TBT Art. 2.1. Argentina also claimed that the object or effect of the measures was to create unnecessary obstacles to international trade and they appear to be more trade-restrictive than necessary to fulfil a legitimate objective contrary to Art. 2.2 of the TBT Agreement. Finally, Argentina claimed that the EU violated Arts. 5.1 and 5.2 of the TBT Agreement on conformity assessment procedures. Argentina did not pursue the case after filing the request for consultations. Therefore, WTO practice at the moment does not offer instructive guidance on how a similar dispute might be decided.

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[167] This is also true for the sustainability requirements currently in place.

[168] See WTO News, "Members grapple with certifying products, and certifying the certifiers", available at http://www.wto.org/english/news_e/news13_e/tbt_29oct13_e.htm (accessed 15.09.2014).

[169] DS 459, available at http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds459_e.htm (accessed 15.09.2014).

Art. 6.1 of the TBT Agreement obliges WTO members, whenever possible, to recognise conformity assessment procedures of other Members even though they may differ from their own. Art. 6.2 of the TBT Agreement encourages mutual recognition of conformity requirements by way of agreements. Upon request of one Party, other Members should enter into negotiations to achieve mutual recognition.[170] These provisions entail an implicit restriction on MFN obligations. They allow selective recognition and they allow bilateral agreements. The legality of bilateral mutual recognition agreements is based thereupon. The provision provides the basis for unilateral recognition of EU and Member State conformity standards by Switzerland for the purpose of accepting certificates of origin of biogas produced within the EU. The same applies to imports from third parties, provided that they basically fulfil comparable requirements. Similarly, the EU and Members may accept Swiss conformity standards for the purpose of facilitating potential exports. Art. 6.2 of the TBT Agreement provides the basis for concluding a particular agreement mutually recognising existing standards. In our view, the provision provides the basis upon which to establish a transnational registration system for biogas production entailing common and/or mutually recognised regulations and standards as suggested by the European Biogas Association (3.1.4 above).

### 7.1.2 GATT Art. III:4

It is well established in the WTO jurisprudence that Art. III:4 and the TBT Agreement are closely related. The language of the second recital of the TBT Agreement indicates that the TBT Agreement expands on pre-existing GATT disciplines and emphasizes that the two agreements should be interpreted in a coherent and consistent manner.[171] Furthermore, Art. III:4 GATT is relevant context for the interpretation of the national treatment obligation under Art. 2.1 of the TBT Agreement. Thus, in interpreting Art. 2.1, a panel should focus on the text of Art. 2.1, read in the context of the TBT Agreement, including its preamble, and also consider other contextual elements, such as Art. III:4 of the GATT 1994.[172]

Therefore, Swiss sustainability requirements can also raise concerns under Art. III:4 of the GATT. In this respect, it is important to note that a potential violation of Art. III:4 GATT could be justified under Art. XX GATT (6.2.1 above). Unlike the GATT, the TBT Agreement does not contain an exceptions clause. However, Art. 2.1 of the TBT Agreement should be read in the context of Art. 2.2 TBT; and the second, fifth, and sixth recitals of the TBT Agreement preamble. These provisions ensure that a Member's right to regulate should not be constrained if the measures taken are necessary to fulfil cer-

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[170] "Members are encouraged, at the request of other Members, to be willing to enter into negotiations for the conclusion of agreements for the mutual recognition of results of each other's conformity assessment procedures. Members may require that such agreements fulfil the criteria of paragraph 1 and giver mutual satisfaction regarding their potential for facilitating trade in the products concerned."

[171] Appellate Body Report, *US – Clove Cigarettes*, para.91.

[172] *Id*, para. 100.

tain legitimate policy objectives, and provided that they are not applied in a manner that would constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade, and are otherwise in accordance with the provisions of the TBT Agreement.[173] Importantly, under the TBT Agreement, the list of such legitimate objectives, unlike in GATT Art. XX, is open. Hence, in a potential dispute, the sustainability requirements can be found not to violate the TBT Agreement if Switzerland can prove that they are necessary to fulfil its legitimate regulatory objectives and do not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade.

### 7.2 EU law

As the RES directive discussed above set the EU-wide sustainability requirements for biofuels, the area falls under harmonization and has to be complied with by every EU Member State. Jurisprudence developed for domestic measures having equivalent effect as quantitative restrictions under the Dassonville criteria[174] thus do not apply here to the extent that regulations and standards are harmonised on the European level. However, to the extent that they continue to differ among Member States as discussed above, the principles relating to free movement of goods apply. Art. 34 TFEU (ex-Article 28 TEC), which is the key provision dealing with free movement of goods in the internal EU market reads: "Quantitative restrictions on imports and all measures having equivalent effect shall be prohibited between Member States." Art. 36 TFEU provides exceptions that justify derogations from the general rule provided in Art. 34 TFEU. Art. 34 TFEU envisages a general principle of free trade in goods and applies across the board, unless there are more detailed rules at the EU level, that harmonize requirements (e.g. technical requirements) for certain categories of goods. Generally, Art. 34 TFEU applies to all goods and products imported and exported between the EU Member States. For the case of trade in biofuels at issue, the key question relates to the measures of equivalent effect rather than purely to quantitative restrictions on import. According to the Dassonville formula: "all trading rules enacted by Member States which are capable of hindering, directly or indirectly, actually or potentially, intra-Community trade are to be considered as measures having an effect equivalent to quantitative restrictions."[175] This formula was developed in the subsequent case-law, explaining that Art. 34 TFEU also applies to technical regulations and does not necessarily require an element of discrimination.[176]

In the areas that are not harmonized, the principle of mutual recognition applies in the EU to accommodate different national technical requirements. Accordingly, even where there are differences between technical requirements of EU Member States, when the good has been lawfully marketed in an EU Member State, its sale in another EU Member State cannot be forbidden. Only exceptions under

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[173] *Id*, para. 95.

[174] Case 8/74 Dassonville [1974] ECR 837.

Art. 36 TFEU may apply here (e.g. protection of human life and health, or public morals). Apart from the existing primary law, the EU also enacted the Regulation 764/2008 dealing with the procedures relating to the application of certain national technical rules to products lawfully marketed in another Member State.[177]

### 7.3 Swiss–EU bilateral agreements

Similarly to the EU law, the FTA Switzerland–EEC prohibits not only the introduction of new tariffs, but also outlaws the introduction of any measures of equivalent effect.[178] Sustainability requirements would qualify as technical regulations and would fall under Art. 13(1) of the Switzerland–EEC FTA. While the wording of Art. 34 TFEU and Art. 13 FTA are almost identical, the jurisprudence of the ECJ does not apply directly for interpretation of Art. 13 FTA. According to the Swiss Supreme Court only measures that cause a direct restriction on trade can qualify as a violation of Art. 13 FTA.[179]Art. 20 Switzerland–EEC FTA contains exceptions (protection of environment or protection of human or animal life and health that could possibly be invoked in relation to sustainability measures for biofuels) that provide for justification of measures non-compatible with Art. 13 FTA. To ensure compatibility of the biogas sustainability requirements, they have to pass the proportionality test and have a link to the objective pursued. In addition these requirements must not cause an arbitrary or unjustifiable discrimination between goods traded between the EU and Switzerland (in the case at hand – biogas). This rule stems from Art. XX of GATT.

Apart from the norms of the FTA, an important standard in bilateral relations between Switzerland–EU is set under the Swiss Federal Law on Elimination of Technical Barriers to Trade (THG).[180] This law provides legal grounds for alignment with standards and norms of the key trade partners of Switzerland. Art. 4 THG provides that technical requirements should not lead to restriction of cross-border trade. Therefore, the applicable technical standards in Switzerland often follow the standards adopted in the EU, unless this would be contrary to the predominant public interest, subject to conditions of proportionality and non-arbitrariness. Moreover, Switzerland unilaterally introduced the Cassis-de-Dijon principle[181] in Chapter 3a of the THG. Accordingly, even where goods do not comply (fully or partly) with requirements according to the Swiss legislation they still can be imported to Switzerland

[178] Art. 3 and 6 FTA Switzlerland–EEC.

[179] BGE 105 II 49 (Omo), Erw. 3. b, S. 60.

[180] SR Bundesgesetz über die technische Handelshemmnisse vom 6. Oktober 1995 (Stand am 1. Juli 2010).

[181] See e.g. Thomas Cottier/David Herren, Das Äquivalenzprinzip im schweizerischen Aussenwirtschaftsrecht: von Cassis de Dijon zu Cassis de Berne , in: Astrid Epiney/Nina Gammenthaler (Hrsg.), Schweizerisches Jahrbuch für Europarecht 2009/2010, Bern/Zürich 2010, S. 249ff.; Matthias Oesch, Die einseitige Einführung des Cassis de Dijon-Prinzips, Anwaltsrevue 11-12/2009; David Herren, Das Cassis de Dijon Prinzip im schweizerischen Recht, in: Thomas Cottier (Hrsg), Die Europakompatibilität des schweizerischen Wirtschaftsrechts: Konvergenz und Divergenz, ZSR-Beiheft 50, 2012;

without additional control if they had already been introduced to the market in one of the EU Member States. Switzerland, however, still retains market supervision powers. It should be noted that this principle does not apply to a number of goods, including pharmaceuticals. Articles 21–22 THG also establish mutual administrative assistance with respect to implementation of technical regulations.

Whereas the EU also applies similar sustainability requirements, the key questions here is whether Swiss sustainability requirements which are more stringent than the EU requirements and Swiss restrictions with respect to the virtual import of biogas do indeed lead to restriction of trade in biogas between the EU and Switzerland. As indicated above, none of the EU certificates is fully equivalent to the standards required in Switzerland, even more so as Switzerland does not recognize a mass balancing system. The FTA does not address the problem, and the Mutual Recognition Agreement (MRA) in force for Switzerland and the EU that allows reduction of the administrative burden for importers and exporters of countries-parties to this agreement[182]does not apply in the present context. It is limited to the sectors listed in Annex 1 to the MRA (e.g. medical products, toys, and printing devices) and biogas does not fall within its scope. The legal foundations for unilateral recognition or bilateral recognition creating the basis for mutually recognised certificates of origin as a basis of differential taxation can be found in Article 6 of the TBT Agreement discussed above.

Finally, we note that further disciplines relevant in the present context can be found in the Anti-Fraud Agreement between Switzerland and the EU and its Member States.[183] Compliance with the environmental and social minimum requirements is a compulsory precondition for exempting imported fuels from the mineral oil tax. Thus, false data provided in the certificate could be interpreted as tax evasion and would potentially fall under the Anti-Fraud Agreement between Switzerland and the EU that also provides for mutual assistance in cases of tax evasion, e.g. excise duty (except for direct taxes).[184] Here, one should bear in mind the *de minimis* rules under Art. 3 of the Agreement.

[182] MRA; SR 0.946.526.81

[183] SR 0.351.926.81 Abkommen über die Zusammenarbeit zwischen der Schweizerischen Eidgenossenschaft einerseits und der Europäischen Gemeinschaft und ihren Mitgliedstaaten andererseits zur Bekämpfung von Betrug und sonstigen rechtswidrigen Handlungen, die ihre finanziellen Interessen beeinträchtigen, vom 26 Oktober 2004, provisorisch angewendet ab 8. April 2009.

[184] Art. 2 of the Anti-Fraud Agreement.

# 8 Legal Conclusions

Differential taxation of imported natural gas and virtually imported biogas requires a proof that the biogas was produced in a sustainable manner as envisaged by Swiss law (for the mineral oil tax) and substantially contributed to $CO_2$ emission reductions compared to natural gas (for the $CO_2$ levy). In the case of virtual imports of biogas this can be done based on guarantees of origin (GOs) that would follow the physical flow of the gas sold cross-border and would prevent double-counting. GOs could provide all the information that is currently required for customs purposes in Switzerland, including the data on the raw materials used for the production of biogas. At the same time, they could include information on certification of the production facility in order to ensure that such biogas was produced according to sustainability (environmental and social) requirements that are important for the Swiss legislator for the purposes of preferential tax treatment. Under the suggested model, GOs for biogas will not be traded separately. In terms of implementation of such a scheme, a coherent and mutually recognized system of GOs throughout Europe would be desirable. Such coherent environmental and social sustainability requirements may be further negotiated between Switzerland and the EU. Finally, the recognition of the EU mass balance system in Switzerland would potentially be a very useful tool, as the suggested GOs scheme reflects the quantity credit mass balance system.

The recognition of virtually imported biogas would require a number of changes in the Swiss legislation, including recognition of biogas based on GOs at the point of importation, either for both customs purposes and for taxation purposes (the amounts of imported gas accompanied by the GOs would be counted as biogas), or only for taxation (similarly to sustainable biogas, mixture of gases in the gas grid confirmed with biogas GOs would have a special statistical code). The MOTA has to recognize that such physically imported quantities of gas that are identified through GOs as biogas can benefit from a preferential mineral oil tax regime. The $CO_2$ Act should also include a corresponding reduction of $CO_2$ levy rate or exclusion from a $CO_2$ levy (and other obligations) for virtually imported biogas based on GO. The implementation of the described measures seems to be possible if the political and economic will is in place. Certain measures are also possible on a global scale (e.g. preparing an international standard for biogas, including relevant sustainability requirements). The most secure way to ensure that ERCs are transferred to Switzerland in accordance with the current international climate change framework is to conclude a respective agreement with the EU and other countries interested in exporting their biogas to Switzerland.

In this light, implementation of Option A (mineral oil tax and possibly $CO_2$ levy exemptions for *virtually* imported biogas based solely on certificates of origin (with embedded sustainability criteria)) would potentially be possible in the mid-term through changes in the respective Swiss legislation. To the extent that an international agreement on energy or other instruments, such as the revision of existing Mutual Recognition Agreements, cannot be achieved in the foreseeable future with the European Union, a policy based upon unilateral recognition of foreign GOs could be contemplated. Applying own standards of sustainability, a procedure of unilaterally recognising foreign GOs on a non-discriminatory basis could be introduced. The approach is in line with the unilateral introduction of the principle of Cassis-de-Dijon in Article 9a THG.

Option B ($CO_2$ levy and mineral oil tax exemptions for *virtually* imported biogas based on certificates of origin linked with ERCs) seems to be a preferable option from the Swiss climate change policy for exemption from the $CO_2$ levy. Currently it is not possible to link ERCs to virtually imported biogas, since, at the moment, these certificates are not linked to the products produced in respective emission

reducing projects. Unless virtually imported biogas is recognized as biogas for the emissions calculation purposes based on GOs (and consequently considered to have a zero emissions factor for Swiss enterprises using it), transfer of emission reduction units can potentially be implemented through an agreement between the EU and Switzerland.

International law in general does not prevent the introduction of differential taxation for virtually imported biogas in comparison to physically imported natural gas Potentially, biogas and natural gas imported through a natural gas pipeline will be considered "like" products under non-discrimination disciplines of Article III:2 and I:1 GATT. Consequently, the compliance of such tax differentiation will depend on its justification under Article XX(b) or (g) GATT. The existing differentiation in taxation of physical imports of natural and biogas implies that such evidence sufficiently exists and would allow justifying the measure in particular under Article XX GATT. Differential taxation under Article 18 of the Switzerland–EEC FTA will depend on the overall coherence of the taxation scheme. Differentiated taxation schemes should be operated in objective, transparent and non-discriminatory manner. From the Swiss point of view, a violation would only be found if differential taxation has protectionist effects and limits imports. As a practical matter, these issues not likely come up in light of the fact that the EU itself promotes differential taxation of biofuels. Moreover, the Energy Taxation Directive gives enough freedom to the EU Member States to introduce differentiated taxation to pursue environmental goals. In addition, there is some likelihood that the $CO_2$ levy exemption for biogas physically fed into the Swiss natural gas grid may qualify as a subsidy, although it is difficult to draw precise conclusions due to the absence of WTO practice on environmental subsidies. It should be mentioned that unlike GATT, the ASCM does not have exception clauses similar to Art. XX GATT.

Swiss sustainability requirements could potentially be challenged at the WTO as a technical regulation under the TBT Agreement and Art. III:4 GATT, similarly to the sustainability requirements of the EU Renewable Energy Directive, which has been subject to a WTO complaint by Argentina. WTO practice at the moment does not offer a clear instructive guidance on how a similar dispute could be decided, as the EU - Argentina dispute is still pending. In a potential dispute, the Swiss sustainability requirements can be found not no violate the TBT Agreement, if Switzerland proves that they are necessary to fulfil its legitimate regulatory objectives and do not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade. In addition, Swiss sustainability requirements as technical regulations would fall under Art. 13(1) of the Switzerland–EEC FTA. To ensure compatibility of the Swiss sustainability requirements for biogas, it has to pass the proportionality test and to have a link to the objective pursued. These requirements must not cause an arbitrary or unjustifiable discrimination of goods traded between EU and Switzerland. Finally, Art. 6.2 of the TBT Agreement, which provides the basis to conclude a particular agreement mutually recognising existing standards, in our view, offers a legal basis for one of the implementation recommendations – namely, establishment of a transnational registration system for biogas entailing common and/or mutually recognised regulations and standards.

To sum up, based on the above mentioned we do not find any significant obstacles to implement the GOs scheme for biogas by adjusting Swiss legislation accordingly. Recognition of virtually imported biogas based on GOs for the purposes of differential taxation would potentially be reflected in the MOTA and the $CO_2$ Act or in respective Ordinances. At the same time transfer of emission reduction units to follow the virtually imported biogas potentially can be implemented through a future agreement between the EU and Switzerland.

# 9 Political Risk Assessment

The promotion of biogas as a contribution to the process of decarbonisation is a shared goal of the European Union and Switzerland. We therefore do not expect particular risks in pursuing legislative reform with a view to extending differential taxation to virtual imports of biogas, but not to natural gas. The effort needs to be combined with unilateral recognition or negotiations on common sustainability requirements with the EU. Political risks may arise from the exclusion of potential producers of biogas outside the European Union. However, if GOs would always require a physical flow of gas through a gas pipeline, all of the countries overseas would *per se* be excluded from the system based on objective criteria of physical flow, which should not lead to discussion about discrimination. Swiss policy on sustainability requirements might have to be analysed with respect to possible discrimination with respect to third countries to avoid discrimination which such countries could otherwise challenge in seeking bilateral or WTO consultations, not excluding WTO dispute settlement. Finally, we do not see political risks in seeking to expand recognition of virtual biogas imports for the purposes of meeting the $CO_2$ emission reduction targets.

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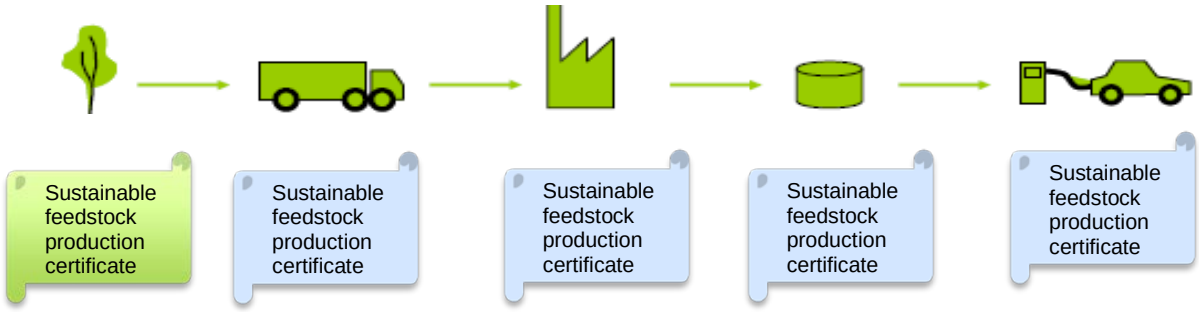
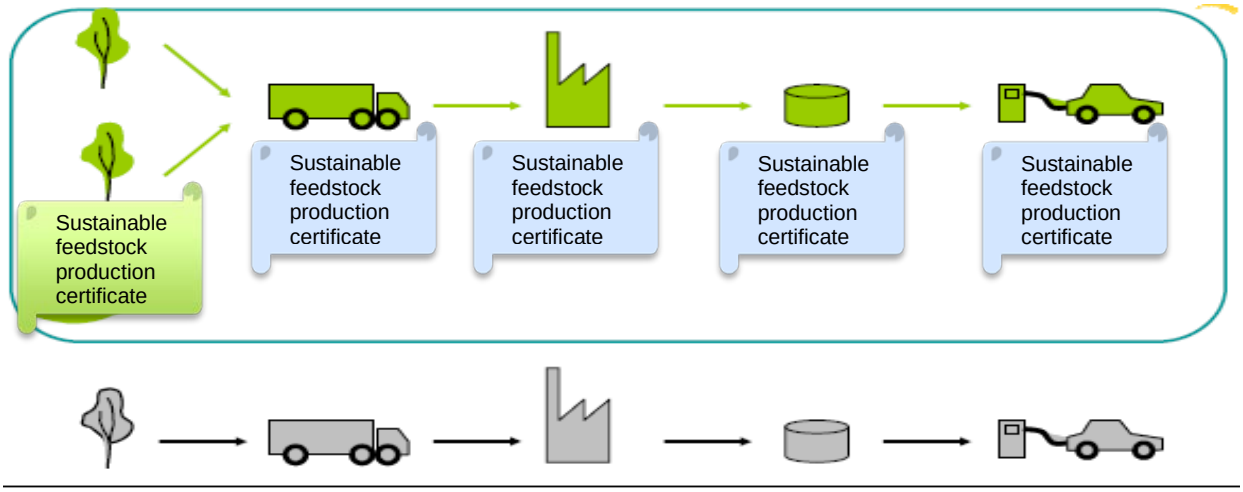
# Annex I: Overview of chain custody approaches[185]

## A. Idenitity preservation



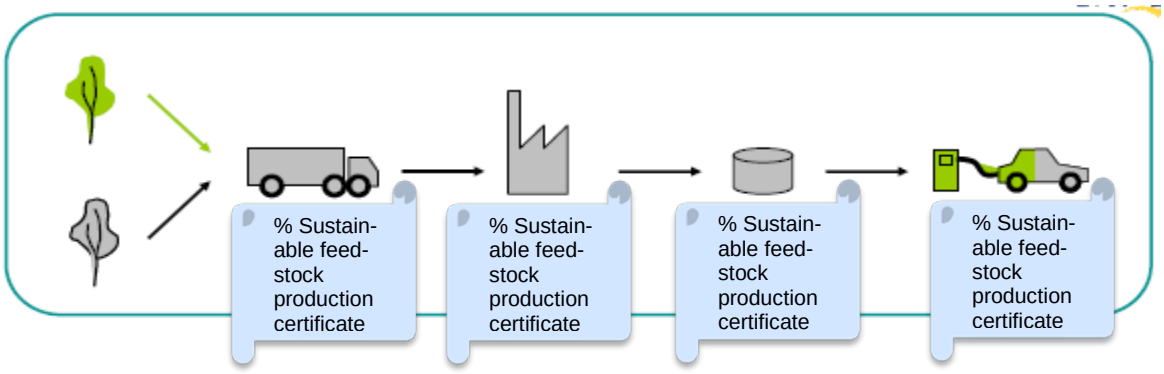

## B. Physical segregation



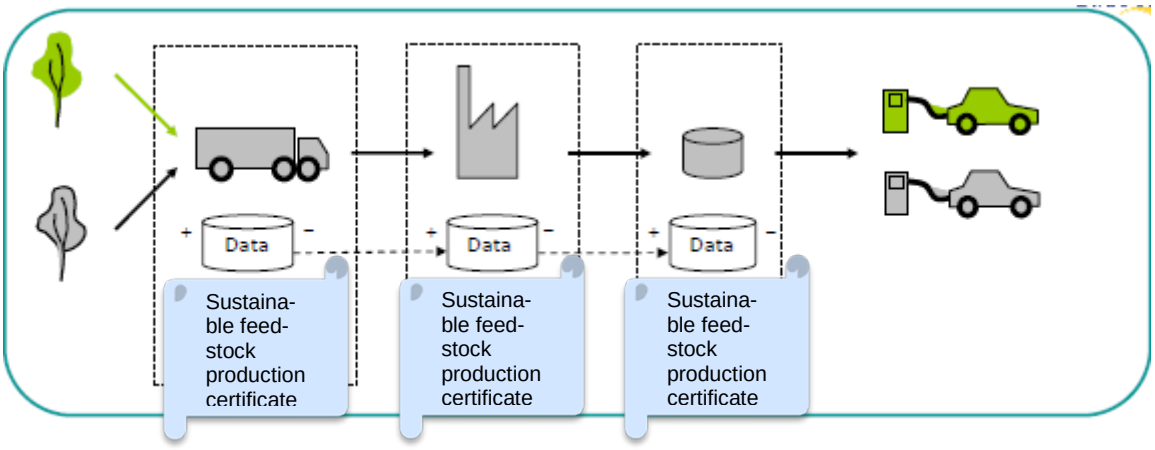

[185] The graphic description of all chain custody approaches is taken from: J. van de Staaij, A. van den Bos, G. Toop, S. Alberici, I. Yildiz, Analysis of the operation of the mass balance system and alternatives. Final Report (Task 1), 30 November 2012, available at: http://ec.europa.eu/energy/renewables/studies/doc/2013_task_1_mass_balance_and_alternatives.pdf (accessed 20.11.2014), at 27-31.

### C. Mass balance

1. Percentage based claims mass balance




2. Quantity credit mass balance




### D. Book and claim